



Enabling Priorities

**Brown Hill and Keswick
Creeks Stormwater Board
Quarter 2 Update 2022/23**

Purpose of the Regional Subsidiary

The Cities of Adelaide, Burnside, Mitcham, Unley and West Torrens have worked collaboratively over several years to form a Section 43 Committee Under the *Local Government Act 1999 (SA)* to develop a Stormwater Management Plan (SMP) aimed at mitigating flood risk within the catchment.

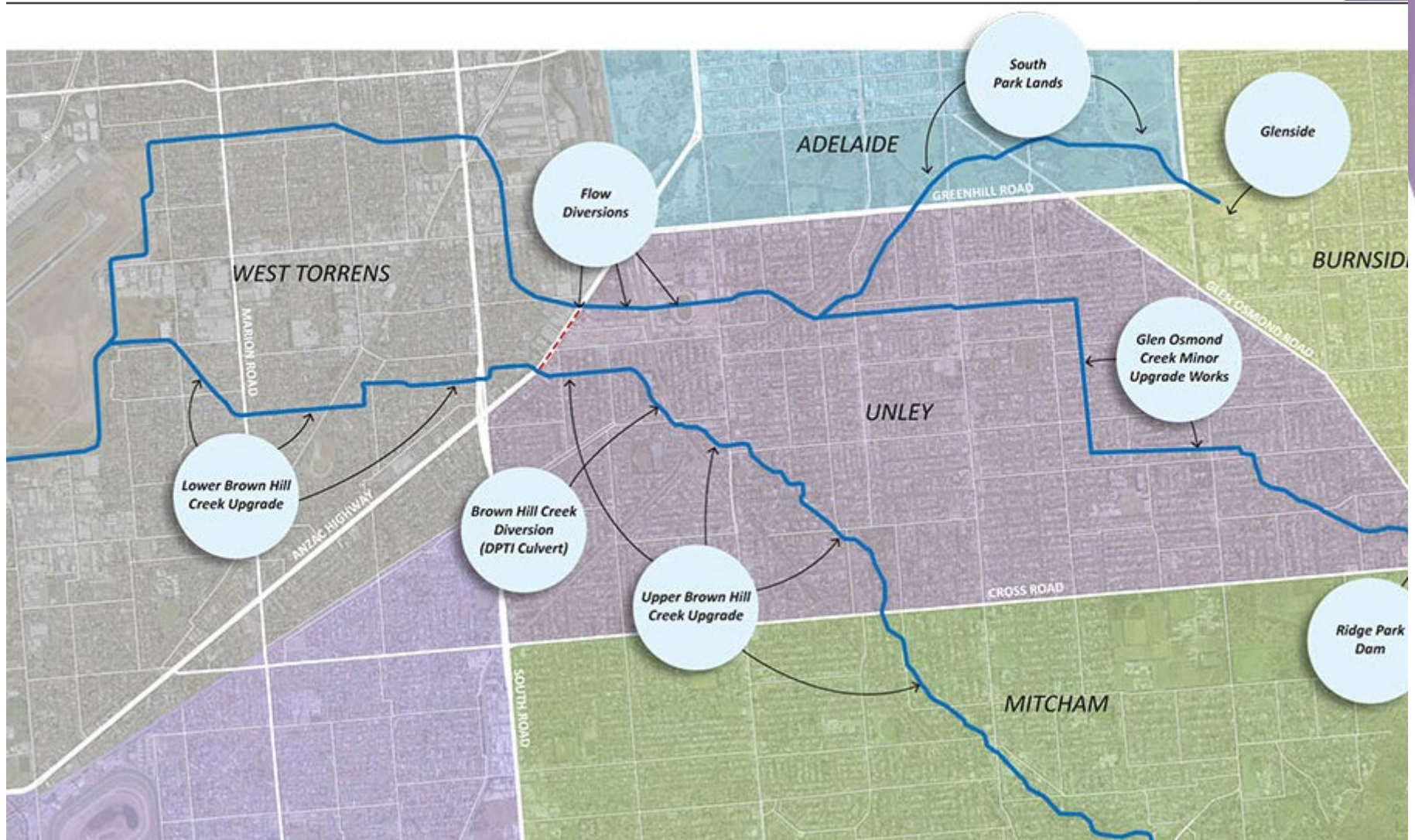
The Subsidiary has a shared vision of becoming 'water sensitive cities' by

- minimising flooding
- harnessing the potential of stormwater to overcome water shortages,
- improve waterway health,
- enhance city landscapes
- be utilised as a valuable community resource.

The vision is underpinned by six key objectives for Adelaide stormwater management:

- Protection from flooding
- Quality of runoff and effect on receiving waters
- Beneficial reuse of stormwater runoff
- Protection of watercourses and riparian ecosystems
- Effective planning outcomes
- Management of stormwater infrastructure

Catchment Area



Brown Hill and Keswick Creeks Stormwater Board

Project Update

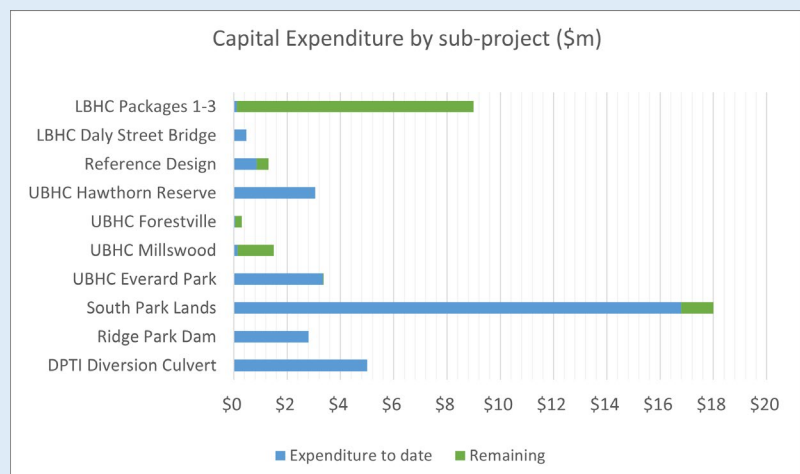
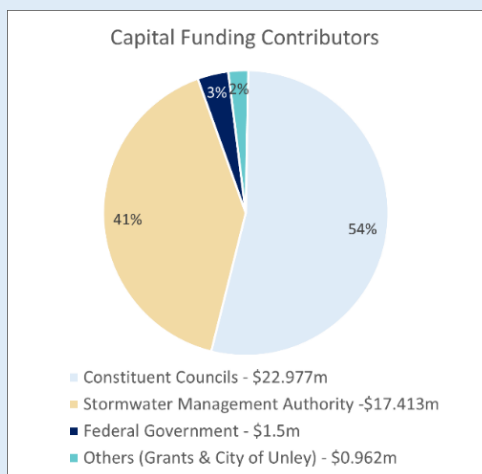
November 2022

This report provides an update to our owner Councils and interested parties on the current financial performance of the Brown Hill and Keswick Creeks Stormwater Board, an overview of capital works projects, and recent activities of interest.

Prepared by Peta Mantzarapis, Project Director

Financial Summary

as at 31 October 2022



FY23 YTD Operating Summary

| | Actual YTD | Budget YTD | Variance \$ |
|--------------------|------------------|-----------------|------------------|
| Income | \$427,796 | \$340,851 | \$86,945 |
| Expenses | (\$199,327) | (\$246,159) | \$46,832 |
| Net Surplus | \$228,469 | \$94,692 | \$133,777 |
| Depreciation | (\$51,036) | (\$51,036) | \$0 |

FY23 YTD Capital Income Summary

| | Actual YTD | Budget YTD | Variance \$ |
|----------------------|-------------|-------------|---------------|
| Constituent Councils | \$1,225,000 | \$1,225,000 | \$0 |
| SMA Funding | \$0 | \$2,250,000 | (\$2,250,000) |
| Federal Funding | \$1,500,000 | \$2,045,553 | (\$545,553) |

Awards

The Brown Hill and Keswick Creeks Stormwater Board and the Cities of Adelaide, Burnside, Mitcham, Unley and West Torrens were awarded the Planning Institute of Australia President's Award for the Victoria Park/Pakapakanthi Wetland. The continuing collaboration between the Councils was commended along with the important benefits provided to the community.

The Australian Water Association's Infrastructure Project Innovation Award was awarded to Tonkin Consulting for their role on the wetland project.





Reference Design

This project involves development of concept designs to the preliminary (30%) design stage for all remaining project works.

Recent Activities

- Stakeholder review comments were received for the Reference Design package for the Upper Brown Hill Creek Upgrades through the City of Unley (Areas 1-4) and City of Mitcham (Areas 5-7).
- Consultation with RAWsa (acting on behalf of Kaurna) regarding cultural heritage management and indigenous participation in the construction phase of the project.
- Ongoing consultation with the developer of the former Le Cornu site at Forestville.
- Collaboration with staff from the Department for Environment and Water to prepare an application for a Disaster Risk Reduction grant to establish a Flash Flood Forecasting System in the Brown Hill Keswick Creek catchment.

- Collaboration with staff from Adelaide Airport Limited to provide technical input to their upcoming flood study of the Airport precinct, including preparation of a draft Data Sharing Agreement with AAL.
- The project continues to receive a high volume of enquiries from property owners along Upper Brown Hill Creek regarding the status of the proposed channel upgrades, and the potential impact of the project on their plans to develop or improve their property. The reference design is being used to inform these discussions.

Next Steps

- Continue attempts to maintain an open dialogue with the North South Corridor team.
- Meet with the Adelaide Showground to discuss alignment options for the Keswick Creek Flow Diversions.
- Cultural heritage survey to be completed for Lower Brown Hill Creek by Kaurna Traditional Owners.
- Complete the stakeholder review process for the Upper Brown Hill Creek Upgrades Reference Design package.

Glenside

This project involved enlargement of an existing detention basin from a capacity of 18ML to 37ML, to limit downstream flow to the existing capacity of the culvert under the Fullarton and Greenhill Roads intersection. The detention basin, together with other works in the South Park Lands reduce the peak stormwater flows along Park Lands Creek and further downstream.

The Glenside site is being developed by Cedar Woods and a condition of Cedar Woods agreement with Renewal SA was that the development include delivery of the detention basin and associated stormwater infrastructure required under the SMP.

Design Review

In November 2021, the Project Director and Technical Advisor met with staff from City of Burnside, Cedar Woods and WGA to discuss matters relating to the operation and maintenance of the Glenside Detention Basin and discuss the performance of the detention basin during rainfall events.

Following the meeting there were a number of actions on Cedar Woods and WGA to complete with BHKC and Council staff regularly requesting updates since that time.

Glenside cont.

In early June 2022 a package of technical documents were issued to Cedar Woods by WGA for internal review. Cedar Woods and WGA are understood to have met in August 2022 to discuss this technical documentation, which is currently being updated prior to release to BHKC and Council.

Maintenance and Operational

A full clean of all 3 GPTs and the internal screens was undertaken in September 2022. The prior clean was undertaken on 30 December 2021 so several months had passed. This clean was requested in May 2022 however several months of wet weather with limited dry periods did not allow for safe access.

The next clean will be undertaken in November 2022, in accordance with the agreed maintenance schedule of every second month (with 6 cleans per year)



South Park Lands

Prior to delivery of the South Park Lands project, predicted peak stormwater flows through Park Lands Creek were about double the creek capacity downstream of Greenhill Road. The South Park Lands projects specifically relates to:

Victoria Park/ Pakapakanthi (Park 16) wetland

Establishment of a 3.2 hectare wetland to provide 100 million litres of flood storage. The wetland comprises areas of permanent water, areas that become inundated with stormwater during regular flow events and a broader flood basin that will only become inundated during more significant flow events.

Blue Gum Park/ Kurangga (Park 20) creek works

Construction of a low-level bund and the realignment of existing open channels in the southern section of the park. The works divert flows into new open channels and detain water on site, releasing flows downstream in a controlled manner. Areas to the north of the bund will be inundated in significant flow events.

Key Messages

The Park 20 creek works have now been completed with Practical Completion being issued to Leed on 30 September 2022. The works are now in the maintenance phase with fortnightly inspections being undertaken. An issue has been identified with the surface level of the containment berm and this will need to be rectified by the contractor.

The wetland is now in its operational phase and there are a number activities that are ongoing, including:

- Consideration of inundation levels during high flow events and decision to lower overflow weir.
- Some flood damage has been recorded on site and repairs are required, including enhancements to increase the durability of the assets to withstand future events.
- The flow of water has destabilised the large rocks used for the informal rock crossing. This crossing has been closed and a solution will be delivered in drier weather.

- Rectification of defects and omissions are 80% complete.
- The timber that was delivered to site for fencing across the existing culvert was rejected due to poor quality. The superintendent's representative has made a determination for alternative product to be used. Water-filled barriers have been installed temporarily.
- The stockpile site is being reinstated with weed removal and hydroseeding underway.

Recent Works and Focus Areas

Ongoing activities for Park 16 wetland include:

- Landscape and maintenance inspections and works (as approved)
- Addressing defects and omissions
- Addressing flood damage caused by rain events
- Resolution of design issues

Remediation works are scheduled to commence on site in late November.

Ongoing activities for Park 20 creek works include:

- Landscape and maintenance inspections and works (as approved)
- Rectification works on the north-western section of the containment mound, where the mound has been found to be lower than designed.



Park 20 - Planting commencing around the new open channels

Upper Brown Hill Creek, Area 1 Everard Park

This project required upgrade of an existing open concrete channel to increase its capacity. The works extend from Anzac Highway, Everard Park to Third Avenue, Forestville and were accelerated due to the adjoining residential development restricting future access. The approved solution included installation of a covered culvert, which allowed for the extension of Wilberforce Walk and establishment of a shared use pathway and landscape improvements at ground level. City of Unley made a financial contribution to achieve the covered culvert outcome. Construction was completed in August 2020 and the site was then handed over to City of Unley for ground-level improvements to be delivered.



Key Messages

1. Practical completion was achieved on 24 August 2020 and the site was then handed over to City of Unley for shared use path works to be delivered. The 12-month defects liability period expired on 24 August 2021 with no issues identified. The site is now well established.
2. The project delivered additional scope to address the City of Unley landscaping requirements and add efficiency to the Council-led works; ie - revised finished levels, fence heights, alignment of pathway and sub-base, light post footings and conduits.
3. The completion forecast is currently at \$3.372m which is \$342k over the original budget sum. This is well within the City of Unley budget allowance for their portion of the project cost. The budget overrun is predominantly due to latent conditions during construction (including discovery of soil contamination, discovery of fuel tanks, uncontrolled fill in the Wattyl site and the associated professional advice), design changes during construction in response to conditions encountered and increased compensation and professional fees associated with land acquisition.
4. Compensation agreement has been reached with all property owners. Agreement has not yet been reached re reimbursement of professional fees for 1 owner.



Lower Brown Hill Creek, Packages 1-3

Packages 1 to 3 of the Lower Brown Hill Creek Upgrade will involve doubling the flow capacity of a 1.7-kilometre-long section of channel beginning at the south-eastern corner of Adelaide Airport and ending at Birdwood Terrace. The channel is primarily situated within a 12-metre-wide reserve owned by City of West Torrens. The upgrades will comprise a 6-metre wide by 1.8 metre high rectangular concrete channel (or an equivalent sized covered culvert) and the upgrade of four crossings using either box culverts or single span bridge structures.

Key Messages

The construction contracts for Package 1A: Channel Upgrade - Keswick Creek to Watson Avenue and Package 1C: Crossing Upgrade - Watson Avenue have been awarded to Camco (SA) Pty Ltd and a preferred supplier has been identified for the precast box culverts which are to be a Principal Supplied Item). There is an option to increase the width of the channel and culverts from 6 metres to 6.8 metres for both Packages 1A and Package 1C. This would mitigate the risk that future flows prove to be greater than the current design flow estimates due to climate change, urban infill and/or contributions from the Council drainage system.

Recent Works and Focus Areas

October activities included:

- Award of construction contracts for Package 1A and Package 1C to Camco (SA) Pty Ltd.
- Engagement of APA Gas and SA Power Networks to undertake their service relocations for Package 1C.
- Investigation of a channel and culvert widening option.
- Completion of the Tree Assessment and Management Plan by the project arborist for Package 1A and Package 1C.
- Lodgement of first bi-monthly PACP Funding Progress Report.

November activities will include:

- Additional soil sampling to test for the presence of PFAS (per-and polyfluoroalkyl substances) in waste soil on Airport Land.
- Airport Building Works Approval for Package 1A (pending the PFAS test results).
- Award of the culvert supply contract (pending the decision on the culvert width).
- Pre-construction planning with service authorities and Camco (SA) Pty Ltd.
- Stakeholder consultation, including notifications and land access arrangements with affected landowners.



Upper Brown Hill Creek, Area 3 Millswood

The property at 14 Avenue Street, Millswood comprises a dwelling constructed over Brown Hill Creek.

Following high flow events in 2016, the portion of creek under this dwelling is subject to erosion issues and requires remediation. A proposal was made for BHKC Stormwater Project to undertake the capacity upgrade works required under the SMP for this property in conjunction with the erosion remediation works, with a financial contribution to be made by the property owner's insurer.

That proposal was subsequently expanded to include delivery of the whole section of works between Avenue Street and Regent Street. The expanded proposal was endorsed by the Board on 26 August 2020 and the Owners Executive Committee on 16 September 2020.

The owner of 15 Avenue Street, Millswood wishes to realign the section of Brown Hill Creek through their property and construct an over-water dwelling. The property is located immediately upstream of the Regent Street to Avenue Street section and the owner has engaged productively with BHKC representatives to integrate their proposal with the Reference Design. On 25 October 2022 the property owner was granted planning consent for their development by the Environment, Resources and Development Court of South Australia and the detailed design of this section of channel is now underway. The owner has proposed that the construction of the channel upgrades through their property be included in the scope of the upcoming Millswood construction contract and this proposal was approved by the Board in November 2022.



Key Messages

The detailed tender evaluation has been completed for the construction contract and the Board approved a recommendation for contract award in November 2022 with construction scheduled to commence in January 2023. It is no longer proposed to procure the box culverts as Principal Supplied Items as the preferred tenderer was able to offer comparative pricing for supply under the construction contract. Service authority relocations have commenced.

Consultation and negotiations with affected landowners are continuing with a view to finalising the land access arrangements in the coming weeks. A formal easement acquisition process is proposed to mitigate the risk of negotiations with owners being unsuccessful.

Recent Works and Focus Areas

October Activities included:

- Negotiation with landowners and completion of Land Acquisition Plans for each affected property.
- Completion of the Request for Quotation for culvert supply.
- Execution of agreements for service authority relocations and commencement of works by SA Water and APA Gas.
- Consultation with staff from the City of Unley.
- Completion of Issue for Construction drawings for Avenue Street to Regent Street.
- Commencement of detailed design for channel upgrades through 15 Avenue Street.
- Detailed evaluation of the construction tenders.

November activities include:

- Award of the construction contract.
- Property valuer to provide assessments of compensation for easement acquisition.
- Stakeholder consultation, including notifications and progressing the land acquisition, access and compensation process with affected landowners.

Upper Brown Hill Creek, Area 1 Forestville

The Area 1C – Leah Street to Ethel Street reach of Upper Brown Hill Creek is situated in a Council owned drainage corridor (fenced between private properties), except where it passes through 16 and 18 Ethel Street. A proposed development at 18 Ethel Street (currently vacant land) has been approved by Council and will include the construction of 3 townhouses, including one townhouse at the eastern end of the allotment that will span the channel. The height of the existing concrete channel needs to be raised by 0.6 metres, over a length of 175 metres from Leah Street to Ethel Street, to contain the 1% Annual Exceedance Probability (AEP) design flow.

Key Messages

The detailed tender evaluation has been completed for the construction contract and the Board approved a recommendation for contract award in November 2022 with construction scheduled to commence in January 2023. The construction of these works was tendered as part of the tender for Upper Brown Hill Creek, Area 3 Millswood.

Consultation and negotiations with affected landowners are continuing with a view to finalising the land access arrangements in the coming weeks.

Recent Works and Focus Areas

October activities included:

- Negotiation with landowners and completion of boundary survey for each affected property.
- Consultation with staff from the City of Unley.
- Detailed evaluation of the construction tenders.

November activities will include:

- Award of the construction contract.
- Stakeholder consultation, including notifications and progressing the land acquisition, access and compensation process with affected landowners.
- Stakeholder consultation, including notifications and land access arrangements with affected landowners.

