

7. COST ESTIMATES AND IMPLEMENTATION

This masterplan describes the full range of proposed actions to develop Farmers Creek as a more connected and continuous public land corridor that offers enhanced recreation opportunities as well as environmental and landscape quality outcomes.

To fully realise the masterplan's objectives will be a long term undertaking, requiring the implementation of a substantial set of development or management actions.

Council does not have the capacity to undertake all of these works immediately, or even into the foreseeable future. Development and management of Farmers Creek to enhance its recreational, environmental and aesthetic values will ultimately be reliant on, and largely determined by, the funding and resources available to Council. As such the works required to upgrade the creek corridor, as guided by this masterplan, must be assessed against the other priorities of Council and determined by the budget allocations assigned in Council's rolling Delivery Programmes and Operational Plan.

Hence the masterplan sets out a prioritised and staged approach to the proposed actions and works – as described in Section 6, and detailed in the Implementation and Cost Estimates Schedules for each planning unit in Appendix 4. The indicative staging adopted by this masterplan – Stages 1, 2 and 3 – is previously described in Section 6.2.1.

Capital works (major projects) and other tangible on-ground works (such as weed control and riparian community restoration, or significant amenity plantings) involving a considerable commitment of funds and resources should be programmed into Council's prioritised "forward works" schedule.

However recognising that funding and resources may come from many sources – including specific-purpose grant funding, volunteer programmes, community initiatives and contributions, corporate sponsorship, or access to

low-security prison work crews, to cite a few – a degree of flexibility and opportunism is warranted in the masterplan's implementation. Developments or management actions of differing priority, or from later stages, may also proceed "out of order" as funding or resources become available. The flexibility to maximise implementation "pathways" to capitalise on funding and resource opportunities as they become available will be essential.

7.1 Cost Estimates Summary

Table 5 provides a summary of the estimated orders of cost (in 2016 dollars) for the masterplan's implementation – by planning unit by stage, with accompanying totals for each planning unit and for each stage.

Full realisation of the upgrading of the Farmers Creek urban corridor, and main tributaries, as set out in this masterplan is estimated to cost in the order of \$9,005,000.

The total estimated orders of cost to implement each stage of this masterplan are as follows (rounded to the nearest \$000):

- Stage 1 – \$1,996,000;
- Stage 2 – \$2,205,000; and
- Stage 3 – \$4,803,000.

"Hard" works, the project's built infrastructure and facilities (such as the proposed shared path, bridges, boardwalks, etc.) dominate the project's total estimated cost, making up 80% of the total – as shown in Figure 66. These "hard" works are estimated to cost over \$7,191,000 in total – comprising over \$1,394,000 in Stage 1, \$1,390,000 in Stage 2 and \$4,406,000 in Stage 3.

Table 5 Summary of estimated orders of cost, by planning unit and project stage

Planning Unit	Order of Cost (\$) *			
	Stage 1	Stage 2	Stage 3	TOTALS
FC1 – Lower (Historic) Dam (north-east) to End of Bells Rd (north of Water Treatment Plant) (south/south-west)	3,200	0	0	3,200
	0	0	0	0
	0	1,170	0	1,170
	3,200	1,170	0	4,370
FC2 – End of Bells Rd (north of Water Treatment Plant) (east) to Ida Falls Creek (west)	1,080	0	168,400	169,480
	0	0	3,140	3,140
	0	52,950	0	52,950
	1,080	52,950	171,540	225,570
FC3 – Ida Falls Creek (east) to Victoria Ave (west)	5,300	218,950 ¹	912,410	1,136,660 ¹
	13,650	3,600	21,250	38,500
	0	215,230	0	215,230
	18,950	437,780 ¹	933,660	1,390,390 ¹
FC4 – Victoria Ave (east) to State Mine Rail Line (at Drurie St) (west)	8,400	0	984,900	993,300
	0	0	24,590	24,590
	0	77,760	0	77,760
	8,400	77,760	1,009,490	1,095,650
FC5 – State Mine Rail Line and Drurie St (east) to Burton St (west)	25,920	280,800	910,990	1,217,710
	3,690	4,150	18,730	26,570
	0	149,610	0	149,610
	29,610	434,560	929,720	1,393,890

Planning Unit	Order of Cost (\$) *			
	Stage 1	Stage 2	Stage 3	TOTALS
VoCC3 North & South – Inch St (north) to Main Western Railway (south) and Inch Street (south-west)	467,850	25,850	231,670	725,370
	23,940	5,000	3,310	32,250
	0	0	0	0
	491,790	30,850	234,980	757,620
VoCC2 – opposite, west of, Berry St (south) to opposite, east of, Boundary St (north)	0	0	0	0
	0	0	0	0
	0	83,190	0	83,190
	0	83,190	0	83,190
FC6 – Burton St (east) to Tank St (west)	215,860	0	0	215,860
	49,950	0	0	49,950
	89,050	65,040	0	154,090
	354,860	65,040	0	419,900
SMC2 – confluence with Farmers Creek (south) to NW of end of Pillans Rd (north)	0	0	0	0
	0	0	0	0
	154,060	102,830	0	256,890
	154,060	102,830	0	256,890
FC7 East – Tank St (east) to Sandford Ave (west)	87,960	236,770	538,240	862,970
	53,420	5,520	36,560	95,500
	36,150	25,300	0	61,450
	177,530	267,590	574,800	1,019,920

Planning Unit	Order of Cost (\$) *			
	Stage 1	Stage 2	Stage 3	TOTALS
FC7 West – Sandford Ave (east) to Albert St (west)	232,160	60,520	46,480	339,160
	78,990	8,850	6,370	94,210
	0	0	0	0
	311,150	69,370	52,850	433,370
FC8 East – Albert St (east) to Showground (west)	43,090	28,090	165,300	236,480
	49,240	0	13,220	62,460
	0	0	0	0
	92,330	28,090	178,520	298,940
FC8 West – Showground (east) to Tourist Information Centre (TIC) (west)	239,040 ²	0	283,850	522,890 ²
	40,500	0	23,190	63,690
	0	0	0	0
	279,540 ²	0	307,040	586,580 ²
FC9 South – Geordie St Causeway (south) to Council Depot Area (north)	28,980	52,080	95,050	176,110
	5,000	0	0	5,000
	0	0	101,160	101,160
	33,980	52,080	196,210	282,270
FC9 North – Council Depot Area (south) to Coerwull Rd (north)	11,400 ³	380,060	69,230	460,690 ³
	530	15,010	0	15,540
	0	0	145,410	145,410
	11,930 ³	395,070	214,640	621,640 ³

Planning Unit	Order of Cost (\$) *			
	Stage 1	Stage 2	Stage 3	TOTALS
FC10 (SE and NW) – Fullagar Ave (east) and Coerwull Rd rail bridge (south) to Great Western Hwy (north-west)	24,240	107,390 ⁴	0 ⁵	131,630 ^{4 5}
	4,000	0	0	4,000
	0		0	0
	28,240	107,390 ⁴	0 ⁵	135,630 ^{4 5}
ENTIRE PROJECT				
All “Hard” Works (Built Infrastructure and Facilities)	1,394,480 ^{2 3}	1,390,510 ^{1 4}	4,406,520 ⁵	7,191,510 ^{1 2 3 4 5}
All “Soft” Works (Landscape Works and Amenity Plantings)	322,910	42,130	150,360	515,400
All Weed Control and Native Vegetation Replanting / Regeneration	279,260	773,080	246,570	1,298,910
TOTAL	1,996,650 ^{2 3}	2,205,720 ^{1 4}	4,803,450 ⁵	9,005,820 ^{1 2 3 4 5}

Key:

“Hard” Works (Built Infrastructure and Facilities)
“Soft” Works (Landscape Works and Amenity Plantings)
Weed Control and Native Vegetation Replanting / Regeneration
Total – By Stage
Total – All Stages and All Cost Categories

Notes:

- * Refer to Implementation and Cost Estimates Schedules (Appendix 4) for a detailed breakdown of order of cost estimates
- ¹ Excludes upgrades to Brewery Lane bridge/path subsequent to engineering input and detailed design (cost to be determined)
- ² Excludes cost of proposed rail crossing to Rail Corp specifications (cost to be determined)
- ³ Excludes safety railings and other upgrades to the Chivers Close bridge, subsequent to an engineering and safety inspection (cost to be determined)
- ⁴ Works proposed on Coerwull Rd that require (or are consequent to) negotiation and agreement with Rail Corp have not been costed.
- ⁵ Proposed works on Rail Corp land that require negotiation with (and approval from) Rail Corp to proceed, and associated proposals reliant on these Rail Corp endorsed works, have not been costed.

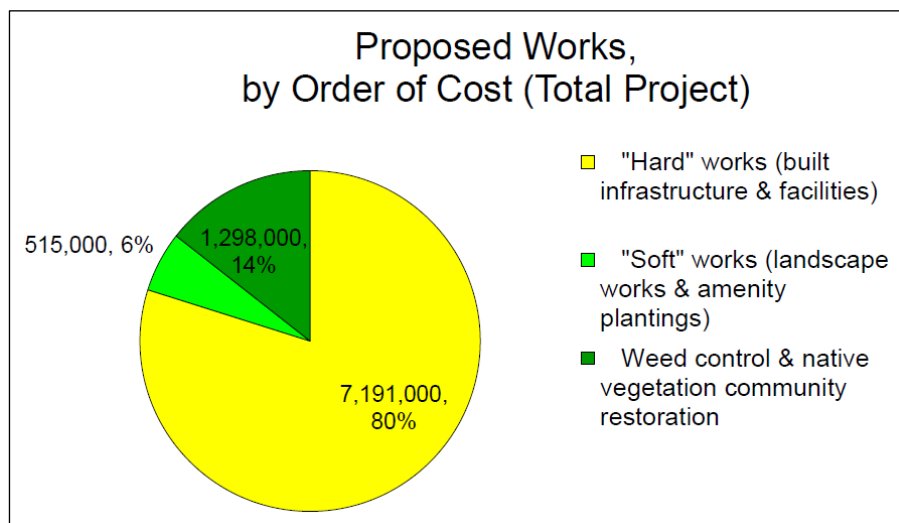


Figure 66 Total Order of Cost for Proposed Works, by Type

Weed control and native riparian vegetation community restoration works make up 14% of the project's total estimated cost. These environmental works are estimated to cost over \$1,298,000 in total – comprising over \$279,000 in Stage 1, \$773,000 in Stage 2 and \$246,000 in Stage 3.

"Soft" works, the proposed amenity plantings and other managed landscape works (including "filter strip", "island" and screen plantings and other open space improvements), are the smallest cost item making up 6% of the project's total estimated costs. These "soft" works are estimated to cost over \$515,000 in total – comprising over \$322,000 in Stage 1, \$42,000 in Stage 2 and \$150,000 in Stage 3.

7.1.1 Basis for Order of Costs

Orders of cost estimates have been prepared on an item-by-item basis, for each planning unit and stage, as detailed in the Implementation and Cost

Estimates Schedules in Appendix 4. The cost basis for these estimates have been drawn from a number of sources, including:

- advice from Council regarding local (Lithgow) rates;
- industry charge-out and rate guidelines - notably the *Guideline Schedule of Rates for Landscape Works* by the Landscape Association of NSW and ACT;
- advice from commercial suppliers – such as Landmark (bridges and park furniture), Bluedog Fences Australia (for cycleway barriers/railings), Ingal Civil Products (for road barriers), and others;
- cost data from comparable projects (by Gondwana Consulting and others).

All order of cost estimates are in 2016 dollars.

Further details of the rates used in the preparation of the order of cost estimates are included in the Implementation and Cost Estimates Schedules in Appendix 4.

7.1.2 Cost Estimate Exclusions, Unknowns and Variables

The order of costs estimates do not include the following "general exclusion" items:

- survey costs – for public land boundary determination, path alignment (where required), for infrastructure set-out, etc.;
- re-fencing of private property boundaries following the removal of encroachments (both assumed to be at the landholder's expense);
- soil, contamination, geotechnical or subsidence investigations;
- flooding investigations;
- engineering details/specifications where required (unless specifically identified or otherwise indicated for particular items);
- design and approval costs (unless specifically identified in the Implementation and Cost Estimates Schedules in Appendix 4);
- disposal fees for demolition materials and waste;
- erosion and sediment control works, during and after construction;
- on-pavement marking and general wayfinding for the sealed shared path;

- costs of Lithgow City Council's current, and on-going, landscape maintenance/management works at the Lake Pillans Wetlands and Blast Furnace Park; and
- spot removal of introduced trees (e.g. Poplars and Pines) and replacement native tree plantings.

Non-essential works requiring detailed engineering assessment and/or design have not been included in the above order of cost estimates. This is primarily where footpaths on existing road bridges require widening to accommodate a shared path, with such works requiring substantial modifications to these structures – such as the bridges on Brewery Lane, Victoria Avenue, Atkinson Street, and Tank Street. In the absence of proposed (and costed) works at these sites the masterplan identifies them as remaining ‘pinch points’ on the shared path. Similarly no order of cost estimates have been included for possible off-line constructed wetlands or vegetated detention basins.

No order of cost estimates have been prepared for proposed works in Planning Unit FC10 on Rail Corp land that require negotiation with (and approval from) Rail Corp to proceed, and associated proposals reliant on these Rail Corp endorsed works (notably along Cooerwull Road). Works at the Main Western Rail Line crossing in Planning Unit FC8-West (near the Tourist Information Centre) have similarly not been estimated.

While orders of cost have been estimated for weed control and natural vegetation community restoration works these may vary according to the scale/extent and location of treatment sites as well as how these works are carried out (mechanical, manual, etc.). Similarly the orders of costs identified for amenity plantings within each planning unit (and stage) are also variable – depending on the scale/extent, species mix, planting densities and implementation methods for these planted areas (with these only be able to be approximated until the layout, or detailed designs, for each section of the creek corridor's open space are determined).

Further details of exclusions and assumptions applied in preparing the order of cost estimates are provided in the Implementation and Cost Estimates Schedules in Appendix 4.

7.1.3 Design and Approval Costs

Design and approval expenses have not been included in the order of cost estimates. As a guide these ‘front end’ project expenses typically require an additional 5% of a project's total estimated construction cost. As upgrading of the Farmers Creek corridor is a Council initiated project, with many of these design tasks being carried out in-house and approvals not required in many cases, this 5% allowance may be an over-estimate.

However, by way of example, applying this 5% allowance to the ‘hard’ and ‘soft’ works proposed in Planning Unit FC7-East and FC7-West (from Tank Street downstream to Albert Street) would give the following (rounded) costs for design and approval (by stage):

- FC7-East and FC7-West, Stage 1 – \$22,650;
- FC7-East and FC7-West, Stage 2 – \$15,600; and
- FC7-East and FC7-West, Stage 3 – \$31,400.

Front end and project management costs for weed control and natural vegetation community restoration would be lower, and for this same reach of creek have been estimated at 3% of project value, as follows:

- FC7-East and FC7-West, Stage 1 - \$1,100; and
- FC7-East and FC7-West, Stage 2 - \$800.

7.2 Priority Works and Early Achievements

As discussed above, upgrading of the Farmers Creek corridor to deliver enhanced recreation opportunities and improved visual, environmental and water quality outcomes will be a staged and long-term undertaking.

However several sections of Farmers Creek can be identified as priority locations for upgrading, development and environmental improvement efforts. These sections, once completed, will act as ‘flagships’ for the project – providing exemplar sites and promotional benefits, as well as being heavily used locations where the improvements can be expected to generate majority community support for the project.

Planning Unit FC6 – from Burton Street downstream to Tank Street, and continuing downstream past the Montague Street dog park (into Planning Unit FC7-East) – is one such high profile area where Council has already programmed environmental works. Continuing the recently constructed shared path (now stopping west of Albert Street) into Planning Units FC7-

West and FC7-East around the edge of Glanmire and Marjorie Jackson Ovals, with accompanying amenity plantings and open space improvements, would be another high visibility location in which to promote the benefits of a wider Farmers Creek enhancement project.

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Lithgow City Council GIS Data Layers (2015)

- 2m contour
- Crown land
- Cadastre clip
- Creeks 1
- Hydro Area
- Land Register 1
- Main creeks
- Minor creek
- Names roads
- National parks
- Parks 1
- Railway
- River and hydro
- Road 1
- State Forest
- Tracks
- Unidentified
- Zoning

