

ARDEN PUBLIC SPACES

LP03 - Queensberry Street Extension West of Laurens Street

			Non-DCP				DCP				TOTAL			
Item	Description	Comments	Quantity	Unit	Rate	Amount	Quantity	Unit	Rate	Amount	Quantity	Unit	Rate	Amount
WORKS														
1 SITEWORKS AND EARTHWORKS														
1.1	Allowance for general demolition	Includes disposal	4,178	m2	19	78,338	4,714	m2	19	88,368	8,892	m2	19	166,725
1.2	Earthworks	Dispose of Cat C	1,223	m3	225	282,015	2,823	m3	225	635,175	4,076	m3	225	917,190
1.3	Allowance for feature mounds		-	m3	75	-	-	m3	75	-	-	m3	75	-
1.4	Allowance for ponds		-	m2	250	-	-	m2	250	-	-	m2	250	-
1.5	Allowance for demolition of existing asphalt car park		-	m2	56	-	-	m2	56	-	-	m2	56	-
1.6	Allowance for demolition of existing buildings	215 Arden street existing warehouse included under LP01 without cloudburst	-	m2	80	-	-	m2	80	-	-	m2	80	-
1.7	Allowance for removal of existing trees	Includes disposal	-	No.	625	-	-	No.	625	-	-	No.	625	-
2 ROAD PAVEMENT														
2.1	New pavement		-	m2	-	-	-	m2	-	-	-	m2	-	-
2.2	Bike Path/ Shared Path	100 thick asphalt including subbase allowance	1,317	m2	135	177,795	-	m2	135	-	1,317	m2	135	177,795
3 CONCRETE WORKS														
3.1	Kerb and Channel		-	LM	-	-	-	LM	-	-	-	LM	-	-
3.2	Kerbs		-	LM	-	-	-	LM	-	-	-	LM	-	-
4 DRAINAGE														
4.1	Drainage - pipes	450mm RCP pipe	-	LM	713	-	300	LM	713	213,900	300	LM	713	213,900
4.2	Drainage - pits		-	No.	3,750	-	6	No.	3,750	22,500	6	No.	3,750	22,500
4.3	Drainage - Subsoil drainage		-	LM	-	-	500	LM	150	75,000	500	LM	150	75,000
4.4	1200 x 900 x 2 culverts	Precast culverts assumed	16	LM	3,750	60,000	-	LM	3,750	-	16	LM	3,750	60,000
4.5	Culvert headwall		2	No.	3,750	7,500	-	No.	3,750	-	2	No.	3,750	7,500
4.6	Drainage - Miscellaneous (Description)		-	Item	-	-	-	Item	-	-	-	Item	-	-
5 TRAFFIC														
5.1	Traffic Signals		-	Item	-	-	-	Item	-	-	-	Item	-	-
5.1	Traffic Safety		-	Item	-	-	-	Item	-	-	-	Item	-	-
6 LANDSCAPE														
Vegetation														
6.1	Trees <45 litre		32	No.	250	8,000	46	No.	250	11,500	78	No.	250	19,500
6.2	Vegetation Type VE01 - Lawn	Includes soil preparation, seeding, edging where required	-	m2	13	-	1,220	m2	13	15,250	1,220	m2	13	15,250
6.3	Vegetation Type VE02 - Garden mix 01	Includes garden beds, cultivation of soil, edging where required	-	m2	88	-	325	m2	88	28,438	325	m2	88	28,438
6.4	Vegetation Type VE03 - Garden mix 02 wetland planting	Includes garden beds, cultivation of soil, edging where required	-	m2	113	-	-	m2	113	-	-	m2	113	-
6.5	Vegetation Type VE04 - Garden mix 03 Swale rain garden	Includes garden beds, cultivation of soil, edging where required	791	m2	100	79,100	-	m2	100	-	791	m2	100	79,100
6.6	Vegetation Type VE05 - Garden mix 04 Slope Embankment	Includes garden beds, cultivation of soil, edging where required	-	m2	100	-	-	m2	100	-	-	m2	100	-
Edges & Paving														
6.7	Type PV01 - Asphalt	Includes 25mm asphalt wearing course, 35mm base course, compacted subbase	-	m2	125	-	478	m2	125	59,750	478	m2	125	59,750
6.8	Type PV02 - Granitic sand	Includes 50mm granitic sand over 90mm compacted crushed rock	-	m2	19	-	-	m2	19	-	-	m2	19	-
6.9	Type PV03 - Sawn bluestone paving (standrd)		-	m2	636	-	1,858	m2	636	1,181,688	1,858	m2	636	1,181,688
6.10	Type PV04 - Sawn bluestone paving (small)		-	m2	25	-	-	m2	25	-	-	m2	25	-
6.11	Type PV05 - Timber decking boardwalk		-	m2	250	-	-	m2	250	-	-	m2	250	-
6.12	Type PV06 - 100x100x100 bluestone block paving	Includes 40mm compacted bedding sand over 150mm compacted crushed rock	-	m2	438	-	1,434	m2	438	627,375	1,434	m2	438	627,375
6.13	Type PV07 - Permeable aggregate (tree)	40mm 'Spring Rockpave', woven fabric, 60mm drainage course	-	m2	250	-	20	m2	250	5,000	20	m2	250	5,000
6.14	Type PV08 - Concrete	100mm thick concrete and 150mm thick subbase	1,260	m2	150	189,000	-	m2	150	-	1,260	m2	150	189,000
6.15	Type PV09 - Mutch	assumed 100mm thick	-	m2	25	-	-	m2	25	-	-	m2	25	-
6.16	Type TG01 - Hazard TGSi		-	m2	25	-	-	m2	25	-	-	m2	25	-
6.17	Type TG02 - Directional		-	m2	19	-	-	m2	19	-	-	m2	19	-
6.18	Type ED03 - Timber edging		-	m	313	-	-	m	313	-	-	m	313	-
6.19	Multi use court paving	Provisional allowance	-	m2	313	-	-	m2	313	-	-	m2	313	-
6.20	Allowance for tennis court	Provisional allowance	-	m2	313	-	-	m2	313	-	-	m2	313	-
Walls and Fencing														
6.21	Wall type WL01 - brick retaining wall	Includes foundations	-	m	1,250	-	-	m	1,250	-	-	m	1,250	-
6.22	Wall type WL02 - bluestone wall		-	m	-	-	-	m	-	-	-	m	-	-
6.23	Fence Type FN01 - fencing and gate	Includes posts	-	m	625	-	-	m	625	-	-	m	625	-
6.24	OSS LEEVEE Wall	Excluded	-	m	-	-	-	m	-	-	-	m	-	-
6.25	High quality rail fence	Provisional allowance	-	m	3,750	-	-	m	3,750	-	-	m	3,750	-
Furniture, Handrail & Equipment														
6.26	Type FR01 - Bench		-	No.	5,700	-	20	No.	5,700	114,000	20	No.	5,700	114,000
6.27	Type FR02 - Seat		-	No.	5,300	-	26	No.	5,300	137,800	26	No.	5,300	137,800
6.28	Type FR03 - Custom Seat		-	No.	2,600	-	-	No.	2,600	-	-	No.	2,600	-
6.29	Type FR04 - Bins		-	No.	5,300	-	-	No.	5,300	-	-	No.	5,300	-
6.30	Type FR05 - Drinking Fountain	Including water supply connections	-	No.	7,500	-	-	No.	7,500	-	-	No.	7,500	-
6.31	Type FR06 - Bike Hoop		-	No.	805	-	-	No.	805	-	-	No.	805	-
6.32	Type FR07 - Tree guard & grate (Bio retention tree pit)		-	No.	1,625	-	-	No.	1,625	-	-	No.	1,625	-
6.33	Type FR08 - Picnic Table		-	No.	3,750	-	-	No.	3,750	-	-	No.	3,750	-
6.34	Type FR09 - Picnic Table (Custom)		-	No.	3,750	-	-	No.	3,750	-	-	No.	3,750	-
6.35	Type FR10 - Double BBQ set	Includes lectrical connection and installation	-	No.	11,250	-	-	No.	11,250	-	-	No.	11,250	-
6.36	Type FR11-A - Bolland (HVM Fixed)		-	No.	-	-	-	No.	-	-	-	No.	-	-
6.37	Type FR11-B - Bolland (HVM Removable)		-	No.	-	-	-	No.	-	-	-	No.	-	-
6.38	Type FR12-A - Bolland (Non HVM Fixed)		-	No.	3,125	-	-	No.	3,125	-	-	No.	3,125	-
6.39	Type FR12-B - Bolland (Non HVM Removable)		-	No.	3,750	-	-	No.	3,750	-	-	No.	3,750	-
6.40	Type FR13 - Rock feature		-	Item	-	-	-	Item	-	-	-	Item	-	-
6.41	Type FR14 - Shelter	Includes posts, foundations, pergolas	-	m2	1,250	-	215	m2	1,250	268,750	215	m2	1,250	268,750
6.42	Type FR15 - Toilet		-	Item	35,000	-	-	Item	35,000	-	-	Item	35,000	-
6.43	Type HR01 - Handrail		-	m	-	-	-	m	-	-	-	m	-	-
6.44	Type PLD1 - Skate Park item area		-	Item	-	-	-	Item	-	-	-	Item	-	-
6.45	Type PLD2 - Outdoor fitness equipment (Provisional Sum)		-	No.	-	-	-	No.	-	-	-	No.	-	-
6.46	Type PLD3 - Water Play		1	Item	250,000	250,000	-	Item	-	-	1	Item	250,000	250,000
6.47	Steel hoop fence around garden bed type VE02		-	m	250	-	222	m	250	55,500	222	m	250	55,500
6.49	Allowance for multiuse court equipment		-	Item	-	-	-	Item	-	-	-	Item	-	-
7 STREET LIGHTING														
7.1	Type - L101 Street/ Park light	Includes luminaire and foundation	-	No.	12,500	-	20	No.	12,500	250,000	20	No.	12,500	250,000
7.2	Type - L102 Light		-	No.	30,000	-	-	No.	30,000	-	-	No.	30,000	-
8 UTILITIES														
8.1	Allowance for non-disruptive digging	Required to facilitate both DCP and non-DCP works	1	Item	18,750	18,750	1	Item	18,750	18,750	2	Item	18,750	37,500
8.2	Relocate utilities (Provisional Sum)		-	PS	-	-	-	PS	-	-	-	PS	-	-
8.3	Protect utilities (Provisional Sum)		1	PS	25,000	25,000	1	PS	25,000	25,000	2	PS	25,000	50,000
8.4	Allowance for electrical services for street lighting	Includes cable trenching	-	m	875	-	870	m	875	761,250	870	m	875	761,250
9 MISCELLANEOUS														
9.1	Line marking		-	Item	-	-	-	Item	-	-	-	Item	-	-
9.2	Regulatory Signage		-	no	750	-	-	no	750	-	-	no	750	-
9.3	Works maintenance - up to 1 year		1	Item	5,000	5,000	1	Item	5,000	5,000	2	Item	5,000	10,000
9.4	Landscape maintenance - 1yr/2 summers		1	Item	7,500	7,500	1	Item	7,500	7,500	2	Item	7,500	15,000
9.5	Traffic signals 10 year Maintenance Fee		-	Item	-	-	-	Item	-	-	-	Item	-	-
SUB-TOTAL WORKS						1,188,000				4,608,000				5,796,000
12 DELIVERY														
12.1	Council Fees			3.25	%	38,600		3.25	%	149,800		3.25	%	188,400
12.2	Other Authority Fees			1.00	%	11,900		1	%	46,100		1	%	58,000
12.3	Traffic Management			7.00	%	83,200		7	%	322,600		7	%	405,700
12.4	Environmental Management			0.50	%	5,900		0.5	%	23,000		0.5	%	29,000
12.5	Survey/Design			5.00	%	69,400		5	%	230,400		5	%	289,800
12.6	Supervision/Project Management			9.00	%	108,900		9	%	414,700		9	%	521,600
12.7	Site Establishment			2.50	%	29,700		2.5	%	115,200		2.5	%	144,900
12.8	Project Contingency			25.00	%	297,000		25	%	1,152,000		25	%	1,449,000
SUB-TOTAL DELIVERY						633,000				2,454,000				3,086,000
13 TOTAL ESTIMATED COST						1,821,000				7,062,000				8,882,000

ARDEN PUBLIC SPACES
High Level Cost Estimates

LP-04

Item	Description	Quantity	Unit	Rate	Amount	Comments
	WORKS					
1	SITEWORKS AND EARTHWORKS					
1.1	Allowance for general demolition	9,900	m2	19	185,625	Includes disposal
1.2	Earthworks	4,950	m3	225	1,113,750	Disposal of Cat C
1.3	Allowance for feature mounds	1,000	m3	75	75,000	average height of 1m over 10% of total area assumed
1.4	Allowance for ponds		m2	250	-	
1.5	Allowance for demolition of existing asphalt car park		m2	56	-	
1.6	Allowance for demolition of existing buildings		m2	80	-	
1.7	Allowance for removal of existing trees		No.	625	-	
2	ROAD PAVEMENT					
2.1	New pavement	-	m2		-	
2.2	Bike Path/ Shared Path		m2	135	-	
3	CONCRETE WORKS					
3.1	Kerb and Channel	-	LM		-	
3.2	Kerbs	-	LM		-	
4	DRAINAGE					
4.1	Drainage – pipes	150	LM	580	87,000	300mm RCP pipe
4.2	Drainage – pits	4	No.	3,750	15,000	
4.3	Drainage – Sub-soil drainage	200	LM	150	30,000	
4.4	1200 x 900 x 2 culverts		LM	3,750	-	
4.5	Culvert headwall		No.	3,750	-	
4.6	Drainage – Miscellaneous(Description)		Item		-	
5	TRAFFIC					
5.1	Traffic Signals		Item		-	
5.1	Traffic Safety		Item		-	
6	LANDSCAPE					
	<u>Vegetation</u>					
6.1	Trees -45 litre	104	No.	250	26,000	
6.2	Vegetation Type VE01 - Lawn	3,741	m2	13	46,763	Includes soil preparation, seeding, edging where required
6.3	Vegetation Type VE02 - Garden mix 01	2,136	m2	88	186,900	Includes garden beds, cultivation of soil, edging where required
6.4	Vegetation Type VE03 - Garden mix 02 wetland planting		m2	113	-	
6.5	Vegetation Type VE04 - Garden mix 03 Swale rain garden		m2	100	-	
6.6	Vegetation Type VE05 - Garden mix 04 Slope Embankment		m2	100	-	
	<u>Edges & Paving</u>					
6.7	Type PV01 - Asphalt		m2	125	-	
6.8	Type PV02 - Granitic sand	1,608	m2	19	30,150	includes 50mm granitic sand over 90mm compacted crushed rock
6.9	Type PV03 - Sawn bluestone paving (standrd)		m2		-	
6.10	Type PV04 - Sawn bluestone paving (small)		m2		-	
6.11	Type PV05 - Timber decking/ boardwalk		m2	250	-	
6.12	Type PV06 - 100x100x100 bluestone block paving		m2	438	-	
6.13	Type PV07 - Permeable aggregate (tree)	77	m2	250	19,250	40mm 'Spring Rockpave', woven fabric, 60mm drainage course
6.14	Type PV08 - Concrete	710	m2	150	106,500	100mm thick concrete and 150mm thick subbase
6.15	Type PV09 - Mulch	1,441	m2	25	36,025	assumed 100mm thick
6.16	Type TG01 - Hazard TGSi		m2		-	
6.17	Type TG02 - Directional		m2		-	
6.18	Type ED03 - Timber edging	210	m	19	3,938	
6.19	Multi use court paving	663	m2	313	207,189	Provisional allowance
6.20	Allowance for tennis court	363	m2	313	113,438	Provisional allowance
	<u>Walls and Fencing</u>					
6.21	Wall type WL01 - brick retaining wall		m	1,250	-	
6.22	Wall type WL02 - bluestone wall		m		-	
6.23	Fence Type FN01 - fencing and gate		m	625	-	
6.24	DSS LEEVEE Wall		m		-	
6.25	High quality rail fence		m	3,750	-	
	<u>Furniture, Handrail & Equipment</u>					
6.26	Type FR01 - Bench		No.	5,700	-	
6.27	Type FR02 - Seat		No.	5,300	-	
6.28	Type FR03 - Custom Seat	68	m	2,600	176,800	
6.29	Type FR04 - Bins	2	No.	5,300	10,600	
6.30	Type FR05 - Drinking Fountain	1	No.	7,500	7,500	Including water supply connections
6.31	Type FR06 - Bike Hoop		No.	805	-	
6.32	Type FR07 - Tree guard & grate (Bio retention tree pit)		No.	1,625	-	
6.33	Type FR08 - Picnic Table	4	No.	3,750	15,000	
6.34	Type FR09 - Picnic Table (Custom)	1	No.	3,750	3,750	
6.35	Type FR10 - Double BBQ set	1	No.	11,250	11,250	Includes lectrical connection and installation
6.36	Type FR11-A - Bollard (HVM Fixed)		No.		-	
6.37	Type FR11-B - Bollard (HVM Removable)		No.		-	
6.38	Type FR12-A - Bollard (Non HVM Fixed)		No.	3,125	-	
6.39	Type FR12-B - Bollard (Non HVM Removable)		No.	3,750	-	
6.40	Type FR13 - Rock feature	1	Item	25,000	25,000	
6.41	Type FR14 - Shelter		m2	1,250	-	
6.42	Type FR15 - Toilet		No.	35,000	-	Includes posts, foundations, pergolas
6.43	Type HR01 - Handrail		m	1,000	-	Wetland custom balustrade
6.44	Type PL01 - Skate Park Item area		Item		-	
6.45	Type PL02 - Outdoor fitness equipment (Provisional Sum)	3	No.	6,000	18,000	
6.46	Type PL03 - Water Play Item		Item		-	
6.47	Type PL04 - Nature Play	1	Item	40,000	40,000	
6.48	Steel hoop fence around garden bed type VE02		m	250	-	
6.49	Allowance for multihuse court/ tennis court equipment	1	Item	15,000	15,000	
7	STREET LIGHTING					
7.1	Type - LT01 Street/ Park light	16	No.	4,375	70,000	Includes luminre and foundation
7.2	Type - LT02 Light		No.	30,000	-	
8	UTILITIES					
8.1	Allowance for non-disruptive digging	1	Item	18,750	18,750	
8.2	Relocate utilities (Provisional Sum)		PS		-	Excluded
8.3	Protect utilities (Provisional Sum)	1	PS	25,000	25,000	
8.4	Allowance for electrical services for street lighting	480	m	875	420,000	Includes cable trenching
9	MISCELLANEOUS					
9.1	Line marking		Item		-	
9.2	Regulatory Signage		no	750	-	
9.3	Works maintenance – up to 1 year		Item		-	Excluded
9.4	Landscape maintenance – 1yr/2 summers	1	Item	25,000	25,000	
9.5	Traffic signals 10 year Maintenance Fee		Item		-	
	SUB-TOTAL WORKS				3,164,000	
12	DELIVERY					
12.1	Council Fees	3.25	%		102,800	
12.2	Other Authority Fees	1	%		31,600	
12.3	Traffic Management	7	%		221,500	
12.4	Environmental Management	1	%		15,600	
12.5	Survey/Design	6	%		158,200	
12.6	Supervision/Project Management	9	%		284,800	
12.7	Site Establishment	2.5	%		75,100	
12.8	Project Contingency	25	%		791,000	
	SUB-TOTAL DELIVERY				1,685,000	
13	TOTAL ESTIMATED COST				4,849,000	

ARDEN PUBLIC SPACES

LP-05 - West Side of Langford Street (North of Arden Street)

Item	Description	Comments
WORKS		
1 SITEWORKS AND EARTHWORKS		
1.1	Allowance for general demolition	Includes disposa
1.2	Earthworks	Disposal of Cat C
1.3	Allowance for feature mounds	N/A
1.4	Allowance for ponds	Assumed average depth of 1m. Rate includes disposal of Cat C and capping layer
1.5	Allowance for demolition of existing asphalt car car	5-63 Langford street existing warehouse, 61 & 155 Langford street brick buildings
1.6	Allowance for demolition of existing buildings	Includes disposa
1.7	Allowance for removal of existing tree	Includes disposa
2 ROAD PAVEMENT		
2.1	New pavement	
2.2	Bike Path/ Shared Path	100 thick asphalt including subbase allowance
3 CONCRETE WORKS		
3.1	Kerb and Channe	
3.2	Kerbs	
4 DRAINAGE		
4.1	Drainage - pipes	450mm RCP pipe
4.2	Drainage - pits	
4.3	Drainage - Sub-soil drainage	
4.4	1200 x 900 x 2 culverts	Precast culverts assumed
4.5	Culvert headwall	
4.6	Drainage - Miscellaneous(Description)	Under rail crossing to MPC
5 TRAFFIC		
5.1	Traffic Signals	
5.1	Traffic Safety	
6 LANDSCAPE		
Vegetation		
6.1	Trees -45 litre	
6.2	Vegetation Type VE01 - Lawn	Includes soil preparation, seeding, edging where required
6.3	Vegetation Type VE02 - Garden mix 01	Includes garden beds, cultivation of soil, edging where required
6.4	Vegetation Type VE03 - Garden mix 02 wetland planting	Includes garden beds, cultivation of soil, edging where required
6.5	Vegetation Type VE04 - Garden mix 03 Swale rain garden	Includes garden beds, cultivation of soil, edging where required
6.6	Vegetation Type VE05 - Garden mix 04 Slope Embankment	Includes garden beds, cultivation of soil, edging where required
Edges & Paving		
6.7	Type PV01 - Asphalt	includes 25mm asphalt wearing course, 35mm base course, compacted subbase
6.8	Type PV02 - Granitic sand	includes 50mm granitic sand over 90mm compacted crushed rock
6.9	Type PV03 - Sawn bluestone paving (standrd	
6.10	Type PV04 - Sawn bluestone paving (small	
6.11	Type PV05 - Timber decking/ boardwalk	
6.12	Type PV06 - 100x100x100 bluestone block paving	includes 40mm compacted bedding sand over 150mm compacted crushed rock
6.13	Type PV07 - Permeable aggregate (tree)	40mm 'Spring Rockpave', woven fabric, 60mm drainage course
6.14	Type PV08 - Concrete	100mm thick concrete and 150mm thick subbase assumed 100mm thick
6.15	Type PV09 - Mulch	
6.16	Type TG01 - Hazard TGS	
6.17	Type TG02 - Directional	
6.18	Type ED03 - Timber edging	
6.19	Multi use court paving	Provisional allowance
6.20	Allowance for tennis court	Provisional allowance
Walls and Fencing		
6.21	Wall type WL01 - brick retaining wall	Includes foundations
6.22	Wall type WL02 - bluestone wall	
6.23	Fence Type FN01 - fencing and gate	Includes posts
6.24	DSS LEVEE Wall	Excluded
6.25	High quality rail fence	Provisional allowance
Furniture, Handrail & Equipment		
6.26	Type FR01 - Bench	
6.27	Type FR02 - Seat	
6.28	Type FR03 - Custom Seat	
6.29	Type FR04 - Bins	
6.30	Type FR05 - Drinking Fountain	
6.31	Type FR06 - Bike Rack	Including water supply connections
6.32	Type FR07 - Tree guard & grate (Bio retention tree pit	
6.33	Type FR08 - Picnic Table	
6.34	Type FR09 - Picnic Table (Custom)	
6.35	Type FR10 - Double BBQ set	Includes lectrical connection and installer
6.36	Type FR11-A - Bollard (HVM Fixed	
6.37	Type FR11-B - Bollard (HVM Removable	
6.38	Type FR12-A - Bollard (Non HVM Fixed	
6.39	Type FR12-B - Bollard (Non HVM Removable	
6.40	Type FR13 - Rock feature	
6.41	Type FR14 - Shelter	Includes posts, foundations, pergola
6.42	Type FR15 - Toilet	
6.43	Type HR01 - Handrail	Wetland custom balustrade
6.44	Type PL01 - Skate Park Item area	
6.45	Type PL02 - Outdoor fitness equipment (Provisional Sum	
6.46	Type PL03 - Water Play Item	
6.47	Type PL04 - Nature Play	
6.48	Steel hoop fence around garden bed type VE0	
6.49	Allowance for multiuse court equipment	
7 STREET LIGHTING		
7.1	Type - L101 Street Park light	Includes luminaire and foundation
7.2	Type - L102 Light	
8 UTILITIES		
8.1	Allowance for non-disruptive digginx	
8.2	Relocate utilities (Provisional Sum	
8.3	Protect utilities (Provisional Sum	
8.4	Allowance for electrical services for street lightin	Includes cable trenching
9 MISCELLANEOUS		
9.1	Line marking	
9.2	Regulatory Signage	
9.3	Works maintenance - up to 1 year	
9.4	Landscape maintenance - 1yr/2 summer	
9.5	Traffic signals 10 year Maintenance Fe	
SUB-TOTAL WORKS		

Quantity	Unit	Rate	Amount
10,350	m2	19	194,063
10,100	m3	225	2,272,500
	m3	75	-
662	m2	250	165,500
5,230	m2	56	294,188
4,600	m2	80	368,000
25	No.	1,250	31,250
-	m2		-
	m2	135	-
-	LM		-
-	LM		-
-	LM		-
-	LM		-
400	LM	713	-
-	No.	3,750	-
	LM	3,750	-
	No.	3,750	-
2	Item	150,000	300,000
	Item		-
	Item		-
	No.	250	-
5,364	m2	13	67,050
	m2	88	-
3,819	m2	113	429,638
	m2	100	-
	m2	100	-
	m2	125	-
	m2	19	-
	m2		-
	m2		-
	m2	250	-
	m2	438	-
	m2	250	-
	m2	150	-
	m2	25	-
	m2		-
	m2		-
	m	19	-
	m2	313	-
	m2	313	-
	m	1,250	-
	m		-
	m	625	-
			-
	m	3,750	-
			-
	No.	5,700	-
	No.	5,300	-
	m	2,600	-
	No.	5,300	-
	No.	7,500	-
	No.	805	-
	No.	1,625	-
	No.	3,750	-
	No.	3,750	-
	No.	11,250	-
	No.	11,250	-
	No.	3,750	-
	No.	3,750	-
	No.	3,125	-
	No.	3,750	-
	Item		-
	m2	1,250	-
	Item	35,000	-
	m	1,000	-
			-
	No.		-
	Item		-
	Item		-
	Item	250	-
	Item		-
	No.	12,500	-
	No.	30,000	-
1	Item	18,750	18,750
1	PS	25,000	25,000
	m	875	-
	Item		-
	No	750	-
	Item		-
	Item		-
	Item	25,000	25,000
	Item		-
SUB-TOTAL WORKS			4,221,000

Quantity	Unit	Rate	Amount
	m2	19	-
1,000	m3	225	225,000
	m3	75	-
	m2	250	-
	m2	56	-
	m2	80	-
	No.	1,250	-
-	m2		-
471	m2	135	63,585
-	LM		-
-	LM		-
-	LM		-
400	LM	713	285,200
8	No.	3,750	30,000
450	LM	150	67,500
	LM	3,750	-
	No.	3,750	-
	Item	150,000	-
	Item		-
	Item		-
144	No.	250	36,000
	m2	13	-
1,049	m2	88	91,788
	m2	113	-
	m2	100	-
	m2	100	-
	m2	125	-
3,105	m2	19	58,219
	m2		-
	m2		-
177	m2	250	44,250
	m2	438	-
	m2	250	-
	m2	150	-
686	m2	25	17,150
	m2		-
	m2		-
	m	19	-
	m2	313	-
	m2	313	-
	m	1,250	-
	m		-
115	m	625	71,875
	m	3,750	-
			-
	No.	5,700	-
6	No.	5,300	31,800
84	m	2,600	218,400
2	No.	5,300	10,600
1	No.	7,500	7,500
	No.	805	-
	No.	1,625	-
	No.	3,750	-
	No.	3,750	-
	No.	11,250	-
1	No.	11,250	11,250
	No.	3,750	-
	No.	3,750	-
4	No.	3,125	12,500
	No.	3,750	-
	Item		-
71	m2	1,250	88,750
	Item	35,000	-
	m	1,000	-
	Item		-
	No.		-
	Item		-
	Item		-
450	m	250	112,500
	Item		-
31	No.	12,500	387,500
	No.	30,000	-
1	Item	18,750	18,750
1	PS	25,000	25,000
930	m	875	813,750
	Item		-
	No	750	-
	Item		-
1	Item	25,000	25,000
	Item		-
SUB-TOTAL WORKS			2,754,000

Combined

Quantity	Unit	Rate	Amount
10,350	m2	19	194,063
11,100	m3	225	2,497,500
-	m3	75	-
662	m2	250	165,500
5,230	m2	56	294,188
4,600	m2	80	368,000
25	No.	1,250	31,250
-			-
-	m2		-
471	m2	135	63,585
-	LM		-
-	LM		-
-	LM		-
400	LM	713	285,200
8	No.	3,750	30,000
450	LM	150	67,500
	LM	3,750	-
	No.	3,750	-
2	Item	150,000	300,000
-	Item		-
-	Item		-
-	Item		-
-			-
-			-
144	No.	250	36,000
5,364	m2	13	67,050
1,049	m2	88	91,788
3,819	m2	113	429,638
-	m2	100	-
-	m2	100	-
-			-
-	m2	125	-
-			-
3,105	m2	19	58,219
-	m2		-
-	m2		-
177	m2	250	44,250
-	m2	438	-
-	m2	250	-
-	m2	150	-
686	m2	25	17,150
-	m2		-
-	m2		-
-	m	19	-
-	m2	313	-
-	m2	313	-
-	m	1,250	-
-	m		-
115	m	625	71,875
-			-
-	m	3,750	-
-			-
-	No.	5,700	-
6	No.	5,300	31,800
84	m	2,600	218,400
2	No.	5,300	10,600
1	No.	7,500	7,500
-	No.	805	-
-	No.	1,625	-
-	No.	3,750	-
-	No.	3,750	-
-	No.	11,250	-
1	No.	11,250	11,250
-	No.	3,750	-
-	No.	3,750	-
4	No.	3,125	12,500
-	No.	3,750	-
-	Item		-
71	m2	1,250	88,750
-	Item	35,000	-
-	m	1,000	-
55	m		-
-	No.		-
-	Item		-
-	Item		-
-	Item		-
450	m	250	112,500
-	Item		-
-			-
31	No.	12,500	387,500
-	No.	30,000	-
-			-
2	Item	18,750	37,500
-	PS	25,000	50,000
930	m	875	813,750
-			-
-	Item		-
-	No	750	-
-	Item		-
1	Item	25,000	25,000
-	Item		-
SUB-TOTAL WORKS			6,975,000

12	DELIVERY			
12.1	Council Fees	3.25	%	137,200
12.2	Other Authority Fees	1.00	%	42,200
12.3	Traffic Management	7.00	%	295,500
12.4	Environmental Management	0.50	%	21,100
12.5	Survey/Design	5.00	%	211,100
12.6	Supervision/Project Management	9.00	%	379,900
12.7	Site Establishment	2.50	%	105,500
12.8	Project Contingency	25.00	%	1,055,300
SUB-TOTAL DELIVERY				2,245,000
13	TOTAL ESTIMATED COST			6,469,000

ARDEN PUBLIC SPACES
LP-06 - West side of Station Site (South of Arden Street)

			Non-DCP				DCP				COMBINED			
Item	Description	Comments	Quantity	Unit	Rate	Amount	Quantity	Unit	Rate	Amount	Quantity	Unit	Rate	Amount
WORKS														
1	SITeworks AND EARTHWORKS													
1.1	Allowance for general demolition	Includes disposal	5,440	m2	19	103,360	5,300	m2	19	100,700	10,740	m2	19	204,060
1.2	Earthworks	Disposal of Cat C	6,528	m3	225	1,468,800	1,200	m3	225	270,000	7,728	m3	225	1,738,800
1.3	Allowance for feature mounds	Average height of 1m over 10% of total area assumed	-	m3	75	-	1,070	m3	75	80,250	1,070	m3	75	80,250
1.4	Allowance for ponds	Assumed average depth of 1m. Rate includes disposal of Cat C and capping layer	670	m2	250	167,500	-	m2	250	-	670	m2	250	167,500
1.5	Allowance for demolition of existing asphalt car park		-	m2	56	-	-	m2	56	-	-	m2	56	-
1.6	Allowance for demolition of existing buildings	Demolition of 243 Arden Street	-	m2	80	-	2,100	m2	80	168,000	2,100	m2	80	168,000
1.7	Allowance for removal of existing trees	Includes disposal	5	No.	1,250	6,250	-	No.	1,250	-	5	No.	1,250	6,250
2	ROAD PAVEMENT													
2.1	New pavement		-	m2	-	-	-	m2	-	-	-	m2	-	-
2.2	Bike Path/ Shared Path	100 thick asphalt including subbase allowance	-	m2	-	-	177	m2	135	23,895	177	m2	135	23,895
3	CONCRETE WORKS													
3.1	Kerb and Channel		-	LM	-	-	-	LM	-	-	-	LM	-	-
3.2	Kerbs		-	LM	-	-	-	LM	-	-	-	LM	-	-
4	DRAINAGE													
4.1	Drainage - pipes	450mm RCP pipe	-	LM	713	-	250	LM	713	178,250	250	LM	713	178,250
4.2	Drainage - pits		-	No.	3,750	-	5	No.	3,750	18,750	5	No.	3,750	18,750
4.3	Drainage - Sub-soil drainage		-	LM	-	-	250	LM	150	37,500	250	LM	150	37,500
4.4	1200 x 900 x 2 culverts	Precast culverts assumed	-	LM	-	-	-	LM	-	-	-	LM	-	-
4.5	Culvert headwall		-	No.	-	-	-	No.	-	-	-	No.	-	-
4.6	Drainage - Miscellaneous (Description)	Under rail crossing to MPC	1	Item	150,000	150,000	-	Item	150,000	-	1	Item	150,000	150,000
5	TRAFFIC													
5.1	Traffic Signals		-	Item	-	-	-	Item	-	-	-	Item	-	-
5.1	Traffic Safety		-	Item	-	-	-	Item	-	-	-	Item	-	-
6	LANDSCAPE													
6.1	Vegetation		-	No.	250	-	129	No.	250	32,250	129	No.	250	32,250
6.2	Vegetation Type VE01 - Lawn	Includes soil preparation, seeding, edging where required	9,912	m2	13	123,900	-	m2	13	-	9,912	m2	13	123,900
6.3	Vegetation Type VE02 - Garden mix 01	Includes garden beds, cultivation of soil, edging where required	-	m2	88	-	178	m2	88	15,575	178	m2	88	15,575
6.4	Vegetation Type VE03 - Garden mix 02 wetland planting	Includes garden beds, cultivation of soil, edging where required	2,567	m2	113	288,788	-	m2	113	-	2,567	m2	113	288,788
6.5	Vegetation Type VE04 - Garden mix 03 Swale rain garden	Includes garden beds, cultivation of soil, edging where required	-	m2	100	-	-	m2	100	-	-	m2	100	-
6.6	Vegetation Type VE05 - Garden mix 04 Slope Embankment	Includes garden beds, cultivation of soil, edging where required	1,072	m2	100	107,200	-	m2	100	-	1,072	m2	100	107,200
Edges & Paving														
6.7	Type PV01 - Asphalt	includes 25mm asphalt wearing course, 35mm base course, compacted subbase	-	m2	125	-	213	m2	125	26,625	213	m2	125	26,625
6.8	Type PV02 - Granitic sand	includes 50mm granitic sand over 90mm compacted crushed rock	-	m2	19	-	727	m2	19	13,631	727	m2	19	13,631
6.9	Type PV03 - Sawn bluestone paving (standard)		-	m2	-	-	-	m2	-	-	-	m2	-	-
6.10	Type PV04 - Sawn bluestone paving (small)		-	m2	-	-	-	m2	-	-	-	m2	-	-
6.11	Type PV05 - Timber decking/ boardwalk		-	m2	250	-	194	m2	250	48,500	194	m2	250	48,500
6.12	Type PV06 - 100x100x100 bluestone block paving	includes 40mm compacted bedding sand over 150mm compacted crushed rock	-	m2	438	-	-	m2	438	-	-	m2	438	-
6.13	Type PV07 - Permeable aggregate (tree)	40mm 'Spring Rockpave', woven fabric, 60mm drainage course	-	m2	250	-	66	m2	250	16,500	66	m2	250	16,500
6.14	Type PV08 - Concrete	100mm thick concrete and 150mm thick subbase	-	m2	150	-	1,415	m2	150	212,250	1,415	m2	150	212,250
6.15	Type PV09 - Mulch	assumed 100mm thick	-	m2	25	-	-	m2	25	-	-	m2	25	-
6.16	Type TG01 - Hazard TGSi		-	m2	-	-	-	m2	-	-	-	m2	-	-
6.17	Type TG02 - Directional		-	m2	-	-	-	m2	-	-	-	m2	-	-
6.18	Type ED03 - Timber edging		-	m	19	-	-	m	19	-	-	m	19	-
6.19	Multi use court paving	Provisional allowance	-	m2	313	-	-	m2	313	-	-	m2	313	-
6.20	Allowance for tennis court	Provisional allowance	-	m2	313	-	-	m2	313	-	-	m2	313	-
Walls and Fencing														
6.21	Wall type WL01 - brick retaining wall	Includes foundations	-	m	1,250	-	-	m	1,250	-	-	m	1,250	-
6.22	Wall type WL02 - bluestone wall	Includes posts	-	m	625	-	-	m	625	-	-	m	625	-
6.23	Fence Type FN01 - fencing and gate		-	m	625	-	-	m	625	-	-	m	625	-
6.24	DSS LEEVEE Wall	Excluded	-	m	-	-	-	m	-	-	-	m	-	-
6.25	High quality rail fence	Provisional allowance	-	m	3,750	-	-	m	3,750	-	-	m	3,750	-
Furniture, Handrail & Equipment														
6.26	Type FR01 - Bench		-	No.	5,700	-	-	No.	5,700	-	-	No.	5,700	-
6.27	Type FR02 - Seat		-	No.	5,300	-	3	No.	5,300	15,900	3	No.	5,300	15,900
6.28	Type FR03 - Custom Seat		-	m	2,600	-	50	m	2,600	130,000	50	m	2,600	130,000
6.29	Type FR04 - Bin		-	No.	5,300	-	8	No.	5,300	31,800	8	No.	5,300	31,800
6.30	Type FR05 - Drinking Fountain	Including water supply connections	-	No.	7,500	-	1	No.	7,500	7,500	1	No.	7,500	7,500
6.31	Type FR06 - Bike Hoop		-	No.	805	-	-	No.	805	-	-	No.	805	-
6.32	Type FR07 - Tree guard & grate (Bio retention tree pit)		-	No.	1,625	-	-	No.	1,625	-	-	No.	1,625	-
6.33	Type FR08 - Picnic Table		-	No.	3,750	-	-	No.	3,750	-	-	No.	3,750	-
6.34	Type FR09 - Picnic Table (Custom)		-	No.	3,750	-	1	No.	3,750	3,750	1	No.	3,750	3,750
6.35	Type FR10 - Double BBQ set		-	No.	11,250	-	1	No.	11,250	11,250	1	No.	11,250	11,250
6.36	Type FR11-A - Bollard (HVM Fixed)	Includes lechical connection and installation	-	No.	-	-	-	No.	-	-	-	No.	-	-
6.37	Type FR11-B - Bollard (HVM Removable)		-	No.	-	-	-	No.	-	-	-	No.	-	-
6.38	Type FR12-A - Bollard (Non HVM Fixed)		-	No.	3,125	-	8	No.	3,125	25,000	8	No.	3,125	25,000
6.39	Type FR12-B - Bollard (Non HVM Removable)		-	No.	3,750	-	2	No.	3,750	7,500	2	No.	3,750	7,500
6.40	Type FR13 - Rock feature		-	Item	25,000	-	-	Item	25,000	-	-	Item	25,000	-
6.41	Type FR14 - Shelter	Includes posts, foundations, pergolas	-	m2	1,250	-	-	m2	1,250	-	-	m2	1,250	-
6.42	Type FR15 - Toilet		-	m	-	-	-	m	-	-	-	m	-	-
6.43	Type HR01 - Handrail	Wetland custom balustrade	-	m	1,000	-	1	m	1,000	-	-	m	1,000	-
6.44	Type PL01 - Skate Park Item area (Provisional Sum)		-	PS	120,000	-	1	PS	120,000	120,000	1	PS	120,000	120,000
6.45	Type PL02 - Outdoor fitness equipment (Provisional Sum)		-	No.	6,000	-	1	No.	6,000	6,000	1	No.	6,000	6,000
6.46	Type PL03 - Water Play Item		-	Item	-	-	-	Item	-	-	-	Item	-	-
6.47	Type PL04 - Nature Play		-	Item	40,000	-	-	Item	40,000	-	-	Item	40,000	-
6.48	Steel hoop fence around garden bed type VE02		-	m	250	-	-	m	250	-	-	m	250	-
6.49	Allowance for multiuse court equipment		-	Item	15,000	-	-	Item	15,000	-	-	Item	15,000	-
7	STREET LIGHTING													
7.1	Type - LT01 Street/ Park light	Includes luminaire and foundation	-	No.	12,500	-	19	No.	12,500	237,500	19	No.	12,500	237,500
7.2	Type - LT02 Light	Large flood lights assumed	-	No.	30,000	-	-	No.	30,000	-	-	No.	30,000	-
8	UTILITIES													
8.1	Allowance for non-disruptive digging		1	Item	18,750	18,750	1	Item	18,750	18,750	2	Item	18,570	37,140
8.2	Relocate utilities (Provisional Sum)		-	PS	-	-	-	PS	-	-	-	PS	-	-
8.3	Protect utilities (Provisional Sum)		-	PS	25,000	25,000	1	PS	25,000	25,000	2	PS	25,000	50,000
8.4	Allowance for electrical services for street lighting		-	m	875	-	570	m	875	498,750	570	m	875	498,750
9	MISCELLANEOUS													
9.1	Line marking		-	Item	-	-	-	Item	-	-	-	Item	-	-
9.2	Regulatory Signage		-	no	-	-	-	no	-	-	-	no	-	-
9.3	Works maintenance - up to 1 year		-	Item	-	-	-	Item	-	-	-	Item	-	-
9.4	Landscape maintenance - 1x/2 summers		-	Item	25,000	-	1	Item	25,000	25,000	1	Item	25,000	25,000
9.5	Traffic signals 10 year Maintenance Fee		-	Item	-	-	-	Item	-	-	-	Item	-	-
SUB-TOTAL WORKS														

MPC 01&02 - Upgrade to Moonee Ponds Creek path

Item	Description	Comments
	WORKS	
1	SITEWORKS AND EARTHWORKS	
1.1	Allowance for general demolition	Includes disposal
1.2	Earthworks	Disposal of Cat C
1.3	Allowance for feature mounds	
1.4	Allowance for ponds	
1.5	Allowance for demolition of existing asphalt car park	
1.6	Allowance for demolition of existing buildings	
1.7	Allowance for removal of existing trees	Includes disposal
2	ROAD PAVEMENT	
2.1	New pavement	
2.2	Bike Path/ Shared Path	100 thick asphalt including subbase allowance
3	CONCRETE WORKS	
3.1	Kerb and Channel	
3.2	Kerbs	
4	DRAINAGE	
4.1	Drainage - pipes	
4.2	Drainage - pits	
4.3	Drainage - Sub-soil drainage	
4.4	1200 x 900 x 2 culverts	Precast culverts assumed
4.5	Culvert headwall	
4.6	Drainage - Miscellaneous(Description)	
5	TRAFFIC	
5.1	Traffic Signals	
5.1	Traffic Safety	
6	LANDSCAPE	
	<i>Vegetation</i>	
6.1	Trees -45 litre	
6.2	Vegetation Type VE01 - Lawn	Includes soil preparation, seeding, edging where required
6.3	Vegetation Type VE02 - Garden mix 01	Includes garden beds, cultivation of soil, edging where requirec
6.4	Vegetation Type VE03 - Garden mix 02 wetland planting	Includes garden beds, cultivation of soil, edging where requirec
6.5	Vegetation Type VE04 - Garden mix 03 Swale rain garden	Includes garden beds, cultivation of soil, edging where requirec
6.6	Vegetation Type VE05 - Garden mix 04 Slope Embankment	Includes garden beds, cultivation of soil, edging where requirec
	<i>Edges & Paving</i>	
6.7	Type PV01 - Asphalt	includes 25mm asphalt wearing course, 35mm base course, compacted subbase
6.8	Type PV02 - Granitic sand	includes 50mm granitic sand over 90mm compacted crushed rock
6.9	Type PV03 - Sawn bluestone paving (standrd)	
6.10	Type PV04 - Sawn bluestone paving (small)	
6.11	Type PV05 - Timber decking/ boardwalk	
6.12	Type PV06 - 100x100x100 bluestone block paving	includes 40mm compacted bedding sand over 150mm compacted crushed rock
6.13	Type PV07 - Permeable aggregate (tree)	40mm 'Spring Rockpave', woven fabric, 60mm drainage course
6.14	Type PV08 - Concrete	100mm thick concrete and 150mm thick subbase
6.15	Type PV09 - Mulch	assumed 100mm thick
6.16	Type TGO1 - Hazard TGS1	
6.17	Type TGO2 - Directional	
6.18	Type ED03 - Timber edging	
6.19	Multi use court paving	Provisional allowance
6.20	Allowance for tennis court	Provisional allowance
	<i>Walls and Fencing</i>	
6.21	Wall type WL01 - brick retaining wall	Includes foundations
6.22	Wall type WL02 - bluestone wall	
6.23	Fence Type FR01 - Fencing and gate	Includes posts
6.24	DSB LEEVEE Wall	Excluded
6.25	High quality rail fence	Provisional allowance
	<i>Furniture, Handrail & Equipment</i>	
6.26	Type FR01 - Bench	
6.27	Type FR02 - Seat	
6.28	Type FR03 - Custom Seat	
6.29	Type FR04 - Bins	
6.30	Type FR05 - Drinking Fountain	Including water supply connections
6.31	Type FR06 - Bike Hoop	
6.32	Type FR07 - Tree guard & grate (Bio retention tree pit)	
6.33	Type FR08 - Picnic Table	
6.34	Type FR09 - Picnic Table (Custom)	
6.35	Type FR10 - Double BBQ set	Includes lectrical connection and installation
6.36	Type FR11-A - Bollard (HVM Fixed)	
6.37	Type FR11-B - Bollard (HVM Removable)	
6.38	Type FR12-A - Bollard (Non HVM Fixed)	
6.39	Type FR12-B - Bollard (Non HVM Removable)	
6.40	Type FR13 - Rock feature	
6.41	Type FR14 - Shelter	Includes posts, foundations, pergolas
6.42	Type FR15 - Toilet	
6.43	Type HR01 - Handrail	Wetland custom balustrade
6.44	Type PL01 - Skate Park item area (Provisional Sum)	
6.45	Type PL02 - Outdoor fitness equipment (Provisional Sum)	
6.46	Type PL03 - Water Play Item	
6.47	Type PL04 - Nature Play	
6.48	Steel hoop fence around garden bed type VE02	
6.49	Allowance for multiuse court equipment	
7	STREET LIGHTING	
7.1	Type - LT01 Street/ Park light	Includes luminaire and foundation
7.2	Type - LT02 Light	
8	UTILITIES	
8.1	Allowance for non-disruptive digging	
8.2	Relocate utilities (Provisional Sum)	
8.3	Protect utilities (Provisional Sum)	
8.4	Allowance for electrical services for street lighting	Includes cable trenching
9	MISCELLANEOUS	
9.1	Line marking	
9.2	Regulatory Signage	
9.3	Works maintenance - up to 1 year	
9.4	Landscape maintenance - 1yr/2 summers	
9.5	Traffic signals 10 year Maintenance Fee	
	SUB-TOTAL WORKS	
12	DELIVERY	
12.1	Council Fees	
12.2	Other Authority Fees	
12.3	Traffic Management	
12.4	Environmental Management	
12.5	Survey/Design	
12.6	Supervision/Project Management	
12.7	Site Establishment	
12.8	Project Contingency	
	SUB-TOTAL DELIVERY	
13	TOTAL ESTIMATED COST	

MPC-01

DCP

Quantity	Unit	Rate	Amount
6,000	m2	19	112,500
	m3	225	-
	m3	75	-
	m2	250	-
	m2	56	-
	m2	80	-
	No.	625	-
	m2	-	-
1,810	m2	135	244,350
	LM	-	-
	LM	-	-
	LM	-	-
	No.	-	-
	LM	-	-
	LM	3,750	-
	No.	3,750	-
	Item	-	-
	Item	-	-
	Item	-	-
	Item	-	-
	No.	250	-
2,687	m2	13	33,588
352	m2	88	30,800
	m2	113	-
	m2	100	-
	m2	100	-
	m2	125	-
307	m2	19	5,796
	m2	-	-
	m2	-	-
747	m2	250	186,750
	m2	438	-
	m2	250	-
140	m2	150	21,000
	m2	25	-
	m2	-	-
	m2	19	-
	m2	313	-
	m2	313	-
	m	1,250	-
	m	625	-
	m	625	-
32	m	3,750	120,000
	No.	5,700	-
5	No.	5,300	26,500
5	m	2,600	13,000
	No.	5,300	-
	No.	7,500	-
	No.	805	-
	No.	1,625	-
	No.	3,750	-
	No.	3,750	-
	No.	11,250	-
	No.	-	-
	No.	3,125	-
	No.	3,750	-
	Item	13,000	-
	m2	1,250	-
	No.	35,000	-
	m	1,000	-
	PS	120,000	-
	No.	6,000	-
	Item	-	-
	Item	40,000	-
	m	250	-
	Item	15,000	-
	No.	4,375	-
	No.	30,000	-
1	Item	18,750	18,750
	PS	-	-
1	PS	15,000	15,000
	m	250	-
	Item	-	-
	no	-	-
	Item	-	-
1	Item	7,500	7,500
	Item	-	-
		835,000	

MPC-02

DCP

Quantity	Unit	Rate	Amount
6,000	m2	19	112,500
	m3	225	-
	m3	75	-
	m2	250	-
	m2	56	-
	m2	80	-
	No.	625	-
	m2	-	-
1,214	m2	135	163,890
	LM	-	-
	LM	-	-
	No.	-	-
	LM	-	-
	LM	3,750	-
	No.	3,750	-
	Item	-	-
	Item	-	-
	Item	-	-
	Item	-	-
	No.	250	-
3,386	m2	13	42,325
200	m2	88	17,500
	m2	113	-
	m2	100	-
1,007	m2	100	100,700
	m2	125	-
24	m2	19	450
	m2	-	-
	m2	-	-
258	m2	250	64,500
	m2	438	-
	m2	250	-
	m2	150	-
	m2	25	-
	m2	-	-
	m2	19	-
	m2	313	-
	m2	313	-
	m	1,250	-
	m	625	-
	m	625	-
24	m	3,750	90,000
	No.	5,700	-
	No.	5,300	-
	m	2,600	-
	No.	5,300	-
	No.	7,500	-
	No.	805	-
	No.	1,625	-
	No.	3,750	-
	No.	3,750	-
	No.	11,250	-
	No.	-	-
	No.	3,125	-
	No.	3,750	-
	Item	2,000	-
	m2	1,250	-
	No.	35,000	-
	m	1,000	-
	PS	120,000	-
	No.	6,000	-
	Item	-	-
	Item	40,000	-
	m	250	-
	Item	15,000	-
	No.	4,375	-
	No.	30,000	-
1	Item	18,750	18,750
	PS	-	-
1	PS	15,000	15,000
	m	250	-
	Item	-	-
	no	750	-
	Item	-	-
1	Item	7,500	7,500
	Item	-	-
		633,000	

Combined

Quantity	Unit	Rate	Amount
12,000	m2	19	225,000
	m3	225	-
	m3	75	-
	m2	250	-
	m2	56	-
	m2	80	-
	No.	625	-
	m2	-	-
3,024	m2	135	408,240
	LM	-	-
	LM	-	-
	No.	-	-
	LM	-	-
	LM	3,750	-
	No.	3,750	-
	Item	-	-
	Item	-	-
	Item	-	-
	Item	-	-
	No.	250	-
6,073	m2	13	75,913
552	m2	88	48,300
	m2	113	-
	m2	100	-
1,007	m2	100	100,700
	m2	125	-
331	m2	19	6,206
	m2	-	-
	m2	-	-
1,005	m2	250	251,250
	m2	438	-
	m2	250	-
	m2	150	21,000
	m2	25	-
	m2	-	-
	m2	19	-
	m2	313	-
	m2	313	-
	m	1,250	-
	m	625	-
	m	625	-
56	m	3,750	210,000
	No.	5,700	-
5	No.	5,300	26,500
5	m	2,600	13,000
	No.	5,300	-
	No.	7,500	-
	No.	805	-
	No.	1,625	-
	No.	3,750	-
	No.	3,750	-
	No.	11,250	-
	No.	-	-
	No.	3,125	-
	No.	3,750	-
	Item	15,000	-
	m2	1,250	-
	No.	35,000	-
	m	1,000	-
	PS	120,000	-
	No.	6,000	-
	Item	-	-
	Item	40,000	-
	m	250	-
	Item	15,000	-
	No.	4,375	-
	No.	30,000	-
2	Item	18,750	37,500
	PS	-	-
2	PS	15,000	30,000
	m	250	-
	Item	-	-
	no	750	-
	Item	-	-
2	Item	7,500	15,000
	Item	-	-
		1,469,000	

SR-01

Item	Description	Comments
	WORKS	
1	SITEWORKS AND EARTHWORKS	
1.1	Allowance for general demolition	Includes disposal
1.2	Earthworks	Disposal of Call C
1.3	Allowance for feature mounds	Less area than option 1 due to increase oval area
1.4	Allowance for ponds	N/A
1.5	Allowance for demolition of existing asphalt car park	
1.6	Allowance for demolition of existing buildings	- Demolition of all buildings between Greens Street, Langford Street, Gladie Street & Henderson Street except Last Dog Home - Demolition of all buildings Greens Street, Langford Street, Arden Street & Fogarty Street except 296 Arden Street assumed
1.7	Allowance for removal of existing trees	Includes disposal
2	ROAD PAVEMENT	
2.1	New pavement	
2.2	Bike Path/ Shared Path	100 thick asphalt including subbase allowance
3	CONCRETE WORKS	
3.1	Kerb and Channel	
3.2	Kerbs	
4	DRAINAGE	
4.1	Drainage - pipes	
4.2	Drainage - pits	
4.3	Drainage - Sub-soil drainage	
4.4	1200 x 900 x 2 culverts	Precast culverts assumed
4.5	Culvert headwall	
4.6	Drainage - Miscellaneous (Description)	Storm event discharge to MPC (allowance only)
5	TRAFFIC	
5.1	Traffic Signals	
5.1	Traffic Safety	
6	LANDSCAPE	
6.1	Vegetation	
6.1	Trees -45 litre	
6.2	Vegetation Type VE01 - Lawn	Includes soil preparation, seeding, edging where required
6.3	Vegetation Type VE01 - Sports Field	
6.4	Vegetation Type VE02 - Garden mix 01	Includes garden beds, cultivation of soil, edging where required
6.5	Vegetation Type VE03 - garden mix 02 wetland planting	Includes garden beds, cultivation of soil, edging where required
6.6	Vegetation Type VE04 - Garden mix 03 Swale rain garden	Includes garden beds, cultivation of soil, edging where required
6.7	Vegetation Type VE05 - Garden mix 04 Slope Embankment	Includes garden beds, cultivation of soil, edging where required
	<i>Edges & Paving</i>	
6.8	Type PV01 - Asphalt	Includes 25mm asphalt wearing course, 35mm base course, compacted subbase
6.9	Type PV02 - Granitic sand	includes 50mm granitic sand over 90mm compacted crushed rock
6.10	Type PV03 - Sawn bluestone paving (standard)	
6.11	Type PV04 - Sawn bluestone paving (small)	
6.12	Type PV05 - Timber decking boardwalk	
6.13	Type PV06 - 100x100x100 bluestone block paving	includes 40mm compacted bedding sand over 150mm compacted crushed rock
6.14	Type PV07 - Permeable aggregate (tree)	400mm 'Spring Roadpave', woven fabric, 60mm drainage course
6.15	Type PV08 - Concrete	100mm thick concrete and 150mm thick subbase
6.16	Type PV09 - Mulch	assumed 100mm thick
6.17	Type TG01 - Hazard TGSi	
6.18	Type TG02 - Directional	
6.19	Type ED01 - Timber edging	
6.20	Mulch use court paving	Provisional allowance
6.21	Allowance for tennis court	Provisional allowance
	<i>Walls and Fencing</i>	
6.22	Wall type WL01 - brick retaining wall	Includes foundations
6.23	Wall type WL02 - Bluestone wall	
6.24	Fence Type FR01 - fencing and gate	Includes posts
6.25	DSS LEEVEE Wall	Excluded
6.26	High quality rail fence	Provisional allowance
	<i>Furniture, Movable & Equipment</i>	
6.27	Type FR01 - Bench	
6.28	Type FR02 - Seat	
6.29	Type FR03 - Custom Seat	
6.30	Type FR04 - Bins	
6.31	Type FR05 - Drinking Fountain	Including water supply connections
6.32	Type FR06 - Bike Hoop	
6.33	Type FR07 - Tree guard & grate (Bio retention tree pit)	
6.34	Type FR08 - Picnic Table	
6.35	Type FR09 - Picnic Table (Custom)	
6.36	Type FR10 - Double BBQ set	includes electrical connection and installation
6.37	Type FR11-A - Bolland (HVM Fixed)	
6.38	Type FR11-B - Bolland (HVM Removable)	
6.39	Type FR12-A - Bolland (Non HVM Fixed)	
6.40	Type FR12-B - Bolland (Non HVM Removable)	
6.41	Type FR13 - Rock feature	
6.42	Type FR14 - Shelter	Includes posts, foundations, pergolas
6.43	Type FR15 - Toilet	Excluded
6.44	Type HR01 - Handrail	Weftand custom balustrade
6.45	Type PL01 - Skate Park Item area	
6.46	Type PL02 - Outdoor fitness equipment (Provisional Sum)	
6.47	Type PL03 - Water Play Item	
6.48	Type PL04 - Nature Play Item	
6.49	Steel hoop fence around garden bed type VE02	
6.50	Allowance for multisport court equipment	
7	STREET LIGHTING	
7.1	Type - L101 Street/ Park light	Includes luminaire and foundation
7.2	Type - L102/L11	115 lux assumed
8	UTILITIES	
8.1	Allowance for non-disruptive digging	Required to facilitate both DCP and non-DCP works
8.2	Relocate utilities	
8.3	Protect utilities (Provisional Sum)	
8.4	Allowance for electrical services for street lighting	Includes cable trenching
8.5	Gas Protection works	Assumes pipeline is only recoated and protection via installation of an inverted culvert over, no allowance for lowering of the pipeline
9	MISCELLANEOUS	
9.2	Lane marking	
9.3	Regulatory Signage	
9.4	Works maintenance - up to 1 year	
9.5	Landscape maintenance - 1yr/2 summers	
9.6	Traffic signals 10 year Maintenance Fee	
12	DELIVERY	
12.1	Council Fees	
12.2	Other Authority Fees	
12.3	Traffic Management	
12.4	Environmental Management	
12.5	Survey/Design	
12.6	Supervision/Project Management	
12.7	Site Establishment	
12.8	Project Contingency	

Non-DCP					
Quantity	Unit	Rate \$		Amount	
	m2	19	-		
18,000	m3	225	-	4,050,000	
	m3	75	-		
	m2	250	-		
15,900	m2	56	-	894,375	
20,400	m2	80	-	1,632,000	
86	No.	1,250	-	107,500	
-	m2		-		
	m2	135	-		
-	LM		-		
-	LM		-		
-	LM		-		
-	No.		-		
-	LM		-		
	LM	3,750	-		
	No.	3,750	-		
1	Item	250,000	-	250,000	
	Item		-		
	Item		-		
	No.	250	-		
27,740	m2	13	-	346,750	
	m2	88	-		
	m2	113	-		
932	m2	100	-	93,200	
930	m2	100	-	93,000	
	m2	125	-		
	m2	19	-		
	m2		-		
	m2	250	-		
	m2	438	-		
	m2	250	-		
	m2	150	-		
	m2	25	-		
	m2		-		
	m	19	-		
	m2	313	-		
	m	313	-		
	m	1,250	-		
	m		-		
	m	625	-		
	m	3,750	-		
	No.	5,700	-		
	No.	5,300	-		
	No.	2,600	-		
	No.	5,300	-		
	No.	7,500	-		
	No.	805	-		
	No.	1,625	-		
	No.	3,750	-		
	No.	3,750	-		
	No.	11,250	-		
	No.		-		
	No.		-		
	No.	3,125	-		
	No.	3,750	-		
1	Item	25,000	-	25,000	
	m2	1,250	-		
	item	185,000	-		
	m	1,000	-		
	item		-		
	m	6,000	-		
	item		-		
	item	40,000	-		
	m	250	-		
	Item	15,000	-		
	No.	12,500	-		
	No.	30,000	-		
1	Item	30,000	-	30,000	
	Item		-		
	PS	20,000	-		
-	m	875	-		
	m	10,000	-		
	no	-	-		
	Item		-		
	Item		-		
	Item		-		
	Item		-		
				7,522,000	
3.25	%			244,500	
1.00	%			75,200	
7.00	%			526,500	
0.50	%			37,600	
1.00	%			375,100	
9.00	%			677,000	
2.50	%			188,100	
25.00	%			1,880,500	

DCP			
Quantity	Unit	Rate	Amount \$
	m2	19	
1,000	m3	225	225,000
800	m3	75	60,000
	m2	250	
	m2	56	
	m2	80	
	No.	1,250	
-	m2		
	m2	135	
-	LM		
-	LM		
100	LM	580	58,000
4	No.	3,750	15,000
150	LM	150	22,500
	LM	3,750	
	No.	3,750	
	Item	250,000	
	Item		
	Item		
145	No.	250	36,250
	m2	13	
15,100	m2	110	1,661,000
2,412	m2	88	211,056
	m2	113	
	m2	100	
	m2	100	
	m2	100	
	m2	125	
3,370	m2	19	63,180
	m2		
1,070	m2	250	267,500
	m2	438	
	m2	250	
1,475	m2	25	36,875
	m2		
396	m	19	7,424
	m2	313	
	m	313	
20	m	1,250	25,000
	m		
	m	625	
	m	3,750	
	No.	5,700	
9	No.	5,300	47,700
28	m	2,600	71,760
	No.	5,300	21,200
2	No.	7,500	15,000
3	No.	805	2,415
	No.	1,625	
6	No.	3,750	22,500
1	No.	3,750	3,750
3	No.	11,250	33,750
	No.		
	No.		
	No.	3,125	
	No.	3,750	
	Item	25,000	
50	m2	1,250	62,500
1	Item	185,000	185,000
	m	1,000	
	Item		
3	No.	6,000	18,000
	Item		
	Item	40,000	40,000
	m	250	
1	Item	15,000	15,000
45	No.	12,500	562,500
4	No.	30,000	120,000
	Item	30,000	30,000
1	PS	398,370	398,370
			40,500
2	PS	20,000	40,000
1,350	m	875	1,181,250
			2,511,250
245	m	10,250	
	Item		
	no	-	
	Item		
1	Item	35,000	35,000
	Item		
	Item		
			8,106,000
3.25	%		263,400
1.00	%		81,100
7.00	%		567,400
0.50	%		40,550
5.00	%		405,300
9.00	%		729,500
2.50	%		202,700
25.00	%		2,026,500

COMBINED				
Quantity	Unit	Rate	Amount	
-	m2	18		
19,000	m3	225	4,275,000	
800	m3	75	60,000	
-	m2	250	-	
15,900	m2	56	894,375	
20,400	m2	80	1,632,000	
86	No.	1,250	107,500	
-	m2	-	-	
-	m2	135	-	
-	m2	-	-	
-	LM	-	-	
-	LM	-	-	
100	LM	580	58,000	
4	No.	3,750	15,000	
150	LM	150	22,500	
-	LM	3,750	-	
1	No.	3,750	-	
1	Item	250,000	250,000	
-	Item	-	-	
-	Item	-	-	
145	No.	250	36,250	
27,740	m3	113	3,134,700	
15,100	m2	110	1,661,000	
2,412	m2	88	211,500	
-	m2	113	-	
932	m2	103	93,200	
930	m2	100	93,000	
-	m2	125	-	
3,370	m2	19	63,180	
-	m2	-	-	
-	m2	-	-	
1,070	m2	250	267,500	
-	m2	438	-	
-	m2	250	-	
-	m2	150	-	
1,475	m2	25	36,875	
-	m2	-	-	
396	m	19	7,425	
-	m2	313	-	
-	m2	313	-	
-	m	-	-	
20	m	1,250	25,000	
-	m	-	-	
-	m	625	-	
-	m	-	-	
-	m	3,750	-	
-	No.	5,700	-	
9	No.	5,300	47,700	
28	m	2,600	71,760	
3	No.	5,300	21,200	
2	No.	7,500	15,000	
3	No.	805	2,415	
-	No.	1,625	-	
6	No.	3,750	22,500	
1	No.	3,750	3,750	
3	No.	11,250	33,750	
-	No.	-	-	
-	No.	-	-	
-	No.	3,125	-	
-	No.	3,750	-	
1	Item	25,000	25,000	
50	m2	1,250	62,500	
1	Item	185,000	185,000	
-	Item	1,000	-	
-	No.	6,000	18,000	
1	Item	40,000	40,000	
-	Item	250	-	
1	Item	15,000	15,000	
-	No.	1,625	-	
45	No.	12,500	562,500	
-	No.	30,000	120,000	
1	Item	35,000	60,000	
2	PS	398,370	398,370	
2	PS	20,000	40,000	
1,350	m	875	1,181,250	
245	m	10,250	2,511,250	
-	Item	-	-	
-	no	-	-	
-	Item	-	-	
1	Item	35,000	35,000	
-	Item	-	-	
15,628,000				
3.25	%		507,900	
1.00	%		156,300	
7.00	%		1,094,000	
0.50	%		78,100	
5.00	%		781,400	
2.50	%		390,700	
90.00	%		1,406,500	
2.50	%		390,700	
25.00	%		3,907,000	

Appendix C

Supplied information

Moonee Ponds Creek Trail & Open Spaces

Development Contributions Plan

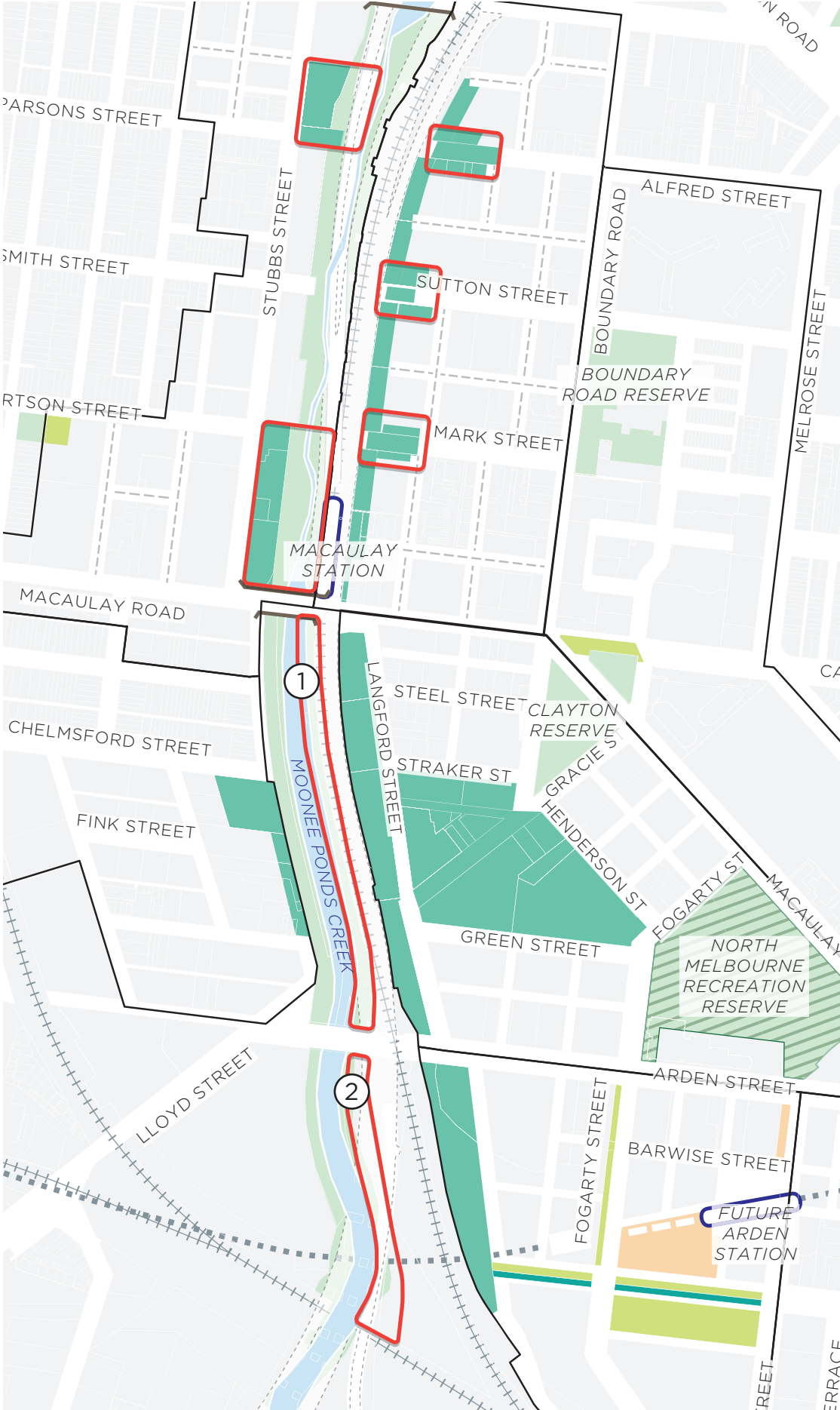
RFQ Version
December 2020



Moonee Ponds Creek: Public Open Spaces

Framework Plans for the Development Contributions Plan

	NAME	CATCHMENT	SIZE/ EXTENT	FUNCTION	INTERFACES	REFERENCES
	ARDEN					
1	Moonee Ponds Creek Trail: north of Arden St (east side of creek)	Regional	Trail: 470m Levee: 440m	<ul style="list-style-type: none">Separated pedestrian and cycle pathsRest stopsPicnic facilitiesDSS Levee	<ul style="list-style-type: none">CitylinkMoonee Ponds CreekVictrack landNew bridge links	<ul style="list-style-type: none">Moonee Ponds Creek Strategic Opportunities Plan (Page 17-18)
2	Moonee Ponds Creek Trail: south of Arden St (east side of creek)	Regional	Trail: 310m Levee: 310m	<ul style="list-style-type: none">Separated pedestrian and cycle pathsRest stopsPicnic facilitiesDSS Levee	<ul style="list-style-type: none">CitylinkMoonee Ponds CreekVictrack land	<ul style="list-style-type: none">Moonee Ponds Creek Strategic Opportunities Plan (Page 17-18)Integrated Water Management Strategy (Figure 6-5)



1. MOONEE PONDS CREEK TRAIL: NORTH OF ARDEN ST (EAST SIDE OF CREEK)

Indicative Framework Plan

1:2500 @ A3



Catchment	Size / extent	Functions	Movement Network	Interfaces
Regional	Trail: 470m Levee: 440m	<ul style="list-style-type: none">Pedestrian and cycle pathsRest stopsPicnic facilitiesDSS Levee	<ul style="list-style-type: none">Strategic Cycling Corridor.Potential new creek bridges (ped/cycle).	<ul style="list-style-type: none">CitylinkMoonee Ponds CreekVictrack landNew bridge links

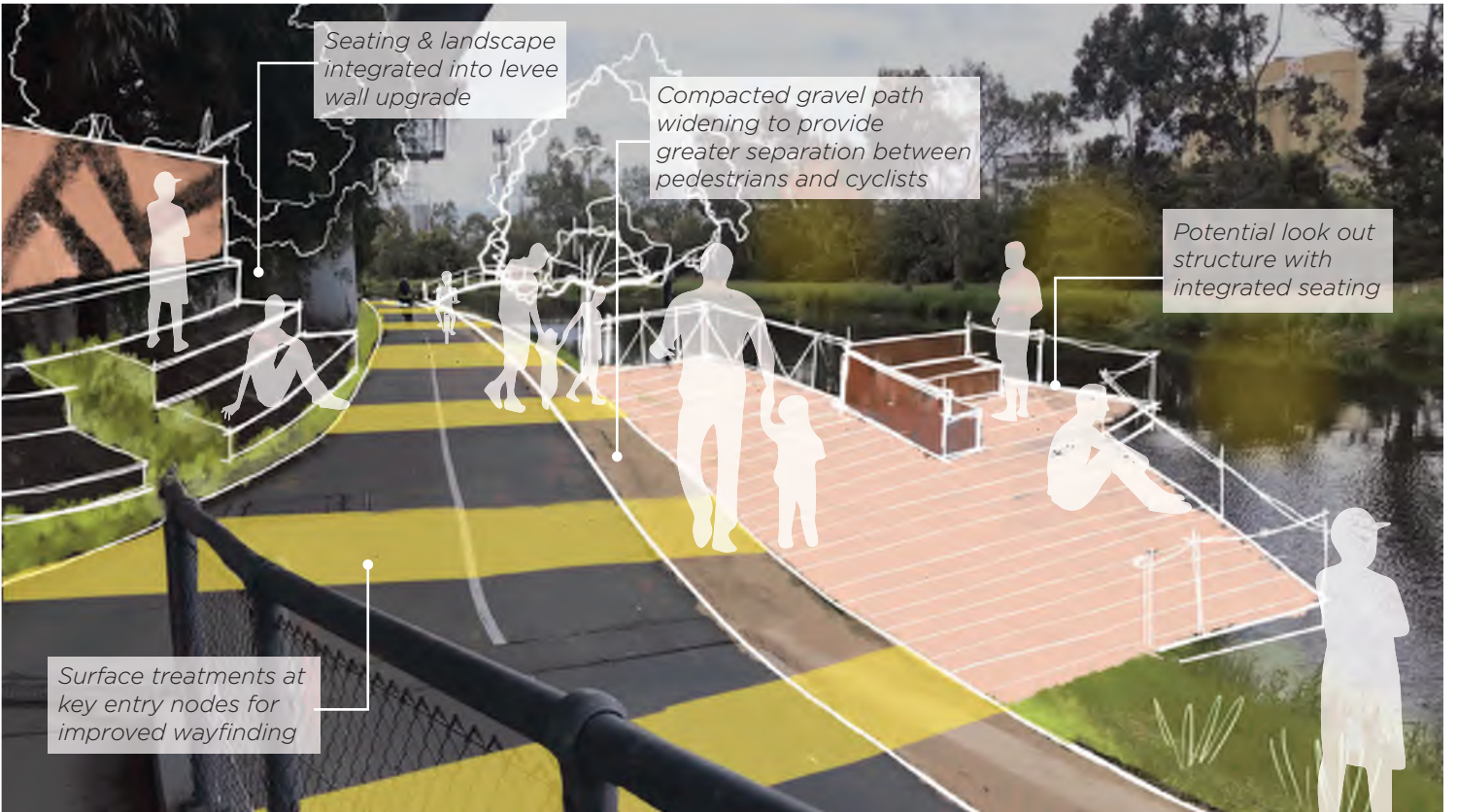
Strategic Vision (Moonee Ponds Creek Strategic Opportunities Plan)

Where space permits, create a separated high-speed commuter path, providing an alternative route devoid of conflict with recreational users. Along the length of the creek, provide localised amenities for cyclists, such as picnic facilities, rest stops and bike hubs, which enable users to better engage with the environmental context of the trail.

Design objectives

- Upgrade the Moonee Ponds Creek trail lighting and where possible allow an additional 2m wide pedestrian-grade gravel path within the creek bank extent to enable greater separation between cyclists and pedestrians. This path may connect with the other improvement elements i.e. lookout areas / seating nodes.
- Upgrades to the levee wall along the rail corridor are proposed to increase flood capacity as part of separate projects. Building on these flood capacity projects, this project will enhance ecology through new indigenous landscape and canopy vegetation to support habitat and improved amenity under Citylink. Integrate an irrigation system to maintain landscape in areas of rain shadow.
- Integrate terraced seating into the levee wall to the south of Macaulay bridge in proximity to the station and strategic cycling corridor.
- Revegetate the creek edge utilising indigenous species to support improved habitat and celebrate the cultural heritage of the waterway.
- Integrate lookout areas / seating nodes south of Macaulay bridge in proximity to the station and strategic cycling corridor including adjacent to the future pedestrian bridge connections from Chelmsford St and Lloyd Street (bridges excluded from this project).
- Implement wayfinding signage at the Macaulay Road and Arden Street underpasses and the 2 potential new bridge connections to guide commuters to key destinations in the precincts.
- Incorporate public art / murals, landscape and improved lighting on approach to the bridge underpasses to enhance the amenity of the trail.
- Utilise the structural columns of CityLink as art nodes along the creek to highlight the cultural, environmental, architectural and industrial heritage of the area.
- Acknowledge impacts of potential future bridge upgrades and expansion for Arden Street and Macaulay Road (excluded from this project).

Indicative concept sketch: Lookout area



1. MOONEE PONDS CREEK TRAIL: NORTH OF ARDEN ST (EAST SIDE OF CREEK)



View from Macaulay Road bridge to the south.



Informal pedestrian trail on the west side of the creek of MPC North.



Merging of pedestrian path and bike lane on the creek edge.



View from north east of Macaulay Road bridge along the trail.



Bike lane extended from Macaulay Terraces underneath Macaulay Road.



Existing conditions of levee and public seating node.



Potential location for a look out structure / seating node.



Existing conditions of levee wall and CityLink viaduct.

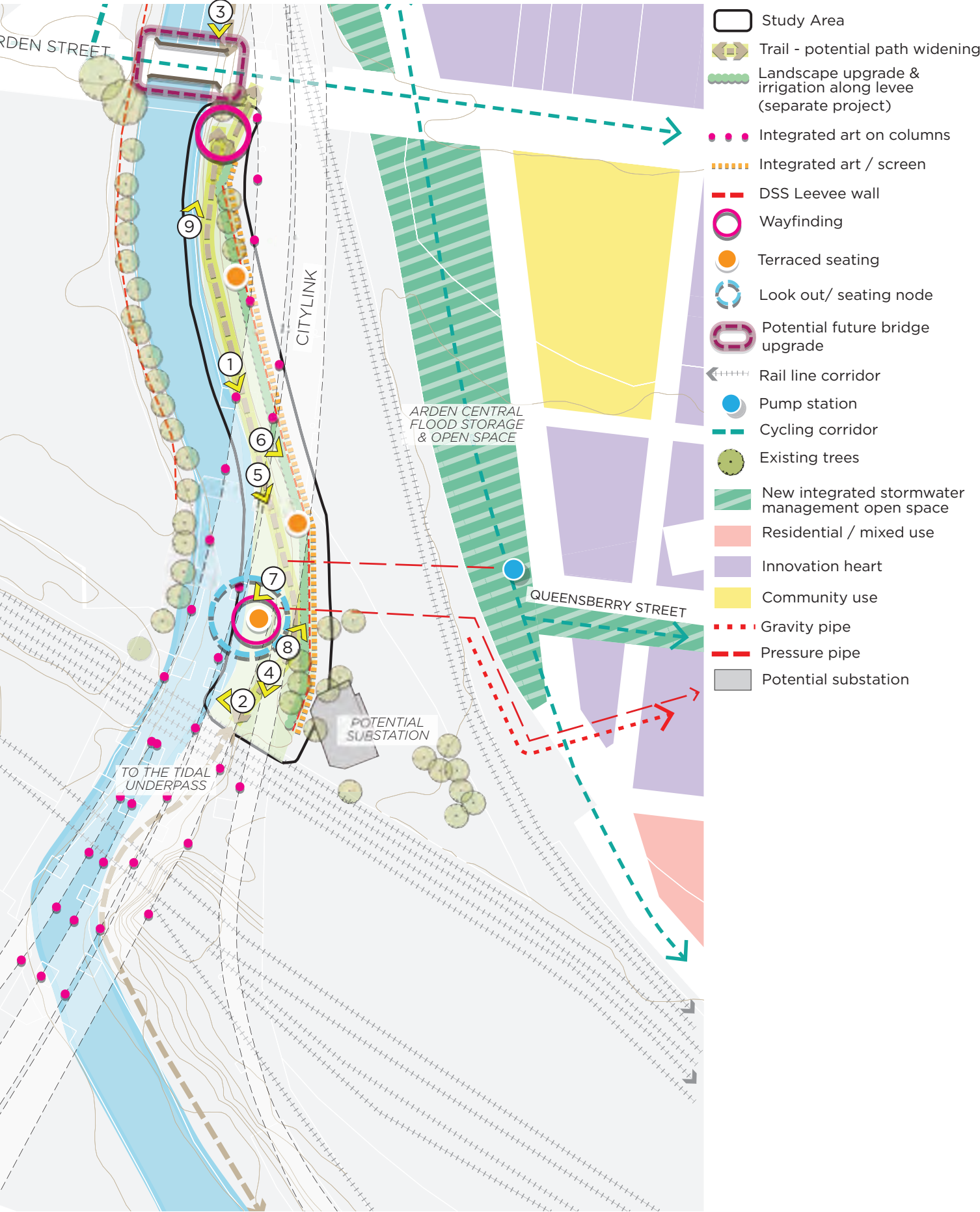


Potential future pedestrian bridge opportunity.

2. MOONEE PONDS CREEK TRAIL: SOUTH OF ARDEN ST (EAST SIDE OF CREEK)

Indicative Framework Plan

1:2500 @ A3



Catchment	Size / extent	Functions	Movement Network	Interfaces
Regional	Trail: 310m Levee: 310m	Pedestrian and cycle paths Rest stops Picnic facilities DSS Levee	<ul style="list-style-type: none">Strategic Cycling Corridor.	Citylink Moonee Ponds Creek Victrack land

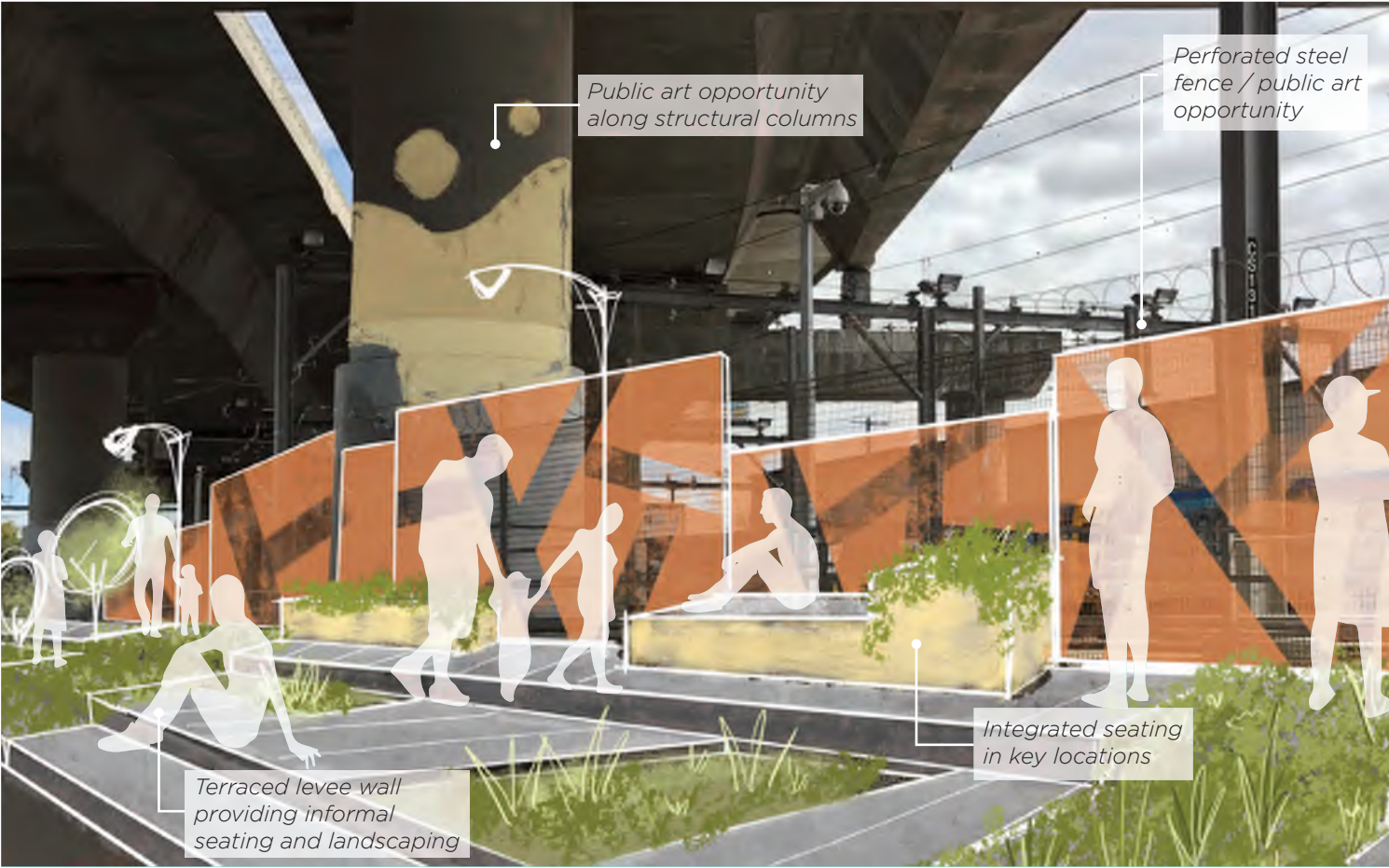
Strategic Vision (Moonee Ponds Creek Strategic Opportunities Plan)

Where space permits, create a separated high-speed commuter path, providing an alternative route devoid of conflict with recreational users. Along the length of the creek, provide localised amenities for cyclists, such as picnic facilities, rest stops and bike hubs, which enable users to better engage with the environmental context of the trail.

Design objectives

- Upgrade the Moonee Ponds Creek trail lighting and where possible allow an additional 2m wide pedestrian-grade gravel path within the creek bank extent to enable greater separation between cyclists and pedestrians. This path may connect with the other improvement elements i.e. lookout areas / seating nodes.
- Upgrades to the levee wall along the rail corridor are proposed to increase flood capacity as part of separate projects. Building on these flood capacity projects, this project will enhance ecology through new indigenous landscape and canopy vegetation to support habitat and improved amenity under Citylink. Integrate an irrigation system to maintain landscape in areas of rain shadow.
- Implement a perforated steel fence/ screen (or similar) along the VicTrack stabling interface with the opportunity to incorporate art as part of the Heritage Trail.
- Implement a look-out / open space to the south under the Citylink viaduct comprising seating, landscape and interpretive signage.
- Integrate terraced seating nodes between the bridge and underpass to enable outlook and pause points at the creek edge.
- Implement wayfinding signage at the Arden Street underpass to guide commuters to destinations.
- Incorporate public art, landscape and improved lighting on approach to the Arden St bridge underpass to enhance the amenity of the trail.
- Utilise the structural columns of CityLink as art nodes along the creek to highlight the cultural, environmental, architectural and industrial heritage of the area.
- Revegetate the creek edge utilising indigenous species to support improved habitat and celebrate the cultural heritage of the waterway.
- Acknowledge impacts of potential future bridge upgrades and expansions for Arden Street (excluded from this project).

Indicative concept sketch: seating area



2. MOONEE PONDS CREEK TRAIL: SOUTH OF ARDEN ST (EAST SIDE OF CREEK)



Identified potential to expand bike lane for the pedestrians.



Potential pop out spot/seating to enhance pedestrian-creek interaction.



Existing conditions of trail underpass.



Potential open space opportunity including expansion of bike trail, seating and improved levee wall landscaping.



Broader view of Victrack land and service areas.



View toward VicTrack land / rail corridor. Potential opportunity for interface improvements and open space.



View along MPC under City Link. Opportunity to improve columns as a feature of the trail.



Levee wall and rail corridor interface under CityLink



View toward Arden Street bridge. Opportunity for pedestrian / cycle path upgrade.

MOONEE PONDS CREEK TRAIL PRECEDENT PROJECTS

Structures & lookout areas



Koondrook Wharf, Terroir



Area: 1,500m2
Budget: \$2.4 million



Slacks Tracks upgrade, Logan City Council



Length: 1km
Budget: \$600,000



Jock Marshall Reserve Nature Walk , Urban Initiatives



Length: 200m
Budget: \$2m

Trails and pathways



Darebin Yarra Trail Link (2.7km), Vicroads



Area: 1.8km
Budget: \$18 million
(including bridges)



The Underline - Caulfield to Dandenong LXR, Aspect Studios



Area: 22.5ha
Budget: \$1.6b (total LXR works)



Oaklands Park & Wetland , TCL (SA)



Area: 7.5ha
Budget: \$800,000

Appendix 1: Strategic Background

Opportunities

Moonee Ponds Creek Strategic Opportunities Plan



Central: Racecourse Road to Dynon Road

Create a green oasis on the doorstep of the CBD: the first major addition of parklands to the inner north-west since the Gold Rush

Arden-Macaulay Pedestrian Bridges

To connect Arden-Macaulay with existing communities through new lightweight pedestrian bridges that could incorporate art initiatives.



Expanded Creek Environs

Merge existing open spaces with the waterway, create a new pedestrian connection along the western edge of the creek and expanding the creek environs to facilitate recreation opportunities and extensive tree planting.



Macaulay Green Links

Increase green spaces and boost stormwater management and biodiversity links on the east side of the creek by expanding the creek parklands to include roads that currently connect to railways.



Langford Road Linear Stormwater Park

Manage stormwater and create more public open space by creating a linear stormwater park at Langford Road.



Moonee Ponds Creek Art Trail (length of creek)

Investigate creative art and naming opportunities along the creek that celebrate the Aboriginal and local heritage of the area and the role of the creek in water management.



Moonee Ponds Creek Cycling & Walking Trails (length of creek)

Create a separated, commuter path for cyclists that promotes the safety and accessibility for both pedestrians and cyclists, as well as create local bike hubs, rest spots and picnic facilities.



Moonee Ponds Creek Forest (length of creek)

Increase vegetation, in particular canopy tree coverage, in appropriate open space zones along the length of the creek.



Bent Street Access

Explore enhanced access points on the western bank of the creek along Bent Street to improve opportunities for passive recreation.



Levees as Places for People

Design levees that as well as increasing flood capacity also create places for recreation and habitats to support ecology.



Macaulay Terraces

Create a major new open space connecting to the Moonee Ponds Creek Trail, Macaulay Train Station, and surrounding neighbourhoods.



Moonee Ponds Creek Civic Overflow Route

Create an overflow creek pathway behind the levee that connects Racecourse and Macaulay Roads.



Levee Banks Water Storage

Investigate constructing culverts under levees to re-engage the floodplain storage and improve use of western creek berms in the Central Reach to improve open space.



Expanded Creek Environs

Expand the creek corridor environs to Arden Central providing connections to future open spaces and explore opportunities to celebrate water in the landscape.



Native Vegetation Restoration

Restore native vegetation, including brackish grasslands of the creek corridor.



Redesign of Bridges

Remove or re-construct pipe bridges and transport bridges to reduce the hydraulic constraints they impose, while improving cycle and pedestrian connections and respecting heritage constraints.



Levee Design Interventions: Design options without increasing levee height

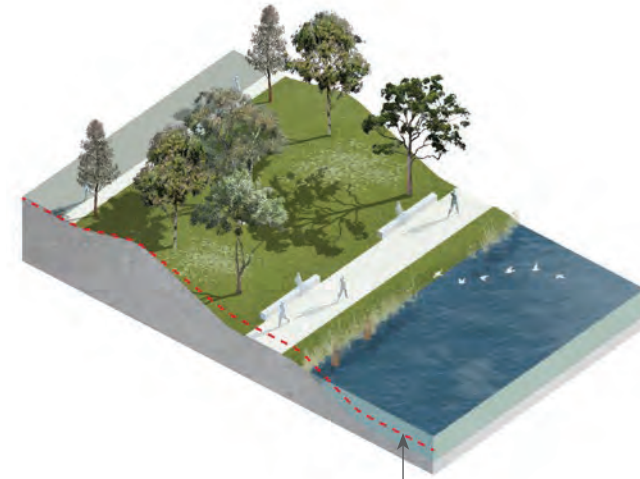
Moonee Ponds Creek Strategic Opportunities Plan

L1. Deepening/ Widening of the channel

Maximising the cross section through excavation to deepen and widen the creek.

Physical considerations:

- Not appropriate for limited corridor width
- Steeper edges may become less accessible



Increased flood capacity achieved.



Potential to locally create an urban edge for increased activity to the creek. Any assets on lower terraces need to be designed as flood-proof. Post-flooding maintenance required.



Potential to expand flood plains, with opportunity for tree planting and diversifying ecologies and habitat.



Potential to provide a slow-speed trail by the waters edge for use outside of flooding times, introducing a new space away from high speed commuter cyclists and recreational users.

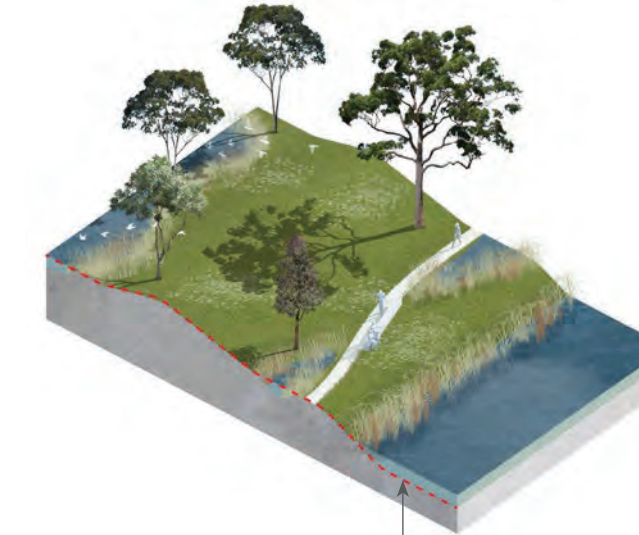


Landscapes that become inundated could be designed to express and interpret the history of the creek.

Indicative existing creek profile

L2. Additional at-grade flow volume

Additional flow capacity can be offered by cutting a second water channel or offering localised detention volume by the introduction of creek meanders, billabongs or wetlands.



Indicative existing creek profile



Increase in water quality. Opportunity to link this with off line initiatives such as cloudburst street design. Limited flood detention capacity.



Creation of a new landscape typology for community interaction.



Creation of wetlands and billabongs, diversifying ecological habitat zones.



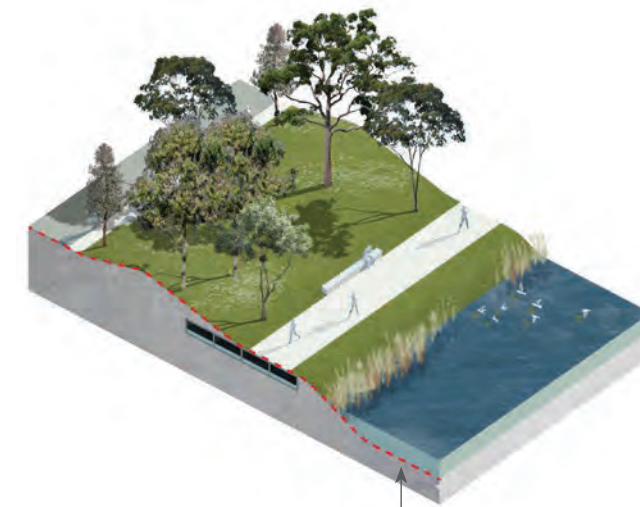
Potential to provide a slow-speed trail meandering around wetlands, divorcing high speed commuter cyclists and recreational users.



Utilise wetlands and billabongs as a tool to express and interpret the history of the creek.

L3. Additional below-grade flow volume

Additional flow capacity can be offered by the introduction of high flow capturing pipes or culverts. These are activated once a specific flood volume is reached to protect the open creek environment.



Indicative existing creek profile



Increased flood capacity achieved with additional underground infrastructure.



All public space is retained as usable public space through flood events.



Ability to operate culverts to retain water and treat and reuse it for environmental flows, to supply a third pipe scheme or to irrigate open spaces and urban forest.



Pedestrian and cycleways are not affected in flood events.



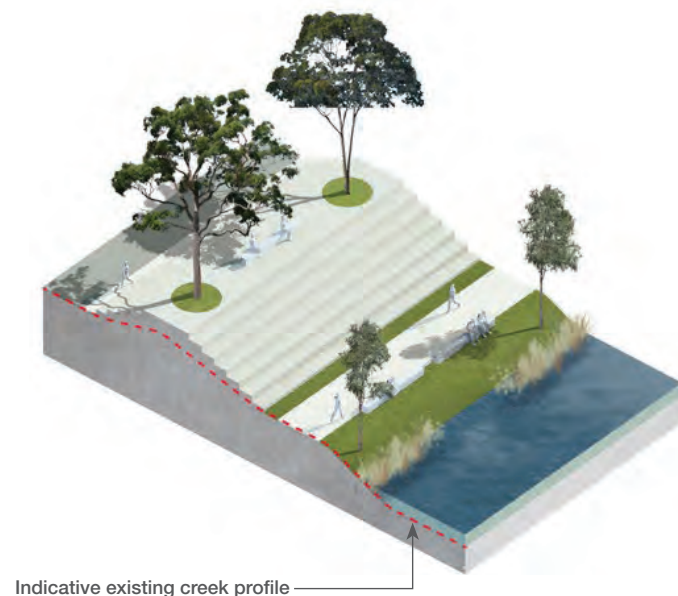
Display the process of flow diversion as a

Levee Design Interventions: Design options with increased levee height

Moonee Ponds Creek Strategic Opportunities Plan

L4. Benefit from levee height

Extend levee slope and shape to create activated parkland, for example paved or vegetated terraces, amphitheatres and vertical play elements. Use the levee height to create vantage points, elevated walkways with engaging vistas.



Increased flood capacity achieved [assuming levees extend along whole length of creek].



Creation of dynamic and engaging spaces. Height of levee can create visual and physical barrier.



Utilise increased levee height to establish tree canopy cover.



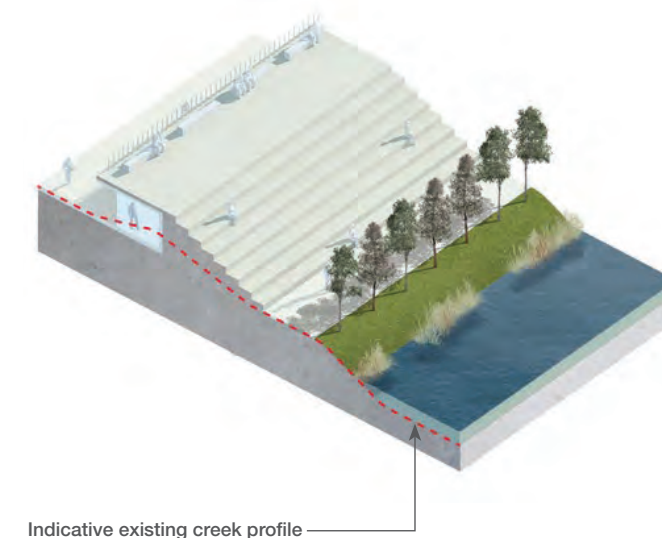
There is potential to separate commuter cyclists and slow-speed travellers with two different user paths.



Terraces and amphitheatres could be complimented with infrastructure for event modes such as community cinema (i.e. hanging movie screens off CityLink).

L5. Use the levee height to create activated city edge

The creek topography is extended over a single storey building that in turn can offer recreational, retail or cultural programme.



Increased flood capacity achieved.



Building space could be for public or commercial use, providing an activated and engaging edge with a changing to adapt to changing community needs.



Potential to create flood plains, with opportunity for tree planting and diversifying ecologies and habitat.



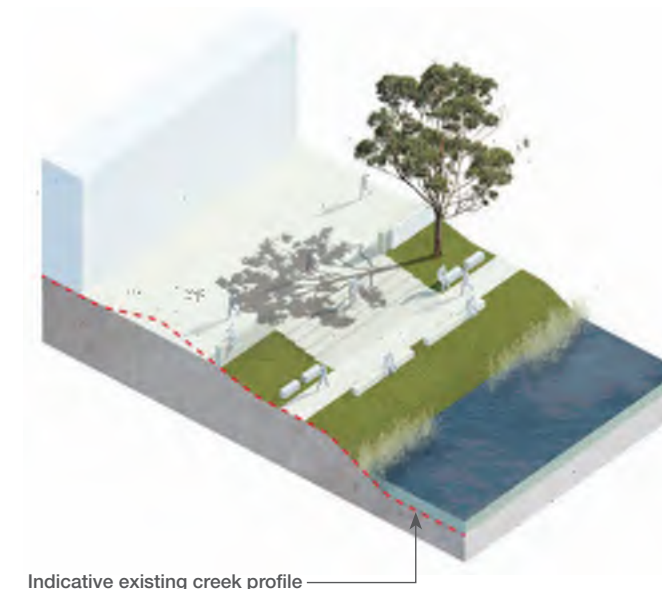
Building space could be for public uses such as bicycle storage.



Building space could be for public or commercial use such as a gallery space.

L6. Dynamic flood protection/flood gates

Flood gates are widely used in northern European cities such as Hamburg and Rotterdam either directly at building openings or as part of as levee/ weir wall protection system between water and city, where flood gates are closed only during flood events. An integrated management system required.



Increased flood capacity achieved.



Visual and physical barriers are removed from creek corridor and surrounds, allowing seamless connections.



No significant environmental reward.



Commuter or shared-trail to be located outside flood gates where possible to ensure accessibility during flood events.



Potential to use flood gates as linear art wall and community canvas.

Macaulay Terraces (Key Strategic Project)

Moonee Ponds Creek Strategic Opportunities Plan

Shared street

- Raised, shared street with public park/plaza.
- Tree lined, granitic sand, kiosk facing street and park with tables and chairs.

Stormwater-cleansing terraces

- Terraced landscape as stormwater cleansing system capturing street and bridge water runoff and cleansing before water enters Moonee Ponds Creek.

Levee Wall

- Levee wall as dynamic flood gate with integrated grassed berm. Berm to include terrace seating facing plaza.
- Potential to include cafe/kiosk.

Picnic terraces

- Terraces with shelter and picnic facilities.

Sloped lawn

- Sloped lawn with trees running down to creek as an activated edge.
- Accessible ramp down to waters edge.

Expanded riparian zone

- Widening of creek riparian zone.

Creek corridor rehabilitation

- Revegetation of native riparian species.

Celebration of water transition

- Formalisation and celebration of saltwater/freshwater transition. Inviting public interaction with water.

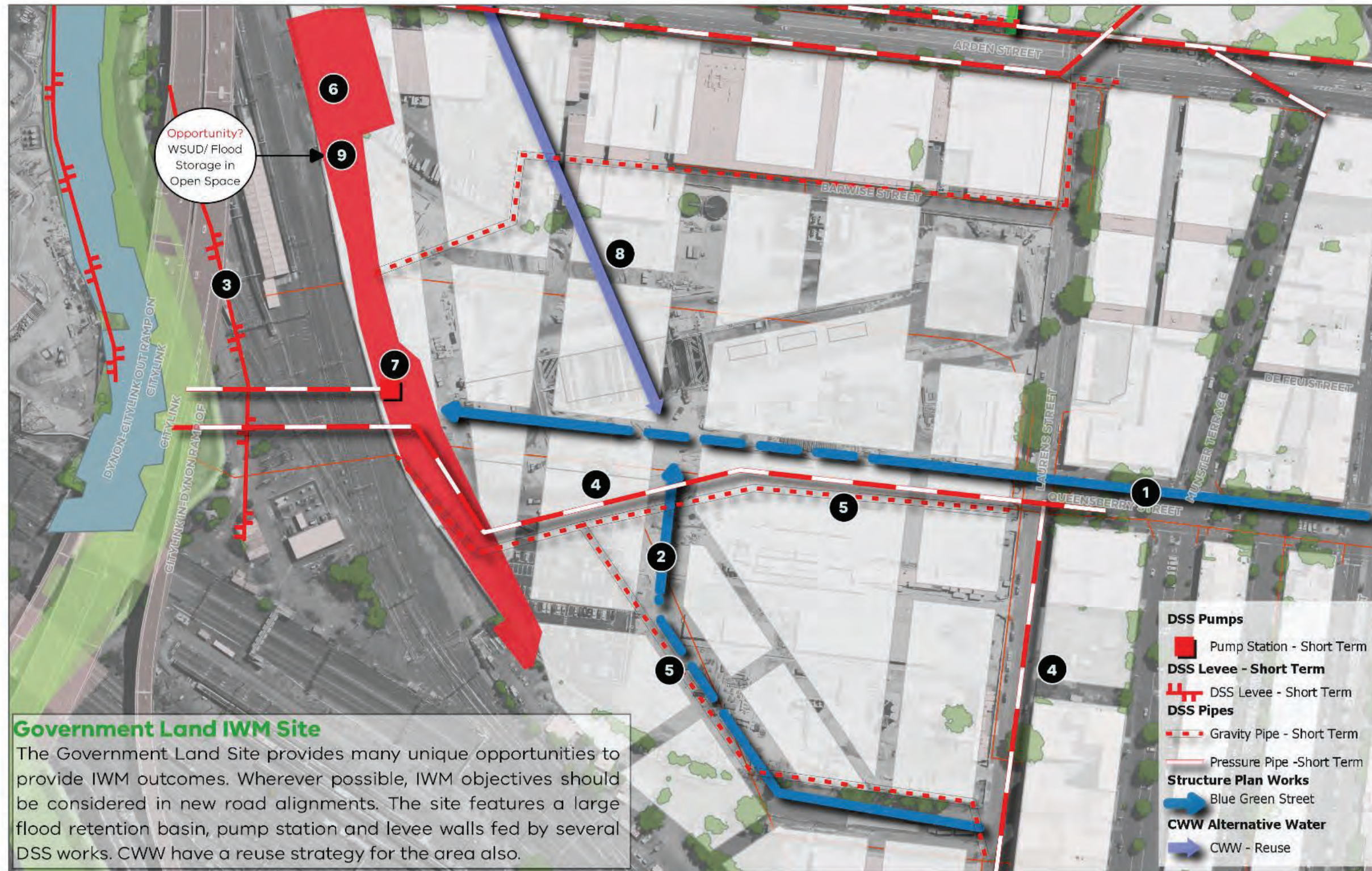


IMAGE: Artistic impression of 'Macaulay Terrace'



Integrated Water Management Strategy

Ambitions for flood storage in Arden



- 3. Levee Wall: Replace levee by 0.7 m (Concrete Wall Levee-200m)
- Explore opportunities to influence the design to get better open space outcomes. Needs to capture MPC SOP project Levees as places for people, which in short is described as “Design levees that as well as increasing flood capacity also create places for recreation and habitats to support ecology”. Further, Melbourne Water would like to discuss with CoM any opportunities to improve open space outcomes with respect to the levee works. However, with the levee location wedged against railway, there may be limited opportunity.

Integrated Water Management Strategy

Ambitions for flood storage in Stubbs Street (Macaulay Terraces)



Arden Macaulay IWM Opportunities

Stubbs Street

Data Sources: City of Melbourne, Melbourne Water



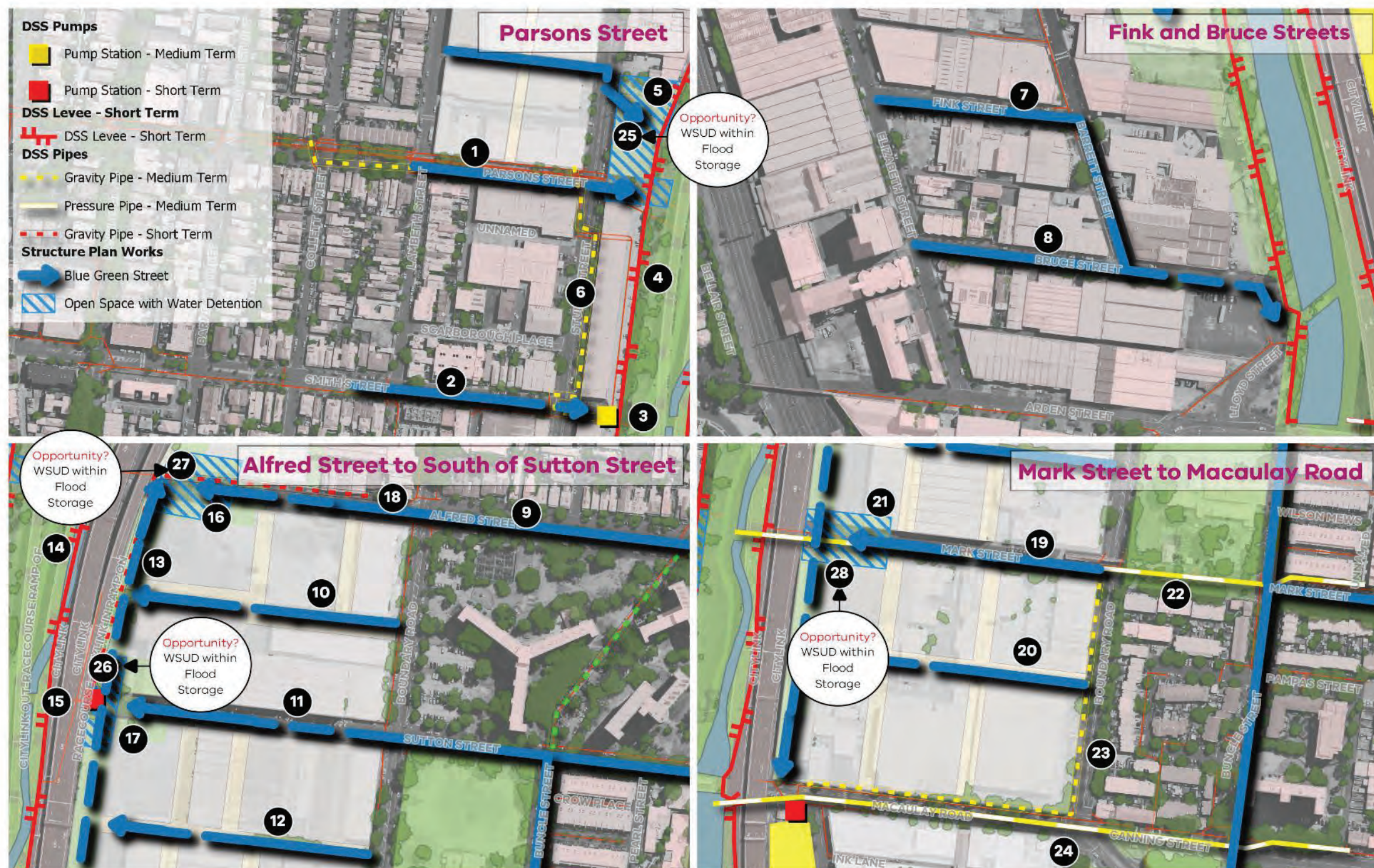
0 25 50 75 m



- 5. Primary Use: Open Space (OSS, MSP) - local community use, public recreation, biodiversity, can include WSUD.
- Construct retarding basin.
- Secondary Use: open space - landscaping around pump station
- Where levee works are proposed, continue discussions with VPA and MW about the link of levees with other identified opportunities per the Structure Plan and Strategic Opportunities Plan. Needs to capture MPC SOP project Levees as places for people, which in short is described as “Design levees that as well as increasing flood capacity also create places for recreation and habitats to support ecology.”

Integrated Water Management Strategy

Ambitions for flood storage in Macaulay



Arden Macaulay IWM Opportunities

Other IWM Sites

Data Sources: City of Melbourne, Melbourne Water



Parsons Street

- Overland flow path and streetscape WSUD from Lamberth St to open space.
- Local community use, open space link, biodiversity/ habitat. Note: Local Open Space (min2600 to 9999m2) required east of Stubbs St
- Flood detention role.
- WSUD within the proposed Stubbs Street North Storage: Construct a wetland or bioretention swale (or equiv.) within the retarding basin to provide water quality improvement.
- Levee Wall upgrade along Moonee Ponds Creek from Smith Street to Racecourse Road (Concrete Wall Levee-340m).

Mark Street

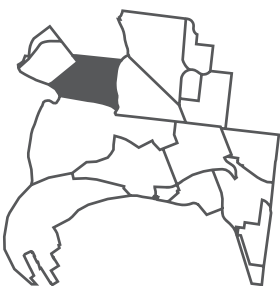
- Flood Storage (west):
- WSUD within the proposed Mark Street Storage: Open Space (near MPC) - local community use, passive recreation, biodiversity.
- Construct a wetland or bioretention swale (or equiv.) within the retarding basin
- Blue-Green Street: retrofit for urban forest improvement.

Alfred Street

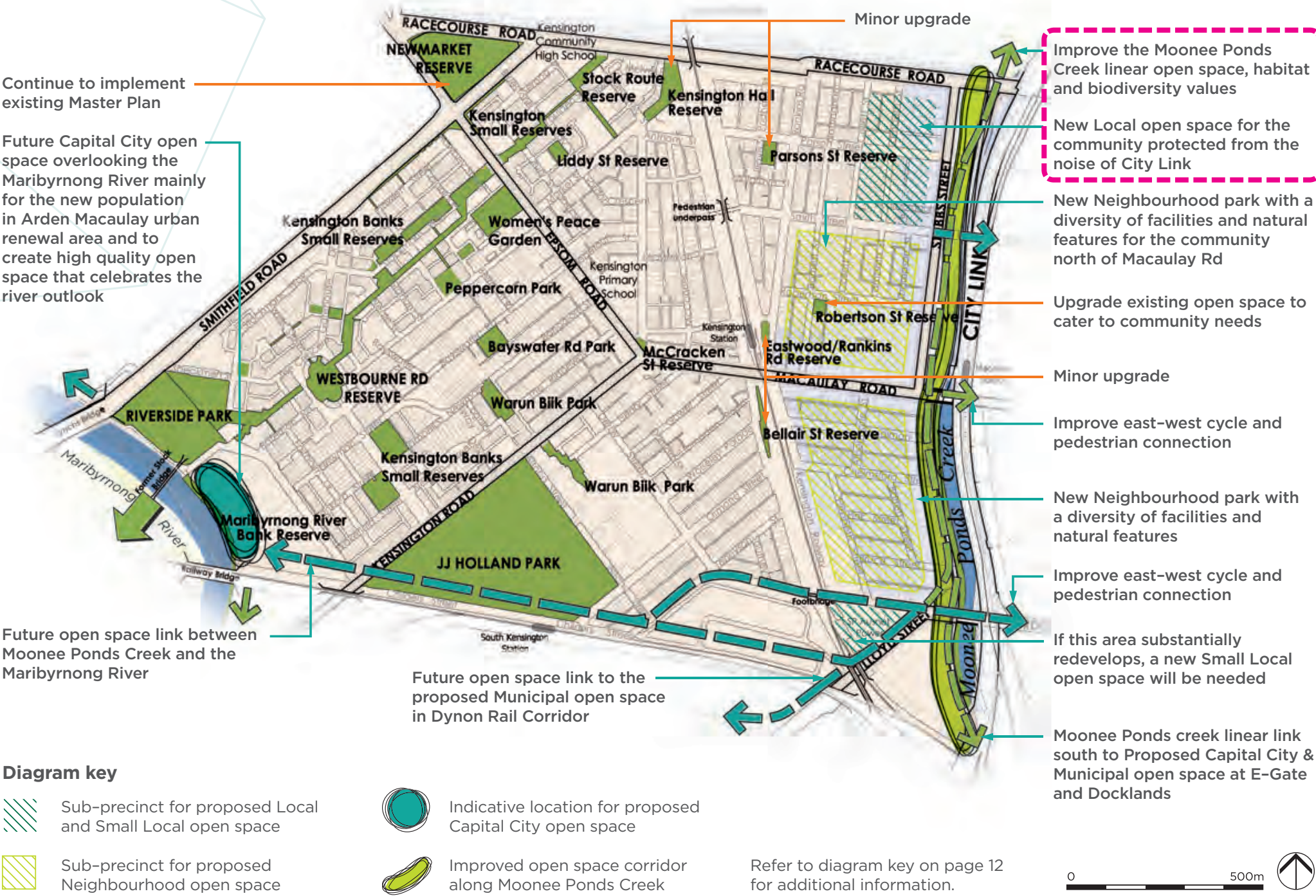
- Flood Storage (west): Open Space (near MPC) - local community use, passive recreation, biodiversity
- WSUD within the proposed Alfred Street Storage: Construct a wetland or bioretention swale within the retarding basin.
- Alfred Street to Sutton St PS Gravity Pipe

Sutton Street

- Flood Storage (west): Open Space (near MPC) - local community use, passive recreation, biodiversity.
- WSUD within the proposed Sutton Street Storage
- Blue-Green Street: retrofit for urban forest improvement.



Kensington





North Melbourne



ARDEN PUBLIC REALM AND OPEN SPACE STRATEGY

Prepared for the City of Melbourne
and the Victorian Planning Authority

April 2020

AECOM



Arden Public Realm and Open Space Strategy

Client: City of Melbourne
ABN: 55 370 219 287

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Quality Information

Document Name	Ref	Prepared for	Prepared by	Date	Reviewed by
Arden Open Space Strategy	1	City of Melbourne and Victorian Planning Authority	Jim McGuinness	31 January 2020	Zac Cvitkovic
	2	City of Melbourne and Victorian Planning Authority	Georgina Nicol	09 April 2020	Zac Cvitkovic

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North Melbourne Recreation Reserve

01

EXECUTIVE SUMMARY

Arden's Public Realm and Open Space Strategy (PROSS) aims to provide both a glimpse into, and a roadmap towards creating a precinct that achieves new and ambitious standards in urban renewal and the creation of a high quality, high density, mixed-use urban environment. Through an examination of the existing place, existing open space practices, and an analysis of local and international benchmark precincts, this strategy incorporates both quantitative and qualitative measures and extends them to the whole of the public realm and open space to be created in Arden.

The Vision

Distilled from the Arden Vision, this strategy seeks to ensure that:

// *Arden becomes a new destination for Melbourne, setting the standard for urban renewal and an international innovation precinct that is progressive, innovative and connected locally and globally. With its own civic heart and character, it is renown as a cooler, greener version of the city on the banks of the Moonee Ponds Creek with water ever-present in its neighbourhoods.*

//

The key moves

In order to achieve this type and scale of success, the public realm and open spaces of Arden will need to be:

Seamless – a continuous network of spaces and corridors that forms a connected public sphere, amplifying the benefits provided by the individual and component parts.

Integrated – unlocking the potential of the whole of the Precinct by flexibly and efficiently using all the space available for multiple open space and other purposes across the day, week and year.

Inclusive – inviting everyone to share in the Precinct by removing the barriers that discourage or prevent individuals from using spaces due to economic means, physical abilities, or perceptions.

The principles

Through the distillation of the Arden Vision objectives the PROSS will establish a framework for:

The plan

Through an examination of local and international benchmark precincts and public realm and open space standards and practices the Strategy has been developed in order to provide for:

- 27% of the Precinct's land area forming open space consisting of encumbered, restricted and totally unencumbered open spaces that are available to the local community some or all of the time, which equates to some five times the proportion of space available in Melbourne's Central Activities District, or double the contemporary example of Kings Cross Central in London.
- 5% of the Precinct forming unencumbered, unrestricted open space that is wholly devoted to recreation and leisure activities, approximately equal to all of the open space available in Melbourne's Central Activities District, and
- A public realm that provides over twice as much space per resident and worker than that available to the residents and workers of Melbourne's Central Activities District.

01 A distinctive Arden identity

02 A precinct that provides for diverse needs

03 A water-positive precinct

04 A network of public and private spaces

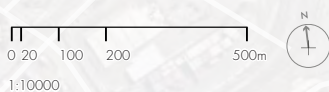
05 A universally accessible precinct

06 A comfortable, green and cool precinct

07 A continuous public realm

LEGEND

- Arden sub-precincts
- Key streets
- Pedestrian priority streets/lanes
- Train station
- Moonee Ponds Creek
- Moonee Ponds Creek trail
- Capital city open space
- Detention basin
- Existing public open space
- Neighbourhood open space
- Future potential extension to Moonee Ponds Creek



The sub-precincts

Each sub-precinct within Arden will be afforded specific public realm and open space qualities that directly accommodates for the unique circumstances they each have, including:

Arden North

A community-focused neighbourhood that provides a green, cool setting that celebrates and restores the heritage of existing open spaces and green values.

Accommodating a mix of residential and commercial uses that integrate the existing heritage and open spaces of the North Melbourne Recreation Reserve and others, with a new, expansive stormwater management facility to provide almost 13 hectares of interconnected, green open spaces. This will be available for a range of recreation, biodiversity, stormwater storage and community uses, as well as opportunity for more passive recreational pursuits, and provide for a future direct connection to the Moonee Ponds Creek.



Arden North

Arden Central

A new, globally-significant hub of innovation, with a seamless, connected public realm. It is centred on Capital City Open Space that is a destination in its own right and combined with an adjacent Neighbourhood Open Space, that provides 1.6 hectares of public open space.

With over 6 hectares of public realm that accommodates not only larger events and high levels of pedestrian movement to and from the railway station, but also more neighbourhood-focused passive spaces for the immediate community of this neighbourhood. Despite the need for robust and hard-working spaces it will provide for prolific shade and maintain the visible presence of water that links it to the rest of Arden and the nearby Moonee Ponds Creek. It will also exemplify the most extensive integration of private open spaces into a diverse, accessible network of green spaces.



Arden Central

Laurens Street

An already transforming neighbourhood of residential and commercial use that grafts and adapts the long industrial heritage of the Precinct.

It will continue to accommodate the remaining industrial activities that are visibly present while incrementally changing over time to provide for smaller business operations and additional residents. Its public realm and open spaces will similarly be of a local function and character, adapting to and growing from small seeds of space in a similar way to Railway Place Reserve. Over time it will make better, more efficient and locally-prioritised use of over 5 hectares of public realm that is already available in the neighbourhood. Added to this, will be more rooftop and undercroft space further providing opportunity for greening and recreation.

The implementation

The recommendations of this Strategy will help inform the development of the Arden Precinct Structure Plan, that will enable both significant Precinct-wide investment decisions to be made, as well as inform incremental and individual development direction.

Only together can all of the stakeholders realise the vision for the Precinct, which will continue to evolve as the needs within Arden become more apparent. The ongoing presence of the City of Melbourne and other key asset owners and managers will be required to actively manage what will be a complex, living, urban ecosystem.





Gardiner Reserve, North Melbourne

02

INTRODUCTION

Purpose of document

The intent of the Arden PROSS is to inform the open space and public realm objectives and targets for the Arden Precinct Structure Plan being prepared by the City of Melbourne and Victorian Planning Authority.

It is founded on the current Arden Vision, and the objectives recommended by the City of Melbourne Municipal Open Space Strategy (2011) as it relates to the Arden Precinct.

The recommendations of this Strategy are intended to substantiate and articulate an overall public realm and open space outcome for Arden which is to be defined in the Arden Precinct Structure Plan and that will require the cooperation of Local and State Government agencies, as well as a range of private developer interests.

Document structure

This document has been structured in the following way to provide maximum visibility of the rationale for the strategy's development that has been informed by the substantial amount of work that has preceded it.

Arden Vision – summarises and distils the key directions and planned outcomes of the Arden Vision that outlines the ambition for the whole Precinct, and how this informs the aims for the public realm and open space network.

Analysis of Existing Arden – examines the existing context of Arden and the Precinct itself from both a strategic setting, as well as the physical elements, from the natural setting through the multiple layers of infrastructure and development that contribute to the character and identity of Arden sub-precincts.

Benchmark Review – selects and analyses a number of local and international benchmark precincts which are relevant to Arden's future form and identifies key public realm and open space qualities and quantities that help inform the ambition of Arden's public realm and open space.

Applying Learnings to Arden – explains the rationale for the evaluation framework for the strategy by both quantitative and qualitative means. This includes an examination of the conventional metrics of open space provision and demonstrates the way this strategy's targets measure up to the benchmark precincts.

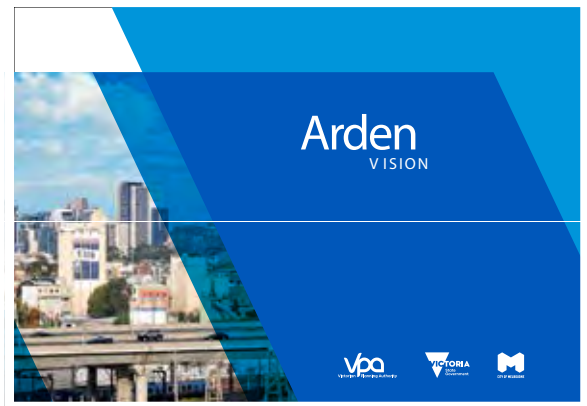
Arden PROSS – outlines the vision, key moves, sub-precinct and place outcomes that would provide the type of public realm and open space Arden will need if it is to fulfil its intended role.

Background to project

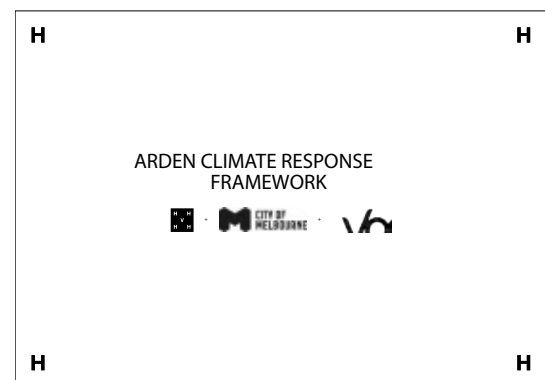
Melbourne's significant growth has reflected the success it has had in attracting investment and talent as one of the world's most liveable, creative and prosperous cities. This has driven substantial levels of urban renewal and redevelopment in central and inner Melbourne, but also necessitated a more substantial level of transport investment by State Government; including Melbourne Metro, which is currently under construction.

The Arden Precinct has been earmarked for significant redevelopment ever since the planning of Melbourne Metro identified the potential for a new railway station in the centre of the Precinct. This has been reflected in the Arden Macaulay Structure Plan (2012) by the City of Melbourne which confirmed Arden Central as the location for 'intensified commercial activity linked to Melbourne Metro'.

The City of Melbourne and the Victorian Planning Authority has continued to work together on the Arden Vision which provided for greater depth and detail on the ambition for Arden, incorporating community and stakeholder inputs. This has provided a foundation for a range of technical reports, including this one, that will contribute to the Arden Precinct Structure Plan, which will provide the planning framework for the redevelopment of the Precinct.



Arden Vision, VPA, 2018



Arden Climate response Framework, VPA, CoM, H.V.H., 2018



Moonee Ponds Creek Strategic Opportunities Plans, 2019



Flood Management Concept Design Report, Ramboll, 2018



Moonee Ponds Creek Strategic Opportunities Plans, 2018



Arden Macaulay Precinct: Finalising Flood Mitigation Options, 2018

Policy context

A substantial amount of policy, and precinct-specific studies have provided a broad foundation for the findings and recommendations of this Strategy. These have been grouped in the following way.

Primary documents – with significant public realm and open space implications:

- City of Melbourne Municipal Open Space Strategy (2011) – provides a municipal-wide analysis of open spaces and identifies open space typology needs for individual neighbourhoods, as well as broader ambitions to maintain open space provision measured per person (resident and worker) across the whole municipality.

For the public realm and open space for Arden , this report recommended:

- The provision of a new Capital City Open Space of at least a Neighbourhood Open Space size at the new station, and a Small Local Open Space to the south of Arden Central.
- The provision of a new Local Open Space and upgrades to existing open spaces in Arden North.
- The provision a Local Open Space, or two Small Local Open Spaces in the Laurens Street sub-precinct.

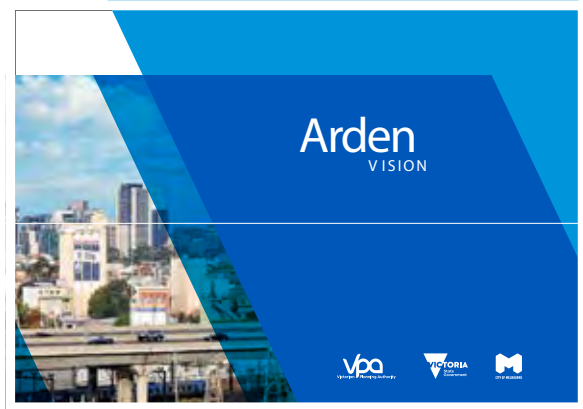


Open Space Strategy, CoM, 2011

- Arden Vision (2019) – outlines the shared vision of the Precinct with a strong emphasis on an innovation-led, job-rich, mixed-use neighbourhood that leverages the unique metropolitan setting that it has with the opening of Melbourne Metro, with a range of directions and detailed planned outcomes for the public realm and open space of Arden identified.

For the public realm and open space for Arden, this report recommended:

- An urban boulevard along Fogarty and Queensberry Street corridors
- A Capital City Open Space at Arden Central
- A station plaza
- Two local open spaces at Arden Central
- Improved open space connections along the rail corridor, Victoria, Green, Gracie Street corridors
- Open space along the Moonee Ponds Creek corridor
- A new permeable street network in Arden Central
- Blue-green infrastructure in Arden North



Arden Vision, VPA, 2018

Policy documents – with municipal-wide strategic outcomes that include public realm and open space implications:

- Urban Forest Strategy 2012-2031 (2012) – identifies the multiple benefits of a greener and shadier urban environment and establishes a 40% tree canopy target for public realm, tree diversity and improved soil and water quality.
- Transport Strategy 2030 (2019) – identifies the need for greater priority to active transport modes that will increase overall transport capacity in the city, with an emphasis on changes to the way street space is assigned to transport modes.
- Walking Plan 2014-2017 (2014) – identifies the need to prioritise and devote more space to pedestrians to accommodate the growth in Melbourne's population with an emphasis on public transport nodes.
- Cycling Plan 2016-2020 (2016) – identifies the rapid increase in bicycle ridership, along with the need for more investment into a dedicated network of bicycle paths in order to provide for convenience and improve safety for pedestrians and riders.
- Nature in the City Strategy (2017) – identifies the need to focus on the natural environment that sustains the health of the city and to improve the health of urban biodiversity and connect more people with natural systems that relate to the land and are under threat.
- Green Our City Strategic Action Plan 2017-2021 (2017) – identifies the opportunity for a substantial increase in the urban landscape through integration of green roofs and walls across the city, and the significant opportunity redevelopment precincts provide.
- Total Watermark – City as a Catchment (2014) – identifies the challenge that a growing city and climate change create and the need for integrated water cycle management that reduce flood risk and use stormwater as a resource for open spaces.

- Climate Change Adaptation Strategy Refresh (2017) – identifies the need to build Melbourne's resilience to climate change with specific urban renewal actions that emphasise the management of stormwater, and mitigation of urban heat island effect and flooding impacts.
- Amendment C278 Sunlight to Public Spaces - seeks to reduce shadow impacts of surrounding developments on public parks between 10am and 3pm on 21 June by limiting adjacent building heights and increasing built form setbacks.

Precinct-specific policies and reports – that provide more background to initiatives and changes planned in and around Arden, with a link to public realm and open space outcomes:

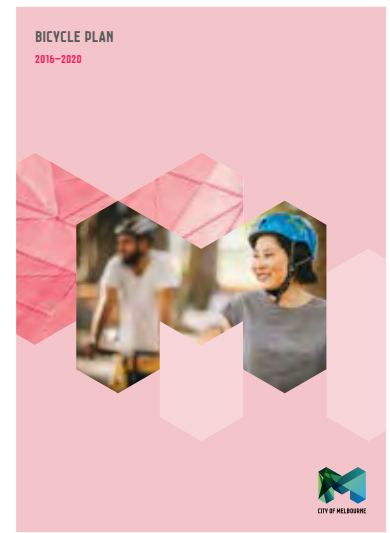
- Arden Macaulay Structure Plan (2012) – establishes the planning framework for redevelopment of Arden's immediate context, including Kensington and North Melbourne to accommodate substantial additional residents and workers with an emphasis on significant growth in Arden Central.
- Moonee Ponds Creek Plan Strategic Opportunities Plan (2019) – identifies the public open space, biodiversity, water management, active transport and cultural heritage opportunities that are available as part of a broader rehabilitation of the waterway as infrastructure development and urban renewal is undertaken along its length.
- Stormwater Management Reports (2018-2019) – a number of stormwater investigations of Arden have been commissioned by the City of Melbourne, City West Water and Melbourne Water that identify the need for substantial stormwater management infrastructure in Arden, including large storage/retarding basins, increased creek-side levees, underground infrastructure, and use of streets for stormwater management.



Walking Plan, CoM, 2014



Transport Strategy, 2019



Bicycle Plan, 2016



ClimateChangeAdaptationStrategy Refresh, CoM, 2017



Green our City Strategic Action Plan, 2017



Nature in The City, 2017



Urban Forest Strategy, 2012



Total Watermark, 2014

Definitions of open space and public realm

For the purpose of this strategy, public realm and open space definitions are required to ensure that the analysis and recommendations are clearly understood within a single framework.

Whilst open space has a well-established set of definitions within the Melbourne Planning Scheme, the Municipal Open Space Strategy includes a number of definitions that establish a different framework in order to provide a more complete picture.

Public Realm

All land accessible to the public is generally referred to as the 'public realm'. The public realm is made up of a range of different space typologies, including open space. Open space is a subset of the public realm and is a broad term that can be used to describe all land that does not contain buildings or structures and is not a thoroughfare or easement. Open space can be both publicly and privately owned.

The Arden PROSS considers the following as elements of the public realm:

Public Open Space

Publicly owned land that is freely accessible to the community and primarily for outdoor recreation and leisure. Public Open Space includes public parks, public gardens, squares and reserves.

Restricted Public Open Space

Publicly owned land that is accessible to the community on a restricted basis, typically due to organised or club-managed sporting activity.

Encumbered Open Space

Publicly owned land set aside for other primary purposes such as conservation, waterways, heritage and utilities that can also be made available for community recreation and amenity purposes. It also includes areas subject to regular inundation, service easements and overhead structures where these characteristics will potentially restrict the use of the space. Access to and use of these spaces may vary depending on the level of restriction that the primary purpose imposes.

Private Open Space

Privately owned space (either on ground level or above) that can be either publicly accessible or restricted to private or communal use for occupants of a development and their visitors.

Open Space Links

Publicly accessible space that are narrow and set aside for trails, paths and for conservation. For example, linear parks and shared user paths. These can also be encumbered.

Streets and Laneways

Publicly owned streets and thoroughfares including boulevards, laneways and pedestrian malls.



Public Open Space

Streets/Lanes

Private Open Space

Public Realm

Methodology

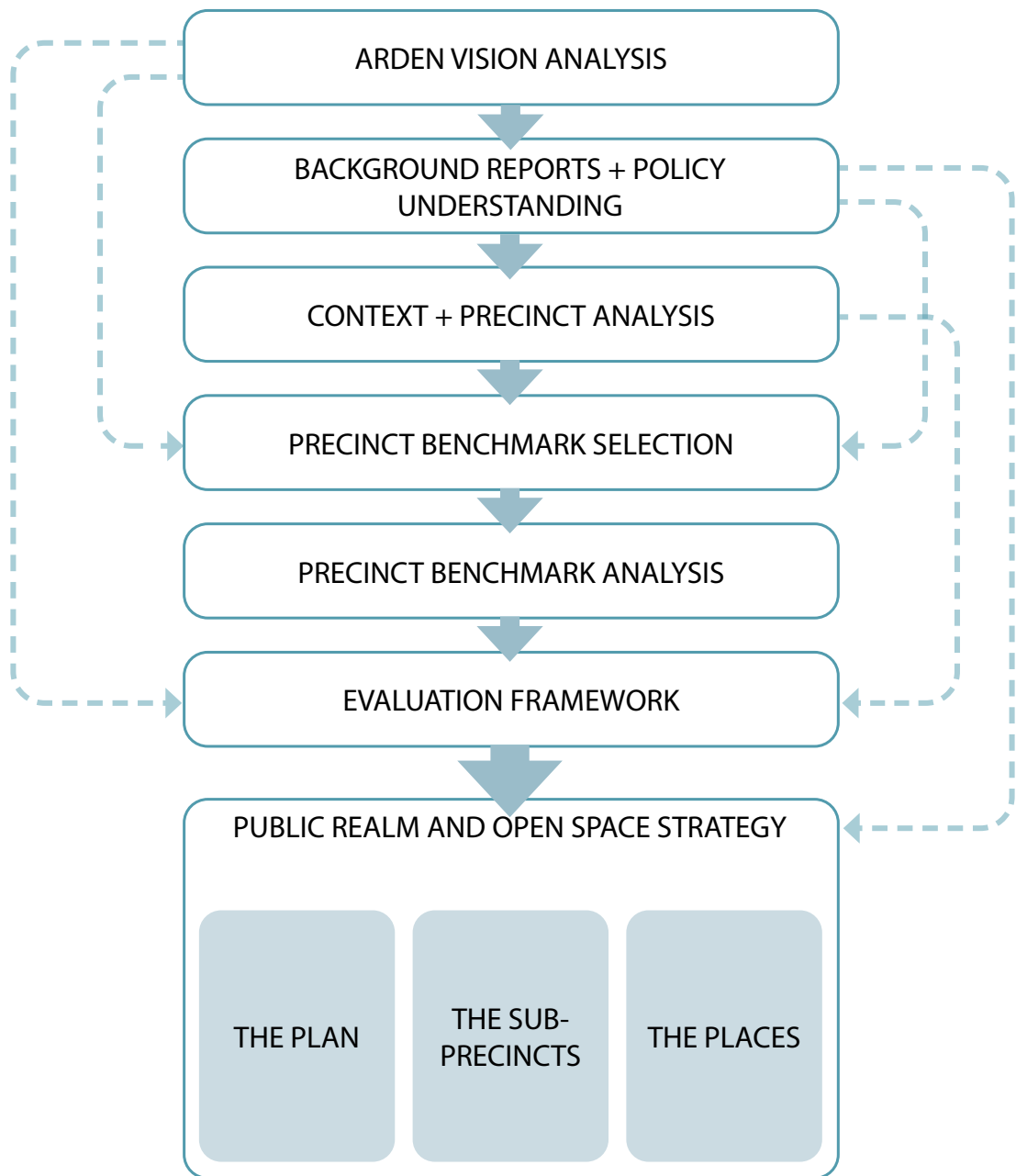
This Strategy has been developed with an emphasis on achieving a new, bold ambition for what will be one of central Melbourne's unique and distinctive neighbourhoods.

Whilst a thorough understanding of the Arden Vision and the background and policy work that has preceded this Strategy was necessary, a significant effort has been attributed to identifying and examining relevant precinct benchmarks for Arden, from which to draw lessons.

The selection of these precincts was informed by the vision, background reports and analysis of the existing characteristics of Arden to ensure that the lessons could viably be applied in the Precinct with a reasonable level of confidence.

The evaluation framework has drawn on these understandings to ensure that the Strategy would address all of the facets of the public realm and drawn on both the qualitative and quantitative learnings, both of which are necessary.

The Strategy itself identifies the Precinct-wide as well as sub-precinct and place-specific recommendations to ensure that the public realm and open space network that is created addresses all of the aspects of the Arden Vision.





03

ARDEN VISION

The redevelopment of Arden has long been anticipated and planned for, with a range of authorities undertaking studies that investigate, analyse and test the substantive issues, opportunities and challenges in developing the Precinct.

The Arden Vision (2018) sets out the ambition for the Precinct and details strategic directions and planned outcomes that has been discussed, shared and agreed by a range of stakeholders and community representatives.

Key statements of that Vision include:

"... the new employment hub will be pivotal to the growth of Victoria's knowledge economy and advancing... a progressive, innovative and connected local and global city."

"... will have its own civic heart and character... connected to its Aboriginal and industrial heritage... support a diverse resident and worker population... with quality and affordable housing, a thriving network of open spaces, active transport links, and adaptable community facilities, schools and workspaces."

"... a new destination for Melbourne, setting the standard for urban renewal. It will contribute to a future Melbourne that is.. the world's most liveable city.... the most forward-looking. ... ideally placed to be an international innovation and technology precinct."

"... at the forefront of sustainable development... an energy efficient district. Water... managed to become a visible feature in the landscape... a cooler, greener version of the city"

Sub precinct opportunities

Within Arden, three distinct sub-precincts have been identified in the Arden Vision. These areas have their specific attributes, identities, characters and opportunities for the future of Arden. These three areas will fulfil different roles for their residents and workers, and for the visitors to Arden and Melbourne. Further definition for three sub-precincts in Arden has been developed in the Arden Vision to include:

Arden North

- accommodating mixed-use commercial and residential development and providing community facilities that include and integrate with the existing icons of North Melbourne Recreation Reserve, Recreation Centre and Pool.

Lauren Street

- accommodating a mix of smaller-scaled residential and commercial uses that integrate with existing industries as it transitions over time, and providing for a vibrant start-up sector that can grow around the strong heritage of buildings and activities.

Arden Central

- The new Arden Station being built as part of the Melbourne Metro tunnel project will form a key catalyst to provide the high-volume activity and connectivity required for a new jobs-focussed precinct. A new metro station is a rare opportunity that offers strong rationale for an area accommodating a mix of commercial, recreational, retail, cultural and residential uses that will act as a hub for metropolitan jobs, education and innovation centred on a new Capital City open space.



Arden Vision Sub-Precincts¹

Qualities and quantities

The Arden Vision objectives and planned outcomes identify a range of qualitative and quantitative targets, many of which will directly relate to the public realm and open space outcomes for the Precinct. They can be found across all eight key directions of the vision and will inform the scale and type of public realm and open space that is sought in Arden in order to achieve its aspiration. Of note for this Strategy are the objectives and outcomes of the Arden Vision Key Directions, summarised in Table A.

The Arden Vision sits as an integral part of a greater vision for Melbourne, that is recognised as one of the world's most liveable cities. As its population increases, maintaining and improving the qualities that earn that title will become more difficult as the global competitors emulate achievement that have already been made here.

With Arden being one of Melbourne's newest precincts it holds the potential to become a strong contributor to our overarching identity as a liveable, innovative and creative city that attracts both the most investment and the best talent.

Table A

Arden Vision Objectives	Arden Vision Planned Outcomes
DIRECTION 1 – TRANSFORMING ARDEN	
At its heart will be a Capital City open space that provides a high-quality place where people meet, play connect and do business, setting new standards for innovative design of public spaces	<ul style="list-style-type: none">- Development and intensity of activity catalysed by the station that supports key research, health and education businesses.- More than 34,000 jobs.- At least 15 hectares of land dedicated to intensive employment and mixed-use activities.
It will be a distinctive place with an identity that builds on existing assets including North Melbourne's permeable connected neighbourhood, heritage buildings and streetscapes and the Moonee ponds Creek and uses architecture art and design to reinforce its identity as a centre of innovation	
DIRECTION 2 DESIGNING A DISTINCTIVE PLACE	
A high-quality public realm will support investment attraction. It will be consistently delivered over time.	<ul style="list-style-type: none">- Significant industrial buildings are protected and reused.- Existing community assets such as the North Melbourne Football Club, Recreation Centre and Pool continue to contribute to the precinct's character- Public art and urban design that responds to the cultural heritage, local history and community in the creative design of parks, open spaces, signage and wayfinding.
The diverse economic roles of the precinct will be reinforced by an urban form that accommodates both small and large enterprises and places for living within a fine-grained, permeable and pedestrian-cycle-friendly environment.	
The street network will be stimulating, attractive and safe, providing connections to active transport, open spaces and view to key landmarks.	
Arden assets, such as heritage places, natural features and water will help the urban form to reinforce local identity	
DIRECTION 3 EMBEDDING SUSTAINABLE CHANGE	
It will create diverse and healthy ecosystems that support community wellbeing and wildlife, reconnecting people to natural environments	<ul style="list-style-type: none">- Development that meets or exceeds targets for urban cooling, extending the tree canopy and protecting biodiversity.- Sustainable waste and water management systems.
DIRECTION 4 ACCOMMODATING DIVERSE COMMUNITIES	
Arden will house a diverse population across a range of ages and incomes and cater for specific housing needs, including for key workers, creative industry workers, students, families, first homes buyers and pensioners	<ul style="list-style-type: none">- A residential population of 15,000.- At least 6% of residential development delivered through community housing or shared equity.- At least 5 % of private housing to be universally accessible.
DIRECTION 5 PRIORITISING ACTIVE TRANSPORT	
Priority will be given to active and public transport to, from and within the precinct that connect Arden with the CBD, Parkville and the growing western suburbs.	<ul style="list-style-type: none">- Mode share for all trips to be:<ul style="list-style-type: none">- 60% public transport- 30% active transport (walking and cycling)- 10% private vehicle- Pedestrians and cyclists have priority on key streets
Create a network of walkable urban boulevards and streets that will be universally accessible, safe and provide efficient connections throughout the entire precinct.	
DIRECTION 7 CELEBRATING WATER	
The Moonee Ponds Creek corridor will be celebrated as a waterway with recreational, environmental and active transport functions and a valued environmental and cultural heritage	<ul style="list-style-type: none">- All new development meets recognised best practice water-sensitive urban design standards.- Recreation spaces, active transport links, flood mitigation and expanded flora and fauna habitats will be delivered through integrated management of the Moonee Ponds Creek.
The City of Melbourne-led Moonee Ponds Creek Plan will identify opportunities to broaden the span of the creek corridor and introduce new open spaces by repurposing adjacent Victorian Government-owned land	
Blue-green infrastructure (combining open space and flood mitigation) will create a distinctive sense of place around water in the landscape, provide open spaces for recreation and biodiversity, and reduce stormwater and flooding risks.	
DIRECTION 8 CREATING DIVERSE OPEN SPACES	
A generous open space network will connect new and existing neighbourhoods	<ul style="list-style-type: none">- Green streets and open spaces contribute to the minimum 40% tree canopy target.- Open space within 300 metres of all residents and workers.- The City of Melbourne minimum requirement of 7.06% of land available for development, in addition to the Capital City open space.- Open spaces are designed to combine passive and active opportunities with flood mitigation.- Protection of solar access for key open spaces.- Garden spaces for local food production.
Open spaces will be diverse in function and size and integrated with walking and cycling links	
A Capital City open space located in Arden Central will be a key feature of Arden's new identity, along with new neighbourhood parks and green streets	
The Moonee Ponds Creek corridor will be rejuvenated as one of Melbourne's significant and valued waterways and linear open spaces	
The creek corridor will offer passive and active recreation opportunities	
The Victorian Government and the City of Melbourne will work in partnership to deliver new open spaces	

Unique attributes

Whilst a diverse range of details will need to be integrated and resolved in order to achieve a high-quality public realm and open space outcome at Arden, the unique attributes

A large central site in a single Government ownership providing a relatively 'clean slate' to create unique open space and public realm

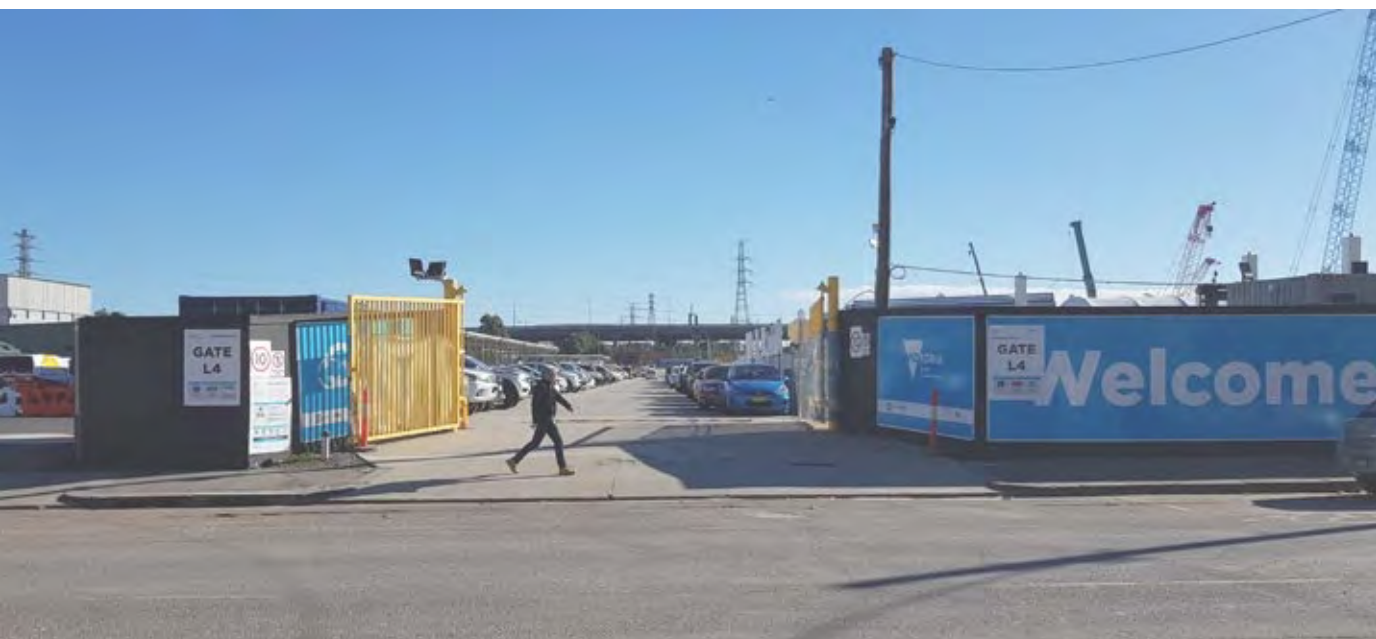
A new, large, diverse community of residents and workers that will both need and be contributors to the local patterns of life in the

A new railway station providing vast new sustainable transport opportunities into an area with a somewhat constrained local road network – demanding modal shift.

The need to mitigate significant flooding in the Precinct which will also contribute to the open space character and local microclimate.

A shared understanding that active and public transport will have to predominate within the Precinct's road network.

The proximity to Moonee Ponds Creek and the opportunity to establish future direct links to it.



Arden Central - New North Melbourne Station Works

Public realm and open space vision

The Vision for Arden identifies the need for the public realm and open space to be of world class if it is to be successful.

It must be something new and better than has previously been achieved in Melbourne.

This requires a strategy that considers traditional quantities and distribution of open space provision, but also identifies the qualities and characteristics of open space and public realm that can provide appropriately for the Precinct's roles.

Distilled from the Arden Vision, this strategy seeks to ensure that:

Arden becomes a new destination for Melbourne, setting the standard for urban renewal and achieving an international innovation precinct that is progressive, innovative and connected locally and globally. With its own civic heart and character, it is renowned as a cooler, greener version of the city on the banks of the Moonee Ponds Creek with water ever-present in its neighbourhoods.



Clayton Reserve, Arden

04

ANALYSIS OF EXISTING ARDEN

Arden has long been part of the industrial area of North Melbourne and developed closely with the needs of the central city. The site's setting, heritage and existing assets and characteristics should inform its future redevelopment if it is to successfully and authentically achieve its future vision.

Existing Open Space in Arden

Open space	Size	Use
1. North Melbourne Recreation Reserve	4.5 ha	1 x football oval (restricted use) 1 x football club Walking track 1 x recreation centre (gym, indoor basketball/netball/ half court 1 x aquatic centre
2. Clayton Reserve	0.7 ha	1 x dog off leash area
3. Canning St and Macaulay Rd Reserve	0.2 ha	Flexible lawn
4. Railway Place + Miller Street Park	0.5 ha	1 x half court 1 x dog off leash area Flexible lawn

The existing context

Urban setting

Arden sits within 1 kilometre of both the Melbourne Central Activities District and the Parkville National Employment and Innovation Cluster, together accommodating some of Australia's leading educational and biomedical institutions. Together they also accommodate professional services and global firms that attract significant international investment and talent.

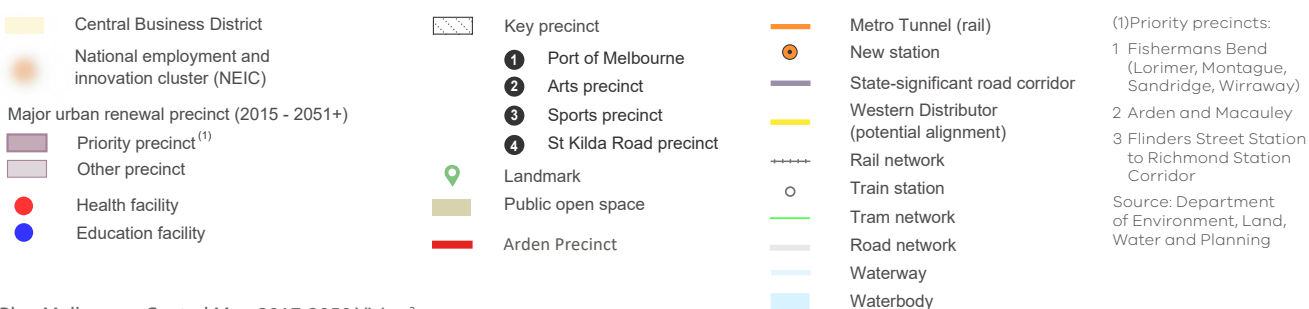
Within its immediate vicinity to the east is the well-established residential areas of North Melbourne that accommodate a diverse community in private and public housing across a range of housing types from Victorian terraces to modern high-rise apartments. Land uses have typically followed the contours of the land with industrial uses located in the lower, more flood prone areas along the Moonee Ponds Creek and residential uses beyond that. Areas to the south are predominantly railyards that are a testimony to Melbourne's industrial and agricultural economic heritage. Some of this infrastructure has become redundant with likely future changes to make better use of this land.

As Melbourne has grown, areas at the fringe of the Central Activities District have undergone substantial change. Docklands, to Arden's south, has undergone a significant transformation from its port activity roots. However, all of Arden's context has undergone almost continual incremental redevelopment as economic activities and buildings have reached the end of their utility. More recent redevelopment pressure in the whole of the immediate vicinity has prompted the City of Melbourne and the Victorian Planning Authority to undertake more comprehensive and detailed planning for all of Arden Macaulay, City North, as well as Arden.



Map 4

Key features in and around Melbourne's central city



Plan Melbourne Central Map 2017-2050 Vision²

The existing context

Movement setting

Arden is surrounded by significant rail and road infrastructure that conveys people and freight to, or around Melbourne's Central Activities District. Significant rail, light rail, road, cycling and pedestrian transport infrastructure is located in the immediate vicinity, with Melbourne Metro and Westgate Tunnel further adding substantial new facilities. As a result of the surrounding movement corridors, Arden has few cross-precinct movement corridors and a highly constrained perimeter.

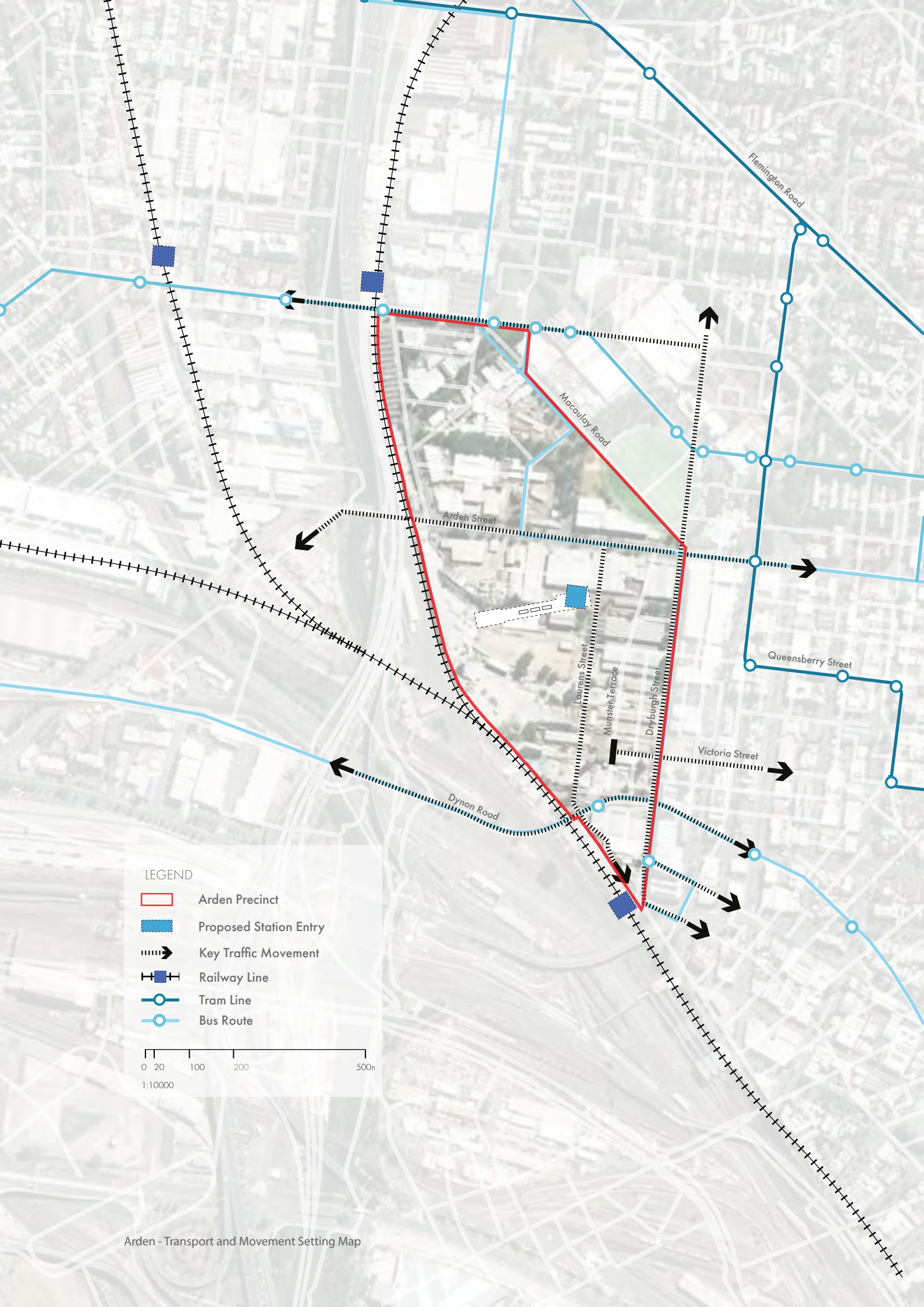
The dense road network of North Melbourne and West Melbourne provides for pedestrian and cycling movement between Arden and the Central Activities District, Parkville and Kensington, however high-volume traffic movements create barriers along sections of Dryburgh Street, Arden Street, Macaulay Road, Dynon Road and Flemington Road. Streets typically don't provide for pedestrian and cycling priority, however Arden Street, Macaulay Road and Flemington Road also provide on-road cycling lanes. The Moonee Ponds Creek Trail provides walking and cycling access as a part of the Capital City Trail, but has little interaction with the Arden precinct in its current configuration.

Rail infrastructure to the west of Arden provides access to the metropolitan and regional rail network for the greater western districts of Melbourne. However, it also severs direct access to the Moonee Ponds Creek, and together with the elevated freeway is a significant physical and visual disconnection between Arden, Moonee Ponds Creek and Kensington.

The Route 57 tram line lies 150 metres east of Arden and provides access to the Central Activities District, the Parkville NEIC and the inner western suburbs.

Citilink provides access to the metropolitan freeway network to greater Melbourne districts, however, while imposing a significant visual impact along the Moonee Ponds Creek corridor and the western skyline, it can only be accessed via Dynon Road and Racecourse Road. This forms part of an identifiable sequence of 'gateway' experiences for freeway users from the 'Melbourne International Gateway' (also known as the Cheese Stick) to the Bolte Bridge. The visual impacts are primarily felt when at close proximity to the bridge or from areas of higher elevation such as the Laurens St sub-precinct.

In addition to the existing transport network, Melbourne Metro will add further rail connectivity with direct access to Parkville, the Central Activities District and Pakenham, Cranbourne and Sunbury Lines. The construction of Westgate Tunnel will provide greater road access to western Melbourne and Geelong, but also dedicated cycling routes to Footscray, the Sunshine NEIC and beyond.



LEGEND

- Arden Precinct
- Proposed Station Entry
- Key Traffic Movement
- Railway Line
- Tram Line
- Bus Route

0 20 100 200 500m
1:10000

The existing context

Natural and open space setting

Most, if not all of the native vegetation in Arden's vicinity has been removed, with development of the area occurring early in Melbourne's establishment. Moonee Ponds Creek remains visible as a waterway, however it has been significantly changed from its natural form.

A number of large public open spaces lie within 1 kilometre of Arden (as the crow flies), including Royal Park to the north, JJ Holland Park to the west and Flagstaff Gardens to the east. These three open spaces combined provide over 218 hectares of open space, (approximately 40% of the total public open space within the City of Melbourne) and accommodate a range of leisure and recreational opportunities for the surrounding communities as well as the broader municipal and metropolitan community.

The larger surrounding public open spaces can be classified in the following way using the classification identified in the City of Melbourne's Open Space Strategy.

Royal Park provides a range of metropolitan and State-significant facilities including the Melbourne Zoo and the State Netball and Hockey Centre, as well a range of sport fields for football, cricket and baseball and Royal Park Golf Course. Large areas of grassland and woodland provide for passive recreation and biodiversity values.

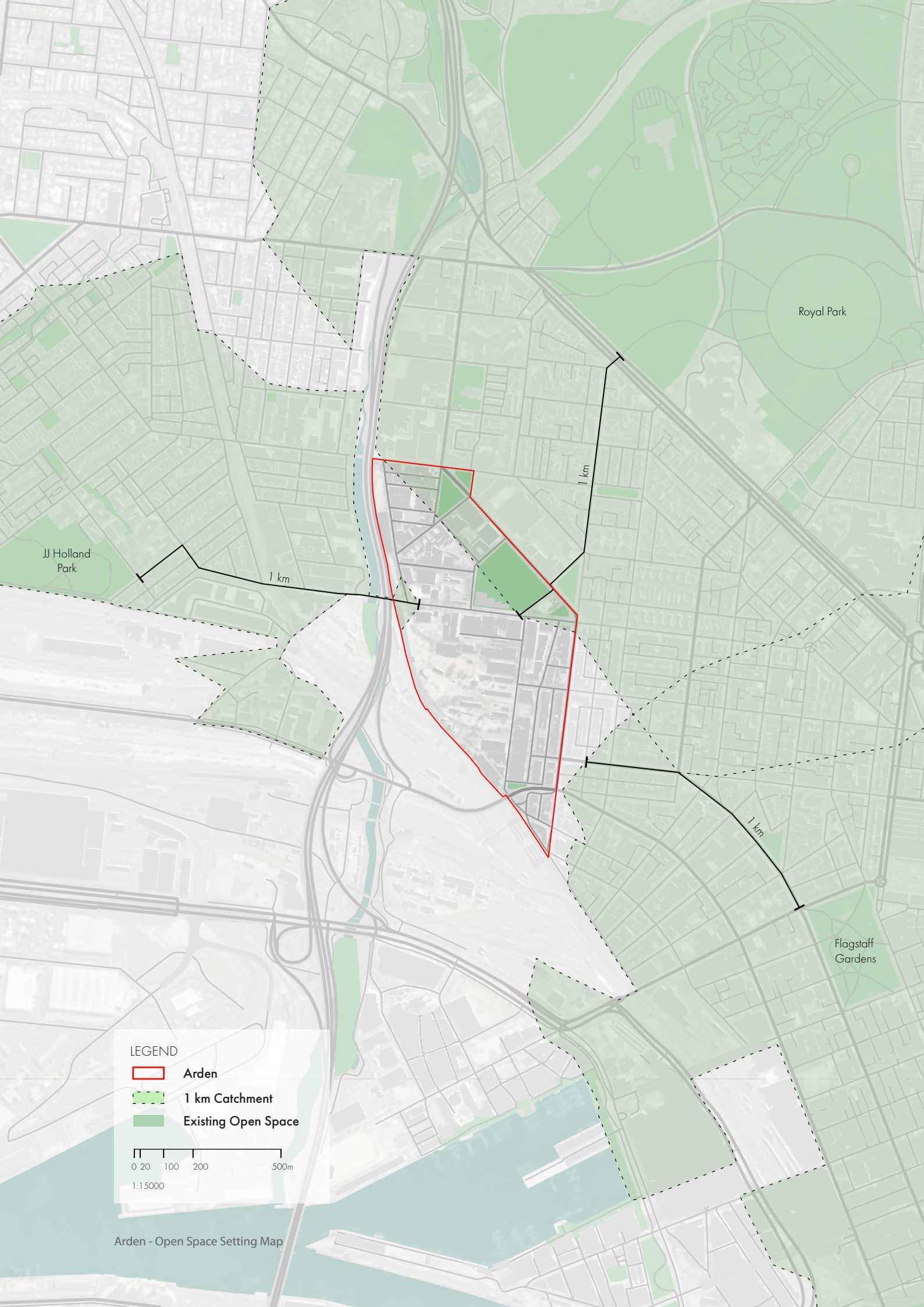
JJ Holland Park and Flagstaff Gardens are much more contained and provide for structured sport and recreation for more of the local community in addition to these, a range of passive recreation and community facilities are provided in both.

In the immediate vicinity of Arden smaller reserves including Gardiner and Hawke Street Reserves and Eades Place Park provide for smaller, local community passive recreation opportunities such as playgrounds and dog walking. More recently, many of these have been redeveloped to expand into adjacent road reservations to provide more space to the local community.

In addition to the open spaces, the surrounding area was originally laid out in the 1860's establishing the gridded street network with the generous proportions of main streets that were established in central Melbourne. This has provided landscape generosity within parts of the public realm, with many streets such as Drysburch and Melrose Streets exhibiting wide and well-planted medians. Much of the opportunity for provision of high-quality public realm within the road reservations of the network has not been realised with the current industrial land use and the vehicle access needs of the area.

Existing open spaces in the Arden context

	Size	Use
Royal Park	State	Nature conservation Recreation Restricted sporting Informal use
JJ Holland Park	Municipal	Sporting Recreation Informal use
Flagstaff Gardens	Regional	Informal use Restricted sporting Recreation
Boundary Road Reserve	Neighbourhood	Recreation Sporting Play



LEGEND

- Arden
- 1 km Catchment
- Existing Open Space

0 20 100 200 500m
1:15000

The existing precinct

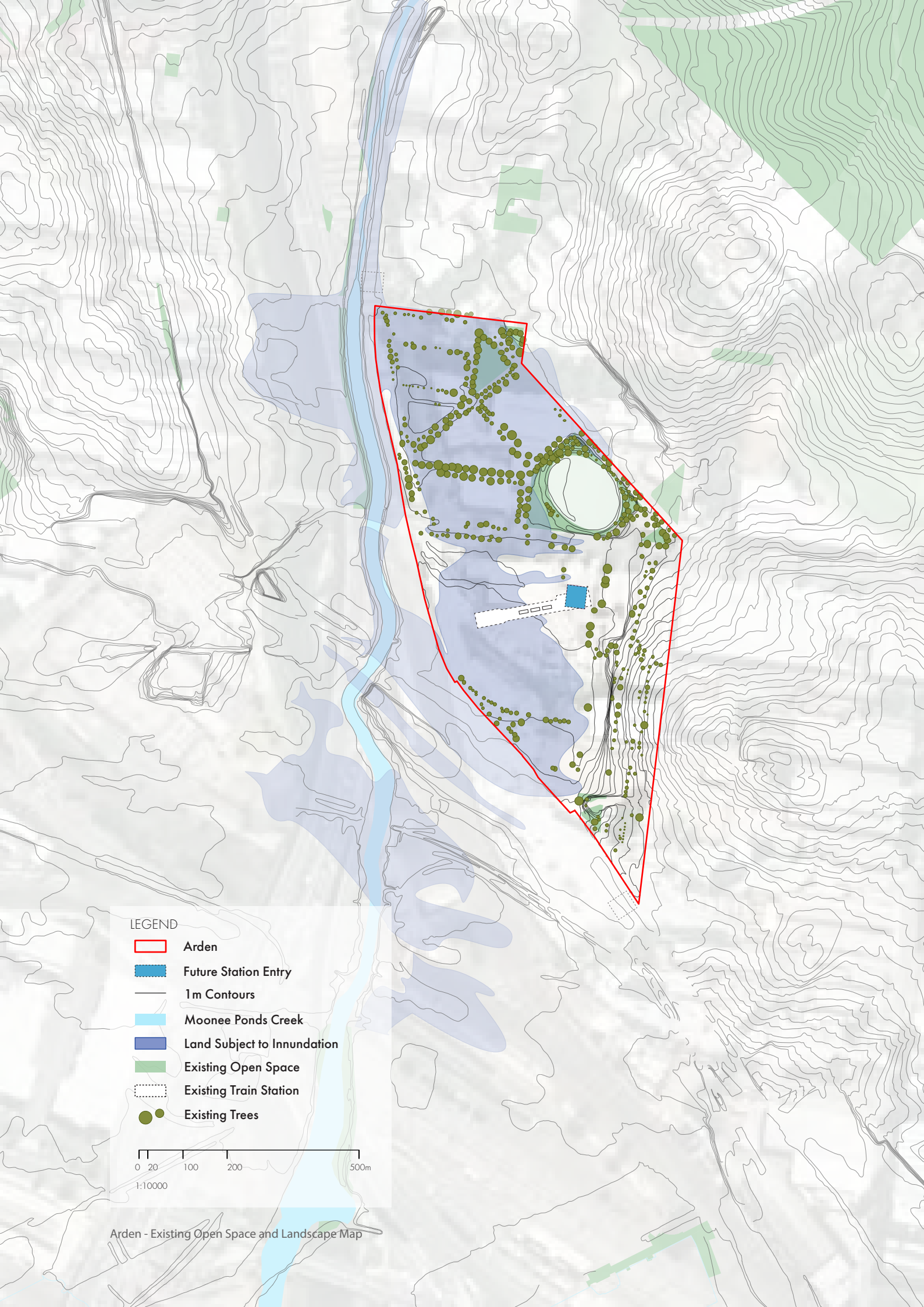
The Arden Precinct reflects much of its immediate context and will become the centre of its immediate neighbourhood setting with the opening of Melbourne Metro. Its existing characteristics will need to inform its future identity and integrate with its surrounds to ensure it successfully remains connected to the networks, activities and life of the community.

Nature and Open Space

The topography of Arden has informed its current pattern of transport networks and land uses with the Moonee Ponds Creek flood plain following the course of that waterway along the western boundary of the Precinct, with a transition to the more elevated surrounds along Munster Terrace and Shiel Street (parallel and beyond Macaulay Road). The steep topographical rise in the Lauren Street sub-precinct is a unique feature which provides for long sweeping views across the Arden Central site.

This topographical change also highlights the areas that continue to be most exposed to urban and waterway flooding as the Precinct lies at the bottom of a large stormwater catchment.

The native landscape that once existed in this location has virtually all been removed and significantly altered, with the most significant landscape now in the form of large, predominately exotic tree species planted along key streets and in open spaces. notable among these examples are Green, Gracie and Henderson Streets, North Melbourne Recreation Reserve, Clayton Reserve and Gardiner Reserve. Whilst not still pertaining to the site's original ecological qualities, the North Arden sub-precinct has strong environmental attributes and qualities that are further strengthened by its proximity to the Moonee Ponds Creek.



LEGEND

- Arden
- Future Station Entry
- 1m Contours
- Moonee Ponds Creek
- Land Subject to Innundation
- Existing Open Space
- Existing Train Station
- Existing Trees

0 20 100 200 500m
1:10000

The existing precinct

Managing stormwater

Arden's low elevation, predominate flatness and location makes the area flood-prone. The Moonee Ponds Creek flanks the western border of the site at the bottom of a vast drainage catchment, as this area receives the flows from the greater catchment, it can be very difficult to completely mitigate flooding impacts in the Precinct.

Reducing Arden's risk to flooding will be fundamental to the type of transformation it aspires to undertake, and a range of investigations led by Melbourne Water have examined the scale and type of mitigations that will be needed.

In addition to a range of underwater storage and conveyance infrastructure, of particular significance is the need to accommodate approximately 7.1 hectares of aboveground stormwater retarding basins that would protect private property in Arden and allow stormwater to eventually drain to the Moonee Ponds Creek once its own water level has returned to a safe level.

Traditionally these types of facilities have been designed to exclusively manage stormwater,

however, increasingly they are seen as untapped open space resources that are developed to also provide recreational, native habitat and other open space benefits. Many former 'retarding basins' have also been redeveloped into significant open space destinations and wildlife sanctuaries more recently.

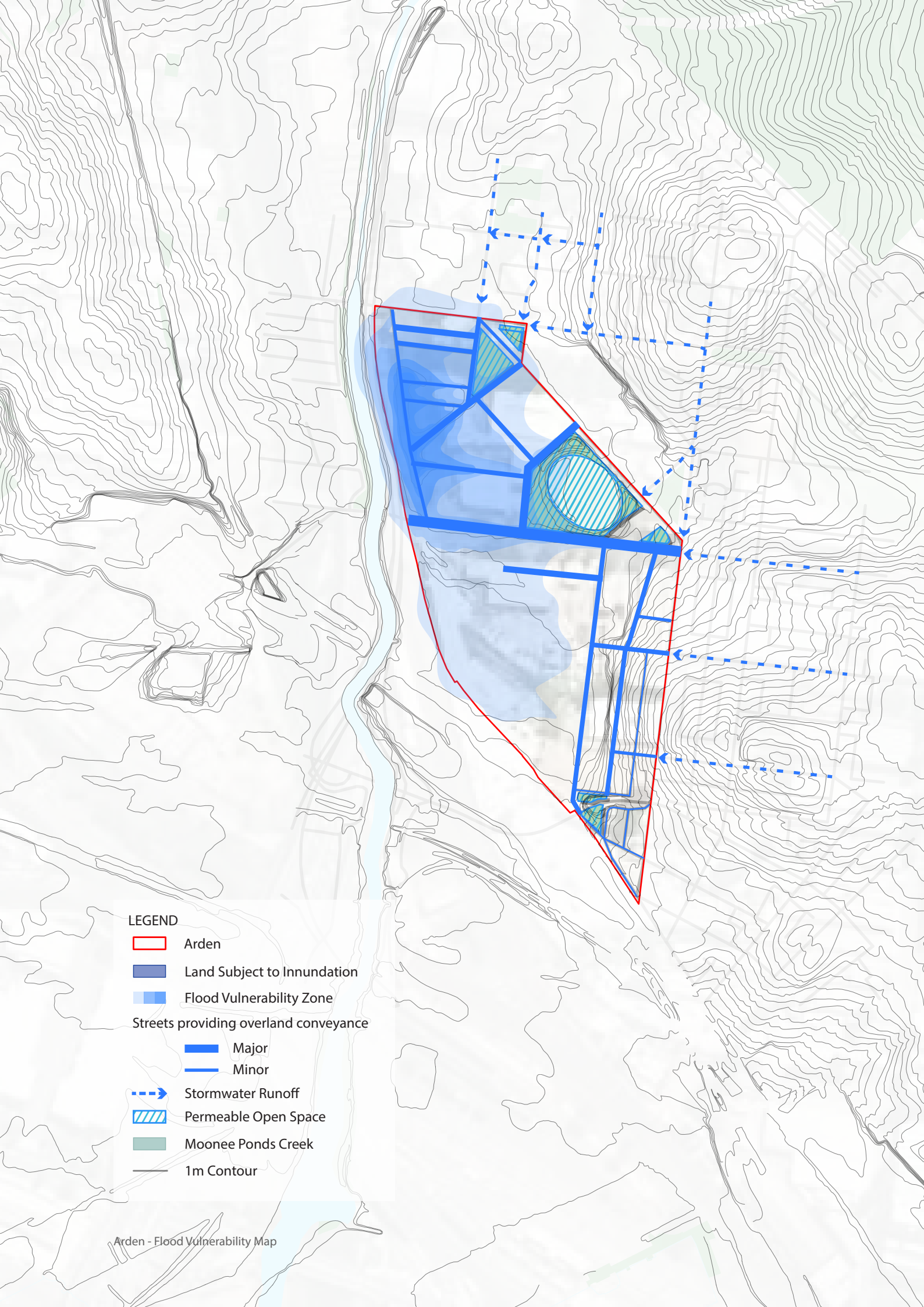
The facility planned for Arden is estimated have only a 1% chance of being fully submerged at any one time and otherwise would be mostly or completely dry with the potential to become a major part of the public realm and open spaces of Arden.

The location of this facility would functionally require it to be at the low point of the Precinct which will approximate with Green and Gracie Streets in the North Arden Sub-Precinct in the vicinity of North Melbourne Recreation Reserve.

Whilst not an existing condition, the need for this facility is irrefutable, though its future form is one that can be shaped to provide a more fully integrated public realm for the whole of Arden.



Karkarook Park, Vic³



LEGEND

- Arden
- Land Subject to Innundation
- Flood Vulnerability Zone
- Streets providing overland conveyance
 - Major
 - Minor
- Stormwater Runoff
- Permeable Open Space
- Moonee Ponds Creek
- 1m Contour

The existing precinct

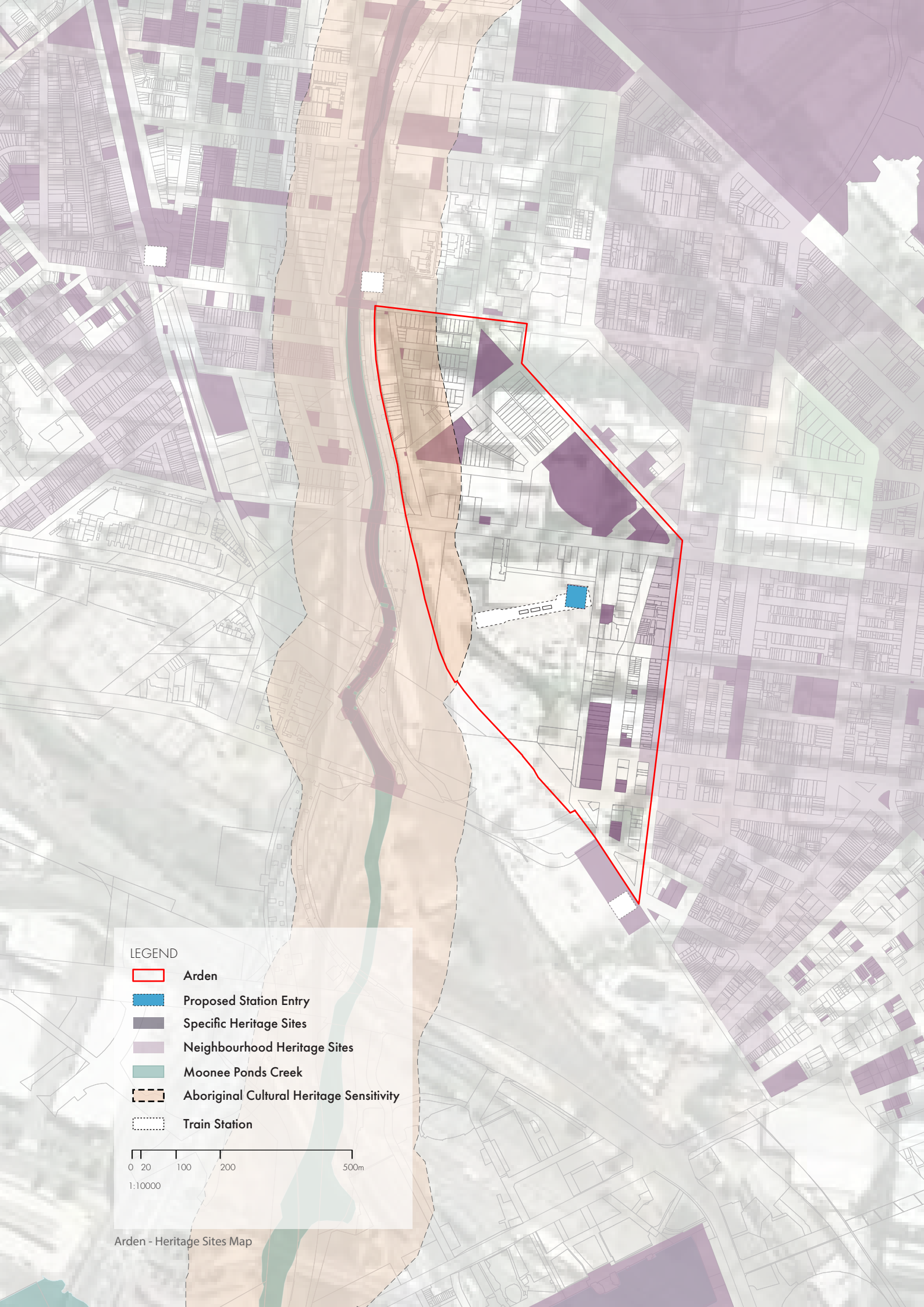
Indigenous and post-settlement history

Arden lies within an area that the Wurundjeri and Boon Wurrung inhabited before the arrival of European settlers, with the Moonee Ponds Creek identified as a corridor which is still likely to contain artefacts given the importance it would have had as a food source.

At the time of writing, a thorough study into the Indigenous history of Arden and the significance of the land and the remnants of cultural heritage was being undertaken by the City of Melbourne and the Victorian Planning Authority. This will further expand on the Indigenous heritage of the land that opportunities that may provide.

Most of the Arden's post-settlement heritage reflects its industrial and working-class past, with specific buildings such as the Weston Milling building on Laurens Street identified as locally significant, as well as the general urban form that exemplifies industrial neighbourhoods from the late 1800's to the mid-20th century.

In addition to built heritage that is valued for the character that it contributes to the Precinct, other identified heritage places are important for their community-orientated role, including the North Melbourne Recreation Reserve from the 1880s and the Lost Dogs Home on Gracie Street, dating back to the 1930s. The significance of these places is related primarily to the social significance they represent to the community ahead of any aesthetic or architectural significance.



LEGEND

- Arden
- Proposed Station Entry
- Specific Heritage Sites
- Neighbourhood Heritage Sites
- Moonee Ponds Creek
- Aboriginal Cultural Heritage Sensitivity
- Train Station

0 20 100 200 500m
1:10000

The existing precinct

Urban pattern and movement

North Melbourne and West Melbourne's streets blocks were laid out by Robert Hoddle, the surveyor of the district until 1853. Arden's streets therefore reflect much of the original standards that Hoddle followed as part of setting out central Melbourne's 'Hoddle' grid. This includes wide, 30 metre road reservations for main streets and regular street blocks, still evident in the dimensions of the Laurens Street sub-precinct.

Many of the anomalies in the urban structure of the precinct are a result of reconciling the north-south geometry of inner Melbourne and the north-west/south-east movement networks between central Melbourne and the original bridge crossings of the Moonee Ponds Creek.

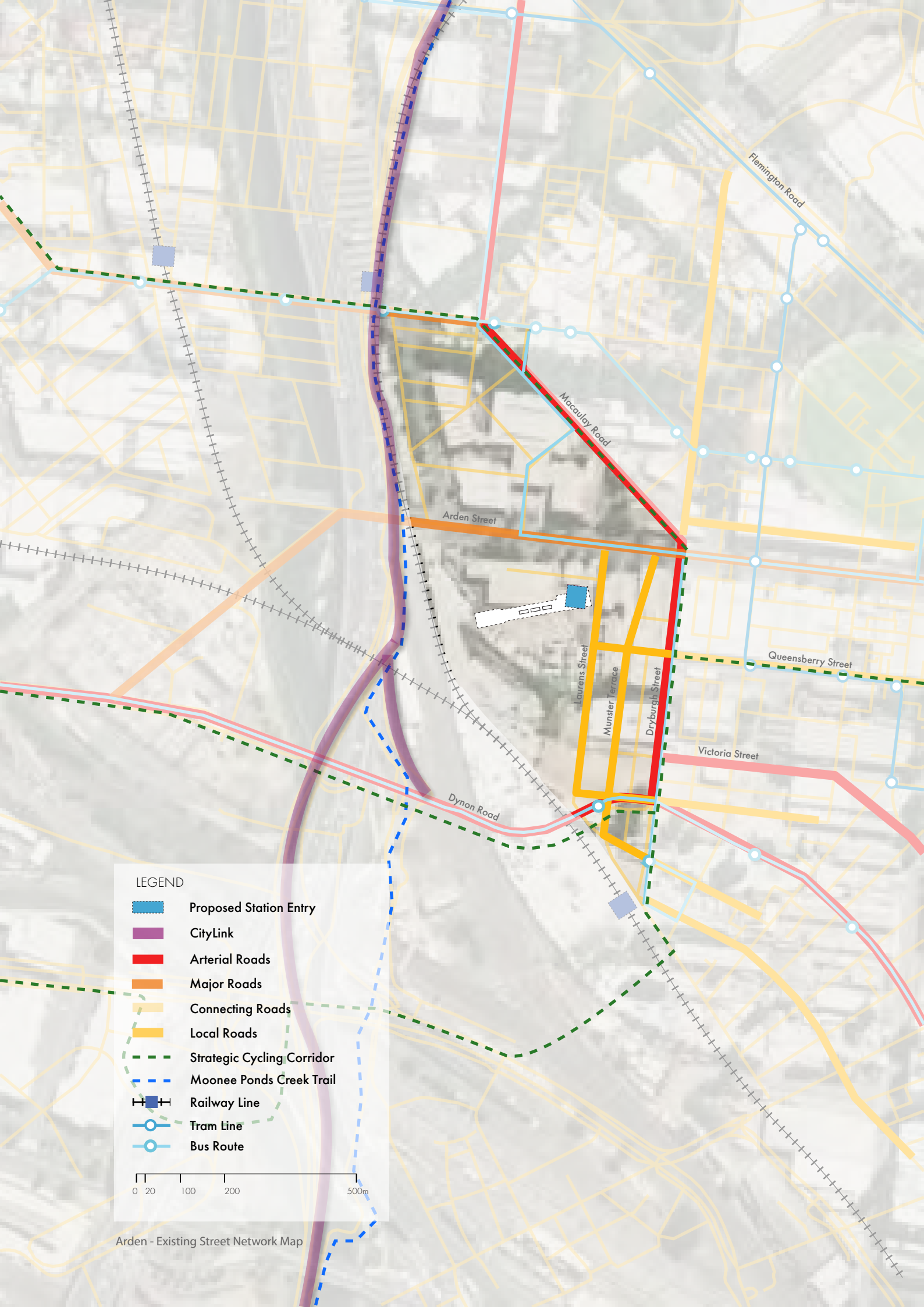
Macaulay Road, Arden, Queensberry and Victoria Streets provide the primary east-west connections that currently serve a range of pedestrian, cycling, vehicle, parking and landscape arrangements within their respective reservations. Dryburgh Street remains the only example of the north-south grid to Hoddle's original dimensions, with other local streets of a range of dimensions reflecting the transport and access needs of the original commercial, residential or industrial uses.

Pedestrian movements within Arden are provided for along all streets, with varying levels of amenity relative to the traffic volumes that streets have been designed to accommodate, with well-treed streets such as Green Street, as well as highly-paved

environments such as Munster Terrace. Whilst space is available for pedestrians and cyclists the environment is relatively inhospitable with steep topography, little or no physical separation of cyclists and motorists, irregular tree planting and uneven surfaces providing little amenity for pedestrians. This reinforces perceptions of vehicular dominance and a lack of transport options.

Dedicated cycling lanes have progressively been introduced to some key routes such as parts of Dryburgh, Laurens, Queensberry and Arden Streets and Macaulay Road, while off-road cycling is provided along the Moonee Ponds Trail (also part of the Capital City Trail). This however remains a hostile environment to cycle in with steep inclines, heavy traffic and unprotected lanes.

Currently, rail services are accessible from North Melbourne station in the south of the Precinct and Macaulay Station immediately to the north, however this will be dramatically improved with the opening of the new Arden Station in the heart of the Precinct as part of Melbourne Metro. This will provide fast, high-quality public transport access to Parkville NEIC and the Central Activities District. Public transport is also available through the Route 57 tram route, east of the Precinct and 402, 216 and 952 bus routes.



LEGEND

- Proposed Station Entry
- CityLink
- Arterial Roads
- Major Roads
- Connecting Roads
- Local Roads
- Strategic Cycling Corridor
- Moonee Ponds Creek Trail
- Railway Line
- Tram Line
- Bus Route

0 20 100 200 500m

The existing precinct

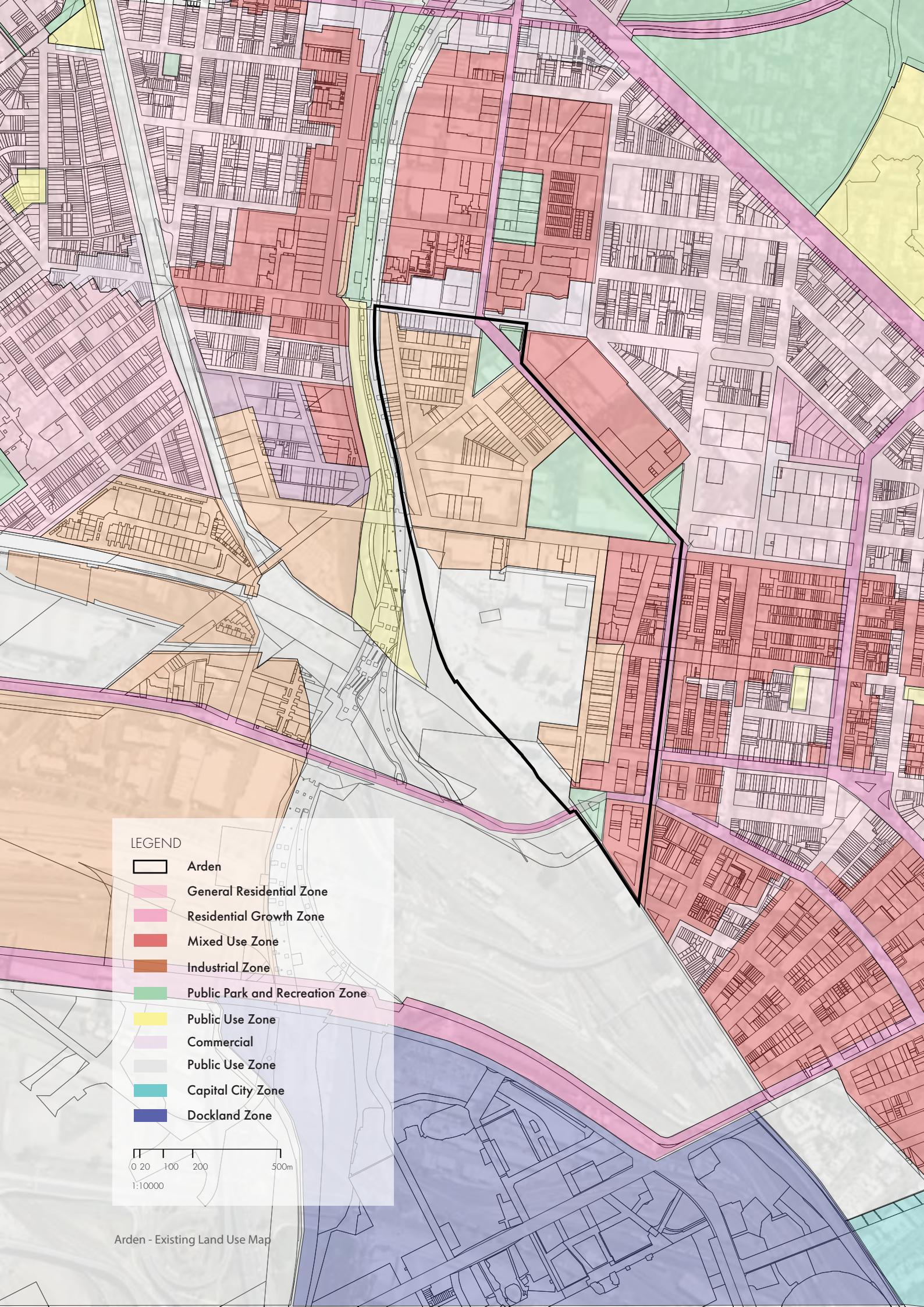
Activities and uses

Currently, Arden is a predominantly industrial or post-industrial precinct, evidenced by the Industrial 3 Zone, Commercial 1 Zone and Mixed Use Zone (the latter of which is a more recent feature and allows for residential development). The Lauren Street sub-precinct is the only part of Arden that has remnants of some original, low density housing.

Redevelopment in Arden has continued incrementally which has included a range of mixed-use developments including office and residential units of up to 5 storeys in the Laurens Street sub-precinct.

Many industrial activities continue across the precinct, including the Weston Milling site. Other uses and activities of significance include the recreation, community and sport club activities at the North Melbourne Recreation Reserve site, and the Melbourne Lost Dogs Home at Gracie Street.

The large single site in which the new Arden Station is being built formerly accommodated a range of rail-related uses including maintenance which have been relocated, allowing for this site to accommodate a slew of new uses that leverage their proximity to the new station.



LEGEND



Arden



General Residential Zone



Residential Growth Zone



Mixed Use Zone



Industrial Zone



Public Park and Recreation Zone



Public Use Zone



Commercial



Public Use Zone



Capital City Zone



Dockland Zone



Arden - Existing Land Use Map

The existing precinct

Built form

Arden's built-form is of diverse heritage and style and holds strong character for the area. There are a range of significant landmarks, building typologies and historical sites that are noteworthy and recognisable Melbourne traits. With a transformation of the Precinct there are many opportunities to maintain and reflect the built form characteristics unique to Arden.

Currently, the dominant built form is large format warehouse and factory buildings that range in age and materiality, from late 19th century brick industrial buildings, through to mid-century saw-tooth roofed factory buildings and more contemporary tilt-up concrete factoryettes. The predominant scale is the equivalent of a two-storey residential building, although there are some distinct exceptions.

A number of former industrial buildings along Laurens Street have been adapted and extended into residential developments, while other multi-storey factory buildings and silos of the Weston Milling site continue to accommodate industrial uses. There is also a more diverse

range of residential buildings in the Laurens Street sub-precinct that include century-old single-storey terrace buildings, more contemporary 3-storey terrace developments and four and five storey apartment buildings.

Brick and masonry retain a significant presence across Arden, whilst roof forms are typically flat or low-pitched, unless retaining industrial saw-tooth roof forms in larger format industrial buildings that were built up to the mid-century.

The North Melbourne Recreation Centre and Pool, while not of significant heritage value reflect the use of hardwearing masonry and brick materials this hardworking district has relied upon. The opportunity to recognise, reflect and respect such strong built-form heritage is an aspect of this site that is not afforded to many urban redevelopments of this intensity. Within that overarching opportunity lies a strong diversity of typologies and characters that can be weighted in the sub-precincts to inform a finer-grain sense of identity at the neighbourhood scale.

Stawell Street





Industrial building aesthetics



Former industrial building, Victoria Street.

The existing precinct

Open space and public realm

The extent of existing open space in Arden is relatively limited, which is to be expected in a predominantly industrial precinct. There are however, successful existing open spaces that can be strong contributors for the delivery of a world-class precinct.

The location and scale of North Melbourne Recreation Reserve and Clayton Reserve (Macaulay Road & Canning Street Reserve) have opportunistically made use of the interface of residential areas with the flatter (and historically cheaper) land at the fringes of the Moonee Ponds Creek flood plain.

The North Melbourne Recreation Reserve has evolved into an important recreation and community asset which not only provides key facilities, such as the pool, recreation centre and outdoor sports courts, but also is home to one of Melbourne's oldest football clubs. Whilst this limits public access to parts of the open space and oval, it has been and remains a strong community identifier.

Clayton Reserve, Macaulay Road and Canning Street Reserve, have developed into local open spaces that provide for passive recreation needs, with strong formal perimeter planting of trees and flexible lawn spaces, as well as a dog park.

Further to the south the Railway Place and Miller Street Park has grown from left over space after the construction of the Dynon Road flyover decades ago, which has very recently been redeveloped and expanded through the closure of parts of Railway Place to traffic. This now accommodates a half-court, dog park and playground which are immediately accessible to the adjacent community which is growing on account of larger residential redevelopments. Whilst providing some of the few youth- orientated open space facilities it caters for a broad range of community passive recreation needs.

The existing public open spaces can be classified in the following way using the classification identified in the City of Melbourne's Open Space Strategy.

Existing open spaces

Open Space	Size	Catchment	Character
North Melbourne Recreation Reserve	4.5 ha	Municipal	Restricted sporting Heritage Sporting
Clayton Reserve	0.7 ha	Local	Formal Recreation Informal use
Macaulay Road & Canning Street Reserve	0.2 ha	Small Local	Formal Recreation Informal use
Railway Place & Miller Street Park	0.5 ha	Small Local	Formal Recreation Informal use



Railway Place and Miller Park



North Melbourne Recreation Reserve

The Existing Precinct

Open space and public realm

Beyond the open spaces, Arden is endowed with generous streets, particularly those that form part of the original Hoddle-laid street grid. Only some of the space provided in these road reservations has been used for continuous and significant street tree planting, predominantly in the vicinity of the North Melbourne Recreation and Clayton Reserves. Boundary Road, Gracie, Green and Henderson Streets with well-established elms, while Fogarty Street with stretches of eucalyptus.

Some parts of road reservations adjacent to open space have been adapted to serve as expanded areas of the open spaces, reserved for recreational users rather than for car parking or carriageway, and Railway Place has been wholly repurposed in this way from Miller Street to Anderson Street, effectively creating some 2,500 squares metres of space for recreation use and pedestrian and cycling- only movement.

Other wide road reservations, such as Munster Terrace, have minimal space afforded to pedestrians and instead maximise space for on-street, and median car parking, thereby

omitting the environmental or social benefits that could otherwise be accommodated.

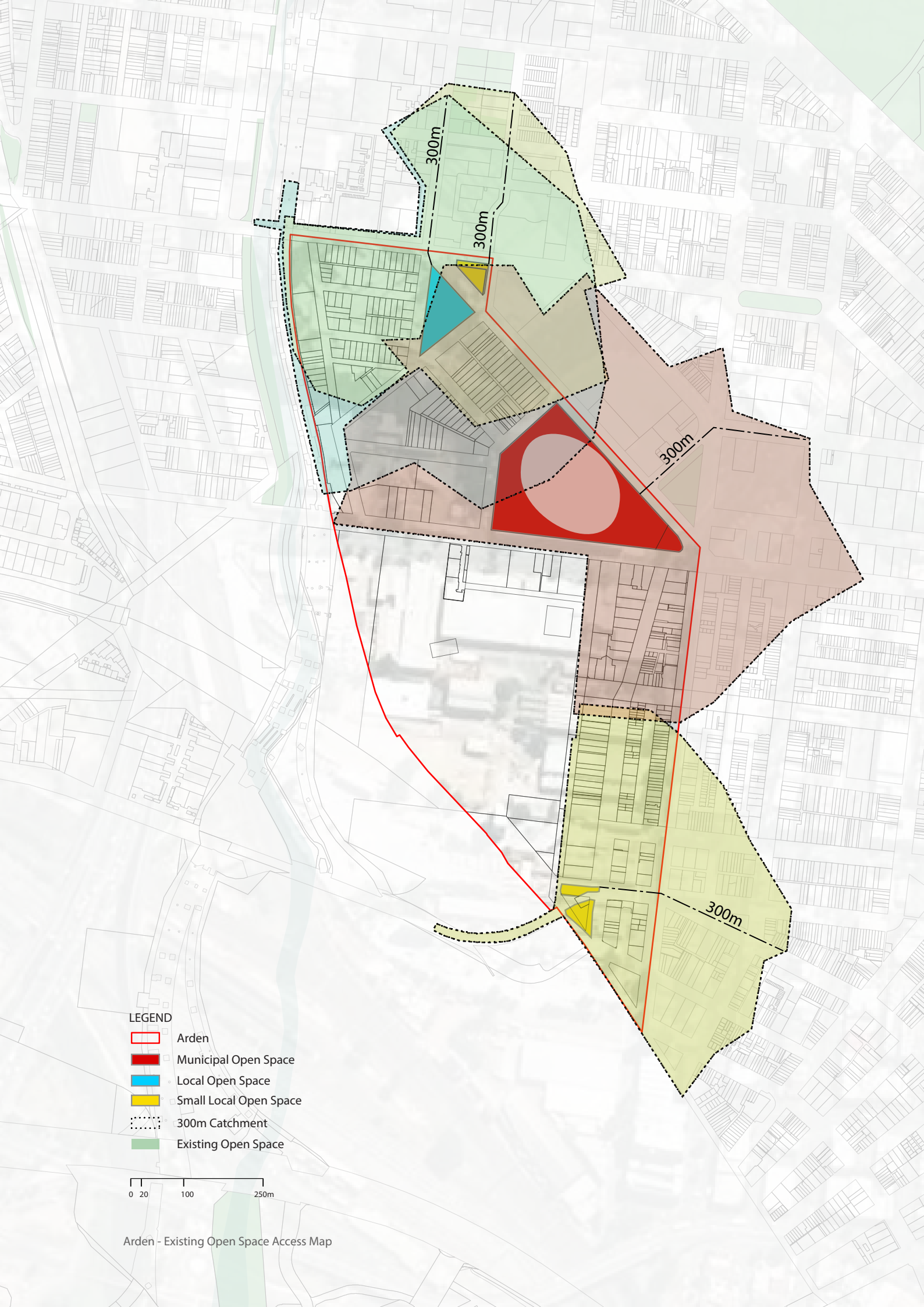
Despite its proximity to the Moonee Ponds Creek and its low elevation, which makes it prone to flooding, virtually no integration of water sensitive urban design is visible in the Precinct, in the open spaces nor the streetscapes. Relatively deep blue-stone kerbs and gutters are prominent in parts of the Precinct to manage stormwater, however pose barriers to pedestrian movement, and in places even the opening of car doors from kerbsides.



Railway Place and Miller Park



Clayton Reserve



LEGEND

- Arden
- Municipal Open Space
- Local Open Space
- Small Local Open Space
- 300m Catchment
- Existing Open Space

0 20 100 250m

The existing precinct

Arden Open Space Gaps

Arden's relatively compact size and centrally located existing open spaces appears to provide good walking access to open space, however their characteristics reveal a wider gap in open space provision, and the public realm that is available in Arden.

The dense street network and relatively wide road reservations afford a generous amount of unbuilt space in Arden, however their current form provides for few open space benefits other than access to air and light, and pedestrian and cycling movement. The current dominance of carriageways, crossovers and vehicle parking has limited even the provision of regular street tree planting that would form continuous tree canopy in most of the Precinct. Wide streets with little vehicle traffic currently have not adapted to provide areas of respite or informal recreates, with the one exception at Railway place.

The open spaces of Arden provide a significant amount of nominal space, however North Melbourne Recreation Reserve's (NMRR) current role restricts public access and limits flexibility in how it can be used. Whilst North Melbourne Recreation Centre and Pool provide important

recreational functions, together they occupy large areas of the reserve for specific activities that are only accessible for a fee. The oval itself, while accessible to the public is limited for public use, given its use by the North Melbourne Football Club, although its fringes do provide for jogging, walking and hardcourt sports. The NMRR plays a crucially important role in the identity of Arden and all of North Melbourne community, however there are limited opportunities for it to grow or adapt its role without substantial change to these valued institutions.

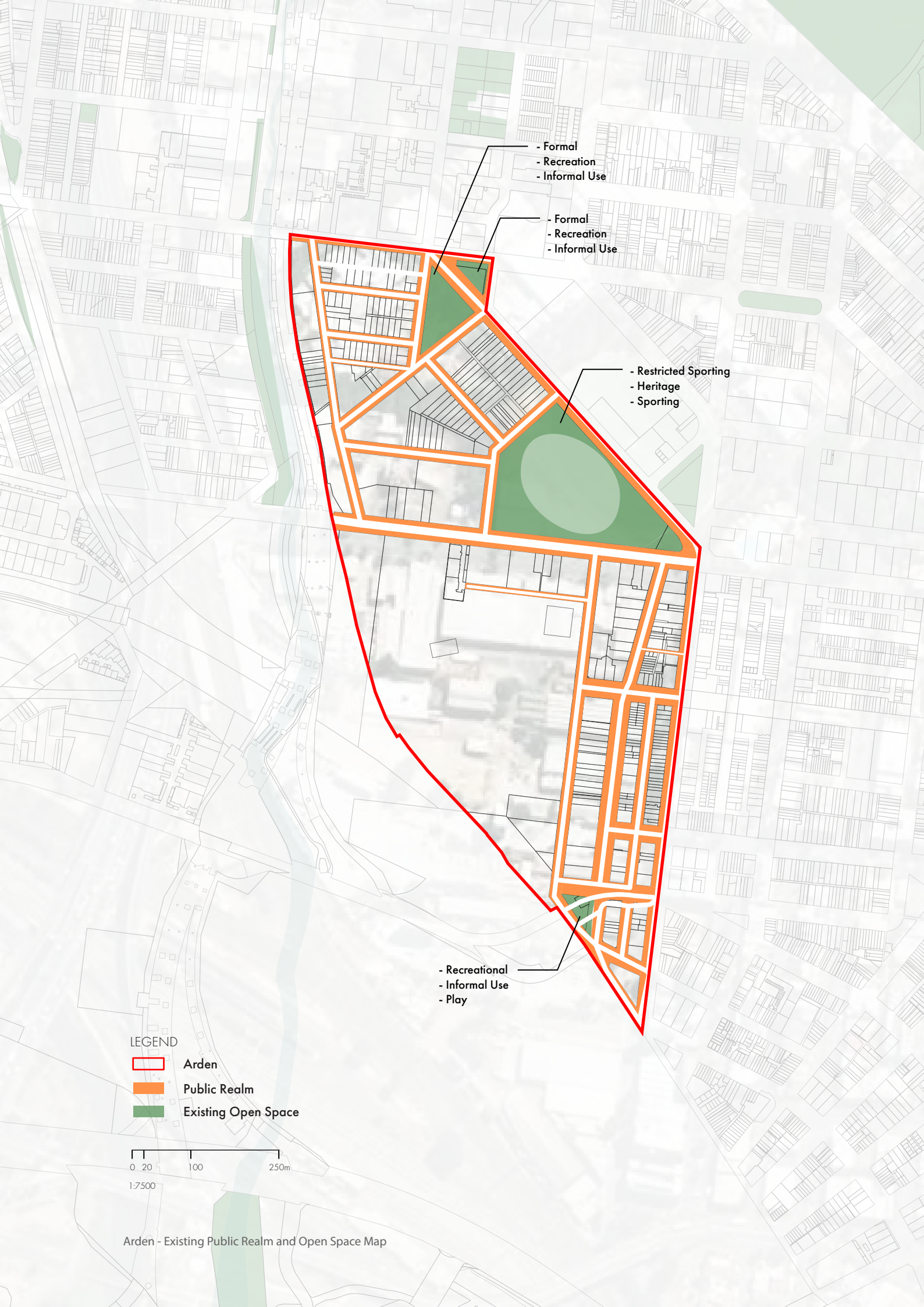
Clayton, and Macaulay Road & Canning Street Reserves and Railway Place & Miller Street Park provide locally-scaled and oriented spaces that provide for flexible, passive use, however their modest size limits their capacity to do so for a larger population.

There is currently little or no available space for nature conservation, larger events, informal uses such as picnics and social gathering, or a range of recreation such as fitness equipment and open grassed areas, particularly when considering the size of the future population of the Precinct.

Opportunities for Arden PROSS

The existing characteristics of Arden and its setting reveal key opportunities for the Arden PROSS to focus on in order to create a public realm and open space network that will fulfil the needs of its future resident and worker population. These include:

- Leveraging the space available in road reservations for a range of benefits for the local community beyond movement and transport.
- Integrating stormwater management infrastructure, particularly the series of large retarding basins that will be required in North Arden, into the open space network and incorporate usable recreation space in them through detailed design.
- Protecting and celebrating existing heritage characteristics into the design of the public realm and open spaces.
- Providing more soft landscape throughout, what is currently, an extensively paved precinct to mitigate urban heat island effect.
- Providing more flexible space that can be programmed in different ways and be available for a range of different activities.
- Contemplating how new buildings and developments can further contribute to the public realm and improve access to the benefits of the public open space that is provided.



Opportunities for Arden PROSS

Place characteristics

Three sub-precincts have been identified in Arden, defined by the main roads that bisect the Precinct. The identity of each is defined by a combination of physical, social, functional elements that are outlined below and remain relevant to their inherent attributes and development potentials.

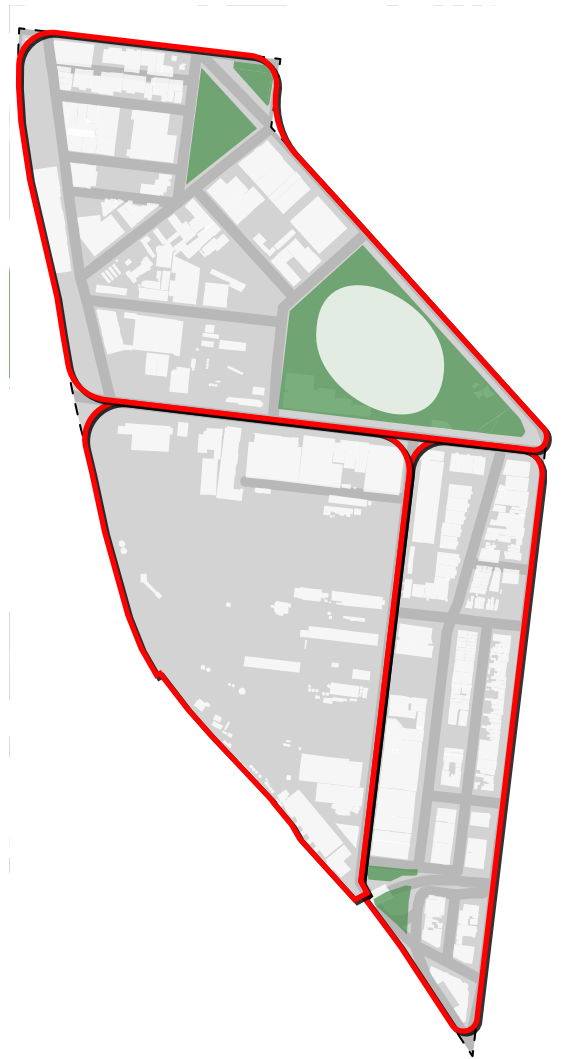
Arden Central Sub-Precinct

- Focused on the (future) underground Arden Railway Station currently being constructed and centred on a large, single land holding with remnant rail infrastructure and industrial built form
- The western edge with visibility to the rail and elevated freeway infrastructure
- A largely post-industrial landscape that is partially demolished affording long views across the site, and Arden Street built form reusing and adapting aging industrial and commercial built form
- A broad Arden Street corridor affording dedicated pedestrian, cycling and vehicle space with sporadic street trees
- Laurens Street corridor affording continuous pedestrian and cycling connection between the (future) West Melbourne Station, (future) North Melbourne Station and the North Melbourne Recreation Reserve.

Arden North Sub-Precinct

- Focused on the North Melbourne Recreation Reserve, Centre and Pool and the home of the North Melbourne Football Club
- A network of substantial open spaces including North Melbourne Recreation Reserve, Clayton Reserve and Macaulay Road and Canning Street Reserve, connected with well-planted streetscapes
- Individual buildings with specific social, cultural and historic significance including North Melbourne Recreation Centre, Pool and Lost Dogs Home
- The western edge well-defined by the rail and very present, elevated freeway infrastructure
- A mix of aging, reused and redeveloped industrial built forms as well unused and

underutilised sites with outdoor processes and storage.



Laurens Street Sub-Precinct

- Focused on a series of wide north-south streets, diverse, historic built form, including heritage-valued Weston Milling site
- A predominance of space for vehicles in streetscapes, sporadic vegetation and traditional stormwater hardware
- An emergent landscape of infill redevelopment with a range of single to six storey buildings on relatively small sites
- The industrial-residential transition zone between the larger sites and more offensive (former) industrial activities of the west and the residential uses to the east.

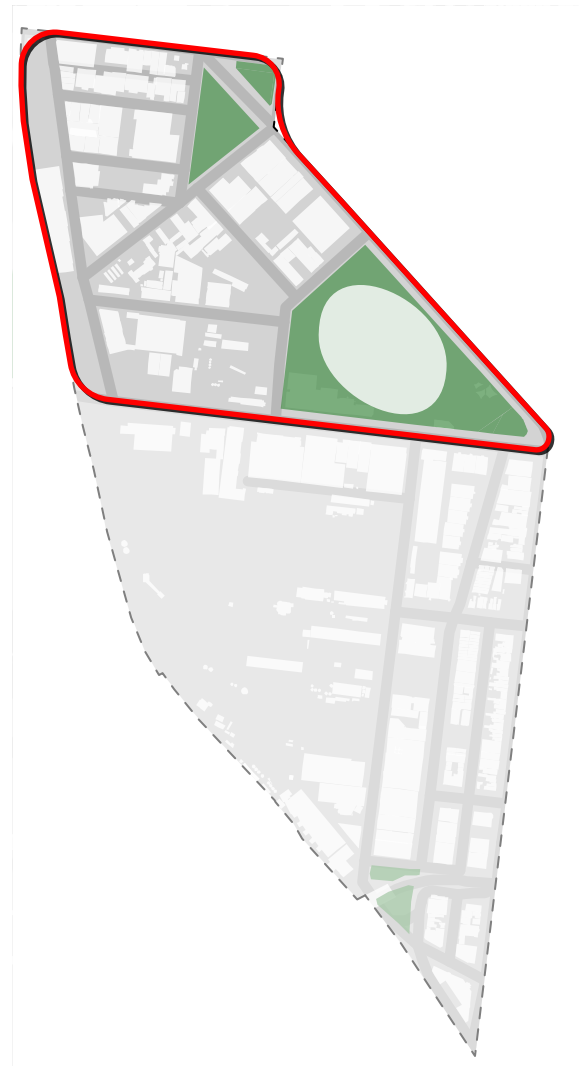
Arden North

Arden North will expand on its asset of the North Melbourne Football Club as the cultural focus for the broader precinct. It will have strong connections to the Moonee Ponds Creek and train stations.

Arden North topographically, is the best area to site a retarding basin that has been identified as a key drainage asset to manage flooding for the precinct and surrounding area.

Clayton Reserve and the North Melbourne Football Club and surrounds are existing open space assets within the precinct. The area within the Moonee Ponds Creek is also subject to Aboriginal Cultural Sensitivity.

Gracie Street and Greens Road have high quality avenues of trees and together with Arden Street and Macaulay Road provide key public realm to the sub-precinct.



Fogarty Street

