

Table A.1 Flora Species Recorded within the Subject Site

Stratum and Family	Status	Scientific Name	Common Name	RMS	RMS	RMS	RMS	RMS	RMS	RMS	RMS	Q1 -	Q1 -
				1	2	3	4	5	6	7	8	C	A
Pittosporaceae		<i>Pittosporum undulatum</i>	Sweet Pittosporum			X							
Proteaceae		<i>Banksia integrifolia</i> subsp. <i>integrifolia</i>	Coast Banksia		X								
Proteaceae	NE	<i>Grevillea robusta</i>	Silky Oak						X				
Shrubs													
Anacardiaceae	*	<i>Harpephyllum caffrum</i>	Kaffir Plum	X			X	X					
Apocynaceae	*	<i>Nerium oleander</i>	Oleander		X								
Araliaceae		<i>Polyscias sambucifolia</i> subsp. <i>Long leaflets</i>	Elderberry Panax				X	X					
Araucariaceae	NE	<i>Araucaria bidwillii</i>	Bunya Pine				X						
Berberidaceae	*	<i>Nandina domestica</i>	Heavenly Bamboo		X				X				
Cunoniaceae		<i>Ceratopetalum gummiferum</i>	NSW Christmas-bush		X								
Elaeocarpaceae	P	<i>Elaeocarpus reticulatus</i>	Blueberry Ash		X								
Ericaceae (Epacridoideae)		<i>Leucopogon juniperinus</i>	Prickly-beard Heath		X		X						
Fabaceae (Caesalpinioideae)	*	<i>Senna pendula</i> var. <i>glabrata</i>		X									
Fabaceae (Faboideae)		<i>Daviesia ulicifolia</i>	Gorse Bitter Pea	X									
Fabaceae (Mimosoideae)		<i>Acacia decurrens</i>	Black Wattle			X							
Fabaceae (Mimosoideae)		<i>Acacia floribunda</i>	White Sally							X			

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				1	2	3	4	5	6	7	8	C	A
Fabaceae (Mimosoideae)		<i>Acacia parramattensis</i>	Sydney Green Wattle	X				X					
Fabaceae (Mimosoideae)	NE	<i>Acacia podalyriifolia</i>	Queensland Silver Wattle				X						
Lamiaceae	P	<i>Westringia fruticosa</i>	Coastal Rosemary									X	
Lamiaceae	P	<i>Westringia longifolia</i>	Long-leaved Westringia									X	
Lauraceae	*	<i>Cinnamomum camphora</i>	Camphor Laurel	X							X		
Melastomataceae		<i>Tibouchina</i> sp.		X					X				
Magnoliaceae	*	<i>Magnolia</i>							X				
Myrtaceae		<i>Acmena smithii</i>	Midjuburi				X						
Myrtaceae	P	<i>Callistemon citrinus</i>	Crimson Bottlebrush		X				X				
Myrtaceae	NE	<i>Callistemon viminalis</i>	Weeping Bottlebrush		X	X			X				
Myrtaceae	NE	<i>Chamelaucium uncinatum</i>	Geraldton Wax		X								
Myrtaceae	NE	<i>Leptospermum petersonii</i>	Lemon-scented Tea-tree									X	
Myrtaceae	NC	<i>Melaleuca armillaris</i>	Bracelet Honey-myrtle	X					X				
Myrtaceae	NC	<i>Melaleuca hypericifolia</i>	Hillock Bush		X								
Myrtaceae	NC	<i>Melaleuca linariifolia</i>	Flax-leaved Paperbark		X				X				
Myrtaceae	NC	<i>Melaleuca nodosa</i>	Prickly-leaved Melaleuca		X								
Myrtaceae	NC	<i>Melaleuca thymifolia</i>	Thyme Honey-myrtle		X								
Myrtaceae	NC	<i>Syzygium australe</i>	Brush Cherry								X		

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Myrtaceae	P	<i>Tristaniopsis laurina</i>	Water Gum							X				
Oleaceae	*	<i>Olea europaea</i> subsp. <i>cuspidata</i>	African Olive					X					X	
Phyllanthaceae		<i>Breynia oblongifolia</i>	Coffee Bush				X	X						
Proteaceae	P	<i>Banksia ericifolia</i>	Heath Banksia		X					X				
Proteaceae	P	<i>Banksia spinulosa</i>	Hairpin Banksia		X									
Proteaceae	NE	<i>Grevillea robusta</i>	Silky Oak				X	X						
Proteaceae	NC	<i>Grevillea banksii</i> x <i>bipinnatifida</i>	Silky Oak										X	
Proteaceae	NC	<i>Grevillea olivacea</i>	Olive Grevillea										X	
Proteaceae	NC	<i>Grevillea rosmarinifolia</i>	Rosemary Grevillea										X	
Rosaceae	*	<i>Rosa</i> sp.								X				
Rosaceae	*	<i>Photinia serratifolia</i>	Chinese Photinia			X								
Rutaceae	P	<i>Correa reflexa</i>	Native Fuschia		X									
Rutaceae	*	<i>Murraya paniculata</i>	Orange Jessamine		X									
Santalaceae		<i>Exocarpos cupressiformis</i>	Native Cherry				X							
Sapindaceae		<i>Dodonaea triquetra</i>	Hop Bush	X										
Solanaceae	*	<i>Solanum mauritianum</i>	Wild Tobacco Bush										X	
Theaceae	*	<i>Camellia</i> sp.				X								
Ulmaceae	*	<i>Celtis sinensis</i>	Japanese Hackberry										X	

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Ulmaceae	*	<i>Ulmus parviflora</i>	Chinese Elm						X				
Ground Layer													
Herbs - Climbers													
Apocynaceae	*	<i>Araujia sericifera</i>	Moth Vine		X			X					
Apocynaceae	*	<i>Trachelospermum jasminoides</i>	Star Jasmine							X			
Bignoniaceae		<i>Pandorea pandorana</i> subsp. <i>pandorana</i>	Wonga Wonga Vine				X	X			X		
Convolvulaceae		<i>Polymeria calycina</i>		X									
Fabaceae (Faboideae)		<i>Glycine microphylla</i>	Small-leaf Glycine	X				X	X			<0.25	20
Fabaceae (Faboideae)		<i>Glycine tabacina</i>		X			X					0.25	100
Fabaceae (Faboideae)		<i>Hardenbergia violacea</i>	False Sarsparilla		X			X					
Fabaceae (Faboideae)		<i>Kennedia rubicunda</i>	Dusky Coral Pea								X		
Dicots (Herbs)													
Acanthaceae		<i>Brunoniella australis</i>	Blue Trumpet	X								0.5	200
Acanthaceae		<i>Pseuderanthemum variabile</i>	Pastel Flower				X	X				<0.25	20
Apiaceae	*	<i>Cyclospermum leptophyllum</i>	Slender Celery							X			

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				1	2	3	4	5	6	7	8	C	A	
Apocynaceae	*	<i>Vinca major</i>	Greater Periwinkle		X									
Araliaceae		<i>Hydrocotyle laxiflora</i>	Stinking Pennywort	X				X						
Asteraceae	*	<i>Arctotheca calendula</i>	Capeweed						X					
Asteraceae	*	<i>Bidens pilosa</i>	Cobbler's Pegs	X	X			X	X				<0.25	10
Asteraceae	*	<i>Conyza sumatrensis</i>	Tall Fleabane	X					X				<0.25	3
Asteraceae		<i>Cotula australis</i>	Common Cotula						X					
Asteraceae	*	<i>Gamochaeta americana</i>	Cudweed	X					X					
Asteraceae	*	<i>Gamochaeta purpurea</i>	Purple Cudweed						X					
Asteraceae	*	<i>Hypochaeris microcephala</i> var. <i>albiflora</i>	White Flatweed										<0.25	5
Asteraceae	*	<i>Hypochaeris radicata</i>	Catsear	X					X				2	500
Asteraceae		<i>Lagenophora stipitata</i>	Blue-bottle Daisy										0.25	100
Asteraceae	*	<i>Senecio madagascariensis</i>	Fireweed	X					X				<0.25	10
Asteraceae		<i>Solenogyne bellioides</i>		X										
Asteraceae	*	<i>Soliva sessilis</i>	Bindyi	X					X				<0.25	100
Asteraceae	*	<i>Sonchus asper</i>	Sow Thistle						X				<0.25	2
Asteraceae	*	<i>Sonchus oleraceus</i>	Milk Thistle	X					X				<0.25	10
Asteraceae	*	<i>Taraxacum officinale</i>	Dandelion	X					X					
Brassicaceae	*	<i>Cardamine hirsuta</i>	Flickweed						X					

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				1	2	3	4	5	6	7	8	C	A	
Campanulaceae		<i>Wahlenbergia gracilis</i>	Sprawling Bluebell	X						X				
Caryophyllaceae	*	<i>Cerastium glomeratum</i>	Mouse-ear Chickweed	X						X				
Caryophyllaceae	*	<i>Paronychia brasiliiana</i>	Chilean Whitlow Wort							X				
Caryophyllaceae	*	<i>Stellaria media</i>	Common Chickweed	X						X			<0.25	20
Convolvulaceae		<i>Dichondra repens</i>	Kidney Weed	X				X					2	500
Euphorbiaceae	*	<i>Euphorbia peplus</i>	Petty Spurge	X						X				
Fabaceae (Faboideae)	*	<i>Lotus uliginosus</i>	Birds-foot Trefoil	X						X				
Fabaceae (Faboideae)	*	<i>Medicago polymorpha</i>	Burr-medic	X						X				
Fabaceae (Faboideae)	*	<i>Trifolium repens</i>	White Clover	X						X				
Fabaceae (Faboideae)	*	<i>Vicia sativa</i>	Common Vetch	X						X				
Geraniaceae		<i>Geranium homeanum</i>	Native Geranium	X				X						
Lamiaceae	*	<i>Stachys arvensis</i>	Stagger Weed	X										
Lobeliaceae		<i>Pratia purpurascens</i>	Whiteroot	X				X						
Malvaceae	*	<i>Modiola caroliniana</i>	Red-flowered Mallow	X									<0.25	10
Malvaceae	*	<i>Sida rhombifolia</i>	Paddy's Lucerne	X				X	X				<0.25	10
Oxalidaceae	*	<i>Oxalis corniculata</i>		X										
Oxalidaceae		<i>Oxalis perennans</i>		X						X			<0.25	100
Oxalidaceae	*	<i>Oxalis pes-caprae</i>								X				

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				1	2	3	4	5	6	7	8	C	A	
Oxalidaceae	*	<i>Oxalis purpurea</i>	Purple Woodsorrel	X										
Papaveraceae	*	<i>Fumaria muralis</i> subsp. <i>muralis</i>	Wall Fumitory						X					
Plantaginaceae	*	<i>Plantago lanceolata</i>	Lamb's Tongues	X					X				1	200
Plantaginaceae		<i>Veronica plebeia</i>	Trailing Speedwell						X					
Polygonaceae		<i>Rumex brownii</i>	Swamp Dock	X										
Rubiaceae	*	<i>Galium aparine</i>	Goosegrass			X								
Rubiaceae	*	<i>Richardia brasiliensis</i>	White Eye	X										
Rubiaceae	*	<i>Richardia stellaris</i>							X					
Rubiaceae	*	<i>Sherardia arvensis</i>	Field Madder						X					
Solanaceae	*	<i>Solanum nigrum</i>	Blackberry Nightshade	X									<0.25	2
Violaceae	*	<i>Viola odorata</i>	Sweet Violet						X					
Monocots (Grasses)														
Poaceae	*	<i>Axonopus fissifolius</i>	Carpet Grass	X					X				1	100
Poaceae	*	<i>Briza minima</i>	Quaking Grass											
Poaceae	*	<i>Bromus catharticus</i>	Prairie Grass	X										
Poaceae	*	<i>Cenchrus clandestinus</i>	Kikuyu						X				1	100
Poaceae	*	<i>Cynodon dactylon</i>	Couch	X					X					

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				1	2	3	4	5	6	7	8	C	A	
Poaceae	*	<i>Ehrharta erecta</i>	Panic Veldtgrass	X				X	X				30	3000
Poaceae		<i>Entolasia marginata</i>	Bordered Panic					X						
Poaceae		<i>Microlaena stipoides</i>	Weeping Grass	X									50	5000
Poaceae		<i>Oplismenus aemulus</i>	Basket Grass	X				X					1	100
Poaceae	*	<i>Paspalum dilatatum</i>	Paspalum						X					
Poaceae		<i>Poa affinis</i>						X						
Poaceae	*	<i>Poa annua</i>	Winter Grass	X					X				2	500
Poaceae	*	<i>Sporobolus africanus</i>	Parramatta Grass						X					
Poaceae	*	<i>Stenotaphrum secundatum</i>	Buffalo Grass	X					X					
Monocots (Other)														
Alliaceae	*	<i>Agapanthus praecox</i> subsp. <i>orientalis</i>	Lily of the Nile		X									
Amaryllidaceae	*	<i>Clivia miniata</i>	Natal Lily			X	X							
Araceae	*	<i>Monstera deliciosa</i>	Fruit Salad Plant		X									
Commelinaceae		<i>Commelina cyanea</i>	Scurvy Weed	X										
Commelinaceae	*	<i>Tradescantia fluminensis</i>	Wandering Trad									X		
Cyperaceae		<i>Carex inversa</i>						X						
Cyperaceae	*	<i>Cyperus eragrostis</i>	Umbrella Sedge										<0.25	1

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				1	2	3	4	5	6	7	8	C	A	
Cyperaceae		<i>Cyperus gracilis</i>	Slender Flat-sedge	X						X				
Doryanthaceae	P	<i>Doryanthes excelsa</i>	Gynea Lily										X	
Iridaceae	*	<i>Dietes grandiflora</i>	Wild Iris		X									
Iridaceae	*	<i>Romulea rosea var. australis</i>	Onion Grass	X						X				
Lomandraceae		<i>Lomandra longifolia</i>	Spiny Mat-rush	X	X(P)	X(P)		X		X(P)	X(P)			
Lomandraceae	NC	<i>Lomandra longifolia</i> "Tanika"				X								
Phormiaceae	P	<i>Dianella caerulea var. producta</i>	Blue Flax-lily		X			X						
Zingiberaceae	*	<i>Hedychium gardnerianum</i>	Ginger Lily										X	

Key * = Exotic, NC = Native Cultivar, NE = Non-endemic native, P = Planted local native, Blank = local native, X = Presence within plot, C = Coverage percentage, A = Abundance

Appendix B

**Fauna Habitat Features and Species
Recorded**

Table B.1 Fauna Species Recorded

Family	Scientific Name	Common Name
Aves		
Alcedinidae	<i>Dacelo novaeguineae</i>	Laughing Kookaburra
Artamidae	<i>Strepera graculina</i>	Pied Currawong
Artamidae	<i>Cracticus torquatus</i>	Grey Butcherbird
Artamidae	<i>Cracticus tibicen</i>	Australian Magpie
Cacatuidae	<i>Cacatua galerita</i>	Sulphur-crested Cockatoo
Cacatuidae	<i>Eolophus roseicapilla</i>	Galah
Cacatuidae	<i>Cacatua tenuirostris</i>	Long-billed Corella
Corvidae	<i>Corvus coronoides</i>	Australian Raven
Hirundinidae	<i>Hirundo neoxena</i>	Welcome Swallow
Meliphagidae	<i>Manorina melanocephala</i>	Noisy Miner
Psittacidae	<i>Alisterus scapularis</i>	Australian King-Parrot
Psittacidae	<i>Trichoglossus haematodus</i>	Rainbow Lorikeet
Psittacidae	<i>Platycercus eximius</i>	Eastern Rosella
Psittacidae	<i>Glossopsitta concinna</i>	Musk Lorikeet
Psittacidae	<i>Platycercus elegans</i>	Crimson Rosella
Reptilia		
Scincidae	<i>Lampropholis guichenoti</i>	Common Garden Skink

Table B.2 Fauna Habitat Features Recorded

Habitat ID	Scientific Name	Notes
H1	Eucalyptus pilularis	5 small hollows
H2	Stag	Open top hollow (medium)
H3	Eucalyptus pilularis	3 small hollows 1 medium hollow (Musk Lorikeet seen at entrance, then Rainbow Lorikeet few hours later)
H4	Eucalyptus pilularis stag	Splits in trunk
H5	Eucalyptus saligna	3 medium hollows
H6	Eucalyptus saligna	1 small hollow 1 medium hollow 1 large hollow
H7	Eucalyptus pilularis	1 small hollow
H8	Eucalyptus pilularis	1 medium hollow
H9	Eucalyptus punctata	2 small hollows 1 medium hollow
H10	Stag	Potential medium hollow at top
H11	Stag	Open hollow (medium) - but seems too exposed to be favoured by fauna
H12	Eucalyptus pilularis	1 small hollow
H13	Eucalyptus saligna	Potential medium hollow
H14	Eucalyptus pilularis	1 medium hollow
H15	Eucalyptus saligna	1 medium hollow
H16	Eucalyptus saligna	1 medium hollow
H17	Eucalyptus saligna	4 medium hollows (2 Musk Lorikeets investigating hollows)
H18	Eucalyptus saligna	1 small hollow
H19	Eucalyptus saligna	1 medium hollow
H20	Eucalyptus saligna	4 small potential hollows
H21	Eucalyptus saligna	2 small hollows
H22	Eucalyptus pilularis	1 small hollow
H23	Eucalyptus saligna	4 small hollows 1 medium hollow
H24	Eucalyptus saligna	1 small hollow
H25	Eucalyptus pilularis	2 small hollows
H26	Stag	Several medium hollows (Rainbow Lorikeet and Sulphur-crested Cockatoo both investigating)

Table B.2 Fauna Habitat Features Recorded

Habitat ID	Scientific Name	Notes
H27	Stag	1 medium hollow
H28	Stag	1 small hollow
H29	Stag	1 small hollow
H30	Eucalyptus saligna	2 potential medium hollows
H31	Eucalyptus saligna	1 small hollow 1 medium hollow (beehive present)
H32	Eucalyptus saligna	1 small hollow
H33	Eucalyptus saligna	1 small hollow
H34	Stag	1 medium hollow
H35	Eucalyptus saligna	1 small hollow
H36	Eucalyptus saligna	1 small hollow
H37	Eucalyptus saligna	4 medium hollows (Rainbow Lorikeets investigating hollows)
H38	Eucalyptus saligna	1 medium hollow
H39	Eucalyptus saligna	2 medium hollows (Rainbow Lorikeets present)
H40	Eucalyptus saligna	1 medium hollow
H41	Eucalyptus saligna	1 medium hollow
H42	Eucalyptus saligna	1 medium hollow (Rainbow Lorikeets present)
H43	Eucalyptus pilularis	3 small hollows 2 medium hollows
H44	Eucalyptus saligna	1 small hollow
H45	Eucalyptus saligna	2 small hollows 1 medium hollow
H46	Eucalyptus saligna	1 medium hollow
H47	Stag	1 small hollow
H48	Eucalyptus saligna	Potential small hollow
H49	Eucalyptus grandis	Old Australian Magpie nest (falling apart)
H50	Eucalyptus pilularis	1 medium hollow
H51	Eucalyptus pilularis	1 small hollow
H52	Eucalyptus pilularis	1 medium hollow
H53	Eucalyptus saligna	2 small hollows
H54	-	Hollow log
H55	Eucalyptus elata	1 small hollow

Appendix C

Likelihood of Occurrence Tables

Table C.1 Likelihood of Occurrence – Threatened Flora Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
Convolvulaceae	<i>Wilsonia backhousei</i>	Narrow-leafed Wilsonia	V,P		1	Species occurs scattered along the east coast reaching a northern limit at Wamberal Lagoon. Found in intertidal saltmarshes and more rarely on sea cliffs. It typically forms pure, matted stands over small areas where it occurs.	Unlikely. No aquatic habitat.
Dilleniaceae	<i>Hibbertia superans</i>		E1,P		44	Grows in ridgetop woodlands on sandstone from Castle Hill to South Maroota. Most occurrences are near the shale/sandstone boundary. It occurs in both open woodland and heathland and appears to have a preference for disturbed areas, such as along the edges of tracks.	Unlikely. Site is not close to shale/sandstone boundary.
Elaeocarpaceae	<i>Tetratheca glandulosa</i>		V,P		20	Restricted to the Baulkham	Unlikely to occur. Site not

Table C.1 Likelihood of Occurrence – Threatened Flora Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
						Hills, Gosford, Hawkesbury, close to shale/sandstone boundary. Hornsby, Ku-ring-gai, Pittwater, Ryde, Warringah, and Wyong Local Government Areas. It is associated with shale- sandstone transitional areas, where shale overlays sandstone, generally in ridgetop and upper slope areas. It occurs in a variety of vegetation types including heath and scrub, and open forests and woodlands.	
Ericaceae	<i>Epacris purpurascens</i> var. <i>purpurascens</i>		V,P		66	Epacris purpurascens var. purpurascens occurs in sclerophyll forest, scrubs and swamps, from Gosford and Sydney districts in the Central Coast botanical subdivision. It is found in a large array of habitat types,	Unlikely to occur. Species is a conspicuous shrub which was not recorded during the site survey. Habitat is degraded and mown, generally with no shrubs unless planted in garden beds.

Table C.1 Likelihood of Occurrence – Threatened Flora Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
Fabaceae (Mimosoideae)	<i>Acacia clunies-rossiae</i>	Kanangra Wattle	V,P		1	though mostly in areas with a strong shale influence. This species occurs within the Kowmung and Coxs River areas within Kanangra-Boyd and Blue Mountains National Park. The species is found in dry sclerophyll forest on skeletal soils on rocky slopes, predominately comprised of shale and granite, and also in gravel and alluvium along creeks.	Unlikely to occur. The species is not known naturally from the locality.
Fabaceae (Mimosoideae)	<i>Acacia pubescens</i>	Downy Wattle	V,P	V	8	Occurs on alluviums, shales and at the intergrade forest and woodland types between shales and sandstones. Occur in open woodland and forest, including Cooks River/Castlereagh Ironbark Forest, Shale/Gravel Transition Forest and	Unlikely to occur. Associated not present.

Table C.1 Likelihood of Occurrence – Threatened Flora Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
Myrtaceae	<i>Darwinia biflora</i>		V,P	V	22	Cumberland Plain Woodland. Occurs within an area comprising Maroota to the north, North Ryde to the south, Cowan to the east, and Kellyville to the west. Prefers the edges of weathered shale-capped ridges where shale intergrades with Hawkesbury Sandstone.	Unlikely to occur. Species has a distinct ridgetop habitat which is not present.
Myrtaceae	<i>Darwinia peduncularis</i>		V,P		1	Occurs in local disjunct populations in coastal NSW from Marramarra National Park to Hornsby, and in several populations within the Blue Mountains. It usually grows on or near rocky outcrops on sandy, well drained, low nutrient soils.	Unlikely to occur. No sandstone outcrops or sandy soils.

Table C.1 Likelihood of Occurrence – Threatened Flora Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
Myrtaceae	<i>Eucalyptus nicholii</i>	Narrow-leaved Black Peppermint	V,P	V	2	Has a natural range from east of Tamworth to north of Glen Innes. It occurs in grassy or sclerophyll woodland. The species has been cultivated since 1975 and is a popular street planting species throughout the east coast of Australia.	Unlikely to naturally occur. Site is outside of the species natural range. Species has been planted within the Subject Site.
Myrtaceae	<i>Eucalyptus scoparia</i>	Wallangarra White Gum	E1,P	V	1	Species has a restricted distribution in the east of the Wallangarra district, on the Queensland-NSW border. The majority of populations occur at altitudes to 1300m in clefts of large granite outcrops, growing in skeletal soils. It occurs at lower altitudes in damp situations. IN NSW there are only tree known occurrences locations, all near Tenterfield. The	Unlikely to naturally occur. Site is outside of the species natural range. Species has been planted within the Subject Site.

Table C.1 Likelihood of Occurrence – Threatened Flora Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
						species is widely planted as an ornamental tree throughout south-eastern Australia, including in the Sydney Region.	
Myrtaceae	<i>Leptospermum deanei</i>		V,P	V	9	Occurs in riparian vegetation, or in woodland adjacent to creeks, between Port Jackson and Botany Bay. Requires sandy alluvial soil, or sand over sandstone.	Unlikely to occur. No riparian or adjacent habitats.
Myrtaceae	<i>Melaleuca deanei</i>	Deane's Paperbark	V,P	V	4	Grows in wet heath on sandstone, sandy soils and woodlands. The majority of populations occur in clefts within granite outcrops on skeletal soils, though also occurs at lower altitudes in damp situation.	Unlikely to occur. No sandy soils or wet heath.
Myrtaceae	<i>Syzygium paniculatum</i>	Magenta Lilly Pilly	E1,P	V	5	Species occurs naturally from Forster in the north to	Unlikely to occur. No rainforest on sand present.

Table C.1 Likelihood of Occurrence – Threatened Flora Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
						Jervis Bay in the south. It is found in rainforest on sandy soils or on sand dunes at low altitude in coastal areas. It is most commonly associated with littoral and gallery rainforest types. The species is extensively cultivated as an ornamental plant.	
Proteaceae	<i>Persoonia hirsuta</i>	Hairy Geebung	E1,P,3	E	2	Has a scattered distribution along the east coast from Singleton in the north to Bargo in the south, and the Blue Mountains to the west. It is found in mostly small populations on sandy soils in dry sclerophyll forest, woodland, and heath.	Unlikely to occur. No sandy soils.
Proteaceae	<i>Persoonia nutans</i>	Nodding Geebung	E1,P	E	1	Occurs on aeolian and alluvial sediments in woodland to dry sclerophyll forest, below 60 m above	Unlikely to occur. No aeolian or alluvial sediments present.

Table C.1 Likelihood of Occurrence – Threatened Flora Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
Rhamnaceae	<i>Pomaderris prunifolia</i>	P. prunifolia in the Parramatta, Auburn, Strathfield and Bankstown Local Government Areas	E2		3	sea level. This listing is for an endangered population which occurs in the Parramatta, Auburn, Strathfield and Bankstown Local Government Areas. Within these areas it has only been recorded recently at Rydalmere. It occurs in association with creeks on sandstone and in gullies on shale soils.	Unlikely to occur. Species is only known from several locations. No sandstone creeks or shale gullies.
Thymelaeaceae	<i>Pimelea curviflora</i> var. <i>curviflora</i>		V,P	V	6	Occurs on ridge tops and upper slopes in open forest and woodland on sandy soils derived from sandstone, on shale/lateritic soils, and on shale/sandstone transition soils.	Unlikely to occur. No ridgetop or upper slope habitat present within the Subject Site.

Table C.2 Likelihood of Occurrence – Threatened Fauna Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
Amphibia							
Myobatrachidae	<i>Pseudophryne australis</i>	Red-crowned Toadlet	V,P		2	Has a distribution restricted to the Sydney Basin, from Pokolbin in the north, Nowra to the south, and Mt Victoria in the Blue Mountains to the west. It inhabits ephemeral drainage lines below sandstone ridges that often have shale caps, in open forests on Hawkesbury and Narrabeen Sandstones. The species utilises dense vegetation and debris besides water in the breeding season. Outside of breeding season the species is found under rocks, logs, and leaf litter nearby to breeding areas.	Unlikely to occur. No ephemeral drainage lines present within Subject Site.
Hylidae	<i>Litoria aurea</i>	Green and Golden Bell Frog	E1,P	V	1	Marshes, dams, stream sides, particularly those containing bulrushes or spikerushes; unshaded water bodies free of	Unlikely to occur. No water bodies present within Subject Site.

Table C.2 Likelihood of Occurrence – Threatened Fauna Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
						Gambusia form optimum habitat; vegetation and/or rocks are needed for sheltering.	
Aves							
Accipitridae	<i>Haliaeetus leucogaster</i>	White-bellied Sea-Eagle	V,P	C	1	Found in coastal habitats and around terrestrial wetlands, including rivers, swamps, lakes and the sea.	Unlikely to occur. No water bodies present within Subject Site.
Accipitridae	<i>Hieraaetus morphnoides</i>	Little Eagle	V,P		1	Occupies open eucalypt forest, woodland or open woodland. Sheoak or acacia woodlands and riparian woodlands of interior NSW also used. Nests in tall living trees within a remnant patch, where pairs build a large stick nest in winter. Preys on birds, reptiles and mammals, occasionally adding large insects and carrion.	Unlikely to occur.
Accipitridae	<i>Lophoictinia isura</i>	Square-tailed Kite	V,P,3		2	Found in a variety of timbered habitats including dry woodlands and open forests. It	Unlikely to occur. Subject Site is not in proximity to watercourse.

Table C.2 Likelihood of Occurrence – Threatened Fauna Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
						is a specialist hunter preying on passerine birds, especially honeyeaters and targets predominately nestlings and insects occurring in the tree canopy. It nests in tree forks or on large horizontal tree limbs located mostly along or near watercourses.	
Ardeidae	<i>Ixobrychus flavicollis</i>	Black Bittern	V,P		3	Occurs in freshwater wetlands, and more rarely, estuarine wetlands. It favours wetlands with tall, dense vegetation, and forages in shallow water up to a depth of 0.3m. It nests in deep vegetative cover over shallow pools.	Unlikely to occur. No aquatic/wetland habitat present within Subject Site.
Artamidae	<i>Artamus cyanopterus cyanopterus</i>	Dusky Woodswallow	V,P		8	Occurs from Atherton Tableland in Queensland, down to Tasmania and west to the Eyre Peninsula in South Australia. In NSW it occurs from the coast to the western slopes of the Great	Some potential foraging habitat. Species does not nest or breed in Sydney.

Table C.2 Likelihood of Occurrence – Threatened Fauna Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
						Dividing Range and farther west. It breeds primarily on the western slopes of the Great Dividing Range in woodland and open dry forest. The species often occurs in eucalypt woodland and forest, though is also found in shrubland and heathland. It forages both above and below the canopy primarily for invertebrates, though will occasionally consume nectar, fruit and seed.	
Cacatuidae	<i>^Calyptorhynchus lathamii</i>	Glossy Black-Cockatoo	V,P,2		1	Inhabits open forest and woodlands of the coast and the Great Dividing Range up to 1000 m ASL in which stands of She-Oak species, particularly Black She-oak (<i>Allocasuarina littoralis</i>), Forest She-oak (<i>A. torulosa</i>) or Drooping She-oak (<i>A. verticillata</i>) occur.	Unlikely to occur. <i>Casuarina glauca</i> is not a preferred species and only one <i>Allocasuarina torulosa</i> occur within the Subject Site. Species is much likely to utilise areas in national parks with greater abundance of Casuarinaceae species.
Cacatuidae	<i>Callocephalon</i>	Gang-gang Cockatoo	V,P,3		15	Occurs within a variety of forest	Potential foraging habitat but unlikely to

Table C.2 Likelihood of Occurrence – Threatened Fauna Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
	<i>fimbriatum</i>					and woodland types. Usually frequents forested areas with old growth attributes required for nesting and roosting purposes. Also utilises less heavily timbered woodlands and urban fringe areas to forage, but appears to favour well timbered country through which it habitually flies as it moves about.	utilise Subject Site due to urban separation from timbered areas.
Cacatuidae	<i>Callocephalon fimbriatum</i>	Gang-gang Cockatoo population in the Hornsby and Ku-ring-gai Local Government Areas	E2,V,P, 3		13	Occurs within a variety of forest and woodland types. Usually frequents forested areas with old growth attributes required for nesting and roosting purposes. Also utilises less heavily timbered woodlands and urban fringe areas to forage, but appears to favour well timbered country through which it habitually flies as it moves about.	Potential foraging habitat but unlikely to utilise Subject Site due to urban separation from timbered areas.

Table C.2 Likelihood of Occurrence – Threatened Fauna Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
Columbidae	<i>Ptilinopus superbus</i>	Superb Fruit-Dove	V,P		3	Inhabits rainforest and closed forests where it forages high in the canopy, preferring figs and palms. Occasionally occurs in eucalypt or acacia woodland where fruit-bearing trees are present.	Unlikely to occur. No rainforest or closed forest.
Neosittidae	<i>Daphoenositta chrysoptera</i>	Varied Sittella	V,P		1	Inhabits eucalypt forests and woodlands, especially those containing rough-barked species and mature smooth-barked gums with dead branches, mallee and Acacia woodland.	Unlikely to occur. Sub-optimum habitat present
Petroicidae	<i>Petroica boodang</i>	Scarlet Robin	V,P		2	Lives in mature and regrowth dry eucalypt forests and woodlands. Occasionally found in mallee, or wetter forests, or in wetlands and tea-tree swamps. The understorey is usually open and grassy with few scattered shrubs. Habitat usually contains	Unlikely to occur. Lack of shrubs in BGHF areas, and very little fallen timber or logs.

Table C.2 Likelihood of Occurrence – Threatened Fauna Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
						abundant logs and fallen timber. It breeds on ridges, hills and foothills of the Great Dividing Range, Western Slopes, and in eastern coastal regions. The species predominately inhabits forests and woodlands though some individuals may disperse to more open habitats following breeding. In Autumn and Winter the predominate habitat is open grassy woodlands, grasslands, or grazed paddocks with scattered trees. Birds pounce on insects and other invertebrates from low perches, though occasionally forage in the shrub and canopy layer.	
Petroicidae	<i>Petroica phoenicea</i>	Flame Robin	V,P		1	Breeds in upland tall moist eucalypt forests and woodlands, often on ridges and slopes. Prefers clearings or areas with open understoreys. Ground	Unlikely to occur. No upland, tall moist eucalypt forest habitat.

Table C.2 Likelihood of Occurrence – Threatened Fauna Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
Psittacidae	<i>Glossopsitta pusilla</i>	Little Lorikeet	V,P		7	<p>layer of the breeding habitat is dominated by native grasses with shrub layer either sparse or dense. Often nests near the ground and are built in sheltered sites e.g. shallow cavities in trees, stumps or banks.</p> <p>Forages mostly in the canopy of open Eucalyptus forest and woodland, on Eucalypt species, and species of Angophora, Melaleuca, and other trees. Riparian habitats are ideal for the species due to higher productivity of flowering feed species. Isolated trees in paddocks and roadside remnants, along with urban trees can help sustain populations of the species. The species roosts in tree tops, often some distance from food trees, though prefers to nest in</p>	Unlikely to occur. Subject Site located too far from wooded riparian areas.

Table C.2 Likelihood of Occurrence – Threatened Fauna Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
						close proximity to feed areas. The species nests in hollows with a small entrance (3 cm) and at a height of between two and fifteen metres. Often nest trees are in riparian areas, and include trees of species like <i>Allocasuarina</i> spp.	
Psittacidae	<i>Lathamus discolor</i>	Swift Parrot	E1,P,3	CE	10	Migrates to the Australian south-east mainland between March and October. On the mainland they occur in areas where eucalypts are flowering profusely or where there are abundant lerp (from sap-sucking bugs) infestations.	Potential to foraging across site while migrating.
Psittacidae	<i>Polytelis swainsonii</i>	Superb Parrot	V,P,3	V	2	Species occurs only in south-eastern Australia. In NSW it occurs predominately west of the great divide, on inland slopes and adjacent plains. It breeds in areas along large inland river systems, and	Unlikely to occur. No grassy woodland habitat within Subject Site. Species is rarely known to occur east of the great divide.

Table C.2 Likelihood of Occurrence – Threatened Fauna Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
						inhabits forests and woodlands dominated by eucalypts, especially River Red Gum (<i>Eucalyptus camaldulensis</i>), and box eucalypts such as the Yellow Box (<i>Eucalyptus melliodora</i>). It forages predominately in box gum woodlands.	
Strigidae	<i>Ninox connivens</i>	Barking Owl	V,P,3		4	Inhabits eucalypt woodland, open forest, swamp woodlands and, especially in inland areas, timber along watercourses. Denser vegetation is used occasionally for roosting. Nests in hollows of large, old eucalypts. Hunts small arboreal mammals such as Squirrel Gliders and Ringtail Possums, but when loss of tree hollows decreases these prey populations it becomes more reliant on birds, invertebrates	Unlikely to occur. This species is not known to readily utilise urban habitats and records within Sydney are from larger patches of forest in national parks.

Table C.2 Likelihood of Occurrence – Threatened Fauna Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
Strigidae	<i>Ninox strenua</i>	Powerful Owl	V,P,3		143	<p>and terrestrial mammals. Requires very large permanent territories in most habitats due to sparse prey densities.</p> <p>The Powerful Owl requires large tracts of forest or woodland habitat but can occur in fragmented landscapes as well. It breeds and hunts in open or closed sclerophyll forests or woodlands and occasionally hunts in open habitats. Roosting during the day time occurs in dense vegetation of Eucalypts and species such as Syncarpia glomulifera (Turpentine), Angophora floribunda (Rough-barked Apple), and other species. Prey species are medium-sized arboreal mammals such as the Greater Glider, Common Ringtail Possum, and Sugar Glider. As</p>	<p>Potential to occur. No hollows large enough for nesting, and canopy not dense enough for roosting, however species is known to forage in urban habitats.</p>

Table C.2 Likelihood of Occurrence – Threatened Fauna Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
						most prey species require hollows and a shrub layer these are important habitat components also of the Powerful Owl. Nests are in large tree hollows (at least 0.5 m deep), in large eucalypts (diameter at breast height of 80-240 cm) that are at least 150 years old.	
Tytonidae	<i>Tyto tenebricosa</i>	Sooty Owl	V,P,3		1	Occurs in coastal rainforest, including dry, subtropical, and temperate rainforests, and moist habitats. eucalypt forests. Utilises tall trees in heavily vegetated areas for day time resting. It hunts during the night for small ground or tree dwelling mammals such as the Common Ringtail Possum or Sugar Glider. The species requires very large tree hollows for nesting.	Unlikely to occur. No rainforest and species is not readily known to utilise urban
Mammalia							

Table C.2 Likelihood of Occurrence – Threatened Fauna Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
Dasyuridae	<i>Dasyurus maculatus</i>	Spotted-tailed Quoll	V,P	E	2	Occurs in wide variety of habitats; rainforest, open forest, woodland, coastal heath and riparian forest. Uses hollows in trees, logs and rock crevasses as den sites.	Unlikely to occur. Site is not connected to other extensive vegetation patches, and habitat features suitable for den sites not present.
Emballonuridae	<i>Saccolaimus flaviventris</i>	Yellow-bellied Sheath-tail-bat	V,P		4	Roosts singly or in groups of up to six, in tree hollows and buildings; in treeless areas they are known to utilise mammal burrows. When foraging for insects, flies high and fast over the forest canopy, but lower in more open country. Forages in most habitats across its very wide range, with and without trees; appears to defend an aerial territory.	Potential to occur. Hollows suitable for roosting and foraging habitat is present.
Molossidae	<i>Mormopterus norfolkensis</i>	Eastern Freetail-bat	V,P		6	Occur in dry sclerophyll forest and woodland east of the Great Dividing Range. Roosts in tree hollows but will also roost under	Potential to occur. Hollows suitable for roosting and foraging habitat is present.

Table C.2 Likelihood of Occurrence – Threatened Fauna Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
Pseudocheiridae	<i>Petauroides volans</i>	Greater Glider	P	V	2	bark or in man-made structures. Restricted to eastern Australia, Tableland in Queensland south to Wombat State Forest in central Victoria. Largely restricted to eucalypt forests and woodlands. The diet is predominately comprised of eucalypt leaves, and more rarely flowers. Highest abundances occur in tall montane forests with old trees and abundant hollows.	Unlikely to occur. Species is not known from isolated urban forest patches.
Pteropodidae	<i>Pteropus poliocephalus</i>	Grey-headed Flying-fox	V,P	V	83	Occur in subtropical and temperate rainforests, tall sclerophyll forests and woodlands, heaths and swamps as well as urban gardens and cultivated fruit crops. Commonly found in gullies, close to water, in vegetation with a dense canopy.	Potential to occur. No camp was present at the time of the site survey and camp locations are well documented where they occur in Sydney. Species forages throughout urban areas including gardens.

Table C.2 Likelihood of Occurrence – Threatened Fauna Species

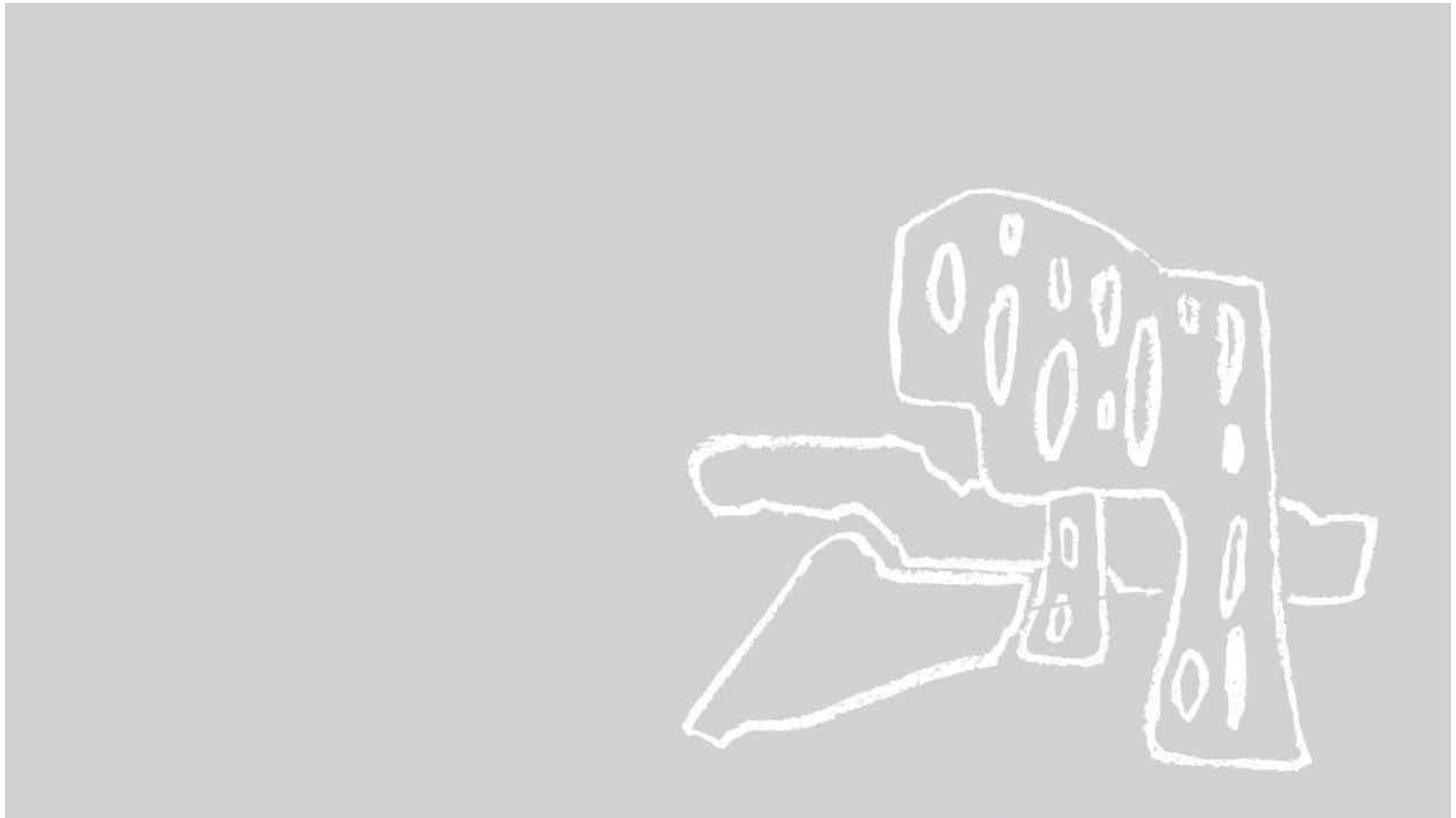
Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
Vespertilionidae	<i>Falsistrellus tasmaniensis</i>	Eastern False Pipistrelle	V,P		4	Occurs in moist habitat with trees over 20m in height, hunting insects above or just below the tree canopy. Roosts in eucalypt hollows, under bark and in buildings	Unlikely to occur. No moist habitat present due to mowing maintenance of ground layer of remnant native vegetation patches.
Vespertilionidae	<i>Miniopterus australis</i>	Little Bentwing-bat	V,P		3	Inhabits moist eucalypt forest, rainforest, wet and dry sclerophyll forest, melaleuca swamps, dense coastal forests and banksia scrub, preferring well timbered areas. Species roosts in caves, tunnels, tree hollows, stormwater drains, culverts, bridges and sometimes in buildings.	Unlikely to occur. No roosting habitat and species generally does not occupy degraded, urban habitats.
Vespertilionidae	<i>Miniopterus schreibersii oceanensis</i>	Eastern Bentwing-bat	V,P		54	Roosts mainly in caves but also in tunnels, mines or buildings. Non-breeding populations disperse within a 300 km range of maternity caves. Hunting for moths and other insects takes	Unlikely to roost within the Subject Site. Buildings present not suitable for roosting. May forage across the Subject Site.

Table C.2 Likelihood of Occurrence – Threatened Fauna Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
Vespertilionidae	<i>Myotis macropus</i>	Southern Myotis	V,P		3	place in forested areas above the canopy. Roosts close to water in caves, hollow-bearing trees, storm water channels, buildings, under bridges and in dense foliage. Forage over streams and pools catching insects and small fish. Known from a range of habitats close to water from lakes, small creeks to large lakes and mangrove lined estuaries	Unlikely to occur. No water bodies present for foraging and no roosting habitat present.
Vespertilionidae	<i>Scoteanax rueppellii</i>	Greater Broad-nosed Bat	V,P		4	Found mainly in the gullies and river systems that drain the Great Dividing Range. Usually roosts in tree hollows and buildings. Forages after sunset, flying slowly and directly along creek and river corridors at an altitude of 3 - 6 m. Open woodland habitat and dry open forest suits the direct flight of this species as it searches for	Unlikely to occur. No large river systems present within the Subject Site.

Table C.2 Likelihood of Occurrence – Threatened Fauna Species

Family	Scientific Name	Common Name	TSC Act	EPBC Act	Records	Habitat Requirements	Likelihood of Occurrence
						beetles and other large, slow-flying insects. Species is not known to occur in areas of high urban density.	



PAVEMENTS CONDITION REPORT

NORTH ROCKS PARK PRECINCT

FOR MASTER PLAN NORTH ROCKS PARK PRECINCT, NSW

Prepared For

JMD DESIGN PTY LTD

Issue B May 2018

By

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1. Introduction:

The purpose of this report is to record the general condition of paving within the study site and to make recommendations for their maintenance and improvement where found to be appropriate.

2. The Study Site:

The areas of interest to this Report are the North Rocks Park at North Rocks and the nearby John Wearn Reserve Playground within The Parramatta City Council area of greater Sydney. (See Figure 1)

North Rocks Park:

This site is bounded by Farnell Avenue – West side, North Rocks Road - north side and Residential development – east and south side.

The Reserve is some 340 metres wide by 270 metres deep with an area of 7.3 hectares. It drains from North to south with an overall fall of some 19 metres. The northern developed area surface grades at about 2% average and the southern bushland area grades at some 14 % maximum.

The main features of the Reserve :

Development area of 1.8ha of buildings and tennis courts and including extensive pathways and parking areas, and an adjoining 1.7 ha of grassed playing field with surrounding path paving and seating which occupy the northern, highest and major part of the site. The remainder comprises natural and restored bushlands

John Wearn Reserve Playground :

This site is bounded by Farnell Avenue – East side, Balaka Drive - north side, Residential development – west side and Manildra Avenue and Residential development – south side.

The Reserve is some 200 metres long by 125 metres wide with an area of 2.4 hectares. It essentially drains uniformly from North to south with a fall of some 15 metres resulting in an average grade of 7.5 %

The main features of the Reserve :

The northeast corner contains the North Rocks Child Care Centre which occupies some 1,600 sqm. A paved 18 spaces car park is located just west of the Centre.

Paved Pathways diagonally cross the entire park and are joined together by a near circular path that skirts close to the Reserve boundaries.

Scattered trees and grass cover the site.



FIGURE 1 – THE SITE AREAS PLAN

3. The Site Constraints:

North Rocks Park:

This is a much developed site that contains highly significant bushlands in its southern extents. Its constraints are existing service lines that cross the site along the east side (100 diameter CI water main) and west side (High voltage Overhead Power Lines), protected bushland and its relatively steep topography.

Otherwise, no direct constraints limit pavement performance on this site.

John Wearn Reserve Playground :

The Reserve is essentially an open field with scattered trees and it contains no highly significant features.

Its constraints are the existing High Voltage Overhead Power lines that diagonally cross the site and its relatively steep topography.

Accordingly, no direct constraints limit pavement performance on this site.

4. The Pavement Conditions:

North Rocks Park: (see site survey plan attached)

A record of the various pavements types, extents and condition is shown at Appendix A.

In summary, the Park has some 1950 metres of path paving within the developed area varying in width from 1 to 3.8m. 64 metres is bitumen surfaced pavement, some 65m is brick pavement and some 200 m is bare soil. The remainder is concrete paving.

Minor cracks occur fairly regularly in the concrete pavements. Trip hazards occur in pathway NR01 at chainage 173 and more frequently between chainages 250 to 290, this pathway is located in the North rocks Road reserve. A trip hazard was also found in the brick paving adjacent to the Car Park 1A turning circle area in paving NR-01B.

Trip hazards in Pathway areas need attention otherwise the paths are considered to be in good general condition.

Car parking (CP) is available on site and in adjacent Farnell Avenue, with 138 spaces on site and some 35 in frontage public road kerbside spaces. The Master plan proposes that an additional 55 car parking spaces be provided. If required an additional 40 car spaces could be constructed on site. (see survey plan for details)

Suggested improvements to the existing parking facilities are:

- Widen to 6.5m the western entryway (No2) off North Rocks Road.
- Resurface Car Park 03 (western car park off North Rocks Road)
- Provide off Farnell Avenue a more southern entryway (No4) and close off the existing entryway (No1) which is too near North Rocks Road.

Such works should enhance the effective use and public safety of the entrances to the site.

John Wearn Reserve Playground : (see site survey plan attached)

A record of the various pavements types, extents and condition is shown at Appendix B.

In summary, the Reserve has some 1150 metres of 1500mm wide path paving. All but 158 metres, which is bitumen surfaced pavement, is concrete pavement.

Minor cracks occur fairly regularly along the pavements. Only one (Path JW3) poses a trip hazard at chainage 53. The bitumen path section of JW4 shows frayed edges at various places which are also considered a trip hazard. The Child Cycle area loop paving is in poor condition.

Pathway trip hazard areas need priority attention along with frayed pavement edge areas. Concrete paths are in good general condition but bitumen paths need resurfacing to be able to meet a "Good" classification.

Car parking (CP) is available on site and in adjacent Farnell Avenue, with 18 spaces on site and 26 in frontage public road kerbside spaces.

The Master Plan proposes that an additional 26 perpendicular car parking spaces be provided in Balaka Drive. If required an additional 41 perpendicular parking spaces could be constructed in Farnell Avenue.

The onsite parking area is showing signs of pavement age deterioration. The entry driveway needs to be resurfaced and so do the 9 east side car parking spaces.

5. Consideration of Adjacent Development Proposals:

North Rocks Road:

Traffic signals relocation to Alkira Road and associated road widening and median - This proposal if implemented would force Left-Turn only movements on Car Park 3A. – With all parties interests considered a Alkira Road roundabout may be a better 24/7 outcome.

Closure of Entry/Exit 2 and possible roundabout at Farnell Avenue intersection – Traffic movements may be improved by this means but requires a comprehensive traffic study to confirm any benefit potential in both cases.

Farnell Avenue:

Closure of Entry/Exit 1 and construction of Entry / Exit 4 and Road 4 – These are seen as clear improvements to Park areas access and general public safety.

ATTACHMENTS:

APPENDIX A: North Rocks Park - Pavement Condition Record

APPENDIX B: - John Wearn Reserve - Pavement Condition Record

Site Survey Plan – Showing Existing Pavement Defects and Suggested New Works.

JOHN WEARN RESERVE
PAVING INVENTORY 26/08/2017
(See Site Survey Plan for details)

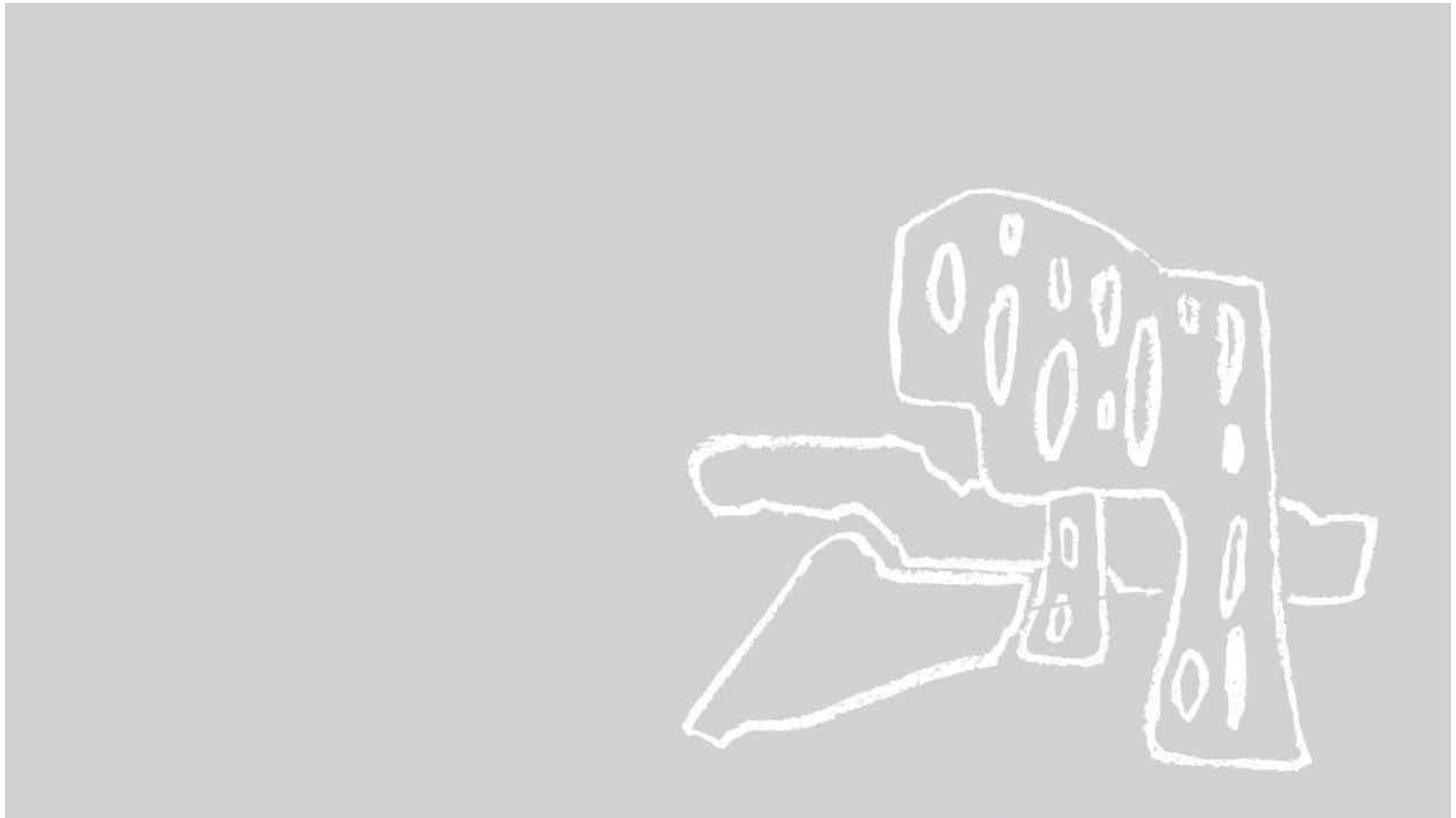
PATHWAY	CH	COMMENT	PATHWAY	CH	COMMENT
JW1	0	Parking area corner	JW 2	0	JW1 - JOINS
Concrete	10	crack	Concrete	55	Crack over 375 DIA CULVERT
1.5 WIDE	17	crack at JW4 - XING	1.5 WIDE	68	Crack
167 LONG	33	crack	121 LONG	72	Crack
	45	crack at JW5 - JOIN		81	Crack
	57	JW3 & JW5 JOINS		83	JW4 - JOINS
	62	crack		116	FARNELL AVE BOUNDARY
	70	JW2 - JOINS		121	FARNELL KERB
	74	crack			
	84	JW6 - JOINS			
	121	375 DIA CULVERT			
	150	JW4 - XING			
	167	MANILDRA AVE BOUNDARY			
JW3	0	JW1 - JOINS	JW4	0	JW1 - JOIN
Concrete	26	crack	Bitumen	2	crack
1.5 WIDE	45	crack	1.5 WIDE	7	crack
110 LONG	52	Trip	158 LONG	5 to 10	frayed edge
	54	Trip		45 to 51	frayed edge both sides
	56	crack		119	375 dia culvert
	66	crack		148 to 153	frayed edge
	67	crack		158	JW2 - XING
	71	JW4 - XING	Concrete	220	JW1 - XING
	103.5	BALAKA DR BOUNDARY	1.5 WIDE	236	crack
	110	BALAKA DR KERB	291 LONG	252	375 DIA CULVERT
				386	JW3 - XING
				396	crack
				412	JW7 - JOINS
				449	JOINS - JW1
JW5	0	JW1 - JOIN	JW6	0	CHILD CYCLE AREA
Concrete	19	CRACK	Concrete	63	LOOP IN POOR CONDITION
1.5 WIDE	20	CRACK	1.5 WIDE	18	FAIR CONDITION
32 LONG	23	End JW5	88 LONG	7	FAIR CONDITION THRU PIPE
JW5B	9	JOINS JW1 & JW5			
JW7	0	AT JW4	JW8	0	At JW3
Concrete	36	AT JW8	Concrete	3	At driveway
1.5 WIDE			1.5 WIDE	62	At driveway
36 LONG			122 LONG	70	at farnell Ave Kerb
				122	
JW9	0	at Carpark edge			
Concrete	23	at child care centre			
1.5 WIDE					
23.4 LONG					
TOTALS:	368	m	780	m	= 1,148

CAR PARKING AREAS

(see Site Survey Plan for details)		CAR SPACES		PAVEMENT	K&G	PAVEMENT AREA		RESURFACE	COMMENTS
EXISTING	PROPOSED	EXISTING	PROPOSED	TYPE/COND	Each side=ES	EXISTING	PROPOSED	REQUIRED	
			EXTRA		One Side= 1S	SQM	EXTRA	SQM	
JW CP01	0	JOINS BALAKA DRV		BITUMEN	ES	177		125	
6 WIDE	00/22	DRIVEWAY		FAIR	NIL	424		219	
46 LONG	22/46	CAR PARK 1	18	FAIR					
JW CP02	0	JOINS FARNELL AVE		BITUMEN	1S	170			
5.5 WIDE	00/168	CAR PARK 2	26	FOOTPATH	1S		924	924	Existing kerbside
168 LONG	00/168	FARNELL AVE	41						New width cor
TOTALS:			44			771	924	1,268	

NORTH ROCKS PARK
PAVING INVENTORY 26/08/2017
(see Site Survey Plan for details)

PATHWAY	CH	COMMENT	PATHWAY	CH	COMMENT
NR-01	0	West end at Farnell Ave	NR - 02	0	JOINS CARPARK 3 PAVEMENT
Concrete	66 / 73	Entry/Exit No 2	Concrete	12	NR-03 JOINS
1.2 WIDE	107	Bus shelter area	1.8 WIDE	121	CORNER
324 LONG	124	crack	347 LONG	135	CORNER
	147	crack		140	Crack
	163	trip		142	Crack
	165	crack		143	Crack
	167	NR-01b cross over		170	NR-08B JOINS
	173	trip		187	NR-07 JOINS
	174	trip		241	CORNER
	196	crack & NR-01b end joins		347	NR-15 JOINS
	202	crack			
	235	crack	NR-03	0	NR-02 JOINS
	246	crack	Concrete	101	ROAD 3 END ADJACENT
	271	crack Paving joints trips ch250/290	1.8 WIDE	145	NR-02 END JOINS
	278	crack	227 LONG	171	crack
	295/302	Entry/Exit No 3		227	WATTLE PL PAVING JOINS
	324	East end			
NR-01B	0	CAR PARK 1A TURNING CIRCLE	NR-04	0	JOIN to Carpark 2B
BRK & CONC	34	TRIP - BRICK PAVING	Concrete	23	
1.2 min WIDE	40	NR-01 CROSS OVER	1.0 WIDE	23/37	Under awning
68 LONG	66	crack IN CONCRETE	37 LONG	37	
	68	NR-01 JOIN			
NR-05	0	JOINS CARPARK 1A	NR-06	0	JOINS CARPARK 2A
Concrete	34.6	CORNER	Concrete	11	BEND
2 WIDE	63/77	BRICK PAVING	1.6 WIDE	28	BEND
77 LONG	77		84 LONG	34	BEND
				54	CORNER
NR-05B	0	JOINS NR-05		69	CORNER & JOINS NR-06B
Concrete	19 / 23	TRIP AT PT JOIN		84	JOINS BRICK PAVING
WIDTH VAR	42	AT SOFTFALL			
58 LONG	58	JOINS NR-05			
NR-07	0	JOINS CARPARK 2B	NR-06B	0	JOINS NR-06
Concrete	29	JOINS BITUMEN PAVING	Concrete	4.5	
3.8 WIDE			1 WIDE		
29 LONG			4.5 LONG		
NR-08	0	JOINS NR-01B	NR-08B	0	JOINS NR-08
BITUMEN	46	BEND	CONCRETE	12	JOINS NR-02
3.6 WIDE	53	BEND	1.8 WIDE		
64 LONG	64	JOINS BITUMEN PAVING	12 LONG		
NR-09	0	JOINS NR-02	NR-09B	0	JOINS NR-09
CONCRETE	6	CORNER	CONCRETE	38	V DRAIN & PATH
1.2 WIDE	15	CORNER	1.2 WIDE		
47 LONG	24	CORNER & CRACKS	38 LONG		
	35	CORNER			
	42	JOINS NR-09B			
	47	JOINS NR-09			
NR-10	0	JOINS Farnell Ave	NR-11	0	JOINS NR-01
CONCRETE	7	NR-11 CROSSING	CONCRETE	13	NR-10 CROSSING
1.2 WIDE	29	END	1.5 WIDE	20/26	ROAD 1 CROSSING
29 LONG			180 LONG	93	NR-12 CROSSING
				180	END
NR-12	0	JOINS Farnell Ave	NR-13	0	DON MOORE CC ENTRY
CONCRETE	3	NR-11 CROSSING	CONCRETE	20	CRACK
1.5 WIDE	6.5	CRACK	1.2 WIDE	24	CORNER
44 LONG	44	END	62 LONG	25	CRACK
				62	END AT GATE
NR-14	0	GATE	NR-15	0	JOINS CARPARK 2B
CONCRETE	8	CARPARK 2A	BARE SOIL	163	END
1.5 WIDE			2.5 WIDE		
8 LONG			163 LONG		
			NR-15B	0	JOINS NR15
			BARE SOIL	40	JOINS NR15
			2.5 WIDE		
			40 LONG		
TOTALS:	748	m	1,194.5	m =	1,942.5 m



WATER SENSITIVE URBAN DESIGN (WSUD) STRATEGY

NORTH ROCKS PARK PRECINCT

Stormwater Quality Management Plan

FOR MASTER PLAN NORTH ROCKS PARK PRECINCT, NSW

Prepared For

JMD DESIGN PTY LTD

Issue B May 2018

By

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1. Introduction:

In the early 1990's, Water Sensitive Urban Design (WSUD) was proposed as a method to encompass all aspects of the urban water cycle in designing urban developments.

It integrated the stormwater, potable (drinking) water, and wastewater cycles seeking to minimise the adverse environmental impacts of all urban development pollution.

The Principles of WSUD are continually being refined yet essentially include the following:

- protect existing natural features and ecological processes
- integrate public open spaces with stormwater drainage corridors
- maintain natural hydrologic behaviour of catchments and preserve the natural water cycle
- protect water quality environmental values of surface and groundwater
- minimise demand on the reticulated water supply system and utilise stormwater as a valued

resource

- minimise capital and maintenance costs of stormwater infrastructure and minimise sewage discharges to the natural environment
- integrate water features into the landscape to enhance visual, social, cultural and ecological values.

Source: Dept. of Environment Resources and Management 2010

Improving stormwater quality

Stormwater runoff from urban areas contains a wide variety of pollutants from both natural and man-made sources. The key contaminants include:

- sediment/suspended solids
- litter
- nutrients (fertilizers - nitrogen and phosphorous)
- heavy metals (eg - copper, zinc)
- pesticides
- hydrocarbons (oil and grease)
- micro-biological organisms.

To minimise the impact of pollutants on downstream waterways authorities now set specific Water Quality Objectives (WQO) for the treatment of stormwater runoff from new developments.

The Hills Shire (and Parramatta City Council) Development Control Plan stormwater Management objectives for pollutant load reduction requirements are:

90% Gross Pollutants (> 5mm)
85% Total Suspended Solids (TSS),
45% Total Nitrogen (TN), and
65% Total Phosphorous (TP)

All development proposals are required to incorporate WSUD measures into new developments for Council consideration with the Development Application.

WSUD measures have to recognize and design for their ongoing operation and maintenance requirements.

Design methodologies for WSUD infrastructure elements should comply with the requirements of the following publications:

- Australian Runoff Quality (Engineers Australia 2005)
- Water Sensitive Urban Design Technical Guidelines for Western Sydney (NSW Government Stormwater Trust and UPRCT, May 2004)''

Pollutant removal - Treatment trains

To effectively treat stormwater runoff, it is necessary to utilise different treatment processes to target the different pollutants - In combination these processes are typically called a 'treatment train'.

Specific pollutants are targeted by set level treatment measures generally called primary, secondary, and tertiary stage treatments.

The Stages are generally defined by the pollutant particle size they target :

Primary:

treats Gross solids and coarse sediment sized particulates and floating pollutants (litter, sediments, free oil/grease)

Secondary:

treats medium to Fine particulates and attached pollutants, (hydrocarbons and TSS)

Tertiary:

treats Very fine/colloidal particulates and dissolved particles (Nutrients TSS, TN, TP and heavy metals)

The Treatment Train Processes generally include at least one of the following facilities shown in each stage:

Primary:

Gross pollutant traps (GPT's), sediment traps, oil/grit separators

Secondary:

Sand filters, permeable pavements, vegetated filter strips, vegetated swales, infiltration systems, detention ponds

Tertiary:

Constructed wetlands, bioretention systems, Mechanical filtration systems,

Potential Treatment Measure considering the various Points of Control:

At Source:

Use Rainwater tanks, infiltration trenches, vegetation filter strips, planting beds, permeable pavements.

Along Conveyance System:

In open drains and channels use Vegetated filter strips and swales, on-line bioretention systems, natural channels. In pipelines use Gross pollutant traps, sediment traps, oil/grit separators

At Site Outlet:

As stormwater leaves the development use detention ponds incorporating Bioretention or infiltration basins, sand filters, constructed wetlands, Mechanical filtration systems.

2. The Study Site:

The areas of interest to this Report are the North Rocks Park and the nearby John Wearn Reserve Playground.

North Rocks Park:

This site is bounded by Farnell Avenue – West side, North Rocks Road - north side and Residential development – east and south side.

The park is some 340 metres wide by 270 metres deep its area is 7.3 hectares. It drains from North to south with an overall fall of some 19 metres. The northern developed (high) area has a surface grade of about 2% average and the southern bushland (low) area grades at some 14% maximum.

The main features of the Park :

- 1.8ha of buildings and tennis courts

- 1.7 ha of grassed playing field

- The remainder is natural and restored bushlands

John Wearn Reserve Playground :

This site is bounded by Farnell Avenue – East side, Balaka Drive - north side, Residential development – west side and Manildra Avenue and Residential development – south side.

The Reserve is some 200 metres long by 125 metres wide, its area is 2.4 hectares. The majority of the site drains uniformly from North to south with a fall of some 15 metres resulting in an average grade of 7.5 % .

Some 1,700 square metres of the site drain over the Balaka Drive footpath with stormwater being captured by adjacent roadway drainage pits. The maximum surface grade in this area is 16%.

2,200 square metres of the site drains stormwaters over the Farnell Avenue footpath and into the kerb and gutter with capture occurring well down the roadway.

The main features of the Reserve :

The Reserves northeast corner contains the North Rocks Child Care Centre which occupies some 1,600 sqm. A paved 18 spaces car park is located just west of the Centre. Scattered trees and grass cover the entire site.

Two paved Paths diagonally cross the park and another near circular path skirts close to the Reserve boundaries and joins the diagonal paths. These paths in some places intercept stormwater flows and cause some minor local scour.

Areas that drain stormwaters to Balaka Drive and Farnell Avenue have no capture point prior to escape over large footpath lengths into the roadways.

Two grass swales capture stormwater in the major part of the site area. The higher swale drains from Farnell Avenue to Manildra Avenue where it discharges into a Drainage pit and pipeline that extends down that roadway. The other swale is located along the site's south boundary, it intercepts rainwater that would otherwise flow into adjoining residential properties and discharges over the Farnell Avenue footpath into the roadway and is subsequently captured by kerb and gutter pits.

3. Suggested Specific Treatment Measure at the various Points of Control:

For North Rocks Park:

At Source: (buildings and paved areas)

Consider using Rainwater tanks, raingardens and/ or vegetation filter strips.

Permeable pavements or Mechanical filtration systems are unlikely options as they would require costly construction or reconstruction works.

Along Conveyance System:

Along and in the open drains use Vegetated filter strips and bioretention swales. In pits use litter baskets and / or oil-grit separators at Parking areas, in pipelines use Gross pollutant traps.

At Site Outlet:

As stormwater leaves the parklands consider using a Bioretention basin. The steepness of the site discourages the use of wetlands at the most downstream location.

For John Wearn Reserve Playground :

At Source: (buildings and paved areas)

Consider using Rainwater tanks, raingardens and/ or vegetation filter strips.

Permeable pavements or Mechanical filtration systems are unlikely options as they would require costly construction or reconstruction works.

Along Conveyance System:

Along and in the open drains use Vegetated filter strips and bioretention swales.

At Site Outlets:

In adjacent roadway pits use litter baskets. If required, intercept flows over footpaths by drainage swales and direct them to selected downstream treatment facilities.

Where captured stormwater leaves the reserve consider using a Bioretention swale / basin. The steepness of the site discourages the use of wetlands at the most downstream location.

References:

Stormwater Management Section of the Hills DCP- 2012.

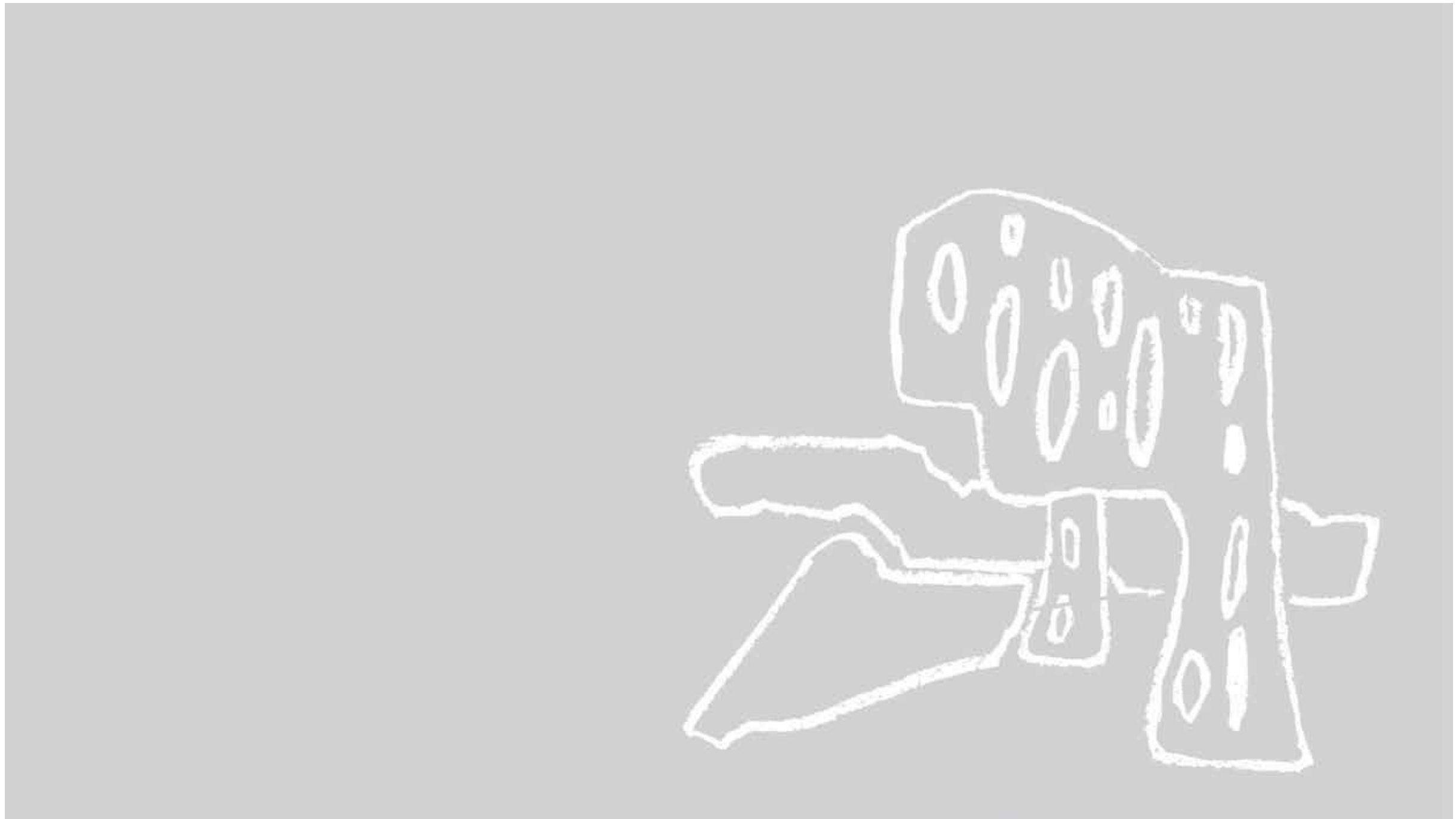
Water Sensitive Urban Design Technical Guidelines for Western Sydney (NSW Government Stormwater Trust and UPRCT, May 2004)

Australian Runoff Quality, A Guide to Water Sensitive Urban Design, 2006.

Australian Runoff Quality (Engineers Australia 2005).

Managing Urban Stormwater: Soils & Construction (Dept of Housing, 1998)

The Constructed Wetlands Manual (DLWC, 1998).





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North Rocks Park Analysis & Opportunities Lighting and Electrical

Prepared by:

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for

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1. Introduction

JMD Design has engaged Lighting, Art & Science to carry out a review of the existing lighting and electrical services for North Rocks Park precinct made up of North Rocks Park and John Wearn Reserve for the existing site.



Figure 1 – North Rocks Park Precinct

2. Incoming Power Supplies

2.1 North Rocks Park

North Rocks Park is serviced by a number of incoming power supplies. These are:

- The Don Moore Community Centre – from Farnell Avenue
- The soccer fields – from North Rocks Road
- Pumping power – from Wattle Place
- Soccer clubhouse and kiosk, tennis facility and senior citizens centre - from North Rocks Road



- Preschool – from Farnell Avenue

The Don Moore Community Centre has a 200A three phase aerial supply taken from pole JU500 on the opposite side of Farnell Avenue to a private pole.

The soccer fields have a main switchboard along the northern edge of the fields. This supply to this switchboard is rated at 100A three phase.

The soccer clubhouse and kiosk, tennis facility and senior citizens centre are fed via a three phase aerial supply from pole 6734 on North Rocks Road. The capacity of this supply is believed to be 100A three phase, the main switchboard supplied by this aerial service was not sighted during our site inspection.

2.1.1 Spare Capacity

The Don Moore Community Centre has an assessed load of 120A per phase, with 80A per phase estimated spare capacity.

The Tennis Centre/Soccer Club/Soccer Kiosk/Senior Citizens Centre power supply has an assessed load of 90A per phase, with 10A per phase estimated spare capacity.

The sportsfield lighting switchboard has spare capacity of 30A per phase.

2.2 John Wearn Reserve

The public space of the reserve is supplied from a single phase aerial cable from pole 525 on the opposite side of Balaka Drive to a private pole. The rating of this service is 100A.

The North Rocks Child Care Centre is supplied from a three phase aerial cable from pole 5050 on the opposite side of Farnelle Avenue to a private pole. The rating of this service is 100A.

2.2.1 Spare Capacity

From our inspection and the floor area of the child care centre and the assessed electrical load, the spare capacity in the supply to the child care centre is estimated to be 70A per phase.

John Wearn Reserve presently has a twin BBQ and some event power within a switchboard at the stage structure, from this the spare capacity is estimated to be 40A single phase.

2.3 Preschool

The preschool is serviced from a new 100A three phase supply from Farnell Avenue to a private pole.

2.3.1 Spare Capacity

As the building was under construction at the time of inspection, the maximum demand is not able to be assessed. The electrical designer for the building will be able to provide a loading for the building.

3. Potential for Solar PV Systems

The buildings on site present opportunities for the addition of solar PV generation systems. The community centre, senior citizens centre and childcare centre have peaked roofs that are approximately aligned east west with falls to approximately the north making them suitable for the mounting of solar PV panels.

The soccer club building and tennis buildings do not have the peaked roofs and would require the use of mounting frames to tilt the solar panels to optimise the energy generated. The tennis club house has a number of trees on the western end that would overshadow any solar panels.



The preschool has a large group of trees to the north and will have some overshadowing should any solar PV system be installed on the northern side of the building.

4. Communications

Presently there is an incoming aerial (Telstra) communications feeds from an Endeavour Energy pole on the opposite side of North Rocks Road at the boundary of properties 385A & 385B. The aerial wiring then runs into the site and is strung from mature trees and light poles.

The Don Moore Community Centre is also serviced from an aerial Telstra communications service from the same pole noted above.



Fig 2 – Aerial Wiring attached to a tree

As seen in figure 2 there are aerial communications wires strung from trees to avoid trenching in of cables through the site. Any works in the park should underground these wires.

5. CCTV

All the buildings inspected, with exception of the accessible toilet near carparking on the northern side of the site, had external CCTV cameras. The majority of these have been installed in recent works.

6. Buildings with Air Conditioning

The following buildings have air conditioning systems:

- The Don Moore community centre
- Senior citizens centre
- Soccer clubhouse
- Childcare centre
- Tennis Club

7. Lighting

7.1 Tennis Club

At the present the Tennis Courts are lit from 10m height light poles with discharge lamp floodlights. The light fittings are mounted almost vertically which will result in glare for the tennis players. Glare from floodlights which are not correctly positioned and aimed with respect to the principal playing area may promote visual discomfort for the participants and spectators of the game. The Australian Standard AS2560.2.1 (Lighting for outdoor tennis) recommends the use of cut-off type luminaires which emit no light above the horizontal plane through the luminaires as a mean of controlling glare in tennis installations.

Furthermore, there are now LED floodlights available that, with lower wattages will still provide a level of illumination appropriate for the practice of the sport.



Figure 3 – Tennis Club courts floodlighting



Figure 4 – Tennis Club courts floodlighting

Internally, the Tennis Club is illuminated by the use of twin fluorescent battens that are now out dated. There is an opportunity to improve the lighting in the rooms by using LED luminaires which will also reduce the power consumption of the building.

Externally, the building lighting is composed of wall mounted fluorescent light fittings with opal diffusers. These are also dated and do little to light the immediately beyond the perimeter of the building. The wall mounted light fittings should have a forward throw distribution instead in order to light the circulation areas around the building.



Figure 5 – Tennis Club lighting



Figure 6 – Tennis Club external lighting

7.2 North Rocks Park

The two soccer playing fields at North Rocks Park are being lit from four timber poles with an approximate height of 15.5m height. Each light pole has three 2,000W floodlights.

A basic requirement for illumination of a football field is that the ball and players are adequately illuminated at all times while in play. When designing sportslighting, in addition to achieving average light levels across a playing surface, there are also uniformity considerations. The uniformities take into account the minimum and maximums, as well as the calculated average light level.

An efficient lighting design will achieve the uniformity criteria and have an average value for the playing surface that satisfies the average nominated in the Australian Standard without being excessively above this figure.

When looking at the present lighting installation at North Rocks park, some issues arise:

- The floodlights are not correctly positioned with respect to the principal playing area. Since the floodlights are mounted at a low height (15.5 m), both average light level and uniformity criteria nominated in the Australia Standard AS2560.2.3 (Lighting for football – all codes) are not satisfied. The low height of light floodlights promotes the existence of overly bright areas close to the light poles and dark spots in the middle and corners of both playing fields.
- Measured illuminance values were provided (see appendix) and the existing lighting does not meet the uniformity and average lighting criteria requirements for the recreational level of play – touch and tag. On Playing Field 1 both average and uniformity fail the recommended values whereas Playing Field 2 meets the average requirement but fails the uniformity requirement.
- The light fittings are tilted almost 90° up from downward vertical. This may result in glare which causes discomfort for the participants and the spectators. Also, the more the light fittings are tilted up, the more light spill will affect the surrounding properties. Viewing of bright light sources is a major source of complaints from residents of properties next to sportsfields.

Forward throw or planar fittings are available. These will have the peak intensity at around 65° above the downward vertical but the luminaire glass will be horizontal (or close to horizontal) so that no light is emitted in above the horizontal plane of the light fitting. In addition the lighting installation will be more efficient as approximately half of the light will not be lost to the sky.

Furthermore, in case the fields are used for the practice of softball, it is important that a reasonably strong contrast be provided between the ball and its background when viewed in the pitcher and batter zones. The provision of good visual conditions over the whole field is important to facilitate the catching of field balls. The existing lighting at North Rocks Park does not meet the general criteria nominated in the Australia Standard AS2560.2.6 (Specific recommendations – Baseball and softball).



Fig 7 – North Rocks Park Floodlighting



Fig 8 – North Rocks Park Floodlighting

7.3 Senior Citizens Centre

The existing lighting is largely made of fluorescent light fittings which are out dated. There is an opportunity to improve the lighting in the building by using LED luminaires which will also reduce the power consumption of the building.



Fig 9 – Senior Citizens Centre External Lighting



Fig 10 – Senior Citizens Centre External Lighting

The Senior Citizens Centre carpark is being lit by a floodlight mounted at the entry awning of the building and a streetlight. Outdoor carparks must provide:

- Safety for pedestrians
- Vehicles and circulation routes must be well lit
- The luminaires must have optics that minimise upward light

The Australian Standard AS/NZS 1158.3.1 specifies performance and design requirements for outdoor carpark lighting and the existing lighting layout does not satisfy those requirements. Car parks need lighting from several directions. Lighting from one side only will produce deep shadows. Single-side illumination also means that people and the sides of vehicles facing away from the light, can only be seen in silhouette. This can generate a feeling of insecurity among users. The use of post top LED luminaires to light these areas is recommended.



Fig 11 – Senior Citizens Centre Carpark Lighting



Fig 12 – Senior Citizens Centre Carpark Lighting

7.4 John Wearn Reserve

The John Wearn Reserve is not lit at the present. The lack of light in the area may be justified by:

- Low pedestrian/cycle activity
- Lighting was discouraged in the park in order to discourage use at night and avoid inappropriate behaviour after dark



Fig 13 – John Wearn Reserve



Fig 14 – Christmas Carols Shed

7.5 North Rocks Child Care Centre

The North Rocks Child Care centre is being externally lit by wall mounted fluorescent light fittings with opal diffusers and two floodlights protected against vandalism with a cage. The fluorescent light fittings are now dated and do little to light the perimeter of the building. Wall mounted LED light fittings with a forward throw distribution are a better solution for the space. Furthermore, in case the new light fittings selected to light the perimeter of the building present a high IK rating, the use of cages to protect the luminaires won't be necessary. The "IK" rating or code is an international numeric classification for the degrees of protection provided by enclosures for electrical equipment against external mechanical impacts and this rating is an important factor when choosing a light fitting which may be fitted in an area subject to attempted vandalism or other impact. The higher the IK rating, the more robust the light fitting is.



Fig 15 – Child Care external lighting



Fig 16 – Child Care external lighting

7.6 Don Moore Community Centre



Fig 17 – Community Centre under awning lighting



Fig 18 – Community Centre under awning lighting

The Community Centre external breakout area lighting is provided by two discharge floodlights. The light provided by one of the floodlights is being blocked by the awning underneath, its location was poorly chosen. The second floodlight is tilted up which may result in glare for the users of the space. Forward throw planar LED fittings are available that would be more suited to light the space.



Fig 19 – Community Centre external breakout area lighting



Fig 20 – Community Centre external breakout area lighting

7.7 Soccer Club

Internally, the Soccer Club is illuminated by the use of twin fluorescent battens. On the upper level the battens present an acrylic diffuser and on the lower level (changing rooms) the light fittings are bare fluorescent lamps with a cage. Both types of fittings are now dated. There is an opportunity to improve the lighting in the rooms by using LED luminaires which will also diminish the wattage consumption of the building.



Fig 21 – Soccer Club internal lighting



Fig 22 – Soccer Club internal lighting

The external area between the Soccer Club and the amenities building, that today is poorly lit by one single light pole, with a symmetrical distribution, located next to the Tennis Court could be lit in order to create interest on the space since it is a sociable area, with barbeques and pic-nick tables. The use of a higher pole with a series of spotlights will provide an interesting lighting solution on the space. This enables the area to be lit from a single pole and to be accented through the use of light becoming a point of interest for those who use the park. This lighting can be set up to have a two level switching mode for reduced lighting after a nominated time.



Fig 23 – Soccer Club external lighting

7.8 Amenities/Kiosk Building

The amenities building located adjacent to the soccer club has two levels. The toilets/change rooms and large equipment storage room are located on the ground floor and the kiosk/kitchen and equipment storage room are located on the first floor.

The rooms are being lit by surface mounted weather proof fluorescent luminaires. Waterproof LED products can be used to replace traditional fluorescent luminaires. The use of new LED battens would provide savings in energy and maintenance. Furthermore, motion sensors can be integrated in the light fitting for presence (indoors) and daylight detection (outdoors) which enables further energy savings. This type of luminaire is commonly used in public amenities buildings and toilets because of their robustness. They're designed to be installed in locations and applications where they may be subject to attempts to damage them.



Fig 24 – Amenities building lighting



Fig 25 – Amenities building lighting

7.9 Path Lighting

The path lighting around the precinct is composed either by galvanised steel poles or painted steel poles. Both poles and light fittings are in reasonable condition given their age. The lighting installation dates from before the current standard AS/NZS 1158.3. The lighting provided by Ausgrid is purely functional and does little to improve the night environment.

Two different Ausgrid light fittings are being used on the paths. In some areas the Carousel light fitting is used, a luminaire with a circular opal diffuser that provides a diffusive symmetric light distribution and uses 125W mercury lamps. Other areas use the Ausgrid light fitting Bathurst, a post top fixture with an acrylic refractor diffuser with 80W mercury vapour lamps. This is a low quality light source, with poor colour rendering and white appearance. As the lamp nears the end of life, lumen depreciation becomes noticeable and the light given off has a noticeable colour shift. These lamps have been phased out of new public lighting installations due to their poor performance.

The removal of the existing Ausgrid light poles is recommended and the installation of one type of post top LED light fittings around the precinct should be adopted. This will provide a uniformity of appearance on the pathways lighting design. A light fitting mounted on a pole with the appropriate distribution will provide illumination for and of the pedestrians. Although there is a broad range of fittings that are available, in addition to the aesthetic requirements, the selected fitting needs to achieve the desired level of glare control, energy efficiency, control of the light distribution and cost. Light fittings that use direct LEDs are not recommended as the glare from these type of luminaire is too excessive. The LEDs must be fitted with lenses so that all the LEDs have the same distribution and no light is emitted in or above the horizontal plane. Post top lights must be mounted at about five metres, this height offers a good compromise between human scale, spacing of light fittings and to be less susceptible to deliberate vandalism.



Fig 26 – Path lighting



Fig 27 – Path lighting

7.10 Accessible Toilet

The accessible toilet is being lit by surface mounted weather proof fluorescent luminaires. Waterproof LED products can be used to replace existing traditional fluorescent luminaires. The use of new LED battens would provide savings in energy and maintenance. Furthermore, motion sensors can be integrated in the light fitting for presence (indoors) and daylight detection (outdoors) which enables further energy savings. This type of luminaire is commonly used in public amenities buildings and toilets because of their robustness. They're designed to be installed in locations and applications where they may be subject to attempts to damage them.



Fig 28 – Path lighting

7.11 Main Carpark

The North Rocks Park carpark is being lit by Ausgrid – Bathurst light fittings. The luminaire is a post top fixture with an acrylic refractor diffuser with 80W mercury vapour lamps and a diffusive symmetric light distribution. This is a low quality light source, with poor colour rendering and white appearance. As the lamp nears the end of life, lumen depreciation becomes noticeable and the light given off has a noticeable colour shift. These lamps have been phased out of new public lighting installations due to their poor performance.

The Australian Standard AS/NZS 1158.3.1 specifies performance and design requirements for outdoor carpark lighting and the existing lighting layout does not satisfy those requirements. The removal of the existing Ausgrid light poles is recommended and the installation of one type of post top LED light fittings around the precinct should be



adopted. This will provide a uniformity of appearance on the carparks together with the pathways lighting design.



Fig 29 – Carpark Lighting

The John Wearn Reserve carpark is being lit from a floodlight mounted at the top of an existing street light pole. The floodlight is tilted almost 90° up from downward vertical. This may result in glare which causes discomfort for the carpark users and the surrounding properties. The Australian Standard AS/NZS 1158.3.1 specifies performance and design requirements for outdoor carpark lighting and the existing lighting layout does not satisfy those requirements. Car parks need lighting from several directions. Lighting from one side only will produce deep shadows. Single-side illumination also means that people and the sides of vehicles facing away from the light, can only be seen in silhouette. This can generate a feeling of insecurity among users. The use of post top LED luminaires to light this areas is recommended.

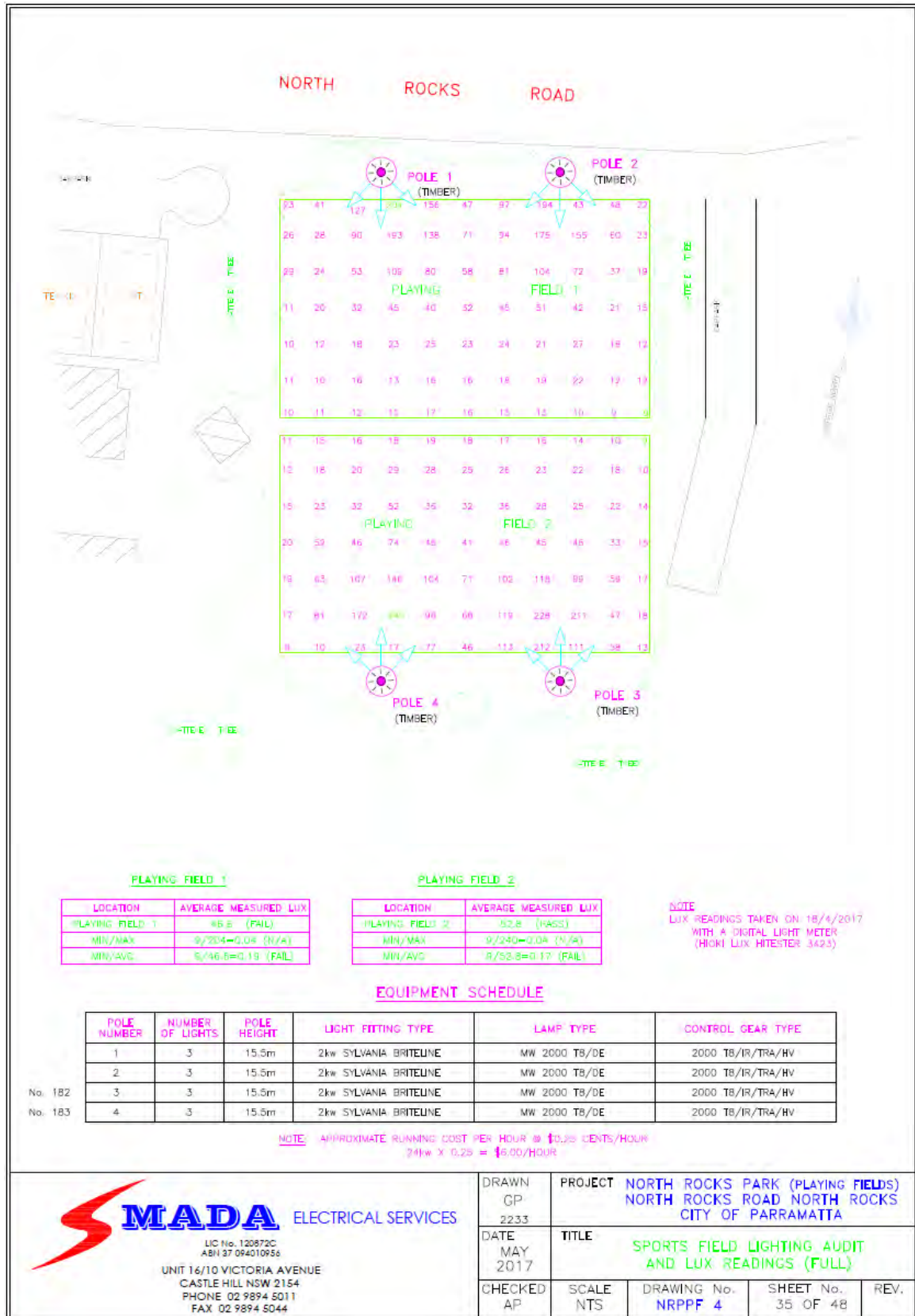


Fig 30 – John Wearn Reserve carpark lighting



8. Appendix

8.1 Measured Illuminance Values





8.2 Football lighting criteria AS 2560.2.3-2007 table

TABLE 1
LIGHTING CRITERIA

Level of play	Maintained average horizontal illuminance ^{a),b)} (\bar{E}_{mh}) lux	Minimum horizontal uniformities ^{c)}		Maximum glare rating (GR_{max})	Minimum colour rendering index ($R_a \text{ min}$)	Maximum uniformity gradient
		(U_1)	(U_2)			
Recreational level						
Touch and tag	50	0.3	N/A	N/A	65	N/A
Amateur level						
Ball and physical training ^{e)}	50	0.3	N/A	N/A	65	N/A
Club competition and match practice	100	0.5	0.3	50	65	N/A
Semi-professional level						
Ball and physical training ^{e)}	50	0.3	N/A	N/A	65	N/A
Match practice	100	0.5	0.3	50	65	N/A
Semi-professional competition	200	0.6	0.4	50	65 ^{d)}	N/A
Professional level						
Ball and physical training ^{e)}	100	0.5	0.3	50	65	N/A
Match practice	200	0.6	0.4	50	65	N/A
Professional competition	500	0.7	0.5	50	65 ^{d)}	20% per 5 m

- a) For the height above the playing surface at which the illuminance is to be measured refer to Clause 6.3.1.
 b) Values of illuminance measured at the time of commissioning an installation (i.e. initial or close to) should be higher than the maintained illuminance values (see Clause 6.2).
 c) Being ratios, U_1 and U_2 can be calculated with equal accuracy by using either all initial or all maintained values.
 d) If future upgrading to a level suitable for television broadcasting is intended or likely, the selection of light sources with $R_a \geq 90$ should be considered.
 e) Ball and physical training is considered to differ from match practice in that ball and physical training is more controlled, involves fewer participants (typically two to four) and the paths of the participants and that of any ball used are more predictable than in a match-practice environment.

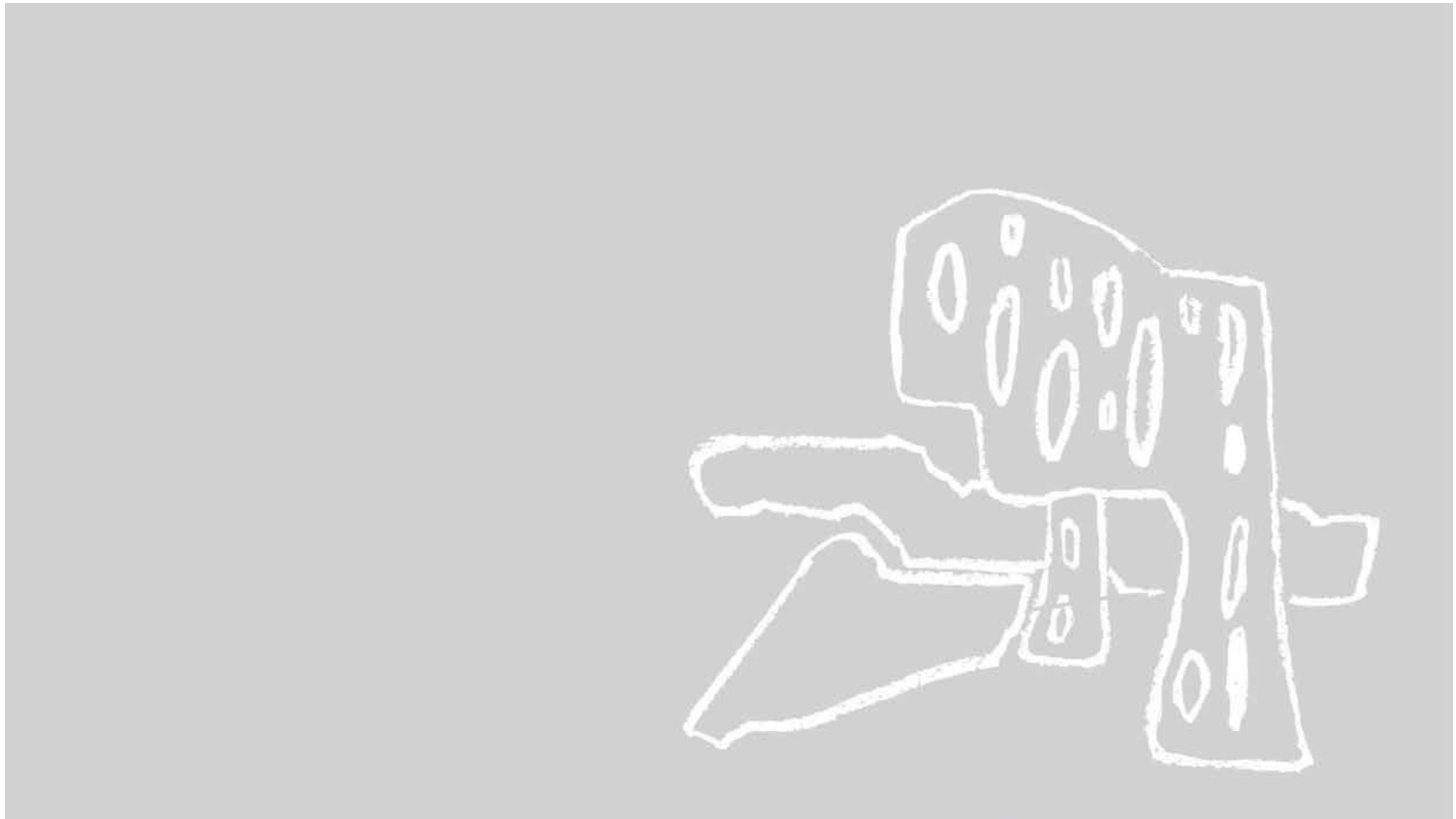
NOTES:

- 1 The above values are chosen to be adequate to provide for the safety of the participants and the level of visual tasks anticipated. Factors such as large crowds (e.g. ≥ 10000) with consequent longer viewing distances might require higher values to be chosen than initially indicated above.
- 2 If the lighting installation is likely to be upgraded to provide for higher levels, consideration should be given to making provision for the mounting of the additional floodlight which will be required to achieve the higher values of maintained illuminance.



8.3 Measured Illuminance values - Average and uniformity calculation

PLAYING FIELD 1												
23	41	127	204	156	47	97	194	43	48	22		
26	28	90	193	138	71	94	175	155	60	23	Min	9.0
29	24	53	109	80	58	81	104	72	37	19	Max	204.0
11	20	32	45	40	32	45	51	42	21	15	Avg	46.6
10	12	18	23	25	23	24	21	27	18	12	U1 (Min/Avg)	0.19
11	10	16	13	16	16	18	19	22	12	12	U2 (Min/Max)	N.A.
10	11	12	15	17	16	15	13	10	9	9		
PLAYING FIELD 2												
11	15	16	18	19	18	17	16	14	10	9		
12	18	20	29	28	25	26	23	22	18	10	Min	9.0
15	23	32	52	36	32	36	28	25	22	14	Max	240.0
20	52	46	74	46	41	46	45	48	33	15	Avg	52.8
19	63	107	146	104	71	102	118	99	59	17	U1 (Min/Avg)	0.17
17	81	172	240	96	68	119	228	211	47	18	U2 (Min/Max)	N.A.
9	10	23	17	77	46	113	212	111	58	13		



DON MOORE COMMUNITY CENTRE // MAIN HALL

LEASE: Lease on a recurring and one-off basis by council

GENERAL DESCRIPTION: Large scale community centre, constructed 1968 primarily brick with long horizontal lengths of glazing and extended eaves. Large central hall is considered in scale by stepping service rooms down to surrounding streets and park. Aligned with the corner streets, the building defines the edge of the site. The building is in good condition and has many architectural characteristics representative of the era in which it was built. Main hall is very pleasant with nice light and outlook.

Room	Area	Description	Comments
Hall	388m ²	<ul style="list-style-type: none"> Large main hall w/ timber floor throughout to cater for variety of users Timber panelling to interior walls High ceilings with clerestory windows, and glazed doors to car park. Post and beam structure allows brick wall with horizontal strip windows / exposed beams on northern edge. Portal frame gives room volume Ducted A/C suspended from ceiling and additional ceiling fans 	<ul style="list-style-type: none"> Well maintained community venue for variety of users No storage for users on-site, prevents misuse / clutter by users Well utilised by community groups / private hirers Entries are close to being accessible. Further advice from access consultant
Kitchen	50 m ²	<ul style="list-style-type: none"> Recently refurbished commercial grade kitchen containing gas stove burners / refrigeration cupboards, food preparation heat lamps / deep double basin sink / instant hot water Stainless steel benches and raised steel shelving Servery with roller door to main hall Side door accesses bin store / delivery area to car park 	<ul style="list-style-type: none"> Excellent condition, recent works provide kitchen adequate for catering for large events
Stage	55 m ²	<ul style="list-style-type: none"> Raised timber platform at front of hall, accessed from dressing rooms and stairs adjacent stage. Not accessible 	<ul style="list-style-type: none"> Potential to utilise space underneath stage for storage of chairs / tables. Check if stage needs to comply with DDA
Dressing rooms	48 m ²	<ul style="list-style-type: none"> 1 either side of stage with full room width mirror with access stairs to gym room behind Right hand room occupied as chair and table storage. Entry door concealed behind curtains to main hall 	<ul style="list-style-type: none"> Stairs to gym narrow width of dressing rooms significantly Floor space restricted by addition of stairs to new gym behind existing hall. Potential to be utilised for additional storage
Foyer	25 m ²	<ul style="list-style-type: none"> Entry stair from roadway, sheltered by port cochere Entry ramp to front doors and foyer provided adjacent to stairs 	<ul style="list-style-type: none"> Ramp and stair to be assessed for compliance by access consultant. Entry tiles and balustrade to be updated
Bathrooms	44 m ²	<ul style="list-style-type: none"> Male bathroom – Urinal tray + 2 x WC w/ 2 basins Female bathroom – 4 x WC w/ 2 basins Powder room – original powder room w/ two full width mirrors Accessible bathroom 	<ul style="list-style-type: none"> Per Council Buildings Defect Report – Peeling paint on ceiling Patch and paint as required Re-plan accessible bathroom and provide new entry door to achieve compliance Powder room space better utilised for storage or for potential refurbishment to improve bathroom in the future

Area GFA 610m²

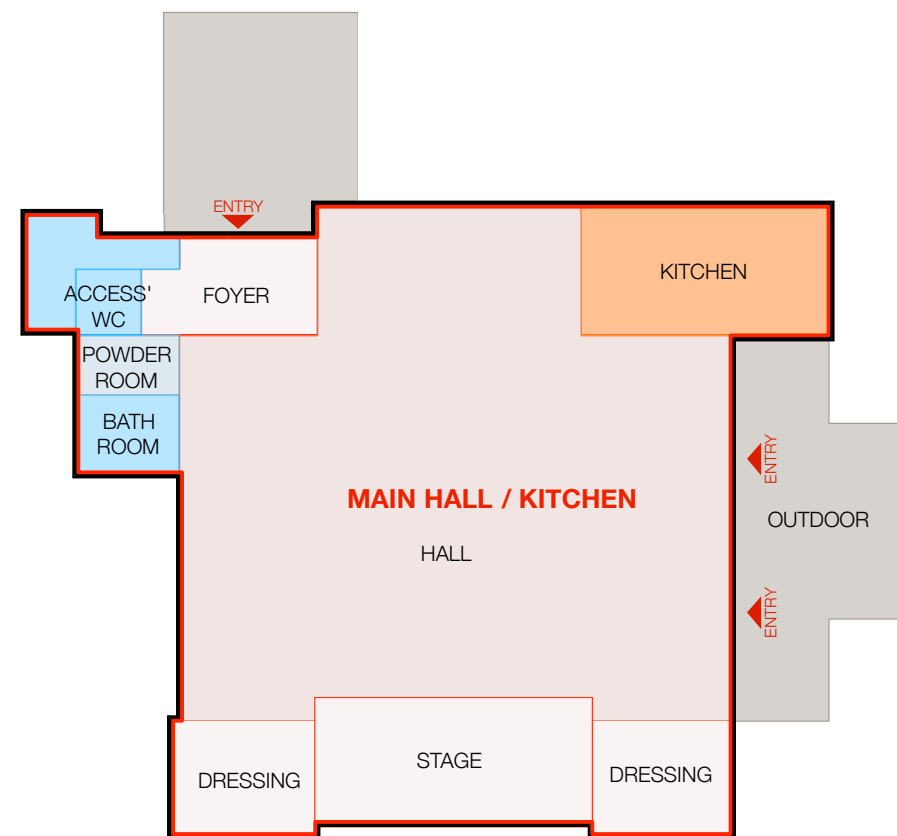
RECOMMENDATIONS

The Don Moore Community Centre provides a number of facilities that cater to a diversity of local user groups. As is in quite good condition and usage rates quite high on the weekends, it is recommended that the building and its uses be maintained on the site as part of the recreational program across the park precinct. Further programming during the week could be implemented.

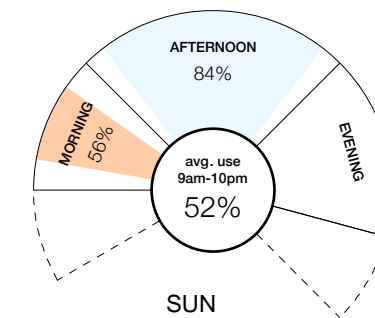
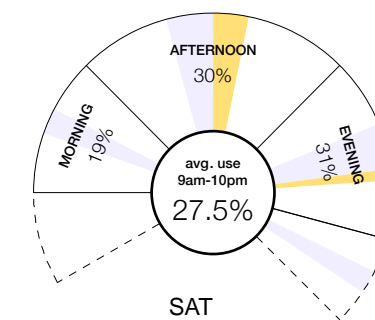
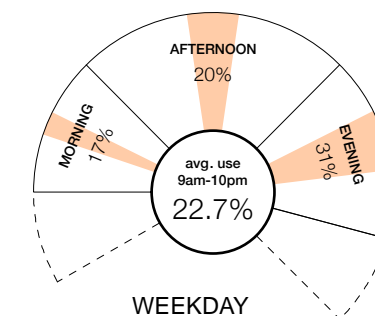
Due to the buildings age there are clearly a number of BCA and DDA compliance issues. A suitably qualified BCA and Access consultant should be engaged to provide a more comprehensive evaluation of these issues.

Minor upgrades would be required to the building in general. The ancillary rooms would benefit from a refurbishment and along with a rejuvenation of the outdoor play areas and landscaping. The proprietary awning outside the main hall entry off the car park should be removed and replaced with something more complementary to the architectural style of the building.

A new port cochere canopy could enhance the sense of arrival and the building as a marker. There may also be some defects not observed during our site visit that require further investigation.



INDICATIVE PLAN



USAGE ASSESSMENT

- ACTIVE RECREATION
- RELIGIOUS (Revival Centres Intl.)
- PRIVATE FUNCTION
- COMMUNITY EVENTS

Community & Recreation users include :
Taekwondo World / North Rocks Physical Culture / Soccajoey's / Tiny Tutus / Hype Dance / Pei Lei Wushu

hill thalis

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Nominated Architects:
Philip Thalis #6780 Sarah Hill #5285

PROJECT
North Rocks Park Precinct Masterplan

DRAWING TITLE
Building Plan - Don Moore Main Hall

PLOT DATE
10/8/17

DRAWING NO. REVISION
BA 01 A

DON MOORE COMMUNITY CENTRE // GYMNASIUM + ANCILLARY ROOMS

Room	Area	Description	Comments
Behind Stage	155 m ²	<ul style="list-style-type: none"> Recently finished polished timber floor internally Accessed via external steel framed stair from car park side. Very well used facility, primarily for variety of dance classes in the afternoon and evening. 	<ul style="list-style-type: none"> No disability access permitted to gym Existing stair non-compliant with AS 1428.1
Kitchenette	2 m ²	<ul style="list-style-type: none"> Kitchen bench for tea + coffee, with sink and lockable cupboards. Located in entryway, concealed from main room with sliding curtain 	<ul style="list-style-type: none"> Located at entry into Gymnasium not desirable Possibility of locating within lockable cupboard to hide away when not in use.
Bathroom	6 m ²	<ul style="list-style-type: none"> 2 x WC off main room w/ basin in each Significant threshold step up 	<ul style="list-style-type: none"> Addition of accessible bathroom required for compliance.
Storage	4 m ²	<ul style="list-style-type: none"> Server containing CCTV footage for Don Moore Community Centre venue 	<ul style="list-style-type: none"> Locked room

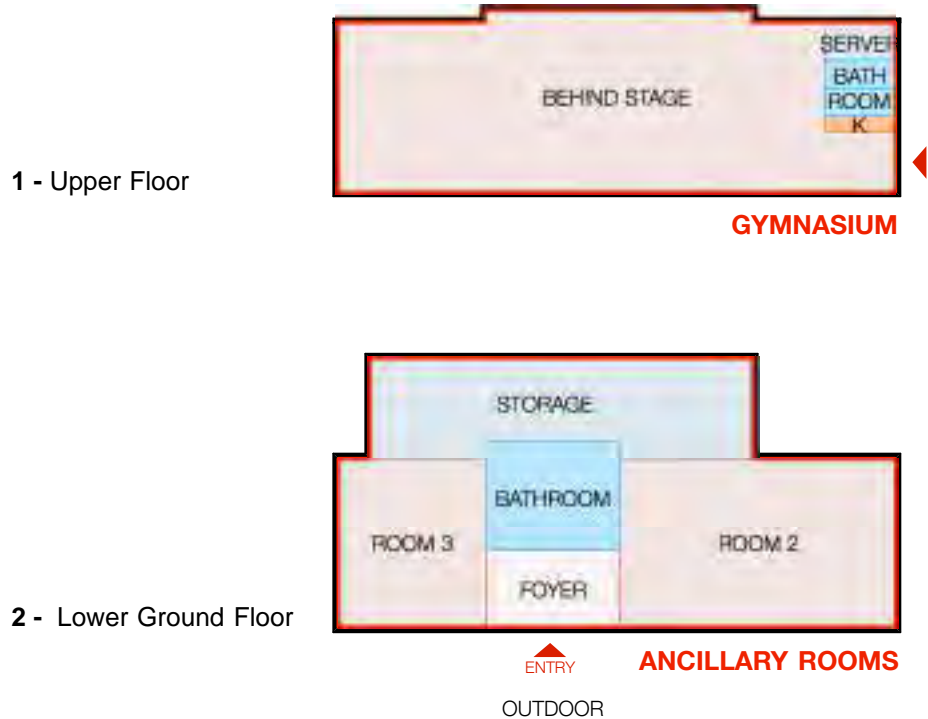
Area GFA 167 m²

Room	Area	Description	Comments
Room 2	47 m ²	<ul style="list-style-type: none"> Lower ground floor room with chalkboard / tall storage cupboards / kitchenette Window to external playground Access to store room via locked door 	<ul style="list-style-type: none"> Very well used in conjunction with room 3 Adequately maintained considering usage Lino flooring recommended to be upgraded Kitchenette joinery including bench top to be repaired or replaced
Room 3	77 m ²	<ul style="list-style-type: none"> Lower ground floor room with full height storage cupboards / kitchenette Long window to external playground Access to store room via locked door 	<ul style="list-style-type: none"> Very well used in conjunction with room 2 Adequately maintained considering usage Lino flooring recommended to be upgraded Kitchenette joinery including bench top to be repaired or replaced
Foyer	16 m ²	<ul style="list-style-type: none"> Common entry point for both rooms and bathrooms from playground Locked double security door Noticeboards for various groups 	
Bathroom	26 m ²	<ul style="list-style-type: none"> Male Bathroom – 2 x WC's w/ 2 basins Female Bathroom – 2 x WC's w/ 2 basins. Hot water unit located in corner 	<ul style="list-style-type: none"> No accessible bathroom provided Lingering smell of damp in bathrooms, inadequate ventilation or general dampness conditions
Storage	49 m ²	<ul style="list-style-type: none"> Storage occupies underfloor zone of the Main Hall Not on slab, compacted ground surface Inadequate storage for users with no structured storage arrangement 	<ul style="list-style-type: none"> Provide articulated storage for units. Fire separation requirement between store room and main hall to be assessed by BCA consultant Structural engineer to assess result of cutting through the strip footings to allow entry doorways
Outdoor Play Area		<ul style="list-style-type: none"> Hard play surface with deteriorating soft fall surface Awning extends along building façade from foyer entry to car park entry gate Access gate with child-proof latch entry provided from both car park and Farnell Avenue side Play facilities including sand pit w/ shade and basketball hoop 	<ul style="list-style-type: none"> Play surface and facilities require substantial upgrade to address water pooling / poor condition of outdoor areas Awning gutter collapsing at gate entry end Potential for extended play area that can be utilised by variety of user groups

Area GFA 215 m²

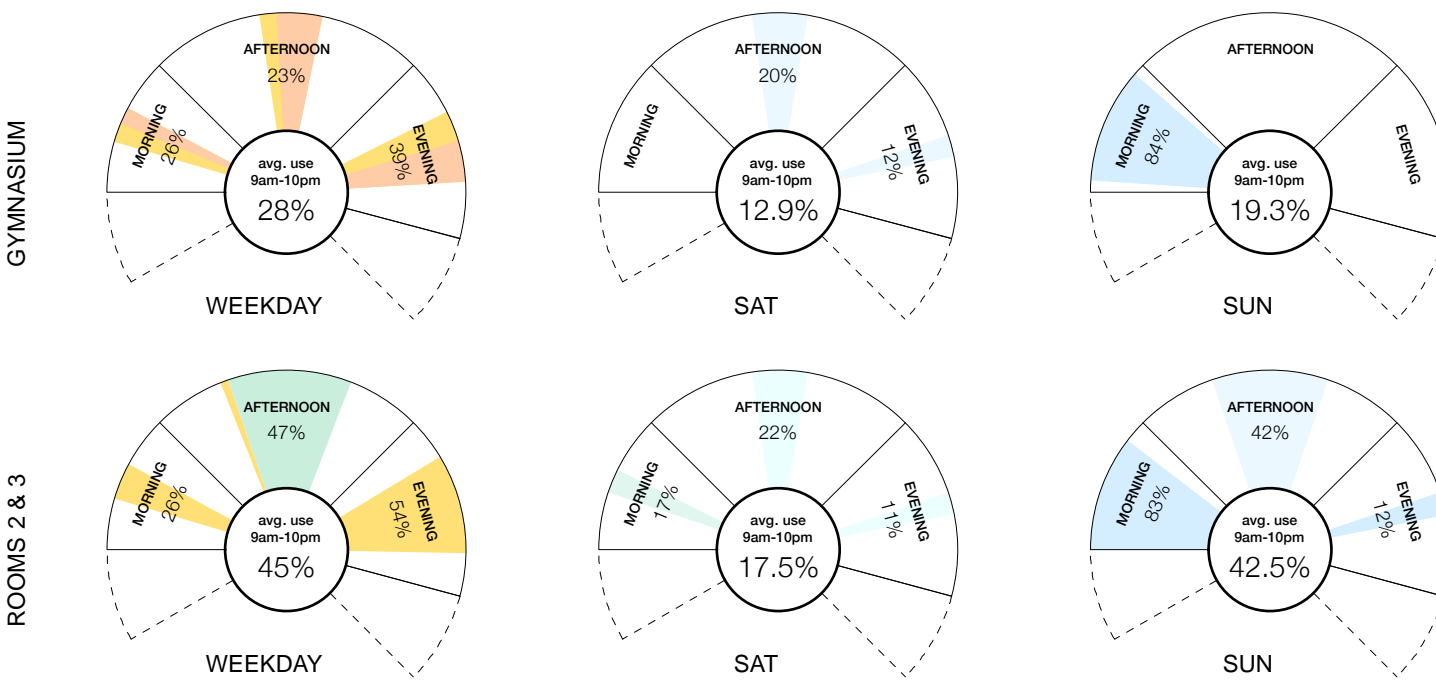
RECOMMENDATIONS refer to BA 01

INDICATIVE PLANS



USAGE ASSESSMENT

Community & Recreation users include :
 Taekwondo World / North Rocks Physical Culture / Soccajoys / Tiny Tutus / Hype Dance / Pei Lei Wushu / The Hills Drama School / Jason Lee Ballroom / School of Bonsai / North Rocks After School Activity Centre / Farnell playgroup



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Nominated Architects:
 Philip Thalis #6780 Sarah Hill #5285

PROJECT
North Rocks Park Precinct Masterplan

DRAWING TITLE
Building Plan - Don Moore Main Hall

PLOT DATE
 10/8/17

DRAWING NO.
BA 02

REVISION
A

- ACTIVE RECREATION
- LOCAL COMMUNITY GROUPS
- AFTER SCHOOL CARE *
- EDUCATION - TUTORING
- RELIGIOUS (Shrimad Rajchandra Mission Dharampu)
- RELIGIOUS (Revival Centres Intl.)
- RELIGIOUS (Liberty Baptist Church)

*2:30pm-6:00pm, operates only during school term

NORTH ROCKS SENIOR CITIZENS CENTRE

LEASE: TBA

GENERAL DESCRIPTION: Large scale multi-use communal facility primarily used by the senior citizens club. Accessed via the car park behind the rear tennis courts the Senior Citizens Centre has a generous outlook into the reserve to the rear of North Rocks Park with shaded outdoor area to the north side. The building is in good condition and has many architectural characteristics representative of the era in which it was built.

Room	Area	Description	Comments
Main Hall	294 m ²	<ul style="list-style-type: none"> High pitched ceiling with suspended ceiling fans from ridge Parquetry floor in centre with red carpet around the perimeter where chairs and tables arranged in rows Ducted A/C throughout Furniture including bookshelves and armchairs arranged piecemeal along edge walls 	<ul style="list-style-type: none"> Well maintained facility, benefit from new floor finishes Articulate storage to allow various groups to use to occupy space. Some comments from seniors suggest that other user groups leave furniture in a mess.
Kitchen	36 m ²	<ul style="list-style-type: none"> Separate Kitchen for food preparation, accessed by double swing doors Bench with sink and hot water unit parallel to kitchen fronts main room 	<ul style="list-style-type: none"> Suitable for current use but potential upgrade down the track
Foyer	10 m ²	<ul style="list-style-type: none"> Sliding door entry into Senior Citizens accessed via pin code Flush threshold allows equal access Coloured glass partition separates entry from main hall 	<ul style="list-style-type: none"> Tiles to be assessed for slip rating Entry mat may need to be replaced
Billiards Room	83 m ²	<ul style="list-style-type: none"> Separated by folding partition wall from main hall, access only provided to Senior Citizens Club Storage drawers stacked haphazardly to side of room Generous outlook via outdoor balcony to reserve beyond 	<ul style="list-style-type: none"> Well utilised by Seniors Ceiling tiles to be replaced where damaged
Bathrooms	31 m ²	<ul style="list-style-type: none"> Male – Air lock passage, 1 x urinal + 1 x WC w/ 1 basin, no ambulatory Female – Air lock passage, 2 x WC w/ 1 basin, no ambulatory Accessible Bathroom 	<ul style="list-style-type: none"> Adapt accessible bathroom to be brought to code
Office	10 m ²	<ul style="list-style-type: none"> Adjacent entry, glass partition w/ curtains separate 	
Upper Storage	32 m ²	<ul style="list-style-type: none"> Roller door separates from front of hall 	<ul style="list-style-type: none"> Accessed only from raised plinth at front of hall Insufficient for use of storing larger bulky goods

Area GFA 496 m²

Council Break Room	61 m ²	<ul style="list-style-type: none"> Located below the billiards room, contains room with fridge, microwave, desk, chair and tv. 	<ul style="list-style-type: none"> Under utilised space, majority of room vacant (approximately 45 m²) Has potential for storage
Council Storage	19 m ²	<ul style="list-style-type: none"> Lockable Roller Door containing parks maintenance equipment 	<ul style="list-style-type: none"> Under utilised space

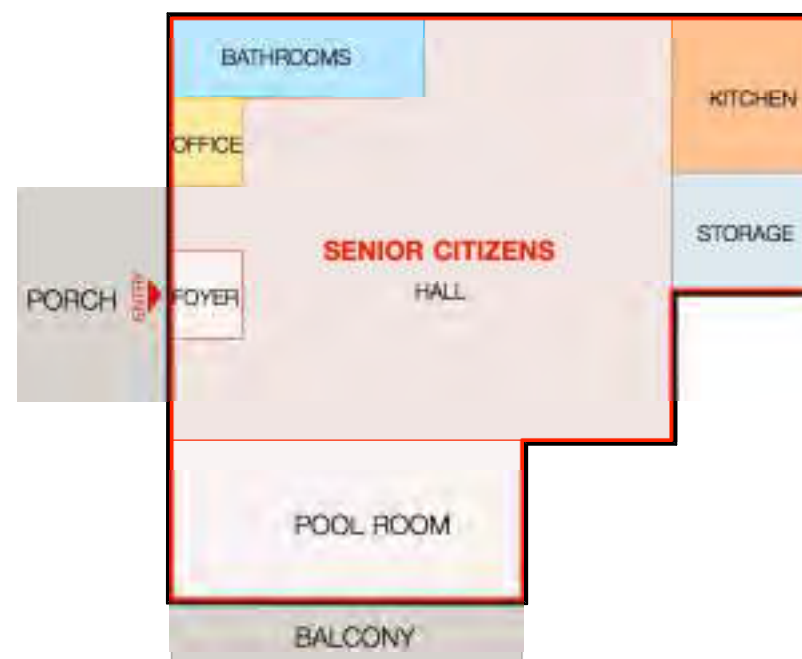
Area GFA 80 m²

RECOMMENDATIONS

The Senior Citizens Centre provides a vital facility in being an inclusive community venue for the aged population, assisting in combating isolation and loneliness. The building is well maintained however is under utilised by users, with the seniors occupying for 2.5 days per/week and the Baptist Church occupying Sundays.

The circulation and way finding around this building could be improved which would enable more direct sitelines and connections between the south west corner of the park precinct and playing fields.

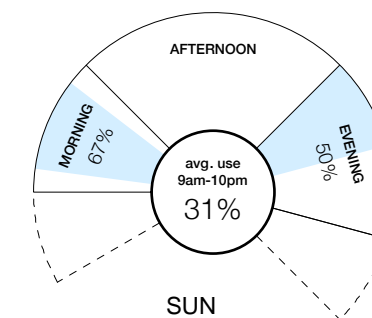
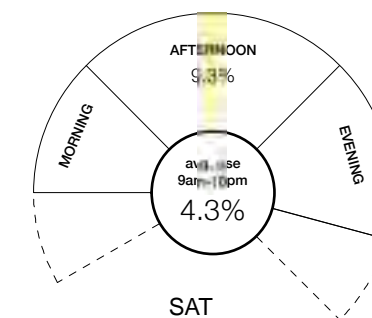
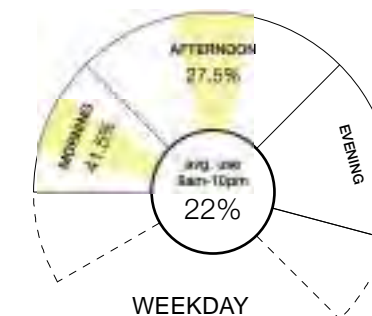
Further inputs required by BCA and access consultants



1 - Ground Floor



2 - Lower Ground Floor



INDICATIVE PLAN

USAGE ASSESSMENT

- RELIGIOUS (Liberty Baptist Church)
- SENIOR CITIZENS CLUB
- RIVERSIDE DRAMA WORKSHOPS

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PROJECT
North Rocks Park Precinct Masterplan

DRAWING TITLE
Building Plan - Senior Citizens Centre

PLOT DATE
10/8/17

DRAWING NO. REVISION
BA 03 A

NORTH ROCKS SOCCER CLUB

LEASE: TBA

GENERAL DESCRIPTION: The Soccer club is a post and beam structure adjoining the tennis club, with non-load bearing brick walls at the ground level that contains both the storage and change rooms. It abuts the tennis clubhouse forming one built volume in the centre of the site which block east west connections

Floor	Room	Area	Description	Comments
Upper Floor	Main Room	99 m ²	<ul style="list-style-type: none"> Large clubhouse for use on registration days, general meetings for club and coaching staff. Contains chairs and tables loosely arranged, with jerseys and trophies on display. Additional chairs stacked against wall Low level built in storage cupboards below window. A/C – 2 x wall mounted units 	<ul style="list-style-type: none"> Adequately maintained, greater storage would allow chairs / tables to be correctly kept. Potential for facility to cater to variety of user groups including cricket club / baseball club Access is only provided via open steel stair, non-compliant with DDA (1992). Possible asbestos ceiling to be removed.
	Kitchen	20 m ²	<ul style="list-style-type: none"> Separate to main room, no servery provided. Typical domestic kitchen fit-out and arrangement, containing sink, oven, stove, and fridge. Outdated, finishes chipped / fading. Utilised as additional storage for the clubhouse. 	<ul style="list-style-type: none"> Upgrade recommended, cater for variety of user groups / events in clubhouse. Storage enhanced to minimise use as informal storage zone Adapt layout and entry to be accessible
	Bathrooms	20 m ²	<ul style="list-style-type: none"> Male bathroom – 1 x WC + 1 x urinal w/ 2 basins. No ambulant WC provided. Female Bathroom – 2 x WC w/ 2 basins. No ambulant WC No accessible bathroom provided 	<ul style="list-style-type: none"> Accommodate an accessible bathroom
	Storage	14 m ²	<ul style="list-style-type: none"> Locked storage for clubhouse 	
Lower Floor	Change Rooms	60 m ²	<ul style="list-style-type: none"> 2 separate change rooms provided, each with 1 x shower + 1 x WC Bench seats line perimeter walls Minimal daylight access via breezeblock with mesh screening 	<ul style="list-style-type: none"> Brick walls non-load bearing. Potential to reconfigure lower floor to enhance site lines.
	Soccer Storage	12 m ²	<ul style="list-style-type: none"> Store room for corner flags / nets / training cones and gear. Locked roller door 	<ul style="list-style-type: none"> Consolidate Club storage into single location to minimise spread across multiple small storage facilities.
	Storage Rooms	36 m ²	<ul style="list-style-type: none"> 3 x separate locked storage rooms. 1 each for Rotary, Baseball, Soccer Club Original kiosk repurposed as storage Mezzanine built in two to make most of small footprint 	<ul style="list-style-type: none"> Priority to maximise storage for users on site in a manner that does not encroach into the open space.

Area GFA 261 m²

RECOMMENDATIONS

One of the main issues with this building is its location within the site. It abuts the tennis club building forming one building mass that blocks the east west connection through the park. This is one of the major issues that will be identified and explored in the master plan stage, which also anticipates better use of the common areas surrounding these two facilities.

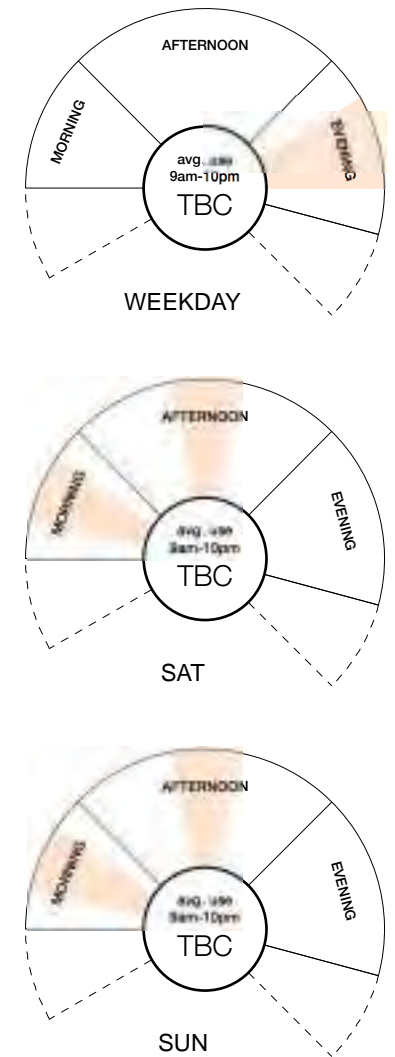
Enhancing storage is identified as a need for the Soccer Club. In addition to two separate storage rooms at the ground floor of the clubhouse they occupy the storage below the new amenities / kiosk building. Opportunities to consolidate these into a single storage location should be explored where possible. It also has shares storage with other users such as rotary and the cricket and baseball clubs. More consolidation of use is required

Access is an issue for the soccer clubhouse building. It requires significant works to achieve compliance with the relevant standards. The absence of a lift to the soccer club, and likewise non-compliant ramp grades / passage widths around the tennis court, inhibits wheelchair accessibility. Further inputs required by BCA and access consultants.



INDICATIVE PLAN

USAGE ASSESSMENT



hill thalis <small>ARCHITECTURE + URBAN PROJECTS PTY LTD</small> <small>LEVEL 5, 68-72 Wentworth Ave Surry Hills NSW 2010 Australia T 02 9211 6216 F 02 9261 3171 E admin@hillthalis.com.au www.hillthalis.com.au Nominated Architects: Philip Thalis #6780 Sarah Hill #5285</small>	PROJECT North Rocks Park Precinct Masterplan
	DRAWING TITLE Building Plan - Soccer Clubhouse
PLOT DATE 10/8/17	DRAWING NO. REVISION BA 04 A

● NORTH ROCKS SOCCER CLUB

TENNIS CLUB BUILDINGS

LEASE: Tennis courts + buildings: permanent recurring lease for use

GENERAL DESCRIPTION: The tennis and soccer clubhouse buildings abut each other forming one built volume blocking the centre of the site. They have separate poorly defined entries. The tennis club, constructed primarily of brick, is a linear building running east west. The top level fronts the tennis courts to the north while the lower level fronts the tennis courts to the south. Accessibility is poor to both levels.

Floor	Room	Area	Description	Comments
Upper	Players Rooms	62 m ²	<ul style="list-style-type: none"> 3 separate enclosed rooms, access provided by pin number to court users. Contains small kitchenette (sink / urn / cupboard) and table w/ bench seats Direct outlook allowed to both front and back courts 	<ul style="list-style-type: none"> Well maintained and utilised by users for bag storage / seating during play. Provide flexibility, enable two rooms be opened for larger group events. Possible asbestos ceiling to be removed.
	Bathrooms	16 m ²	<ul style="list-style-type: none"> Male Bathroom – 1 x WC + 1 x shower w/ 1 basin Female Bathroom - 2 x WC + 1 x shower w/ 1 basin Threshold step to access bathrooms, no accessible bathroom within tennis complex Ventilation by fan through rear wall 	<ul style="list-style-type: none"> Accommodate an accessible bathroom
	Outdoor Access	40 m ²	<ul style="list-style-type: none"> Access to main gate + players room by short and steep concrete ramp. Narrow path between rooms and courts that includes outdoor benches for viewing / bag storage during play Access via only one end of external passage 	<ul style="list-style-type: none"> Provide compliant ramp grades and landings for disability access. Open the current fenced entry from field side of courts for ease of access.
Lower	Lower Floor Storage	39 m ²	<ul style="list-style-type: none"> Equipment store room / server for CCTV / pin access Locked roller door access 	<ul style="list-style-type: none"> Accessed via narrow footpath (<1m) parallel edge of southern tennis courts. Requires an increase in width to achieve access compliance. At edge of courts. Room location more suited for office as adjacent park and greater visibility to courts.
	Lower Floor Kitchen	14 m ²	<ul style="list-style-type: none"> Break room for staff containing sink, microwave, bar fridge. No daylight access. Separated from office by partition wall with curtain covering door opening New engineered timber floor boards throughout A/C wall unit 	<ul style="list-style-type: none"> Utilised as additional storage for office, possibility to consolidate in separate fixed storage room.
	Lower Floor Office	22 m ²	<ul style="list-style-type: none"> Equipment sales / coaching enquiries / rental enquiries, occupied by staff during peak periods New engineered timber floor boards New glass sliding door as secondary entry from doorway off access passage Threshold step from passageway and raised track from new sliding door inhibit access 	<ul style="list-style-type: none"> Desire of operators to be relocated for better visibility and access for visitors Improve accessibility regarding level changes and passage clearances to achieve compliance with AS 1428.1

Area GFA 193 m²

RECOMMENDATIONS

One of the main issues with this building is its location within the site. It abuts the soccer club building forming one building mass that blocks the east west connection through the park. This is one of the major issues that will be identified and explored in the master plan stage, which also anticipates better use of the common areas surrounding these two facilities.

Access is an issue for the clubhouse building. It requires significant works to achieve compliance with the relevant standards. The non-compliant ramp grades / passage widths around the tennis court, inhibits wheelchair accessibility. Further inputs required by BCA and access consultants



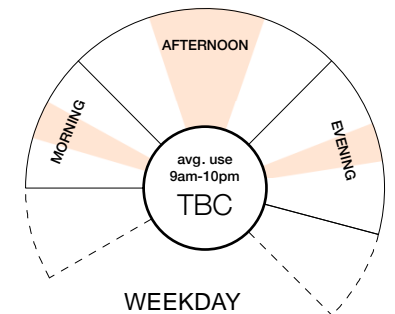
TENNIS CLUB

1 - Upper Ground Floor

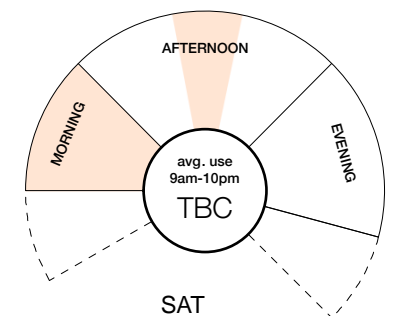


TENNIS CLUB

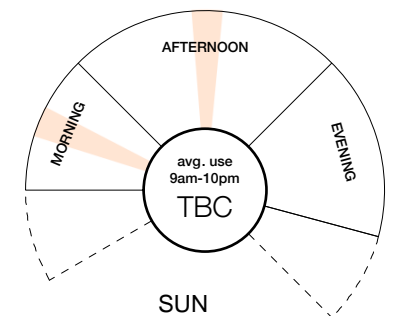
2 - Lower Ground Floor



WEEKDAY



SAT



SUN

INDICATIVE PLAN

USAGE ASSESSMENT

● TYPICAL PEAK PERIODS

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 Nominated Architects:
 Philip Thalis #6780 Sarah Hill #5285

PROJECT
North Rocks Park Precinct Masterplan

DRAWING TITLE
Building Plan - Tennis Club

PLOT DATE
 10/8/17

DRAWING NO.
BA 05

REVISION
A

AMENITIES & KIOSK

LEASE: TBA

GENERAL DESCRIPTION: Newly constructed amenities building with lightweight kiosk constructed above, the building is positioned adjacent the sporting fields. Containing additional storage for the club and services for operating park flood lighting below.

Facility	Room	Area	Description	Comments
Kiosk	Canteen	10 m ²	<ul style="list-style-type: none"> Operated by North Rocks Soccer Club, containing both display fridges and food storage rooms Roller door at servery as point of sale 	<ul style="list-style-type: none"> Well utilised by the club and in very good condition as recently completed
	Referees Room	11 m ²		
	Kit Storage	12 m ²	<ul style="list-style-type: none"> Club kit storage for sale 	
	Foyer	4 m ²		
Amenities	Covered Patio	42 m ²	<ul style="list-style-type: none"> Sheltered area in front of canteen accessed via concrete ramp from playing fields 	<ul style="list-style-type: none"> Dual purpose as sheltered sitting area during cricket season
	Bathrooms	35 m ²	<ul style="list-style-type: none"> Maintained by council, opened during hours of use for the park Male bathroom – 3 x WC + 1 x urinal w/ 1 basin Female bathroom – 4 x WC w/ 1 basin No disabled bathroom provided 	<ul style="list-style-type: none"> Provision of accessible bathroom required
	Soccer Club Store Room	31 m ²	<ul style="list-style-type: none"> Locked roller door, storage on slab below covered area to canteen above Room at capacity, contains training goals and equipment 	<ul style="list-style-type: none"> Consolidate storage for soccer club
	Service Room	11 m ²	<ul style="list-style-type: none"> Service room for bathroom maintenance Controls for filed flood lighting 	

Area GFA 171 m²

ADDITIONAL BUILDINGS

OWNERSHIP: Council managed + operated

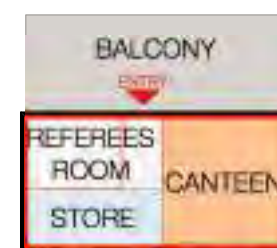
GENERAL DESCRIPTION: Enclosed brick single cubicle accessible bathroom with awning, located in north-east corner of playground. Storage shed steel framed with corrugated metal roof, adjacent eastern end of sporting fields for mower and maintenance equipment storage.

Facility	Area	Description	Comments
Accessible Bathroom	6.5 m ²	<ul style="list-style-type: none"> Only accessible bathroom open to public on site Small brick building Located in corner of playground adjacent car park 	<ul style="list-style-type: none"> Potential requirement for additional accessible bathrooms around the site
Storage Shed	40 m ²	<ul style="list-style-type: none"> Newly constructed storage shed for ride on mower surrounded by high fence and locked gate 	<ul style="list-style-type: none"> Located to rear corner below power lines, does not impinge on open space of park in current location

RECOMMENDATIONS

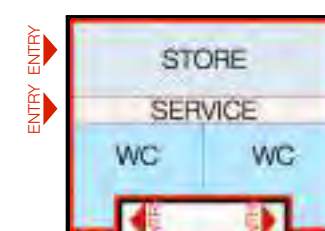
Poor siting of the amenities building in relation to the existing clubhouse and surrounds creates a constricted ground plane, while exaggerating the separation of uses in isolated built forms.

To optimise the open space it is recommended to reconsider the location of the amenities building along with the soccer and tennis clubhouse building. To be explored further in the Master plan.



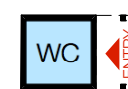
KIOSK

1 - Upper Ground Floor



AMENITIES

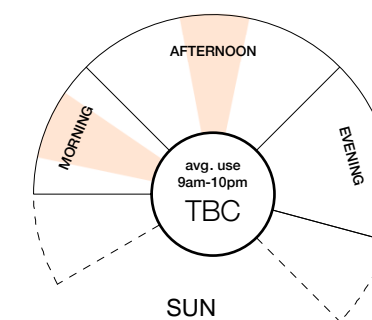
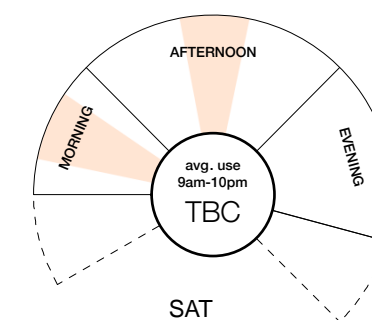
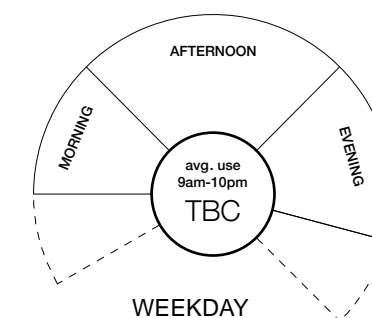
2 - Lower Ground Floor



ACCESSIBLE BATHROOM



STORAGE SHED



INDICATIVE PLAN

USAGE ASSESSMENT - kiosk

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Nominated Architects:
Philip Thalis #6780 Sarah Hill #5285

PROJECT
North Rocks Park Precinct Masterplan

DRAWING TITLE
Building Plan - Amenities + Kiosk

PLOT DATE
10/8/17

DRAWING NO. REVISION
BA 06 A

● TYPICAL PEAK PERIODS

Kiosk Users
North Rocks Soccer Club
Cricket Club rent from Soccer Club during summer.

Amenities
Operated during park hours by council

PRE - SCHOOL (UNDER CONSTRUCTION)

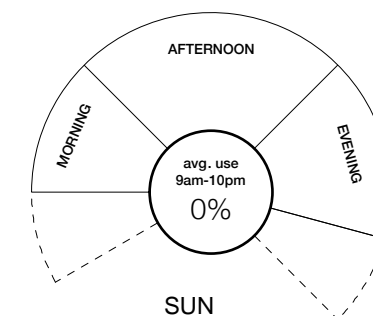
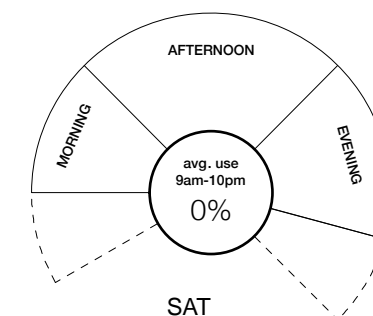
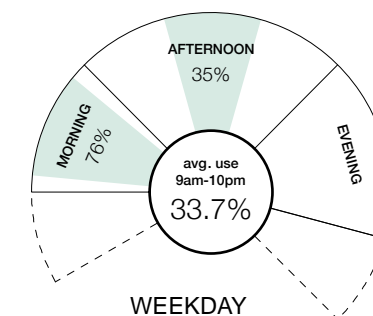
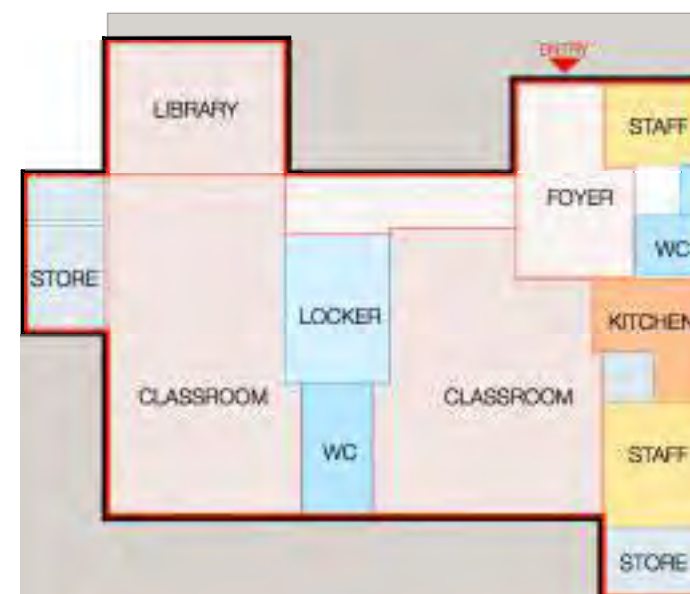
LEASE: TBA
 GENERAL DESCRIPTION: Newly constructed single-storey brick children's pre-school with new landscaping

Room	Area	Description	Comments
Classroom 1	91 m ²	Under Construction	
Classroom 2	98 m ²		
Bathroom	14 m ²		
Locker Room	24 m ²		
Library	37 m ²		
Kitchen	16 m ²		
Staff Room	20 m ²		
Foyer	32 m ²		
Office	13 m ²		
Toilets	8 m ²		
Storage	33 m ²		
Area GFA	386 m²		
Outdoor	175 m ²		Under Construction

RECOMMENDATIONS

The buildings location prevents a clear site line between North Rocks park and John Wearn Reserve. The easement between the new childcare and no. 4 Farnell Avenue should be explored as a potential pedestrian access way to improve the accessibility across the site where the gradient of the slope allows.

Based on the anticipated usage of the building, exploring how weekend users could be accommodated (i.e children's play group during church operations in adjacent buildings) would be beneficial to maximising the usage rates of the proposed centre.



INDICATIVE PLAN

USAGE ASSESSMENT

JOHN WEARN RESERVE // CHILDCARE + PERFORMANCE SHED

LEASE: TBA

GENERAL DESCRIPTION: The childcare centre is a single storey linear brick building with large playground to rear of building. Internally, possesses characterful internal roof trusses. Performance shed is a corrugated metal clad shed situated in the centre of Wearn Reserve

Room	Area	Description	Comments
Playroom 1	82 m ²	• Large open play space w/ high ceilings enabled by exposed timber truss roof	• Well maintained considering usage rates
Playroom 2	81 m ²	• Large open plan play space w/ high ceilings enabled by exposed timber truss roof • Small chairs and tables for children with storage organised around perimeter	• Well maintained considering usage rates
Playroom 3	44 m ²	• Later addition – use for younger children	• Occupants report cracking in walls as building continues to settle and new floor has lowered slightly • Suitable for intended use
Bathrooms	34 m ²	• Open children's bathrooms adjacent each play room with 2 small staff WC provided	
Change	10 m ²		
Laundry	7 m ²		
Kitchen	13 m ²	• Large open kitchen with servery fronting children's playroom	• Suitable for intended use
Foyer / Circulation	14 m ² 22 m ²	• Narrow entry foyer accessed from side gate and passage to	• Transitory space, would benefit with greater access to daylight • Improve landscaping and access path for approach to building, give greater presence to entry
Office	10 m ²	• Adjacent entry passage, contains desk with computer	
Staff	12 m ²	• Very small for current users (10-12 staff per day) • Contains narrow bench with microwave / kettle + lockers for staff • Couch + coffee table	• Unsuitable for current usage, larger room needed to accommodate needs of staff
Storage	25 m ²	• Larger storage room to outdoor porch and internal store room paired with kitchen • Internal storage typically accommodated in cupboards / shelving arranged in rooms	• Increase where possible, integrate storage units within rooms

Area GFA 354 m²

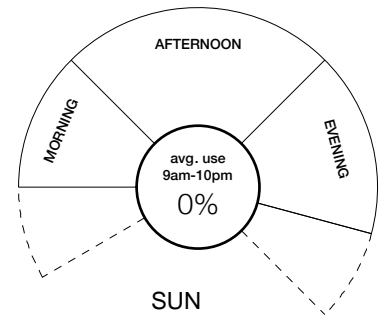
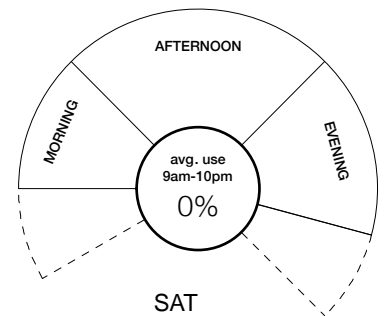
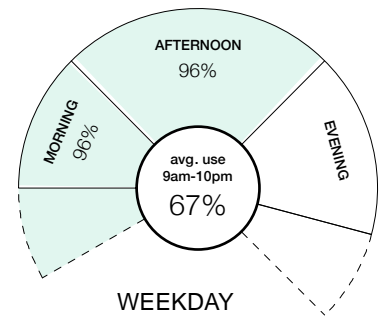
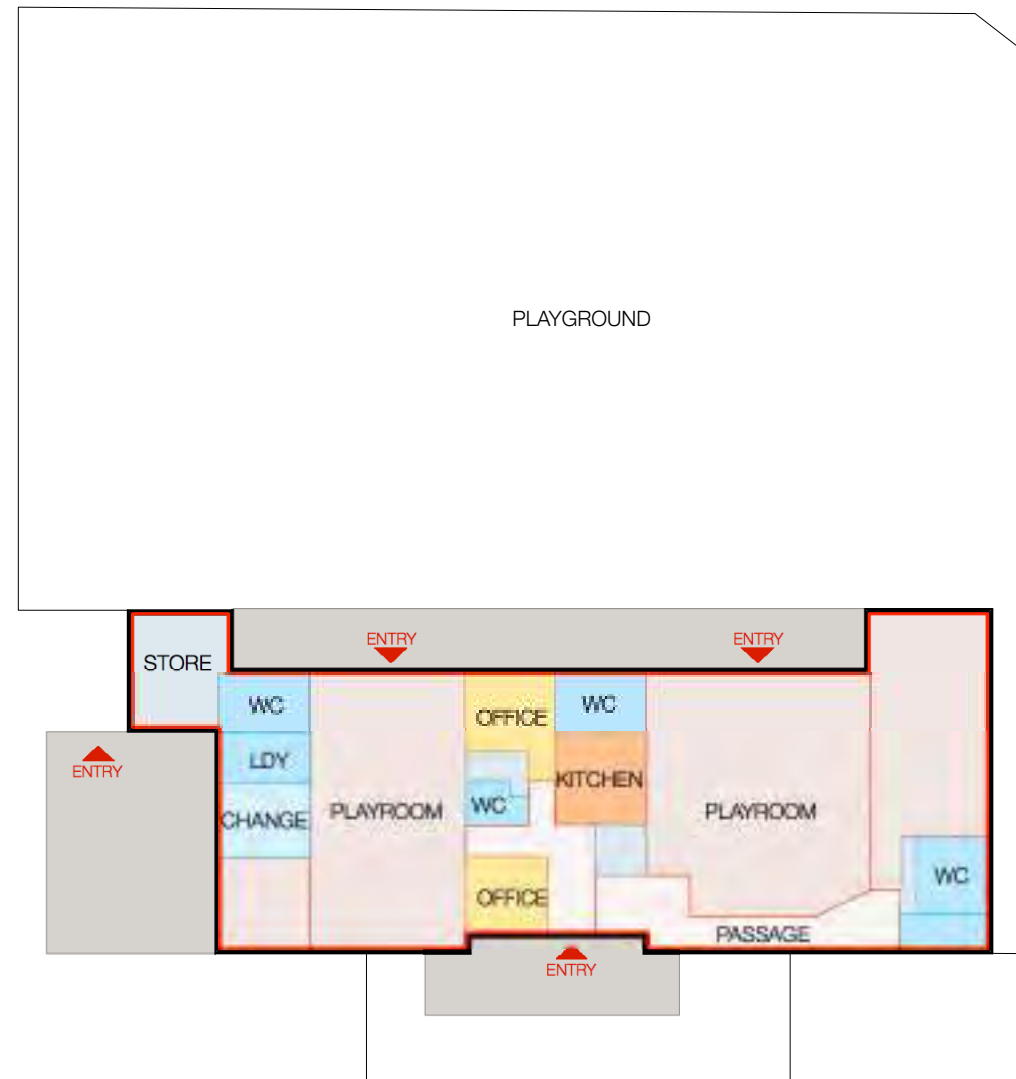
Outdoor	60 m ²	• Covered porch along northern façade of building	• Provides adequate shading to playrooms • Adequate covered transition to outdoor playground
Carpark		• Condition ok	• Was noted by staff how parents picking up children sometimes let children go to run to their cars. Although a management issue. Further carpark design could be investigated at master plan stage. • Signage for warning drivers etc

Room	Area	Comments	Condition
Shed	30 m ²	• New shaded structure in park to act as performance shed for carols	• Very poorly sited for intended use as positioned halfway up slope and does not front amphitheatre • Provides little flexibility for other functions that compliment the reserve

RECOMMENDATIONS

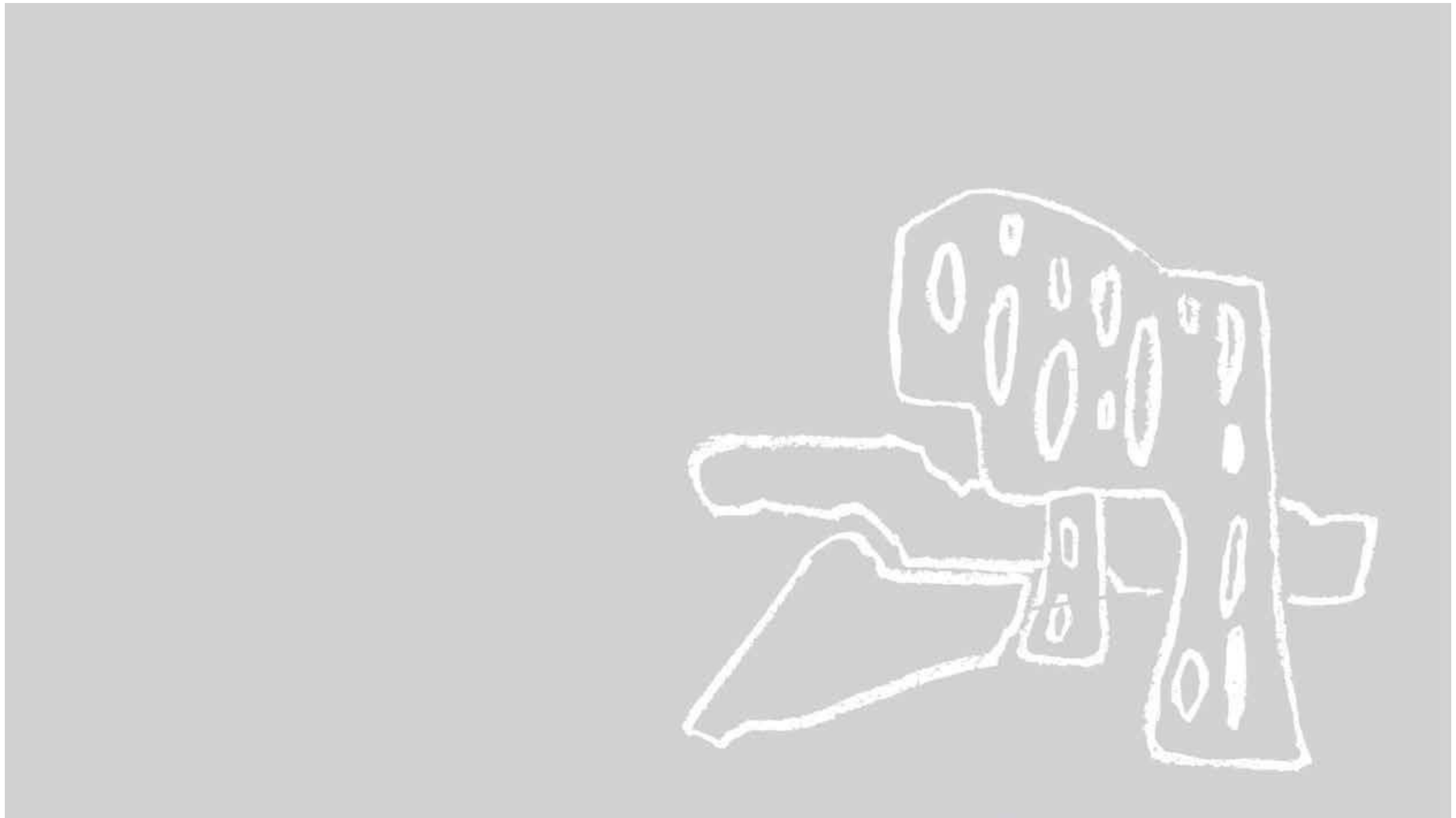
To cater for anticipated growth in the area expansion of the existing childcare centre could be explored. Building maintained well but at capacity for current usage.

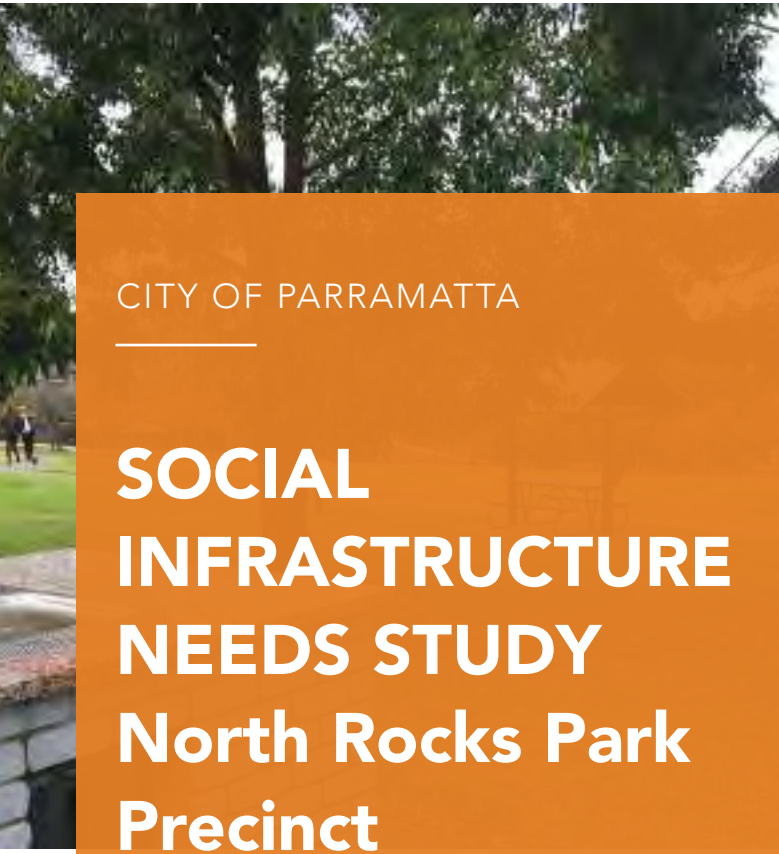
In order to accommodate more cohesive recreation spaces within park, demolition of shed is recommended and alternatives to be explored.



USAGE ASSESSMENT - childcare

● Council Operated Daycare
*7am-6pm, operates 49 wks/year





CITY OF PARRAMATTA

SOCIAL INFRASTRUCTURE NEEDS STUDY North Rocks Park Precinct

October 2017

Report Title: North Rocks Preliminary Park Precinct Social Infrastructure Needs Study

Client: City of Parramatta

Version: Final

Date: 3 October 2017

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Executive summary

City of Parramatta is currently preparing a Master Plan for the North Rocks Park Precinct (the Master Plan) that will outline a vision to help guide growth and development, particularly for the Carlingford and North Rocks areas, for the next 20 years. The Master Plan is funded by the State Government under the Stronger Communities Fund with consideration to be given to social infrastructure needs across the Precinct.

Methodology

This report provides an assessment of social infrastructure needs to service the North Rocks and Carlingford areas. It is based on:

- Current and forecast demographic indicators
- Review of existing City of Parramatta social infrastructure plans
- Review of utilisation data for local facilities, including Carlingford library
- Outcomes of community consultation completed for Round 1, North Rock Park Precinct Master Plan and telephone and online survey relating to a preferred location for Carlingford Library, and
- Supply and demand analysis of social infrastructure including auditing, benchmarking and best practice.

Current and forecast population

Currently (2016), there are around 33,176 people living in the combined Carlingford and North Rocks suburbs. By 2036, this will increase to around 44,838 people (+11,662). Around 80% of this population live in Carlingford, and around 80% of the population growth will be in Carlingford within medium to high density development. The areas are increasingly culturally diverse (particularly Carlingford). They are family areas with a higher proportion of older residents.

Current social infrastructure supply

There are currently 37 community facilities (including 1 library, 3 community centres/halls/meeting rooms, 1 senior centres, 2 scout halls, 11 schools and 19 childcare centres) located within 800 metres of North Rocks Park Precinct. Within a 3km radius of the site there is a further 1 library (Dundas Library), 2 community centres, 2 YMCAs and 2 community halls. Located within the North Rocks Park Precinct is the Don Moore Community Centre and North Rocks Seniors Centre.

The Don Moore Community Centre is used by a range of sporting, cultural and community groups and on average has between 18% and 26% utilisation weekly. The Carlingford Library services the North Rocks and Carlingford suburbs. At 348m² it is small library but is the third busiest in the City of Parramatta LGA. Between 1 July 2017 and 31 July 2017 there were a total of 18,985 loans, of these 65% were from residents living in Carlingford and 9% from residents living in North Rocks.

Social infrastructure demand

Population benchmarks indicate that there is a need to provide the following social infrastructure to meet demands resulting from population growth in Carlingford/North Rocks:

- 1,883m² of library floor space (current library is 348m²)
- 3,000m² of multipurpose community centre (co-locating space for seniors, youth, meetings, creative arts, children's programs), and

- 100+ long day care places.

Existing strategies indicate a need for:

- Space for playgroups
- Space for young people
- A larger, improved library, and
- Co-located/multipurpose community facilities.

Needs identified through Round 1 community consultation include:

- A new larger library to service Carlingford and North Rocks
- A new multipurpose community centre at North Rocks Park - Co-located with café, and
- Improved play spaces for children of all age groups and young people.

Preferred Carlingford Library location

Consultation relating to a preferred location for the Carlingford Library resulted in a preference for a new larger library to be located on the current site. Reasons given were that it is close to public transport; it is located within walking distance of the increasingly high-density area of Carlingford; it has better access to parking than Carlingford Court. While around 70% of telephone survey respondents indicated they were at least somewhat supportive of the library relocating to North Rocks Park, around 75% of those in support lived in North Rocks, and personal proximity was the main reason given.

	% at least somewhat supportive	
	Telephone survey (Micromex Research)	Online survey (Cred Consulting)
Option 1 (current location)	90%	89%
Option 2 (Carlingford Court)	66%	57%
Option 3 (North Rocks Park)	70%	61%

Recommendations

1. Increased library floor space within new library in Carlingford

Based on population forecasts and library floor space benchmarks defined in the Parramatta Community Facilities Audit and Needs Study (City of Parramatta, 2017), the North Rocks / Carlingford area will generate a need for a total of 1,883m² of library floorspace. The Carlingford Library is currently 348m², resulting a gap of 1,535m². It is recommended that the future increased library floor space remains in the same location, through a new library built on the current site in Carlingford for the following reasons:

- Carlingford Library's existing location is in proximity to 80% of the total population of the combined North Rocks/Carlingford areas.
- The Carlingford Library is currently located on new light rail stop and therefore has the potential for local targeted growth in existing central areas. Carlingford is also set to be connected to Parramatta by a cycleway from Carlingford Rail Line to the CBD, as outlined in the draft WCDP. North Rocks Park is not on a rail line or light rail line.
- Population density in the travel zone adjacent to Carlingford station is projected to increase from 4,700 to 21,200 by 2036. In comparison, the North Rocks travel zone is not projected to increase. The area immediately to the north will increase from 3,400 to 4,700.

- The currently location meets best practice guidelines in terms of access to public transport and residential density (see Appendix 1 and 2).
- The current location is the preferred location based on the telephone and online survey with residents, because of proximity to the highest proportion of residents, public transport and other services.
- It may be difficult to deliver a library of 1,883m² plus a multipurpose facility of the size required (acting as a district facility) on North Rocks Park without loss of open space.
- The Carlingford Library is valued and well utilised as a destination, a third place, and a collaborative learning place, however it lacks meeting rooms and larger multi-purpose spaces.

2. *Multipurpose community hub at North Rocks Park*

3,000m² of multipurpose community facilities floor space is provided within a community hub at Don Moore Community Centre. It is recommended that the existing senior's centre is co-located as part of the new community hub. Functions to include within this facility include:

- Multipurpose space for community, sporting, and cultural programs
- Senior's Centre
- Youth space (linked to open space)
- OSHC space (linked to open space)
- Space for playgroups to meet, and
- Potential for a small library link (see City of Sydney library link Town Hall House and Pyrmont).

3. *Improved amenities and infrastructure at North Rocks Park*

Improved amenities and infrastructure broadly identified by the community include:

- Multi-purpose community centre
- Improved vehicle access and parking
- Upgraded playground
- Improved walking/cycling tracks and outdoor fitness equipment
- Upgraded BBQ and picnic areas
- Improved lighting
- Retained natural bushland areas
- Upgraded sports facilities and improved management of community and sports facilities, and
- Improved maintenance.

4. *Improved amenities and infrastructure at John Wearn Reserve*

Improved amenities and infrastructure broadly identified by the community include:

- Toilets
- Upgraded playground and upgraded basketball court area
- Increased amount of seating and shade
- Improved quality and attractiveness of landscape
- Upgrade of skate park
- Dog off leash area, and
- Outdoor exercise equipment and improved walking / cycling tracks and outdoor fitness.

1. Introduction

City of Parramatta is currently preparing a Master Plan for the North Rocks Park Precinct (the Master Plan) that will outline a vision to help guide growth and development over the next 20 years. The Master Plan is funded by the State Government under the Stronger Communities Fund with consideration to be given to the social infrastructure requirements for the community across the Precinct.

This study, the North Rocks Preliminary Park Precinct Social Infrastructure Needs Study, has been undertaken to inform the preparation of options for the Master Plan and considers the community facility needs (including library needs) for the North Rocks and Carlingford areas.

This study draws on a number of key social infrastructure studies completed earlier this year:

- Carlingford Precinct Study, Elton Consulting, 24 April 2017
- Parramatta Community Facilities Audit and Needs Study, Elton Consulting, 4 May 2017
- Open Space & Recreation Audit & Needs Analysis: Planning for Carlingford, Suter Planners, May 2017, and
- Open Space & Recreation Audit & Needs Analysis: Parramatta LGA, Suter Planners, May 2017.

It also reflects outcomes of Stage 1 community and stakeholder engagement completed in July to September 2017 including:

- North Rocks Park Precinct Master Plan online survey
- North Rocks Park Precinct Master Plan community workshop and drop-in event
- Stakeholder interviews
- Carlingford Library telephone survey, and
- Carlingford Library phone survey.

1.1. Purpose and scope

The purpose and scope of this study is to provide guidance on the social infrastructure needs for the North Rocks/Carlingford areas, and specifically to inform the North Rocks Park. It includes best practice research precedents in relation to location and functions of community facilities including libraries, and multipurpose community centres.

1.2. Project background

The North Rocks Park Precinct was previously located within the Hills Shire Council, following Council amalgamations (announced by the NSW Government on 12 May 2016) the area is now within the new City of Parramatta Council (CoPC) Local Government Area (LGA).

This project will be undertaken as part of the Major Projects component of the NSW Government's Stronger Communities Fund. The NSW Government has established the Stronger Communities Fund (SCF) to provide councils with funding to kick start the delivery of projects that improve community infrastructure and services.

An idea to upgrade North Rocks Park was submitted as part of CoPC's Stronger Communities Fund (Major Projects Component) allocation process. The SCF Assessment Panel and Council have endorsed funding for this project. It is understood that The Hills Council had an unfunded commitment to demolish the existing Don Moore Community Centre and deliver a new community centre at this site. It was proposed to be funded by the sale of the Carlingford Library. Based on this commitment, the Carlingford Library would be relocated to this new facility.

Following amalgamation, CoPC considered that it was important that social infrastructure be planned and delivered in a strategic manner across the City of Parramatta LGA including to service the Carlingford/North Rocks area. As such, CoPC undertook a Social Infrastructure Audit and Needs Analysis to review existing facilities and determine if these assets will meet the needs of the City's growing population into the future.

This Study informs the North Rocks Park Precinct Master Plan, which will include the North Rocks Park precinct, including the buildings, community facilities, recreation facilities and open space. A key aim of the Master Plan will be to consider the needs and facilities required by the community within North Rocks and Carlingford suburbs. This includes both the North Rocks Park site and Carlingford Library. The Master Plan will include a list of costed prioritised works.

1.3. The Master Plan site

The North Rocks Park precinct contains both North Rocks Park and the adjacent John Wearn Reserve.

Figure 1 North Rocks Park Precinct Site Boundary



North Rocks Park

North Rocks Park comprises 7.4ha of land located at 358 North Rocks Road, Carlingford. North Rocks Park contains Crown Land reserved for Public Recreation and Senior Citizens Club (currently used as the sportsground) as well as community land classified as 'Bushland' and 'Park' (see attached map and applicable POMs).

North Rocks Park is a well utilised and valued community asset with multiple elements and community uses. The park contains a Senior Citizens Centre, North Rocks Tennis Courts, and the Don Moore Community Centre (including a Main Hall, Gymnasium, 2 rooms and Out of School Hours Care). There is also a sportsground, cricket nets, walking path, playground, accessible toilets, the North Rocks Park Amenity Building and a 2-storey soccer Tennis Club. A preschool within the park is currently being constructed by City of Parramatta Council.

The Bushland trees within North Rocks Park contains one mapped Endangered Ecological Community - Blue Gum High Forest (~3 ha). The ecological significance and any potential impact on these trees will need to be considered within the Master Plan.

John Wearne Reserve

John Wearne Reserve comprises 2.4ha of land located on the corner of Farnell Ave and Balaka Drive, Carlingford. This community land is categorised as a 'Park' under the Hills Shire Council adopted generic Parkland Plan of Management.

John Wearn is a high-profile park with a wide range of facilities catering for all ages. It is a key passive recreational area containing BBQ and picnic areas, circuit bike/walking tracks, an enclosed playground, basketball/netball practice hoops, a covered stage (where annual Christmas carol events are held) and the Council operated North Rocks Child Care Centre.

There is strong community interest and involvement in the maintenance and development of North Rocks Park through the existing user groups and regular hirers of the community facilities.

1.4. Methodology

The methodology for this study included:

- Current and forecast demographic analysis for North Rocks and Carlingford suburbs and implications for community facilities
- Review of existing City of Parramatta social infrastructures strategies and plans
- Review of existing utilisation and demand studies relating to the Carlingford library
- Review of community consultation outcomes delivered to inform the draft Master Plan (at a later date)
- Audit and mapping of social infrastructure supply servicing the local area
- Benchmarking supply against forecast demand using planning benchmarks, and
- Consideration of best practice community facility case studies and applicability to the North Rocks Park precinct.

2. Community profile

This section provides an overview of the current and forecast population of the area which the North Rocks Park Precinct services. Where available, 2016 ABS Census data has been used. This includes:

- The City of Parramatta LGA.
- Catchment 2 of the CoP LGA which includes North Rocks, Carlingford, Telopea, Dundas Valley and Dundas - this is the district that the North Rocks Park Precinct services.
- The suburbs of Carlingford and North Rocks - this is the local area that a branch library would service, as Telopea, Dundas Valley and Dundas would be serviced the Telopea Branch library (which is likely to be upgraded/rebuilt through the Telopea Estate Renewal).

2.1. About the City of Parramatta LGA

Current population (2016 and 2011)

The North Rocks Park Precinct is located in the newly formed City of Parramatta LGA. The LGA is located in the geographical centre of Sydney, around 24 kilometres from the Sydney CBD. The current population (2016) of the LGA is 235,981¹, which represents a 16% increase in population in 5 years since 2011.

In 2016, compared to Greater Sydney, the City of Parramatta LGA has:

- A lower proportion of households earning a high income (26.7% compared to 28.3%) and lower proportion of low income households (14.3% compared to 15.1%)
- A higher proportion of couples with children households (38.5% compared to 35.3%). Around 9.2% of households are one parent households with children (lower than Greater Sydney at 10.4%)
- A higher proportion of children aged 0 to 4 (7.3% compared to 6.4%), 25 to 34 year olds (20.2% compared to 16.1%) and 35 to 49 years (21.9% compared to 21.1%)
- A much higher proportion of medium and high density housing (55.3% compared to 44%)
- A much higher proportion of residents from Non-English speaking backgrounds (52% compared to 38.5%). The main non-English languages spoken at home were Mandarin (10.5%), Cantonese (6.5%) and Korean (5.0%), and
- A lower proportion of people without access to the internet (9.4% and 11.2%).

In 2011, compared to Greater Sydney, the City of Parramatta LGA has:

- Higher levels of unemployment (6.5% compared to 5.7%),
- A lower median age (35 compared to 36), and
- A higher SEIFA Index (1032.8 compared to 1011.3), which means it is less disadvantaged.

¹ Profile ID, 2016 Census data

Forecast population

According to forecast.id, the population of the City of Parramatta LGA is forecast to grow from 245,482 in 2017 to 397,339 by 2036². This represents an increase of +151,857 people, or 61.86%.

2.2. Catchment 2 (within City of Parramatta)

The City of Parramatta Council is divided into 6 catchments (see Figure 2). The North Rocks Park Precinct and Carlingford Library are located within Catchment 2, which includes North Rocks, Carlingford, Telopea, Dundas Valley and Dundas.

Figure 2 City of Parramatta Council Catchments³



The following demographic information for Catchment 2 is sourced from the Parramatta Community Facilities Audit and Needs Study, Elton Consulting, 4 May 2017.

Current population characteristics (2011)⁴

- The total population of Catchment 2 in 2011 was 50,720.
- The demographics of Catchment 2 vary between the northern and southern areas, with greater socio-economic disadvantage in the south compared to the northern areas.

² Forecast id. Parramatta LGA

³ Parramatta Community Facilities Audit and Needs Study, Elton Consulting, 4 May 2017

⁴ Parramatta Community Facilities Audit and Needs Study, Elton Consulting, 4 May 2017

- Catchment 2 had a higher proportion of people than the other catchments, aged 70yrs and older (9.6% compared to 8.7%).
- Catchment 2 had a lower proportion of people than the other catchments, aged 25-34 compared to Parramatta LGA (12.8%, 18.8%).
- Compared to the other catchments within the LGA, Catchment 2 has the highest proportion of those aged 60-69.

Table 1 Catchment 2 age breakdown (2011)⁵

	Catchment 2 (2011)	Parramatta LGA (2011)
Population	50,720	194,021
Age Groups	%	%
0-4yrs	6.8	6.8
5-9yrs	6.0	5.5
10-19yrs	12.6	11.1
20-24yrs	6.5	7.3
25-34yrs	12.8	18.8
35-49yrs	22.5	21.8
50-59yrs	13.4	11.7
60-69yrs	9.8	8.3
70-84yrs	6.1	6.9
85+yrs	3.5	1.8

Forecast population

According to the City of Parramatta Social Infrastructure Study, the forecast population for Catchment 2 in 2036 will be 70,857 people. This represents an increase of an additional 20,137 people.

2.3. Carlingford - North Rocks Suburbs (combined)

While existing studies relating to Carlingford use Catchment 2 to determine demand for social infrastructure, this study provides an additional analysis of the suburbs of Carlingford and North Rocks suburbs only. The reason for this is that Catchment 2 includes Telopea, Dundas and Dundas Valley which may be serviced through the new community facilities proposed as part of the Telopea Estate Renewal Master Plan including a new library and community hub.

Current (2016) population⁶:

- The total population of the Carlingford and North Rocks suburbs was 33,176 in 2016.
- Carlingford had 50.2% of its population born overseas, while North Rocks only had 34%. For comparison, the Parramatta LGA had a similar proportion of people born overseas (49.5%) to Carlingford.

⁵ Parramatta Community Facilities Audit and Needs Study, Elton Consulting, 4 May 2017

⁶ Profile Id. Carlingford and North Rocks (2016 Census)

- 35% of people in North Rocks spoke a language other than English at home. The top three languages were; Mandarin (10%), Cantonese (6.8%) and Korean (4.2%).
- In Carlingford, 57% of people spoke a language other than English at home, with 40% of the population speaking an Asian language at home. The top three languages were; Mandarin (18.7%), Cantonese (14.9%) and Korean (6.5%).
- In North Rocks, 36% of households earned an income of \$2,500 or more per week in 2016, a higher proportion of households compared to Carlingford (30%). However, both North Rocks and Carlingford had a larger proportion of high income earners than Parramatta LGA (27%).
- In Carlingford, 88.2% of households had access to broadband internet and North Rocks had 90.4%. Both suburbs are higher than the Parramatta LGA average of 83.5%.
- North Rocks had less households without a car compared to Carlingford (3.2% compared to 5.7%).

As shown in Table 2, the age structure of Carlingford/North Rocks is mostly families with primary school aged children, and seniors.

Table 2 Carlingford - North Rocks Age Structure⁷

	Carlingford Suburb (2016)	North Rocks Suburb (2016)	Total (2016)	Parramatta LGA (2016)
#	24,316	7,914	31,881	226,151
Age Group	%	%	%	%
0-4yrs	6.1%	6.5%	6.2%	7.3%
5-9yrs	9.1%	10.1%	9.3%	8.2%
10-19yrs	7.5%	7.5%	7.5%	5.9%
20-24yrs	9.0%	7.6%	8.6%	8.7%
25-34yrs	12.3%	10.1%	11.8%	20.2%
35-49yrs	20.8%	21.1%	20.9%	21.9%
50-59yrs	13.5%	13.4%	13.4%	11.1%
60-69yrs	10.5%	11.8%	10.8%	8.4%
70-84yrs	9.1%	10.0%	9.3%	6.7%
85+ yrs	2.1%	1.9%	2.1%	1.7%

Forecast population⁸:

- The combined population for Carlingford and North Rocks is forecast to undergo significant growth in 20 years to 2036, increasing by 35% (or 11,662 people) to 44,838.
- Population distribution between North Rocks and Carlingford will continue to trend towards Carlingford, as higher density communities are built around transport and services.
- As shown in Table 3, the majority (76%) of the population of the two suburbs live in Carlingford. By 2036, this will increase to 80%.

⁷ Profile Id. Carlingford and North Rocks (2016 Census)

⁸ Forecast id. Carlingford and North Rocks

- In terms of numbers, the largest population group in 2016 and 2036 is expected to remain as Parents and Homebuilders (35 - 49yrs), increasing from 6,661 to 9,131 people.
- The second largest group is expected to remain older workers and pre-retirees (50 to 59yrs), increasing from 4,287 to 5,813 between 2016 and 2036.
- By 2036 much of the density in Carlingford will surround the train station and areas immediately to the North and South⁹.
- In North Rocks 15.8% of the dwellings were medium or high density, while Carlingford was more than double that at 33.7%, with more high density living planned for the future.

Table 3 Carlingford-North Rocks Forecast Population¹⁰

2016			2036			Total change 2016 to 2036
North Rocks	Carlingford	Total	North Rocks	Carlingford	Total	
7,914	25,262	33,176	9,011	35,827	44,838	+11,662
24%	76%	100%	20%	80%	100%	

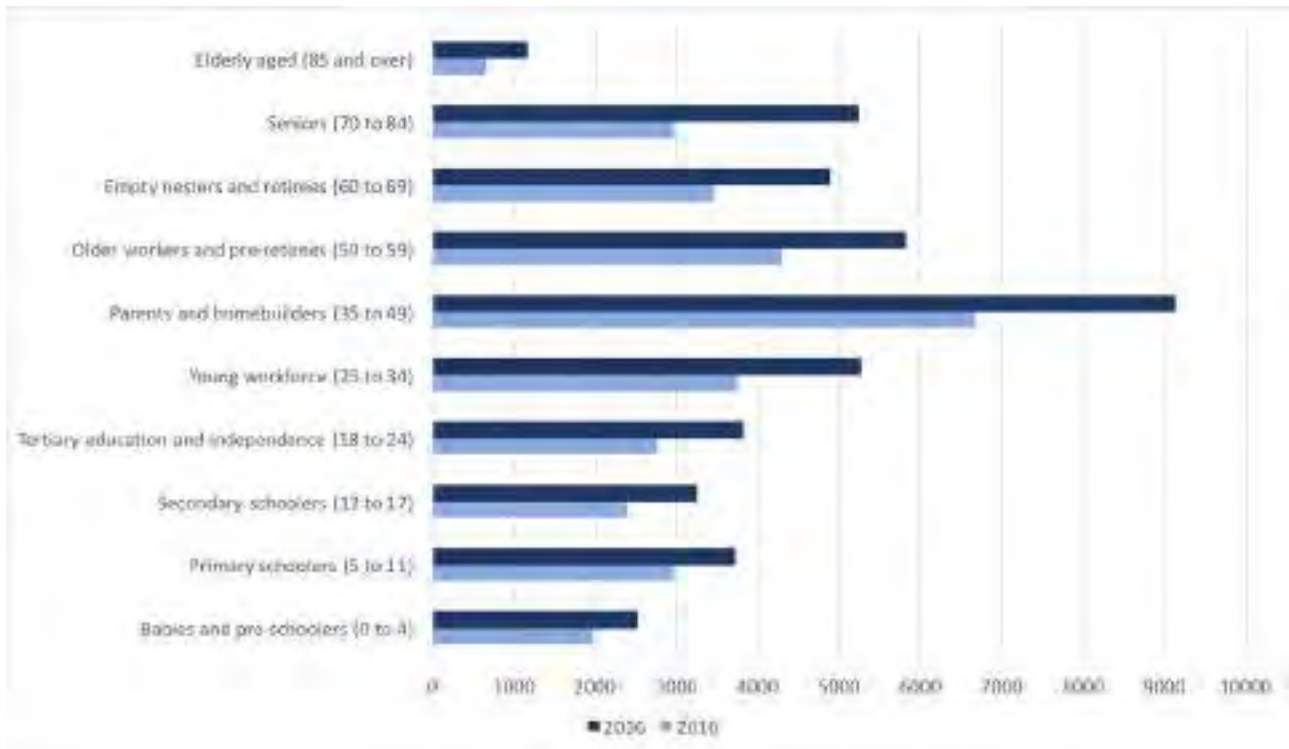
Figure 3 Carlingford - North Rocks Forecast Age Structure¹¹

Service age group	2016		2036	
Babies and pre-schoolers (0 to 4)	1968	6.2%	2527	5.6%
Primary schoolers (5 to 11)	2975	9.3%	3721	8.3%
Secondary schoolers (12 to 17)	2383	7.5%	3261	7.3%
Tertiary education and independence (18 to 24)	2756	8.6%	3821	8.5%
Young workforce (25 to 34)	3747	11.8%	5273	11.8%
Parents and homebuilders (35 to 49)	6661	20.9%	9131	20.4%
Older workers and pre-retirees (50 to 59)	4287	13.5%	5813	13.0%
Empty nesters and retirees (60 to 69)	3454	10.8%	4887	10.9%
Seniors (70 to 84)	2976	9.3%	5242	11.7%
Elderly aged (85 and over)	664	2.1%	1164	2.6%
TOTAL	31871	100%	44840	100%

⁹ Parramatta Community Facilities Audit and Needs Study, Elton Consulting, 4 May 2017

¹⁰ Forecast iD. Carlingford and North Rocks

¹¹ Forecast iD



2.4. Key findings

- The population of Carlingford and North Rocks suburbs combined will increase from 33,176 in 2016 to 44,830 in 2036.
- In 2016 in North Rocks, 15.8% of the dwellings were medium or high density, while Carlingford was more than double that at 33.7%, with more high density living planned for the future.
- Carlingford - North Rocks suburbs have higher than average proportions of 5-9yr olds and 10-19yrs olds, and residents aged 50 years and over (compared to Parramatta LGA).
- By 2036, Carlingford will house 80% of the combined population of Carlingford - North Rocks.
- Carlingford-North Rocks is culturally diverse. In 2016, Carlingford had 50.2% of its population born overseas, while North Rocks comparatively only had 34%. For comparison, the Parramatta LGA had a similar proportion of people born overseas (49.5%) to Carlingford. Main languages spoken are Cantonese, Mandarin and Korean.
- Proportionally, the highest growth forecast in the area will be seniors 70 years and over. The densest part of the combined suburbs will continue to be around Carlingford Station, as well as just to the north and south.

3. Social infrastructure audit

This section provides an audit of existing social infrastructure servicing North Rocks and Carlingford suburbs.

3.1. Definitions

Community facilities are those indoor (built form) spaces for individuals and organisations to conduct and engage in a range of community development, recreational, social and cultural activities that enhance the community's wellbeing. This audit has included:

- Community and neighbourhood centres
- Libraries
- Community halls
- Community meeting rooms
- Cultural facilities
- Early education and care centres
- Over 55s facilities
- Youth facilities, and
- Scout halls.

3.2. Community facilities audit

There are 37 community facilities located within the Carlingford and North Rocks suburbs including:

- 1 library
- 1 multi-purpose community centre
- 1 community hall
- 1 community meeting room
- 2 scout halls
- 1 seniors Centre
- 7 primary schools
- 4 high schools, and
- 17 child care services (including Out of Hours School Care, Preschool, kindergarten, long day care) as shown below:

Type	Number of places		
	North Rocks	Carlingford	Total
OSHC	213	484	697
LDC	0	266	266
Preschool	129	24	153

Note: North Rocks Shopping Centre Childcare will re-locate to North Rocks Park.

There is a major bus route along North Rocks Road and rail station in Carlingford (planned to be converted to light rail).

In addition to community facilities located within the North Rocks and Carlingford suburbs, there are major facilities also located within a 3km radius of the North Rocks Park Precinct in neighbouring suburbs including;

- 1 library
- 2 community centres
- 1 YMCA, and
- 2 community halls.

See Appendix 1 for a detailed audit and Figure 4 for a map showing the location of the facilities.

Figure 4 Community facilities servicing the North Rocks and Carlingford area



- MASTER PLAN SITE
- SHOPPING CENTRES
- SCOUT HALLS
- TRAIN STATION

PRIMARY SCHOOLS

- P1 Carlingford Public School
- P2 Carlingford West Public School
- P3 Murray Farm Public School
- P4 Roselea Public School
- P5 St Gerard's Catholic Primary School
- P6 Christ the King Primary School
- P7 North Rocks Public School

HIGH SCHOOLS

- S1 Carlingford High School
- S2 Cumberland High School
- S3 James Ruse Agricultural High School
- S4 Muirfield High School

- The Royal Institute for Deaf and Blind Children (RIDBC)

LIBRARIES

- L1 Carlingford Library
- L2 Dundas Branch Library

COMMUNITY CENTRES AND HALLS

- C1 Dundas Area Neighbourhood Centre
- C2 Community Hall (15 Sturt Street)
- C3 Don Moore Community Centre and North Rocks Senior Citizens Centre
- C4 Roselea Community Centre
- C5 Don Moore Meeting Room
- C6 West Epping Community Centre
- C7 YMCA Epping
- C8 Burnside Gardens Community Centre
- C9 Lake Parramatta training / meeting rooms
- C10 Beecroft Community Centre
- C11 West Pennant Hills Valley Community Hall

CHILD CARE

- O1 Catholic Out of School Hours Care Christ The King
- O2 North Rocks After School Activity Centre (At Don Moore)
- O3 North Rocks Pre School (relocating to North Rocks Park)
- O4 RIDBC Special Preschools
- O5 Carlingford Kindergarten
- O6 Carlingford Multipurpose Learning Centre
- O7 Carlingford West Kindergarten
- O8 Carlingford West OOSH Centre Incorporated
- O9 Colin Place Out of School care
- O10 Fairytales Preschool and Long Day Care Centre
- O11 Families @ Carlingford Education Service
- O12 Giggles Carlingford Childcare Centre
- O13 Laughing Clowns Early Learning Centre
- O14 Roselea Student Care Centre Inc
- O15 Shine Preschool Carlingford
- O16 St Gerard's Outside School Hours Care
- O17 North Rocks Child Care Centre

3.3. Utilisation of Don Moore Community Centre

Don Moore Community Centre has four rooms, the gymnasium, main hall, Room 2 and Room 3. The gymnasium has an average weekday use of 18% and an average weekend use of 20.08%, with an average overall occupancy rate across the week of 19%. The highest average use of the gymnasium is on Saturdays, at 27%, followed by Wednesdays at 23%. The lowest day of use of the gymnasium is on Mondays at 10% occupancy.

The main hall has an average weekday use of 20% and an average weekend use of 38.89%. Its overall average across the week is 26%. The highest average use of the main hall is on Saturday with a 44% occupancy rate. The highest use on a weekday is on Fridays with a 27% occupancy rate. The lowest day of use is on Mondays with a 10% occupancy rate.

Room 2 has an average weekday use of 22% and an average weekend use of 20%. Its overall average across the week is 21%. The highest average occupancy is on Tuesdays and Thursdays at 23% for both days. The lowest average occupancy rate for the room is on Fridays, Saturdays and Sundays, which all have an occupancy rate of 20%.

Room 3 has an average weekday occupancy rate of 20% and an average weekend rate of 20.15%. Its overall average across the week is 20%. The highest average occupancy rate is on Saturdays with a rate of 27%, followed by Thursdays at 25%. The lowest average occupancy rate is on Sundays with a rate of 13%. Overall, there is an average weekday occupancy rate across the rooms of 20% on weekdays and 25.38% on weekends with an overall average of 22%.

The most popular room is the main hall, with an overall average occupancy rate of 26% and the least popular room is the gymnasium with an average overall rate of 19%

3.4. Utilisation of Carlingford Library

The Carlingford Library is located on the corner of Lloyds Avenue and Boundary Road in Carlingford, north of Cumberland Highway / Pennant Hills Road. It was built in 1968 and last refurbished in 2006. It is 348m² in size and the third busiest library in Parramatta/Epping/Carlingford¹².

Room	Mon	Tues	Wed	Thurs	Fri	Sat	Sun	Average weekday	Average weekend	Average overall
Gymnasium	10%	15%	23%	22%	22%	27%	13%	18%	20%	19%
Main Hall	21%	20%	15%	19%	27%	44%	33%	20%	39%	26%
Room 2	21%	23%	21%	23%	20%	20%	20%	22%	20%	21%
Room 3	15%	21%	21%	25%	20%	27%	13%	20%	20%	20%
Average overall	17%	19%	20%	23%	22%	30%	21%	20%	25%	22%

¹² City of Parramatta, July 2017

The Carlingford Library is the third busiest library in the Parramatta LGA and it is already operating beyond capacity¹³.

Loan data (internal Council research, September 2017) for the library between 1 July 2017 and 31 July 2017 showed that there were a total of 18,985 loans at the Carlingford branch (charges and renewals). 65% of loans (or 8,185) for which postcodes were identified were from residents living in the suburb of Carlingford and 9% (1,042) were from residents living in the suburb of North Rocks.

Current facilities provided at the library include:

- WIFI
- RFDI Self Check + 90%
- 7 public computers
- 1 photocopier
- 65 seats
- Large communal study tables
- External after hours returns chute
- Close to train station, and
- There is free on-street parking out the front on Boundary Road (2hr limit) as well as street parking along Lloyds Ave (approx. 30 spaces).

Feedback from library staff is that the lack of meeting rooms or private bookable spaces means that all programs are conducted in the open plan space, which limits types of uses.

Current programs conducted at the library include:

- Storytime
- Bubs & Books
- Pram Jam, and
- English conversation classes.

Typical use patterns observed by the library staff are:

- Morning/afternoon child care
- Elderly during the day
- Large communal study tables used almost the entire day, and
- Peak rush time is from 3pm (after school).

¹³ City of Parramatta library staff, 2017

4. Needs identified through consultation

This section provides a summary of community engagement outcomes completed for Round 1 consultation for the North Rocks Park Master Plan. Separate consultation was completed relating to a preferred location for the Carlingford Library.

4.1. North Rocks Park Master Plan priorities

Around 300 community members and park precinct stakeholders participated in Round 1 engagement across three different engagement activities. These included:

Community & Stakeholder Workshop

Venue: Don Moore Community Centre, North Rocks Park

Date: Thursday 31 August 2017

Time: 1pm - 2:30pm

Participants: 17

Community Drop-in Session

Venue: Picnic area at John Wearn Reserve

Date: Saturday 26th, August.

Time: 12pm - 2pm

Participants: approx. 30 - 40 people

Online Survey

Survey was open from 31 July to 1 September 2017

Participants: 246 respondents.



Priorities for North Rocks Park

Overall, the community loves the park facilities and they are used by all age groups for sporting and community and cultural activities at a district and neighbourhood level. They value how multi-purpose and diverse the park is now, and would like to see this strengthened in the future. The following list captures the most common priorities for improvement to North Rocks Park across all of the engagement activities.



Upgrade the Don Moore Community Centre to become a more multipurpose community hub and possibly include a new cafe.



Improve vehicular access to site, investigate parking solutions (especially for peak periods) and improve pedestrian safety around the car park (especially for children).



Improve and expand the playground to include different types of play and to appeal to a wider age range. Ensure it is an accessible and inclusive.



Improve walking / cycling tracks and include outdoor fitness equipment and drinking fountains. Consider improved wayfinding and signage.



Upgrade BBQ and picnic areas and investigate ways to include more social seating, shaded areas and outdoor spaces for more diverse and multiple uses.



Upgrade existing toilet facilities, and ensure they are well maintained. Investigate dedicated toilets for children.



Improve lighting throughout the park for safety and pedestrians (especially along walking paths) as well as improved lighting to the sportsfields.



Retain the native bushland areas, and seek to gain additional open space, not lose any.



Improve management of community and sports facilities in the parks (including tennis centre booking and availability), as well as promotion to increase awareness of what the park precinct offers.



Upgrade the sports field and courts to increase quality and capacity, including; resurfacing, supporting amenities, lighting, drainage, spectator seating, hours of use.



Improved maintenance of community buildings and park facilities.



A library.

John Wearn Reserve

Overall John Wearn reserve is not as well known as North Rocks Park, and is mainly used for neighbourhood passive recreation, again by all age groups, however there was a focus on improving facilities for youth. The community values how multi-purpose and diverse the park is now, and would like to see this strengthened in the future. The following ideas for improvement capture the most common priorities for improvement to John Wearn Reserve across all of the engagement activities.



Provide toilets. 37% of online survey participants identified toilets as their number 1 priority for John Wearn Reserve.



Improve and expand the playground. Investigate possibility of different types of play, e.g. water play, adventure play, giant slides, climbing park, dodge ball court. Ensure there is play equipment for children of all ages.



Upgrade the basketball court area and consider changing to a multi-sport courts (to include things like netball).



Increase the amount of seating and shade, including covered/shaded seating areas, more seats with tables, more covered BBQ areas and more social seating. Improve lighting throughout the park, especially along walkways.



Improve the quality and attractiveness of landscaped and garden areas.



Upgrade the quality of existing skate park and better manage anti-social behaviour. Investigate additional facilities and things to do for youth e.g. table tennis.



Formalise a dog off leash area and consider fencing the area. Include supporting facilities such as pick up bags and drinking bowls.



Investigate ways to provide outdoor exercise equipment e.g. outdoor gyms, obstacle courses, improved walking / cycling paths and bubblers.



Improve walking / cycling tracks and include outdoor fitness equipment and drinking fountains. Consider improved wayfinding and signage.

4.2. Carlingford Library preferred location

A telephone survey and online survey were completed to rate the preferred location for a future and improved library to service the Carlingford and North Rocks suburbs. Consultation completed included:

Telephone survey

Survey was conducted in August 2017

Participants: 200

Online survey

Survey was open between 31 July and 1 September 2017

Participants: 59

4.2.1. Preferred location

Survey respondent were asked to rate and rank their preferred option for the future location of the Carlingford Library from the following:

Option 1: Upgrade at Current Location

Upgrade and expand Carlingford Library at the current location to remain close to the new light rail station and surrounding high rise development.

Option 2: Relocate within Carlingford

Relocate the library facility to a location closer to the Carlingford town centre (Carlingford Court) to bring the facility closer to other shops and facilities within the precinct and to provide more space.

Option 3: Relocate to North Rocks

Relocate the library facility to North Rocks Park located on North Rocks Road, Carlingford. This would co-locate the facility with recreational facilities such as the tennis courts and senior citizens centre and provide a facility with more space.

Across both surveys, the highest ranking preference was for the library to stay in its current location in Carlingford and be upgraded. The main reasons in support of Option 1 were:

- Access to public transport
- That it is located within walking distance of the increasing high density population of Carlingford (around 30-40% of library users walk to the library), and
- Access to parking (as opposed to poor parking at Carlingford Court).

Table 4 Preferred option for location of Carlingford Library

	% at least somewhat supportive	
	Telephone survey	Online survey
Option 1	90%	89%
Option 2	66%	57%
Option 3	70%	61%

Table 5 Reasons for supporting options

Reason for supporting option	
Option 1	Proximity to residential population and future growth. Access to parking. Access to public transport (bus/train)
Option 2	More central location and better access than North Rocks
Option 3	Personal proximity (for North Rocks residents), parking, and community/precinct activation

5. Needs identified through existing studies

This section provides a summary of social infrastructure needs identified through existing City of Parramatta social infrastructure studies including:

- Carlingford Precinct Study, Elton Consulting, 24 April 2017
- Parramatta Community Facilities Audit and Needs Study, Elton Consulting, 4 May 2017, and
- Open Space & Recreation Audit & Needs Analysis: Planning for Carlingford, Suter Planners, May 2017.

5.1. City of Parramatta LGA

The Parramatta Community Facilities Audit and Needs Study by Elton Consulting (4 May 2017) found that across the LGA:

- The population of the Parramatta LGA is very diverse. This indicates a need for access to a full range of social infrastructure to meet the spectrum of life cycle needs. It also points to a need for flexible, multi-purpose facilities that cater to a broad range of interests and can adapt as needs change.
- Smaller dwellings and an associated lack of private open space (particularly in Parramatta CBD, North Parramatta, Westmead, Epping, Carlingford, Ermington, Melrose Park, SOP, Wentworth Point, and Granville- Clyde) indicate a greater need for easy access to high quality public open space and to spaces for hire for private functions, celebrations and to meet friends outside the home.
- The high proportion of people renting (particularly in Parramatta and Rosehill Wards), and associated high level of turnover within the population, indicates a need for places and activities that enable people to meet and connect with others, especially for more long-term residents.
- The greater proportion of people who speak a language other than English at home and correspondingly a greater proportion of people born overseas indicates a need for cultural support services.
- Due to the high-density nature of the LGA, it will be important to provide affordable spaces for hire for private functions, celebrations and to meet friends outside the home.
- There is a need for more meeting spaces across the LGA, especially spaces for larger groups and meetings.
- There is a need for more library space, especially study and programming space.
- There is a need for low-cost office space for community organisations and service providers.

5.2. Catchment 2

In relation to Catchment 2 (North Rocks, Parramatta, Telopea, Dundas, Dundas Valley), the Parramatta Community Facilities Audit and Needs Study, Elton Consulting, 4 May 2017, identified the following community facility needs and made the following recommendations for the area:

- Based on State Library standards (outlined in *People Places: A guide for Public Library Buildings in New South Wales - third edition* [State Library of New South Wales, 2012]). By 2036, Catchment 2 will require 2,636m² of library floor space. It currently has 348m² at Carlingford library and 268m² at Dundas Library.

- Catchment 2 has a high provision rate of community facilities (104m²/1,000 people). However, more than half of the 11 facilities are scout and guide halls and not available for general community use. Excluding scout and guide halls, the provision rate is 74sqm/1,000 people¹⁴.
- There is significant growth projected for Carlingford and Telopea.
- Community consultation in North Rocks identified a need for playgroups and community groups /facilities.

5.3. Carlingford and North Rocks

In relation to the Carlingford/North Rocks areas, the Carlingford Precinct Study found:

- Some communities in Carlingford identified a need for playgroups, youth and community facilities through the pop-up kiosk community consultation. Community consultation identified a need for an upgrade of Carlingford Library.
- Of the 11 community facilities (22% of those in the LGA) located in the Carlingford Catchment, six are scout or guide halls. Most of these halls, with the exception of one vacant hall in Telopea, are leased exclusively to one tenant (largely The Scout Association of Australia).
- Due to the small size of these scout and guide halls, the average size of community facilities in the Catchment is approximately 585sqm - above the minimum recommended size of 500sqm for community facilities. However, once these halls and remaining community facilities are separated, it can be seen that remaining community facilities in the area are relatively large, with an average floor space of 954sqm. The average floor space for the area's scout halls is 281sqm, almost half that of the minimum recommended size for community facilities.
- Common strengths of community facilities (excluding scout halls) in Carlingford include public transport access, adequate parking (with the exception of Carlingford Library), access to open space and, to a lesser extent, integration with other services. Common weaknesses include building condition and visual prominence (with the exception of Carlingford Library).
- For scout halls, common strengths similarly include access to open space and adequate parking. Weaknesses include integration with other services, access by public transport and safety.
- Some communities in Carlingford identified a need for playgroups, youth and community facilities through the pop-up kiosk community consultation. Community consultation in Eastwood (pop-up kiosks) identified a need for an upgrade of Carlingford Library.

¹⁴ Parramatta Community Facilities Audit and Needs Study, Elton Consulting, 4 May 2017

6. Needs identified through benchmarking

This section provides an analysis of social infrastructure needs to service the forecast population of the suburbs of North Rocks and Carlingford. Because the areas of Telopea, Dundas Valley and Dundas may be serviced by future new facilities which could be delivered as part of the Telopea Estate Renewal Master Plan (including a new library and community hub), additional benchmarking has been undertaken for the combined suburbs of Carlingford and North Rocks in relation to community facilities only.

The following estimates have been based on a forecast population of 44,838 people by 2036 in Carlingford and North Rocks (Forecast Id).

6.1. Benchmarking

Table 4 provides an assessment of social infrastructure needs for the North Rocks/Carlingford areas, based on planning benchmarks.

Table 6 Community Facility Benchmarking

Type	Benchmark*	Current supply	Future demand	Gap in supply
LOCAL				
Long day care	0.28 places per child (based on national utilisation rates in Australia of 40% of all children aged 0 to 5 accessing care on average 3.5 days per week)	419	561 places	142 places
Out of school hours care	0.16 places per child aged 6 to 12 years (based on National Usage rates in Australia of 16% all children accessing OSHC)	697	466 places	No gap
DISTRICT				
Multi purpose (staffed) community centre (could include arts space)	1:20,000-30,000 population = approx. GFA of 1,200 - 3,000m ²	1	3000sqm+	1
District library	1 "substantial" library per 20-30,000 to NSW State Library benchmarks	1 local library	Potentially 2 substantial libraries	1 - 2
	35m ² per 1,000 people, plus 20% circulation space - Elton Consulting (p 61)	1 local library (348sqm)	1,883sqm (1569 + 314)	1,535sqm

Senior Facilities	1:15,000 to 20,000 people (Cred benchmark)	1 (600m ²)	2+	1+
Youth Centre	1 for every 3,000 young people aged 13 to 19 (Cred benchmark) (3,261 12 - 19 yr olds forecast id)	0	1	1 (600m ²)

*Benchmarks adopted from Elton Consulting Parramatta LGA Social Infrastructure Needs Analysis Report (p61)

6.2. Summary

The social infrastructure needs are summarised below:

- 1,883m² of library space to support North Rock/Carlingford forecast population
- 3,000m² of multipurpose community centre floor space (co-locating youth space, senior's space, meeting space, and creative art space)
- 100+ long day care places across both suburbs (with highest demand in Carlingford)
- There is sufficient Out of School Care places to meet forecast growth.

7. Best Practice principles

This chapter presents a series of local and international case studies of best practice social infrastructure including for community hubs, recreational facilities and libraries. These findings are then summarised into Recommended Principles for consideration in decision making around the future of Carlingford Library.

7.1. Community facilities

The Parramatta Community Facilities Audit and Needs Study (Final Report), 2017, Elton Consulting, lists the following Guiding Principles for design, delivery and management of social infrastructure in the Parramatta LGA:

- A coordinated network of facilities
- Near open space for activities and events
- Central to catchment and equitable access
- Located to promote visibility and accessibility
- Clustered/co-located
- Flexible and multipurpose
- Serve identified social needs
- Inclusive and welcoming
- Contribute to public domain and sense of place
- Connected to public transport, pedestrian and cycling networks
- Of sufficient size and design to enable expansion and adaptation
- Financially and environmentally sustainable
- Safe and secure
- Avoid conflict with neighbouring uses
- Provided through partnerships and collaboration, and
- Accounted (monitored and evaluated).

See Appendix 2 for detailed description of these Guiding Principles.

7.2. Libraries

The Elton study identified some key trends emerging in contemporary library planning, provision and programming. Libraries will continue to provide traditional services such as borrowing and use of reference material. However, it is clear that community expectations for additional services and experiences are increasing. As the State Library of New South Wales (2012, p.17) states “these services reflect the role of modern public libraries as community facilities where people meet, share and learn.”

Libraries as a destination - No longer conceived of as a place to visit only if you need to borrow a book, good public libraries are increasingly being seen as destinations, with space for community gathering recognised as an important function and an integral component of good library design. More space is being devoted to leisure, training, cultural activities and collaborative learning, including meeting and exhibition space, training rooms, storytelling rooms and some specialised spaces for specific target groups, such as young people and seniors. Lounges and cafes are becoming an integral part of library interior design with a focus on levels of comfort and amenity that encourage people to ‘linger’ and spend some time.

Libraries as a (third) place - A ‘third place’ is an informal community gathering place that is inclusive, local and helps to bring people in neighbourhoods together. Unlike home (the ‘first place’) and work (the ‘second’), ‘third places’ allow people to put aside their concerns and simply enjoy the company and conversation around them. Public libraries can work well as ‘third places’ and be those informal gathering places that are essential to the creation of a sense of community. They can help to build communities and provide the connections that develop community cohesion and social inclusion.

Collaborative learning - Increasingly, public library design is embracing the contemporary approach to education which has a greater focus on group and collaborative learning. There is a shift from ‘silent reading’ and individual study to more active and interactive learning environments. The provision of meeting rooms, noisy areas, student research areas and facilities are some of the physical outcomes of this trend. Group interaction is also bolstered by virtual and online environments, particularly with the use of games, wikis and the full range of social networking media.

Community engagement - Leading practice models point to the need for libraries to become more flexible as centres for community engagement and development by bringing together people to celebrate and foster stronger identity and social cohesion. They can provide a forum for conversations that add to the understanding of the community and assist community members make informed decisions. They can also disseminate and gather community information and act as a marketplace for ideas, and by providing access points to governments, they can connect people with information and resources necessary for strengthening citizenship.

Programs and partnerships - Like any successful community facility or public place, a large proportion of the success of a public space is related to its programming and management. No longer purely destinations for books and study, libraries are increasing the range of activities offered and are focusing more on programming and partnerships to create vibrant and stimulating environments for a wide array of library users. Successful libraries cater for both structured, formal programs and unstructured and informal activities, and in doing so, are able to satisfy a broad range of community needs and interests.

Lifelong learning - Libraries have a key role to play in the development of lifelong learning and the creation of learning communities. Lifelong learning includes development of the full range of learning abilities, interests, knowledge, qualifications, ranging from pre-school to post-retirement. Lifelong learning emphasises the importance of independent study based on personal interests and needs. It can

include vocationally focussed education but also embraces the notion of learning for personal development and learning as part of a fulfilling and satisfying life.

Information technology - Information technology will continue to have a significant impact on the design of libraries and how library users use space and access library services. It is clear that the demand for computer access and training, internet and audio-visual use is creating both space and service demands. Spatial implications of increasing technology use have included the requirement for libraries to provide additional space for technology including computer training facilities, large public computer access areas, dedicated computer work stations, and more areas for access to Wi-Fi, to accommodate laptop usage, and storage for audio visual and electronic resources.

Makerspaces - Many libraries have begun to incorporate makerspaces into the services they offer their communities. A makerspace is a community space where people can gather to share knowledge and skills, work on projects, network, and create. Supplies in a Makerspace can include anything from cardboard, plastic, metal, gears, batteries, wood, paints and easels and cooktops; to welding machines, laser cutters and 3D printers. The makerspace is often associated with fields such as engineering, computer science, and graphic design. However, individuals and creative teams are increasingly using these free or fee-based services for other creative exploration.

In addition to the principles provided by Elton, the Library Services Manager at City of Parramatta suggested the following to be included:

High visibility from public domain - The library should be located in a prominent position, i.e. with natural views to and from the site¹⁵ for safety, amenity and psychological accessibility. This should also include an activated street frontage e.g. 'tech bar' and casual reading areas visible from street.

Proximity to transport and Community hub - Libraries should be located near public transport and active transport opportunities as highly used by transport disadvantaged such as young people, high school students and older people.

See Appendix 3 for case studies of best practice libraries.

¹⁵ The Metric Handbook: Planning and Design Data, 2008

8. Recommendations

This section provides recommendations relating to social infrastructure requirements to service the North Rocks Carlingford area and to inform the future Master Plan for the North Rocks Park Precinct.

1. Increased Library Floor Space within new library in Carlingford

A total of 1,883m² of library floor space is required for the North Rocks/Carlingford Area. It is recommended that the future increased library floor space remains located in Carlingford for the following reasons:

- Carlingford Library's existing location is in proximity to 80% of the total population of the combined North Rocks/Carlingford areas.
- The Carlingford library is currently located on new light rail stops and therefore has the potential for local targeted growth in existing central areas. Carlingford is also set to be connected to Parramatta by a cycleway from Carlingford Rail Line to the CBD, as outlined in the draft WCDP. North Rocks Park is not on a rail line or light rail line.
- Population density in the travel zone adjacent to Carlingford station is projected to increase from 4,700 to 21,200 by 2036. In comparison, the North Rocks travel zone is not projected to increase. The area immediately to the north will increase from 3,400 to 4,700.
- The currently location meets best practice guidelines in terms of access to public transport and residential density.
- The current location is the preferred location based on the telephone and online survey with residents, because of proximity to the highest proportion of residents, public transport and other services.
- It may be difficult to deliver a library of 1,883m² plus a multipurpose facility of the size required (acting as a district facility) on North Rocks Park without loss of open space.
- The Carlingford Library is valued and well utilised as a destination, a third place, and a collaborative learning place, however it lacks meeting rooms and larger multi-purpose spaces.

2. Multipurpose Community Hub at North Rocks Park

3,000m² of multipurpose community facilities floor space is provided within a community hub at Don Moore Community Centre. It is recommended that the existing senior's centre is co-located as part of the new community hub. Functions to include within this facility include:

- Multipurpose space for community, sporting, and cultural programs
- Senior's Centre
- Youth space (linked to open space)
- OSHC space (linked to open space)
- Space for playgroups to meet, and
- Potential for a small library link (see City of Sydney library link Town Hall House and Pymont).

3. Improved amenities and infrastructure at North Rocks Park

Improved amenities and infrastructure recommended include:

- Multi-purpose community centre

- Improved vehicle access and parking
- Upgraded playground
- Improved walking/cycling tracks and outdoor fitness equipment
- Upgraded BBQ and picnic areas
- Improved lighting
- Retained natural bushland areas
- Upgraded sports facilities and improved management of community and sports facilities, and
- Improved maintenance.

4. Improved amenities and infrastructure at John Wearn Reserve

Improved amenities and infrastructure recommended include:

- Toilets
- Upgraded playground and upgraded basketball court area
- Increased amount of seating and shade
- Improved quality and attractiveness of landscape
- Upgrade of skate park
- Dog off leash area, and
- Outdoor exercise equipment and improved walking / cycling tracks and outdoor fitness.

Appendix 1 Audit of social infrastructure

Existing community facilities in North Rocks and Carlingford suburbs



Type	Name	Facilities	Suburb
Multi purpose community centre	Don Moore Community Centre	1,600 sqm Main Hall Gymnasium Room 2 Room 3 Out of School Hour Care	Carlingford
Seniors Centre	North Rocks Senior Centre	601 sqm	Carlingford
OSHC	North Rocks After School Activity Centre	60 approved places	Carlingford
Club	Soccer & Tennis Club	2 storey building - soccer - tennis - Store room - Meeting room	
Scout hall	1st Murray Farm Scouts	340 sqm	North Rocks
Community centre	Roselea Community Centre	1,100 sqm	Carlingford
Scout hall	North Rocks Guide Hall	160 sqm	North Rocks
Meeting room	Don Moore Reserve meeting room	200 sqm Meeting room caters for small celebrations, birthday parties and general meetings. Capacity 40	North Rocks
Library	Carlingford Library*	348 sqm	Carlingford
OSHC	Catholic Out of School Hours Care Christ The King	45 approved places	North Rocks
Preschool	North Rocks Pre-School	40 approved places	North Rocks
Preschool	RIDBC Roberta Reid Preschool	25 approved places	North Rocks
Preschool	RIDBC Rockie Woofit Preschool	25 approved places	North Rocks
Preschool	RIDBC VisionED Preschool	15 approved places	North Rocks
LDC	Carlingford Kindergarten	29 approved places	Carlingford
LDC	Carlingford Multipurpose Learning Centre	55 approved places	Carlingford
LDC	North Rocks Child Care Centre	53 approved place, 600m2	North Rocks





Preschool	Carlingford West Kindergarten	24 approved places	Carlingford
OSHC	Carlingford West OOSH Centre Incorporated	180 approved places	Carlingford
OSHC	Colin Place Out of School Care	65 approved places	Carlingford
LDC	Fairytales Preschool and Long Day Care Centre	25 approved places	Carlingford
LDC	Families @ Carlingford Education Service	28 approved places	Carlingford
LDC	Giggles Carlingford Childcare Centre	78 approved places	Carlingford
LDC	Laughing Clowns Early Learning Centre	42 approved places	Carlingford
OSHC	Roselea Student Care Centre Inc	120 places	Carlingford
LDC	Shine Preschool Carlingford	36 places	Carlingford
OSHC	St Gerard's Outside School Hours Care	59 places	Carlingford
Preschool	North Rocks Uniting Church Preschool Kindergarten	24 places	North Rocks
OSHC	Inspire Carlingford	63 places	North Rocks
Secondary	Carlingford High School		Carlingford
Primary	Carlingford Public School		Carlingford
Primary	Carlingford West Public School		Carlingford
Secondary	Cumberland High School		Carlingford
Secondary	James Ruse Agricultural High School		Carlingford
Primary	Murray Farm Public School		Carlingford
Primary	Roselea Public School		Carlingford
Primary	St Gerard's Catholic Primary School		Carlingford
Primary	Christ the King Primary School		North Rocks
Secondary	Muirfield High School		North Rocks
Primary	North Rocks Public School		North Rocks
Shed	Shed	Used for Christmas Carols	Carlingford

Additional major social infrastructure within a 3km radius of the Park Precinct Site

Type	Name	Suburb	Geographical distance
Community centre	West Epping Community Centre	Epping	2.8km
Library	Dundas Branch Library	Telopea	2.7km
Community centre	Dundas Area Neighbourhood Centre	Telopea	2.7km
YMCA	YMCA Epping	Epping	2.8km
Community hall	West Pennant Hills Valley Community Hall	West Pennant Hills	2.8km
Community hall	15 Sturt Street Community Hall	Telopea	2.9km

Appendix 2 Guiding Principles for City of Parramatta Social Infrastructure (Elton Consulting)

 <p>A co-ordinated network of facilities</p>	<p>Community and cultural facilities should not be planned in isolation but be considered as a broader network of facilities that work together to meet a broad range of community needs, across a region or sub-region. Planning and delivering facilities as a network represents an integrated, strategic approach. It allows facilities to provide a different range of offerings, with the option for each facility to include unique, specialist services or amenities.</p> <p>The key to a successful network of facilities is the organisation of facilities within a hierarchy. A facility hierarchy includes larger and specialist, higher order facilities (e.g. central libraries, performing arts facilities, exhibition or conference facilities and galleries) serving a wider sub-regional or LGA-wide populations down to small, local facilities to meet the day to day needs of their immediate, surrounding communities.</p> <p>By considering facilities as part of a network, duplication of services, programs, spaces and amenities can be avoided, therefore, representing a more economically sustainable approach to community facility planning.</p>
 <p>Near open space for activities and events</p>	<p>Locations adjacent to open space including town squares, village centres and parks increase the range of activities that can occur at community facilities and cultural facilities. As an example, community centres adjacent to parks and playgrounds are ideal locations for playgroups. Facilities located next to civic squares provide opportunities for markets, festivals and similar events. Locating facilities near open space is another way to ensure that community facilities are integrated into their surrounding physical environment and seen as 'part of the community'.</p>

 <p>Central to catchment and equitable access</p>	<p>Community and cultural facilities should be central and accessible to the population they are intending to serve. Leading practice favours the location of facilities in urban centres to enhance accessibility and connectivity with related uses. Well used community facilities tend to be located in places that are readily accessible by public transport and where people already congregate, such as in retail and commercial centres and near schools. These locations also enhance visibility, safety and convenient access. Adequate parking nearby also promotes good access to facilities.</p> <p>The facility building should comply with the principles of universal design by facilitating access to and use of the facility and its spaces by all individuals and groups (regardless of age, ability, cultural background or level of social or economic advantage/disadvantage). This relates to providing a high level of physical access, connection and way-finding as well as ensuring services, programs and activities are broadly advertised and promoted and are affordable.</p>
 <p>Located to promote visibility and accessibility</p>	<p>To be well used and serve identified social needs, community facilities should be highly visible. Ideally, they should be on a main street with ground floor street frontage for optimum visibility and accessibility. Enabling an awareness of what happens inside also promotes usage.</p> <p>Community and cultural facilities are an important part of the civic fabric of our centres and suburbs. Accessibility and visibility through main street locations with a ground floor presence can be important to maximising utilisation and enhancing accessibility.</p>
 <p>Clustered/co-located</p>	<p>Co-locating or clustering community and cultural facilities is presented as a key principle to guide the planning of future facilities in the Parramatta LGA. The community hub model, which involves co-locating facilities on neighbouring sites or in a single building, is also proposed as a key approach for consideration. Community hubs provide a range of offerings and can, therefore, become key focal gathering points within a community; attracting a range of users and promoting social connection and cohesion.</p> <p>Co-locating facilities and services can also promote the development of networks and partnerships between different service providers. It can assist referrals between services, ensuring clients are provided with a better, more coordinated and holistic level of care.</p> <p>Co-locating facilities is also a more efficient approach to facility provision as it can enable the shared use of spaces by different groups (including meeting rooms, amenities and activity spaces). The alternative model involves the provision of such spaces in each and every stand-alone facility. Clustering facilities can also contribute to overall sustainability by reducing the need for multiple trips and allowing residents to carry out a number of tasks in a single location through a single trip.</p>
 <p>Flexible and multipurpose</p>	<p>Community and cultural facilities should be designed and built to maximise flexibility in use, so they can respond and adapt as needs change. Where possible, buildings should be capable of delivering a range of programs and services, rather than designated for single uses or specific target groups that may quickly become outdated. Flexibility is enhanced by providing multi-purpose spaces capable of accommodating a diversity of uses, thereby enabling a range of activities and target groups to use the facility and in doing so, ensure maximum use and optimisation of space. Multi-use facilities are also more dynamic and capable of responding and adapting to the changing needs and preferences of the community. Facilities that are responsive and flexible will be used more intensively over their lifetime.</p>

 <p>Serve identified social needs</p>	<p>Community and cultural facilities should address the social needs of the particular community in which it is located in order to contribute to residents' and workers' health, wellbeing and quality of life. Programs, activities and services offered should respond to the individual needs and interests of the people that live and work around it and foster long term social benefits for the community.</p> <p>The planning and design of a community centre should reflect the potential programs, activities and services envisaged.</p> <p>In addition, there should be a robust monitoring process to ensure Council facilities are successfully serving community needs and providing a high level of community benefit (see principle 'Accountability').</p>
 <p>Inclusive and welcoming</p>	<p>Facilities should be welcoming and accessible to people of all ages, cultural backgrounds, abilities, income levels and interests. This can be achieved not only through the provision of spaces catering to different groups and a design that provides universal access, but also through effective programming – ensuring activities and services are provided for a broad range of people. In doing so, facilities can also play a role in helping to bring together different groups in the community.</p>
 <p>Contribute to public domain and sense of place</p>	<p>Community and cultural facilities should contribute to urban vitality, local identity and sense of place, and become important focal points and gathering places for the community. A strong connection between the facility and the broader community can be fostered through development of facilities on landmark sites and with distinctive architecture and quality design. Community and cultural facilities should be distinctive civic buildings and welcoming places, and should present as a reflection of local culture. This helps ensure they develop a strong local profile and are well known in the community, thereby promoting high levels of usage.</p>
 <p>Connected to public transport, pedestrian and cycling networks</p>	<p>Planning community and cultural facilities requires a focus on enhancing efficiency and utilisation. Public transport enhances accessibility for all population groups. As a principle, community and cultural facilities should ideally be located within 400 metres walking distance of a regular public transport stop. Linking to pedestrian and cycling networks provides another avenue to promote the accessibility of facilities to all groups in the population and is a further means to encourage sustainable behaviour and a healthy and active lifestyle.</p>
 <p>Of sufficient size and design to enable expansion and adaptation</p>	<p>It is difficult to precisely predict the absolute requirements for community and cultural facilities for a future population. Assumptions about demand are based on current projections regarding future populations. These projections may change and therefore affect requirements for space. Past experience has shown that it is important to provide some flexibility in the provision of community and cultural facility space.</p>

 <p>Financially and environmentally sustainable</p>	<p>Community and cultural facilities should be financially sustainable and provide value for money for their users, owners and operators. While capital costs are a major issue, ongoing operational costs are also important. Key considerations include building design that reduces ongoing operating and maintenance costs as well as design that considers cost recovery including the incorporation of space for lease for either community or compatible commercial uses.</p> <p>Delivering environmentally sustainable buildings is a mandate for many local governments. Community and cultural facility buildings offer opportunities for Council's to lead by example, demonstrate new sustainable materials and technologies and become leading practice projects with an educational role. Environmentally sustainable facility buildings typically have lower operating costs and are, therefore, are also a more financially sustainable option.</p>
 <p>Safe and secure</p>	<p>Community and cultural facilities should be designed in accordance with Crime Prevention through Environmental Design (CPTED) principles. They should provide a high degree of personal safety for people entering and leaving the building, especially at night. Locating facilities in activated areas such as urban centres ensures higher levels of passive surveillance and increased security.</p>
 <p>Avoid conflict with neighbouring uses</p>	<p>Master planning processes can provide an opportunity to locate community facilities uses in areas where impacts on residential and other uses can be minimised. In greenfield areas siting facilities to incorporate some form of separation and/or buffering from residential areas is often an important consideration in reducing any potential future conflict. Design and building orientation are also important considerations.</p>
 <p>Provided through partnerships and collaboration</p>	<p>Developing, operating and maintaining community and cultural facilities requires significant resources. With significant population growth projected in the Parramatta LGA resulting in a substantial increase in the demand for facilities, it will be important to consider the full range of provision opportunities available including partnering with State Government, other organisations and the private sector. Development in the area can provide opportunities for facility delivery (including through planning agreements with developers). However, it will be important that a strategic approach is undertaken to ensure facilities delivered align with these principles, community needs and consider the role of the facility within the broader network. They must also consider Council's needs in relation to ongoing operations and maintenance and ensure the facility delivered will be viable and sustainable into the future. Partnership arrangements can also be beneficial to the management of facilities.</p>
 <p>Accountable (monitored and evaluated)</p>	<p>In a climate of increasingly scarce resources, it is important that Council facilities (and the services and programs provided from them) are providing high levels of community benefit and meeting key community needs. Monitoring and evaluation processes enable local governments to gain a solid understanding of the use of facilities and the social outcomes they provide. They also provide facility managers with the opportunity to demonstrate the work they are undertaken and the outcomes achieved. However, it is important that such processes are user-friendly and do not burden facility licensees/lessees (who are typically community organisations with limited resources and other, sometimes onerous, funding reporting requirements).</p>

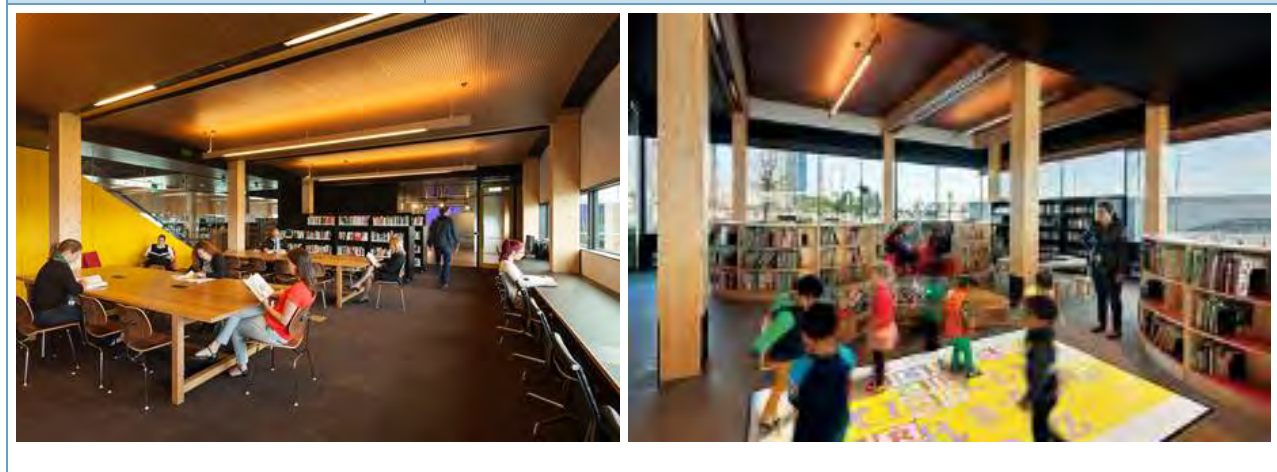
Appendix 3 Library case studies

Woollahra Library	
Address	Double Bay Library, New South Head Road, Double Bay, New South Wales, Australia
Size	2,300m ² footprint (over three levels)
Proximity to public transport	800m walking distance to Edgecliff Train Station. Located on the major bus route through the suburb.
Proximity to other community facilities	Located in the middle of Double Bay Town Centre, amongst retail, hospitality and services.
Visibility of facility	High visibility in shopfront location. Located on New South Head Road and in the middle of Double Bay town centre.
Space for delivery of programs and services	Level one is the "noisy" level with an events space and kids' section. Level two is more like a traditional library – technology-free, housing the bulk of the collection. Level three is the quiet area, with study spaces, a local history section, even a fireplace to read by.
Other design features	<ul style="list-style-type: none"> ▪ Green walls and hanging gardens. ▪ “The Forum” – stairs designed to be agile and multi-purpose, the stair can be used for a different number of activities such as individual seating, reading, and theatrette seating for watching a movie on the retractable screen. ▪ Variety of reading and study spaces scattered throughout including a dedicated young adult space.



Image source: John Gollings via Financial Review

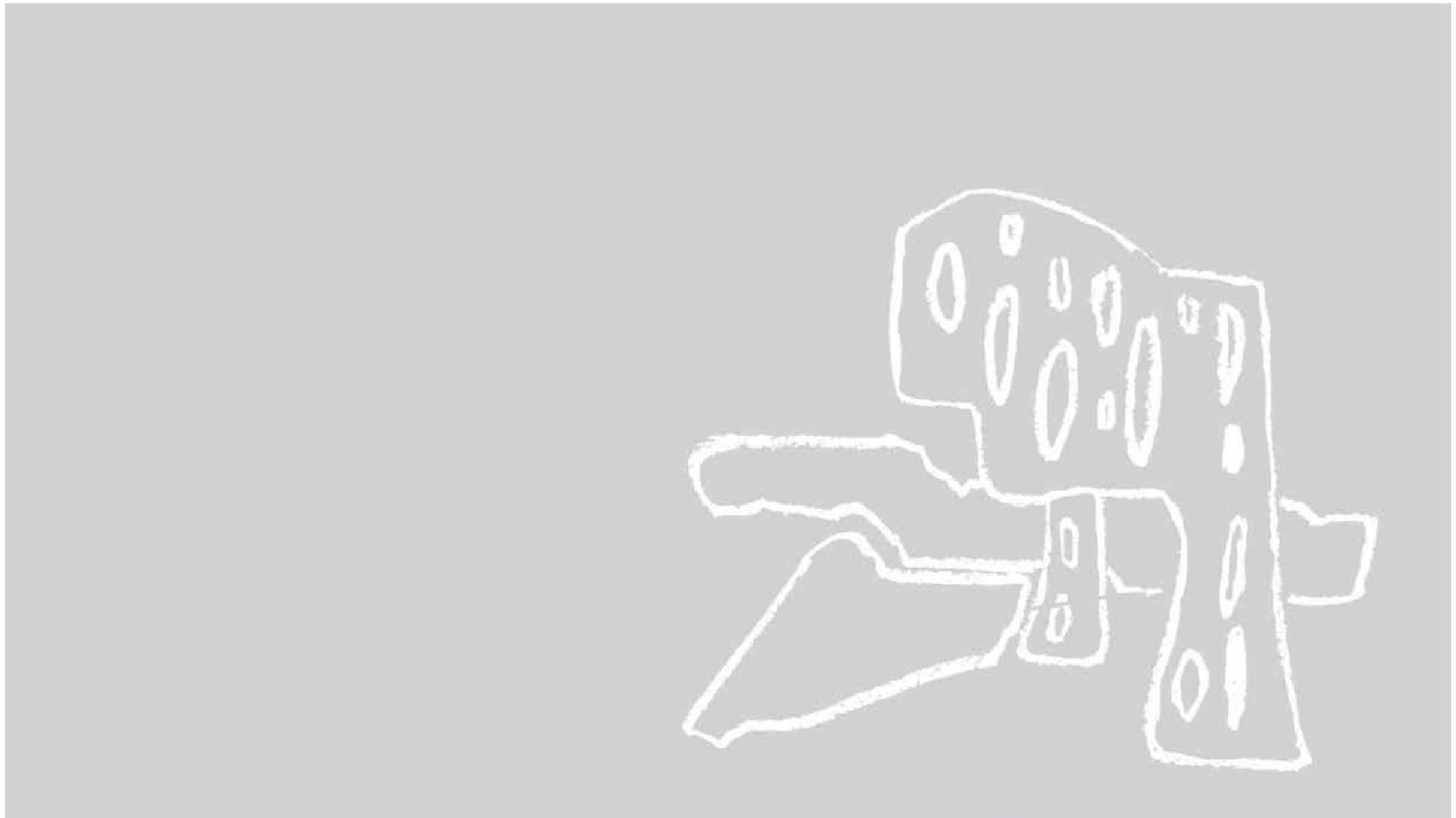
Docklands Library, Melbourne	
Address	107 Victoria Harbour Promenade, Docklands VIC 3008
Size	3,000m ² (over three levels)
Proximity to public transport	Tram stop adjacent to library.
Proximity to other community facilities	<ul style="list-style-type: none"> Directly adjacent to Buluk Park - 3,500m² of public open space.
Visibility of facility	
Space for delivery of programs and services	<ul style="list-style-type: none"> Multipurpose rooms for hire. Designed to meet the needs of the local community, workers and visitors to docklands.
Other design features	<ul style="list-style-type: none"> 6-Green Star rated public building. Acoustic separation. Solar panels on the roof supply approximately 30 per cent of the building's total operational power. Recording studio, creative editing suites, community spaces, gallery and exhibition space, performance venue (can hold up to 120 people). Delivered through a unique tri-partnership model between Places Victoria, Lend Lease and the City of Melbourne.



Bankstown Library, Sydney	
Address	80 Rickard Road, Bankstown
Size	5,000 m ²
Proximity to public transport	400m walk to Bankstown Train station and bus interchange.
Proximity to other community facilities	<ul style="list-style-type: none"> ▪ Located within 'Bankstown Civic Precinct.' ▪ Public domain improvements for the redevelopment of Paul Keating Park.
Visibility of facility	Scale of building helps visibility, but not located in the very heart of town.
Space for delivery of programs and services	<ul style="list-style-type: none"> ▪ A new library over three levels. ▪ A three-hundred seat theatre. ▪ Community conference facilities.
Other design features	<ul style="list-style-type: none"> ▪ Acoustic separation. ▪ Green walls. ▪ Café. ▪ Community information wall. ▪ Off-street parking. ▪ All weather bus drop-off zone.



Image source: FJMT via architectureanddesign.com.au





CITY OF PARRAMATTA

North Rocks Park Precinct Master Plan: Engagement Outcomes Report

October 2017



Report Title: North Rocks Park Precinct
Master Plan: Engagement Outcomes
Report.

Client: City of Parramatta

Version: Final

Date: 04 October 2017

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This report is prepared for:



**CITY OF
PARRAMATTA**

Funded by:



In collaboration with:

JMD design



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ABOUT THIS REPORT

This report, *the North Rocks Park Precinct Master Plan: Engagement Outcomes Report*, provides a summary of Round 1 community engagement undertaken as part of the North Rocks Precinct Master Plan Project.

Round 1 engagement focused on gathering information from park user groups, stakeholders and the local community about how they currently use the Park Precinct, what they like about it, and what they would like to see improved.

This report provides a summary of common key themes and community directions for the development of a master plan, for consideration by Council and the design team.

A second round of consultation will be completed in November providing the community and stakeholders with an opportunity for further input.

Detailed summary reports of each of the engagement activities are included as appendix, including:

- Online Survey Findings
- Community Workshop Findings
- Community Drop-in session Findings

PROJECT TIMELINE

The North Rocks Park Precinct Master Plan process is expected to take 10 months to complete. This includes adequate time to ensure that findings from community engagement can be meaningfully integrated into the design process.

CONSULTATION COMPLETED

Around 300 community members and park precinct stakeholders participated in Round 1 engagement across three different engagement activities. These included:

Community & Stakeholder Workshop

- Venue: Don Moore Community Centre, North Rocks Park
- Date: Thursday 31 August 2017
- Time: 1pm - 2:30pm
- Participants: 17

Community Drop-in Session

- Venue: Picnic area at John Wearn Reserve
- Date: Saturday 26th, August.
- Time: 12pm - 2pm
- Participants: approx. 30 - 40 people

Online Survey

- Survey was open from 31 July to 1 September 2017
- Participants: 246 respondents

In addition, at the beginning of Round 1 engagement, 1,500 post cards were letter box dropped to surrounding residents to inform them about the project and ways to participate in the different engagement activities.

The workshop and drop-in session focused on the North Rocks Park Precinct as a whole, while the online survey asked questions about North Rocks Park and John Wearn Reserve separately.



Project timeline

ABOUT THE PARK PRECINCT

About North Rocks Park

North Rocks Park comprises 7.4ha of land and contains Crown Land reserved for Public Recreation (currently used as the sportsground) as well as community land classified as 'Bushland' and 'Park'.

North Rocks Park is a well utilised and valued community asset with multiple elements and community uses. The park contains a Senior Citizens Centre, North Rocks Tennis Courts, and the Don Moore Community Centre. There is also a sportsground, cricket nets, walking path and playground. A childcare centre within the park is currently being constructed by City of Parramatta Council.

The Bushland trees within North Rocks Park contains two mapped Endangered Ecological Communities; Sydney Turpentine-Ironbark Forest (~0.5ha) and Blue Gum High Forest (~3 ha).

About John Wearn Reserve

John Wearn Reserve comprises 2.4ha of land located on the corner of Farnell Ave and Balaka Drive, Carlingford. John Wearn has a wide range of facilities catering for all ages. It is a key passive recreational area containing BBQ and picnic areas, circuit bike/walking tracks, an enclosed playground, basketball/netball practice hoops, a covered stage and the Council operated North Rocks Child Care Centre.

PROJECT BACKGROUND

City of Parramatta identified North Rocks Park and John Wearn Reserve as providing important community facilities and open space for the area, that should be protected and enhanced as our population continues to grow.

This project will be undertaken as part of the Major Projects component of the NSW Government's Stronger Communities Fund. The NSW Government has established the Stronger Communities Fund (SCF) to provide councils with funding to kick start the delivery of projects that improve community infrastructure and services. You can find out more about the program here: <https://www.strongercouncils.nsw.gov.au/funds/>

The Master Plan will review and make recommendations for improvements to community facilities; existing building use, condition and placement; parkland; sportsfields; and park amenities and recreation facilities.



North Rocks Park Precinct site boundary



Intercept surveys with local residents in John Wearn Reserve

OVERALL FINDINGS:

PRIORITIES FOR IMPROVEMENT: NORTH ROCKS PARK

Overall, the community loves the park facilities and they are used by all age groups for sporting and community and cultural activities at a district and neighbourhood level. They value how multi-purpose and diverse the park is now, and would like to see this strengthened in the future. The following list captures the most common priorities for improvement to North Rocks Park across all of the engagement activities.



Upgrade the Don Moore Community Centre to become a more multipurpose community hub and possibly include a new cafe.



Improve vehicular access to site, investigate parking solutions (especially for peak periods) and improve pedestrian safety around the car park (especially for children).



Improve and expand the playground to include different types of play and to appeal to a wider age range. Ensure it is an accessible and inclusive.



Improve walking / cycling tracks and include outdoor fitness equipment and drinking fountains. Consider improved wayfinding and signage.



Upgrade BBQ and picnic areas and investigate ways to include more social seating, shaded areas and outdoor spaces for more diverse and multiple uses.



Upgrade existing toilet facilities, and ensure they are well maintained. Investigate dedicated toilets for children.



Improve lighting throughout the park for safety and pedestrians (especially along walking paths) as well as improved lighting to the sportsfields.



Retain the native bushland areas, and seek to gain additional open space, not lose any.



Improve management of community and sports facilities in the parks (including tennis centre booking and availability), as well as promotion to increase awareness of what the park precinct offers.



Upgrade the sports field and courts to increase quality and capacity, including; resurfacing, supporting amenities, lighting, drainage, spectator seating, hours of use.



Improved maintenance of community buildings and park facilities.



A library.

PRIORITIES FOR IMPROVEMENT: JOHN WEARN RESERVE

Overall John Wearn reserve is not as well known as North Rocks Park, and is mainly used for neighbourhood passive recreation, again by all age groups, however there was a focus on improving facilities for youth. The community values how multi-purpose and diverse the park is now, and would like to see this strengthened in the future. The following ideas for improvement capture the most common priorities for improvement to John Wearn Reserve across all of the engagement activities.



Provide toilets. 37% of online survey participants identified toilets as their number 1 priority for John Wearn Reserve.



Improve and expand the playground. Investigate possibility of different types of play, e.g. water play, adventure play, giant slides, climbing park, dodge ball court. Ensure there is play equipment for children of all ages.



Upgrade the basketball court area and consider changing to a multi-sport courts (to include things like netball).



Increase the amount of seating and shade, including covered/shaded seating areas, more seats with tables, more covered BBQ areas and more social seating. Improve lighting throughout the park, especially along walkways.



Improve the quality and attractiveness of landscaped and garden areas.



Upgrade the quality of existing skate park and better manage anti-social behaviour. Investigate additional facilities and things to do for youth e.g. table tennis.



Formalise a dog off leash area and consider fencing the area. Include supporting facilities such as pick up bags and drinking bowls.



Investigate ways to provide outdoor exercise equipment e.g. outdoor gyms, obstacle courses, improved walking / cycling paths and bubblers.



Improve walking / cycling tracks and include outdoor fitness equipment and drinking fountains. Consider improved wayfinding and signage.

COMMUNITY AND STAKEHOLDER WORKSHOP KEY FINDINGS

The community and stakeholder workshop focused on the North Rocks Park Precinct as a whole, instead of the two parks individually. This page provides the high level findings from the workshop.

WHAT PEOPLE LIKE

- Multi-use park and facilities
 - All three workshop groups identified a key strength of the North Rocks Park precinct is that the two parks are different and complementary to each other, and within each there is further diversity and multi-purpose spaces that appeal to a wide range of people and groups
- The community centre is well used and supports a number of non-profit community organisations, helping to build community connections
- Large, green open spaces and/or bushland areas
- Mixture of active and passive recreation, and
- Close to the road and public transport.

WHAT'S NOT WORKING

- Improved and additional public toilets
- Lack of seating
- Community centre
 - Access to community centre (price/number of spaces)
 - Flexibility of space not adaptable enough
 - After hours access is not enough
- Vehicular access and parking
- Maintenance and cleaning of buildings and parks
- Lack of signage and wayfinding
- Lack of promotion/marketing of parks and facilities
- Lack of things for youth
- Lack of bins, and
- Lack of change rooms to support sports activities.

IDEAS FOR IMPROVEMENT

- Toilets at John Wearn Reserve
- Multi-purpose community centre
 - Consolidation of existing buildings
 - More community space
 - "Including library, modern community function centre, cafe and child care"
 - Educational space
 - Cater to all demographics
 - Meeting rooms
 - After hours access
- Improved awareness about the parks and what they offer
- Improved/increased parking and vehicular access to the site, traffic management in general
- Re-surfacing of the sports field and improved management and irrigation
- Additional and improved BBQ and picnic areas with shelter and seating
- Additional seating and shelter generally
- Improved security and lighting, amount and hours of lights on. Walking paths and car park to be lit.
- Improved pedestrian and cycle paths, and
- Upgraded/additional facilities for youth (e.g. table tennis, badminton, expanded basketball court, update the skate park).



Community and stakeholder workshop session



Community and stakeholder workshop session

COMMUNITY DROP-IN SESSION

KEY FINDINGS

The community drop-in session focused on the North Rocks Park Precinct as a whole, instead of the two parks individually. This page provides the high level findings from the drop-in session.

WHAT PEOPLE LIKE

- “Quiet, nice place to live at the moment”
- BBQ at John Wearn gets lots of use
- Track around North Rocks is good
- Green space, well used, walking around the park
- Blue gum bush to stay as it is
- Upkeep of John Wearn has been great
- Off-leash dog area
- Facilities are well used
- Ground at North Rocks needs to be improved, and
- Openness

WHAT'S NOT WORKING

- Parking emerged as one of the key problems for the site
 - The early morning use of the carpark as a u-turn and shortcut to Farnell Street is a problem
 - There should be no right turn from Farnell Ave onto North Rocks Rd, especially during peak hour.
- Opportunities for different language groups/different ethnic mix here
- Skate park is great for kids
- Improve drainage along the park and Farnell Avenue
- ‘Syringa berry’ located in corner of John Wearn is poisonous, should be removed
- Improve the current offer, and
- The stage at John Wearn Reserve is only used once a year.

IDEAS FOR IMPROVEMENT

Ideas that received 5 or more votes:

- Public toilets
- Outdoor gym/fitness equipment
- More shaded seating and tables for gathering, and comfortable (e.g. backs, wheelchair access)
- Sheltered BBQ spaces
- Beautiful bushland and greening
- Active recreation (field)
- Active recreation (courts)
- Adventure play park / water play park
- Additional, clean and safe toilets
- Improved and landscape and planting and maintenance, and
- Upgraded and consolidated new multi-purpose community centre including
 - Library/library link
 - Coffee cart/café
 - Seniors space
 - Community service office space
 - Creative arts space.

Selection of other ideas:

- Improved public transport
- Improved pedestrian safety and access
- “Keep it open and natural. Nature is a healing space, ‘walking among the trees’
- “Adventure equipment for pre-teen children”, and
- “Consider the need for space for people to enjoy solitude and community group events - balance.”



Community drop-in session



Community drop-in session

ONLINE SURVEY KEY FINDINGS

WHAT PEOPLE LIKE: NORTH ROCKS PARK

Q8: What facilities do you use most?

A total of 221 respondents completed the survey question.

#1 GREEN OPEN SPACE

- 26% of survey respondents said that the best thing about North Rocks Park was that it was an open space that is big and green.
- People also talked about liking the spaciousness and openness of the park

#2 CONVENIENT

- 24% of survey respondents said they liked the park because it was close to where they live and easy to get to.

#3 MULTI-USE

- 20% of survey respondents said they liked the park (including the buildings in it) because it has a range of facilities that cater to a lot of different uses.
- "It offers so many facilities to anyone of any age under the same roof."
- "It's an open space where people can play sport, have fun in the playground or just enjoy the green environment."
- "It's a community hub with lots of different community groups using the park."

#4 THE PLAYGROUND

- 17% of survey respondents said they liked the playground.
- Many specifically said they liked that the playground was fenced.

#5 SPORTS FACILITIES

- 16% of survey respondents said they liked using the sports facilities and club buildings.
- Tennis and soccer were frequently mentioned.

#6 GOOD PLACE FOR PASSIVE ACTIVITY

- 10% of survey respondents said they liked walking, running and exercising in the park.

#7 BUSHLAND AND NATURAL ENVIRONMENT

- 9% of survey respondents said they liked the trees and the bushland.
- "The bushland gives the park a unique North Rocks feel."
- "It feels like you are going for a forest walk."
- "A place to enjoy nature."

#8 PARKING

- 8% of survey respondents said they liked the park for its easy parking.

#9 PARK FACILITIES

- 8% of survey respondents said they liked park facilities including; public toilet, drinking fountains, BBQ's and picnic tables.

#10 GREAT FOR KIDS

- 7% of survey respondents said they liked because it is a great place to take the kids and grandchildren.
- The multiple uses and facilities in the park has enabled the same families to use the park in different ways as their families have grown up.

OTHER THINGS PEOPLE LIKED:

- Dog friendly / dog off leash area
- The park always feels occupied with something going on
- People like attending events held there; Chinese New Year, Carols by Candlelight, and New Years fireworks
- Clean and well maintained
- Accessible (open flat spaces and parking)
- Good for all age groups
- Peaceful and relaxing
- After school care service
- It's a busy park but still easy to use, and
- It has a community feel to it.

WHAT PEOPLE LIKE: JOHN WEARN RESERVE

Q8: What facilities do you use most?

A total of 142 respondents completed the survey question.

#1 GREEN OPEN SPACE

- 36% of survey respondents said they liked the open green space.
- "Wide open space for kids to play and for the community to use."
- "Open spaces and a variety of terrain and paths."
- "Open space and fresh air."

#2 PLAYGROUND

- 19% of survey respondents said they liked the playground.
- Similarly to North Rocks Park, many people said they liked that it was fenced.
- "Play equipment is suitable for a young age."
- "Playground is mostly shaded."

#3 WALKING AND EXERCISE

- 15% of survey respondents said they liked walking through the park.
- "The paths are interesting to walk and good exercise on the hill."
- "Walking amongst the lovely trees."
- "Ability to walk through."

#4 CONVENIENT

- 15% of survey respondents said they liked that the park was convenient and close to their home.

#5 SKATE AND COURT FACILITIES

- 12% of survey respondents said they liked the skate facilities and basketball courts.
- "The skateboard area is a great facility for older children / teens."
- "Great for teenagers."

#6 PEACEFUL AND QUIET

- 9% of survey respondents said they liked that the park was peaceful and quiet.
- "It is nice and quiet, out of the way from most of the road traffic."
- "Rarely crowded" and "tucked away."

#7 PICNICS AND BBQ'S

- 7% of survey respondents said they liked the picnic and BBQ areas.
- "Easy to throw a rug down."
- "Picnic tables for kids parties."

#8 WELL MAINTAINED

- 7% of survey respondents said they liked how well the park is maintained.
- Almost half of the people who commented on this were particularly impressed with the recent improvement of maintenance to the park and complementing Council staff.

#9 ATTRACTIVENESS

- 6% of survey respondents said they liked how the park looks and its outlook.
- "It is a nice, pretty, neat park."
- "Great views towards Carlingford."

#10 FAMILY FRIENDLY

- 6% of survey respondents said specifically how family friendly the park was.
- "Vital open space for young families."

OTHER THINGS PEOPLE LIKED:

- "Good space for community events e.g. Carols by Candlelight"
- "Great place to walk the dog"
- Easy access - parking and accessibility
- Multi-use - "offers a little for everyone," and
- "It's my backyard."

ONLINE SURVEY KEY FINDINGS

WHAT'S NOT WORKING: NORTH ROCKS PARK

Q9: What don't you like, or what isn't working well in North Rocks Park? Is there anything missing or that stops you from using it?

A total of 199 respondents completed the survey question.

#1 PARKING AND VEHICLE ACCESS

- 52% of survey respondents said that the amount of parking was an issue, especially in peak times, and that turning into and out of the parking area was also an issue.
- "Parking is always a problem on weekends when sports are being played."

#3 PLAYGROUND NEEDS UPGRADING

- 12% of survey respondents said that the playground needs improvement.
- Issues included; lack of shade, lack of seating, too small, out dated equipment, not accessible, and not suitable for a range of ages.

#5 MISSING A LIBRARY & CAFE

- 11% of survey respondents said that the park is missing a library and/or cafe.
- "...library could move there with modern facilities and community facilities like a café etc."
- "There should be a good library and a cafe as well."

#7 DOG OFF LEASH AREA

- 5% of survey respondents comments were around the dog off leash area. Issues included; no water access for dogs, no doggie bags and fencing.
- "The bottom of the park amongst the trees would be a great space used as a dog free leash area fenced off."
- "It would be great if the off-leash area was fenced."

#9 TENNIS CENTRE

- 4% of survey respondents had issues with booking the tennis centre, the availability of courts and the quality of the buildings themselves.

#2 SPORTS FIELD QUALITY AND AMENITY

- 13% of survey respondents said that the sportsfields need improvement.
- Issues included; poor lighting, lack of seating, poor surface quality, drainage and short fence height on North Rocks Road.

#4 DON MOORE COMMUNITY CENTRE

- 11% of survey respondents said that the Don Moore Community Centre is aging and needs to be upgraded and modernised.
- "The facilities of Don Moore community centre are aging and not currently meeting the community needs. It would be great if we could develop a place community gathering."

#6 INSUFFICIENT PARK AMENITIES

- 10% of survey respondents said that the park amenities need improvement.
- Issues included; amount, accessibility and cleanliness of toilets, lack of drinking fountains, poor lighting and insufficient BBQ/picnic areas.

#8 MAINTENANCE

- 5% of survey respondents comments were around maintenance issues.
- These included; litter, branches falling, and the time it takes to repair something.

OTHER ISSUES

- Poor disability access to park and facilities
- Needs beautification
- Lacks outdoor exercise equipment, and
- No basketball or table tennis (doesn't reflect the strong Asian population of the area).

WHAT'S NOT WORKING: JOHN WEARN RESERVE

Q9: What don't you like, or what isn't working well in North Rocks Park? Is there anything missing or that stops you from using it?

A total of 125 respondents completed the survey question.

#1 NO TOILETS

- 33% of survey respondents said that there are no toilet facilities.
- Limits use of the park (i.e. people want to hold birthday BBQ's or events there, and parents won't spend time at the children's playground).

#2 LACK OF SEATING, SHADE AND SHELTER

- Lack of covered seating areas.
- Very exposed.
- Needs more shady trees.
- More picnic/BBQ tables (covered).

#3 PLAYGROUND NEEDS IMPROVEMENT

- It's too small and getting old.
- More swings.
- More equipment for older kids - only caters for very young children.

#4 TOO HILLY

- Topography limits use (e.g kicking a ball around, playing games).
- Hard for children to ride bikes, and no safe area to learn how to ride.

#5 THE SKATE PARK

- Teens using the skate park are intimidating.
- Attracts anti-social behaviour.
- Needs an upgrade.
- Contributes to the park feeling unsafe at night.

#6 'THE SHED'

- Looks unattractive, ugly and cheap.
- Not well positioned.
- Hardly used.
- No insulation.

#7 LACK OF PARKING

- Lack of parking for community events.
- Very small off street parking area.

#8 BASKETBALL COURTS

- People generally like the basketball court, but would like to see it expanded and upgraded.

#9 DOG FACILITIES

- No doggie pick up bags provided.
- No off-leash area.
- No water access for dogs.

#10 NOT ENOUGH THINGS TO DO FOR OLDER CHILDREN AND TEENS

- Nothing for children aged 6 - 12 years (but seems to suit young children and teenagers).
- Not enough play equipment for older children.

ONLINE SURVEY KEY FINDINGS

PRIORITIES FOR IMPROVEMENT: NORTH ROCKS PARK

The top priorities for improvement for North Rocks Park across all engagement types;

LIBRARY /MULTI-PURPOSE COMMUNITY CENTRE ('COMMUNITY HUB')

- The top priority for North Rocks Park is to upgrade or provide a new community centre that can cater for more diverse needs and activities (and including community meeting rooms).
- "A new building that is open, inclusive and has a flexible layout for education and events"
- The need for a new library to service the area was identified as a priority. Locating a library at North Rocks Park was suggested by respondents across all engagement types.
- Suggestions for a cafe to complement the community centre.
- Opportunity to provide a library link (instead of a full library service if a new library were located elsewhere (eg. Carlingford).

TRAFFIC AND PARKING

- Lack of parking in peak hours of use: on weekends or during soccer or cricket season.
- Cars turning right from Alkira Road onto North Rocks Road face considerable difficulty at peak traffic times trying to cross 4 lanes of traffic.
- Zebra crossing at Farnell Avenue on the crest of the hill corner of Farnell Avenue and Balaka Drive.
- Improved safety for children and school children.

PLAYGROUND

- Waterplay area.
- Accessible / inclusive playground.
- Improvement to existing playground, incl. shade.
- Table tennis.

EXERCISE FACILITIES

- Exercise and fitness equipment e.g. fitness circuit around the edge of the park, senior friendly.
- Improved walking / cycling tracks.
- Bubblers.

TOILETS

- Clean and accessible toilets with signage.
- Separate toilets for kids.

OPEN SPACE

- Retain native trees.
- Additional open green space.

SEATING / BBQ / PICNIC AREAS

- BBQ areas for larger gatherings, seats and tables.
- More social seating areas, people can come together.
- Seating to people watch / watch sport / playground.
- Picnic area.

LIGHTING

- Improved lighting throughout the park for safety and pedestrians (additional on walking paths).
- Improved lighting to the sports fields.

OTHERS:

- Dog off leash area
- Upgrades to sports fields
- Cafe (could be coupled with the library)
- Better access to tennis courts
- Upgraded sports field: resurfacing, facilities
- Protection of bushland area
- Wayfinding for pedestrians, and
- Promotion of the park and what it offers.

PRIORITIES FOR IMPROVEMENT: JOHN WEARN RESERVE

The top priorities for improvement for John Wearn Reserve across all engagement types;

TOILETS

- There are no toilets currently provided in John Wearn Reserve.
- 37% of online survey participants identified toilets as their number 1 priority for John Wearn Reserve.

PLAYGROUND

- Improved, expanded and updated playground.
- Ideas for type of play included: Water park play ground, giant slide, climbing park, and dodgeball court.
- Seating to be co-located with playground and shade.

SEATING AND SHADE

- Covered seating areas
- More seating and tables
- Shade
- Covered BBQ areas and social seating

DOG PARK

- Fenced dog off-leash area.

BASKETBALL COURT

- Expand basketball (full sized)
- Netball court

EXERCISE EQUIPMENT

- Outdoor gym.
- Obstacle course.
- Improved walk and cycling paths.
- Bubbler / water fountain.

SKATEPARK

- Upgrade to existing and expansion
- Better manage anti-social behavior

OTHER PRIORITIES:

- Library
- Make-over of the shed/stage
- Improve lighting, and
- Complete overhaul.

LANDSCAPE

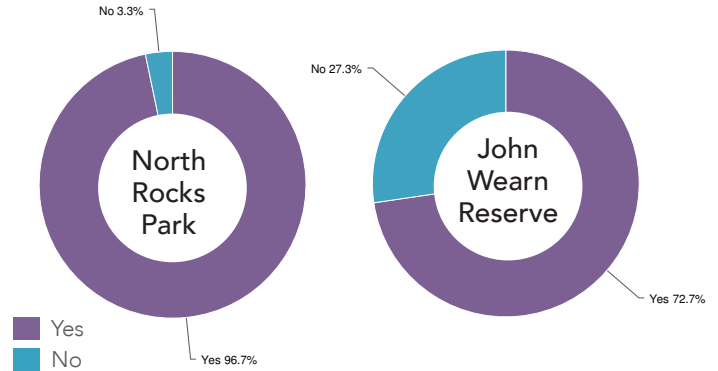
- More attractive gardens
- More trees
- Keep it green
- Gardens
- More attractive gardens
- Mature trees

CURRENT PARK USE:

Q1: Do you currently, or have you ever visited North Rocks Park or John Wearn Reserve?

27.3% of survey respondents have never been to John Wearn Reserve, while only 3.3% of respondents hadn't been to North Rocks Park.

	North Rocks Park		John Wearn Reserve	
	%	#	%	#
Yes	96.7%	237	72.0%	165
No	3.3%	8	27.3%	62



Q2: What are the reasons why you haven't visited North Rocks Park and John Wearn Reserve?

The top reason why people don't use North Rocks Park is that they don't live or work near the park (50%, 4).

The top reason why people don't use John Wearn Reserve is that there are no facilities that they want to use (32.1%, 18).

'Other' reasons included:

- Didn't know it existed (5)
- Access between the two parks
- Don't need to go
- Forget it is there
- Health - too steep
- I spend most of my time in sports facilities, and
- No community centre.

North Rocks Park:

Value	Percent	Count
I don't live or work near the park	50.0%	4
There are no facilities that I want to use	12.5%	1
I go to another park nearby	12.5%	1
It's too hard for me to get to	25.0%	2
Totals		8

John Wearn Reserve:

Value	Percent	Count
I don't live near the park	30.4%	17
There are no facilities that I want to use	32.1%	18
I go to another park nearby	12.5%	7
It's too hard for me to get to	5.4%	3
Other - Write In (Required)	19.6%	11
Totals		56

Q3: How frequently do you visit North Rocks Park and John Wearn Reserve (including the sports facilities and community buildings)?

North Rocks Park has higher and more frequent levels of use than John Wearn Reserve.

62.7% (148) of survey respondents use North Rocks Park at least weekly while only 41.6% (67) of survey respondents use John Wearn Reserve at least weekly.

North Rocks Park:

Value	Percent	Count
At least daily	10.6%	25
At least weekly	52.1%	123
At least monthly	13.1%	31
Several times a year	16.1%	38
Once or twice a year	8.1%	19
Totals		236

John Wearn Reserve:

Value	Percent	Count
At least daily	13.0%	21
At least weekly	28.6%	46
At least monthly	21.7%	35
Several times a year	15.5%	25
Once or twice a year	23.0%	37
Totals		161

Q4: What time of day do you visit North Rocks Park and John Wearn Reserve?

Both parks are used the most during the day on a weekend, followed by during the day on a weekday.

While North Rocks Park has higher levels of use than John Wearn Reserve, both Parks have similar proportions of people who use them on a weekday before 9am (12.7% and 12.4%), during the day on a weekend (62.7% and 61.7%) and on a weekend after 5pm (8.1% and 9.3%).

North Rocks Park is used significantly more at night on a weekday (34.5%, 81) than John Wearn Reserve (19.8%, 32).

'Other' responses (3%, 7) for North Rocks focused on children's use of the park and included:

- Taking grandchildren to the park (2)
- Playing tennis weekly at night
- School days 2 - 6pm
- School holidays, and
- Kids clubs, after school services, play and picnics.

North Rocks Park:

Value	Percent	Count
Weekday, early morning (before 9am)	12.7%	30
Weekday, day (9am to 5pm)	37.3%	88
Weekday, night (after 5pm)	34.3%	81
Weekend, early morning (before 9am)	10.6%	25
Weekend, day (9am to 5pm)	62.7%	148
Weekend, night (after 5pm)	8.1%	19
I never visit the park	0.4%	1
Other - Write In (Required)	3.0%	7
Totals		236

John Wearn Reserve:

Value	Percent	Count
Weekday, early morning (before 9am)	12.4%	20
Weekday, day (9am to 5pm)	43.2%	70
Weekday, night (after 5pm)	19.8%	32
Weekend, early morning (before 9am)	7.4%	12
Weekend, day (9am to 5pm)	61.7%	100
Weekend, night (after 5pm)	9.3%	15
I never visit John Wearn Reserve	2.5%	4
Totals		162

Q5: What is your primary mode of transport to the Parks?

Overwhelmingly, the top two modes of transport to both parks are by car, as the driver, and walking.

For North Rocks Park, car as the driver was the primary mode of transport (63.3%, 148), followed by walking (50.4%, 118).

For John Wearn Reserve, it was reversed with walking as the primary mode of transport (68.8%, 110), followed by car as driver (36.8%, 59).

2.5% of respondents (4) said they get to John Wearn Reserve by skateboard or scooter, compared to 0.43% (1) for North Rocks Park.

North Rocks Park:

Value	Percent	Count
Car, as driver	63.3%	148
Car, as passenger	6.8%	16
Public transport	2.1%	5
Cycle	1.7%	4
Walk	50.4%	118
Other - Write In	2.1%	5
Totals		234

John Wearn Reserve:

Value	Percent	Count
Car, as driver	36.9%	59
Car, as passenger	3.8%	6
Public transport	1.9%	3
Cycle	5.0%	8
Walk	68.8%	110
Skateboard or scooter	2.5%	4
Other - Write In	0.6%	1
Totals		160

Q6: What is your main reason for visiting?

The top three reasons for visiting North Rocks Park were:

- Playing organised sports (41.5%, 91)
- Walking (36%, 85), and
- I live close/its my local park (35.6%, 84).

The top three reasons for visiting John Wearn Reserve were:

- Walking (54%, 87)
- Visiting the playground (46.6%, 75), and
- I live close/its my local park (37.9%, 61).

Of the 'other' responses for North Rocks Park, 53% (25) related to the children's playground. Of those 25 respondents, 8 were grandparents who take their grandchildren there, indicating that there might be high inter-generational use of the park.

While North Rocks Park has a strong sports and recreation focus i.e. organised sports, training (82% compared to 19.9%), John Wearn Reserve has a stronger social focus i.e. community events and activities, meeting friends, picnicking (62.7% compared to 47.4%).

Similar numbers of people use both parks for walking and relaxing.

North Rocks Park:

Value	Percent	Count
Playing organised sport (or children playing sport)	41.5%	98
Attending community activities run in one of the community buildings	27.1%	64
Playing or learning tennis	17.0%	40
Meeting friends	20.3%	48
Exercise and training (running, group training)	24.2%	57
Relaxing	15.7%	37
Walking	36.0%	85
Walking my dog	23.7%	56
Cycling	3.4%	8
Environmental purposes	2.5%	6
I live close/its my local park	35.6%	84
I regularly walk through the park on my somewhere else	10.2%	24
Other - Write In	19.9%	47
Totals		236

John Wearn Reserve:

Value	Percent	Count
Attending community events	24.8%	40
Meeting friends	21.1%	34
Playing or learning tennis	0.0%	0
Visiting the playground	46.6%	75
Accessing the North Rocks Child Care Centre	3.7%	6
Exercise and training (running, group training)	19.9%	32
Relaxing	21.1%	34
Walking	54.0%	87
Walking my dog	29.2%	47
Skating, scootering or cycling	16.8%	27
Picnicking	16.8%	27
I live close by/it's my local park	37.9%	61
Other - Write In	5.6%	9
Totals		161

Q7: What facilities do you use most?

For both parks, playground and walking paths featured in the top three most used facilities.

The top three most used facilities in North Rocks Park were:

- Sporting field (score of 972)
- Playground (score of 929), and
- Open space areas (score of 859).

The top three most used facilities in John Wearn Reserve were:

- Walking paths (scored of 862)
- Open space areas (score of 719), and
- Playground (score of 666).

North Rocks Park:	Score*	Overall Rank
Sporting field	972	1
Playground	929	2
Open space areas	859	3
Don Moore Community Centre	708	4
Bushland area	612	5
North Rocks tennis courts	463	6
Cricket nets	188	7
Senior Citizens Centre	137	8
Other - Write In	0	9

total respondents: 226

John Wearn Reserve:	Score*	Overall Rank
Walking paths	862	1
Open space areas	719	2
Playground	666	3
BBQs and picnic areas	377	4
Skate Park	257	5
Basketball courts	237	6
Stage	178	7
North Rocks Child Care Centre	96	8
Other - Write In	0	9

total respondents: 151

APPENDIX 1

ONLINE SURVEY: SURVEY GIZMO DATA

APPENDIX 2

STAKEHOLDER WORKSHOP WRITE UP

NORTH ROCKS PARK PRECINCT STAKEHODLER WORKSHOP

EVENT DETAILS

Time: 1-2:30pm, Thursday 31 August 2017

Venue: Don Moore Community Centre, North Rocks Park

Approach: Interactive formal workshop setting using design thinking and traditional engagement techniques

Purpose: Consultation with the local community to contribute ideas and collect feedback on the North Rocks Park Precinct

Attendance: 17 – James Smallson has taken RSVP list to write up

Weather: Sunny, 20 Degrees

Objectives:

1. To inform the community of the North Rocks Park Precinct Master Plan process
2. To capture ideas for improving the North Rocks Park and John Wearn Reserve
3. To obtain feedback on the current offer and/or management of North Rocks Park and John Wearn Reserve, and
4. To provide the community with an opportunity to inform the design of the North Rocks Park Precinct Master Plan.

AGENDA:

- Welcome and introductions
- Project overview, aims and purpose of workshop
- Activity 1 – The current situation
- Activity 2 - Prioritising opportunities for park improvements across the Precinct
- Activity 3 - What's the future vision for the Precinct?
- Next steps

PROJECT TEAM ATTENDEES:

- James Smallson, City of Parramatta Council
- Ellen, City of Parramatta Council
- Greg, City of Parramatta Council
- Bernardo Cunha, JMD Design
- John O'Callaghan, JOC Consulting
- Connie Steers, JOC Consulting
- Isabel Virgona, JOC Consulting

OVERALL:

- Participants appreciated feedback and inclusion on Round 1 engagement. Are excited for Round 2.
- People felt as though they were heard.
- Participants were asked to consider the high level and macro implications of improving the Precinct.
- While parents have been captured during intercept surveys, missing family demographic and children / teenagers / youth at the workshop.
- The demographic and participant mix were people we've captured before (at the Drop-In or intercept surveys).
- Some participants asked if the survey was being shared with schools?
- Across the three table groups, parking problems, toilets and signage/wayfinding were raised as key issues.

Considerations for Round 2:

- Don Moore worked well as venue - should be venue for Round 2 workshop.

ACTIVITY 1

WHAT ARE THE STRENGTHS AND WEAKNESSES? WHAT'S WORKING/NOT WORKING?

In table groups and using a worksheet, participants were asked to provide feedback on the North Rocks Park Precinct. Participants responded to four questions: what are the strengths, what are the weaknesses, what's working and what's not working? Table facilitator scribed responses.

What are the strengths?

Table 1

- Green space (x3 mentions)
- Supports non-profit organisations
- The size and open space
- Multi-use, it's got everything
- No development
- Difference of uses and 'feel' between them
- John Wearn and North Rocks parks
- Good for dog walking at John Wearn
- Diversity of uses (educational, aged, child, intergenerational, sports/clubs)
- Free or cheap activity allowing access for all – builds community through inclusive activity, and
- Flooring in the Community Centre for physical activity and other creative/dramatic arts.

Table 2

- Location (x 2 mentions)
- The size of the precinct (x 2 mentions)
- "People are the protectors of the parks"
- Green space
- Woodlands (long term)
- Parking
- What it does for me and my family (children and grandchildren)
- Variety of purpose
- Sufficient for potential growth
- Big enough to be on the map as a potential destination
- Close to the main road (North Rocks Rd), and
- Public transport access (3 bus routes).

Table 3

- Concrete paths around the oval, the footpath is great (ROI and not a lot of money to install) (x 2 mentions)
- Strong leisure facility
- Nice and well used facilities but not modern
- Local reserves and bush land
- Community facilities/halls
- Mixture of passive and active recreation (organised sport and informal and formal)
- Mixture of terrain at Joh Wearn
- Events, annual Christmas carols and amphitheatre
- Parking
- Done Moore is well used
- Playground at John Wearn is a tent over the top of concrete
- Bus stop for those that don't have access to cars, and
- Tennis courts.

What are the weaknesses?

Table 1

- Concrete paths around the oval, the footpath is great (ROI and not a lot of money to install) (x 2 mentions)
- Strong leisure facility
- Nice and well used facilities but not modern
- Local reserves and bush land
- Community facilities/halls
- Mixture of passive and active recreation (organised sport and informal and formal)
- Mixture of terrain at Joh Wearn
- Events, annual Christmas carols and amphitheater
- Parking
- Don Moore is well used
- Playground at John Wearn is a tent over the top of concrete
- Bus stop for those that don't have access to cars, and
- Tennis Courts.

Table 2

- Parking (fluctuation between weekends and week days – nice and quiet on weekday but very busy on weekends)
- Toilets
- Security and lighting in dark spots (parking)
- Lights are never on that prevents people walking in the evening
- Path from carpark to Farnell Ave is a steep drop
- Bike path doesn't work, and
- Elevation/hill.

Table 3

- Toilets (access and placement) particularly at John Wearn Reserve (x 3 mentions)
- Don Moore needs upgrading, it's an old building (x 2 mentions)
- Parking upgrade particularly at peak periods (x 2 mentions)
- Child care – parking could be an issue with general shortage across Precinct
- Rain off the tennis courts can cause erosion problems and runs into car park
- Security issues (in the past Toilets have been used as a 'beat')
- Anti social behaviour at night along the fence line with facilities broken into and also graffiti, and
- The Senior Citizens Building is an old building but does enhance and support the community.

What's working?

Table 1

- Community building for many community activities
- After school care is very important
- Playgroup (must remain affordable with assistance from Council re rent)
- Carols at Xmas (big community events and access), and
- Keep P.O.D between 2 parks.

Table 2

- Leave the Library where it is in Carlingford, no library in the precinct (x 2 mentions)
- "I like that North Rocks rolls up then sleeves, meets community and has community spirit," and
- Community Centre.

Table 3

- It's popular and well used
- People using space for big gatherings (fundraising a Don Moore and oval for fireworks)
- Great mix of facilities
- Serving the people
- Don Moore works for what it is
- After school day care is a useful thing, and
- "Naming is confusing at the moment, even 'North Rocks' because we're in Carlingford at the moment" – also Don Moore Reserve vs Don Moore Community Centre.

What's not working?

Table 1

- Lack of seating at John Wearn
- Access to community centre (price/number of spaces/needs to be more flexible, interchangeable and adaptable)
- Lack of access from Balaka Dr (through to community centre and preschool)
- Council rents are high for Community Centre/Playgroup
- Access from North Rocks is too narrow for cars to get in and out (consider close access at Farnell Ave)
- Don't limit access to North Rocks to one way
- Closing gate west of community centre onto Farnell Ave (bottleneck)
- Need more access to space out of normal hours
- New fence between courts and playground (can't monitor both)
- Maintenance and cleaning (buildings and centres), and
- Future traffic lights potential location at Alkira Rd – future proofing and safety paramount.

Table 2

- Toilets
- Signage, where things are? (ie cricket pitch, toilets)
- Wayfinding and pedestrian flow to make it easier
- Access points to be highlighted
- More opportunities
- Half finished
- Program unable to continue at centre
- No change rooms for the sporting areas, and
- Synergy among sports (contact and collaboration).

Table 3

- After school day care is a problem because it's an old facilities and below current standards
- Upgrading facilities (Don Moore)
- Activities for young people (like table tennis and badminton)
- Respond to new residents
- Very few know the Senior Citizens Hall is here, need better signage and maintenance
- Communication and marketing of the Precinct
- Lack of bins
- Sign board/message for the entire facilities (view from the road)
- John Wearn has half a basketball court, can it be a full basketball court?
- Parking is locked up at different times, can this change, can it always be open?

ACTIVITY 2 – WHAT ARE THE OPPORTUNITIES?

In table groups and using post it notes, participants were asked to brainstorm opportunities for improving the North Rocks Park Precinct.

Table 1

- Support after school care
- Exercise equipment
- Playground at John Wearn
- Seating for all ages at John Wearn
- Shelter
- Traffic management
- Library
- Retaining green space and trees
- Community space for community groups
- Sense of community
- BBQ at John Wearn
- More community space
- Toilets at John Wearn, and
- Green toilets at school.

Table 2

- Security and lighting (x 5 mentions)
- Parking (x 5 mentions)
- John Wearn toilets (x 3 mentions)
- Master plan (x 2 mentions)
- Library activity centre with underground parking
- John Wearn exercise activity circuit
- Parking with entry off Alkira St lights (future)
- Path from carpark to Farnell Ave
- Senior Citizens Centre and community centre combined into large centre
- John Wearn water culvert - make it a feature
- Open Cul de sac at Wattle place
- Enhance and improving toilets and change rooms
- Management
- Resurface and stop cutting the grass, change the grass, re landscape field play areas
- Irrigation
- Heritage tree
- Picnic grounds
- Parkland paths
- Traffic lights at entrance to park
- No library, and
- Other sports like AFL etc.

Table 3

- If Seniors Centre is incorporated into Don Moore it should still be independent space, with private and secure access
- Communication
- Advertising the facility
- Better communication in Park and between users
- Entry/access from North Rocks Rd
- Improve signage (distance, location, map etc) and,
- Display board signage showing all facilities at entrance.

Parking

- More parking underground with the new community centre, and
- Increase capacity of parking space.

Access

- Better public transport facility.

Lighting

- Improve lighting, and
- Solar lighting.

Activity and use (seasonal and daily)

- Ventilation for amphitheatre
- Full size basketball courts
- Tennis Courts convert into badminton and basketball
- Table tennis at Don Moore at night, and
- Swimming pool.

Toilet

- Provide more toilets
- Toilets at John Wearn (x 2 mentions), and
- Toilets and change rooms for amphitheatre at John Wearn.

Multipurpose centre

- New multi purpose centre (library/modern community function centre/café/childcare etc).

Following the above brainstorming, table groups were asked to complete a worksheet, to identify and describe in more detail, 3 priority opportunities for the North Rocks Park Precinct.

Table 1	Community space for groups	<ul style="list-style-type: none"> • After school care and current uses (program at an affordable price) • New building that's open and inclusive • Flexible layout for education and play/dance • Multi use/adaptable • Meeting room • Ensure size
	Green space	<ul style="list-style-type: none"> • Sensible trees not gum trees • Native shade trees • Keep brush and retain plain and simple • Toilet block in park and update skate park
	Library	<ul style="list-style-type: none"> • Gathering space • Educational space • Cater for all demographics • Objection for there being enough space

Table 2	Access	<ul style="list-style-type: none"> • Parking: with access points into the park, additional parking and closing the through connection between North Rocks Rd and Farnell Ave • Pedestrians: signage and wayfinding, access from each area (gradient of Farnell Ave)
	Lighting	<ul style="list-style-type: none"> • Security lighting in dark areas • Replacement of light bulbs • Lighting till past 10pm • Walking paths to be lit • Flood lights on the ground doesn't disrupt residents • Lighting in car park
	Additional uses	<ul style="list-style-type: none"> • Infrastructure capacity needs to respond to types of use assessed by traffic engineer • Re built form to be library, community and accessible at minimal cost • In green space to be BBQ area
	Toilet/change room	<ul style="list-style-type: none"> • Provision of separate toilets for younger kids (safe and next to playground in North Rocks Park and John Wearn Reserve) • Signage for toilets

Table 3	Multipurpose centre	<ul style="list-style-type: none"> • 'Community Hub' concept • Packaging as 'North Rocks Community Hub' • Table Tennis a night time to cater for users from ethnic backgrounds (Asian) • Flexible space/multi purpose • Facility is open after hours • Community meeting rooms • Parking below (drive in and under building) • 'Range of things' to do and see • Additional open space as a result of combining buildings on site • As a backup – an upgrade of Don Moore if budget is not available
	Practical lighting	<ul style="list-style-type: none"> • Mix of lighting (including solar) • Update at John Wearn (eg amphitheatre and paths) • At North Rocks in special areas, well-lit but for security reasons at the back • Around the circuit • Practical lighting and permanent needs • Is LED powerful enough?
	Signage and communications	<ul style="list-style-type: none"> • Need to let people know what's happening in the Park, then once they have arrived, how they can get around (wayfinding) • Electronic signage to allow update on events and things happening at North Rocks Park Precinct • Council newsletters • Promote the Park online via 'what's on' • Front board – 'welcome to the Park' – like what School's have • Naming is confusing at the moment, is the Park in Carlingford or North Rocks

ACTIVITY 3 – WHAT DO WE VALUE ABOUT PUBLIC SPACE AND NORTH ROCKS PRECINCT?

In table groups and using post it notes, participants were asked to brainstorm what they value or find important about public space (generally). Participants were then asked to identify 4 relevant values for North Rocks Park Precinct and describe how they apply to the place. Value theme clusters are identified in bold.

Table 1 fully completed this activity. Due to time constraints Table 2 and Table 3 did not fully complete this activity.

Public space values

Table 1	Belonging and ownership	<ul style="list-style-type: none"> • Proactively steer and deliver this sense of belonging • Community rep or ambassador/caretaker to look at physical maintenance and also create and support community program • “The is our gem” • Change must enhance not overhaul • Enhance what we have, there’s a reason people love the area and stay long term
	Social	<ul style="list-style-type: none"> • “This is a place we like to meet at” • Wifi enabled • Social hub bringing people together • Support gathering space to strengthen social fabric • “This is our centre” and after school care • Picnics and BBQ foster sociability
	Safety	<ul style="list-style-type: none"> • Community feel • Lighting, maintenance, graffiti removed • Toilets must be maintained • Investment in children • “If this is a safe place for kids, it’s a place people will come to” • “A safe place for us to belong” • Limit anti-social behaviour
	Connection to green space	<ul style="list-style-type: none"> • Trees have a healing property • Not just recreation but wellness • Draws family together • Increasingly important with growing development • Community connected to nature • Peace and tranquillity for individuals • “It’s a magnet”

Table 2

- Connection and networked
 - - Connected green space
 - - Bushwalks
 - - Start and beginning
 - - Network of tracks
 - - Signage and communications
- Open
 - - Used by everyone
 - - Views into and out of place
- Free
 - - In time and cost
- Diversity
 - - Mix of things to do
- Relaxing
 - - Passive space



APPENDIX 3

COMMUNITY DROP-IN SESSION WRITE UP

NORTH ROCKS PARK PRECINCT COMMUNITY DROP-IN SESSION

EVENT DETAILS

Time: 12pm-2pm, Saturday 26th, August.

Venues: Picnic area at John Wearn Reserve, 21 Farnell Ave, Carlingford NSW 2118

Approach: Interactive informal session using collaborative panel engagement to inform and consult

Purpose: Consultation with the local community to contribute ideas and collect feedback on the North Rocks Park and John Wearn Reserve

Community Drop-in Attendance: 30-40 people (approx.)

Weather: Sunny, 20 Degrees

OUTCOMES:

- To inform the community of the North Rocks Park Precinct Master Plan process
- To capture ideas for improving the North Rocks Park and John Wearn Reserve
- To obtain feedback on the current offer and/or management of North Rocks Park and John Wearn Reserve, and
- To provide the community with an opportunity to inform the design of the North Rocks Park Precinct Master Plan.

PROJECT TEAM ATTENDEES:

- James Smallson, City of Parramatta Council
- Ellen, City of Parramatta Council
- Sue, City of Parramatta Council
- Bernardo Cunha, JMD Design
- Morgan Watt, JMD Design
- Joe Lin, JDM Design
- John O'Callaghan, JOC Consulting
- Isabel Virgona, JOC Consulting
- Elise O'Ryan, Cred Consulting

GENERAL COMMENTS/DEBRIEF

Intercept Surveys at North Rocks School Fete:

- Overall, people were interested.
- Because they weren't in the space, answers were basic.
- Better to survey in space (ie North Rocks Park precinct) so people can reference physical location.
- Parking was identified as a major issue.
- Majority of surveys completed were by parents and old people.
- There was a suggestion to look at the water play at Dundas Park.
- Participants like Don Moore Community Centre.
- Drop-in Session at John Wearn:
- There was strong political lobbying for the library, influencing the public's votes and comments (by Andrew Jeffries and colleague).
- Majority of participants were over 60s (there was one 20 something).
- Demographics will influence outcomes and findings from the day
- Overall, participants have been happy with the new Council.
- In the future, the drop-in should be collocated with other activities, like sport.
- Missing demographic – we need to capture input/ideas/feedback from younger demographics.
- Try to get younger demographic - 12-25 years old (possibly Facebook target).

ACTIVITY 1 - MAP POST ITS

General comments

- City of Parramatta Council are doing a good job of looking after the park and maintaining/cleaning the streets (x 1 additional vote)
- The early morning use of the carpark as a u-turn and shortcut to Farnell Street is a problem. Perhaps locking the gate longer could make it safer?
- The Pavilion/open air venue at John Wearn Reserve is an eye-sore (x 2 additional votes)
- Bad intersections at Farnell Ave and Parkland Rd, and also Farnell Ave and North Rocks Rd
- There should be no right turn from Farnell Ave onto North Rocks Rd, especially during peak hour. Or perhaps traffic lights at this location? (x 3 mentions)
- "It would be a shame to lose the openness"
- "Don Moore isn't enough, not adequate enough for the community," and
- Parking and buses are an issue (traffic).

Ideas

- The Don Moore Community Centre can perhaps have computers (for residents to check emails)
- A Zebra Crossing over Farnell Avenue near the pre-school (to make crossing safer for residents), and
- Outdoor fitness equipment for different areas across the Precinct.

Questions

- What's the catchment area of the park precinct?
- What's the history behind the caretakers cottage that was demolished for the pre-school?

ACTIVITY 2 – LIKE/CHANGE ABOUT NORTH ROCKS PRECINCT

What do you like?

- "Quiet, nice place to live at the moment"
- BBQ at John Wearn gets lots of use
- Track around North Rocks is good
- Green space, well used, walking around the park
- Blue gum bush to stay as it is.
- Upkeep of John Wearn has been great
- Leash free
- Facilities are well used, and
- Ground at North Rocks needs to be improved.

What would you change?

- Parking is a huge problem
- Opportunities for different language groups/different ethnic mix here (so what is needed for them?)
- Skate park is great for kids
- Improve drainage along the park and Farnell Avenue
- 'Syringa berry' located in corner of John Wearn is poisonous, should be removed, and
- Improve the current offer.

Any other idea or opportunities?

- New library and activity centre (x 1 additional vote)
- "Around here we are 'shire people, not 'city' people"
- Pre school area planting needs to be maintained
- Possibly add more landscaping (ie garden beds and flowers to John Wearn reserve)
- More benches around the edges of John Wearn reserve
- Benches along the footpaths in John Wearn
- Fountain at John Wearn Reserve
- Screen planting for road
- North Rocks as just sports facilities
- Power points for charging phones etc, coffee/tea boiling water
- Feeder buses to Carlingford Station, and
- Oaks Rd bus interchange please.

ACTIVITY 3 – WHAT COMMUNITY FACILITIES WOULD YOU LIKE TO SEE AT NORTH ROCKS PRECINCT?

- Public toilets (x 18 votes)
- Library/library link (x 14 votes)
- Coffee cart/café (x 9 votes)
- Seniors space (x 8 votes)
- Community service office space (x 5 votes)
- Creative arts space (x 5 votes)
- Youth space (x 3 votes)
- Co-working space (x 3 votes)
- OOSH (x 1 vote)
- Health and fitness space (x 2 votes)
- Dance space (0 votes)
- Recording space (0 votes)

What other ideas do you have?

- Changing room/washing basin for family BBQ's in the amphitheatre (x 2 votes)
- Toilets – potentially a paid service, only for weekends eg. [Another comment] Yes definitely (x 1 vote). [Another comment] No disagree.
- Need to keep Toilets clean and safe
- Option for big screen to watch fireworks on NYE
- The pavilion is only used once a year
- "Keep it open and natural. Nature is a healing space, 'walking among the trees,'" and
- The library needs to be multi-purpose and more than what is there already.

Questions

- How many granny flats are coming?

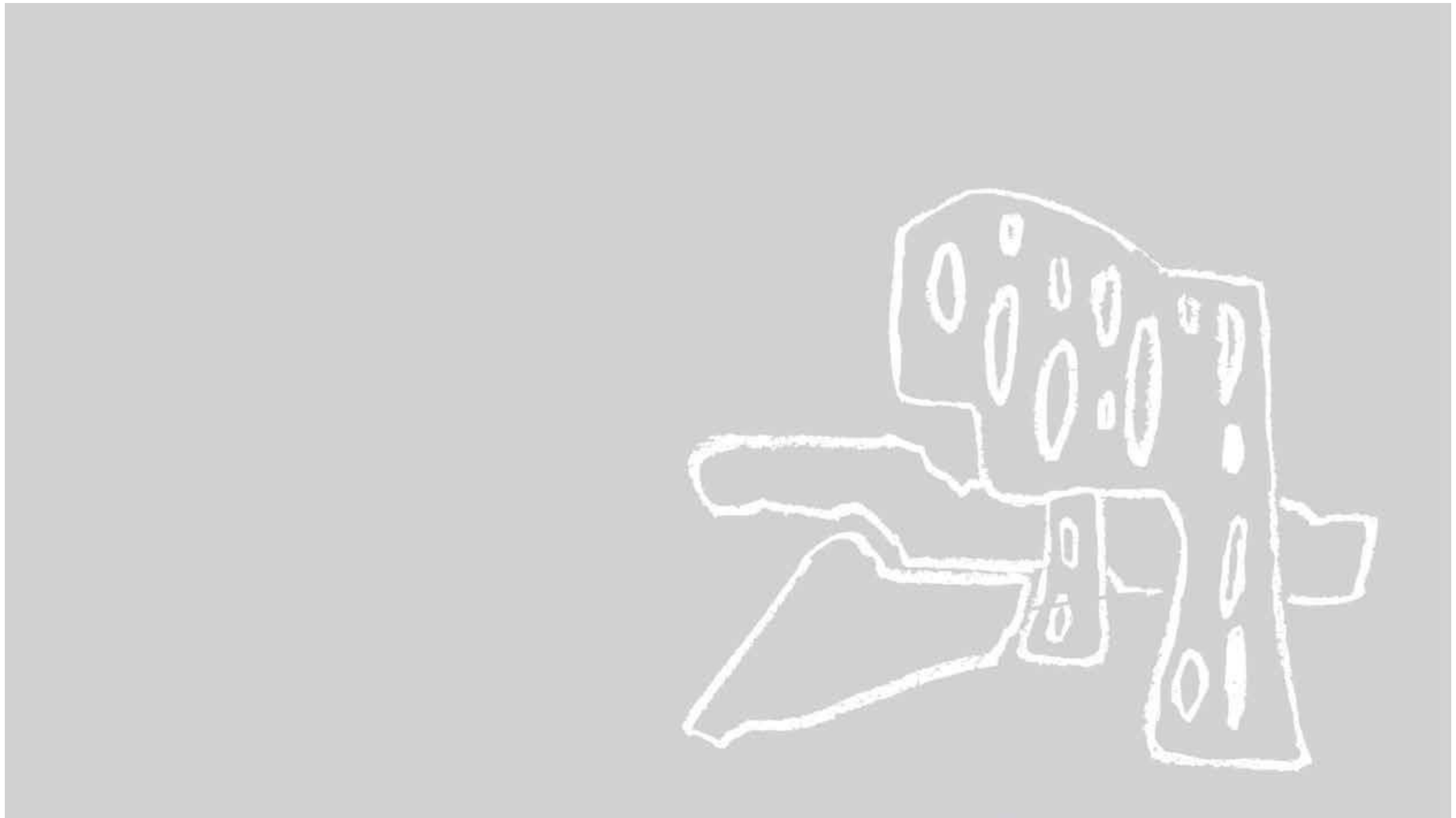
ACTIVITY 4 – WHAT OPEN SPACE USES WOULD YOU LIKE TO SEE AT THE NORTH ROCKS PRECINCT?

- Outdoor gym (x 11 votes)
- Shaded seating and tables for gathering (x 11 votes)
- Sheltered BBQ spaces (x 8 votes)
- Beautiful bushland and greening (x 7 votes)
- Active recreation (field) (x 6 votes)
- Active recreation (courts) (x 6 votes)
- Adventure play park (x 6 votes)
- Water play park (x 5 votes)
- Recreational cycle track (x 4 votes)
- Off leash area (x 4 votes)
- Community garden (x 2 votes)
- Better skate facility (0 votes)

What other ideas do you have?

- Doggy bags for the precinct (x 3 mentions)
- Dogs can be scary for people so maybe no off-leash
- More natural shade, not structural shade
- Better seating for older people or disabled people (wheelchair access)
- Better access for free tennis practice opportunities, given there are free opportunities for practice of other sports ie cricket, football and walking dog
- When designing the BBQ shelter, make sure walkway is free
- Adventure equipment for pre teen children
- Combine OOSH and childcare
- Upgrade community centre
- Amphitheatre – insulation in summer, solar fan, whirly bird, insulation for wall ceiling, too hot!
- Please consider the need for space for people to enjoy solitude and community group events.
- Please retain the hillocks as it is useful for walking, and
- Open space is important.





North Rocks Park Master Plan

Stage 2 Consultation Outcomes: Meetings with Stakeholder Groups

Background

This report provides a summary of interviews with Stakeholder Groups who are regular hirers of North Rocks Park sportsfields and facilities. It forms part of Stage 2 consultation to inform the development of one preferred option for the North Rocks Park Masterplan. Stage 1 consultation included an online survey, community workshop, telephone survey, phone interviews with stakeholders, and community drop-in session.

Stakeholders interviews completed

The following interviews were completed:

Date	Time	Stakeholder group in attendance	Council/Consultant team
Friday 9 February 2018	9.30am to 10.30am	North Rocks Seniors (2 representatives)	Bernardo Cunha, JMD Sarah Reilly, Cred Ellen Ross, City of Parramatta
Friday 9 February 2018	10.30am to 11.30am	North Rocks Tennis Centre Manager/Lessee	Bernardo Cunha, JMD Sarah Reilly, Cred
Monday 19 February 2018	5.00pm to 6.30pm	Soccer Joeys (x 1 representative) North Rocks Soccer (x 3 representatives) North Rocks Softball (x 1 representative) Councillor Lorraine Wearne Cricket were unable to attend	Bernardo Cunha, JMD Sarah Reilly, Cred Erin Hrouda, City of Parramatta

Purpose of report

The purpose of this report is to provide a summary of the feedback provided by stakeholder groups to the two draft options for the North Rocks Park Masterplan.

Consultation outcomes

Seniors Centre representatives

Functionality and hire

- The Senior's Centre is currently a permanent hirer of the single purpose Senior's Centre facility. They would like the same arrangements now in the future facility - with a dedicated space on dedicated days.
- The group has also spent a lot of money buying and maintaining equipment, in particular their billiard tables. They would like these to be secured in a separate space that it lockable and not used by other groups.
- Lockable storage facilities for different groups are essential in both the hall and the kitchen.

Facility design

- Universal design is important for access for people of different abilities
- Accessible toilets are needed that consider older residents will use, slip hazards etc.
- While the seniors were concerned about loss of their building (and the ownership of their space), they saw the benefit of the opportunity to design a purpose built facility that considers upfront the needs of multiple groups to share space (e.g. proper storage facilities, intergenerational engagement), they also liked that they could use the other spaces in the facility and there would probably be staff onsite.

Tennis centre/players

Overall comments and feedback on design and facilities

Main concern was that across both options there were no obvious benefits for the tennis players to the changes proposed and recommended the following non-negotiables should be incorporated/kept in the design:

- Safer, less dark alleyways.
- Better wayfinding and legibility.
- There needs to one dedicated viewing room on each court with power (currently residents bring their kettle, lunch/food). They were upset when these were removed by Council in the past, and see this as a benefit if they are re-instated in the new designs.
- Separate toilets for tennis included in the tennis block next to the office and shop in lieu of the area allocated for player's rooms as these would be located next to each court (as per above)
- Increased parking.
- Improved storage area and access to the courts and other sports facilities.

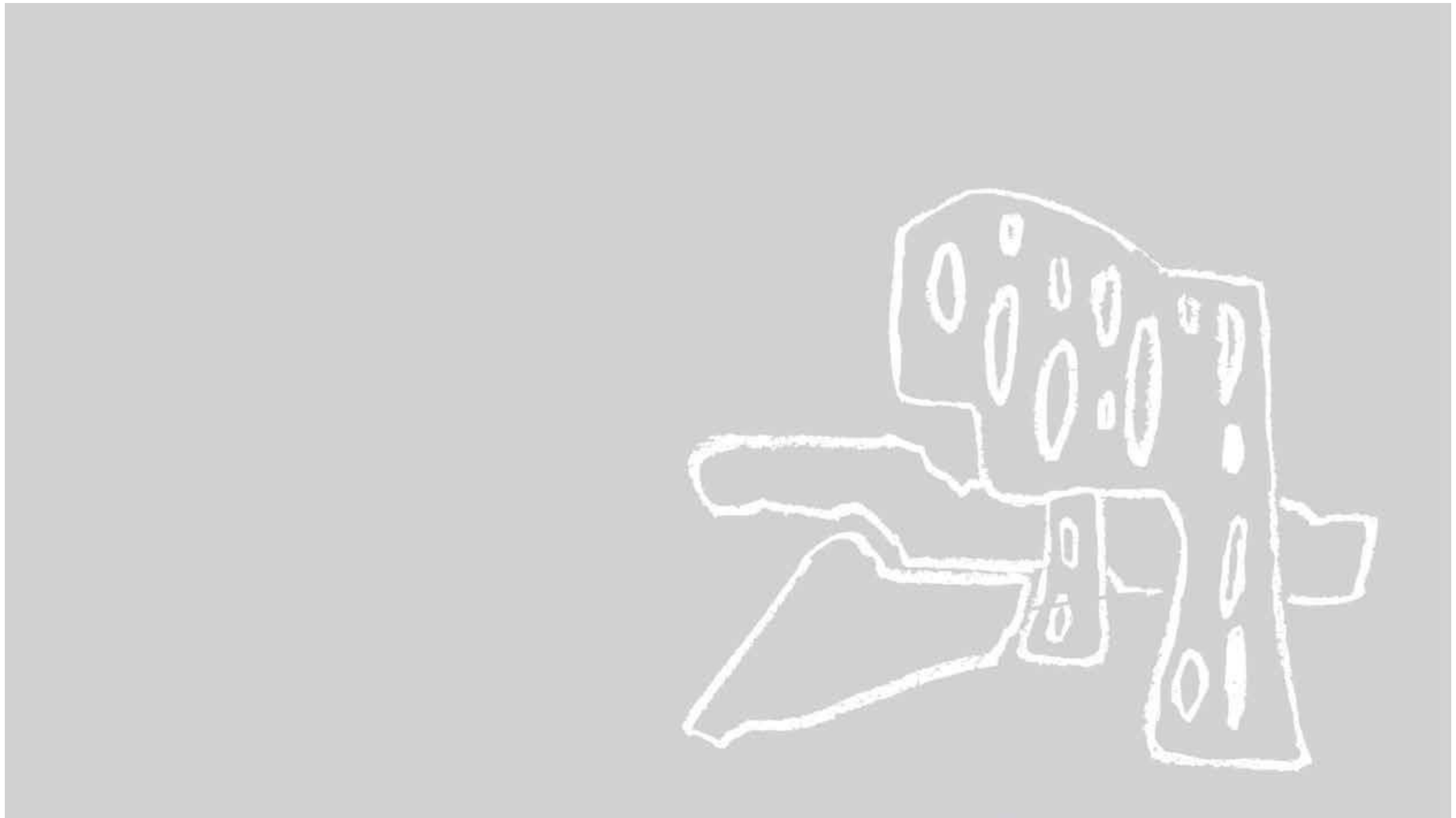
Cafe

Regarding the cafe, tennis thought this would be better in the multipurpose community centre. Tennis players will also generally bring their own food. Seniors will bring their own food - so they won't use a café. Locating the café in the community centre would also prevent conflict with kiosk, and the seating area near the playground would mean parents/kids could grab something from the cafe and take to the seating area.

Sporting codes

Overall, everyone was fairly happy with the options preferring different elements within Options 1 and 2. There was consensus that the following should be considered in the Final Draft Option to go on exhibition.

- The parking included in Option 2 (next to the sports field) should be included in the final option (to maximise parking) - but it should also be designed as a multipurpose surface for use during weekdays when not used for parking.
- The cafe should be included in the community centre, not near the club house or kiosk (this aligns with the views of all other stakeholders).
- The lighting on the field needs to support standards required for softball, which are higher than soccer or cricket, as a minimum (300).
- A higher fence is needed at the end of the sporting field closest to the main road to prevent balls going on North Rocks Road.
- A fence is needed at the forest/southern end of the sports field to stop balls flying into the forest/nature area.
- The compacted pitch (no grass grows there) needs to be addressed at the northern end of the field, this could be through improved irrigation, tree thinning or other avenues to be investigated by JMD. Currently no turf grows here impacting on ability to play competitive games and amount of teams/games that can be played. The quality of the turf directly impacts the capacity of the field and limits the number of codes/teams that can play here. There are opportunities to optimise use.
- Option 1 community centre is preferred. It is lower cost to Council and also means that the Soccer Joeys can continue to use the hall during construction. If the whole building was demolished the groups using it would look elsewhere to run their programs (eg. Soccer Joeys) and would not return.
- It was suggested some tennis courts could become multipurpose and used by other sports groups.



CITY OF PARRAMATTA

LIVING & COMMUNITY RECREATION & ENVIRONMENT BUSINESS & DEVELOPMENT COUNCIL

ON EXHIBITION - 16 JUL 2018

NORTH ROCKS PARK PRECINCT MASTERPLAN NOW ON PUBLIC EXHIBITION

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Exhibition Dates: Monday 16 July to Friday 7 September 2018

On 26 June 2018, Council endorsed the North Rocks Park Precinct Masterplan for public exhibition.

You can view the North Rocks Park Precinct Masterplan on our website. You can also view the plans and provide feedback at the community drop in session.

Location: Don Moore community centre (Corner of North Rocks Road and Parnell Avenue, Callington)

Date: Wednesday 8 August 2018

Time: 5pm to 7pm

You can also view a hard copy of the Masterplan at:

- City of Parramatta Library
- Callington Branch Library
- Council's Customer Service Centre

You may wish to attend the community drop-in session to discuss components of the masterplan with one of the project team members.

Comments to the masterplan should be made in writing and submitted to: openpace@cityofparramatta.nsw.gov.au

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Public Exhibition of the DRAFT Master Plan Report

Following Council's endorsement of the North Rocks Park Precinct Draft Master Plan Report, the document was displayed for public exhibition between 16 July and 07 September 2018.

Digital Version

- Council's website.

Hard Copy

- City of Parramatta Library;
- Callington Branch Library;
- Council's Customer Service Centre.

Drop-in event

- A Drop-in event also took place in Don Moore Community Centre on 8 August 2018, 5 to 7pm.

Community feed-back collected at the Drop-in event and submissions to City of Parramatta are summarised over page.

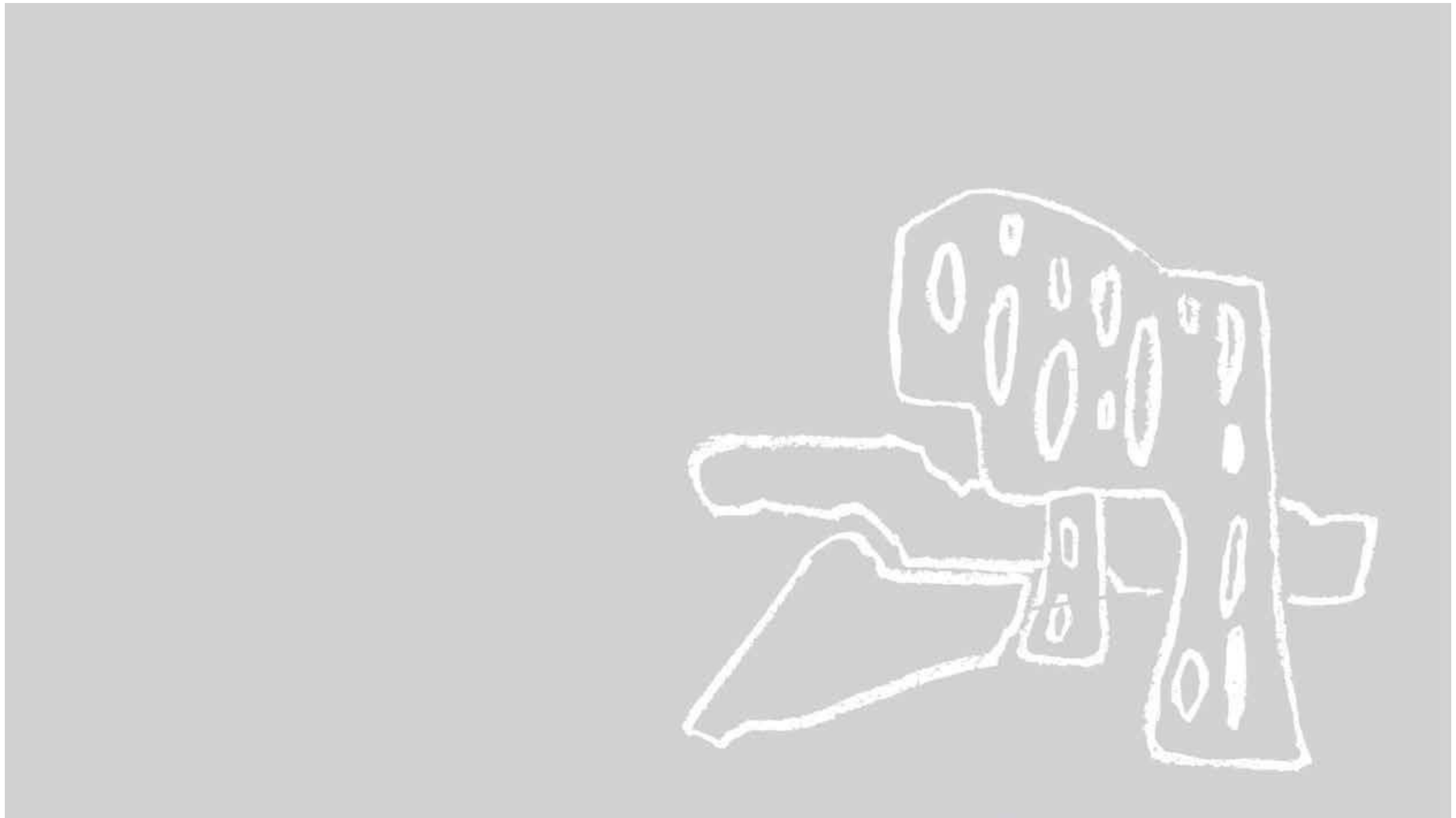
Participants Feed-back on 8th August 2018 Drop-In Event at Don Moore Community Centre			
Category	Issue	Comments	Amendments made to the Masterplan
Favourite Design Elements	Preservation of bushland at NRP.	Noted. Thank you for your support.	No
	Library Link.	Noted. Thank you for your support.	No
	Provision of shelters for parents to sit and watch tennis.	Noted. Thank you for your support.	No
	Kiosk.	Noted. Thank you for your support.	No
	Nature Play component at NRP playground.	Noted. Thank you for your support.	No
	Youth Centre as part of multipurpose space.	Noted. Thank you for your support.	No
	Concentration of activity at the corner of Farnell Avenue and North Rocks road.	Noted. Thank you for your support.	No
	Sports lighting.	Noted. Thank you for your support.	No
	Off-Leash area in JWR.	Noted. Thank you for your support.	No
	Toilets in JWR.	Noted. Thank you for your support.	No
	Amphitheatre in JWR.	Noted. Thank you for your support.	No
	Expanded playground in JWR.	Noted. Thank you for your support.	No
	Skate Park.	Noted. Thank you for your support.	No
Retained grass areas at JWR.	Noted. Thank you for your support.	No	
Levelling of Drain.	Noted. Thank you for your support.	No	
Missing Design Elements	Off-Leash area at JWR could be used for other activities because it is flat.	Highly requested in Community Consultation round 1. Off-leash area located in an area generally graded 1:10.	No
	Include a fence at the bottom of JWR to stop kids running onto the road.	A generous strip of mass planting is provided in this area which acts as a barrier.	No
	Drainage considerations along Farnell Avenue nature strip of JWR (area gets wet and slippery).	Noted. To be reviewed in detail design.	No
	Simple social games at JWR.	Noted. JWR to provide complementary uses to NRP and focus on Youth groups.	No
	Lighting at JWR.	Not supported to discourage night time use of park.	No
	Maintenance of walkway between houses and back of JWR.	Noted.	No
	Accessible seating.	Noted. To be reviewed in detail design	No
	Pedestrian crossing on Farnell avenue.	Noted. Outside Masterplan boundary. To be reviewed internally by Council.	No
	Picnic tables.	Picnic tables are provided next to playground area.	No

Participants Feed-back on 8th August 2018 Drop-In Event at Don Moore Community Centre			
Category	Issue	Comments	Amendments made to the Masterplan
General Concerns	Safety at intersection of North Rocks road and Farnell avenue.	Noted. Outside Masterplan boundary. To be reviewed internally by Council.	No
	Cricket nets next to soccer fields are too close.	Proposed location has been reviewed to allow additional space. Set-out is limited by existing trees to be kept.	Yes
	Ensure toilets can be locked in the evening for security.	Noted. To be reviewed in detail design.	No
	Concerns of new access at Farnell avenue and safety.	Proposed arrangement has been reviewed by Council's Traffic engineers and is supported. Further considerations to be given in detail design.	No
	Unlock gate into Farnell avenue.	Internal road/gate to Community Centre is removed on Masterplan.	No
	Removal of entrance/exit onto North Rocks road to intensify issues of traffic.	Proposed arrangement has been reviewed by Council's Traffic engineers and is supported. Further considerations to be given in detail design.	No
	Widened fanned entrance to the park on North Rocks road could be safer.	Proposed arrangement has been reviewed by Council's Traffic engineers and is supported. Further considerations to be given in detail design.	No
	Supply of car parking is not adequate for weekend use and sporting games at North Rocks Park.	Noted. Current provision is of additional parking in the order of 20 car spaces. Further considerations to be given in detail design.	No
	Removal of car parking at JWR and transition to on-street perpendicular parking is concerning residents of Balaka drive with expected increase in loitering and anti-social behaviour in car park and park. At current gates are controlled preventing negative activity, concern of new design is the lack of control. Car park should be retained within the existing park.	Car park area redesigned to be included within the reserve & provide a drop-off area.	Yes
	Lack of carparking at NRP next to the community centre/playground/tennis courts as this is the most active area.	Noted. Further considerations to be given in detail design.	No
	Additional car parking provided at the back of the sports field is a bit far and most people won't use it.	Noted. Additional car parking maximises space use under easement and caters mainly for Sports.	No
	Council not cleaning litter of the soccer field and residents having to.	Noted.	No

Participants Feed-back on 8th August 2018 Drop-In Event at Don Moore Community Centre			
Category	Issue	Comments	Amendments made to the Masterplan
General Concerns (Cont.)	When the storage facilities and clubhouse for the soccer club are being detailed and designed, the growing soccer club will need to be considered to ensure that there is adequate storage and resources.	Noted. To be addressed by Council at detail design stage. Masterplan currently keeps existing storage capacity.	No
	Move amenity block away from skatepark and closer to playground on Balaka drive for passive security to deter anti-social behaviour.	Highly requested in Community Consultation round 1. Amenities block relocated closer to Farnell Ave to maximise passive surveillance whilst keeping a central location in the park.	Yes
	Dangerous position of drop-off area at Child Care Centre on busy Farnell avenue.	Car park area redesigned to be included within the reserve & provide a drop-off area.	Yes
	Traffic issues at the corner of Balaka drive and Farnell avenue.	Noted. Outside Masterplan boundary. To be reviewed internally by Council	No
	Park lights are shining in the eyes of drivers coming out of Alkira road onto North Rocks road at night time. There used to be a sign on the fence that screened the lights coming into drivers eyes, however this has been removed.	Noted. To be reviewed in detail design. Sport fields lighting will be made compliant with Australian Standards.	No
	Ensure there is no concrete pathways and choose a stone or rock surface instead to protect nature (in bushland area).	Noted. To be reviewed in detail design.	No

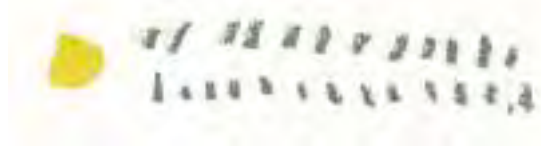
Submissions to City of Parramatta Council			
Name	Issue	Comments	Amendments made to the Masterplan
Centrone, Guy and Tanya	Consultation Process - dissapointed that second phase of consultation was not properly advertised	Second phase of consultation process included online information provided on Council's website, posters at Don Moore Community Centre, postcards letterboxed to the neighbourhood and emails were sent to the stakeholders list.	No
	Off leash dog Area- advises that off leash dog area is unnecessary and will take away from open space, and concerned that dogs will be left alone in area. Notes that there are more suitable areas within the region for off leash dogs.	Highly requested in Community Consultation round 1.	No
	Ambulance Access - emphasises the necessity of Ambulance access due to frequency of incidents at skate park.	On grade access provided to Farnell Avenue from Skate/Basketball/Fitness station area.	No
	Carpark , Childcare centre - carpark should remain where it is to maintain safety of loading children in and out of car. Suggests 90 degree parking on Balaka drive would pose a danger in regards to poor vision when reversing.	Car park area redesigned to be included within the reserve & provide a drop-off area.	Yes
	Toilets- Opposed to toilets being built as it may promote anti social behaviour. Also has concerns that toilets wont be maintained sufficiently. Suggests building them away from skate park and closer to children playgrounds would be a better option.	Highly requested in Community Consultation round 1. Amenities block relocated closer to Farnell Ave to maximise passive surveillance whilst keeping a central location in the park.	Yes
	Drainage- Suggests drainage should be revisited through several areas of park to maintain safety/ slips and falls etc.	Noted. To be reviewed in detail design.	No
	Basket ball courts - completely supports the installation of new courts , however has concerns that proposed area could pose safety risk to skateboard park users with runaway balls crossing skate park.	Noted. To be reviewed in detail design.	No
	Seating - More setaing around park is supported however fears that seating around stage will obstruct view from picnic blanket users. Also suggests not using aluminium materials for seating.	Seating is at grade with ground level and does not include back rest (amphitheatre configuration). Views are not obstructed.	No
	Fencing - fencing on Manildra Ave requires improvement.	A generous strip of mass planting is provided in this area	No
	North Rocks Park entry- concerned that proposed new entry has low visibilty for exiting traffic and may result in loss of exisiting street parking spots in order to improve visibility. Also suggests two entry/exit points are necessary to avoid bottleneck after events.	Proposed arrangement has been reviewed by Council's Traffic engineers and is supported. Further considerations to be given in detail design.	No

Submissions to City of Parramatta Council			
Name	Issue	Comments	Amendments made to the Masterplan
Centrone, Guy and Tanya (Cont.)	Community centre -completely supports upgraded community centre and asks if underground parking would be considered.	Underground parking currently considered unfeasable.	No
Cheuk, Danielle	Toilets- Opposed to toilets being built as it may promote anti social behaviour.	Highly requested in Community Consultation round 1.	No
	Over development- is opposed to over development , preferring to preserve open space	Provision of additional Open Space provided by co-location of existing buildings at NRP.	No
	Seating - Fears that seating around stage will obstruct view	Seating is at grade with ground level and does not include back rest (amphitheatre configuration). Views are not obstructed.	No
	Off leash dog Area- advises that off leash dog area is unnecessary and will take away from open space	Highly requested in Community Consultation round 1	No
	Bubblers- does not support installation of bubblers as only local families utilise the park and they are within walking distance of homes- or bring their own drinks when visiting park.	Provision of bubblers in active recreational areas such as playgrounds & sports areas is considered to be best practise. Bubblers are currently provided next to playground area.	No
	Basketball courts - supports upgrade of basketball courts	Noted. Thank you for your support.	No
	Library - supports upgraded multi purpose facility that includes library	Noted. Thank you for your support.	No
Darley, Kellie	Playground fences- would like to see fences on playgrounds maintained and kept in place.	Noted.	No
	Toilets - strongly supports the proposal of toilet amenties and improved parking and picnic areas.	Noted. Thank you for your support.	No
Patterson, Scott	Parking - Concerns over the proposed parking arrangements on Balaka drive and the potential impact on existing residents. The Submission outlines concerns around noise, safety and the risk of anti social behaviour. The submission includes a petition signed by five residents.	Car park area redesigned to be included within the reserve & provide a drop-off area.	Yes
Ryan, Graham	Senior Citizens Club - have requested ongoing consultation and opportunity to continue to contribute to upgrade planning, namely advise on provision of amenities regarded as necessary in any new replacement structures.	Noted. To be addressed by Council at detail design stage.	No



Preliminary Order of Costs

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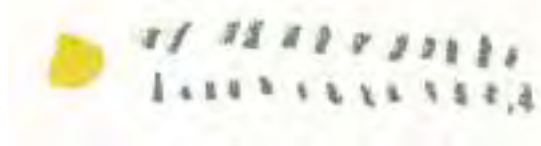
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NORTH ROCKS PARK

Item	Description	Unit	Qty	Rate	Total
A Demolition Works					
A 1.0	Accesses and vehicular paths				
	Access from North Rocks Road	m ²	420.00	\$25.00	\$10,500.00
	Internal access road to Don Moore Community Centre	m ²	300.00	\$25.00	\$7,500.00
A 2.0	Playground area				
	Playground, BBQs, including Shelters (future playground area)	m ²	1184.00	\$15.00	\$17,760.00
	Playground, BBQs, including Shelters (future pedestrian access)	m ²	218.00	\$15.00	\$3,270.00
A 3.0	Cricket nets & Surrounding paved areas				
	Cricket nets	m ²	185.00	\$15.00	\$2,775.00
	Paved areas on sports clubs surrounds & access to existing playground	m ²	1750.00	\$12.50	\$21,875.00
A 4.0	Car Park				
	Senior Citizens Club Car park	m ²	345.00	\$20.00	\$6,900.00
	Future shared areas in Car Park	m ²	946.00	\$20.00	\$18,920.00
A 5.0	Buildings				
	Don Moore Community Centre - Porte-cochère, amenities & kitchen, Hall, OSCH, Dance Studio, outdoor area	m ²	950.00	\$65.00	\$61,750.00
	Don Moore Community Centre - OOSH outdoor area	m ²	400.00	\$65.00	\$26,000.00
	Accessible Toilets	m ²	9.00	\$115.00	\$1,035.00
	Amenities building	m ²	90.00	\$110.00	\$9,900.00
	Soccer/Tennis Clubs	m ²	205.00	\$110.00	\$22,550.00
	Senior Citizens Space	m ²	610.00	\$85.00	\$51,850.00
				Sub-total	\$262,585.00
B Services - Allowance					
B 1.0	Utility service upgrade	item	1.00	\$75,000.00	\$75,000.00
B 2.0	New Substation to power Community Centre	item	1.00	\$200,000.00	\$200,000.00
B 3.0	Consolidate Power supplies into one 200A supply	item	1.00	\$50,000.00	\$50,000.00
				Sub-total	\$325,000.00
C Community Centre & Surrounds					
C 1.0	Community Centre				
	Hall	m ²	600.00	\$4,000.00	\$2,400,000.00
	Leisure programmed space	m ²	200.00	\$4,000.00	\$800,000.00
	OSHC	m ²	280.00	\$4,900.00	\$1,372,000.00
	Commercial Kitchen	m ²	50.00	\$7,000.00	\$350,000.00
	Café	m ²	50.00	\$6,500.00	\$325,000.00
	Non programmed space (Foyer)	m ²	480.00	\$4,000.00	\$1,920,000.00
	Flexible meeting rooms	m ²	100.00	\$4,750.00	\$475,000.00
	Learning lab	m ²	150.00	\$5,000.00	\$750,000.00
	Amenities	m ²	100.00	\$5,250.00	\$525,000.00
	Administration + community organisation offices	m ²	26.00	\$4,000.00	\$104,000.00
	Circulation	m ²	407.20	\$3,500.00	\$1,425,200.00
	Outdoor activity area	m ²	170.00	\$2,000.00	\$340,000.00
	OSCH outdoor area, including minor earthworks	m ²	420.00	\$1,200.00	\$504,000.00
	Lift	Item	1.00	\$190,000.00	\$190,000.00
	New storage	m ²	80.00	\$3,500.00	\$280,000.00
C 2.0	New road to NRP				
	New road	m ²	540.00	\$250.00	\$135,000.00
	Traffication to Farnell Ave.	Item	1.00	\$150,000.00	\$150,000.00
C 3.0	Make good on surrounding demolition areas				
	Access from North Rocks Road	m ²	420.00	\$160.00	\$67,200.00
	Internal access road to Don Moore Community Centre	m ²	130.00	\$160.00	\$20,800.00
C 4.0	General landscaping				
	General landscaping (high ornamental, excluding advanced trees)	m ²	320.00	\$35.00	\$11,200.00

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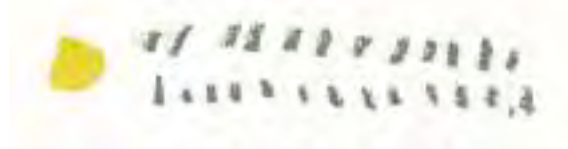
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NORTH ROCKS PARK

Item	Description	Unit	Qty	Rate	Total
C 5.0	Paving				
	Shared areas, allow service vehicles to 5 tonne only (entry from North Rocks road area)	m ²	480.00	\$95.00	\$45,600.00
	Shared areas, allow service vehicles to 5 tonne only (pedestrian connection to sport clubs)	m ²	130.00	\$95.00	\$12,350.00
	Community centre surrounding areas (pedestrian only)	m ²	546.00	\$95.00	\$51,870.00
	Pedestrian footpath to Farnell Ave	m ²	60.00	\$95.00	\$5,700.00
	Resurface existing car park area (reprofiling, 30mm topping & linemarking)	m ²	2514.00	\$40.00	\$100,560.00
C 5.0	Lighting				
	Car Park area (excludes New car park under easement)	m ²	1810.00	\$38.00	\$68,780.00
C 6.0	Rain Harvesting				
	Rain harvesting on the roofs for recycled water usage on toilets	m ²	1913.20	\$33.20	\$63,519.26
				Sub-total	\$12,492,779.26
D	Sport Clubs, Courts & Surrounds				
D 1.0	Sport Clubs & fields				
	Tennis Club - building	m ²	60.00	\$4,000.00	\$240,000.00
	Tennis Club - dedicated amenities	m ²	15.00	\$5,250.00	\$78,750.00
	Sports Club - building	m ²	100.00	\$4,000.00	\$400,000.00
	Tennis courts, upgrade (5 x existing Courts)	m ²	1180.00	\$115.00	\$135,700.00
	Sport fields - reconditioned surface	m ²	13000.00	\$28.00	\$364,000.00
	Cricket nets	m ²	185.00	\$145.00	\$26,825.00
	Fence to North Rocks road & bushland area	m ^l	250.00	\$375.00	\$93,750.00
D 2.0	Amenities				
	Public amenities - building	m ²	60.00	\$4,800.00	\$288,000.00
	Sports facilities storage - building	m ²	135.00	\$3,000.00	\$405,000.00
	Bleachers seating	m ²	120.00	\$275.00	\$33,000.00
	Bleachers roof	m ²	433.00	\$450.00	\$194,850.00
	Change Rooms - building	m ²	100.00	\$4,250.00	\$425,000.00
	Referee's room - building	m ²	25.00	\$3,750.00	\$93,750.00
D 3.0	Council Maintenance Area				
	Council maintenance facilities	m ²	80.00	\$2,800.00	\$224,000.00
D 4.0	Paving				
	Bleachers surrounding area (pedestrian only)	m ²	545.00	\$105.00	\$57,225.00
	Stairs, including handrail & tactiles	m ²	32.00	\$500.00	\$16,000.00
	Stairs to BGHF, including handrail & tactiles	m ²	60.00	\$500.00	\$30,000.00
D 5.0	Lighting to Australian Standards				
	Tennis courts (allow 200Lux Sport Level)	m ²	2950.00	\$55.00	\$162,250.00
	Sport fields (allow 100Lux Training Level)	m ²	13000.00	\$34.00	\$442,000.00
D 6.0	Water Management				
	Rain harvesting on the roofs for recycled water usage on toilets	m ²	185.00	\$33.20	\$6,142.10
D 7.0	General landscaping (Tennis, sports and playground surrounds)				
	General landscaping (high ornamental, excluding advanced trees)	m ²	1446.00	\$35.00	\$50,610.00
				Sub-total	\$3,716,242.10
E	Playground Area (includes all complete)				
E 1.0	Playground				
	Upgrade to existing playground	m ²	2304.00	\$750.00	\$1,728,000.00
E 2.0	Playground				
	New playground area, nature play based, including BBQ areas	m ²	1120.00	\$750.00	\$840,000.00
				Sub-total	\$2,568,000.00
F	New Car Park				
F 1.0	New car park area	m ²	1470.00	\$155.00	\$227,850.00
				Sub-total	\$227,850.00

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NORTH ROCKS PARK

Item	Description	Unit	Qty	Rate	Total
G Blue Gum High Forest					
G 1.0	Fencing bio-banking area				
	Fencing bio-banking area (3 wire & pole)	lin m	870.00	\$120.00	\$104,400.00
Sub-total					\$104,400.00
H Park Furniture - Allowance					
H 1.0	Park furniture, including seats, bins, bollards, drinking fountains, picnic tables - Allowance	item	1.00	\$50,000.00	\$50,000.00
H 2.0	Shade structures for Tennis - proprietary item	item	5.00	\$100,000.00	\$500,000.00
H3.0	Shade structures for BBQ - proprietary item	item	6.00	\$50,000.00	\$300,000.00
Sub-total					\$850,000.00
I Tree planting - Allowance					
I1.0	Tree planting (advanced tree stock)	Item	1.00	\$4,000.00	\$4,000.00
Sub-total					\$4,000.00
J Wayfinding - Allowance					
J1.0	Wayfinding	item	1.00	\$50,000.00	\$50,000.00
Sub-total					\$50,000.00
K Maintenance					
K 1.0	Maintenance - as specified including watering requirements, mowing etc.				
	i) General maintenance	/ month	12.00	\$10,000.00	\$120,000.00
	ii)BGHF maintenance	/ month	12.00	\$5,000.00	\$60,000.00
Sub-total					\$180,000.00
					\$3,844,458.43
Preliminaries & margin 18.5%					
Design Contingency 10%					\$2,462,531.48
Construction Contingency 10%					\$2,462,531.48
TOTAL: North Rocks Park (exc GST)					\$29,550,377.74
GST on Total Quotation Sum					\$2,955,037.77
TOTAL: North Rocks Park (inc GST)					\$32,505,415.51

EXCLUSIONS / ASSUMPTIONS:

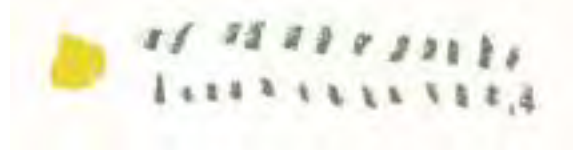
- 1.0 Excludes Consultant fees
- 2.0 No allowance for disposal of spoil including any contaminated material off site
- 3.0 No allowance for solar power
- 4.0 Probable Cost Estimate is High Level and will require further refinement of the design proposal.
- 5.0 Assume no contaminated material & reuse spoil for trenches etc, on site or on JWR (No disposal to Landfill)

Order of Costs

Project: North Rocks Park Precinct
 Client: City of Parramatta Council
 Date: 27.09.2018
 Issue: Final Master Plan Report

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JOHN WEARN RESERVE

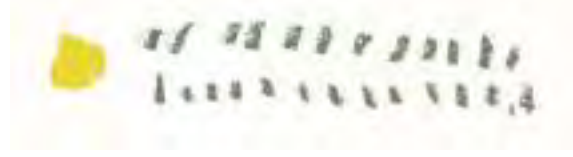
Item	Description	Unit	Qty	Rate	Total
A Demolition Works					
A 1.0	Car Park				
	Car Park	m ²	610.00	\$25.00	\$15,250.00
A 2.0	Play elements				
	Playground, including shade structure	m ²	150.00	\$35.00	\$5,250.00
	Swings	m ²	65.00	\$7.50	\$487.50
	Bike trail & tunnel	m ²	300.00	\$25.00	\$7,500.00
	Basketball half-court	m ²	60.00	\$35.00	\$2,100.00
A 3.0	Skate Elements				
	Skate elements	m ²	140.00	\$45.00	\$6,300.00
A 4.0	Footpaths				
	Existing concrete footpaths	m ²	1000.00	\$15.00	\$15,000.00
				Sub-total	\$51,887.50
B Services - Allowance					
B 1.0	Utility service upgrade (Contingent allowance)	item	1.00	\$100,000.00	\$100,000.00
				Sub-total	\$100,000.00
C Long Day Care & Park Amenities					
C 1.0	Long Day Care				
	Upgrade to existing building	m ²	386.00	\$1,500.00	\$579,000.00
	Upgrade to existing lighting (only outdoor TBC)	m ²	386.00	\$35.00	\$13,510.00
	Addition to existing building	m ²	150.00	\$4,500.00	\$675,000.00
C 2.0	Park Amenities				
	Amenities building	m ²	50.00	\$4,750.00	\$237,500.00
	Community Shed Structure - refurbish	m ²	30.00	\$1,500.00	\$45,000.00
	Amphitheatre seating	m ²	260.00	\$550.00	\$143,000.00
C 3.0	General Landscaping (Long Day Care & Shed)				
	General landscaping (high ornamental, excluding advanced trees)	m ²	1100.00	\$35.00	\$38,500.00
	Turfing (amphitheatre seating)	m ²	605.00	\$12.00	\$7,260.00
C 4.0	Rain Harvesting				
	Rain harvesting on the roofs for recycled water usage on toilets	m ²	536.00	\$33.20	\$17,795.48
				Sub-total	\$1,756,565.48
D Youth & Exercise Station (includes all complete)					
D 1.0	Youth Play Area				
	Basketball/Netball full court (concrete base and plexipave finish)	m ²	570.00	\$240.00	\$136,800.00
	Skate area	m ²	430.00	\$850.00	\$365,500.00
	Shade structure - assuming proprietary item	item	2.00	\$50,000.00	\$100,000.00
D 2.0	Exercise Station				
	Exercise Station	m ²	105.00	\$300.00	\$31,500.00
	Exercise equipment	Item	1.00	\$50,000.00	\$50,000.00
D 3.0	General Landscaping				
	General landscaping (high ornamental, excluding advanced trees)	m ²	1090.00	\$35.00	\$38,150.00
	Turfing (bike trail & tunnel)	m ²	300.00	\$12.00	\$3,600.00
				Sub-total	\$725,550.00

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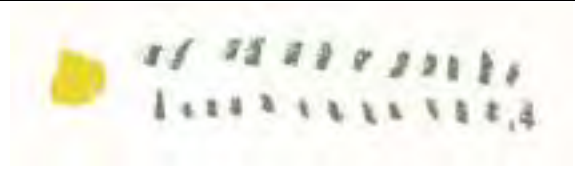


JOHN WEARN RESERVE

Item	Description	Unit	Qty	Rate	Total
E Playground Area (includes all complete)					
E 1.0	Playground				
	Playground	m ²	493.00	\$600.00	\$295,800.00
	Shade structure - assuming proprietary item	item	2.00	\$50,000.00	\$100,000.00
E 2.0	General landscaping				
	General landscaping (high ornamental, excluding advanced trees)	m ²	841.00	\$35.00	\$29,435.00
	Turfing	m ²	1480.00	\$12.00	\$17,760.00
				Sub-total	\$442,995.00
F New Car Park					
F 1.0	Car Park	m ²	600.00	\$155.00	\$93,000.00
				Sub-total	\$93,000.00
G Off-Leash Area					
	Fencing (1.2 weldmesh)	lin m	191.00	\$120.00	\$22,920.00
	Turfing	m ²	2955.00	\$12.00	\$35,460.00
				Sub-total	\$58,380.00
H Environmental Assets					
H 1.0	Bioretention Swale / Basin planting	m ²	2833.00	\$22.00	\$62,326.00
				Sub-total	\$62,326.00
I Park Furniture - Allowance					
	Park furniture, including seats, bins, bollards, drinking fountains, picnic tables. Assume keeping existing BBQs.	item	1.00	\$50,000.00	\$50,000.00
				Sub-total	\$50,000.00
J Park Footpaths					
	Paving (new footpaths)	m ²	2436.00	\$95.00	\$231,420.00
				Sub-total	\$231,420.00
K Paving					
	Shared areas, allow service vehicles to 5 tonnes only (Access to car park)	m ²	230	\$95.00	\$21,850.00
				Sub-total	\$21,850.00
L Tree planting - Allowance					
L 1.0	Tree planting (advanced tree stock)	Item	1.00	\$5,000.00	\$5,000.00
				Sub-total	\$5,000.00
M Wayfinding - Allowance					
M 1.0	Wayfinding	item	1.00	\$50,000.00	\$50,000.00
				Sub-total	\$50,000.00

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JOHN WEARN RESERVE

Item	Description	Unit	Qty	Rate	Total
N	Maintenance				
N 1.0	Maintenance - as specified including watering requirements, mowing etc.				
	i) General maintenance as specified	/ month	12.00	\$5,000.00	\$60,000.00
				Sub-total	\$60,000.00
	Preliminaries & margin 15%			\$	556,346.10
	Design Contingency 10%			\$	426,532.01
	Construction Contingency 10%			\$	426,532.01
TOTAL: John Wearn Reserve (exc GST)					\$5,118,384.10
GST on Total Quotation Sum					\$511,838.41
TOTAL: John Wearn Reserve (inc GST)					\$5,630,222.51

EXCLUSIONS / ASSUMPTIONS:

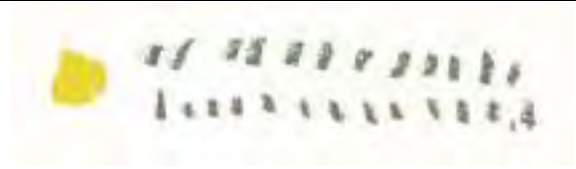
- 1.0 Excludes Consultant fees
- 2.0 No allowance for disposal of spoil including any contaminated material off
- 3.0 No allowance for solar power
- 4.0 Probable Cost Estimate is High Level and will require further refinement of
- 5.0 Assume no contaminated material & reuse spoil for trenches etc, on site or on NRP (No disposal to Landfill)

Order of Costs

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NORTH ROCKS PARK PRECINCT - TOTAL

Item	Description	Unit	Qty	Rate	Total
A North Rocks Park					
	SubTotal - NORTH ROCKS PARK				\$20,780,856.35
	Preliminaries & margin 18.5%				\$3,844,458.43
	Design Contingency 10%				\$2,462,531.48
	Construction Contingency 10%				\$2,462,531.48
				Sub-total	\$29,550,377.74
B John Wearn Reserve					
	SubTotal - JOHN WEARN RESERVE				\$3,708,973.98
	Preliminaries & margin 15%				\$556,346.10
	Design Contingency 10%				\$426,532.01
	Construction Contingency 10%				\$426,532.01
				Sub-total	\$5,118,384.10

TOTAL: NORTH ROCKS PARK PRECINCT (exc GST)	\$34,668,761.84
GST on Total Quotation Sum	\$3,466,876.18
TOTAL: NORTH ROCKS PARK PRECINCT (inc GST)	\$38,135,638.02

EXCLUSIONS / ASSUMPTIONS:

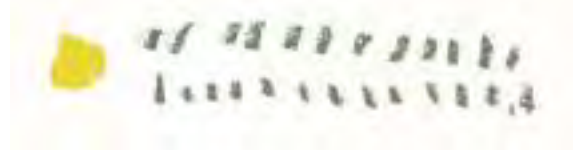
- 1.0 Excludes Consultant fees
- 2.0 No allowance for disposal of spoil including any contaminated material off site
- 3.0 No allowance for solar power
- 4.0 Probable Cost Estimate is High Level and will require further refinement of the design proposal.
- 5.0 Assume no contaminated material & reuse spoil for trenches etc, on site or on JWR (No disposal to Landfill)
- 6.0 No maintenance included.

Order of Costs

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NORTH ROCKS PARK PRECINCT - STAGE 1 WORKS

Item	Description	Unit	Qty	Rate	Total
A Demolition Works					
A 1.0	Play elements				
	Swings	m ²	65.00	\$7.50	\$487.50
	Bike trail & tunnel	m ²	300.00	\$25.00	\$7,500.00
	Basketball half-court	m ²	60.00	\$35.00	\$2,100.00
A 2.0	Skate Elements				
	Skate elements	m ²	140.00	\$45.00	\$6,300.00
				Sub-total	\$16,387.50
B Park Amenities					
B 1.0	Park Amenities				
	Amenities building	m ²	50.00	\$4,750.00	\$237,500.00
	Community Shed Structure - refurbish	m ²	30.00	\$1,500.00	\$45,000.00
				Sub-total	\$282,500.00
C Youth & Exercise Station (includes all complete)					
C 1.0	Youth Play Area				
	Basketball/Netball full court (concrete base and plexipave finish)	m ²	570.00	\$240.00	\$136,800.00
	Skate area	m ²	430.00	\$850.00	\$365,500.00
C 2.0	Exercise Station				
	Exercise Station	m ²	105.00	\$300.00	\$31,500.00
	Exercise equipment	Item	1.00	\$50,000.00	\$50,000.00
C 3.0	General Landscaping				
	General landscaping (high ornamental, excluding advanced trees)	m ²	1090.00	\$35.00	\$38,150.00
	Turfing (bike trail & tunnel)	m ²	300.00	\$12.00	\$3,600.00
				Sub-total	\$625,550.00
D Off-Leash Area					
D 1.0	Fencing (1.2 weldmesh)	lin m	191.00	\$120.00	\$22,920.00
D 2.0	Turfing	m ²	2955.00	\$12.00	\$35,460.00
				Sub-total	\$58,380.00
E Park Furniture - Allowance					
E 1.0	Park furniture , including seats, bins, bollards, drinking fountains, picnic tables. Assume keeping existing BBQs.	item	1.00	\$20,000.00	\$20,000.00
				Sub-total	\$20,000.00
F Park Footpaths					
F 1.0	Paving (new footpaths)	item	1.00	\$150,000.00	\$150,000.00
				Sub-total	\$150,000.00

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NORTH ROCKS PARK PRECINCT - STAGE 1 WORKS					
Item	Description	Unit	Qty	Rate	Total
G	Tree planting - Allowance				
G 1.0	Tree planting (advanced tree stock)	Item	1.00	\$5,000.00	\$5,000.00
				Sub-total	\$5,000.00
H	Sport Clubs, Courts & Surrounds				
H 1.0	Lighting to Australian Standards				
	Sport fields (allow 100Lux Training Level)	m ²	13000.00	34.00	\$442,000.00
				Sub-total	\$442,000.00
	Preliminaries & margin 15%			\$	239,972.63
	Design Contingency 10%			\$	183,979.01
	Construction Contingency 10%			\$	183,979.01
TOTAL: NRPP - Stage 1 Works (exc GST)					\$2,207,748.15
GST on Total Quotation Sum					\$220,774.82
TOTAL: NRPP - Stage 1 Works (inc GST)					\$2,428,522.97

EXCLUSIONS / ASSUMPTIONS:

- 1.0 Excludes Consultant fees
- 2.0 No allowance for disposal of spoil including any contaminated material off site
- 3.0 No allowance for solar power
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