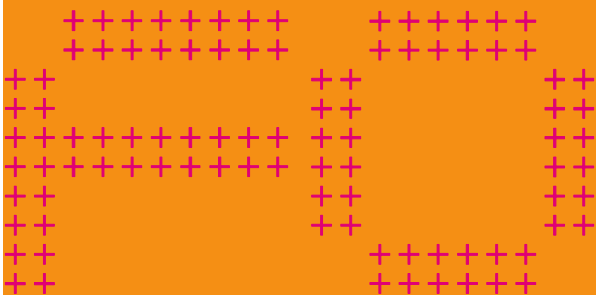
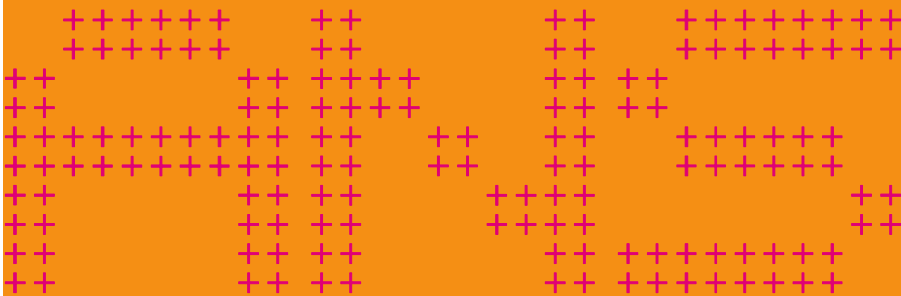
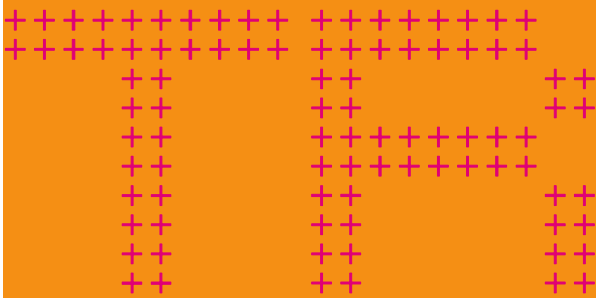


Bonnyrigg Infrastructure Delivery Plan

June 2008



urbis

Bonnyrigg Infrastructure Delivery Plan

Prepared by Fairfield City Council
and Urbis

Prepared for Bonnyrigg Partnerships
and Fairfield City Council

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1 Purpose of Plan

The Bonnyrigg Living Communities Project comprises the renewal of the existing public housing area commonly known as Bonnyrigg Estate, and is being undertaken by Bonnyrigg Partnerships in a Public Private Partnership with the Department of Housing. Bonnyrigg Partnerships is responsible for the physical renewal of the estate, including the integration of high quality public and private housing, public parks and community facilities, as well as the provision of tenancy and facilities management services for a 30 year period.

A concept plan has been prepared to guide the physical renewal of the existing area, which currently comprises low density residential development and local public open space. Residential development will continue to be the dominant land use, although at an increased density and in a different form than currently exists. Existing public open space will be reconfigured and embellished to meet the needs of the local community. A new multi-purpose centre comprising community, small scale retail and commercial activities will also be developed in the centre of the site. The physical renewal of the area will be supported by the appropriate provisions of physical and community infrastructure necessary to support the new community. The renewal of Bonnyrigg will occur in a carefully staged manner

The purpose of the Bonnyrigg Public Infrastructure Delivery Plan (IDP) is to set out the detail of the design, operation, timing, maintenance and value of the 'public' infrastructure components provided in the Bonnyrigg Living Communities Project. This IDP will provide clarity on these infrastructure commitments while making provision for flexibility over time for Bonnyrigg Partnerships and Fairfield City Council (Council) to negotiate refinements or changes to the details of the infrastructure provisions over time.

The infrastructure needed to support the community of the renewed area has been identified as part of the design and planning of the project. For the purposes of this plan, these infrastructure needs comprise two elements, being:

- Physical infrastructure: Physical works including construction and embellishment of roads, open space, drains, buildings, etc; and
- Social infrastructure: Provision of services, programs and support to serve the needs of the community.

Bonnyrigg Partnerships has committed to being responsible for the provision of all infrastructure identified in this plan as being required to support the renewed community. This commitment will be secured through conditions attached to the Part 3A planning approvals for the redevelopment of Bonnyrigg, and through entering into a Voluntary Planning Agreement (VPA) under which development contributions will be made for the provision of infrastructure. The estimated value of the total infrastructure provision for the Bonnyrigg Living Communities Project is \$90 million.

The infrastructure to be provided by Bonnyrigg Partnerships includes physical and social infrastructure that would in other circumstances, be provided through a combination of developer responsibility and government responsibility (with funding provided by way of Section 94 contributions or similar). Of the total \$90 million infrastructure provision for this project, \$65 million is estimated to be for 'private' infrastructure (ie primarily serving the needs of the community living in the development area) and therefore the responsibility of the developer, and \$27.4 million being the responsibility of government (in this case primarily Fairfield City Councils) for the 'public' infrastructure components which serve the needs of both the community living in the development area and beyond.

In recognition of the commitment by Bonnyrigg Partnerships for the full provision of the total required infrastructure, the Voluntary Planning Agreement (VPA) associated with the project will do two things:

- Require Bonnyrigg Partnerships to implement the terms of this plan subject to a 'cap' on the total value of the 'public' infrastructure provision required by Bonnyrigg Partnerships throughout the life of the project.
- Remove the requirement for Bonnyrigg Partnerships to pay any Section 94 or other developer contributions for the life of this project.

2 The Project

The Bonnyrigg Living Communities Project comprises the renewal of the existing public housing land commonly known as Bonnyrigg Estate and is being undertaken by Bonnyrigg Partnerships in a Public Private Partnership with the Department of Housing. Bonnyrigg Partnerships is responsible for the physical renewal of the estate, including the integration of high quality public and private housing, public parks and community facilities, as well as the provision of tenancy and facilities management services for a 30 year period.

The three key objectives in delivering the Bonnyrigg Living Communities Project are:

- *Community renewal of Bonnyrigg Estate:* The aim is the social and physical renewal of the estate to improve the existing quality of life for tenants, to better manage tenancy issues, to improve resident safety and to better match the housing needs of the tenants. The physical renewal will occur by improving the urban design of the estate and through better integration with the wider community by diluting the concentration of social housing by mixing it with private housing. The social renewal will occur through the integrated management of the tenants, facilities and through consultation with the community.
- *Providing better services and creating new opportunities for local people:* In partnership with other agencies, residents and community leaders, the Department of Housing (DoH) is committed to working to find ways to upgrade public safety, improve health and community services and create new opportunities for local people to improve education and skills and find jobs.
- *Building a stronger community:* This involves working with the diverse Bonnyrigg communities to find better ways to listen to each other, to help build skills and strengthen community ties and local leadership.

A Concept Plan has been prepared to guide the physical renewal of the existing public housing estate, which currently comprises low density residential development and local public open space. Residential development will continue to be the dominant land use. The existing public open space will be reconfigured to address the local road network and better meet the needs of the local community. A multi-purpose centre comprising community, retail and commercial activities will also be accommodated in the centre of the site.

The site will be subdivided into approximately 780 new lots. Many of the new lots will be further subdivided by strata title or community title, depending on the dwelling type to be constructed on the lot. The Bonnyrigg Living Communities Project is expected to produce a total yield of approximately 2,330 dwellings. The Concept Plan proposes to reconfigure and rationalise the existing public open spaces so that the open space network better meets the needs of existing and future residents with regard to the quantity of open space and the quality of open space, including passive and active recreation opportunities.

The Bonnyrigg Living Communities Project will be implemented in 18 stages over an approximate 13 year period to minimise disruption to the existing community and minimise lead-ins, temporary connections or dependency upon undeveloped stages for service and access provisions. The proposed staging of the development also enables the upgrade of existing community services and other infrastructure works to be phased in as the population and needs increases.

The proposed Concept Plan comprises the following key components:

- Demolition of existing dwellings in stages.
- Staged construction of approximately 2,330 dwellings in 18 stages over approximately 13 years, including lifted apartments, attached homes (in 2, 3, 4, 6 and 8-plex configurations) and detached homes.
- Staged construction of a multi-purpose centre comprising community, retail and commercial uses.
- Retention and upgrade of existing roads, construction of new roads and provision of a pedestrian and bicycle movement network.

- Reconfiguration and upgrade of existing public open space, including extensive landscaping and infrastructure to cater for a wide range different users and enhance safety and security.
- Stormwater infrastructure works, including water sensitive urban design measures to control the quantity and quality of stormwater, to enhance the appearance of the site and provide passive recreation opportunities.
- Retention, extension and upgrades of existing services infrastructure to maintain supply through construction to cater for the increased population.

	Current	Proposed	Increase
Dwellings	833 dwellings	2,330 dwellings	1,497 dwellings
Population	2,895 people	6,032 people (projected 2021)	3,137 people

The physical renewal of the estate will also be supported by a range of community support initiatives delivered through a Community Renewal Services Plan.

3 Infrastructure, facilities and amenities needed for the new community

The infrastructure needed to support the community of the renewed area has been identified as part of the design and planning of the renewed area. For the purposes of this report, these infrastructure needs are considered to comprise two elements, being:

- Physical infrastructure: physical works including construction and embellishment of roads, open space, drains, buildings, etc.
- Social infrastructure: provision of services, programs and support to serve the needs of the community

3.1 Infrastructure Needs

Detailed investigations have been completed to identify the infrastructure, community facilities and services needed to support the enlarged community contained in the redeveloped estate. These detailed investigations and reports have been included in the technical documentation accompanying the Concept Plan submitted for approval under Part 3A of the Act, and includes the following:

- Bonnyrigg Masterplan - Urbis
- Incoming Community Report – Urbis.
- Social Needs Report – Urbis.
- Demographic Report – Urbis.
- Social Impact Assessment – JSA.
- CPTED Analysis – Urbis.
- Tmap – SKM.
- ESD Opportunities – Advanced Environmental.
- Environment and Construction Management Plan – Hughes Trueman.
- Water Cycle Management Report – Hughes Trueman.
- Master Plan Infrastructure Report – Hughes Trueman.
- Community Engagement Report – JSA.
- Social Impact Assessment Peer Review – Urbis.
- BASIX Assessment – Advanced Environmental.
- Lighting Strategy Plan – Vision Design.
- Economic Impact Assessment – Macroplan.

These studies have been carried out to provide a researched basis for understanding the physical, social and economic needs of the community, and to evaluate the requirement for provision of infrastructure, community facilities and services both on and off site. This research has informed the design and preparation of the proposed concept plan and the associated supporting documentation for the proposed urban renewal. This research has been supplemented and validated through detailed review by Fairfield City Council and other government agencies.

3.2 Infrastructure Provision Commitment

As part of the design and planning approvals process for the project, Bonnyrigg Partnerships has committed to being responsible for the provision of all infrastructure identified as being required to support the renewed community, with this commitment secured through conditions attached to the Part

3A planning approvals for the redevelopment of Bonnyrigg, and through entering into a Voluntary Planning Agreement (VPA). The estimated value of the total infrastructure provision for the Bonnyrigg Living Communities Project is approximately \$90 million.

4 Apportionment of Public Infrastructure provision

The public benefits to be provided by Bonnyrigg Partnerships include physical and social infrastructure that is provided through a combination of developer responsibility and Council responsibility. Other government authorities may require that the developer provide additional public infrastructure and this will be the responsibility of the developer.

The purpose of the Bonnyrigg Infrastructure Delivery Plan (IDP) is to document the public benefits that are required and will be provided on and in the vicinity of the estate, all of which are to be delivered by the developer. The details of this infrastructure are outlined in Part 5 of this plan.

The IDP also identifies the respective values of developer and Council responsibilities. Any approval issued under part 3A of the Environmental Planning and Assessment Act 1979 will refer to this plan to describe the delivery of developer responsibilities, while the Voluntary Planning Agreement (VPA) will refer to this plan to describe the delivery of Council responsibilities that would otherwise be funded through Section 94 and/or other development contributions.

The IDP sets out the detail of the design, construction, operation, timing, maintenance and completion processes for all public benefit components provided in the Bonnyrigg Living Communities Project.

4.1 Summary of costs of public benefits and their apportionment according to developer and Council responsibilities

The estimated costs of the Bonnyrigg Living Communities Project are summarised as follows:

Item	Approximate Cost
Value of development of the entire estate including physical construction and service provision	\$570 Million
Value of the construction of public and private dwellings	\$480 Million
Total estimated value of the provision of public infrastructure, community facilities and services (both on and off site)	\$90 Million

Of the total \$90 million infrastructure provision for this project, \$65 million is estimated to be the developer’s responsibility, and \$27.4 million is considered to be the responsibility of Fairfield City Council.

In summary,

Value of public benefits to be provided through the Voluntary Planning Agreement (VPA)	\$27.4 Million
Value of public benefits that the developer has committed to deliver irrespective of the provisions of the VPA.	\$65 Million

The public benefits are apportioned according to who would ordinarily be responsible for their delivery using the following criteria:

Infrastructure item	Council responsibility Portion	Total Cost (\$) Approx.	Apportioned Cost (\$) Approx.	Criteria used
Collector Road upgrades (Works in kind)	100%	\$2,229,000	\$2,229,000	Roads for access to private properties are currently provided. Upgrade works are a 'public' responsibility given also that they provide through access to a broader community. Note that works to Elizabeth Drive and Cabramatta Road are the responsibility of the RTA
Local roads adjacent to public open space (Works in kind)	100%	\$1,997,000	\$1,997,000	Only that portion adjacent to parks included in calculation. Other road sections are required to gain access to private dwellings
Internal bus shelters (Works in kind)	50%	\$191,000	\$95,000	Part private responsibility along <u>new</u> bus route to achieve desired mode split and reduce car-parking provision
Perimeter bus shelters (Works in kind)	100%	\$191,000	\$191,000	<u>Existing</u> bus routes, new shelters are 'public' responsibility.
Cycleways (Works in kind)	100%	\$480,000	\$480,000	Road and Park improvements are 'public' responsibility
Valley Park (North) (Works in kind)	100%	\$3,232,000	\$3,232,000	All park embellishment work is a 'public' responsibility. The 'private' responsibility is to provide the land so as to address the significant reduction in private open space.
Valley Park (South) (Works in kind)	100%	\$808,000	\$808,000	
Hilltop Park (Works in kind)	100%	\$1,318,000	\$1,318,000	
Forest Park (Works in kind)	100%	\$494,000	\$494,000	

BONNYRIGG INFRASTRUCTURE DELIVERY PLAN

Village Park (Works in kind)	100%	\$560,000	\$560,000	
Junior Play Park (Works in kind)	100%	\$470,000	\$470,000	
Civil Works associated with park upgrades (Works in kind)	100%	\$1,356,000	\$1,356,000	
Pipes and pits (Works in kind)	50%	\$168,000	\$84,000	Storm-water management upgrade works (including all creek works) are a 'public' responsibility. Basic storm-water management systems are a 'private' responsibility
Detention basins (Works in kind)	50%	\$976,000	\$488,000	
Creek-line upgrade (Works in kind)	100%	\$2,607,000	\$2,607,000	
Gross pollutant traps (Works in kind)	50%	\$736,000	\$368,000	
Rain-gardens (Works in kind)	50%	\$2,480,000	\$1,241,000	
Community building (Works in kind)	100%	\$2,352,000	\$2,352,000	Community Facilities and Services are a 'public' responsibility.
Bonnyrigg Partnership Office (Works in kind)	24%	\$1,406,000	\$337,000	Community Facilities and Services are a 'public' responsibility
Upgrade of Bonnyrigg Library (Cash contribution)	100%	\$300,000	\$300,000	Community Facilities and Services are a 'public' responsibility
Provision of a community garden (Works in kind)	100%	\$80,000	\$80,000	Community Facilities and Services are a 'public' responsibility
Provision of public art (Works in kind)	100%	\$250,000	\$250,000	Community Facilities and Services are a 'public' responsibility

Provision of youth services (Cash contribution)	100%	\$70,000	\$70,000	Community Facilities and Services are a 'public' responsibility
Community Renewal Plan (Works in kind)	100%	\$6,013,000	\$6,013,000	Community Facilities and Services are a 'public' responsibility
TOTAL		\$30,766,000	\$27,420,000	

The above table indicates items that will be provided by the developers as 'works in kind' and those which will be provided by way of cash contribution. The value of the items being provided as 'works in kind' are based upon specifications set out in Section 5.2 of the IDP. Subject to the appropriate specified construction standard being satisfied, any cost savings achieved during construction do not need to be passed onto Council.

It is important to recognise that the above figures do include any costs associated with the dedication of land to Fairfield City Council for use for the purposes of roads and public open space. A significant amount of roads existing in the area are currently owned by Fairfield City Council. As part of the redevelopment process, some of these will be closed and new roads and public open space areas created, and then dedicated to Council. These closures will occur under the provisions of the Housing Act and the Land Acquisitions (Just Terms Compensation) Act.

In addition, a significant amount of exiting public open space in the area will be redeveloped as part of the masterplanning of the estate. Much of this open space is currently owned by Housing NSW. During the redevelopment the location and shape of public open space will be changed and then dedicated back to Council.

Compensation for Compulsory Acquisition by Housing NSW for land for land owned by Fairfield City Council is based on a 'peppercorn' payment in reflection of the dedication at not cost to the City of land being prepared 'suitable for its intended use' as road and public open space.

5 Infrastructure to be provided

5.1 Total Infrastructure Provision

The following provides a broad description of the nature and extent of public benefits that will be provided by the developer of the site.

5.1.1 **Physical Infrastructure**

The broad range of physical infrastructure to be provided to serve the renewed estate is summarised as follows:

Road Works

- Upgraded and re-sealed roads totalling 4,500m in length and 74,000m² of re-sealed pavement.
- 8,200m in length and 105,000m² of newly constructed pavement will be constructed as new roads.
- 27,400m² of new or replaced street footpath, including shared cycle/pedestrian links will be provided.

Stormwater

- Construction of a single, stormwater detention facility for each of the three separate catchments - namely central, eastern and western. The eastern catchment works may be for water quantity (OSD) or water quality improvement and are to be located off-site. The location and extent of which will be negotiated and agreed upon with Council with the Stage 3 DA submission. These basins will provide approximately 9,300m³ of combined stormwater detention storage.
- It is also proposed to create a series of water quality control facilities, for treatment of runoff prior to discharge from the site. These facilities shall include wetlands, rain gardens, bio-retention swales and sinks. The area of these facilities is approximately 5,300m².
- Construction of new minor road stormwater systems will total approximately 3,700m of pipe and associated pits.
- Sub-soil drainage provided within the new roads and proposed tree wells will total approximately 12,700m of pipe.

Potable Water

- The existing potable water supply within the development area will be extended and upgraded where necessary. The majority of existing pipe will be retained with all new pipe work connecting into the existing system, thus providing approximately 7,100m of new potable water mains, with approximately 3,700m to be removed.

Recycled Water

- It is intended to supply recycled water to the development. A recycled water main will be laid throughout the entire development, greatly reducing the potable water demand and assisting in satisfying the BASIX requirements for portable water demand reductions. The recycled main will be laid parallel to the potable water main where possible in new roads and on opposing sides of the road for existing roads to minimise existing service disruption. The estimated length of recycled water main is 12,200m.

Sewer

- The existing sewer within the development area will be retained if possible or extended where necessary. In addition to the sewer reticulation works, a number of sewer main upgrades, both on and off site, will be constructed due to the increase in density of the Bonnyrigg renewal. The new sewer reticulation and carrier mains will be connected to the existing Sydney Water system, entailing approximately 8,000m of new sewer main and associated manholes.

Telecommunications

- While some of the existing telecommunications infrastructure can be retained as part of the renewal process, a significant portion of the site will require new services. These new works shall be undertaken as part of the infrastructure renewal and will be contained within a shared trench arrangement with electrical, broadband and gas reticulation. The additional telecommunications conduit and cabling will total approximately 5,100m.
- Existing telecom ducts and cabling will be retained where possible, but will need to be removed where they do not follow proposed road alignments. Telstra have been contacted and the Access Planning division has indicated that Telstra have no future upgrades planned for the area and that no servicing issues are apparent.
- In addition to the standard telecommunications cabling it is proposed to reticulate a broadband network throughout the estate for information technology purposes. It is estimated that the new cabling will total approximately 12,700m.
- Future long term and additional provision of Telstra and Optus services for the area will Future long term and additional provision of Telstra and Optus services for the area will need to be reviewed with the service providers.

Gas

- Gas supply to the future dwellings will be supplied from the retained mains and extended services as part of the works. The existing mains are of various sizes with the supply feed main being located in Edensor Road.
- The gas supplier, Alinta has been consulted throughout the design process. Alinta have indicated that they would supply gas to the entire development area in a shared trench arrangement at no extra cost to Bonnyrigg Partnerships. Alinta have also advised us that the existing network has the capacity to serve the development. It is anticipated that approximately 12,200m of new gas piping will need to be installed to supply the entire development proposal

Electrical

- As much of the existing electrical services as possible will be retained during the renewal process. Any new electrical reticulation will be provided in a shared trenching arrangement within proposed roads and will connect to the existing electrical supply system. The new reticulation will consist of both low and 11 kV high voltage and associated pad-mount substations and switching gear. Due to the Integral Energy's normal augmentation program and the reduction in electrical usage on a per dwelling basis there are no additional off-estate major works required solely servicing the renewal area.
- New electrical reticulations will approximate 5,900m of conduit and cabling; the number of new light poles will be approximately 290; and pad mount substations provided will be approximately 21.
- The electricity supply across the whole of Bonnyrigg will need to be increased. Additional substations will be required to service the proposal. High voltage and Low voltage cabling will need to be installed across all future stages.
- Integral Energy have indicated that plans are in place to augment their zone substation in Monash Place. Integral also intend to construct a new zone substation at Abbotsbury, these upgrade measures and the connection between these sites with high voltage transmission lines will ensure that the entire renewal development can be serviced adequately throughout the staged process. Until this infrastructure is constructed the current electrical supply can support 1,400 dwellings. Integral Energy have indicated that the upgrades would occur within the next 3 years. As the expected development program will not create more than 1,400 dwellings until 2013, it is expected that Integral Energy's current program is suitable. However, further discussion with Integral Energy should take place leading up to, and during the detailed design stage of the project.

Trees and landscaping

- Street trees shall be planted on both sides of all streets except 'access streets'
- Locate 'cultural plantings' in formal groupings or strategic locations as feature trees to provide cultural interest and a sense of place – Cultural plantings are species which relate to the different

cultural groups from indigenous to South East Asian to Middle Eastern and which can be grown at Bonnyrigg.

- Adopt a copping approach to street tree planting except at entries.
- Use formally spaced alley planting to designated entry points to Bonnyrigg, and along park edges as indicated.
- Use nominated species as shown in species list and to areas located in the street tree master plan.
- Street trees are to be located in rain gardens to obtain passive irrigation from stormwater runoff. One tree per ten 90 degree car spaces and one tree per three parallel car spaces.

Pedestrian and bicycle connections

- Minimum of two paths to each street (one to both sides).
- Shareways to be 2.4m wide brushed concrete.
- Standard path to be 1.2m wide brushed concrete.
- Pathways to be generally located 600mm off boundary.

Public transport facilities

- Provide a movement network that links residents to the activity nodes, including public transport infrastructure, to encourage its use.
- Integrate the pedestrian and bicycle network with the road network to promote passive surveillance.
- The treatment of Tarlington Parade and Bunker Parade and the design of the connecting road are to be designed to accommodate bus movements.
- Provide bus stops in locations that will provide for good access to public transport services for the majority of residents.

WSUD and Water Management

- Roadside tree bays to form raingardens to collect road runoff prior to discharge to a piped system.
- Piped systems to drain through a GPT prior to discharge to secondary treatment facilities.
- Piped outlets to Tarlington Reserve to discharge above ground to raingardens or linear creek line.
- Potable water demand reduction via reticulated recycled water supply.
- On-site detention to limit discharges to the pre-development rates.
- All street kerblines on parks are to be broken to allow infiltration into turfed buffer zones.
- Raingardens to creekline to provide bio-retention.

Parks

- Create visual rewards through location of amenities in highly visible locations, to enhance visual character, identity, surveillance and limit vandalism.
- Utilise open space for integrated stormwater management incorporating water sensitive urban design principles.
- Parks are to be located on main roads or provide perimeter road address for standard roads.
- Visibility across parks should be maintained with limited inclusions of shrub planting or other objects that inhibit site lines.
- Use unobtrusive physical barriers to discourage undesired vehicular access to parks.
- Pedestrian paths to be located on desire lines as indicated.
- Provide shade trees and structures to seating and play areas.

- Provide detail grading and retaining systems to allow for levels associated with existing trees to be retained.
- All lighting to conform to relevant Australian standards.
- Trees are to be planted in mulched garden beds where possible and are to be selected with a clear trunk to 2m.
- Plant species are to be indigenous except for 'cultural plantings' as indicated. Seed stock is to be sourced locally and used for generation of all plant material.

Vegetation Management

- Design and implement formal WSUD infrastructure components to perform a variety of functions including stormwater treatment and detention and erosion and sediment control.
- Restore and enhance bushland and riparian environments using local provenance seed to increase habitat and biodiversity as well as enhance aesthetic and recreational amenity.
- Plan and maintain a diversity of sporting and recreational opportunities including quality, multi-use public open space facilities that meet community expectations.
- Design quality streetscape environments that encourage street activity, promote transitional spaces between the private and public domain and improve visual amenity by retaining and increasing streetscape vegetation.
- Ensure the design and management of landscape zones considers local environmental constraints, water use minimisation, management of stormwater processes, social equity and economic viability..

Shade Structures and Amenities

- Each park is to feature at least one shade and seating structure to provide architectural focus for that park.
- Structures are to meet the ground with no raised foundation.
- Structures are to be simple steel framed skillion roofed structures with vertical or near vertical uprights.
- BBQs to generally be located with shade structures and formal picnic seating.

Furniture

- Provide a suite of furniture that responds to formal, feature and informal requirements.
- Bubblers to be located in locations shown.
- Bollards to be located along park boundaries with roads to restrict unwanted vehicle access where required.

Sporting and Recreational Facilities

- To provide access to sporting facilities in keeping with the SIA.
- To provide access to a variety of recreational and play opportunities in appropriate locations relevant to immediate residents.
- To provide a mix of both active and passive and formal and informal recreation/play opportunities across the spectrum of age groups.

Public Art

- Integrate artworks across the estate to provide visual links and provide a consistent identity.

Community Garden

- To be co-located with community centre and storage requirements, office, meeting rooms and the like to be included in architectural program.

- Garden to be allotment style with access along a series of grid paths.
- Garden to be initially secured with a 2.4m security fence and accessed through multi-purpose centre.
- Delivery and vehicular access for soils etc to be provided.
- Provide signage inviting all to participate.

Site Nursery

- To locate the nursery on site in a central and accessible location and to provide all necessary facilities for seedling production only.
- To provide facilities for educational workshops associated with the production nursery.
- To use the nursery and its produce to screen or buffer unsightly components of the development at various stages.
- To form links between the site nursery and the community gardens when constructed.
- To be temporary and exist for the life of the project only.
- To provide an opportunity for private or public existing trees to be transplanted and retained in pots until replanting.

Lighting

- Provide a good standard of lighting. Lighting to comply with Australian Standards for public lighting AS1158.
- Lighting that illuminates pedestrian areas as well as roads.
- Provide high quality lighting, which will not conflict with plating or create large areas of shadow.
- Light poles and fittings to be consistent with other site elements to form a family of site objects in tune with both the architecture and environment.
- Lighting design and placement to illuminate potential areas of concealment.
- Lighting to be provided in areas of high public use, with type and design of lighting dependent on need, location and use.
- Pathways, driveways, building entrances and exits and common external spaces should be well lit.
- Bollard top lighting to be avoided where possible.

5.1.2 Social Infrastructure

The broad range of social infrastructure to be provided to serve the renewed estate is summarised as follows:

Community Centre

- The community centre will be located at the centre of the valley, at the heart of the community where the major movement corridors meet. Tarlington Parade, Bunker Parade the new street that connects the two and Valley Park bound it. The centre will be active and vibrant and will have a number of uses to ensure this occurs.
- The buildings will be designed within a twin pavilion format. One pavilion will be located on the Tarlington Parade frontage and the second on the Bunker Parade Frontage. A public space square will be between the two. This area will be designed to provide high amenity, to incorporate a community garden and be able to adapt to a variety of uses. This is the 'heart of the development', an area for community interaction given over to the public.

- The community centre will be a purpose designed building for community use including provision of function rooms (for events such as birthday party's and weddings for example), out reach services, the offices of the St George Community Housing and Bonnyrigg Partnerships.

Community support provisions

- A range of community support infrastructure will be provided in the development, including:
 - Contribution to the upgrading of the Bonnyrigg Partnership offices.
 - Contribution to the upgrading of Bonnyrigg Library.
 - Contributions to youth support programs.
 - Provision of a community garden.
 - Provision of public art.
 - Implementation of a Community Renewal Plan.

The key principles to be applied to the provision of social infrastructure are as follows:

- That all parties seek to achieve the best possible outcomes for the Bonnyrigg estate (and its redevelopment), and for the broader Bonnyrigg area.
- That all monies that are contributed are to be expended in Bonnyrigg for the benefit of the present and future community moving forward.
- Contributions must support the project for its full term; not just the first few years.
- That Fairfield City Council and Bonnyrigg Partnerships (BP) will work collaboratively wherever possible so as to achieve the maximum benefit for the community.
- There should be no duplication of currently existing services, and the services to be provided by the parties should be complementary.
- That both parties will facilitate and ensure that any opportunities to leverage grants funding will be taken.
- Maximum community involvement should be sought where possible.
- That the parties will clearly distinguish capital works from services in any relevant documentation.

5.2 Detailed Scope of Works for items relevant to the VPA

This section of the report provides details of the public infrastructure items provided in the redevelopment of the area and outlined in Section 4.1 of this report.

List of Items provided

1. Collector road upgrades
2. Local roads adjacent to public open space
3. Internal bus shelters
4. Perimeter bus shelters
5. Cycle-ways
6. Valley Park
7. Hilltop Park
8. Forest Park
9. Village Park

10. Junior Play Park
11. Civil works associated with park upgrades
12. Detention basins
13. Creek-line upgrade
14. Gross pollutant traps
15. Rain-gardens
16. Community building
17. Upgrade of Bonnyrigg Partnership offices
18. Upgrade of Bonnyrigg library
19. Provision of community garden
20. Provision of public art
21. Youth services
22. Implementation of a Community Renewal Plan

The following provides a detailed description of each of these items, and which includes the following information:

- Relevant sources documents relating to the provision of the infrastructure.
- Relevant Council, authority or other design guidelines specified for the items.
- Specifications of the design and construction standards of the proposed item.
- Maintenance provisions.

Security and bonding provisions, including satisfaction for completed works, relating to each of these items is covered under the terms and conditions of the formal Voluntary Planning Agreement (VPA) applying to the project.

Any of the above contribution items must be carried out and completed as follows:

- In accordance with the requirements of, or consents issued, by any government authority.
- In accordance with any Australian Standards applicable to works of the same nature as each aspect of the contribution item.
- In a proper and workmanlike manner complying with current industry practice and standards relating to each aspect of the contribution item.

5.2.1 Collector Road upgrades

Description

Existing roads in the site area will be retained and upgraded. The road upgrading works will include provisions for the replacement or improvement of pavements, kerbs and gutter, and appropriate traffic control devices.

Source Documents

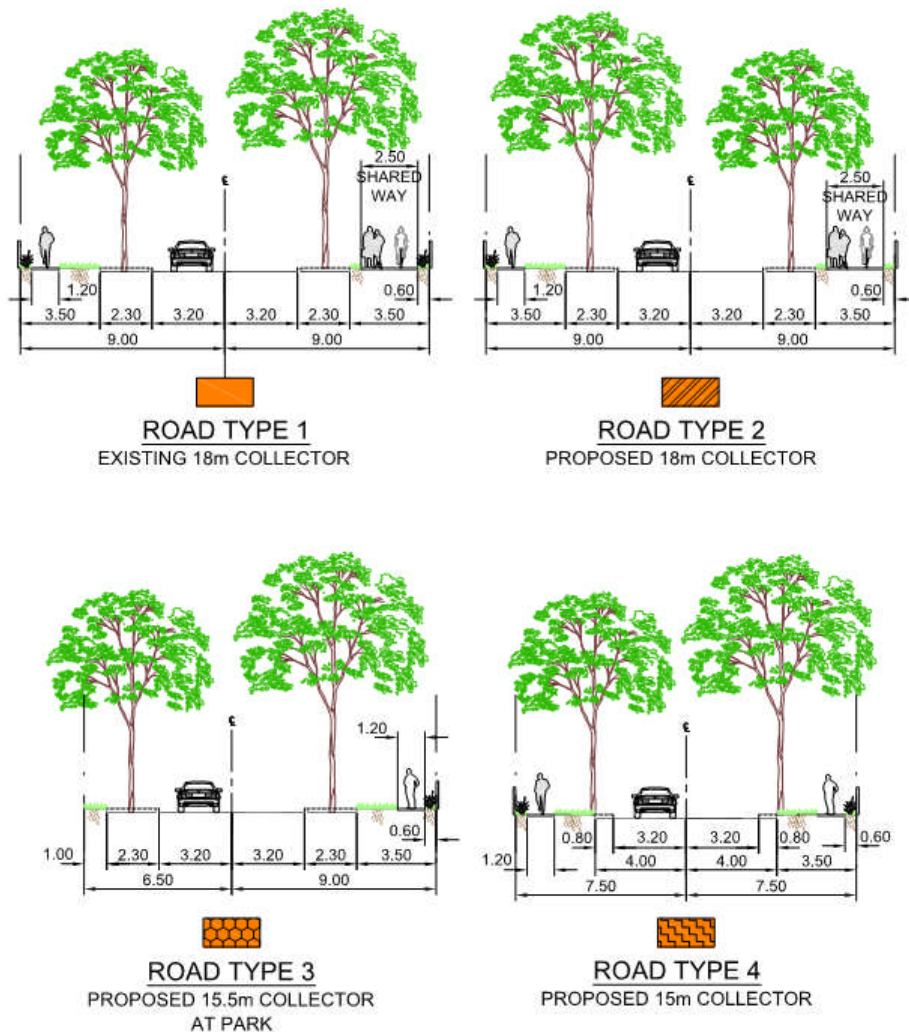
- BLCP Master Plan Infrastructure Report – Hughes Trueman

Design and Construction Specifications

Four types of collector roads will be provided and upgraded in the renewed area, being defined as follows:

- Type 1 – Existing Collector Road to remain (18m wide road reserve);

- Type 2 – Proposed Collector Road (18m wide road reserve);
- Type 3 – Proposed Collector Road (15.5m wide road reserve); and
- Type 4 – Proposed Collector Road (15m wide road reserve).



The proposed upgrading of these collector roads comprises the following details:

	Length
Type 1	1440 m
Type 2	174 m
Type 3	475 m
Type 4	148 m
Total	2237 m

Relevant Design Guidelines

Relevant design standards applying to the upgraded collector roads are:

- Fairfield City Council Residential Subdivision Guide
- NSW RTA Road Design Guide
- Australian Model Code for Residential Developments

Maintenance Provisions

- Repair pot holes, cracking, etc. as required following inspections in accordance with Fairfield City Council's inspection regime.
- Design life of new pavements 20 years.

5.2.2 Local Roads adjacent to public open space

Description

The masterplanning for the renewed area provides wherever possible for roads to front onto areas of public open space. The purpose of this is to enhance the safety, accessibility, amenity and usability of the open space areas.

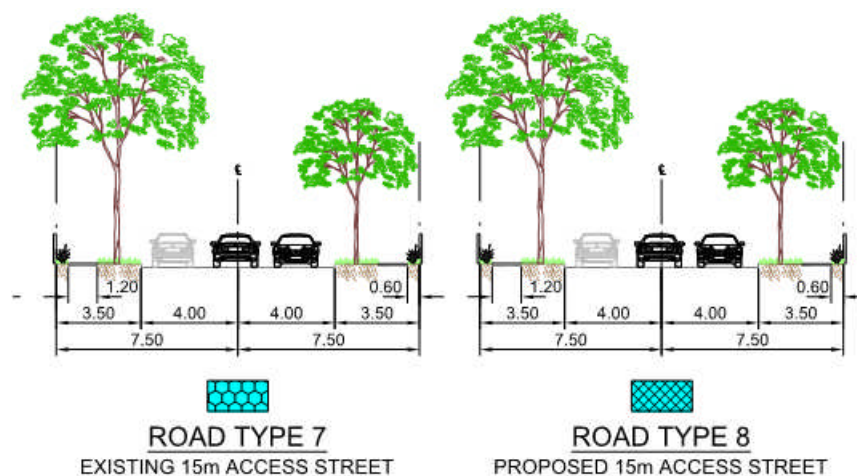
Source Documents

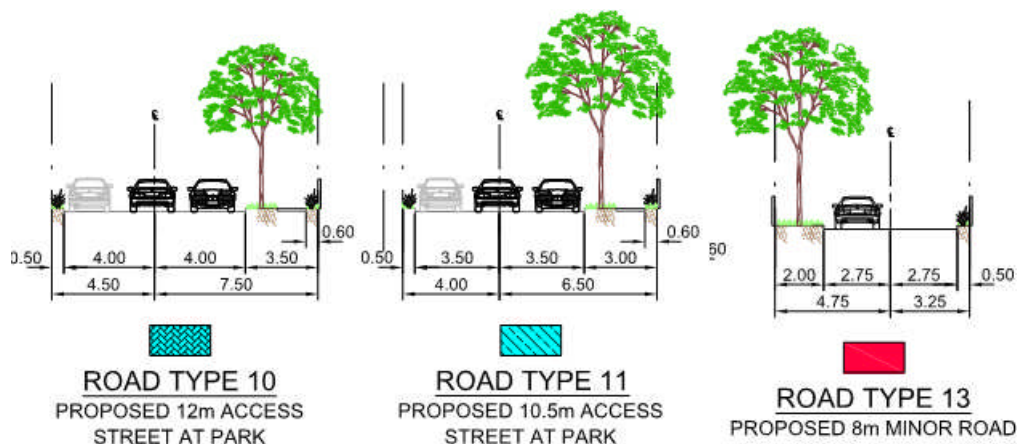
- Bonnyrigg Social Infrastructure Needs Analysis Final Report – Urbis.
- Bonnyrigg Masterplan – Urbis

Design and Construction Specifications

A range of road types will be constructed to front onto public open space. The road types that will front the open space are as follows:

- Type 1 – Existing Collector Road to remain (18m wide road reserve);
- Type 3 – Proposed Collector Road (15.5m wide road reserve);
- Type 4 – Proposed Collector Road (15m wide road reserve);
- Type 7 – Existing Access Street (15m wide road reserve);
- Type 8 – Proposed Access Street (15m wide road reserve)
- Type 10 – Proposed Access Street (12m wide road reserve)
- Type 11 – Proposed Access Street (10.5m wide road reserve)
- Type 13 – Proposed Access Place (8m wide road reserve)





The proposed upgrading of these collector roads comprises the following details:

	Length
Type 1	352 m
Type 2	40 m
Type 3	475 m
Type 4	30 m
Type 5	0 m
Type 6	0 m
Type 7	273 m
Type 8	136 m
Type 9	0 m
Type 10	761 m
Type 11	302 m
Type 12	0 m
Type 13	381 m
Total	2750 m

Relevant Design Guidelines

Relevant design standards applying to the roads are:

- Fairfield City Council Residential Subdivision Guide
- NSW RTA Road Design Guide
- Australian Model Code for Residential Developments

Maintenance Provisions

- Repair pot holes, cracking, etc. as required following inspections in accordance with Fairfield City Council's standard inspection regime.
- Design life of new pavements 20 years.

5.2.3 Internal bus shelters

Description

In order to enhance public transport usage and accessibility of residents to public transport, proposed new bus routes through the renewed area have been identified and bus stops are to be provided in conjunction with those routes.

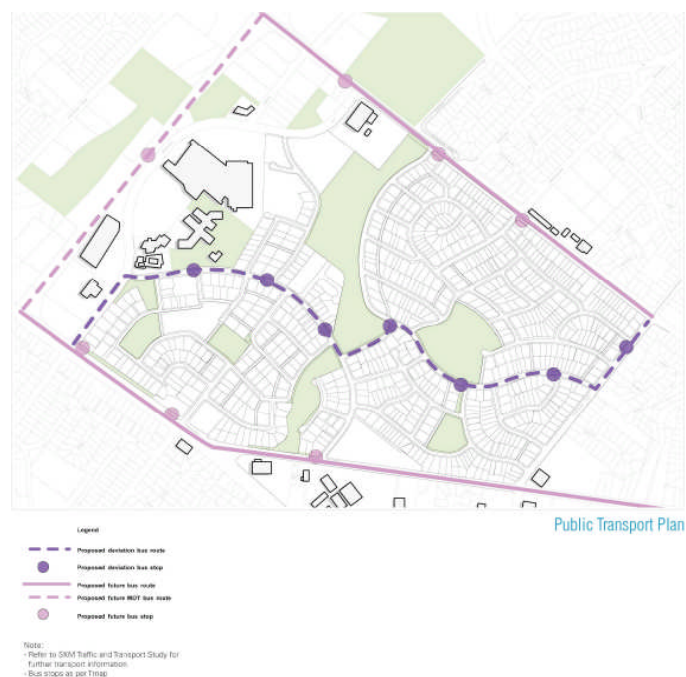
Source Document

- Bonnyrigg Traffic and Transport Assessment, Transport Management and Accessibility Plan, SKM.

Relevant Design Guidelines

- Five internal bus stops are proposed along Tarlington Parade and Bunker Parade.
- Bus stops will be provided within easy walking distance (400 metres maximum) from all residences and a maximum distance of 250 metres between them.
- Adequate shelter and seating will be provided to ensure that patrons are comfortable while waiting for buses.
- Timetable information for the routes relevant to that stop will be provided in an easily read format, with information on connecting routes also provided to promote the utilisation of the buses.

The internal bus stops will be located generally in accordance with the Public Transport Plan contained in the Bonnyrigg Masterplan, and being shown below:



Design and Construction Specifications

- Bus Stop Installation Guide for Local Councils, STA, 2002
- NSW RTA Road Design Guide 'Safer-by-Design' principles (including the NSW Police 'Safer by Design' crime prevention through environmental design (CPTED) principles)

5.2.4 Perimeter bus shelters

Description

In order to enhance public transport usage and accessibility of residents to public transport, upgraded and new bus stops are to be provided on roads surrounding the site.

Source Document

- Bonnyrigg Traffic and Transport Assessment, Transport Management and Accessibility Plan, SKM

Design and Construction Specifications

- Five perimeter bus stops are proposed.
- Bus stops will be provided within easy walking distance (400 metres maximum) from all residences and a maximum distance of 250 metres between them.
- Adequate shelter and seating will be provided to ensure that patrons are comfortable while waiting for buses.
- Timetable information for the routes relevant to that stop will be provided in an easily read format, with information on connecting routes also provided to promote the utilisation of the buses.

The perimeter bus stops will be located generally in accordance with the Public Transport Plan contained in the Bonnyrigg Masterplan, and being shown below:



Relevant Design Guidelines

- Relevant design standards applying to the bus stops are Bus Stop Installation Guide for Local Councils, STA, 2002. *Maintenance Provisions*

5.2.5 Cycle-ways

Description

The masterplanning of the renewed area seeks to maximize the opportunities for residents and visitors to access the area and surrounds by alternative means to private vehicles. A comprehensive, designated bicycle path network is proposed for the area.

Source Document

- Bonnyrigg Masterplan – Urbis
- Bonnyrigg Traffic and Transport Assessment, Transport Management and Accessibility Plan, SKM

Design and Construction Specifications

The bicycle paths are to be created as part of a 'shareway' with local footpaths or as a stand alone, dedicated bicycle path. The bicycle paths will be constructed to be:

- 2.4 metres wide for the 'shareways', with the bicycle component having a minimum width of 1.2 metres.
- 1.2 metres wide where constructed as a stand along bicycle path.
- The paths will be constructed of brush concrete.
- The cycle-ways will be located within collector roads and reserves.
- Internal roads within the site will be connected to the existing cycle network.
- Connections to established pedestrian and cycle paths will be provided where appropriate and linkages to the regional cycle network along the T-Way and along Elizabeth Drive will be constructed.
- There will be 2,700 metres of cycle-ways along roads and approximately 1,000 metres through parks.

The bicycle paths will be constructed in accordance with the Pedestrian and Bicycle Connections Plan contained in the Bonnyrigg Masterplan, and being as follows:



Relevant Design Guidelines

- Fairfield City Council Residential Subdivision Guide
- NSW RTA Road Design Guide
- Australian Model Code for Residential Developments

Maintenance Provisions

- Repair failures, cracks, etc. as required following inspections in accordance with Fairfield City Council's standard inspection regime.
- Design life of new footpaths 20 years.

5.2.6 Valley Park

Description

As part of the overall network of public open space, the Valley Park open space area will be created.

Source Document

- Bonnyrigg Social Infrastructure Needs Analysis Final Report – Urbis.
- Bonnyrigg Masterplan – Urbis

Design and Construction Specifications

Valley Park North comprise four distinct areas, being:

1. The entry park on the corner of Edensor Road and Bunker Parade;
2. The sports park; and
3. The community centre park.
4. The upper valley creek park

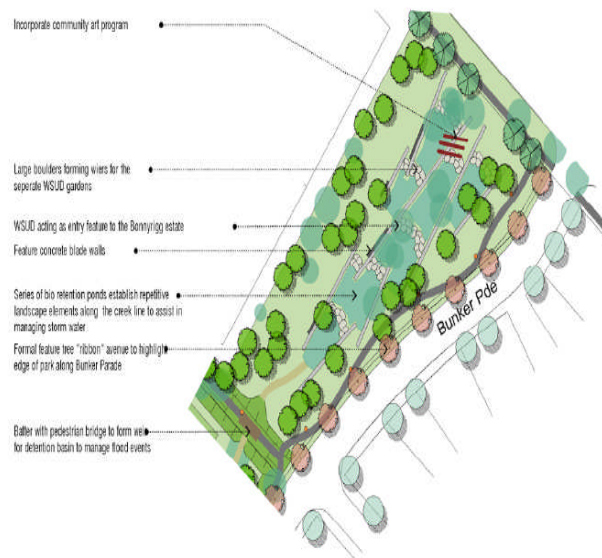
These four areas making up the Valley Park are described below:

1. Entry Park

The entry park includes:

- Rain gardens and dry creek bed to collect and treat the estates storm water runoff (seasonally inundated)
- 1.2m pedestrian path ways
- 2.5 m share-ways for pedestrians and cyclists
- Bridges at strategic crossings to facilitate park access and integrate pedestrian and cycle movements across the estate
- WSUD at Bunker/Edensor Road entry creating a visual entry feature and managing water quality
- Feature concrete blade walls protruding from WSUD gardens creating entry interest
- Series of cultural tree plantings to highlight view and pedestrian links
- Individual trees to be kept to a minimum in park areas. Promote tree copses in mulched garden beds
- Ribbon planting to highlight connections through site
- Public park seating along paths
- Macrophyte planting to designated wet zones associated with creekline

The figure below identifies the proposed park layout and proposed design elements.



2. The Sports Park

The sports park includes:

- Rain gardens and dry creek bed to collect and treat the estates storm water runoff (seasonally inundated)
- 1.2m pedestrian path ways
- 2.5 m share-ways
- Bridges at strategic crossings to facilitate park access and integrate pedestrian and cycle movements across the estate
- Series of cultural tree plantings to highlight view and pedestrian links
- Individual trees to be kept to a minimum in park areas. Promote tree copses in mulched garden beds
- Ribbon planting to highlight connections through the site
- Children's play equipment (0-4yrs old)
- Well-lit shelters for shade and seating in locations of maximum surveillance
- Civic area to provide facilities for the closely related retirement village offering shelter, formal gardens, seating, retaining/seating walls and viewing platform over sports areas
- Public park seating along paths
- Full size and junior soccer field upgrade
- Batters surrounding sport field's act as viewing platforms
- Open turf area for active play
- Amenities building to provide toilets, change-rooms, sports storage room and canteen. (subject to detailed brief) - Potential to integrate with site nursery
- Carpark / overflow car park for proposed soccer fields and general park activities

The figure below identifies the proposed park layout and proposed design elements:

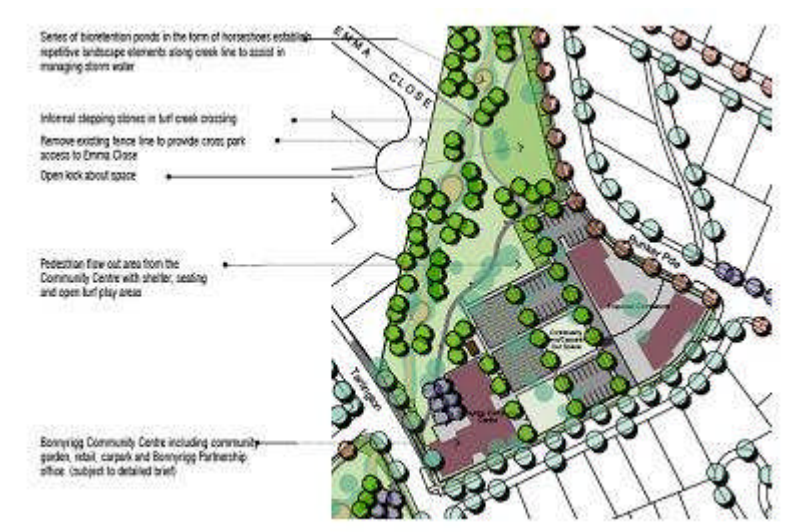


3. Community Centre Park

The community centre park includes:

- Rain gardens and dry creek line to collect and treat estate storm water runoff
- 2m wide x 0.5m deep (on average) bio-swale to form creekline
- 1.2m pedestrian path ways
- 2.5m share-ways integrating with the Community Centre's path system
- Pedestrian bridges to provide cross park access
- Spill out turf area and shelter associated with Community Centre.
- Series of cultural tree plantings to terminate key views
- Individual trees to be kept to a minimum. Promote tree copses in mulched beds
- Ribbon planting to highlight connections through the site
- Public park seating to path ways
- Open turf area for active play

The figure below identifies the proposed park layout and proposed design elements:

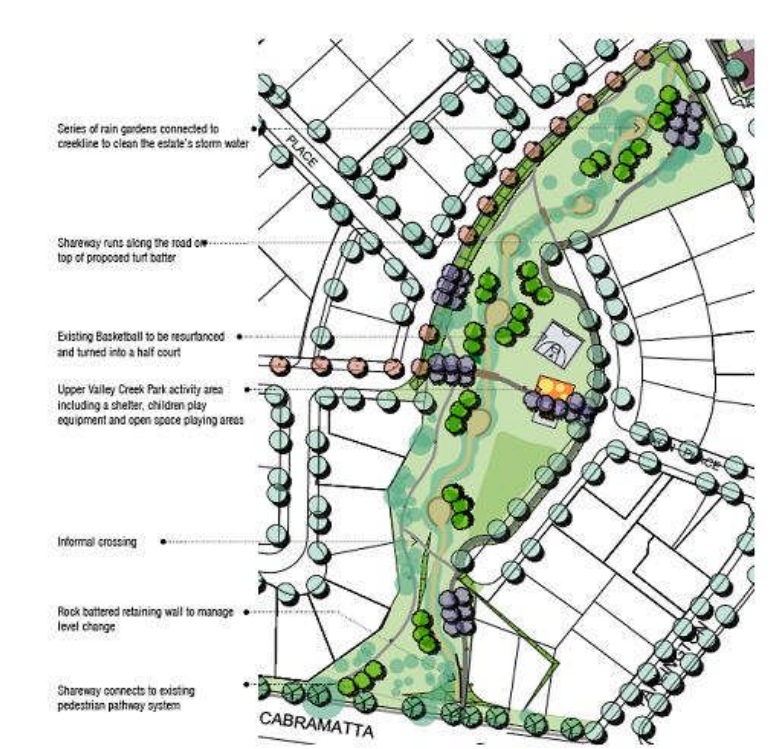


4. The upper valley creek park

The Park includes:

- Rain gardens and dry creek line to collect and treat estate storm water runoff
- Macrophyte planting to designated wet zones associated with creekline
- 2m wide x 0.5m deep (on average) bioswale to form creekline
- 1.2m concrete pedestrian path ways as shown
- 2.5 m shareways as shown
- Pedestrian bridges to provide cross park access
- Part removal of existing basketball court and upgrade with new half court
- Shelter and seating structure on intersection of view lines from Axon and Harricks Place
- Series of cultural tree plantings to terminate key views and celebrate specific intersections
- Individual trees in park areas to be kept to a minimum. Promote tree copses in mulched beds
- Childrens play equipment (5-10 year old)
- Public park seating on path ways
- Open turf areas for active play
- Retain existing trees where possible

The figure below identifies the proposed park layout and proposed design elements:



Detailed specifications for the development of the park are provided in the table below.

Item	Qty.	Unit
Structured medium height scrubs and groundcovers including 75mm mulch, 300mm topsoil (ameliorated site topsoil), 1 No. shrub (15ltr) and 3 groundcovers (5ltr)	4,345	m2
Low grasses and groundcover planting including 75mm mulch, 300mm topsoil (ameliorated site topsoil), 3 No. 150mm tubes, 6 No. 75mm tubes	11,924	m2
Edging between planting beds and turfed areas		Item
Supply & lay "A" grade turf - including fertilizer.	48,313	m2
Supply and plant trees including stakes and ties (allow average size tree approx 100-200ltr)	342	No.
Concrete footpaths to open space areas (454m at 2.5m width)	-	m2
Concrete footpaths to open space areas (856m at 1.2m width)	1,027	m2
Crushed granite gravel including road base	332	m2
Community Garden (8x6m shed, fence, driveway paving, security fence, paving, timber edging, soil conditioning and tools)	1	Item
Shelter	4	No.
BBQ facility	2	No.

Item	Qty.	Unit
Amenities building including services connections	1	Item
Playground Equipment Valley Park	2	No.
Resurface and make good existing basketball court (asphalt surface painted with acrylic)	1	No.
Public seats including concrete footing	17	No.
Rubbish bin enclosures including concrete footing	6	No.
Feature Retaining Wall / meeting space wall	1	No.
Major pedestrian bridge	-	No.
Minor pedestrian bridge crossing	-	No.
Terraced viewing area to playing fields	1	Item
Parking area including stormwater and lighting	400	m2
Extra over for overflow parking	400	m2
Tree surgery to selected trees		Item
Feature Pavements to node areas		Item
Pole top safety lighting to park areas only (based on poles at 20m spacing for 2,416 lm of pathways)		Item
Allow for metering for lighting to public parks		Item
Watering and maintenance of landscape works for 12 month period for each stage.	68,505	m2
Total		

5.2.7 Hilltop Park

Description

As part of the overall network of public open space, the Hilltop Park open space area will be created.

Source Document

- Bonnyrigg Social Infrastructure Needs Analysis Final Report – Urbis.
- Bonnyrigg Masterplan – Urbis

Design and Construction Specifications

The specifications for the development of the park and the scope of works to be provided are provided in the table below.

Item	Qty.	Unit
Low grasses and groundcover planting including 75mm mulch, 300mm topsoil (ameliorated site topsoil), 3 No. 150mm tubes, 6 No. 75mm tubes	225	
Edging between planting beds and turfed areas		Item

Item	Qty.	Unit
Supply & lay "A" grade turf - including fertilizer.	22,190	m2
Supply and plant trees including stakes and ties (allow average size tree approx 100-200ltr)	58	No.
Concrete footpaths to open space areas (212m at 2.5m width)	-	m2
Concrete footpaths to open space areas (416m at 1.2m width)	499	m2
Crushed granite gravel including road base	2,248	m2
Shelter	2	No.
BBQ facility	1	No.
Playground Equipment to Park No 1	2	No.
Resurface and make good existing basketball court (asphalt surface painted with acrylic)	1	No.
Public seats including concrete footing	13	No.
Rubbish bin enclosures including concrete footing	2	No.
Feature Retaining Wall / meeting space wall / tennis wall	1	No.
Tree surgery to selected trees	-	Item
Feature Pavements to node areas		Item
Pole top safety lighting to park areas only (based on poles at 20m spacing for 2,416 lm of pathways)		Item
Allow for metering for lighting to public parks		Item
Watering and maintenance of landscape works for 12 month period for each stage.	26,925	m2

The figure below identifies the proposed park layout and proposed design elements:



5.2.8 Forest Park

Description

As part of the overall network of public open space, the Forest Park open space area will be created.

Source Document

- Bonnyrigg Social Infrastructure Needs Analysis Final Report – Urbis.
- Bonnyrigg Masterplan – Urbis

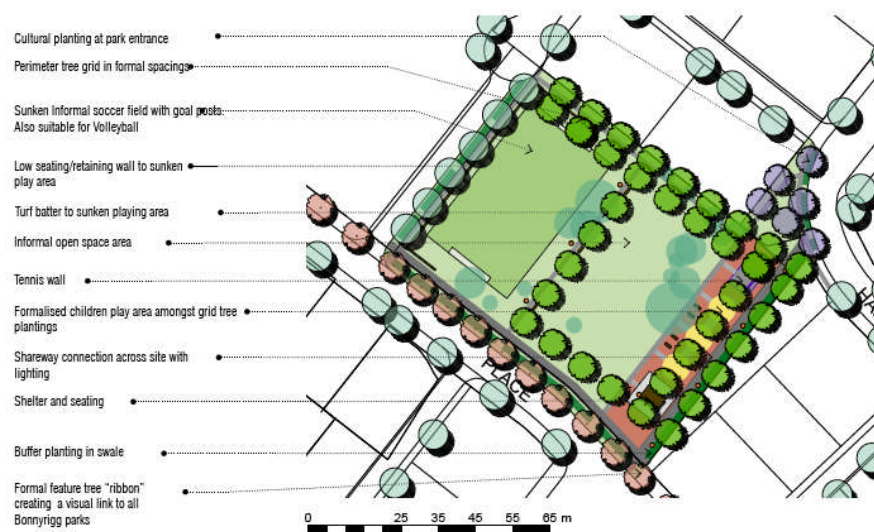
Design and Construction Specifications

The specifications for the development of the park and the scope of works to be provided are provided in the table below.

Item	Qty.	Unit
Low grasses and groundcover planting including 75mm mulch, 300mm topsoil (ameliorated site topsoil), 3 No. 150mm tubes, 6 No. 75mm tubes	100	m2
Edging between planting beds and turf areas	1	Item
Supply & lay "A" grade turf - including fertilizer.	4,555	m2
Supply and plant trees including stakes and ties (allow average size tree approx 100-200ltr)	29	No.
Concrete footpaths to open space areas (55m at 1.2m width)	66	m2
Crushed granite gravel including road base	869	m2
Shelter	1	No.
Playground Equipment	1	No.
Hardstand area for tennis wall	1	No.
Public seats including concrete footing	5	No.

Item	Qty.	Unit
Rubbish bin enclosures including concrete footing	2	No.
Feature retaining wall / meeting space wall / tennis wall	1	No.
Tree surgery to selected trees		Item
Feature Pavements to node areas		Item
Pole top safety lighting to park areas only (based on poles at 20m spacing for 2,416 lm of pathways)		Item
Allow for metering for lighting to public parks		Item
Watering and maintenance of landscape works for 12 month period for each stage.	5,702	m2
Total		

The figure below identifies the proposed park layout and proposed design elements:



5.2.9 Village Park

Description

As part of the overall network of public open space, the Village Park open space area will be created.

Source Document

- Bonnyrigg Social Infrastructure Needs Analysis Final Report – Urbis.
- Bonnyrigg Masterplan – Urbis

Design and Construction Specifications

The specifications for the development of the park and the scope of works to be provided are provided in the table below.

Item	Qty.	Unit
Low grasses and groundcover planting including 75mm mulch, 300mm topsoil (ameliorated site topsoil), 3 No. 150mm tubes, 6 No. 75mm tubes	963	m2
Edging between planting beds and turfed areas		Item
Supply & lay "A" grade turf - including fertilizer.	9,236	m2
Supply and plant trees including stakes and ties (allow average size tree approx 100-200ltr)	61	No.
Crushed granite gravel including road base	514	m2
Shelter to Park No 5	1	No.
Playground Equipment	1	No.
Public seats including concrete footing	3	No.
Rubbish bin enclosures including concrete footing	2	No.
Feature Retaining Wall / meeting space wall (Park 5)	1	No.
Tree surgery to selected trees		Item
Feature Pavements to node areas		Item
Pole top safety lighting to park areas only (based on poles at 20m spacing for 2,416 lm of pathways)		Item
Allow for metering for lighting to public parks		Item
Watering and maintenance of landscape works for 12 month period for each stage.	11,333	m2
Total		

The figure below identifies the proposed park layout and proposed design elements:



5.2.10 Junior Play Park

Description

As part of the overall network of public open space, the Junior Play Park open space area will be created.

Source Document

- Bonnyrigg Social Infrastructure Needs Analysis Final Report – Urbis.
- Bonnyrigg Masterplan – Urbis

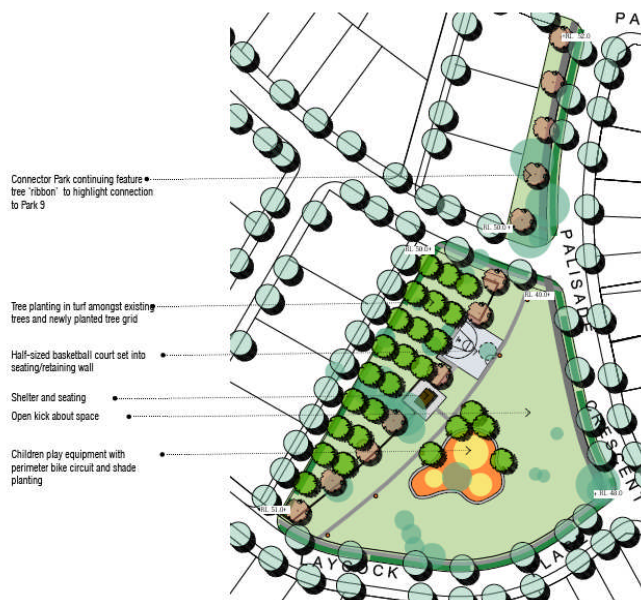
Design and Construction Specifications

The specifications for the development of the park and the scope of works to be provided are provided in the table below

Item	Qty.	Unit
Structured medium height scrubs and groundcovers including 75mm mulch, 300mm topsoil (ameliorated site topsoil), 1 No. shrub (15ltr) and 3 groundcovers (5ltr)	100	m2
Edging between planting beds and turfing areas		Item
Supply and Lay "A" Grade turf incl. fertilizer	6,928	m2
Supply and plant trees including stakes and ties (allow average size tree approx 100-200ltr)	35	No.
Concrete footpaths to open space areas (141m at 1.2m	169	m2

Item	Qty.	Unit
width)		
Shelter	1	No.
Playground Equipment	1	No.
1/2 Basketball court / Kids bike riding circuit	1	No.
Public seats including concrete footing	3	No.
Rubbish bin enclosures including concrete footing	2	No.
Feature Retaining Wall / meeting space wall	1	No.
Tree surgery to selected trees		Item
Feature Pavements to node areas		Item
Pole top safety lighting to park areas only (based on poles at 20m spacing for 2,416 lm of pathways)		Item
Allow for metering for lighting to public parks		Item
Watering and maintenance of landscape works for 12 month period for each stage.	7,532	m2
Total		

The figure below identifies the proposed park layout and proposed design elements:



5.2.11 Civil works associated with park upgrades*Description*

A range of civil engineering works are required to support the embellishment of the public open space areas.

Source Document

- BLCPP Master Plan Infrastructure Report – Hughes Trueman

Design and Construction Specifications

The proposed development of the parks will have associated costs relating to civil works (earthworks). The specifications for the civil works associated with the parks development and the scope of works to be provided are provided in the table below.

Item	Unit
Junior Playground (Park No.2) - Eastern Reserve	Item
New Entry Park (Park No.5) - Western Reserve	Item
Hilltop Park (Park No.1) - Ridge Park	Item
Valley Park (Park No.3) - Central oval	Item
Valley Park (Park No.3) - Central Upper Reserve	Item
Valley Park (Park No.3) - Southern Reserve	Item
Total	

Relevant Design Guidelines

- AS 3798 Guideline on Earthworks for Commercial and Residential Developments

5.2.12 Detention basins*Description*

A series of detention basins are needed to manage water flows into the broader public waterway system, and is therefore a public responsibility.

Source Document

- BLCPP Master Plan Infrastructure Report – Hughes Trueman

Design and Construction Specifications

The construction of a single, stormwater detention facility for each of the three separate catchments - namely central, eastern and western. The eastern catchment OSD works are to be off-site. The location and extent of which will be negotiated and agreed upon with Council with the Stage 3 Development Application. These basins will provide approximately 9,300m³ of combined stormwater detention Storage.

The specifications for the provision of detention basins and the scope of works are provided in the table below:

Item	Qty.	Unit
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Item	Qty.	Unit
Earthworks budget for on-site detention basins.		Item
Eastern catchment off-site works including stripping earthworks, berm construction, turfing, modifying culvert, spillway and scour protection.		Item
Extra over earthworks budget and landscaping budget for additional embellishments in parks for detention areas (includes subsoil drainage, filter material, liner, additional planting, pits, embellishments and additional maintenance.	930	m2
Total		

Relevant Design Guidelines

- Australian Rainfall and Runoff
- NSW Floodplain Development Manual
- Fairfield City Council Stormwater Drainage Policy

Maintenance Provisions

- Clean OSD inlet/outlet structures.
- Hinged grates fixed to inlet pits

5.2.13 Creek-line upgrade

Description

The Developer proposes to include works creeklines in order mitigate for any potential flooding, erosion and water quality issues and incorporating environmentally sustainable options for water catchment, storage and re-use and recycling.

Source Document

- BLCP Master Plan Infrastructure Report – Hughes Trueman

Design and Construction Specifications

The specifications for the provision of works to creeklines are provided in the table below.

Item	Qty.	Unit
Earthworks budget		Item
Excavation to form rain-gardens.	6,350	m3
Trim and grade to form	4,850	m2
Geo-fabric	5,800	m2
Permeable material or liners	5,000	m2
Scour protection.	950	m2
Topsoil to planting areas	2,163	m2

Item	Qty.	Unit
Additional drainage - low flow under connected to existing	897	m
Additional planting - EO for macrophyte planting	2,163	m2
EO for additional embellishments	4,765	m2
Temp. sediment control		Item
Major pedestrian bridge crossing	2	No.
Minor pedestrian bridge crossing	2	No.
Total		

Relevant Design Guidelines

- Australian Rainfall and Runoff
- NSW Floodplain Development Manual
- Fairfield City Council Stormwater Drainage Policy

Maintenance Provisions

- Similar to the rain garden maintenance schedule provided in the Water Cycle Report (Section 5.2.2 & Appendix F), including:
- Maintain surface vegetation (in accordance with landscaping requirements)
- Removal of accumulated sediment
- Debris removal

5.2.14 Gross Pollutant Traps

Description

The Developer proposes to include gross pollutant traps (GPTs) in order to mitigate for any potential water quality impacts on the broader public waterway system.

Source Document

- BLCP Master Plan Infrastructure Report – Hughes Trueman

Design and Construction Specifications

The specifications for the installation of GPTs and the scope of works associated with adoption of this water quality measure are provided in the table below:

Item	Qty.	Unit
GPTs small – medium	8	No.
GPTs large	1	No.
2000m of swale, 1m width, not incl. planting		
Total		

Relevant Design Guidelines

- Managing Urban Stormwater: Source Control
- Fairfield City Council WSUD Strategy

Maintenance Provisions

- Cleaning/emptying of GPT as required, inspect on 3-monthly basis

5.2.15 Rain-gardens

Description

The Developer proposes to include rain-gardens in order to mitigate for any potential water quality impacts.

Source Document

- BLCP Master Plan Infrastructure Report – Hughes Trueman
- Bonnyrigg Masterplan – Urbis

Design and Construction Specifications

In addition to this stormwater detention, it is also proposed to create a series of water quality control facilities, for treatment of runoff prior to discharge from the site. These facilities shall include wetlands, rain gardens, bio-retention swales and sinks. The area of these facilities is approximately 5,300m²

The specifications for the installation of rain-gardens and the scope of works associated with adoption of this water quality measure are provided in the table below:

Item	Qty.	Unit
Subsoil	7,194	Metre
Tree wells	379	No.
Trees	379	No.
Planting	640.51	m ²
Total		

Relevant Design Guidelines

- Managing Urban Stormwater: Source Control
- Fairfield City Council WSUD Strategy Maintenance Provisions
- A rain garden maintenance schedule has been provided in the Water Cycle Report (Section 5.2.2 & Appendix F)

5.2.16 Community Building

Description

The community building will be located at the centre of the valley, at the heart of the community where the major movement corridors meet. Tarlington Parade, Bunker Parade the new street that connects the two and Valley Park bound it. The centre will be active and vibrant and will have a number of uses to ensure this occurs. The community building will form part of the Bonnyrigg Neighbourhood Centre, which comprises the community building, a building suitable of providing a range of commercial activities and the community garden.

The neighbourhood centre will include a purpose designed building for community use including provision of function rooms (for events such as birthday party's and weddings for example), out reach services, the offices of the St George Community Housing and Bonnyrigg Partnerships. The spaces will be designed to be flexible and adaptable for a range of community uses over time.

Source Documents

- Bonnyrigg Social Infrastructure Needs Analysis Final Report – Urbis.
- Bonnyrigg Masterplan – Urbis
- Social Impact Assessment – JSA

Design and Construction Specifications

See the SIA for the details of the services and facilities to be accommodated as part of the renewal in the centre see Section 5.8.2 in the JSA SIA.

The community centre is modelled on best practice principles which include the co-location of community buildings in a multipurpose neighbourhood precinct. Access to the adjoining outside play area will be for general community usage with access limited only for times when the supervised play group is underway to enable delivery of their program to their participants.

A number of the current NGO's currently offer some services for seniors' as part of their programs and it would be expected that these and other programs for seniors' would be operated out of the centre in addition to what would be provided for in the Seniors Precinct.

The provision of larger spaces (hall/meeting rooms) is envisaged to support activities for people with disabilities, children, general community purposes, Guides and training.

Meeting rooms are provided for shared uses as well as a counselling room. A baby health/clinic is also provided along with a commercial kitchen and small business/enterprise development resource room.

Offices are also provided for use by services for NGO's providing services on the estate. These include 5 separate office spaces of various sizes for flexible uses. FCC will own and manage the centre in cooperation with BP.

The specifications for the community building are provided in the table below

Hall	one	Multi-purpose space	Good acoustics	150
Larger shared space/ Meeting rooms	2 x 40 m ²	Shared space – training, meetings etc Total large space for multipurpose use: 230	Seat 25 people each Good acoustics	80
Employment/training/ Small business resource/Equipment room	1 x 20 m ²		Photocopier, fax, IT etc	20
Counselling room	20 m ²	Shared space for confidential interviews	High acoustics	20
Small offices	2 x 24 m ²	Used by NGO's (1 Guides)	Office fit out	48
Medium Offices	1 X 40 m	Used by NGO's	Office fit out	40
Large office	1 x 50	Support Play Group	Office fit out – 9 phone and computer	50

BONNYRIGG INFRASTRUCTURE DELIVERY PLAN

	m ²	Offices	points	
Baby health Clinical/First aid room	1 x 16 m ²	Baby health clinic / doctor / nurse / sick bay		16
Kitchen	1 x 36 m ²		Commercial standard	36
Toilets	3 x		F WC x 3 / M WC x 3 / WC Accessible / baby change table	80
Storage		1 = hall / 1 = Seniors area		15
Office for 2 staff				20
			Subtotal	575
External Buildings				
Men's shed	1 x 36 m ²	Men's shed		36
Garden shed	1 x 10 m ²	Garden shed – seeding area		10
			Subtotal	46
			Total	621
External Other				
Play Area		Soft fall, fencing, play equipment, shed, shade		
Garden		Shading, seeding area, water tank, fence		
Car Park		According to Council requirements		
Fit Out requirements				
Standard		FF&E Included + allow for storage areas in all offices and meeting rooms		
Storage – rooms		Meet the needs of South West Disability Services throughout all areas		
High DDA compliance				
Air conditioning				
Landscaping				
Sustainable Design – rain				

water tanks / recycling for flushing / solar panels for hot water				
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5.2.17 Upgrade of Bonnyrigg Partnership offices

Description

Provide proportional contribution to the upgrading of the Bonnyrigg Partnerships office located within Bonnyrigg Plaza.

Source Document

- Social Impact Assessment – JSA
- Bonnyrigg Social Infrastructure Needs Analysis Final Report – Urbis.

5.2.18 Upgrade of Bonnyrigg library

Description

Provide proportional contribution to expansion or relocation of Bonnyrigg Branch Library. The monies will be made available to support the physical upgrading of the current Bonnyrigg library. FCC will seek grants to leverage additional value from the grants.

Source Documents

- Social Impact Assessment – JSA
- Bonnyrigg Social Infrastructure Needs Analysis Final Report – Urbis.

5.2.19 Provision of community garden

Description

The Developer proposes to develop a community garden, which is important to the community. The garden will:

- Create the opportunity for the community to participate and engage in horticulture.
- Help people eat well and provide a place to keep active.
- Promote learning about the environment with an understanding of garbage reduction, composting, recycling and water usage.
- Potentially provide a source of employment.
- Promote ownership of the estate.
- Involve people in protecting and caring about the estate.
- Teach young people skills.
- Reduce crime and antisocial behaviour.
- Provide a community focus point central to the estate.
- Ameliorate the reduced allocation of private open space across the estate, through provision of privately tendered allotments.
- Grow fresh fruit, vegetables and herbs in a specifically configured space with all necessary facilities provided.
- Promote residents in active compost production.

Community gardens provide a focal point for community development and interaction. They are intended as places where residents come together to undertake self directed projects. While funding is useful in kick starting community gardens it is acknowledged that building up the garden, finding resources for it, creating 'something from nothing' and seeking partnerships to support ventures is in part the process which enables community ownership.

Prior to the construction of Hilltop Park the precise location of the community garden will be agreed between FCC and BP.

Source Document

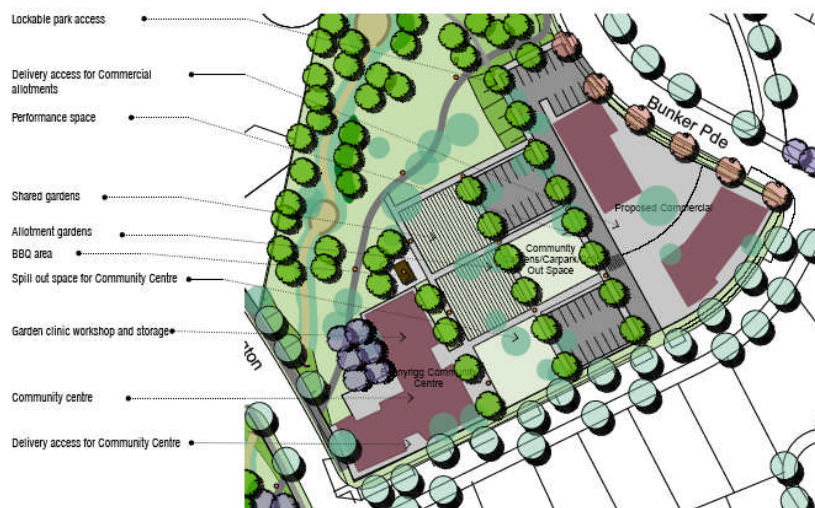
- Bonnyrigg Social Infrastructure Needs Analysis Final Report – Urbis.
- Bonnyrigg Masterplan – Urbis

Design and Construction Specifications

The garden is proposed to be developed to meet the following:

- To be co-located near the community centre.
- Garden to be of the allotment style with access along a series of grid paths.
- Garden to be initially secured with a 2.4m security fence and accessed through community centre.
- Delivery and vehicular access for soils etc to be provided.
- Provision of a shared garden.
- Provide signage inviting all to participate.

The figure below identifies the proposed community garden layout and location.



5.2.20 Provision of public art

Description

Installation of culturally sensitive and appropriate art/painting/sculptures to be provided within open spaces to promote community ownership and pride.

In addition to the current community involvement by BP of this 40% will be available for the **process** of the development of the art works. This will be applied flexibly to meet community needs over the life of the project.

Neighbourhood Arts Strategy (that is, arts activities) would include an ongoing and regular program of creative activities throughout the life of the development to build up skills and encourage social connections between cultures (as well as between existing and incoming residents). The processes and outcomes of the Neighbourhood Arts Strategy would also feed into themes, concepts and designs for Public Artworks on the estate. A proportion of construction costs of the art works will be funded from the construction budget.

- The Neighbourhood Arts Strategy is more than just about art. The collaborative creative process aims to build trust and connections between people in the community.
- Council will assist Bonnyrigg Partnerships to prepare the Neighbourhood Arts Strategy (including purpose, guiding principles, broad strategies, and its connection to public artworks) to best meet the needs of the diverse Bonnyrigg community. Council and Bonnyrigg Partnerships will work together to develop clear milestones and deliverables.
- A process will be established to facilitate cooperation between FCC and BP.

Concepts for Public Artworks across the estate will be developed from the program of creative activities (this is to ensure that the public art concepts genuinely flow from community interests and priorities).

This work will be done by professional artists in consultation with community. The manufacture and installation of the public artwork will be part funded through the construction budget (e.g.: of the parks, gateways, safe routes to school - depending on the location of the public artwork).

The process for the use of this money which includes 5, 6 or 7 major work uses a community arts model which involves the local community in the design and interpretation of the materials.

The usual construction budget would provide for interpretive works along paths, at playgrounds etc. and will also respond to the history and cultural representations of the estate.

These funds are to support the creative arts programs delivered through the life cycle of the project.

BP and FCC agreed to actively identify opportunities to work together on creative/ artistic programs with the community.

Source Documents

- Bonnyrigg Social Infrastructure Needs Analysis Final Report – Urbis.
- Neighbourhood Arts Strategy - FCC

Design and Construction Specifications

The proposed process for community and Fairfield City Council input into choice of artist, location, themes, design (including materials), fabrication and installation of artworks within the common areas is set out below:

- Establish Steering Committee (Environment Project Team) including residents and key staff in FCC and BP
- Review relevant contractual, planning, services and branding documentation
- Seek additional funding for the development of the Neighbourhood Art Plan implementation
- Develop artist's brief and engage artists
- Conduct Community consultation

5.2.21 Youth services

Description

Principles

- There is a Youth Centre in Bonnyrigg which has been recently renovated
- The funding program administration will be carried out by Fairfield City Council

- Program will run for the 30 years of redevelopment
- Grants program will attract greater youth service provision to the Bonnyrigg area
- Grants will target programs for youth 8 to 11 and 12 to 25 years connected with Bonnyrigg.
- Delivery of programs will benefit young people living in Bonnyrigg and will range from centre based activities to external school holiday activities
- A small grants committee will be created to assess project proposals with Bonnyrigg Partnerships invited to participate in the process.
- Fairfield City Council will report allocation and expenditure of funds to Bonnyrigg Partnerships
- Funding will deliver programs that have been identified through FCC strategic planning processes as well as consultation with young people, service providers and relevant stakeholders

Assumptions

- This Youth Centre can meet the needs of young people in the redevelopment area
- Current levels of funding for youth service delivery will not be increased under CSGP review
- Youth Services are funded to deliver programs across Fairfield Local Government area of which Bonnyrigg area is a part of
- Youth centre has wider catchment than estate
- Young people like change and innovation, and a project grants program will allow for change
- Youth services are best placed to provide services for youth
- VPA addresses the needs of the future community as well as the current community

Substantial contributions to youth services will be made as part of the CRSP. The funding for these will be well in excess of this contribution. These programs will be supported over the 30 years of the redevelopment.

Source Documents

- Bonnyrigg Social Infrastructure Needs Analysis Final Report – Urbis.
- Social Impact Assessment – JSA
- Youth Strategy - FCC

5.2.22 **Community Renewal Plan**

Description

Bonnyrigg Partnerships will implement a comprehensive *Community Renewal Services Plan* supporting the community of the renewed area and will oversee all operations to ensure that services are provided in a manner that is consistent with our community renewal principles. In order to achieve this a Community Renewal Services Plan has been developed and will be implemented in an integrated fashion in which the vision for the whole community guides the policies and practices underpinning every aspect of service delivery. This includes the following.

- Fostering a coordinated government and community response to the key social, economic and environmental issues affecting the community.
- Implementing a range of strategic initiatives targeting key issues in the community;
- Strengthening local partnerships and community networks that can address issues in an integrated way.
- Building capacities, skills and leadership in individuals and groups in the community to provide a stronger and more sustainable response to community needs.

- Supporting the strengths of the existing community so that they can play a constructive partnership role in the Project.
- Supporting individuals and the community to cope with significant levels of change.
- Developing strategies to maintain and enhance social cohesion as the community changes.

Source Documents

- Social Impact Assessment – JSA
- Bonnyrigg Social Infrastructure Needs Analysis Final Report – Urbis.

5.3 Timing of infrastructure provision

Breakdown of timing and value of VPA contribution

Stage 1	\$10 Million
Stage 2	\$0.9 Million
Stage 3	\$0.4 Million
Stage 4	\$1.2 Million
Stage 5	\$3 Million
Stage 6	\$3.4 Million
Stage 7	\$0.8 Million
Stage 8	\$1.2 Million
Stage 9	\$0.3 Million
Stage 10	\$0.3 Million
Stage 11	\$0.3 Million
Stage 12	\$0.3 Million
Stage 13	\$1.2 Million
Stage 14	\$0.4 Million
Stage 15	\$0.4 Million
Stage 16	\$1.0 Million
Stage 17	\$0.8 Million
Stage 18	\$0.31 Million
Remaining Years to Year 30	\$1.2 Million

The provision of required infrastructure, community facilities and services to cater for the needs of the community will be provided at defined times in accordance with the staged development plan outlined in the Concept Plan application. This is intended to ensure that infrastructure is provided in a timely way to accommodate the needs of the gradually increased population as the renewal occurs over time. In each case the contribution (by way of works in kind or cash) will prior to the issue of the final occupation certificate for the first residential dwelling in each stage of development.

The following table provides a broad summary of the proposed timing of the infrastructure outlined in above.

Stage	Infrastructure items provided
1	<ul style="list-style-type: none">▪ Upgrade of collector roads within the Bonnyrigg Estate.▪ Works for the provision of roads adjacent to parks.▪ Provision of cycleways within Bonnyrigg Estate and connections to established cycleways outside the Bonnyrigg Estate.

- Refurbishment of Bonnyrigg Partnership office located at Bonnyrigg Plaza.
 - Installation of public art.
 - Contribution of funding for youth services.
 - Contribution of funding for upgrade of Bonnyrigg library.
 - Provision of Community Renewal Services.
 - Construction of detention basins.
 - Provision of gross pollutant traps.
 - Works for the construction and embellishment of the 'Valley Park'.
 - Construction and embellishment of works along creek lines to contribute to site water management to improve drainage, planting, riparian protection and pedestrian crossings.
 - Installation of water quality measures.
- 2
- Contribution of funding for the provision of bus shelters.
 - Works for the construction and embellishment of the 'Valley Park'
 - Provision of cycleways within Bonnyrigg Estate and connections to established cycleways outside the Bonnyrigg Estate.
 - Installation of water quality measures.
 - Provision of Community Renewal Services.
- 3
- Contribution of funding for the provision of bus shelters.
 - Provision of Community Renewal Services.
- 4
- Upgrade of collector roads within the Bonnyrigg Estate.
 - Contribution of funding for the provision of bus shelters.
 - Provision of cycleways within Bonnyrigg Estate and connections to established cycleways outside the Bonnyrigg Estate.
 - Works for the construction and embellishment of the 'Valley Park'
 - Installation of water quality measures.
 - Contribution of funding for upgrade of Bonnyrigg library.
 - Provision of Community Renewal Services.
- 5
- Upgrade of collector roads within the Bonnyrigg Estate.
 - Works for the provision of roads adjacent to parks.
 - Contribution of funding for the provision of bus shelters.
 - Provision of cycleways within Bonnyrigg Estate and connections to established cycleways outside the Bonnyrigg Estate.
 - Works for the construction and embellishment of the 'Hilltop Park'.
 - Installation of water quality measures.
 - Installation of public art.
 - Provision of Community Renewal Services.
- 6
- Upgrade of collector roads within the Bonnyrigg Estate.
 - Works for the construction and embellishment of the 'Valley Park'.

- Installation of water quality measures.
 - Construction of the community building.
 - Construction of the community garden.
 - Refurbishment of Bonnyrigg Partnership office located at Bonnyrigg Plaza.
 - Provision of Community Renewal Services.
- 7
- Upgrade of collector roads within the Bonnyrigg Estate.
 - Contribution of funding for the provision of bus shelters.
 - Provision of cycleways within Bonnyrigg Estate and connections to established cycleways outside the Bonnyrigg Estate.
 - Works for the construction and embellishment of the 'Valley Park'.
 - Installation of water quality measures.
 - Provision of Community Renewal Services.
- 8
- Works for the provision of roads adjacent to parks.
 - Provision of cycleways within Bonnyrigg Estate and connections to established cycleways outside the Bonnyrigg Estate.
 - Works for the construction and embellishment of the 'Junior Play Park'.
 - Construction of detention basins.
 - Provision of gross pollutant traps.
 - Installation of public art.
 - Provision of Community Renewal Services.
- 9
- Provision of Community Renewal Services
- 10
- Provision of Community Renewal Services
- 11
- Provision of Community Renewal Services
- 12
- Provision of cycleways within Bonnyrigg Estate and connections to established cycleways outside the Bonnyrigg Estate.
 - Provision of Community Renewal Services.
- 13
- Upgrade of collector roads within the Bonnyrigg Estate.
 - Provision of cycleways within Bonnyrigg Estate and connections to established cycleways outside the Bonnyrigg Estate.
 - Installation of water quality measures.
 - Provision of Community Renewal Services.
- 14
- Contribution of funding for the provision of bus shelters.
 - Provision of cycleways within Bonnyrigg Estate and connections to established cycleways outside the Bonnyrigg Estate.
 - Works for the construction and embellishment of the 'Valley Park'.
 - Installation of water quality measures.
 - Provision of Community Renewal Services.
- 15
- Provision of cycleways within Bonnyrigg Estate and connections to established cycleways outside the Bonnyrigg Estate.

	<ul style="list-style-type: none"> ▪ Works for the construction and embellishment of the 'Valley Park'. ▪ Installation of water quality measures. ▪ Provision of Community Renewal Services.
16	<ul style="list-style-type: none"> ▪ Works for the provision of roads adjacent to parks. ▪ Contribution of funding for the provision of bus shelters. ▪ Provision of cycleways within Bonnyrigg Estate and connections to established cycleways outside the Bonnyrigg Estate. ▪ Works for the construction and embellishment of the 'Forest Park'. ▪ Works for the construction and embellishment of the 'Village Park'. ▪ Installation of public art. ▪ Provision of Community Renewal Services.
17	<ul style="list-style-type: none"> ▪ Works for the provision of roads adjacent to parks. ▪ Contribution of funding for the provision of bus shelters. ▪ Provision of cycleways within Bonnyrigg Estate and connections to established cycleways outside the Bonnyrigg Estate. ▪ Works for the construction and embellishment of the 'Village Park'. ▪ Installation of public art. ▪ Provision of Community Renewal Services.
18	<ul style="list-style-type: none"> ▪ Works for the provision of roads adjacent to parks. ▪ Contribution of funding for the provision of bus shelters. ▪ Provision of cycleways within Bonnyrigg Estate and connections to established cycleways outside the Bonnyrigg Estate. ▪ Construction of detention basins. ▪ Provision of gross pollutant traps. ▪ Provision of Community Renewal Services.
Remaining Years to Year 30	<ul style="list-style-type: none"> ▪ Provision of Community Renewal Services.

6 Flexibility and Staging of Plan

This IDP will provide clarity on the 'public' infrastructure components provided in the Bonnyrigg Living Communities Project. A key feature of this IDP is the provision for flexibility in time within which Bonnyrigg Partnerships and Council can negotiate refinements or changes to the details of the infrastructure provisions.

Whilst the IDP allows a degree of flexibility within which Bonnyrigg Partnerships and Council can negotiate (if in the interests of the community it is deemed necessary), refinements or changes to the details of the infrastructure, this flexibility is subject to the following limitations and assurances:

- (a) conditions attached to the Part 3A planning approvals for the redevelopment of Bonnyrigg; and
- (b) the Voluntary Planning Agreement (VPA) under which development contributions will be made for the provision of infrastructure and which will place a 'cap' on the total value of the 'public' infrastructure provision required by Bonnyrigg Partnerships throughout the life of the project.

The project will be implemented in 18 stages over a 13 year period to minimise disruption to the existing community. Implementation over a longer period will also minimise lead-ins, temporary connections or dependency upon undeveloped stages for service and access provisions.

Another advantage of staging of the development is that it will enable the upgrade of existing community issues and other infrastructure works to be phased in as the population and the population's needs increase.

Staging of the project will be generally in accordance with the indicative development staging outlined in the Concept Plan. However, Bonnyrigg Partnerships and Council recognise that the stages depicted in the indicative staging plan apply for over a ten year period and accordingly they should only be treated as indicative stages. It may become necessary to amend the staging plan and in this respect subject to the limitations imposed by conditions attached to the Part 3A planning approvals and the Voluntary Planning Agreement (VPA), Bonnyrigg Partnerships and Council will retain the flexibility required to make, (if in the communities interest it is deemed necessary), changes to the staging plan and the carrying out and delivery of development contributions.

In the event that it becomes necessary to make any changes to the staging plan or variations to the carrying out and delivery of development contributions, the Voluntary Planning Agreement (VPA) provides that the parties can reach agreement to vary or modify either the staging plan or delivery of development contributions provided that the parties discuss any suggested variations or amendments prior to the making of any application. This will ensure that the public purpose of any contribution is achieved in conjunction with the development of the applicable stage.