ACT Government
Environment, Planning and Sustainable Development

Cabinet

Cabinet Coversheet

MINISTER	**Minister for Housing and Suburban Development - Yvette Berry MLA**
SUBJECT	Exposure draft of Cabinet item 'Ginninderry Stormwater Re-use Initiative'
CABINET NUMBER	21/352
CABINET DATE	Tuesday, 30 November 2021
LODGEMENT DATE*	Monday, 1 November 2021

	Cleared by:	Date:
Director-General		
Chief Executive Officer	John Dietz	27/10/21
Cabinet Liaison Officer	Francesca Yang	19/10/21
Executive Group Manager		
Legal Services Team**		
Communications Team**		
Finance Team**		
Division: Suburban Land Agency – Development Delivery		
Contact Officer: Gareth Burdon	Telephone No: Personal information	

Further Action/Comment:
.....
.....
.....
Signature:

Exposure circulation = 4 weeks prior to Cabinet / Final lodgement = 10am, one week prior to Cabinet
****Contact Officer - please list your consultation contact on this coversheet prior to provision to CLO***

ACT Government
Environment, Planning and Sustainable Development

CABINET

MINISTERIAL BRIEF

To:	Minister for Housing and Suburban Development	**Cabinet No.: 21/352** Rec'd Minister's Office …/…/…
From:	Chief Executive Officer, Suburban Land Agency	
Subject:	Exposure Draft Lodgement of Cabinet item 21/352 West Belconnen (Ginninderry) Stormwater Harvesting Project	
Critical Date:	1 November 2021	
Critical Reason:	To allow all directorates to review the draft submission and provide comments.	

- DG …/…/…

Purpose
To seek agreement to the draft submission and associated attachments to undergo exposure circulation.

Recommendations
That you:

1. **Note** the information contained in this brief;

Noted / Please Discuss

2. **Agree** to lodge the draft Cabinet submission and associated documents for exposure circulation; and

Agreed / Not Agreed / Please Discuss

3. **Agree** to John Dietz attending the Cabinet meeting to provide support and further advice to the submission.

Agreed / Not Agreed / Please Discuss

Yvette Berry MLA …….. …../…../…..

Minister's Office Feedback

Background

1. The topography of the Ginninderry development site is challenging given the natural slope towards the Murrumbidgee River, which creates potential environmental risks for the river corridor from stormwater run-off and the damage that this would inflict upon the nigh value habitat through these areas, which are home to a range of threatened and endangered species.
2. The significance of this issue is highlighted in the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) planning approval, which includes a requirement for the Ginninderry Joint Venture (GJV) to minimise stormwater run-off into the local environment.

Issues

3. To meet the requirements of the planning and environmental approvals, a series of containment ponds have been designed as part of the overall Ginninderry Master Plan. These ponds will be used primarily for the capture and storage of stormwater run-off from within the development. The utilisation of stormwater needs to be considered strategically in the context of the financial, ecological, community and social impacts.
4. The management of stormwater also forms part of Ginninderry's six-star green star rated communities which has recently been recertified for a further five years.
5. Three stormwater management options were considered:
    a. A utility – considered a viable alternative that was progressed to a business case.
    b. A transfer pipeline – discounted prior to business case stage given ecological impact and financial cost.
    c. Aquifer recharge/ groundwater injection – discounted prior to business case stage given expert advice that existing hydrological experts deemed the under lying geology of the Ginninderry development unsuitable for this type of initiative.
6. A business case model was developed to consider the utility-based options for the stormwater re-use initiative, these included:
    a. Icon Water – discounted as Icon Water don't manage stormwater infrastructure
    b. Transport Canberra and City Services Directorate (TCCS) – considered viable given TCCS's management of existing stormwater infrastructure.
    c. GJV short-term, TCCS long-term – considered viable given the GJV's need for a stormwater management initiative.
    d. Private Ownership – discounted given the investment risk for establishing a one-off utility.
7. Ultimately the business case model identifies that the best option for both TCCS and the GJV is for the GJV to manage and operate the utility for the first five years. This allows for the GJV to establish the stormwater re-use initiative and work through any operational and management issues prior to handing over the infrastructure to the Territory (TCCS).

Financial Implications

8. Financial details are noted below in the table.

	21-22FY ('000)	22-23FY ('000)	23-24FY ('000)	24-25FY ('000)	Total ('000)
Capital Impacts - Capital (Recommendation 1) - Capital (Recommendation 2)		1,411			1,411 -
Expense Impacts - Expenses (Recommendation 1) - Expenses – Depreciation - Expenses (Recommendation 2) - Expenses – Depreciation		154 63 - -	156 60 - -	164 57 - -	474 180 - -
Revenue/Savings Recommendation 1 - Revenue - Savings - SLA Dividend (interest on capital) Recommendation 2 - SLA Dividend (Profit Allocation)		- (8) (130)	228 7	461 144	689 (8) – Note 1 21 – Note 2
Staff Impacts					-

- Note 1 Assumes that distributions will be reduced to cover capital costs and therefore SLA will not have money in the bank. Amount is lost interest at 1%pa.
- Note 2 This assumes that the profits from the utility will flow to the participants in accordance with the shares in the JV.
- Note 3 Dividend distributions from the SLA are dependent on profitability and working capital requirements and the above calculations are for demonstration purposes only.

9. Upon any transfer of the infrastructure to TCCS an annual appropriation from Treasury will be required for operation and management.

Consultation

Internal

10. The Suburban Land Agency, Chief Finance Officer.

Cross Directorate

11. TCCS, A/g Executive Group Manager City Operations:
    a. All commentary on initial drafts have been incorporated into the submission.
    b. No objections to proceeding to exposure draft process.

12. Treasury, Executive Branch Manager and A/g Executive Branch Manager Central Agencies.
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External

13. Numerous independent water sensitive urban design experts have provided input into the project over the last two years.

Benefits/Sensitivities

14. There are significant benefits to both the GJV and the Territory, including allowing the GJV to maintain their EPBC Act 1999 conditional approval as well as the extensive community and

social positives of having expansive well maintained open areas. There are benefits to the Territory including trialing of a new stormwater re-use initiative under a cost sharing arrangement with a private developer and a handover after five years ensuring proof of concept.

15. There is potential to sell stormwater to customers like the West Belconnen golf course and likely additional customers when more commercial enterprises commence within the Ginninderry development footprint.
16. The main sensitivity involves the increased maintenance of urban areas within Ginninderry that aren't serviced by TCCS in other suburbs. Further, upon any transfer to TCCS an ongoing Treasury appropriation will be required for TCCS to manage and operate the utility. This will be offset by the revenue opportunities available to the utility.

Media Implications

17. No media implications expected.

Signatory Name:	John Dietz	Phone:	6207 5346
Action Officer:	Gareth Burdon	Phone:	Personal information

Summary of Attachments

1 – Cabinet submission

A – Table of Comments
B – Open Access Information release
C – TBL Assessment
D – Stormwater Management Options
E – TCCS Priority Irrigation Areas
F – Modelling Results
G – Regulatory Impacts
H – Ginninderry Stormwater Harvesting Facility Program

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Environment, Planning and Sustainable Development

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Yvette Berry MLA 03/11/21

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ACT Government

CABINET SUBMISSION

21/352

Title	West Belconnen (Ginninderry) Joint Venture – Stormwater Harvesting Project
Meeting type	Cabinet
Minister	Yvette Berry MLA Minister for Housing and Suburban Development
Cabinet date	Tuesday, 30 November 2021
Status	EXPOSURE DRAFT
Relationship to previous decisions	3 December 2019: Economic Development Sub-Committee – Update 23 November 2020: Economic Development Sub-Committee – Update
Purpose	To seek Cabinet's agreement to the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development.
Category	Category 2 - Government business
Financial impact	Yes
Treasury agreement	Yes Date provided for Treasury agreement: 11/10/2021 Date of Treasury agreement 13/10/2021:
Is ERC consideration required?	No If yes, select ERC meeting date: Select meeting date
Legislative change	No - change to legislation not required
Regulatory impact	Yes There are several regulatory processes that apply to the Ginninderry Stormwater Harvesting Project – these have been outlined as an attachment to this submission.
Triple Bottom Line assessment	Yes - see attachments

RECOMMENDATIONS

1) I recommend Cabinet agree:

the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development;

the Ginninderry Joint Venture funding, designing, procuring, building, operating and maintaining the stormwater harvesting facility as a business unit for at least the first five years of its operation;

the additional level of service is provided for Ginninderry in the irrigation of Priority 2 and 3 areas (areas not normally maintained by TCCS at Attachment E). Upon any transfer to Transport Canberra and City Services this would need to be funded via an anticipated annual budget appropriation of $55,000 per annum, totalling $1.1m over the 20-year period;

a further submission be brought forward no later than 31 July 2024 to determine long-term management arrangements for the utility;

the implementation program presented at Attachment H.

2) I recommend Cabinet note:

a. the planning approval conditions for the Ginninderry Joint Venture under the *Environment Protection and Biodiversity Conservation Act 1999* require specific actions to control excess stormwater run-off from the development into the Murrumbidgee River;

b. work to date has explored a variety of options and has identified the establishment of a utility as the preferred approach to manage and operate any future stormwater harvesting initiative;

c. that any transfer of the utility from the Ginninderry Joint Venture to Transport Canberra and City Services will have a positive budget impact from a Whole of Government perspective (60% Suburban Land Agency loss on disposal but 100% gain to Transport Canberra and City Services). Further there would likely be a positive revenue gain, on-going revenue from the utility, for Transport Canberra and City Services which would have an uplift to Government budget;

d. Significant scenario-based financial modelling has been undertaken in support of this submission and this analysis suggests that the revenue generated from the sale of the treated stormwater should meet the capital and operational costs of the utility at prices that are lower than those currently being charged in the market.

3) I recommend Cabinet note:

a. the advice to the Chief Minister on the release of the Cabinet Decision Summary (Attachment B) as required under Section 23 of the Freedom of Information Act 2016; and

b. the following summary to be released.

i. Cabinet agreed to the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development.

SUPPORTING ARGUMENT

BACKGROUND

1) The Ginninderry Joint Venture (Ginninderry JV) is a 30 to 40-year development project in West Belconnen that will see 11,500 dwellings delivered in the ACT and nearby NSW. The ACT Government is a 60 per cent partner in the Joint Venture, with Riverview Projects Pty Ltd holding the remaining 40 per cent.

2) The topography of the Ginninderry development site is challenging given the natural slope towards the Murrumbidgee River, which creates potential environmental risks for the river corridor from stormwater run-off and the damage that this would inflict upon the nigh value habitat through these areas, which are home to a range of threatened and endangered species.

3) The significance of this issue is highlighted in the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) planning approval, which includes a requirement for the Ginninderry JV to minimise stormwater run-off into the local environment.

4) There is also a broader policy context to this issue, with an emphasis on integrated water management and water sensitive urban design being expressed across several ACT Government policy documents.

   a. The *ACT Water Strategy 2014-2044* provides a 30-year strategy for the management of the ACT Government's water resources. It emphasises integrated water management and green infrastructure (vegetation and waterbodies) in the urban context to slow runoff, ameliorate flooding, reduce pollutants and sediment entering waterways, and improve the ACT's resilience to climate change.

   b. The *ACT Planning Strategy 2018* supports the *ACT Water Strategy* by identifying initiatives and actions to protect waterway assets and support water sensitive urban design (WSUD) in urban development and planning. The Planning Strategy includes actions to update the ACT's WSUD Code to ensure the entire water cycle is considered early in the planning and design of new urban areas.

   c. The *ACT Climate Change Strategy 2019-25* also references the need to create liveable urban spaces, indicating that … "*the impacts of a changing climate on people, infrastructure and services will be well-managed and urban heat impacts will be reduced by an established network of street trees, waterways and parks supported by healthy soils*".

d. Finally, the *Living Infrastructure Plan: Cooling the City* sets a framework for maintaining and enhancing trees, soils and waterways to keep Canberra cool, healthy and liveable in a changing climate.

5) The emphasis on integrated water management approaches in the ACT is mirrored at the national level. A recent report by the Productivity Commission into the progress of Australian governments in achieving the objectives, outcomes and timelines anticipated under the *Intergovernmental Agreement on a National Water Initiative* identified several actions to improve urban water and stormwater management in Australia.

Managing stormwater run-off at Ginninderry

6) To meet the requirements of the planning and environmental approvals, a series of containment ponds have been designed as part of the overall Ginninderry Master Plan. These ponds will be used primarily for the capture and storage of stormwater run-off from within the development, however, they will also give rise to several other benefits as outlined below.

   a. *Minimising urban heat island effect* — urban areas can be up to 3-10 degrees hotter than nearby rural areas if urban heat island effect is not actively managed.

   b. *Supporting public health outcomes* — green areas have been shown to improve mental and physical well-being.

   c. *Contributing to resilience of cities* — mitigate climate change and effects of sudden weather events.

   d. *Supporting local biodiversity* — provide critical vegetation and structures for flora and fauna, with recent studies showing 30 per cent of Australian threatened species exist in and around cities.

   e. *Reduced portable water use* — the network (Priority 1 areas) would substitute potable water currently used for irrigation with fit-for-purpose stormwater.

7) Acknowledging the need to consider the delivery and broader management of these ponds, the Ginninderry JV, the Suburban Land Agency (SLA) (acting as Agent for the ACT Government in the Ginninderry JV), Transport Canberra and City Services (TCCS) and ACT Treasury established a Ginninderry Stormwater Reuse Working Group in 2018 to facilitate cross governmental engagement on this project.

8) To support the Working Group, the Ginninderry JV engaged several WSUD consultants to examine the costs and benefits of various stormwater management options, which include a bypass pipeline, managed aquifer recharge, groundwater injection and a stormwater reuse. Only the stormwater reuse option was considered viable and prosecuted further. The following explains why the bypass pipelines, managed aquifer recharges and groundwater injection weren't included in the options analysis.

a. Bypass pipeline – in the early planning stages of the stormwater reuse initiative a consultant report identified a bypass pipeline, 17km long large diameter pipe, at an estimated $12m, not including contingencies or environmental / aesthetic impact on the Conservation Corridor. This option was discounted as unviable.

b. Groundwater Injection / Managed aquifer recharge – a Water Sensitive Urban Design expert analysed a managed aquifer recharge and groundwater injection options for stormwater management. It concluded that hydrogeological information such an option would have limited capability and significant investigation costs would be required with no guarantee of success. These options were discounted as unviable.

9) On 3 December 2019, representatives from TCCS and the SLA made a presentation to the Economic Development Sub-Committee of Cabinet on the work-to-date, highlighting the similarities between this proposal and the Sullivans Creek and Inner North Reticulation Network and indicating an emerging preference towards the establishment of a utility to manage the project once operational. The Sub-Committee noted the stormwater reuse concept and preferred utility option with the requirement to return to Cabinet.

10) There was a further update paper presented by the SLA on 23 November 2020 indicating the utility model as the preferred option and recommending the proposal proceed to the business case stage.

ISSUES & OPTIONS

11) Since these presentations to the Economic Development Sub-Committee of Cabinet, two substantial pieces of work have been undertaken — a detailed review of the issues, implications and options for the utility and its management, and detailed financial modelling of the proposal.

12) Notwithstanding the previous intent to bring this matter forward as a budget business case, it was ultimately suggested by Treasury that a Cabinet submission would be preferable given the previous engagement with the Economic Development Sub-Committee and the regulatory matters that are canvassed herein.

A Stormwater Utility

13) The Ginninderry JV commissioned a review of the following four utility management and ownership options:

a. Icon Water

b. TCCS

c. Ginninderry short term; TCCS long term, and

d. Private ownership.

14) Further detail on these options, including an analysis of the strengths and weaknesses of each, is provided at Attachment D.

15) The Icon Water option was discounted as stormwater management does not align with its business model, while the option of a private utility was also ultimately rejected. It was considered unlikely a private utility would be willing to invest in the development of a local ACT capability for establishment of a one-off utility of this nature. Furthermore, there may be some risk with the establishment of a private utility given the importance of the utility to manage both environmental and commercial outcomes. To establish a regulated private utility in the ACT would also require a legislative change (unlike NSW where private utilities can operate under the *Water Industry Competition Act (1994)*).

16) Therefore, in consultation with the Ginninderry Stormwater Reuse Working Group, these four options were discounted to two:

    a. TCCS; and

    b. Ginninderry short term; TCCS long term.

17) There are two important dimensions to consider when reviewing the remaining two utility options:

    a. Governance and management of the utility —
        i. Which organisation is best placed to manage the utility initially?

    b. Scope of services and assets to be managed by the utility:
        i. How far does the scope of utility services go i.e. would it extend beyond areas traditionally maintained by TCCS after asset handover (e.g. parks and playing fields) to areas not traditionally maintained by TCCS (such as verges and, potentially, Magpies Golf Club)?

18) In determining an appropriate level of service provision, it is important to consider that Ginninderry is intended to be an innovative and world leading development and that there are a variety of amenity and maintenance requirements that are necessary to achieve the target green star community rating. Ultimately this will mean that the level of service provided to this area may differ to other suburbs in the catchment, however, this will ultimately be captured in the land price and the commensurate increase in rates payable by the new residents.

19) While there are some parallels between this proposal and the Sullivans Creek and Inner North Reticulation Network, it is the view of the Ginninderry JV that there are sufficient differences and sensitivities that warrant a different approach for this project. The Ginninderry JV is recommending as a starting point that it fund, design, procure, build, operate and maintain the stormwater harvesting facility as a business unit for at least the first five years. This provides stability and reliability during the ramp up and implementation stages.

a. Further detail on organisation, design and ownership is provided later in this submission.

Financial Analysis

20) Recognising that a conclusion on appropriate governance and management is not possible in the absence of detailed financial analysis, the Ginninderry JV commissioned a piece of work to understand the expected whole of life impact of the stormwater reuse infrastructure, in particular the ability for the infrastructure to recoup some capital and operational costs under a recycled water utility-style business model.

a. The modelling draws on engineering, hydrological, quantity survey, Government and market research to determine a range of whole of life financial outcomes and investment metrics.

b. It also determines expected investment outcomes utilising a range of prices at which recycled water can be sold, and then tests sensitivity of the outcomes to different assumptions.

21) The business case modelling covers expected operations of a stormwater reuse facility over a 20-year period. The facility collects and distributes water from the aforementioned containment ponds through infrastructure to end users in and around the Ginninderry development.

a. The model assumes that the current joint venture partners are accountable for all funding relating to design, procurement, building, operation and maintenance of the facility for at least the first five years.

b. After the first five years there are a range of options available to the Joint Venture partners. The business case is developed on the basis it is indifferent to the ownership structure. That is, run efficiently under any ownership structure the facility should generate similar approximate whole of life impacts.

c. The modelling includes some administrative overheads, on-going regulatory compliance costs and estimates residual or 'terminal' values to support future asset allocation decisions of the ACT Government.

22) It is assumed that the facility will be progressively developed consistent with the wider Ginninderry development. The water storage infrastructure is expected to occur over three phases: three ponds by late 2022, an additional two ponds by late 2025 and a final pond by late 2030. The supporting irrigation and water distribution infrastructure is expected to be developed as one project and be completed during 2022.

23) The business model therefore front ends infrastructure development, and progressively increases water supply as new ponds come online. The model considers the infrastructure aspects as fixed costs, which determine the feasible long-term supply of water.

24) The stormwater to be stored in the infrastructure is a function of rainfall, run off and reuse. The expected levels have been estimated by hydrological experts based on 10 years of rainfall data within the catchment. The experts assessed 25th, 50th and 75th percentile likely rainfall and the business case modelling adopts the 50th percentile as a baseline for the 20 years of operation and uses the alternatives as scenarios to test the range of potential outcomes.

25) The business model works on the basis that stormwater will be available for purchase by three potential customer groups:

a. TCCS, who will irrigate and maintain public spaces in the Ginninderry development. This is a proxy for total neighbourhood supply.

b. The Magpies Golf Club, who will purchase water to increase reliable irrigation supplies at a lower cost than alternatives.

c. An 'other' category, which may be other public or private entities who may become customers at some point in the future, depending on need and the potential for the facility to supply additional water.

26) The stormwater strategy differentiates neighbourhood supply into three priorities - Priority 1, 2 and 3 as detailed at Attachment E - but effectively scales up based on the highest need to the least highest need of physical spaces that will require irrigation to maintain natural and aesthetic urban spaces and community infrastructure.

27) Typically, TCCS will only assume financial responsibility for irrigating the Priority 1 areas, however, as noted above Ginninderry is intended to be an innovative and world leading development and there are a variety of amenity and maintenance requirements that are necessary to achieve the target green star community rating and to meet the aspirations detailed in the marketing documentation for the estate.

28) In recognition of these commitments, there has already been a significant upfront investment in soft landscaping (shrubs, trees and turf) in Priority 2 and 3 areas as detailed below and it is important that these areas be appropriately maintained moving forward to recognise this investment.

a. Green Link: $130,000

b. The Grove: $40,000

c. Hilltop (includes the park at the top and the planting along the bottom of the wall): $145,000

d. Green Wedge: $60,000

29) The business case model relies on parameters and assumptions that interact to generate financial and investment outputs, with three groups of inputs driving the model.

a. the irrigation water balances

b. infrastructure expenditure estimation, and

c. prices customers may be willing to pay.

30) The modelling outlines likely supply of water to the different customers based on the phases:

a. Phases 1, 2 and 3 meet all the Priority 1 supply.

b. Priority 2 and 3 supply is progressively met as more supply becomes available and more area is irrigated using stormwater.

c. Golf course supply is constrained as a residual based on the difference between total feasible supply and neighbour priorities. No phase meets all the potential demand from the golf course, however, if supply increases it can be allocated to the golf course as additional supply.

31) The patterns modelled are summarised in Table 2 at Attachment F.

32) The infrastructure expenditure parameters are based on detailed unit pricing schedules for the equipment required to build the stormwater harvesting facility. The two main components are initial capital expenditures and consequential operational expenditures.

a. Initial capital expenditures are outlined in Table 3 at Attachment F. The data shows a build up from a minimum investment to get the utility started and includes additional works with an allowance for contingency.

b. The 20-year net present value (NPV) of the consequential operational expenses are summarised in Table 4 at Attachment F and cover mostly labour and supplies for repairs and maintenance.

33) The modelling assumes that customers will pay for the stormwater they are supplied from the facility. Based on research and analysis of comparable and alternative recycled water sales, the price assumed in the baseline model is $1.80/kL for TCCS, Golf course and other customers.

a. This pricing is tested using scenario assessments and suggests a 63.5 per cent discount compared to the marginal Icon Water potable price ($4.94/kL above 50kL).

34) After 20 years the model assumes a residual value of the asset based on a salvage value. This salvage value is the written down value of the capital expenditures at year 21 based on the Australian Taxation Office diminishing value method for an asset with a 45-year economic life.

35) The business model generates time series results over 20 years for revenues, capital expenses and operational expenses, then summarises these into NPV and nominal totals. The totals are compared to estimate total costs, total capital expenditure (capex), operational expenditure (opex) and total revenue.

36) These totals are then compared to estimate the net impact (revenue less costs), benefit to cost ratios, the net benefit to investment cost ratio and the internal rate of return.

    a. Table 6 at Attachment F summarises the results of the business model. At $1.80/kL the business model demonstrates revenues meet all capex and opex and generates a minor surplus. If capex is assumed as a sunk cost, then the returns to opex are significantly higher.

    b. Table 7 at Attachment F summarises the total costs annually over the 20 year period.

Modelled impact on Government

37) As a Ginninderry JV partner the ACT Government will participate in the costs and revenues during the duration of the project. This suggests the ACT Government could share in approximately $2.6 million of net nominal returns over the period to 2041.

38) Assuming TCCS will be required to cover the cost of water acquisition to irrigate public spaces in the development in future years, there is the possibility TCCS can make significant savings on recycled water purchasing. The modelling has been used to estimate that:

    a. If TCCS purchased Priority 1 volumes through the facility over the modelling period, the total nominal cost would be $1.3 million, compared to $3.5 million at potable prices or, $2.6 million at 75 per cent of the Icon Water marginal price.

    b. If TCCS purchased Priority 1, 2 and 3 volumes through the facility over the modelling period, the total nominal cost would be $4.6 million compared to $12.5 million at potable prices or $9.4 million at 75 per cent of the Icon Water marginal price.

    c. TCCS savings are potentially significant, but not factored into the benefits assessment of the project.

39) While the figures outlined above suggest substantial savings from utilising water from the facility over potable water, it is important to note that they also assume that TCCS will irrigate Priority 1, 2 and 3 areas — this is against a base case where TCCS would traditionally irrigate Priority 1 areas only.

    a. The savings to TCCS with Priority 1 alone are up to $2.2 million, however, this will not be sufficient to cover the additional cost of irrigating Priority 2 and 3 areas, meaning TCCS will require additional funding of approximately $1.1 million over 20 years to cover Areas 2 and 3, against the base case.

b. As noted at Paragraph 37 above, there are expected to be revenue flows to the ACT Government arising from the facility and the Territory's ownership share of the JV —in nominal terms, these are estimated at $1.56 million, more than offsetting the additional cost to TCCS.

c. Furthermore, as noted at Paragraph 28 above, there has already been a significant upfront investment in soft landscaping (shrubs, trees and turf) in Priority 2 and 3 areas — almost $400,000 — and it is important that these areas be appropriately maintained moving forward to recognise this investment.

Modelled impact on the golf course

40) The prices paid by the Magpies Golf Club for recycled water have fluctuated dramatically. In nominal terms the price has increased from $0.61/kL in 2011-12, to $1.24/kL in 2016-17, reaching $2.40/kL in 2020-21. There is no clear forecast for prices the golf course will pay in the future.

41) The business model base year price of $1.80/kL is significantly lower than recent price experience, and conservative projections of future equivalent prices. The price differences are summarised in Table 6 at Attachment F and show that compared to 2020 pricing, the saving is $0.74/kL over the next 20 years.

42) The impact of purchasing through the facility will be positive for the golf course compared to alternative supplies. If the golf course purchases the volumes specified over the modelling period, the total nominal cost would be $2.3 million. This compares to $6.4 million at potable prices, $4.8 million at 75 per cent of the Icon Water marginal potable price, or $3.1 million if the 2020 actual price was indexed. Under any of these scenarios, the total cost would be lower.

43) It is also worth noting that if TCCS does not purchase the Priority 1,2 and 3 volumes as modelled, there is excess demand for stormwater which could be allocated to the golf course that would increase the savings without impacting the business modelling results.

Revenue Risks

44) While the modelling to date has included sensitivity analysis to take account of various factors, it is important that Cabinet note that the baseline revenue assumptions for the stormwater facility are subject to several risk factors:

a. Rainfall – although the modelling has taken a long-run average, sustained periods of lower-than-average rainfall will impact supply

b. Magpies Golf Club – the modelling assumes significant to sales to the Golf Club. While this is a reasonable assumption given discussions to date, there are no guarantees that demand from this source will be sustained through the life of the project.

c. Finally, the model has incorporated an 'other' category of buyer – this may not eventuate.

Organisation, Design and Ownership

45) The Ginninderry JV is recommending as a starting point that it fund, design, procure, build, operate and maintain the stormwater harvesting facility as a business unit for at least the first five years. This provides stability and reliability during the ramp up and implementation stages.

46) A formal legal structure will be resolved once the facility receives regulatory approval, however, it will most likely be a subsidiary proprietary limited company.

47) Beyond five years the appropriate organisation design and ownership will depend on the preferences of the Ginninderry JV partners. These preferences will be influenced by the expected life of the assets, currently being around 45 years.

48) There are several options that are feasible:

a. Do nothing: continue with a Ginninderry JV based on the current arrangement.

b. Change ACT Government JV partners: transfer the ACT Government portion to the TCCS entity.

c. ACT Government ownership: transfer all ownership to either the SLA or TCCS.

d. ACT Government exit: ownership is transferred to the Riverview Group and ACT Government no longer retains any equity.

e. Hybrids: This option could include a combination of ACT Government exit, Riverview exit and third-party ownership options. For example, a proportion could be sold to Icon Water or to the Magpies Golf Club.

49) In the short term, the first five years, doing nothing is the preferred approach. This will ensure stable implementation of the stormwater reuse facility. In the longer term:

a. Doing nothing is a feasible option, however it suggests an obligation on the Ginninderry JV partners to maintain a relationship for the life of the asset.

b. A transfer of ACT Government share ownership is feasible. It would shift control from the public non-financial corporation sector to the general government sector. The main consequence of this would be a change in impact on the headline net operating balance, and increased control of the assets in the general government sector. In general TCCS, as existing stormwater asset owner, has a higher interest in the operation so a transfer to this entity is preferred.

c. A complete internalisation of the entity into ACT Government is feasible and will incur similar issues with sector transfer. The unknown is the preference of Cabinet for acquiring a commercial entity within a government sector agency, and the impact it may have on operations. It should be noted that TCCS already operate the Inner North Stormwater Reticulation Network which has many similarities to the stormwater reuse at Ginninderry.

d. A hybrid approach or privatisation is feasible, especially as the entity appears to be profitable on several settings. There would be sensitivities about the transfer of partially public assets to private entities which would require significantly more assessment. At this stage the option should be actively considered to de-risk government operations, however, not be progressed until the stormwater facility demonstrates returns.

50) Noting the above, Cabinet is being asked to agree to 'do nothing' for the first five years and revisit the longer-term ownership in 2023-24. This future submission will also need to canvas the financial implications of transferring assets to a General Government Sector entity such as TCCS.

FINANCIAL IMPACT

51) This Submission has outlined a range of costings and is seeking agreement for the Ginninderry JV to establish a utility and to commence construction works on the associated infrastructure. The Submission is also seeking agreement to TCCS expanding its baseline irrigation regime at an anticipated cost of $1.1 million over the 20-year period.

Financial Impact Type	Financial Impact	Breakdown
CAPEX Costs	$1.41m.	Joint Venture $1.41m Government $0.00m
OPEX Costs	$1.79m	Joint Venture $0.69m Government $1.10m
Sales Revenue (potential)	$2.60m	Joint Venture $1.04m Government $1.56m

CONSULTATION

External stakeholders

52) The Magpies Golf Club has been consulted on the proposal and have indicated a strong desire to purchase water.

ACT Government agencies

53) The SLA consulted with TCCS and the Chief Minister, Treasury and Economic Development Directorate in the development of this submission. Advice was also sought from the Utility Technical Regulator and is included as Attachment G to the submission.

54) An exposure draft of this submission was circulated to all directorates. A table of final agency comments is provided at Attachment A.

MEDIA/COMMUNICATIONS

55) The Ginninderry JV has based much of its marketing and brand value on the creation of a unique and aesthetically pleasing location. The management of stormwater is critical to the Ginninderry JV development both in achieving its EPBC conditional requirements and the aesthetic value the development itself.

IMPLEMENTATION

56) Subject to Cabinet's agreement to the recommended approach, the delivery program at Attachment H sets out the steps required to achieve establishment of the utility and operational commencement of the stormwater harvesting facility by the end of January 2023.

HUMAN RIGHTS IMPACT

57) Nil.

TRIPLE BOTTOM LINE ASSESSMENT

Social Impacts

58) Incorporating open spaces in the urban environment is highly desirable and a major contributor to liveability. Loss of such spaces has been shown to have significant public health impacts, including a reduction in physical and mental health from limitations on active and passive recreation.

59) The Ginninderry JV differentiates itself from other greenfield developments with its focus on liveability and sustainability as demonstrated through the six-star green star communities rating.

Environmental Impacts

60) Maintaining conditional planning approval under the EPBC Act 1999 requires the amount of additional stormwater run-off into the Murrumbidgee River to be restricted to minimise the effect on the local environment and biodiversity. Stormwater is the primary driver of urban waterway degradation.

61) The *ACT Planning Strategy* also commits to study the Western Edge Investigation Area, which is bordered by the Murrumbidgee River, Belconnen, Weston Creek and Molonglo Valley. The approach to stormwater management outlined in this submission will be a pilot for future river corridor-adjacent developments as any environmental approvals for these new development fronts will at least mirror those being applied to Ginninderry.

Economic Impacts

62) Positive impacts on the Strathnairn community by providing an aesthetically appealing urban development. Consequently, lead to a potential increase in land values, sales and in turn revenue for the ACT Government.

Minister's signature _____ Date ___/___/2021

ATTACHMENTS

A	Table of comments
B	Open Access decision summary
C	Triple Bottom Line summary/assessment
D	Stormwater Management Options
E	Priority Irrigation Areas
F	Modelling Results
G	Regulatory Impacts
H	Ginninderry Stormwater Harvesting Facility Program

ACT Government

CABINET SUBMISSION

21/352

Title	West Belconnen (Ginninderry) Joint Venture – Stormwater Harvesting Project
Meeting type	Cabinet
Minister	Yvette Berry MLA Minister for Housing and Suburban Development
Cabinet date	Tuesday, 30 November 2021
Status	EXPOSURE DRAFT
Relationship to previous decisions	3 December 2019: Economic Development Sub-Committee – Update 23 November 2020: Economic Development Sub-Committee – Update
Purpose	To seek Cabinet's agreement to the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development.
Category	Category 2 - Government business
Financial impact	Yes
Treasury agreement	Yes Date provided for Treasury agreement: 11/10/2021 Date of Treasury agreement 13/10/2021:
Is ERC consideration required?	No If yes, select ERC meeting date: Select meeting date
Legislative change	No - change to legislation not required
Regulatory impact	Yes There are several regulatory processes that apply to the Ginninderry Stormwater Harvesting Project – these have been outlined as an attachment to this submission.
Triple Bottom Line assessment	Yes - see attachments

RECOMMENDATIONS

1) I recommend Cabinet agree:

the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development;

the Ginninderry Joint Venture funding, designing, procuring, building, operating and maintaining the stormwater harvesting facility as a business unit for at least the first five years of its operation;

the additional level of service is provided for Ginninderry in the irrigation of Priority 2 and 3 areas (areas not normally maintained by TCCS at Attachment E). Upon any transfer to Transport Canberra and City Services this would need to be funded via an anticipated annual budget appropriation of $55,000 per annum, totalling $1.1m over the 20-year period;

a further submission be brought forward no later than 31 July 2024 to determine long-term management arrangements for the utility;

the implementation program presented at Attachment H.

2) I recommend Cabinet note:

a. the planning approval conditions for the Ginninderry Joint Venture under the *Environment Protection and Biodiversity Conservation Act 1999* require specific actions to control excess stormwater run-off from the development into the Murrumbidgee River;

b. work to date has explored a variety of options and has identified the establishment of a utility as the preferred approach to manage and operate any future stormwater harvesting initiative;

c. that any transfer of the utility from the Ginninderry Joint Venture to Transport Canberra and City Services will have a positive budget impact from a Whole of Government perspective (60% Suburban Land Agency loss on disposal but 100% gain to Transport Canberra and City Services). Further there would likely be a positive revenue gain, on-going revenue from the utility, for Transport Canberra and City Services which would have an uplift to Government budget;

d. Significant scenario-based financial modelling has been undertaken in support of this submission and this analysis suggests that the revenue generated from the sale of the treated stormwater should meet the capital and operational costs of the utility at prices that are lower than those currently being charged in the market.

3) I recommend Cabinet note:

a. the advice to the Chief Minister on the release of the Cabinet Decision Summary (Attachment B) as required under Section 23 of the Freedom of Information Act 2016; and

b. the following summary to be released.

i. Cabinet agreed to the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development.

SUPPORTING ARGUMENT

BACKGROUND

1) The Ginninderry Joint Venture (Ginninderry JV) is a 30 to 40-year development project in West Belconnen that will see 11,500 dwellings delivered in the ACT and nearby NSW. The ACT Government is a 60 per cent partner in the Joint Venture, with Riverview Projects Pty Ltd holding the remaining 40 per cent.

2) The topography of the Ginninderry development site is challenging given the natural slope towards the Murrumbidgee River, which creates potential environmental risks for the river corridor from stormwater run-off and the damage that this would inflict upon the nigh value habitat through these areas, which are home to a range of threatened and endangered species.

3) The significance of this issue is highlighted in the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) planning approval, which includes a requirement for the Ginninderry JV to minimise stormwater run-off into the local environment.

4) There is also a broader policy context to this issue, with an emphasis on integrated water management and water sensitive urban design being expressed across several ACT Government policy documents.

   a. The *ACT Water Strategy 2014-2044* provides a 30-year strategy for the management of the ACT Government's water resources. It emphasises integrated water management and green infrastructure (vegetation and waterbodies) in the urban context to slow runoff, ameliorate flooding, reduce pollutants and sediment entering waterways, and improve the ACT's resilience to climate change.

   b. The *ACT Planning Strategy 2018* supports the *ACT Water Strategy* by identifying initiatives and actions to protect waterway assets and support water sensitive urban design (WSUD) in urban development and planning. The Planning Strategy includes actions to update the ACT's WSUD Code to ensure the entire water cycle is considered early in the planning and design of new urban areas.

   c. The *ACT Climate Change Strategy 2019-25* also references the need to create liveable urban spaces, indicating that … "*the impacts of a changing climate on people, infrastructure and services will be well-managed and urban heat impacts will be reduced by an established network of street trees, waterways and parks supported by healthy soils*".

d. Finally, the *Living Infrastructure Plan: Cooling the City* sets a framework for maintaining and enhancing trees, soils and waterways to keep Canberra cool, healthy and liveable in a changing climate.

5) The emphasis on integrated water management approaches in the ACT is mirrored at the national level. A recent report by the Productivity Commission into the progress of Australian governments in achieving the objectives, outcomes and timelines anticipated under the *Intergovernmental Agreement on a National Water Initiative* identified several actions to improve urban water and stormwater management in Australia.

Managing stormwater run-off at Ginninderry

6) To meet the requirements of the planning and environmental approvals, a series of containment ponds have been designed as part of the overall Ginninderry Master Plan. These ponds will be used primarily for the capture and storage of stormwater run-off from within the development, however, they will also give rise to several other benefits as outlined below.

   a. *Minimising urban heat island effect* — urban areas can be up to 3-10 degrees hotter than nearby rural areas if urban heat island effect is not actively managed.

   b. *Supporting public health outcomes* — green areas have been shown to improve mental and physical well-being.

   c. *Contributing to resilience of cities* — mitigate climate change and effects of sudden weather events.

   d. *Supporting local biodiversity* — provide critical vegetation and structures for flora and fauna, with recent studies showing 30 per cent of Australian threatened species exist in and around cities.

   e. *Reduced portable water use* — the network (Priority 1 areas) would substitute potable water currently used for irrigation with fit-for-purpose stormwater.

7) Acknowledging the need to consider the delivery and broader management of these ponds, the Ginninderry JV, the Suburban Land Agency (SLA) (acting as Agent for the ACT Government in the Ginninderry JV), Transport Canberra and City Services (TCCS) and ACT Treasury established a Ginninderry Stormwater Reuse Working Group in 2018 to facilitate cross governmental engagement on this project.

8) To support the Working Group, the Ginninderry JV engaged several WSUD consultants to examine the costs and benefits of various stormwater management options, which include a bypass pipeline, managed aquifer recharge, groundwater injection and a stormwater reuse. Only the stormwater reuse option was considered viable and prosecuted further. The following explains why the bypass pipelines, managed aquifer recharges and groundwater injection weren't included in the options analysis.

a. Bypass pipeline – in the early planning stages of the stormwater reuse initiative a consultant report identified a bypass pipeline, 17km long large diameter pipe, at an estimated $12m, not including contingencies or environmental / aesthetic impact on the Conservation Corridor. This option was discounted as unviable.

b. Groundwater Injection / Managed aquifer recharge – a Water Sensitive Urban Design expert analysed a managed aquifer recharge and groundwater injection options for stormwater management. It concluded that hydrogeological information such an option would have limited capability and significant investigation costs would be required with no guarantee of success. These options were discounted as unviable.

9) On 3 December 2019, representatives from TCCS and the SLA made a presentation to the Economic Development Sub-Committee of Cabinet on the work-to-date, highlighting the similarities between this proposal and the Sullivans Creek and Inner North Reticulation Network and indicating an emerging preference towards the establishment of a utility to manage the project once operational. The Sub-Committee noted the stormwater reuse concept and preferred utility option with the requirement to return to Cabinet.

10) There was a further update paper presented by the SLA on 23 November 2020 indicating the utility model as the preferred option and recommending the proposal proceed to the business case stage.

ISSUES & OPTIONS

11) Since these presentations to the Economic Development Sub-Committee of Cabinet, two substantial pieces of work have been undertaken — a detailed review of the issues, implications and options for the utility and its management, and detailed financial modelling of the proposal.

12) Notwithstanding the previous intent to bring this matter forward as a budget business case, it was ultimately suggested by Treasury that a Cabinet submission would be preferable given the previous engagement with the Economic Development Sub-Committee and the regulatory matters that are canvassed herein.

A Stormwater Utility

13) The Ginninderry JV commissioned a review of the following four utility management and ownership options:

a. Icon Water

b. TCCS

c. Ginninderry short term; TCCS long term, and

d. Private ownership.

14) Further detail on these options, including an analysis of the strengths and weaknesses of each, is provided at Attachment D.

15) The Icon Water option was discounted as stormwater management does not align with its business model, while the option of a private utility was also ultimately rejected. It was considered unlikely a private utility would be willing to invest in the development of a local ACT capability for establishment of a one-off utility of this nature. Furthermore, there may be some risk with the establishment of a private utility given the importance of the utility to manage both environmental and commercial outcomes. To establish a regulated private utility in the ACT would also require a legislative change (unlike NSW where private utilities can operate under the *Water Industry Competition Act (1994)*).

16) Therefore, in consultation with the Ginninderry Stormwater Reuse Working Group, these four options were discounted to two:

    a. TCCS; and

    b. Ginninderry short term; TCCS long term.

17) There are two important dimensions to consider when reviewing the remaining two utility options:

    a. Governance and management of the utility —
        i. Which organisation is best placed to manage the utility initially?

    b. Scope of services and assets to be managed by the utility:
        i. How far does the scope of utility services go i.e. would it extend beyond areas traditionally maintained by TCCS after asset handover (e.g. parks and playing fields) to areas not traditionally maintained by TCCS (such as verges and, potentially, Magpies Golf Club)?

18) In determining an appropriate level of service provision, it is important to consider that Ginninderry is intended to be an innovative and world leading development and that there are a variety of amenity and maintenance requirements that are necessary to achieve the target green star community rating. Ultimately this will mean that the level of service provided to this area may differ to other suburbs in the catchment, however, this will ultimately be captured in the land price and the commensurate increase in rates payable by the new residents.

19) While there are some parallels between this proposal and the Sullivans Creek and Inner North Reticulation Network, it is the view of the Ginninderry JV that there are sufficient differences and sensitivities that warrant a different approach for this project. The Ginninderry JV is recommending as a starting point that it fund, design, procure, build, operate and maintain the stormwater harvesting facility as a business unit for at least the first five years. This provides stability and reliability during the ramp up and implementation stages.

a. Further detail on organisation, design and ownership is provided later in this submission.

Financial Analysis

20) Recognising that a conclusion on appropriate governance and management is not possible in the absence of detailed financial analysis, the Ginninderry JV commissioned a piece of work to understand the expected whole of life impact of the stormwater reuse infrastructure, in particular the ability for the infrastructure to recoup some capital and operational costs under a recycled water utility-style business model.

a. The modelling draws on engineering, hydrological, quantity survey, Government and market research to determine a range of whole of life financial outcomes and investment metrics.

b. It also determines expected investment outcomes utilising a range of prices at which recycled water can be sold, and then tests sensitivity of the outcomes to different assumptions.

21) The business case modelling covers expected operations of a stormwater reuse facility over a 20-year period. The facility collects and distributes water from the aforementioned containment ponds through infrastructure to end users in and around the Ginninderry development.

a. The model assumes that the current joint venture partners are accountable for all funding relating to design, procurement, building, operation and maintenance of the facility for at least the first five years.

b. After the first five years there are a range of options available to the Joint Venture partners. The business case is developed on the basis it is indifferent to the ownership structure. That is, run efficiently under any ownership structure the facility should generate similar approximate whole of life impacts.

c. The modelling includes some administrative overheads, on-going regulatory compliance costs and estimates residual or 'terminal' values to support future asset allocation decisions of the ACT Government.

22) It is assumed that the facility will be progressively developed consistent with the wider Ginninderry development. The water storage infrastructure is expected to occur over three phases: three ponds by late 2022, an additional two ponds by late 2025 and a final pond by late 2030. The supporting irrigation and water distribution infrastructure is expected to be developed as one project and be completed during 2022.

23) The business model therefore front ends infrastructure development, and progressively increases water supply as new ponds come online. The model considers the infrastructure aspects as fixed costs, which determine the feasible long-term supply of water.

24) The stormwater to be stored in the infrastructure is a function of rainfall, run off and reuse. The expected levels have been estimated by hydrological experts based on 10 years of rainfall data within the catchment. The experts assessed 25th, 50th and 75th percentile likely rainfall and the business case modelling adopts the 50th percentile as a baseline for the 20 years of operation and uses the alternatives as scenarios to test the range of potential outcomes.

25) The business model works on the basis that stormwater will be available for purchase by three potential customer groups:

a. TCCS, who will irrigate and maintain public spaces in the Ginninderry development. This is a proxy for total neighbourhood supply.

b. The Magpies Golf Club, who will purchase water to increase reliable irrigation supplies at a lower cost than alternatives.

c. An 'other' category, which may be other public or private entities who may become customers at some point in the future, depending on need and the potential for the facility to supply additional water.

26) The stormwater strategy differentiates neighbourhood supply into three priorities - Priority 1, 2 and 3 as detailed at Attachment E - but effectively scales up based on the highest need to the least highest need of physical spaces that will require irrigation to maintain natural and aesthetic urban spaces and community infrastructure.

27) Typically, TCCS will only assume financial responsibility for irrigating the Priority 1 areas, however, as noted above Ginninderry is intended to be an innovative and world leading development and there are a variety of amenity and maintenance requirements that are necessary to achieve the target green star community rating and to meet the aspirations detailed in the marketing documentation for the estate.

28) In recognition of these commitments, there has already been a significant upfront investment in soft landscaping (shrubs, trees and turf) in Priority 2 and 3 areas as detailed below and it is important that these areas be appropriately maintained moving forward to recognise this investment.

a. Green Link: $130,000

b. The Grove: $40,000

c. Hilltop (includes the park at the top and the planting along the bottom of the wall): $145,000

d. Green Wedge: $60,000

29) The business case model relies on parameters and assumptions that interact to generate financial and investment outputs, with three groups of inputs driving the model.

a. the irrigation water balances

b. infrastructure expenditure estimation, and

c. prices customers may be willing to pay.

30) The modelling outlines likely supply of water to the different customers based on the phases:

a. Phases 1, 2 and 3 meet all the Priority 1 supply.

b. Priority 2 and 3 supply is progressively met as more supply becomes available and more area is irrigated using stormwater.

c. Golf course supply is constrained as a residual based on the difference between total feasible supply and neighbour priorities. No phase meets all the potential demand from the golf course, however, if supply increases it can be allocated to the golf course as additional supply.

31) The patterns modelled are summarised in Table 2 at Attachment F.

32) The infrastructure expenditure parameters are based on detailed unit pricing schedules for the equipment required to build the stormwater harvesting facility. The two main components are initial capital expenditures and consequential operational expenditures.

a. Initial capital expenditures are outlined in Table 3 at Attachment F. The data shows a build up from a minimum investment to get the utility started and includes additional works with an allowance for contingency.

b. The 20-year net present value (NPV) of the consequential operational expenses are summarised in Table 4 at Attachment F and cover mostly labour and supplies for repairs and maintenance.

33) The modelling assumes that customers will pay for the stormwater they are supplied from the facility. Based on research and analysis of comparable and alternative recycled water sales, the price assumed in the baseline model is $1.80/kL for TCCS, Golf course and other customers.

a. This pricing is tested using scenario assessments and suggests a 63.5 per cent discount compared to the marginal Icon Water potable price ($4.94/kL above 50kL).

34) After 20 years the model assumes a residual value of the asset based on a salvage value. This salvage value is the written down value of the capital expenditures at year 21 based on the Australian Taxation Office diminishing value method for an asset with a 45-year economic life.

35) The business model generates time series results over 20 years for revenues, capital expenses and operational expenses, then summarises these into NPV and nominal totals. The totals are compared to estimate total costs, total capital expenditure (capex), operational expenditure (opex) and total revenue.

36) These totals are then compared to estimate the net impact (revenue less costs), benefit to cost ratios, the net benefit to investment cost ratio and the internal rate of return.

    a. Table 6 at Attachment F summarises the results of the business model. At $1.80/kL the business model demonstrates revenues meet all capex and opex and generates a minor surplus. If capex is assumed as a sunk cost, then the returns to opex are significantly higher.

    b. Table 7 at Attachment F summarises the total costs annually over the 20 year period.

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37) As a Ginninderry JV partner the ACT Government will participate in the costs and revenues during the duration of the project. This suggests the ACT Government could share in approximately $2.6 million of net nominal returns over the period to 2041.

38) Assuming TCCS will be required to cover the cost of water acquisition to irrigate public spaces in the development in future years, there is the possibility TCCS can make significant savings on recycled water purchasing. The modelling has been used to estimate that:

    a. If TCCS purchased Priority 1 volumes through the facility over the modelling period, the total nominal cost would be $1.3 million, compared to $3.5 million at potable prices or, $2.6 million at 75 per cent of the Icon Water marginal price.

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    c. TCCS savings are potentially significant, but not factored into the benefits assessment of the project.

39) While the figures outlined above suggest substantial savings from utilising water from the facility over potable water, it is important to note that they also assume that TCCS will irrigate Priority 1, 2 and 3 areas — this is against a base case where TCCS would traditionally irrigate Priority 1 areas only.

    a. The savings to TCCS with Priority 1 alone are up to $2.2 million, however, this will not be sufficient to cover the additional cost of irrigating Priority 2 and 3 areas, meaning TCCS will require additional funding of approximately $1.1 million over 20 years to cover Areas 2 and 3, against the base case.

b. As noted at Paragraph 37 above, there are expected to be revenue flows to the ACT Government arising from the facility and the Territory's ownership share of the JV —in nominal terms, these are estimated at $1.56 million, more than offsetting the additional cost to TCCS.

c. Furthermore, as noted at Paragraph 28 above, there has already been a significant upfront investment in soft landscaping (shrubs, trees and turf) in Priority 2 and 3 areas — almost $400,000 — and it is important that these areas be appropriately maintained moving forward to recognise this investment.

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41) The business model base year price of $1.80/kL is significantly lower than recent price experience, and conservative projections of future equivalent prices. The price differences are summarised in Table 6 at Attachment F and show that compared to 2020 pricing, the saving is $0.74/kL over the next 20 years.

42) The impact of purchasing through the facility will be positive for the golf course compared to alternative supplies. If the golf course purchases the volumes specified over the modelling period, the total nominal cost would be $2.3 million. This compares to $6.4 million at potable prices, $4.8 million at 75 per cent of the Icon Water marginal potable price, or $3.1 million if the 2020 actual price was indexed. Under any of these scenarios, the total cost would be lower.

43) It is also worth noting that if TCCS does not purchase the Priority 1,2 and 3 volumes as modelled, there is excess demand for stormwater which could be allocated to the golf course that would increase the savings without impacting the business modelling results.

Revenue Risks

44) While the modelling to date has included sensitivity analysis to take account of various factors, it is important that Cabinet note that the baseline revenue assumptions for the stormwater facility are subject to several risk factors:

a. Rainfall – although the modelling has taken a long-run average, sustained periods of lower-than-average rainfall will impact supply

b. Magpies Golf Club – the modelling assumes significant to sales to the Golf Club. While this is a reasonable assumption given discussions to date, there are no guarantees that demand from this source will be sustained through the life of the project.

c. Finally, the model has incorporated an 'other' category of buyer – this may not eventuate.

Organisation, Design and Ownership

45) The Ginninderry JV is recommending as a starting point that it fund, design, procure, build, operate and maintain the stormwater harvesting facility as a business unit for at least the first five years. This provides stability and reliability during the ramp up and implementation stages.

46) A formal legal structure will be resolved once the facility receives regulatory approval, however, it will most likely be a subsidiary proprietary limited company.

47) Beyond five years the appropriate organisation design and ownership will depend on the preferences of the Ginninderry JV partners. These preferences will be influenced by the expected life of the assets, currently being around 45 years.

48) There are several options that are feasible:

a. Do nothing: continue with a Ginninderry JV based on the current arrangement.

b. Change ACT Government JV partners: transfer the ACT Government portion to the TCCS entity.

c. ACT Government ownership: transfer all ownership to either the SLA or TCCS.

d. ACT Government exit: ownership is transferred to the Riverview Group and ACT Government no longer retains any equity.

e. Hybrids: This option could include a combination of ACT Government exit, Riverview exit and third-party ownership options. For example, a proportion could be sold to Icon Water or to the Magpies Golf Club.

49) In the short term, the first five years, doing nothing is the preferred approach. This will ensure stable implementation of the stormwater reuse facility. In the longer term:

a. Doing nothing is a feasible option, however it suggests an obligation on the Ginninderry JV partners to maintain a relationship for the life of the asset.

b. A transfer of ACT Government share ownership is feasible. It would shift control from the public non-financial corporation sector to the general government sector. The main consequence of this would be a change in impact on the headline net operating balance, and increased control of the assets in the general government sector. In general TCCS, as existing stormwater asset owner, has a higher interest in the operation so a transfer to this entity is preferred.

c. A complete internalisation of the entity into ACT Government is feasible and will incur similar issues with sector transfer. The unknown is the preference of Cabinet for acquiring a commercial entity within a government sector agency, and the impact it may have on operations. It should be noted that TCCS already operate the Inner North Stormwater Reticulation Network which has many similarities to the stormwater reuse at Ginninderry.

d. A hybrid approach or privatisation is feasible, especially as the entity appears to be profitable on several settings. There would be sensitivities about the transfer of partially public assets to private entities which would require significantly more assessment. At this stage the option should be actively considered to de-risk government operations, however, not be progressed until the stormwater facility demonstrates returns.

50) Noting the above, Cabinet is being asked to agree to 'do nothing' for the first five years and revisit the longer-term ownership in 2023-24. This future submission will also need to canvas the financial implications of transferring assets to a General Government Sector entity such as TCCS.

FINANCIAL IMPACT

51) This Submission has outlined a range of costings and is seeking agreement for the Ginninderry JV to establish a utility and to commence construction works on the associated infrastructure. The Submission is also seeking agreement to TCCS expanding its baseline irrigation regime at an anticipated cost of $1.1 million over the 20-year period.

Financial Impact Type	Financial Impact	Breakdown
CAPEX Costs	$1.41m.	Joint Venture $1.41m Government $0.00m
OPEX Costs	$1.79m	Joint Venture $0.69m Government $1.10m
Sales Revenue (potential)	$2.60m	Joint Venture $1.04m Government $1.56m

CONSULTATION

External stakeholders

52) The Magpies Golf Club has been consulted on the proposal and have indicated a strong desire to purchase water.

ACT Government agencies

53) The SLA consulted with TCCS and the Chief Minister, Treasury and Economic Development Directorate in the development of this submission. Advice was also sought from the Utility Technical Regulator and is included as Attachment G to the submission.

54) An exposure draft of this submission was circulated to all directorates. A table of final agency comments is provided at Attachment A.

MEDIA/COMMUNICATIONS

55) The Ginninderry JV has based much of its marketing and brand value on the creation of a unique and aesthetically pleasing location. The management of stormwater is critical to the Ginninderry JV development both in achieving its EPBC conditional requirements and the aesthetic value the development itself.

IMPLEMENTATION

56) Subject to Cabinet's agreement to the recommended approach, the delivery program at Attachment H sets out the steps required to achieve establishment of the utility and operational commencement of the stormwater harvesting facility by the end of January 2023.

HUMAN RIGHTS IMPACT

57) Nil.

TRIPLE BOTTOM LINE ASSESSMENT

Social Impacts

58) Incorporating open spaces in the urban environment is highly desirable and a major contributor to liveability. Loss of such spaces has been shown to have significant public health impacts, including a reduction in physical and mental health from limitations on active and passive recreation.

59) The Ginninderry JV differentiates itself from other greenfield developments with its focus on liveability and sustainability as demonstrated through the six-star green star communities rating.

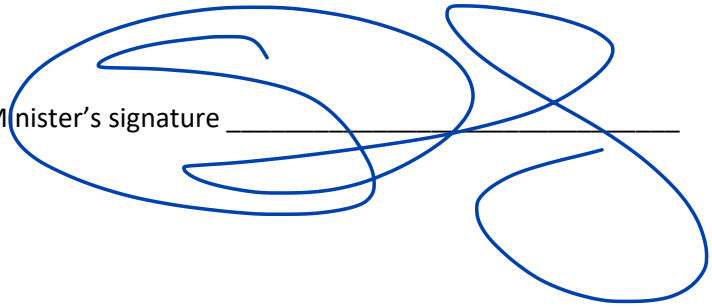
Environmental Impacts

60) Maintaining conditional planning approval under the EPBC Act 1999 requires the amount of additional stormwater run-off into the Murrumbidgee River to be restricted to minimise the effect on the local environment and biodiversity. Stormwater is the primary driver of urban waterway degradation.

61) The *ACT Planning Strategy* also commits to study the Western Edge Investigation Area, which is bordered by the Murrumbidgee River, Belconnen, Weston Creek and Molonglo Valley. The approach to stormwater management outlined in this submission will be a pilot for future river corridor-adjacent developments as any environmental approvals for these new development fronts will at least mirror those being applied to Ginninderry.

Economic Impacts

62) Positive impacts on the Strathnairn community by providing an aesthetically appealing urban development. Consequently, lead to a potential increase in land values, sales and in turn revenue for the ACT Government.



Minister's signature _____ Date 03/11/2021

ATTACHMENTS

A	Table of comments
B	Open Access decision summary
C	Triple Bottom Line summary/assessment
D	Stormwater Management Options
E	Priority Irrigation Areas
F	Modelling Results
G	Regulatory Impacts
H	Ginninderry Stormwater Harvesting Facility Program

ATTACHMENT A

EXPOSURE DRAFT COMMENTS – 21/352

Exposure circulation undertaken: Full exposure circulation

Reason for exception: N/A

Dates circulated: 4 to 10 November 2021

Directorate	Comment	Response
CMTEDD	Supported. 1. The submission describes that there are several regulatory processes that apply to the stormwater harvesting project yet only describes two. The processes under the *Utilities Act 2000* and *Utilities Technical Regulation Act 2014* are adequately captured but the requirements that the potential utility would have under the *Water Resources Act 2007* are not mentioned. 2. The submission should include that the Utility (Ginninderry Joint Venture) or a linked entity (potentially TCCS) would need to acquire a suitable volume of Water Access Entitlements and the cost of these entitlements should be accounted for in the cab sub description. 3. The Utility would be required to hold an on-going licence for water extraction with associated fees including an annual admin charge and Water Abstraction Charge and potential subsidies as per Treasury determinations. 4. The issue of a water extraction licence by the Environment Protection Authority may include	1. *Water Resource Act 2007* information has been added to Attachment G. 2. A 10% contingency has been included in the model to account for any unexpected costs. It wasn't clear whether this charge was in addition to the Network Facilities Tax, and therefore wasn't included in the model. Further, there is a non-potable water review being conducted, resulting in the associated fees likely changing. 3. The Water Abstraction Charge (WAC) is not included within the model. As structured WAC is akin to an ad valorem tax (at the point of transaction i.e. sales tax). The model assessed the financials from the perspective of a Utility Owner and Operator. If WAC applied, this lifts the price to consumer to around $2.11. Any collection would be passed straight through to the regulator, and as such does not impact the finances. The model also allows for the net present value of the Network Facilities Tax (see Table 4, Attachment F). 4. A 10% contingency has been included in the model to account for any unexpected costs.

	conditions for monitoring of waterways (ponds) and pumping restrictions if water quality poses an issue. 5. Treasury notes the submission does not detail that in order to irrigate priority areas over 2,000 sprinklers would be required, resulting in upfront capital and ongoing repairs and maintenance costs to TCCS, which are estimated at over $200,000 per annum. Managing the priority areas which are greater than would normally be provided would increase costs associated with mowing and other activities required to maintain open spaces and amenity within the development. 6. The Utility Technical Regulator would be required to ensure the utility meets regulatory requirements. These additional costs have been estimated as part of the modelling at about $13,500 per year but Treasury expects these costs would be substantially higher in the initial years when more compliance and regulatory work is required. 7. Given the preferred option is only viable if TCCS is appropriated funding for these additional irrigation activities, and the majority of the irrigation service would be provided to Government, Treasury considers it would be more efficient and economically viable for TCCS to operate the utility from inception, with the JV responsible for the design, procurement and build. 8. This approach would be less complex to administer and enable a more transparent funding process than if the utility was operated by the JV. We also note	5. The Ginninderry Joint Venture have installed the irrigation reticulation system so there would be no additional upfront CAPEX costs. The model anticipates a total OPEX cost ranging from c.$155k to $210k over the life of the Utility. The actual cost for repairs and maintenance of the irrigation system are based on the costs the JV are currently incurring for maintenance of the irrigation system. Further it is proposed that another Cabinet Submission is submitted after three years of utility operation to confirm details like this more accurately after the utility has been operational for a sufficient period of time. 6. A regulatory cost figure was discussed and agreed through the Ginninderry Stormwater Re-use Committee meetings. There is contingency built into the model to cover any unexpected additional costs. 7. TCCS has previously provided advice at the Ginninderry Stormwater Reuse Committee that their preference is for the GJV to initially operate the utility and then subsequent transition operations to TCCS after five years was their preferred position 8. As above.

	TCCS already has experience operating a facility of this type.	
JACS	Supported.	
HD	Supported. The Health Protection Service (HPS) supports the exposure draft cabinet submission noting that the operators of the stormwater harvesting, or reuse scheme must consider guidance provided in the National Health and Medical Research Council Guidelines for Water Recycling: Managing Health and Environmental Risks 2009 (the Guidelines) in the design, operation and management of the scheme. Operational costings should account for ongoing maintenance and operational monitoring in accordance with the Guidelines. Adhering to the Guidelines will ensure the human health risks of using harvested stormwater can be addressed.	Noted.
CHS	Supported.	
EDU	Supported.	
TCCS	Supported for consideration by Cabinet. 1. TCCS notes the intent to control excess storm water run-off from the development into the Murrumbidgee River. Additional options could be presented that meet the requirement of the ACT Municipal Infrastructure Standards for Stormwater (MIS 08) without the need to establish a Utility or to irrigate areas other than the Priority 1 area.	1. Paragraph 8 of Cabinet Submission notes the alternative stormwater management options and why they were discounted. 2. Noted. The project is designed as a trial/ proof of concept which will be managed by the Ginninderry Joint Venture. A further Cabinet Submission is proposed after three years of operation, to consider additional knowledge gained during this period, prior to any transfer to TCCS.

	2. TCCS has concerns about the financial viability and associated risks with the establishment of a utility to manage and operate the stormwater harvesting facility. a. There are risks associated in assuming a positive revenue gain for TCCS without demonstrating the full cost implications. b. For example, noting that additional funding would be required to support the irrigation of Priority 2 and 3 areas. It is unclear how the proposed annual budget appropriation of $55,000 per annum has been calculated. c. The anticipated cost to supply water for the purpose of irrigating the proposed priorities areas is likely to significantly exceed $55,000. This cost also does not factor in the additional maintenance and operational expenses to maintain irrigated assets, such as mowing, weed control etc. TCCS would require its base funding to be supplemented for ongoing management over an above the current growth funding model applied to existing new estates. 3. It is assumed that TCCS is not taking the lead in preparing a Business Case to cover associated O&M costs.	The estimated $55k proposed additional funding budget appropriation for TCCS operations management was the baseline from the model. It is proposed that this will be covered by the utility through the start-up phase and the final impacts will be calculated and resolved with TCCS and brought forward in the follow up Cabinet Submission that will also address governance. The $55k is an estimate as the average additional costs over the life of the Utility. As noted above. Part of the recommendation of the Cabinet Submission is that Cabinet agrees to additional funding for TCCS if and when the utility is transferred to them. 3. All work relating to the Ginninderry Stormwater Re-Use Initiative will be the responsibility of the Suburban Land Agency and or the Ginninderry Joint Venture until it is transferred.
CSD	Supported.	
EPSD	Supported.	
MPC	Supported.	

Statutory Office Holder	Supported.	

EXPOSURE DRAFT COMMENTS (2ND PASS) – 21/352

Final circulation undertaken: Full exposure circulation

Reason for exception: N/A

Dates circulated: Provide dates circulated

Directorate	Comment	Response
CMTEDD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
JACS	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
HD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
CHS	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
EDU	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
TCCS	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
CSD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
EPSD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
MPC	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
Statutory Office Holder	Choose an item. [Provide comments.]	[Drafting directorate to provide response]

FINAL COMMENTS – 21/352

Final circulation undertaken: Choose an item.

Reason for exception: State reason for exception to full circulation or state N/A

Dates circulated: Provide dates circulated

Directorate	Comment	Response
CMTEDD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
JACS	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
HD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
CHS	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
EDU	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
TCCS	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
CSD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
EPSD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
MPC	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
Statutory Office Holder	Choose an item. [Provide comments.]	[Drafting directorate to provide response]

FINAL COMMENTS (POST ERC) – 21/352

Final circulation undertaken: Choose an item.

Reason for exception: State reason for exception to full circulation or state N/A

Dates circulated: Provide dates circulated

Directorate	Comment	Response
CMTEDD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
JACS	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
HD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
CHS	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
EDU	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
TCCS	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
CSD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
EPSD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
MPC	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
Statutory Office Holder	Choose an item. [Provide comments.]	[Drafting directorate to provide response]

ATTACHMENT B

OPEN ACCESS ASSESSMENT: DECISION SUMMARY

The Chief Minister must proactively release the information described in section 23 of the *Freedom of Information Act 2016* (the FOI Act) unless the information is contrary to the public interest in accordance with sections 16 and 17, and schedules 1 and 2 of the FOI Act. Please refer to the Practice Guide to Open Access Information – Cabinet decisions for further guidance on what is within the scope of Open Access requirements.

If you believe that release of this information is within the scope of Open Access requirements and would be contrary to the public interest, please complete Part B.

PART A: Release proposed

Number and title of decision: **21/352 West Belconnen (Ginninderry) Stormwater Harvesting Project**

Proposed summary of the decision
Cabinet agreed to the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development.

Attachments for release
Attachment C, Attachment E & Attachment G

Summary of the decision	**Release through the Open Access website?**	**Release by Directorate?**
Summary of the decision	Yes	
Has the proposed bill been identified as a 'significant bill'? (for legislation only – please refer to the Cabinet Handbook for further information))	No	
Attachment A Table of final agency comments		
Attachment B Open Access Assessment – Decision Summary		
Attachment C Triple Bottom Line assessment	Yes (TBL to be released)	
Attachment D Stormwater Management Options	No	No
Attachment E TCCS Priority Irrigation Areas	Yes	Yes
Attachment F Modelling Results	No	No
Attachment G Regulatory Impacts	Yes	Yes
Attachment H	No	No

Ginninderry Stormwater Harvesting Facility Program		

Triple Bottom Line (TBL) Assessment Summary

The Triple Bottom Line Assessment is required to be published in accordance with Part 4, section 23 (1)(b) of the Freedom of Information Act 2016

21/352 West Belconnen (Ginninderry) Stormwater Harvesting Project

Summary of impacts:

- Incorporating open spaces in the urban environment is highly desirable and a major contributor to liveability. Loss of such spaces has been shown to have significant public health impacts, including a reduction in physical and mental health from limitations on active and passive recreation.
- The Ginninderry Joint Venture differentiates itself from other greenfield developments with its focus on liveability and sustainability as demonstrated through the six-star green star communities rating.
- Maintaining conditional planning approval under the *Environment Protection and Biodiversity Conservation Act 1999* requires the amount of additional stormwater run-off into the Murrumbidgee River to be restricted to minimise the effect on the local environment and biodiversity. Stormwater is the primary driver of urban waterway degradation.
- The *ACT Planning Strategy* also commits to study the Western Edge Investigation Area, which is bordered by the Murrumbidgee River, Belconnen, Weston Creek and Molonglo Valley. The approach to stormwater management outlined in this submission will be a pilot for future river corridor-adjacent developments as any environmental approvals for these new development fronts will at least mirror those being applied to Ginninderry.

Level of impact
Background fill colours: Positive = standard light green / Negative = standard red / Neutral = standard light blue

Level of impact	Positive	Negative	Neutral

Social		
Level of impact	**Impact**	**Summary**
Neutral	Gender Equality	• No impact
Neutral	Access to services	• No impact
Positive	Housing and Affordable housing	• The GJV will provide 11,500 over the project. • The GJV is committed to the provision of affordable housing through their Flexi Living products.

Positive	Access to social inclusion/participation and community activities	• Additional blue and green spaces will be recreated throughout the Ginninderry development for the use of all Canberra residents. • The additional level of maintenance will encourage the utilisation of the open spaces.
Neutral	Aboriginal and Torres Strait Islander	• No impact
Neutral	Multicultural	• No impact
Neutral	Impacts on different age groups	• No impact
Neutral	Disability	• No impact
Neutral	Justice and Crime	• No impact

Economic		
Level of impact	**Impact**	**Summary**
Negative	ACT Government Budget	• Whilst initially operated and managed by the GJV upon any transfer to TCCS an ongoing annual appropriation will be required for TCCS to manage and operate the utility. • Management and operations costs will be offset by expected revenue opportunities.
Neutral	Productivity	• No impact
Positive	Innovation	• Stormwater re-use in an urban setting is best practice management of water. • The re-use of stormwater at Ginninderry will act as a trial for the development on the western edge which has a similar topography to that of Ginninderry.
Neutral	Employment and labour force	• No impact
Neutral	Small business impact	• No impact
Neutral	Skills	• No impact
Neutral	Education	• No impact
Neutral	Investment and Economic Growth	• No impact
Neutral	Competition	• No impact
Neutral	Cost of living	• No impact
Neutral	Procurement	• No impact

Environmental		
Level of impact	**Impact**	**Summary**

Positive	Biodiversity	• The management of stormwater will restrict the overland flow of stormwater which will increase given the increase in hard surfaces created by the development. This in turn will protect the local ecosystem by minimising impacts to the landscape and not increasing flow rates to the Murrumbidgee.
Positive	Landscape changes	• The management of stormwater will reduce erosion caused by stormwater run-off and in turn unnatural environmental flows in the Murrumbidgee River.
Neutral	Heritage	• No impact
Positive	Environmental Quality	• The reuse of stormwater will dramatically improve the urban environment throughout the Ginninderry development. The urban areas will be better maintained with more vegetation. This will improve both the water quality that is discharged into the Murrumbidgee river but also the heat island effect and the Territory's tree canopy cover objectives.

ATTACHMENT D

STORMWATER MANAGEMENT OPTIONS

Stormwater Management Options	Feasibility	Commentary
Utility	Yes	• Mechanism to manage and maintain existing suite of holding ponds and associated use of stormwater. • Series of different models, several considered suitable
By-Pass Pipeline	No	• Process by which stormwater is piped further downstream into order to minimise local environmental impacts • Issues with constructability and cost.
Aquifer Recharge	No	• Process by which excess stormwater is injected back into existing underground aquifers • Limited capability to injecting, storing and extracting the necessary volumes of recycled water to justify

OPTION 1: TCCS MANAGED UTILITY

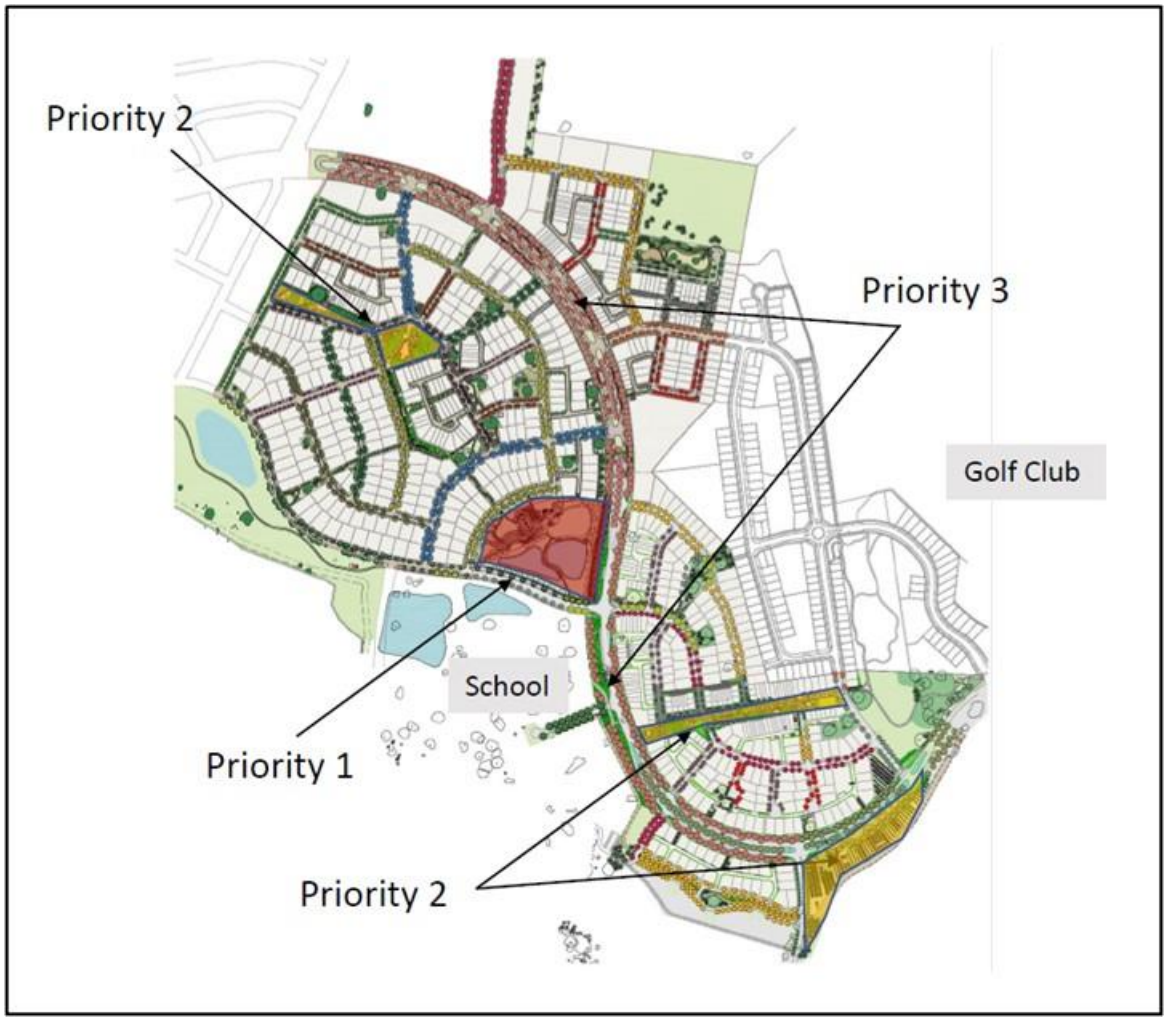
Strengths • TCCS already manage ACT Stormwater network	**Opportunities** • Replication - in other SLA / other developments • Revenue - there revenue creation opportunities with local golf course and future businesses and schools • Innovation - stormwater reuse is world leading WSUD • Proof of concept - for future land development along West Edge
Weaknesses • Inequality – potential for Strathnairn to be seen as a suburb with a higher level of service than other suburbs • Management costs – TCCS doesn't have funding to manage an initiative like this. An annual appropriation from Treasury would be required at some point in the future depending on option chosen	**Threats** • Utility management is still a relative new concept for TCCS. Management and operations may take time to perfect • Drought - lack of rain may impact viability of utility, especially if it has contractual requirements to provide water to businesses

OPTION 2: GJV MANAGED WATER UTILITY (FOR FIVE YEARS)

Strengths • Cost share with a private developer • Five-year proof of concept prior to handover • Lessons learnt and operations streamlined prior to handover • Handover period to be organised	**Opportunities** • Replication - in other SLA / other developments • Revenue - revenue creation opportunities with local golf course and future businesses and schools • Innovation - stormwater reuse is world leading WSUD • Proof of concept - for future land development along West Edge
Weaknesses • Inequality - potential for Strathnairn to be seen as a suburb with a higher level of service than other suburbs • Management costs - TCCS doesn't have funding to manage a initiative like this. An annual appropriation from Treasury would be required at some point in the future depending on option chosen	**Threats** • Drought - lack of rain may impact viability of utility, especially if it has contractual requirements to provide water to businesses • Floods / Storms - utility will need to be able to manage flood and storm events to not impact residents and local environment

ATTACHMENT E

GINNINDERRY ON-SITE IRRIGATION PRIORITY AREAS



ATTACHMENT F

STORMWATER MODELLING RESULTS

Table 1: Pond infrastructure

Pond	**Total [kL]**			**Harvestable [kL]**		
#	*Phase 1*	*Phase 2*	*Phase 3*	*Phase 1*	*Phase 2*	*Phase 3*
B5	28,511	28,511	28,511	9,591	9,591	9,591
B8	14,599	14,599	14,599	5,513	5,513	5,513
B46	13,372	13,372	13,372	5,358	5,358	5,358
B10		5,319	5,319		3,479	3,479
B12		3,930	3,930		3,479	3,479
B45			141,885			99,845
Total	56,482	65,730	207,615	20,461	27,419	127,264

Table 2: Phasing of supply by priority

	Neighbourhood [kL]			**Golf [kL]**		Total
	Priority 1	*Priority 2*	*Priority 3*	*Supply*	*Deficit*	*kL*
Phase 1	28,160	33,970	16,847	41,420	-31,080	120,397
Phase 2	28,160	41,965	22,792	39,737	-32,763	132,655
Phase 3	28,160	51,130	28,580	58,173	-14,327	166,043

Table 3: Capital expenditure

Component	**Unit**	**Value**	**Total**
Pumpwell and Collection Pits	$	214,550	
Treatment Room	$	222,400	
Automation	$	100,000	
Irrigation Pumps and Tanks	$	254,050	
Pumpwell and Pumps Install	$	80,000	
Treatment Room	$	50,000	
Treatment Room-Equipment	$	35,000	
Treatment Room-Commissioning and Validation	$	30,000	
Treatment Room-Engineering Plans etc	$	27,000	
Irrigation Pumps-Install	$	15,000	
Installation		237,000	
Base Total (Exc GST)	$		1,028,000
Roads and Access	$	50,000	
Rising Mains/Pipes- Budget	$	175,000	
Conduits for electrical	$	30,000	
EXTRAS (Exc GST)			255,000
Base + Extras (Exc GST)			1,283,000
Contingency	$	128,300	
Base + Extras + Contingency (Exc GST)	**$**		**1,411,300**

Table 4: Operational expenditure

Item	Unit	NPV 7%	Of total
R&M: Reactive	$	171,160	33.3%
UV Spares (Lamps and Wipers)	$	13,313	2.6%
Media Replacement	$	11,369	2.2%
Misc Spares	$	16,853	3.3%
Labour: Planned R&M	$	300,785	58.6%
Total	**$**	**513,480**	

Note: In addition, the JV will have invested $2,650,779 in irrigation assets, which are sunk costs in relation to the stormwater harvesting project.

The operation of the irrigation system is, however, factored into the stormwater project.

Item	Unit	NPV 7%	Of total
Power	$	576,165	45.3%
Chemicals	$	55,361	4.3%
Compliance Reports	$	130,237	10.2%
Irrigation Opex	$	148,909	11.7%
Labour: Operations	$	328,457	25.8%
Network Tax	$	33,698	2.6%
Total	**$**	**1,272,827**	

Table 5: Model results

Financial Metrics	NPV 3% $m	NPV 7% $m	NPV 10% $m	Nominal $m
Project total cost [TC]	**$3.96**	**$3.20**	**$2.83**	**$4.87**
Project Capital Expenditure [CAPEX]	$1.41	$1.41	$1.41	$1.41
Project Operational Expenditure [OPEX]	$2.54	$1.79	$1.42	$3.46
Project total revenue [TR]	$5.14	$3.33	$2.50	$7.44
Net Impact: TR-TC	$1.19	$0.13	-$0.33	$2.57
Net Impact: TR-OPEX	$2.60	$1.54	$1.08	$3.98

Investment Metrics	NPV 3% x/%	NPV 7% x/%	NPV 10% x/%	Nominal x/%
Benefit Cost Ratio [BCR]: TC	1.30	1.04	0.88	1.53
BCR: OPEX	2.02	1.86	1.76	2.15
Net benefit to investment ratio [NBIR]: TC	0.84	0.09	-0.24	1.82
NBIR: OPEX	1.84	1.09	0.76	2.82
Internal Rate of Return [IRR]:TC	7.7%	7.7%	7.7%	na
IRR: OPEX	56.6%	56.6%	56.6%	na

Table 6: Model Results

Basis	Type	Base price $/kL	20 year+ median $/kL	Difference to model $/kL
Modelled	Golf	1.80	2.32	0.00
	TCCS	1.80	2.32	0.00
	Other	1.80	2.32	0.00
Comparable	ICON marginal potable	4.94	6.32	4.00
	ICON base potable	2.92	3.14	0.82
	75% ICON marginal	3.71	4.74	2.42
	Golf recycled 2020	2.40	3.06	0.74

Table 7: Total Operating Costs and Big Cost Drivers

Base FY	R&M: Reactive	Power	Chemicals	UV Spares (Lamps and Wipers)	Media Replacement	Misc Spares	Compliance Reports	Labour: Planned R&M	Irrigation Opex	Labour: Operations	Network Tax
2020	0	171,160	0	0	0	0	0	0	0	0	0
2021	13,443	337,453	4,962	0	0	1,511	13,595	25,375	13,347	27,710	2,630
2022	13,638	52,003	4,997	0	0	1,521	13,690	25,756	13,440	28,125	2,696
2023	15,879	52,367	5,032	4,085	0	1,532	13,785	26,142	13,534	28,547	2,763
2024	14,038	52,734	5,067	0	0	1,542	11,311	26,534	13,629	28,975	2,832
2025	14,243	53,103	5,102	0	0	1,553	11,390	26,932	13,724	29,410	2,903
2026	16,536	53,474	5,138	4,171	0	1,564	11,470	27,336	13,820	29,851	2,976
2027	14,661	53,849	5,174	0	0	1,575	11,550	27,746	13,917	30,299	3,050
2028	14,874	54,226	5,210	0	0	1,586	11,631	28,162	14,015	30,753	3,126
2029	17,221	54,605	5,247	4,259	0	1,597	11,713	28,585	14,113	31,215	3,205
2030	22,549	54,987	5,283	0	14,475	1,608	11,795	29,014	14,211	31,683	3,285
2031	15,534	55,372	5,320	0	0	1,620	11,877	29,449	14,311	32,158	3,367
2032	17,935	55,760	5,358	4,349	0	1,631	11,960	29,890	14,411	32,640	3,451
2033	15,991	56,150	5,395	0	0	1,642	12,044	30,339	14,512	33,130	3,537
2034	16,224	56,543	5,433	0	0	1,654	12,128	30,794	14,614	33,627	3,626
2035	18,681	56,939	5,471	4,441	0	1,665	12,213	31,256	14,716	34,131	3,716
2036	16,701	57,338	5,509	0	0	1,677	12,299	31,725	14,819	34,643	3,809
2037	16,945	57,739	5,548	0	0	1,689	12,385	32,201	14,923	35,163	3,904
2038	19,460	58,143	5,587	4,535	0	1,701	12,472	32,684	15,027	35,690	4,002
2039	17,443	58,550	5,626	0	0	1,713	12,559	33,174	15,132	36,226	4,102
2040	25,459	58,960	5,665	0	15,521	1,725	12,647	33,671	15,238	36,769	4,205
NPV 7	***171,160***	***576,165***	***55,361***	***13,313***	***11,369***	***16,853***	***130,237***	***300,785***	***148,909***	***328,457***	***33,698***
Sum	***337,453***	***1,104,485***	***106,125***	***25,840***	***29,996***	***32,306***	***244,515***	***586,763***	***285,453***	***640,745***	***67,186***

ATTACHMENT G

REGULATORY IMPACTS

Ginninderry Regulatory Overview

The key regulatory steps for the Ginninderry stormwater project include:

1) Ministerial exemption which grants the utility an exemption from holding a licence in accordance with Section 22 of the *Utilities Act 2000*;
2) Design and Construct (D&C) Operating Certificate in accordance with Section 43 of the *Utilities (Technical Regulation) Act 2014*; and
3) Provision of Service (PoS) Operating Certificate in accordance with Section 43 of the *Utilities (Technical Regulation) Act 2014*.

The Utility Technical Regulator (UTR) has advised that ministerial and regulatory approval processes cannot commence until a Cabinet decision is made. At the Ginninderry JV request, UTR has provided a rough timeframe on the regulatory approvals, based off other utility submissions, subsequent to the Cabinet decision.

- Ministerial exemption (This timeframe is dependent on the Cabinet process)
    - Utility applies to Minister for Water, Energy and Emissions Reduction for an exemption from holding a licence.
    - Minister grants / denies exemption request (this includes preparing the exemption instrument).
- Design & Construct Operating Certificate (8-24 weeks)
    - Utility submits a Design and Construct Operating Certificate application, which includes a draft Regulatory Plan. (2-8 weeks)
    - UTR reviews draft Regulatory Plan and provides feedback. This includes engagement with Health Protection Services (HPS) regarding the management of water quality considerations. (2 weeks)
    - Utility resubmits Regulatory Plan for approval (if UTR feedback isn't appropriately addressed, UTR will request another Regulatory Plan be submitted). (2-8 weeks)
    - UTR approves utility's regulatory plan and grants utility with Design and Construct Operating Certificate. (2-6 weeks)
- Provision of Service Operating Certificate (8-24 weeks)
    - Utility submits a Provision of Service Operating Certificate application, which includes a draft Regulatory Plan. (2-8 weeks)
    - UTR reviews Regulatory Plan and provides feedback, including liaison with HPS. (2 weeks)

- Utility resubmits Regulatory Plan for approval (if UTR feedback isn't appropriately addressed, UTR will request another Regulatory Plan to be submitted). (2-8 weeks)
- UTR approves utility's Regulatory Plan and grants utility with Provision of Service Operating Certificate. (2-6 weeks)

- Cost Recovery
  - Cost recovery for unlicensed regulated utilities is undertaken in accordance with the *Utilities (Technical Regulation) Operating Certificate Fees Determination 2019*.
  - Cost recovery will commence once an application is received for an Operating Certificate and continue during construction and into the operational phase of the system.

Overview of Utility Regulation & Governance Arrangements

Regulated utility services must be designed, constructed, maintained and operated to meet the minimum safety, reliability and functional requirements of that installation. The *Utilities Act 2000* provides a regulatory framework for electricity, gas, water and sewerage utility services.

Technical regulation is provided by the Technical Regulator under the *Utilities (Technical Regulation) Act 2014*. Technical regulation is concerned with the operation of utility services and the protection and maintenance of licensed and unlicensed regulated utilities. The Independent Competition and Regulatory Commission (ICRC) is the economic regulator responsible for licensing utilities in the ACT. Unlicensed regulated utilities (see below under scope), and utilities subject to licensing provided with a Ministerial exemption from holding a licence, are required to obtain an operating certificate from the Technical Regulator.

The Director-General of the EPSDD is the Technical Regulator of utility services in the ACT, reporting to the Minister for Water, Energy and Emissions Reduction. The role of the Technical Regulator is to provide safe, reliable and efficient delivery of gas, electricity and water services to the ACT community. The UTR team within Access Canberra supports the Technical Regulator in the administration of the *Utilities (Technical Regulation) Act 2014* and provides advice regarding elements of the *Utilities Act 2000.*

Policy advice in relation to matters such as exemptions is provided by the relevant policy area in EPSDD, in this case the Water Policy Team.

Scope of Technical Regulation

- Licensed Utilities (ICRC and UTR)
  - Licensed electricity and gas transmission and distribution (TransGrid, EAPL ltd (APA Group), Evoenergy
  - Licensed water and sewerage, including drinking water supply dams (Icon Water)
- Unlicensed Utilities (UTR)
  - Exempted utilities; subject to licensing but provided with a Ministerial exemption from holding a licence from the ICRC but requiring an operating certificate from

the Technical Regulator (QPRC Sewage Treatment Plant, TCCS Inner-North Reticulation Network, Essential Energy distribution network)

- Unlicensed regulated utilities (light rail; TCCS & QPRC dams; solar farms; large batteries etc.)

Licence Exemption (Minister for Water, Energy and Emissions Reduction)

An unregulated utility can be granted a Ministerial exemption from holding a licence in accordance with Section 22 of the *Utilities Act 2000*. A licence exemption relates to the requirement for a utility to hold a licence from the ICRC under the *Utilities Act 2000*. The exemption can be conditioned, to provide further requirements applied to the utility. A utility provided with a licence exemption requires an operating certificate from the Technical Regulator.

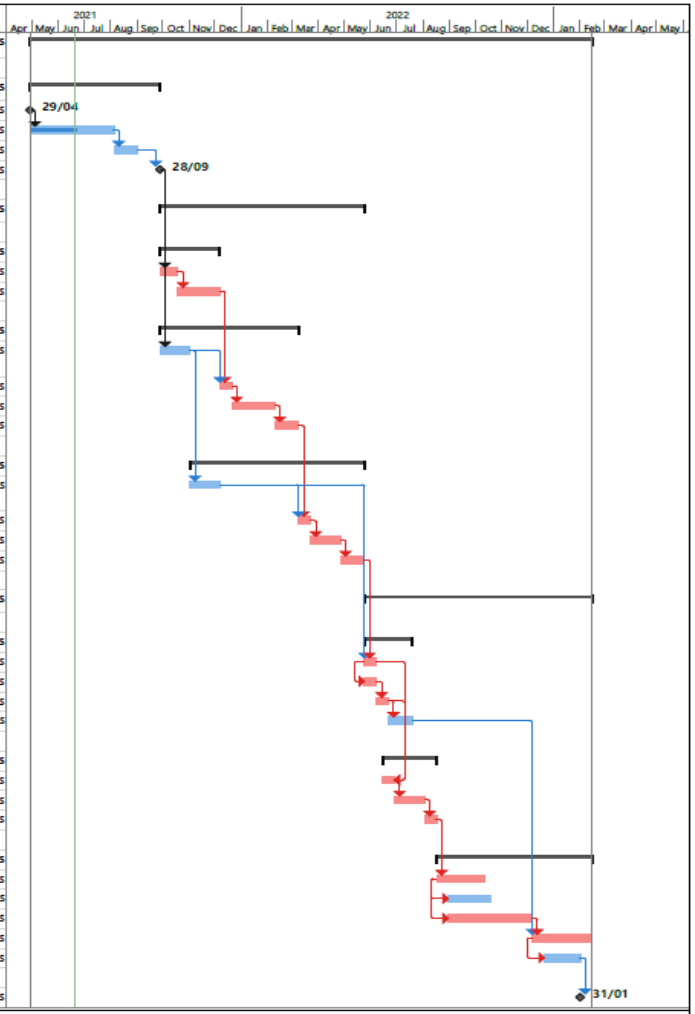
Operating Certificates

The operating certificate is issued following submission of a regulatory plan by an unlicensed regulated utility or exempted utility. An unlicensed regulated utility is required to apply for an operating certificate to the Technical Regulator in accordance with Section 43 of *the Utilities (Technical Regulation) Act 2014.* The operating certificate process allows UTR to develop regulatory controls for the utility in response to the design, construction methodology and operational processes considered in the regulatory plan.

UTR typically issues two operating certificates; a design and construction operating certificate prior to commencement of construction that includes commissioning of the system, and a provision of service operating certificate for an operational system.

Ginninderry Stormwater Harvesting Facility Program ATTACHMENT H

ID	WBS	Task Name	Duration	Resource Names	Start	Finish	% Complete	Predecessors	Successors	Total Slack
1	1	**SWH Delivery - Ginninderry**	89.6 wks		Thu 29/04/21	Tue 14/02/23	6%			0 wks
2										
3	1.1	**Business Case Phase**	21.6 wks		Thu 29/04/21	Tue 28/09/21	42%			0 wks
4	1.1.1	Treasury Presentation 1	0 wks	Utility	Thu 29/04/21	Thu 29/04/21	100%		5	0 wks
5	1.1.2	Business case & ownership development	14 wks	Utility	Thu 29/04/21	Wed 4/08/21	54%	4	6	3.6 wks
6	1.1.3	Circulation -Business Case	4 wks		Thu 5/08/21	Wed 1/09/21	0%	5	7	3.6 wks
7	1.1.4	Cab Sub - Territory Approval	0 wks	Cabinet	Tue 28/09/21	Tue 28/09/21	0%	6	12,16	0 wks
8										
9	1.2	**Utility Establishment Phase**	32 wks		Tue 28/09/21	Tue 24/05/22	0%			0 wks
10										
11	1.2.1	Ministerial exemption	10 wks		Tue 28/09/21	Mon 6/12/21	0%			0 wks
12	1.2.1.1	Utility Exemption Application	3 wks	Utility	Tue 28/09/21	Mon 18/10/21	0%	7	13	0 wks
13	1.2.1.2	Ministerial exemption determination	7 wks	Minister	Tue 19/10/21	Mon 6/12/21	0%	12	17	0 wks
14										
15	1.2.2	Operating Certificate - D&C	21 wks		Tue 28/09/21	Tue 8/03/22	0%			0 wks
16	1.2.2.1	D&C Op Cert application, incl draft Regulatory Plan	5 wks	Utility	Tue 28/09/21	Mon 1/11/21	0%	7	17,22	5 wks
17	1.2.2.2	Review D&C Op application	2 wks	UTR	Tue 7/12/21	Mon 20/12/21	0%	13,16	18	0 wks
18	1.2.2.3	D&C Regulatory Plan - final submission	5 wks	Utility	Tue 21/12/21	Tue 8/02/22	0%	17	19	0 wks
19	1.2.2.4	Approval RP and issue D&C Op Cert	4 wks	UTR	Wed 9/02/22	Tue 8/03/22	0%	18	23	0 wks
20										
21	1.2.3	Operating Certificate - PoS	27 wks		Tue 2/11/21	Tue 24/05/22	0%			0 wks
22	1.2.3.1	PoS Op Cert application, incl draft Regulatory Plan	5 wks	Utility	Tue 2/11/21	Mon 6/12/21	0%	16	23,30	11 wks
23	1.2.3.2	Review PoS Reg Plan draft	2 wks	UTR	Wed 9/03/22	Tue 22/03/22	0%	19,22	24	0 wks
24	1.2.3.3	PoS Regulatory Plan - final submission	5 wks	Utility	Wed 23/03/22	Tue 26/04/22	0%	23	25	0 wks
25	1.2.3.4	Approval PoS RP and issue PoS Op Cert	4 wks	UTR	Wed 27/04/22	Tue 24/05/22	0%	24	30	0 wks
26										
27	1.3	**Delivery Phase**	36 wks		Wed 25/05/22	Tue 14/02/23	0%			0 wks
28										
29	1.3.1	Design & approvals	8 wks		Wed 25/05/22	Tue 19/07/22	0%			0 wks
30	1.3.1.1	Specification & checklists	2 wks	Optimal	Wed 25/05/22	Tue 7/06/22	0%	22,25	36FF+1 wk,31SS	0 wks
31	1.3.1.2	Water Quality monitoring program	2 wks	Optimal	Wed 25/05/22	Tue 7/06/22	0%	30SS	32	0 wks
32	1.3.1.3	Water Inf Operating Plan	2 wks	Optimal	Wed 8/06/22	Tue 21/06/22	0%	31	36FF+1 wk,33	0 wks
33	1.3.1.4	Operational doc approval	4 wks	UTR	Wed 22/06/22	Tue 19/07/22	0%	32	44	20 wks
34										
35	1.3.2	Procurement Phase	9 wks		Wed 15/06/22	Tue 16/08/22	0%			0 wks
36	1.3.2.1	Tender package prep	2 wks	Utility	Wed 15/06/22	Tue 28/06/22	0%	32FF+1 wk,3	37	0 wks
37	1.3.2.2	Tendering	5 wks	Utility	Wed 29/06/22	Tue 2/08/22	0%	36	38	0 wks
38	1.3.2.3	Award	2 wks	Utility	Wed 3/08/22	Tue 16/08/22	0%	37	41	0 wks
39										
40	1.3.3	Construction	24 wks		Wed 17/08/22	Tue 14/02/23	0%			0 wks
41	1.3.3.1	Detailed design elements	8 wks	Contractor	Wed 17/08/22	Tue 11/10/22	0%	38	42SS+2 wks,43SS-	0 wks
42	1.3.3.2	Procurement	7 wks	Contractor	Wed 31/08/22	Tue 18/10/22	0%	41SS+2 wks		15 wks
43	1.3.3.3	Construction & Commissioning	14 wks	Contractor	Wed 31/08/22	Tue 6/12/22	0%	41SS+2 wks	44	0 wks
44	1.3.3.4	Verification	8 wks	Contractor / Utility / UTR	Wed 7/12/22	Tue 14/02/23	0%	43,33	45SS+2 wks	0 wks
45	1.3.3.5	Handover	4 wks	Contractor / Utility	Wed 21/12/22	Tue 31/01/23	0%	44SS+2 wks	47	2 wks
46										
47	1.3.4	**Operational Commencement**	0 wks	Utility	Tue 31/01/23	Tue 31/01/23	0%	45		2 wks



SWH Delivery, draft 02 Optimis

Task | Split | Milestone | Summary | Project Summary | Inactive Task | Inactive Milestone | Inactive Summary | Manual Task | Duration-only | Manual Summary Rollup | Manual Summary | Start-only | Finish-only | External Tasks | External Milestone | Deadline | Critical | Critical Split | Baseline | Baseline Milestone | Baseline Summary | Progress | Manual Progress | Slippage

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ACT Government
Environment, Planning and Sustainable Development

CABINET

MINISTERIAL BRIEF

To:	Minister for Housing and Suburban Development	**Cabinet No.: 21/352** Rec'd Minister's Office …/…/…
From:	Chief Executive Officer, Suburban Land Agency	
Subject:	Exposure Draft Lodgement of Cabinet item 21/352 West Belconnen (Ginninderry) Stormwater Harvesting Project	
Critical Date:	2 August 2022	
Critical Reason:	To allow all directorates to review the draft submission and provide comments.	

Purpose

To seek agreement to the draft submission and associated attachments to undergo exposure circulation.

Recommendations

That you:

1. **Note** the information contained in this brief;

Noted / Please Discuss

2. **Agree** to lodge the draft Cabinet submission and associated documents for exposure circulation; and

Agreed / Not Agreed / Please Discuss

3. **Agree** to John Dietz and Tom Gordon attending the ERC and Cabinet meeting to provide support and further advice to the submission.

Agreed / Not Agreed / Please Discuss

Yvette Berry MLA 06/07/22

Minister's Office Feedback

Background

1. The topography of the Ginninderry development site is challenging given the natural slope towards the Murrumbidgee River, which creates potential environmental risks for the river corridor from stormwater run-off and the damage that this would inflict upon the high value habitat through these areas, which are home to a range of threatened and endangered species.
2. The significance of this issue is highlighted in the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) planning approval, which includes a requirement for the Ginninderry Joint Venture (GJV) to minimise stormwater run-off into the local environment.
3. To meet the conditions of the abovementioned planning and environmental approvals, a series of containment ponds have been designed as part of the overall Ginninderry Master Plan. These ponds will be used primarily for the capture and storage of stormwater run-off from within the development. The utilisation of stormwater needs to be considered strategically in the context of the financial, ecological, community and social impacts.
4. The management of stormwater also forms part of Ginninderry's six-star green star rated communities which has recently been re-certified for a further five years.

Issues

5. Three stormwater management options were considered:
    a. A utility – considered a viable alternative that was progressed to a business case.
    b. A transfer pipeline – discounted prior to business case stage given ecological impact and financial cost.
    c. Aquifer recharge/ groundwater injection – discounted prior to business case stage given expert advice that existing hydrological experts deemed the underlying geology of the Ginninderry development unsuitable for this type of initiative.
6. A stormwater harvesting model was developed to consider the utility-based options for the stormwater re-use initiative, these included:
    a. Icon Water – not considered a viable option as Icon Water does not manage stormwater infrastructure.
    b. Transport Canberra and City Services Directorate (TCCS) – considered a viable option given TCCS's management of existing stormwater infrastructure.
    c. GJV short-term (up to 5 years), TCCS long-term – considered a viable option given the GJV's need for a stormwater management initiative.
    d. Private Ownership – not considered a viable option given the investment risk for establishing a one-off utility.
7. Through consultation with Treasury and TCCS, it has been determined that the preference is for the GJV to fund, design, procure, construct and commission the stormwater harvesting facility, with the asset to be transferred/gifted to Transport Canberra and City Services Directorate to own, operate and maintain after it has been successfully commissioned.

Financial Implications

8. Financial details are noted below in the table.

	2022-23 $'000	2023-24 $'000	2024-25 $'000	2025-26 $'000	Total $'000
Capital impacts	(1,411)	-	-		(1,411)
Expense impacts	219	292	299	295	1,105
Expense impacts - Depreciation	47	63	60	57	227
Revenue/savings/offsets impacts					
– Revenue	-	-	-	-	-
– Savings	-	-	-	-	-
– Offset	-	-	-	-	-
Staffing impact	-	-	-	-	-
– Total additional FTEs (no.)					

9. The financial table above demonstrates the revenue and costs of operating the water harvesting facility independent of TCCS. As TCCS will use the recycled water to meet its water needs at Ginninderry the amounts also demonstrate the water savings within the Directorate.
10. Upon any transfer of the infrastructure to TCCS an annual appropriation from Treasury will be required for operation and management.

Consultation

Internal

11. The Suburban Land Agency, Commercial Finance.

Cross Directorate

12. TCCS, Executive Group Manager City Operations:
    a. All commentary on initial drafts have been incorporated into the submission.
    b. No objections to proceeding to exposure draft process.

13. Treasury, Executive Branch Manager Economic and Financial Analysis.
    a. All commentary on initial drafts have been incorporated into the submission.
    b. No objections to proceeding to exposure draft process.

External

14. Numerous independent water sensitive urban design experts have provided input into the project over the last two years.

Benefits/Sensitivities

15. There are significant benefits to both the GJV and the Territory, including allowing the GJV to maintain their EPBC Act 1999 conditional approval as well as the extensive community and social positives of having expansive well maintained open areas.

16. There is potential to sell stormwater to commercial entities if commercially viable once the facility is operational.
17. The main sensitivity involves the increased maintenance of urban areas within Ginninderry that aren't serviced by TCCS under 'Business as Usual' operations. Further, upon any transfer to TCCS an ongoing Treasury appropriation will be required for TCCS to manage and operate the utility. This will be offset by the revenue opportunities available to the utility.
18. A joint briefing with Suburban Land Agency and TCCS is being arranged to provide you with relevant information and opportunity for comment.

Media Implications

19. Nil anticipated.

Signatory Name:	Tom Gordon	Phone:	x75553
Action Officer:	Nick Vithalis	Phone:	x51494

Summary of Attachments

1 – Draft Cabinet submission
- A – Table of Comments
- B – Open Access Information release
- C – Wellbeing Impact Assessment
- D – Stormwater Management Options
- E – TCCS Priority Irrigation Areas
- F – Modelling Results
- G – Regulatory Impacts
- H – Ginninderry Stormwater Harvesting Facility Program

ACT Government

CABINET SUBMISSION

21/352

Title	West Belconnen (Ginninderry) Joint Venture – Stormwater Harvesting Project
Meeting type	Cabinet
Minister	Yvette Berry MLA Minister for Housing and Suburban Development
Cabinet date	Wednesday, 28 September 2022
Status	EXPOSURE DRAFT
Relationship to previous decisions	3 December 2019: Economic Development Subcommittee – Update 23 November 2020: Economic Development Subcommittee – Update
Purpose	To seek Cabinet's agreement to the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development.
Category	Category 2 - Government business
Financial impact	Yes
Treasury agreement	Yes Date provided for Treasury agreement to financial implications: 28/06/2022 Date of Treasury agreement: 05/07/2022
Is ERC consideration required?	Yes If yes, select ERC meeting date: Thursday, 15 September 2022
Legislative change	No - change to legislation not required
Regulatory impact	Yes There are several regulatory processes that apply to the Ginninderry Stormwater Harvesting Project – these have been outlined as an attachment to this submission.
Wellbeing Impact Assessment	Yes
Primary Wellbeing Domain	Environment and climate

RECOMMENDATIONS

1) I recommend Cabinet agree:

   a. the Ginninderry Joint Venture seek an exemption to hold a utility licence for design, construction and commissioning phases of the stormwater harvesting infrastructure and obtain an operating certificate from the Utilities Technical Regulator;

   b. the Ginninderry Joint Venture fund, design, procure, construct and commission the stormwater harvesting facility in line with requirements specified by the Utilities Technical Regulator;

   c. Transport Canberra and City Services Directorate seek a perpetual exemption to hold a utility licence for the operation of the stormwater harvesting infrastructure and obtain an operating certificate from the Utilities Technical Regulator;

   d. Ginninderry stormwater reticulation assets to be transferred/gifted to Transport Canberra and City Services Directorate to own, operate and maintain under the new exemption, following the Ginninderry Joint Venture's achievement of defect-free construction certification and a fully successful commissioning process;

   e. TCCS to irrigate and maintain priority areas 2 and 3, noting this extends beyond Government's normal service delivery for suburbs (priority area 1 only); and

   f. Additional expense funding of $1.105 million over four years to TCCS, including $295,000 indexed and ongoing, for the ongoing maintenance and operation of the Ginninderry stormwater reticulation assets and for additional costs incurred watering priority areas 2 and 3.

2) I recommend Cabinet note:

   a. Table 1: Financial impacts summary; and

   b. the Implementation milestones and timeframes set out in Attachment H.

3) I recommend Cabinet note:

a. the planning approval conditions for the Ginninderry Joint Venture under the *Environment Protection and Biodiversity Conservation Act 1999* require specific actions to control excess stormwater run-off from the development into the Murrumbidgee River;

b. work to date has explored and discounted a variety of options and has identified the establishment of a utility as the preferred approach to manage and operate any future stormwater harvesting initiative;

c. legislation requires the establishment of a utility for non-drinking water supply at this scale and is generally supported by a range of other ACT policy and strategy documents promoting integrated water cycle management as a means to improving environmental outcomes and supporting social wellbeing; and

d. significant scenario-based financial modelling has been undertaken in support of this submission and this analysis suggests that the revenue generated from the sale of the treated stormwater should meet the capital and operational costs of the utility at prices that are lower than those currently being charged in the market.

4) I recommend Cabinet note:

a. the advice to the Chief Minister on the release of the Cabinet Decision Summary (Attachment B) as required under Section 23 of the *Freedom of Information Act 2016*; and

b. the following summaries to be released:

i. Cabinet agreed to the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development.

ii. The proposal will have a positive impact on the Ginninderry development open spaces and for residents by irrigating key areas throughout the development will encourage more people to purchase land at Ginninderry but also create areas for residents to enjoy outdoor recreation in well maintain parks and ovals – anecdotally improving physical and mental wellbeing.

SUPPORTING ARGUMENT

BACKGROUND

1) The Ginninderry Joint Venture (Ginninderry JV) is a 30 to 40-year development project in West Belconnen that will see 11,500 dwellings delivered in the ACT and nearby NSW. The ACT Government is a 60 percent partner in the Ginninderry JV, with Riverview Projects Pty Ltd holding the remaining 40 percent.

2) The topography of the Ginninderry development site is challenging given the natural slope towards the Murrumbidgee River, which creates potential environmental risks for the river corridor from additional stormwater run-off and the damage that this would inflict upon the high value habitat through these areas, which are home to a range of threatened and endangered species.

3) The significance of this issue is highlighted in the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) planning approval, which includes a requirement for the Ginninderry JV to minimise stormwater run-off into the local environment so that run off is not significantly greater than what would have occurred naturally.

4) There is also a broader policy context to this issue, with an emphasis on integrated water management and water sensitive urban design being expressed across several ACT Government policy documents.

a. The *ACT Water Strategy 2014-2044* provides a 30-year strategy for the management of the ACT Government's water resources. It emphasises integrated water management and green infrastructure (vegetation and waterbodies) in the urban context to slow runoff, ameliorate flooding, reduce pollutants and sediment entering waterways, and improve the ACT's resilience to climate change.

b. The *ACT Planning Strategy 2018* supports the ACT Water Strategy by identifying initiatives and actions to protect waterway assets and support water sensitive urban design (WSUD) in urban development and planning. The Planning Strategy includes actions to update the ACT's WSUD Code to ensure the entire water cycle is considered early in the planning and design of new urban areas.

c. The *ACT Climate Change Strategy 2019-25* also references the need to create liveable urban spaces, indicating that … "*the impacts of a changing climate on people, infrastructure and services will be well-managed and urban heat impacts will be reduced by an established network of street trees, waterways and parks supported by healthy soils*".

d. Finally, the *Living Infrastructure Plan: Cooling the City* sets a framework for maintaining and enhancing trees, soils, and waterways to keep Canberra cool, healthy and liveable in a changing climate.

5) The emphasis on integrated water management approaches in the ACT is mirrored at the national level. A recent report by the Productivity Commission into the progress of Australian governments in achieving the objectives, outcomes and timelines anticipated under the *Intergovernmental Agreement on a National Water Initiative* identified several actions to improve urban water and stormwater management in Australia.

Managing stormwater run-off at Ginninderry

6) To meet the requirements of the planning and environmental approvals, a series of containment ponds have been designed as part of the overall Ginninderry Master Plan. These ponds will be used primarily for the capture and storage of stormwater run-off from within the development, however, they will also give rise to several other benefits as outlined below.

a. *Improving water quality* – ponds and wetlands reduce urban generated pollution and assist to protect waterway water quality.

b. *Minimising urban heat island effect* - urban areas can be up to 3-10 degrees hotter than nearby rural areas if urban heat island effect is not actively managed.

c. *Supporting public health outcomes* - green areas have been shown to improve mental and physical wellbeing.

d. *Contributing to resilience of cities* - mitigate climate change and effects of sudden weather events.

e. *Supporting local biodiversity* - provide critical vegetation and structures for flora and fauna, with recent studies showing 30 percent of Australian threatened species exist in and around cities.

f. *Reduced portable water use* - the network (Priority 1 areas) would substitute potable water currently used for irrigation with fit-for-purpose stormwater.

7) Acknowledging the need to consider the delivery and broader management of these ponds, the Ginninderry JV, the Suburban Land Agency (SLA) (acting as Agent for the ACT Government in the Ginninderry JV), Transport Canberra and City Services (TCCS) and ACT Treasury established a Ginninderry Stormwater Reuse Working Group in 2018 to facilitate cross governmental engagement on this project.

8) To support the Working Group, the Ginninderry JV engaged several Water Sensitive Urban Design (WSUD) consultants to examine the costs and benefits of various stormwater management options, including a bypass pipeline, managed aquifer recharge, groundwater injection and stormwater storage and/or reuse. For the reasons summarised below, only stormwater reuse was prosecuted further as it was the only option considered technically and commercially viable and able to deliver the benefits (outlined at Paragraph 6) above.

a. *Bypass Pipeline* - in the early planning stages of the stormwater reuse initiative a consultant report identified a 17km long bypass pipeline as one option. However, at an estimated cost of $12 million (excluding contingency), and with significant associated environmental and aesthetic impacts on the Conservation Corridor, this option was discounted as unviable.

b. *Groundwater Injection/Managed Aquifer Recharge* - a WSUD expert analysed a managed aquifer recharge and groundwater injection option for stormwater management. They concluded from hydrogeological information that such an option would have limited capability and significant investigation costs would be required with no guarantee of success. These options were discounted as unviable.

c. *Additional Storage* - an initial high-level costing (see Paragraph 19 for indicative cost) was undertaken to consider the use of large tanks or an underground storage system to capture the urban excess. Noting the ponds and wetlands for the first suburb of Strathnairn are already developed, the option of increasing the size of these ponds was not considered feasible. This option was discounted as unviable on both a technical and commercial basis.

9) On 3 December 2019, representatives from TCCS and the SLA made a presentation to the Economic Development Subcommittee of Cabinet on the work-to-date, highlighting the need to establish a utility as required by the Utilities Act as was similarly required for the Sullivans Creek and Inner North Reticulation Network. The Subcommittee noted the stormwater reuse concept and preferred utility option with the requirement to return to Cabinet for further consideration.

10) There was a further paper presented to the Economic Development Subcommittee by the SLA on 23 November 2020 indicating the utility model a requirement and recommending the proposal proceed to the business case stage.

11) Notwithstanding the previous intent to bring this matter forward as a budget business case, it was ultimately suggested by Treasury that this Cabinet Submission would be preferable given the previous engagement with the Economic Development Subcommittee and the regulatory matters that are canvassed herein.

ISSUES & OPTIONS

12) Since these presentations to the Economic Development Subcommittee of Cabinet, two substantial pieces of work have been undertaken, these include a detailed review of the issues, implications and options for the utility and its management, and detailed financial modelling of the proposal.

Stormwater Reuse Options

13) The stormwater strategy differentiates neighbourhood supply into three priorities:

a. Priority 1 - Parks, ovals and areas that TCCS would normally irrigate once the development area has been handed over for on-going maintenance.

b. Priority 2 - Local parks and areas that TCCS would not normally irrigate once the development area has been handed over for on-going maintenance.

c. Priority 3 - Arterial road verges and areas that TCCS would not normally irrigate once the development area has been handed over for on-going maintenance.

14) Priority areas are detailed further in Attachment E, but they effectively scale up based on the highest need to the least high need of physical spaces that will require irrigation to maintain natural and aesthetic urban spaces and community infrastructure.

15) Typically, TCCS is only provided with funding to irrigate Priority 1 areas, however, Ginninderry is intended to be an innovative and world leading development and there are a variety of amenity and maintenance requirements that are necessary to achieve the target. Ginninderry currently holds a six star green star community rating from the Green Building Council of Australia, and many design and maintenance strategies are targeted at meeting the aspirations detailed in the vision for the project.

a. In recognition of these commitments, there has already been a significant upfront investment in irrigation reticulation and soft landscaping (shrubs, trees and turf) in Priority 2 and 3 areas as detailed below and it is important that these areas be appropriately maintained moving forward to recognise this investment.
   i. Irrigation Reticulation - $2.4m
   ii. Green Link: $130,000
   iii. The Grove: $40,000
   iv. Hilltop (includes the park at the top and the planting along the bottom of the wall): $145,000
   v. Green Wedge: $60,000

16) Therefore, the stormwater harvesting system has been designed to irrigate these areas and there is expected to be adequate capacity in times of normal or high rainfall.

17) Based on the above and in agreement with Treasury and TCCS, further analysis was undertaken to consider two broad stormwater re-use options (with several sub-options also analysed for completeness).

a. Irrigation of Priority 1 Areas (only)
   i. Sub-Option 1 – no utility and large-scale storage of excess stormwater in lieu of additional irrigation i.e. large tank system or underground storage of excess stormwater.
   ii. Sub-Option 2 – utility to sell excess stormwater to local businesses (e.g. Magpies Golf Club)

b. Irrigation of Priority 1, 2 and 3 Areas
   i. Sub-Option 1 – no utility

ii. Sub-Option 2 – utility to sell excess stormwater to local businesses (e.g. Magpies Golf Club)

18) Additional considerations include the comparison of marginal costs (storage versus additional irrigation and maintenance) and potential additional revenue from the sale of stormwater under the utility option as well as the potable water savings for Priority 1 areas.

19) At an estimated additional cost of $7.5-10.3 million, the analysis concluded that large scale storage of excess stormwater in lieu of additional irrigation would not be commercially viable. Such a scheme would also pose several technical challenges given the storage ponds and wetlands in Strathnairn have already been constructed. If not reused the stored water would also need to be safely discharged in a way to maintain protection of the Murrumbidgee River Corridor.

Stormwater Management – No Utility

20) If no utility was established for the stormwater reuse option, there would be savings in terms of establishment costs and ongoing compliance costs, however there would not be the flexibility to sell excess stormwater to local businesses. The stormwater could only be reused for irrigation of estate assets normally managed by TCCS and the focus would be exclusively on irrigating the Ginninderry development area.

21) Without the flexibility of a utility to sell stormwater to other entities or an economic and technically viable way to store excess stormwater, there would need to be significant urban excesses released into the environment in breach of Ginninderry JV's EPBC Act conditional approval.

Stormwater Management - Utility

22) The Ginninderry JV commissioned a review of the following four utility management and ownership options:

a. Icon Water;

b. TCCS;

c. Ginninderry short term; TCCS long term; and

d. Private ownership.

23) Further detail on these options, including an analysis of the strengths and weaknesses of each, is provided at Attachment D.

24) The Icon Water option was discounted as stormwater management does not align with its business model, while the option of a private utility was also ultimately rejected. It was considered unlikely a private utility would be willing to invest in the development of a local ACT capability for establishment of a one-off utility of this nature. Furthermore, there may be

some risk with the establishment of a private utility given the importance of the utility to manage both environmental and commercial outcomes. To establish a regulated private utility in the ACT would also require a legislative change (unlike NSW where private utilities can operate under the Water Industry Competition Act (1994)).

25) Therefore, in consultation with the Ginninderry Stormwater Reuse Working Group, these four options were discounted to two:

a. Ginninderry in the short-term and TCCS in the long-term, and

b. TCCS.

26) There are two important dimensions to consider when reviewing the remaining two utility options for ongoing operation post commissioning:

a. Governance and management of the utility —
   i. Which organisation is best placed to manage the ongoing operation of the utility?

b. Scale and scope of services and assets to be irrigated by the utility —
   i. How large is the scale of utility infrastructure i.e. would the scope of irrigated areas extend beyond those traditionally maintained by TCCS after asset handover (e.g. parks and playing fields) to areas not traditionally maintained by TCCS (such as verges / medians and potentially, the Magpies Golf Club)?

27) A utility may generate a revenue stream when excess stormwater is available to be sold to local businesses like the Magpie's Golf Club or schools and other businesses within the Ginninderry development area when they come online.

28) As flagged above, in determining an appropriate level of service provision, it is important to consider that Ginninderry is intended to be an innovative and world leading development and that there are a variety of amenity and maintenance requirements. Irrigating all Priority areas will meet the Ginninderry JV's EPBC Act conditional approval whilst also supporting the project to achieve the target green star community rating.

29) Ultimately this will mean that the level of service provided to this area will differ to other suburbs in the catchment and irrigating all priority areas could, on occasion, create a precedence issue when there is insufficient stormwater to irrigate, or over irrigating when stormwater is plentiful. This risk would need to be managed and documented in a clear communication strategy.

30) Given the parallels between this proposal and the Sullivans Creek Inner North Reticulation Network, it is the view of the agencies involved that the Ginninderry JV should fund, design, procure, construct and commission the stormwater harvesting infrastructure with TCCS to subsequently own, operate and maintain the assets thereafter. Both Ginninderry JV and TCCS

will require an exemption from holding a utility licence and operation certificates granted by the Utilities Technical Regulator to undertake these activities.

Financial Analysis

31) Recognising that a conclusion on appropriate governance and management is not possible in the absence of detailed financial analysis, the Ginninderry JV commissioned a piece of work to understand the expected whole of life impact of the stormwater reuse infrastructure, in particular the ability for the infrastructure to recoup some capital and operational costs under a utility business model.

a. The modelling draws on engineering, hydrological analysis, quantity survey data, and Government and market research to determine a range of whole of life financial outcomes and investment metrics. It also determines expected investment outcomes utilising a range of prices at which recycled water can be sold, and then tests sensitivity of the outcomes to different assumptions.

b. The modelling covers expected operations of a stormwater reuse facility over a 20-year period whereby the facility collects and distributes water from the aforementioned containment ponds through infrastructure to end users in and around the Ginninderry development.

c. The model assumes that the current joint venture partners are accountable for all funding relating to design, procurement, construction and commissioning of the infrastructure with TCCS assuming ownership, operation and maintenance subsequent to successful commissioning.

d. The modelling includes some administrative overheads, on-going regulatory compliance costs and estimates residual or 'terminal' values to inform asset allocation decisions.

32) It is assumed that the facility will be progressively developed consistent with the wider Ginninderry development. The water storage infrastructure is expected to occur over three phases: three ponds by late 2023, an additional two ponds by 2025 and a final pond by 2030. The water reticulation and irrigation infrastructure is expected to be developed as one project and be completed during 2023.

33) The model therefore front ends infrastructure development, and progressively increases water supply as new ponds come online. The model considers the infrastructure aspects as fixed costs, which determine the feasible long-term supply of water.

34) The stormwater to be stored in the ponds is a function of rainfall, run off and reuse. The expected levels have been estimated by hydrological experts based on decade average rainfall data within the catchment from 1935 to the present day. The experts assessed 25th, 50th and 75th percentile likely rainfall and the modelling adopts the 50th percentile as a baseline for the 20 years of operation and uses the alternatives as scenarios to test the range of potential outcomes.

35) The model works on the basis that stormwater will be available for purchase by three potential customer groups:

a. TCCS, who will irrigate and maintain public spaces in the Ginninderry development. This is a proxy for total neighbourhood supply.

b. The Magpies Golf Club, who will purchase water to increase reliable irrigation supplies at a lower cost than alternatives.

c. An 'other' category, which may be other public or private entities who may become customers at some point in the future, depending on need and the potential for the facility to supply additional water.

36) The model relies on parameters and assumptions that interact to generate financial and investment outputs, with three groups of inputs driving the model — irrigation water balances, infrastructure expenditure estimation, and prices customers may be willing to pay — and supply of water based on the delivery phases.

a. Phases 1, 2 and 3 meet all the Priority 1 supply.

b. Priority 2 and 3 supply is progressively met as more supply becomes available and more area is irrigated using stormwater.

c. The Magpies Golf Club supply is constrained as a residual based on the difference between total feasible supply and neighbour priorities. No phase meets all the potential demand from the Magpies Golf Club, however, if supply increases it can be allocated to the Magpies Golf Club as additional supply.

37) The patterns modelled are summarised in Table 2 at Attachment F.

38) The infrastructure expenditure parameters are based on detailed unit pricing schedules for the equipment required to construct the stormwater harvesting network. The two main components are initial capital expenditures and consequential operational expenditures. As outlined in Table 3 at Attachment F, the data shows a build up from a minimum investment to get the utility started and includes additional works with an allowance for contingency.

39) The modelling assumes that customers will pay for the stormwater they are supplied from the facility. This pricing is tested using scenario assessments and suggests a 63.5 per cent discount compared to the marginal Icon Water potable price.

40) After 20 years the model assumes a residual value of the asset based on a salvage value. This salvage value is the written down value of the capital expenditures at year 21 based on the Australian Taxation Office diminishing value method for an asset with a 45-year economic life.

41) The business model generates time series results over 20 years for revenues, capital expenses and operational expenses, then summarises these into NPV and nominal totals. The totals are

compared to estimate total costs, total capital expenditure (capex), operational expenditure (opex) and total revenue. These totals are then compared to estimate the net impact (revenue less costs), benefit to cost ratios, the net benefit to investment cost ratio and the internal rate of return.

42) Tables 5, 6 & 7 at Attachment F summarise the results of the various scenarios modelled. All scenarios modelled demonstrate revenues meet all capex and opex (i.e. Total Cost) at the modelled prices. Base scenarios (Tables 6 & 7) including and excluding sale of excess water to the Magpies Golf Club have been modelled assuming a minor surplus (IRR of 7%) reflective of potential commercial ownership and operation of the utility. The Government scenario (Table 8) assumes TCCS own and operate the utility based on the implicit price at which the scheme under TCCS ownership meets total costs (i.e. no surplus). It is true to say for all scenarios modelled that if capex is assumed as a sunk cost then there are significantly positive returns to opex.

Modelled impact on Government

43) As noted above, under normal arrangements TCCS would only be funded to irrigate Priority 1 areas. For Ginninderry, the Priority 1 areas include the Strathnairn Neighbourhood Park and the School Oval, which combined have an irrigation demand of 35,537 kl/year. In the absence of the proposed utility, the cost of irrigating these areas with potable water on average would be $207,208/year, totalling $4,347,597 in nominal terms over 20 years.

44) Assuming the utility is owned by Government as recommended by this Submission, the analysis indicates the cost of irrigating all three Priority Areas with recycled water would be $223,963/year, totalling $4,703,230 in nominal terms over 20 years. In addition to this amount TCCS will be incurring additional maintenance costs for the Priority 2 and 3 areas not typically maintained at an estimated costs of $39,459/year — $33,312 for mowing and $6,147 for litter picking — totalling $789,180 in nominal terms over 20 years. Combining the recycled water costs with the additional maintenance costs, the total cost to Government over 20 years is $5,492,410.

45) Noting that irrigation of Priority 1 areas with potable water is business as usual (BAU), irrigation of Priority 1, 2 3 areas with recycled water from the Utility then represents an additional cost to Government (beyond BAU) of $1,144,813 over 20 years in nominal terms (or additional cost of $57,241/year).

46) All of the analysis above has been undertaken on the basis that the price being set for the recycled water is sufficient to recover the upfront capital expenditure and the ongoing operating expenditure for the new facility (i.e. the total cost). However, given the Ginninderry Joint Venture is funding all the upfront capital costs with TCCS to then assume operational responsibility, the pricing model could be adjusted to simply cover operating costs plus a margin. This would provide the scope to significantly reduce pricing well below $1.63/kL which in turn would enable the irrigation of all Priority areas at no additional cost to government. The ultimate pricing model to be adopted will be a matter for UTR and TCCS to determine.

Additional Supply for Commercial Purposes

47) Furthermore, beyond the supply of water to irrigate Priority areas 1, 2 and 3, any additional water supply that is excess to irrigating Priority areas within Strathnairn could be supplied to surrounding commercial users (such as the Magpies Golf Club) or used to potential supply water for irrigation of key open space areas located in Ginninderry's new suburb of Macnamara (that would otherwise be irrigated with potable water). This would provide further economies in support of the ongoing operations of the utility. Despite this, we have not considered this opportunity explicitly in this Submission, however this opportunity could be pursued further once the utility is operational.

Financial Risk

48) While the modelling to date has included sensitivity analysis to take account of various factors and scenarios, it is important that Cabinet note that the water balance assumptions underpinning the modelling are still subject to variance. Although the modelling has taken a long-run average (adopting a 50th percentile average rainfall pattern over a 10 year period), sustained periods of lower-than-average rainfall will impact supply. There will be periods that will be dryer than the assumed modelling which will result in less availability of water for irrigation and the potential need for supplementary water sources to be provided (either potable or Lower Molonglo Water Quality Control Centre recycled water) at a significantly greater cost. Conversely it is also possible that in slightly wetter periods there would potentially be more water that could be supplied to other users.

FINANCIAL IMPACT

49) This Submission has outlined a range of costings and is seeking agreement for the establishment of a utility to be managed by TCCS and for the Ginninderry JV to commence construction works on the associated infrastructure. The Submission is also seeking agreement to TCCS expanding its baseline irrigation regime.

50) For normal Greenfield developments TCCS is required to maintain priority 1 areas to a service level that includes irrigation. This would be typically provided for via a potable water source. Funding for these maintenance costs is provided via an agreed growth model that provides additional maintenance funding on an annual basis. This stormwater harvesting solution will require TCCS to maintain priority 2 and 3 areas to a higher than normal standard.

51) The incremental cost (to TCCS) of maintaining priority 2 and 3 areas is estimated at $120,000 p.a. These additional costs include mowing, litter picking, purchasing potable water for irrigation and maintenance of the irrigation system.

52) If the stormwater harvesting solution is expanded to future developments within Ginninderry, these incremental costs will increase accordingly. However as noted the establishment of a Utility may also realise other benefits that go towards offsetting these incremental costs to Government (see paragraphs 46 & 47)

Table 1: **Financial impacts summary**

	2022-23 $'000	2023-24 $'000	2024-25 $'000	2025-26 $'000	Total $'000
Capital impacts	-	-	-	-	-
Expense impacts	-219	-292	-299	-295	-1,105
Expense impacts - Depreciation	-47	-63	-60	-57	-227
Revenue/savings/offsets impacts					
– Revenue	565	-	-	-	565
– Savings	-	-	-	-	-
– Offset	-	-	-	-	
Staffing impact	-	-	-	-	-
– Total additional FTEs (no.)					

53) The net benefit to the government from the Ginninderry Joint Venture constructing and commissioning the water facility and transferring ownership to TCCS will be $564,520. As a participant in the Ginninderry Joint Venture, the Territory/SLA will contribute 60% towards the $1,411,300 cost of the facility.

WELLBEING IMPACT SUMMARY

54) A Wellbeing Impact Assessment is provided at Attachment C.

CONSULTATION

External stakeholders

55) The Magpies Golf Club has been consulted on the proposal and have indicated a strong desire to purchase water.

ACT Government agencies

56) The SLA consulted with TCCS and the Chief Minister, Treasury and Economic Development Directorate in the development of this submission. Advice was also sought from the Utility Technical Regulator and is included as Attachment G to the submission.

57) Treasury have expressed concern about making commitments to irrigate areas other than priority 1. They noted that whilst the irrigation assets would be a similar model to the Inner North Reticulation Network, a key difference is that there is limited storage in this model. Therefore, in very wet years there will be a need to irrigate land when it is not required and in dry years supply will be insufficient to meet demand.

58) Treasury noted that without a storage facility, in dry years there will only be capacity to irrigate priority one areas. Based on analysis undertaken by Treasury for the Non potable water review, this is also the time that other users such as the Magpies would be looking to

purchase water. Therefore, without additional storage capacity, it is not recommended to make commitments to irrigate areas other than priority one areas, at this stage.

59) In very dry years, Treasury consider that it would only be appropriate for the government to purchase water to maintain priority 1 areas in these circumstances, in line with the irrigation policy that applies across the ACT.

60) An exposure draft of this submission was circulated to all directorates. A table of comments is provided at Attachment A.

MEDIA/COMMUNICATIONS

61) The Ginninderry JV has based much of its marketing and brand value on the creation of a unique and aesthetically pleasing location. The management of stormwater is critical to the Ginninderry JV development both in achieving its EPBC conditional requirements and the aesthetic value the development itself.

IMPLEMENTATION

62) Subject to Cabinet's agreement to the recommended approach, the delivery program at Attachment H sets out the steps required to achieve establishment of the utility and operational commencement of the stormwater harvesting facility by the end of September 2023.

HUMAN RIGHTS IMPACT

63) Nil.

Minister's signature _____ Date ___/___/_____

ATTACHMENTS

A	Table of comments
B	Open Access decision summary
C	Wellbeing Impact Assessment
D	Stormwater Management Options
E	Priority Irrigation Areas
F	Modelling Results
G	Regulatory Impacts
H	Ginninderry Stormwater Harvesting Facility Program

From: Rutledge, Geoffrey
Sent: Tue, 9 Nov 2021 10:31:38 +0000
To: EPSDD Ministerials and Corro Executive Office
Cc: EPSD Government Services
Subject: RE: FOR DDG RUTLEDGE REIVEW/APPROVAL (10/11) - EHW COMMENTS: [EPSDD Submission] - (Comments due to EGM 8 Nov) - 21/352 - Cabinet - West Belconnen (Ginninderry) Stormwater Harvesting Project
Categories: Cara

UNCLASSIFIED
Sensitive: Cabinet

Approved as amended below.

With drop copy to DG and to the MO (Anna – via the DLO).

Geoffrey

From: EPSDD Ministerials and Corro Executive Office <EPSDDMinisterialsandCorroExecutiveOffice@act.gov.au>
Sent: Tuesday, 9 November 2021 3:33 PM
To: Rutledge, Geoffrey <Geoffrey.Rutledge@act.gov.au>
Cc: EPSDD Ministerials and Corro Executive Office <EPSDDMinisterialsandCorroExecutiveOffice@act.gov.au>
Subject: FW: FOR DDG RUTLEDGE REIVEW/APPROVAL (10/11) - EHW COMMENTS: [EPSDD Submission] - (Comments due to EGM 8 Nov) - 21/352 - Cabinet - West Belconnen (Ginninderry) Stormwater Harvesting Project

Hi Geoffrey,

Please see below for your review and clearance EHW comments on the final package of the Ginninderry Stormwater Harvesting Project cabsub. The first point reiterates previous comments which have not been addressed.

1. EPSDD notes with comment.
2. It is difficult to ascertain from the submission the precise expected average annual water use and EPSDD would caution if the scheme has an unintended outcome of incentivising excess water use (through subsidised pricing) it would therefore negate water efficiency savings and impact on the ACTs Murray Darling Basin Sustainable Diversion Limit which could limit our future compliance with the MDB Water Plan.
3. Regarding (Rec 2c) the possible transfer of the utility function to TCCS and the potential revenue gain from this transfer; this is premature, given current considerations by Government on future water governance arrangements in the ACT. EPSDD proposes that this recommendation is deleted.
4. Financial Analysis
    a. The financial analysis assumes $1.80/kL water cost. The assumptions underpinning this financial analysis should be clearly documented.

b. The water price used for the analysis is very conservative and could be interpreted to be subsidised. Subsidisation of water costs is inconsistent with the ACT Government's agreement under the National Water Initiative and the Water Charging Principles under the Cwth Water Act, i.e. water charges are to be based on full cost recovery, including recovery of environmental externalities. The analysis should be updated or assumptions clearly stated to contextualise the proposed findings.
c. Par 33 - the basis of this costing is unclear and it is not stated whether it includes the ACT Government Water Abstraction Charge (WAC). The WAC determined under ACT Water Resource Act is payable for non-potable water supply, including supply from stormwater harvesting and reuse. The WAC for non-potable water supply is $0.305/kL. Including this charge in the analysis is expected to affect the financial position presented. Whether the WAC is included in the baseline revenue assumptions should be stated and to note the possible implications of this for the proposed revenue/cost benefits.

Due by COB tomorrow please.

Thanks,

Eliza Larson I Executive Officer to Geoffrey Rutledge, Deputy Director-General, Environment, Water and Emissions Reduction
Phone: +61 2 6207 7009 I Email: eliza.larson@act.gov.au

From: EPSD Government Services <EPSDGovernmentServices@act.gov.au>
Sent: Tuesday, 9 November 2021 1:51 PM
To: EPSDD Ministerials and Corro Executive Office <EPSDDMinisterialsandCorroExecutiveOffice@act.gov.au>
Subject: FOR DDG RUTLEDGE REIVEW/APPROVAL - EHW COMMENTS: [EPSDD Submission] - (Comments due to EGM 8 Nov) - 21/352 - Cabinet - West Belconnen (Ginninderry) Stormwater Harvesting Project

Hi Eliza

Please advise if I can provide the following comments directly to SLA or will they need Geoffrey's approval before they can progress?

Thank you
Cara

From: Cullen, Isabella <Isabella.Cullen@act.gov.au>
Sent: Tuesday, 9 November 2021 1:33 PM
To: EPSD Government Services <EPSDGovernmentServices@act.gov.au>
Cc: EPSDD Environment <EPSDDEnvironment@act.gov.au>; Walker, IanS <IanS.Walker@act.gov.au>
Subject: EHW COMMENTS: [EPSDD Submission] - (Comments due to EGM 8 Nov) - 21/352 - Cabinet - West Belconnen (Ginninderry) Stormwater Harvesting Project

Hi GS

Please see below comments from EHW on the attached cabinet submission.

1. On balance the proposal is supported. EPSDD notes paragraph 2 in that the stormwater harvesting has a significant benefit to the high value habitat of a range of threatened and endangered species. Also EPSDD in principle supports the use of stormwater to reduce potable water use. It is difficult to ascertain from the submission the precise expected average annual water use and EPSDD would caution if the scheme has an unintended outcome of incentivising excess water use (through subsidised pricing) it would therefore negate water efficiency savings and impact on the ACTs Murray Darling Basin Sustainable Diversion Limit which could limit our future compliance with the MDB Water Plan. (Note this comment was previously provided as part of the internal consultation phase however it doesn't appear to have been addressed in the submission.)
2. Rec 2c) The paper seeks Cabinet to note the possible transfer of the utility function to TCCS and the potential revenue gain from this transfer. This has been canvassed as an option in the paper however as a recommendation it is pre-emptive and is subject to further analysis of financial analysis and the outcome of the Government's review of water governance arrangements in the ACT. Propose that this recommendation is deleted or amended to note that the future operating arrangements will be subject to further review and a future submission to Cabinet.
3. Financial Analysis
    a. The financial analysis assumes $1.80/kL water cost. The assumptions underpinning this financial analysis should be clearly documented.
    b. The water price used for the analysis is very conservative and could be interpreted to be subsidised. Subsidisation of water costs is inconsistent with the ACT Government's agreement under the National Water Initiative and the Water Charging Principles under the Cwth Water Act, i.e. water charges are to be based on full cost recovery, including recovery of environmental externalities. The analysis should be updated or assumptions clearly stated to contextualise the proposed findings.
    c. Para 33 - It is not clear the basis of this costing and whether it includes the ACT Government Water Abstraction Charge (WAC). The WAC determined under ACT Water Resource Act is payable for non-potable water supply, including supply from stormwater harvesting and reuse. The WAC for non-potable water supply is $0.305/kL. Including this charge in the analysis is expected to affect the financial position presented. Whether the WAC is included in the baseline revenue assumptions should be stated and to note the possible implications of this for the proposed revenue/cost benefits.

Thank you!

Isabella Cullen | A/g Executive Assistant to Executive Group Manager, Environment Heritage and Water, Mr Ian Walker
Personal information | Email: Isabella.Cullen@act.gov.au
Environment, Planning and Sustainable Development Directorate | ACT Government
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From: Walker, IanS <IanS.Walker@act.gov.au>
Sent: Tuesday, 9 November 2021 1:11 PM
To: Cullen, Isabella <Isabella.Cullen@act.gov.au>
Cc: EPSDD Environment <EPSDDEnvironment@act.gov.au>
Subject: RE: FOR CLEARANCE: [EPSDD Submission] - (Comments due to EGM 8 Nov) - 21/352 - Cabinet - West Belconnen (Ginninderry) Stormwater Harvesting Project

Bella
Lets progress to govs services

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We acknowledge and celebrate the Ngunnawal peoples whose traditional lands we work on and pay our respect to elders past and present

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From: EPSD Government Services <EPSDGovernmentServices@act.gov.au>
Sent: Thursday, 4 November 2021 5:53 PM
To: Ponton, Ben <Ben.Ponton@act.gov.au>; Rutledge, Geoffrey <Geoffrey.Rutledge@act.gov.au>; Brady, Erin <Erin.Brady@act.gov.au>; Simmons, Craig <Craig.Simmons@act.gov.au>; Potter, Chantel <Chantel.Potter@act.gov.au>; Sendaba, Bethel <Bethel.Sendaba@act.gov.au>; Drejer-White, Maggie <Maggie.Drejer-White@act.gov.au>; Chambers, Kate <Kate.Chambers@act.gov.au>; Green, Ben <Ben.Green@act.gov.au>; Cilliers, George <George.Cilliers@act.gov.au>; Bennett, JamesP <JamesP.Bennett@act.gov.au>; McGlynn, Gene <Gene.McGlynn@act.gov.au>; Harding, Daniel <Daniel.Harding@act.gov.au>; Goonrey, Carolyn <Carolyn.Goonrey@act.gov.au>; #EPSDD Environment Senior Managers <#EPSDDEnvironmentSeniorManagers@act.gov.au>; EPSDD Environment <EPSDDEnvironment@act.gov.au>; Magee, Alexandra <Alexandra.Magee@act.gov.au>; Burdon, Gareth <Gareth.Burdon@act.gov.au>; Finlay, Jennifer <Jennifer.Finlay@act.gov.au>; Webb, Chris <Chris.Webb@act.gov.au>
Cc: Sampson, Lisa <Lisa.Sampson@act.gov.au>; EPSDD Ministerials and Corro Executive Office <EPSDDMinisterialsandCorroExecutiveOffice@act.gov.au>; Cullen, Isabella <Isabella.Cullen@act.gov.au>; Vest, Petra <Petra.Vest@act.gov.au>; Mileski, Rachael <Rachael.Mileski@act.gov.au>; Marshall, Guenivere <Guenivere.Marshall@act.gov.au>; Ten Donkelaar, Tara <Tara.TenDonkelaar@act.gov.au>; Codd, Fiona <Fiona.Codd@act.gov.au>; Cullen, Isabella <Isabella.Cullen@act.gov.au>; EPSDD PlanningUrbanPolicy <EPSDDPlanningUrbanPolicy@act.gov.au>; EPSDD StatutoryPlanning <EPSDDStatutoryPlanning@act.gov.au>; EPSDD Support Team - Climate Change and Energy <EPSDDSupportTeam-ClimateChangeandEnergy@act.gov.au>; EPSDD Media <EPSDDMedia@act.gov.au>; EPSD Government Services <EPSDGovernmentServices@act.gov.au>
Subject: FOR ACTION [EPSDD Submission] - (Comments due 9 Nov) - 21/352 - Cabinet - West Belconnen (Ginninderry) Stormwater Harvesting Project

Dear Colleagues

The attached Cabinet submission is available for your review. Details of the submission are as follows:

CABINET CIRCULATION - If you would like your staff to view this paper, please reply to request access			**DIRECTORATE**	
Submit comments to AO	4pm Wednesday 10 November 2021	**Cabinet Date**	Monday, 29 November 2021	**Meeting Typ**

Submission Title	Ginninderry Stormwater Re-use Initiative			
Contact Officer	Name:	Gareth Burdon	Position:	Development D
Description	To seek Cabinet's agreement to the establishment of a utility to manage and operate stormwater			
Submission Type	Exposure Draft The cabinet process of exposure draft circulation is to seek each Directorate's position on the submission. It is the opportu support (with comment) or their decision to not support (with comments as to why). The exposure draft stage is the prefe provide their feedback.			

A URL to the materials is also provided below for your convenience:
https://objective.act.gov.au/#/documents/fA11099148/details

For your information, this Cabinet submission highlights the important work of the Suburban Land Agency.

If you have any queries, or require any support in the Cabinet review process, please contact the Government Services team.

Thank you
Fran

Francesca Yang | Cabinet Liaison Officer
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ATTACHMENT B

OPEN ACCESS ASSESSMENT: CABINET DECISION AND WELLBEING IMPACT ASSESSMENT SUMMARY

The Chief Minister must proactively release the information described in section 23 of the *Freedom of Information Act 2016* (the FOI Act) unless the information is contrary to the public interest in accordance with sections 16 and 17, and schedules 1 and 2 of the FOI Act. Please refer to the Cabinet Sharepoint Site for further guidance on what is within the scope of Open Access requirements.

If you believe that release of this information is within the scope of Open Access requirements and would be contrary to the public interest, please complete Part B.

PART A: Release proposed

Number and title of decision: **21/352 West Belconnen (Ginninderry) Stormwater Harvesting Project**

Proposed summary of the decision for public release
Cabinet agreed to the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development.

Proposed summary of the Wellbeing Impact Assessment for public release
The proposal will have a positive impact on the Ginninderry development open spaces and for residents by irrigating key areas throughout the development will encourage more people to purchase land at Ginninderry but also create areas for residents to enjoy outdoor recreation in well maintain parks and ovals – anecdotally improving physical and mental wellbeing.

Attachments for release
Attachment C, Attachment G, Attachment E

Summary of the decision	**Release through the Open Access website?**	**Release by Directorate?**
Summary of the decision	Yes	
Attachment A Table of final agency comments		
Attachment B Open Access Assessment – Decision Summary		
Attachment C Wellbeing Impact Assessment	Yes	
Attachment D Stormwater Management Options	No	No
Attachment E TCCS Priority Irrigation Areas	Yes	Yes
Attachment F Modelling Results	No	No
Attachment G Regulatory Impacts	Yes	Yes
Attachment H Ginninderry Stormwater Harvesting Facility Program	No	No

WELLBEING IMPACT ASSESSMENT

Proposal Name: Ginninderry (West Belconnen) Joint Venture – Stormwater Harvesting Project **SLA** **Wellbeing Impact 1**

Purpose of proposal

This proposal seeks agreement to establish a utility to manage and operate stormwater harvesting for the Ginninderry development.

Impact description

We anticipate that the proposal will have the following wellbeing impacts across the environment and climate and access and connectivity wellbeing domains:

- Major impact on residents on Ginninderry development suburbs
- Major impact on Ginninderry recreation and open space areas
- Minor impact on local flora and fauna through the on-going irrigation and maintenance will create passages through the landscape for travel and nesting opportunities.
- Minor impact to ACT community through increase in irrigation operation and maintenance costs for TCCS
- Minor impact to ACT community through potential revenue collected by the resale of stormwater

The proposal will have a positive impact on the Ginninderry development open spaces and for residents by irrigating key areas throughout the development will encourage more people to purchase land at Ginninderry but also create areas for residents to enjoy outdoor recreation in well maintain parks and ovals – anecdotally improving physical and mental wellbeing.

There will be both some positive and negative impacts to the ACT budget through the increased irrigation by way of increased maintenance (mowing etc) but also the opportunity to sell excess stormwater to local businesses like the golf course and create an additional revenue stream.

Who is affected?

Residents of the Ginninderry Development area – Strathnairn, Macnamara and new yet to be named suburbs in the ACT and NSW. This will likely impact the 30,000 plus residents of these suburbs as well as other Canberrans that visit once the development has been complete Impacts to the eight specific groups identified under the ACT Government's Wellbeing Framework

- Aboriginal and Torres Strain Islanders Peoples – nil impact
- Carers – nil impact
- Children and Young People – nil direct impacts, however it should be noted that the creation and maintenance of green and water recreational areas increases wellbeing and improves physical and mental health. Further the reuse of stormwater is a sustainable approach to water utilisation and will benefit future generations.
- Culturally and Linguistically Diverse People – nil direct impacts however it should be noted that land purchases to date have been dominated by people from the Asian sub-continent. This has created a tremendously diverse culture within the Strathnairn. The Ginninderry JV expect this cultural diversity to continue throughout the development.
- LGBTIQ+ People – nil impact
- Older Canberrans – nil direct impacts, however it should be noted that the creation and maintenance of green and water recreational areas increase wellbeing and improves physical and mental health.
- People with a disability – nil impact
- Across gender People – nil impact

Wellbeing domain

Environment and climate

Timeframe

Between one and five years	The development of the first few stormwater collection ponds has already been completed. It is expected that stormwater irrigation could be operational by 2023 with the first stage of MacNamara.

Evidence base and data

What do we know now?

Rainfall data has been modelling using historical data from the Bureau of Meteorology, this data has also been modelled conservatively to demonstrate the most likely outcomes in terms of stormwater that is available for reuse. The modelling work was completed by WSUD experts.

Irrigation costs to the ACT Government have been obtained from TCCS and based on actual data from other irrigation projects from around Canberra.

What do we need to know?

Rainfall and the amount of stormwater required for irrigation is still based on modelling of past events. The impact of rainfall will be reviewed regularly through the first five years of operation to ensure that the stormwater reuse initiative is providing a net positive impact to the ACT community.

WELLBEING IMPACT ASSESSMENT

Accountability and evaluation – how will we know this proposal has been successful?

This proposal will be evaluated on three grounds:

- Additional cost to ACT Government to irrigate versus the additional revenue received from the sale of excess stormwater
- Ability of the storage ponds and stormwater reuse to minimise stormwater run off days into the Conservation Corridor, thus not impacting the Ginninderry JV EPBC Act conditional approval.
- Ability of the Ginninderry JV to maintain their six star green star communities rating. This has been noted by numerous potential and actual land purchasers at Ginninderry as being a key reason for their purchase. They want to live in a development that has a high focus on sustainability.

The Ginninderry JV propose to build the Ginninderry Stormwater reuse utility and once complete handing it over for Government operation.

Key relationships

Key stakeholders have been engaged to provide input on the development of this proposal from various areas of Government as well as research and analysis commissioned from Water Sensitive Urban Design experts.

Government

Engagement has taken place and continues with representatives from ACT Treasury, EPSDD through the Chief Engineer and TCCS as the operators of the ACT's stormwater network.

Private Sector

The Ginninderry JV and SLA have engaged expert advice from leading Water Sensitive Urban Design experts in the modelling and development of options for the reuse of stormwater within the Ginninderry development area.

ATTACHMENT D

STORMWATER MANAGEMENT OPTIONS

Stormwater Management Options	Feasibility	Commentary
Utility	Yes	• Regulated utility to manage and reticulation infrastructure and associated use of stormwater (via Ministerial exemption from holding a utilities licence) • Series of different models
By-Pass Pipeline	No	• Process by which stormwater is piped further downstream into order to minimise local environmental impacts • Issues with constructability and cost.
Aquifer Recharge	No	• Process by which excess stormwater is injected back into existing underground aquifers • Limited capability to injecting, storing and extracting the necessary volumes of recycled water to justify
Additional Storage	No	• Storage of urban excess in lieu of additional irrigation to priority 2 & 3 areas. • At an estimated additional cost of $7.5-10.3 million not commercially viable. • Also several technical challenges given the storage ponds and wetlands in Strathnairn have already been constructed and if not reused the stored water would also need to be safely discharged in a way to maintain protection of the Murrumbidgee River Corridor.

OPTION 1: TCCS MANAGED UTILITY

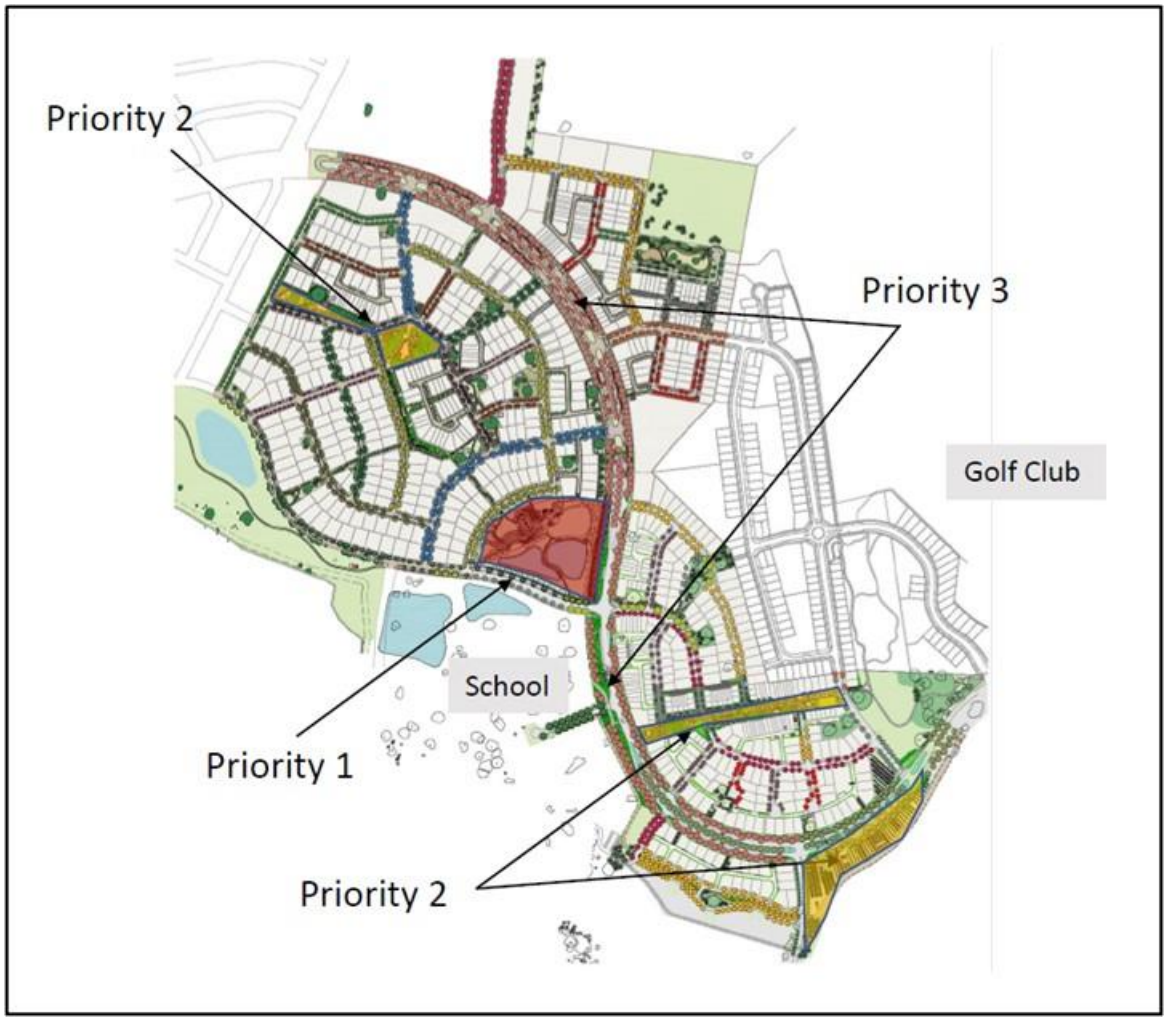
Strengths • TCCS already own, operate and maintain the ACT's Stormwater network	**Opportunities** • Replication - in other SLA / other developments • Revenue - there revenue creation opportunities with local golf course and future businesses and schools • Innovation - stormwater reuse is world leading WSUD • Proof of concept - for future land development along West Edge
Weaknesses • Inequality – potential for Strathnairn to be seen as a suburb with a higher level of service than other suburbs • Management costs – TCCS doesn't have funding to manage an initiative like this. An annual appropriation from Treasury would be required at some point in the future	**Threats** • TCCS is not funded adequately to operate and maintain the harvesting network compliantly • Infrastructure constructed is unable to meet compliancy requirements • Drought - lack of rain impacts commercial viability of utility

OPTION 2: GJV MANAGED WATER UTILITY (FOR FIVE YEARS)

Strengths • Cost share with a private developer • Five-year proof of concept prior to handover • Lessons learnt and operations streamlined prior to handover • Handover period to be organised	**Opportunities** • Replication - in other SLA / other developments • Revenue - revenue creation opportunities with local golf course and future businesses and schools • Innovation - stormwater reuse is world leading WSUD • Proof of concept - for future land development along West Edge
Weaknesses • Inequality - potential for Strathnairn to be seen as a suburb with a higher level of service than other suburbs • Management costs - TCCS doesn't have funding to manage a initiative like this. An annual appropriation from Treasury would be required at some point in the future depending on option chosen	**Threats** • Drought - lack of rain impacts viability of utility • Floods / Storms - utility will need to be able to manage flood and storm events to not impact residents and local environment • Lack of revenue does not enable adequate operation and maintenance to meet compliancy requirements

ATTACHMENT E

GINNINDERRY ON-SITE IRRIGATION PRIORITY AREAS



ATTACHMENT F

STORMWATER MODELLING RESULTS

Table 1: Pond infrastructure

Pond	Total [kL]			Harvestable [kL]		
#	*Phase 1*	*Phase 2*	*Phase 3*	*Phase 1*	*Phase 2*	*Phase 3*
B5	28,511	28,511	28,511	9,591	9,591	9,591
B8	14,599	14,599	14,599	5,513	5,513	5,513
B46	13,372	13,372	13,372	5,358	5,358	5,358
B10		5,319	5,319		3,479	3,479
B12		3,930	3,930		3,479	3,479
B45			141,885			99,845
Total	56,482	65,730	207,615	20,461	27,419	127,264

Table 2: Phasing of supply by priority

	Neighbourhood [kL]			Golf [kL]	
	Priority 1	*Priority 2*	*Priority 3*	*Potential*	*Deficit*
Phase 1	35,537	51,130	28,580	17,712	-54,788
Phase 2	35,537	51,130	28,580	22,618	-49,882
Phase 3	35,537	51,130	28,580	54,362	-18,138

Table 3: Capital expenditure

Component	Unit	Value	Total
Pumpwell and Collection Pits	$	214,550	
Treatment Room	$	222,400	
Automation	$	100,000	
Irrigation Pumps and Tanks	$	254,050	
Pumpwell and Pumps Install	$	80,000	
Treatment Room	$	50,000	
Treatment Room-Equipment	$	35,000	
Treatment Room-Commissioning and Validation	$	30,000	
Treatment Room-Engineering Plans etc	$	27,000	
Irrigation Pumps-Install	$	15,000	
Installation	$	237,000	
Base Total (Exc GST)	$		1,028,000
Roads and Access	$	50,000	
Rising Mains/Pipes- Budget	$	175,000	
Conduits for electrical	$	30,000	
EXTRAS (Exc GST)	$		255,000
Base + Extras (Exc GST)	$		1,283,000
Contingency	$	128,300	
Base + Extras + Contingency (Exc GST)	**$**		**1,411,300**

Table 4: Operational expenditure

Item	Unit	NPV 7%	Of total
R&M: Reactive	$	171,160	8.6%
UV Spares (Lamps and Wipers)	$	13,313	0.7%
Media Replacement	$	11,369	0.6%
Misc Spares	$	16,853	0.8%
Labour: Planned R&M	$	300,785	15.2%
Power	$	576,165	29.0%
Chemicals	$	55,361	2.8%
UTR Operating	$	198,967	10.0%
Irrigation Opex	$	226,163	11.4%
Labour: Operations	$	414,113	20.9%
Subtotal	**$**	**1,984,250**	

Table 5: Base Model Results (including sale of excess supply to Golf)

These results are based on a price of **$1.76/kL** ($2.08 /kL to consumer including WAC) at which the 20 yr NPV of total revenue is equal to total cost (IRR of 7%). The 20-year median price (after infl.) is $2.10 (ex-WAC).

Financial Metrics	NPV 3% $m	NPV 7% $m	NPV 10% $m	Nominal $m
Project total cost [TC]	**$4.24**	**$3.40**	**$2.99**	**$5.26**
Project Capital Expenditure [CAPEX]	$1.41	$1.41	$1.41	$1.41
Project Operational Expenditure [OPEX]	$2.83	$1.98	$1.58	$3.84
Project total revenue [TR]	**$5.22**	**$3.40**	**$2.56**	**$7.53**
Net Impact: TR-TC	$0.98	$0.00	-$0.43	$2.27
Net Impact: TR-OPEX	$2.39	$1.41	$0.98	$3.68

Investment Metrics	NPV 3% x/%	NPV 7% x/%	NPV 10% x/%	Nominal x/%
Benefit Cost Ratio [BCR]: TC	1.23	1.00	0.86	1.43
BCR: OPEX	1.85	1.71	1.62	1.96
Net benefit to investment ratio [NBIR]: TC	0.70	0.00	-0.31	1.61
NBIR: OPEX	1.70	1.00	0.69	2.61
Internal Rate of Return [IRR]:TC	7.0%	7.0%	7.0%	na
IRR: OPEX	50.8%	50.8%	50.8%	na

Table 6: Base Model Results (excluding sale of excess supply to golf)

These results are based on a price of **$2.33/kL** ($2.64 /kL to consumer including WAC) at which the 20 yr NPV of total revenue is equal to total cost (IRR of 7%). The 20-year median price (after infl.) is $2.98 (ex-WAC).

Financial Metrics	**NPV 3%** **$m**	**NPV 7%** **$m**	**NPV 10%** **$m**	**Nominal** **$m**
Project total cost [TC]	**$4.24**	**$3.40**	**$2.99**	**$5.26**
Project Capital Expenditure [CAPEX]	$1.41	$1.41	$1.41	$1.41
Project Operational Expenditure [OPEX]	$2.83	$1.98	$1.58	$3.84
Project total revenue [TR]	**$5.12**	**$3.40**	**$2.60**	**$7.29**
Net Impact: TR-TC	$0.88	$0.00	-$0.40	$2.03
Net Impact: TR-OPEX	$2.30	$1.41	$1.02	$3.45

Investment Metrics	**NPV 3%** **x/%**	**NPV 7%** **x/%**	**NPV 10%** **x/%**	**Nominal** **x/%**
Benefit Cost Ratio [BCR]: TC	1.21	1.00	0.87	1.39
BCR: OPEX	1.81	1.71	1.64	1.90
Net benefit to investment ratio [NBIR]: TC	0.63	0.00	-0.28	1.44
NBIR: OPEX	1.63	1.00	0.72	2.44
Internal Rate of Return [IRR]:TC	7.0%	7.0%	7.0%	na
IRR: OPEX	67.5%	67.5%	67.5%	na

Table 7: Government Ownership Model Results (excludes sale of excess supply to golf)

These results are based on the implicit price at which the scheme under TCCS ownership meets total costs which is a price of **$1.63/kL** ($1.94 including WAC). Over the 20-year period the median implicit price is $2.08/kL (ex-WAC). To be clear the implicit price is the derived unit price for fulfilling priority 1,2 and 3 demand where the 20 year nominal total cost is the same as the 20 year nominal total implicit revenue (a BCR of 1 and zero discount rate).

Financial Metrics	**NPV 3%** **$m**	**NPV 7%** **$m**	**NPV 10%** **$m**	**Nominal** **$m**
Project total cost [TC]	**$4.24**	**$3.40**	**$2.99**	**$5.26**
Project Capital Expenditure [CAPEX]	$1.41	$1.41	$1.41	$1.41
Project Operational Expenditure [OPEX]	$2.83	$1.98	$1.58	$3.84
Project total revenue [TR]	**$3.68**	**$2.42**	**$1.84**	**$5.27**
Net Impact: TR-TC	-$0.56	-$0.98	-$1.15	$0.01
Net Impact: TR-OPEX	$0.85	$0.43	$0.26	$1.43

Investment Metrics	**NPV 3%** **x/%**	**NPV 7%** **x/%**	**NPV 10%** **x/%**	**Nominal** **x/%**
Benefit Cost Ratio [BCR]: TC	0.87	0.71	0.62	1.00
BCR: OPEX	1.30	1.22	1.17	1.37
Net benefit to investment ratio [NBIR]: TC	-0.40	-0.69	-0.82	0.01
NBIR: OPEX	0.60	0.31	0.18	1.01
Internal Rate of Return [IRR]:TC	0.1%	0.1%	0.1%	na
IRR: OPEX	22.4%	22.4%	22.4%	na

Table 8: Model Results – prices under different scenarios compared to alternatives

	Base price	20 year+ median
Modelled		
Base (incl. Golf)	1.76	2.27
Base (excl. Golf)	2.33	2.98
TCCS—implicit (excl. Golf)	1.63	2.08
Comparative		
ICON marginal potable	4.94	6.32
75% ICON marginal	3.71	4.67
INRN	3.74	4.79

Table 9: Total Operating Costs and Big Cost Drivers

Base FY	R&M: Reactive	Power	Chemicals	UV Spares (Lamps and Wipers)	Media Replacement	Misc Spares	UTR related	Labour: Planned R&M	Labour: Operations	IRRIGATION MAINTENANCE
2020	0	0	0	0	0	0	0	0	0	0
2021	13,443	51,641	4,962	0	0	1,511	20,140	25,375	34,936	20,271
2022	13,638	52,003	4,997	0	0	1,521	17,746	25,756	35,460	20,413
2023	15,879	52,367	5,032	4,085	0	1,532	17,870	26,142	35,992	20,556
2024	14,038	52,734	5,067	0	0	1,542	17,995	26,534	36,532	20,700
2025	14,243	53,103	5,102	0	0	1,553	18,121	26,932	37,079	20,844
2026	16,536	53,474	5,138	4,171	0	1,564	18,248	27,336	37,636	20,990
2027	14,661	53,849	5,174	0	0	1,575	18,376	27,746	38,200	21,137
2028	14,874	54,226	5,210	0	0	1,586	18,504	28,162	38,773	21,285
2029	17,221	54,605	5,247	4,259	0	1,597	18,634	28,585	39,355	21,434
2030	22,549	54,987	5,283	0	14,475	1,608	18,764	29,014	39,945	21,584
2031	15,534	55,372	5,320	0	0	1,620	18,896	29,449	40,544	21,735
2032	17,935	55,760	5,358	4,349	0	1,631	19,028	29,890	41,152	21,888
2033	15,991	56,150	5,395	0	0	1,642	19,161	30,339	41,770	22,041
2034	16,224	56,543	5,433	0	0	1,654	19,295	30,794	42,396	22,195
2035	18,681	56,939	5,471	4,441	0	1,665	19,430	31,256	43,032	22,350
2036	16,701	57,338	5,509	0	0	1,677	19,566	31,725	43,678	22,507
2037	16,945	57,739	5,548	0	0	1,689	19,703	32,201	44,333	22,664
2038	19,460	58,143	5,587	4,535	0	1,701	19,841	32,684	44,998	22,823
2039	17,443	58,550	5,626	0	0	1,713	19,980	33,174	45,673	22,983
2040	25,459	58,960	5,665	0	15,521	1,725	20,120	33,671	46,358	23,144
	171,160	576,165	55,361	13,313	11,369	16,853	198,967	300,785	414,113	226,163
	337,453	1,104,485	106,125	25,840	29,996	32,306	379,420	586,763	807,842	433,545

ATTACHMENT G

REGULATORY IMPACTS

Ginninderry Regulatory Overview

The key regulatory steps for the Ginninderry stormwater project include:

1) Ministerial exemption which grants the utility an exemption from holding a licence in accordance with Section 22 of the *Utilities Act 2000*;
2) Design and Construct (D&C) Operating Certificate in accordance with Section 43 of the *Utilities (Technical Regulation) Act 2014*; and
3) Provision of Service (PoS) Operating Certificate in accordance with Section 43 of the *Utilities (Technical Regulation) Act 2014*.

The Utility Technical Regulator (UTR) has advised that ministerial and regulatory approval processes cannot commence until a Cabinet decision is made. At the Ginninderry JV request, UTR has provided a rough timeframe on the regulatory approvals, based off other utility submissions, subsequent to the Cabinet decision.

- Ministerial exemption (This timeframe is dependent on the Cabinet process)
    - Utility applies to Minister for Water, Energy and Emissions Reduction for an exemption from holding a licence.
    - Minister grants / denies exemption request (this includes preparing the exemption instrument).
- Design & Construct Operating Certificate (8-24 weeks)
    - Utility submits a Design and Construct Operating Certificate application, which includes a draft Regulatory Plan. (2-8 weeks)
    - UTR reviews draft Regulatory Plan and provides feedback. This includes engagement with Health Protection Services (HPS) regarding the management of water quality considerations. (2 weeks)
    - Utility resubmits Regulatory Plan for approval (if UTR feedback isn't appropriately addressed, UTR will request another Regulatory Plan be submitted). (2-8 weeks)
    - UTR approves utility's regulatory plan and grants utility with Design and Construct Operating Certificate. (2-6 weeks)
- Provision of Service Operating Certificate (8-24 weeks)
    - Utility submits a Provision of Service Operating Certificate application, which includes a draft Regulatory Plan. (2-8 weeks)
    - UTR reviews Regulatory Plan and provides feedback, including liaison with HPS. (2 weeks)

- Utility resubmits Regulatory Plan for approval (if UTR feedback isn't appropriately addressed, UTR will request another Regulatory Plan to be submitted). (2-8 weeks)
- UTR approves utility's Regulatory Plan and grants utility with Provision of Service Operating Certificate. (2-6 weeks)

- Cost Recovery
  - Cost recovery for unlicensed regulated utilities is undertaken in accordance with the *Utilities (Technical Regulation) Operating Certificate Fees Determination 2019*.
  - Cost recovery will commence once an application is received for an Operating Certificate and continue during construction and into the operational phase of the system.

Overview of Utility Regulation & Governance Arrangements

Regulated utility services must be designed, constructed, maintained and operated to meet the minimum safety, reliability and functional requirements of that installation. The *Utilities Act 2000* provides a regulatory framework for electricity, gas, water and sewerage utility services.

Technical regulation is provided by the Technical Regulator under the *Utilities (Technical Regulation) Act 2014*. Technical regulation is concerned with the operation of utility services and the protection and maintenance of licensed and unlicensed regulated utilities. The Independent Competition and Regulatory Commission (ICRC) is the economic regulator responsible for licensing utilities in the ACT. Unlicensed regulated utilities (see below under scope), and utilities subject to licensing provided with a Ministerial exemption from holding a licence, are required to obtain an operating certificate from the Technical Regulator.

The Director-General of the EPSDD is the Technical Regulator of utility services in the ACT, reporting to the Minister for Water, Energy and Emissions Reduction. The role of the Technical Regulator is to provide safe, reliable and efficient delivery of gas, electricity and water services to the ACT community. The UTR team within Access Canberra supports the Technical Regulator in the administration of the *Utilities (Technical Regulation) Act 2014* and provides advice regarding elements of the *Utilities Act 2000.*

Policy advice in relation to matters such as exemptions is provided by the relevant policy area in EPSDD, in this case the Water Policy Team.

Scope of Technical Regulation

- Licensed Utilities (ICRC and UTR)
  - Licensed electricity and gas transmission and distribution (TransGrid, EAPL ltd (APA Group), Evoenergy
  - Licensed water and sewerage, including drinking water supply dams (Icon Water)
- Unlicensed Utilities (UTR)
  - Exempted utilities; subject to licensing but provided with a Ministerial exemption from holding a licence from the ICRC but requiring an operating certificate from

the Technical Regulator (QPRC Sewage Treatment Plant, TCCS Inner-North Reticulation Network, Essential Energy distribution network)

- Unlicensed regulated utilities (light rail; TCCS & QPRC dams; solar farms; large batteries etc.)

Water Resources Act 2007

Under the *Water Resources Act 2007* the management and use of Territory water resources must consider the physical, economic and social well-being of the people of Canberra whilst protecting the ecosystems that depend on those resources. They must also protect aquatic ecosystems from damage and ensure water resources are able to meet the future generational needs.

Considerations must also be given to:

- environmental flow and the impact that any initiative will have on environmental flows.
- water access entitlements; and
- water license requirements.

Licence Exemption (Minister for Water, Energy and Emissions Reduction)

An unregulated utility can be granted a Ministerial exemption from holding a licence in accordance with Section 22 of the *Utilities Act 2000*. A licence exemption relates to the requirement for a utility to hold a licence from the ICRC under the *Utilities Act 2000*. The exemption can be conditioned, to provide further requirements applied to the utility. A utility provided with a licence exemption requires an operating certificate from the Technical Regulator.

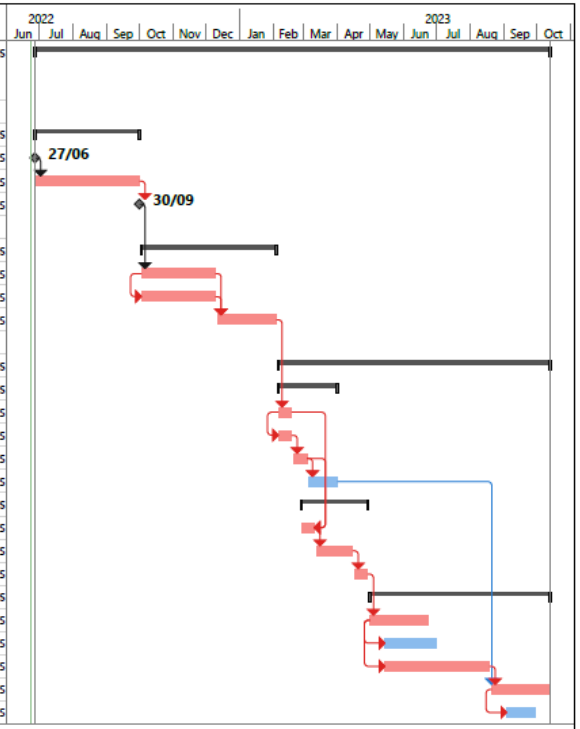
Operating Certificates

The operating certificate is issued following submission of a regulatory plan by an unlicensed regulated utility or exempted utility. An unlicensed regulated utility is required to apply for an operating certificate to the Technical Regulator in accordance with Section 43 of *the Utilities (Technical Regulation) Act 2014.* The operating certificate process allows UTR to develop regulatory controls for the utility in response to the design, construction methodology and operational processes considered in the regulatory plan.

UTR typically issues two operating certificates; a design and construction operating certificate prior to commencement of construction that includes commissioning of the system, and a provision of service operating certificate for an operational system.

Ginninderry Stormwater Harvesting Facility Program ATTACHMENT H

ID	WBS	Task Name	Duration	Start	Finish	% Complete	Predecessors	Successors	Total Slack
1	1	**SWH Delivery - Ginninderry**	66 wks	Mon 27/06/22	Fri 13/10/23	0%			0 wks
2									
3	1.1	**Business Case Phase**	14 wks	Mon 27/06/22	Fri 30/09/22	0%			0 wks
4	1.1.1	Exposure Draft Circulation	0 wks	Mon 27/06/22	Mon 27/06/22	0%		5	0 wks
5	1.1.2	Territory Review	14 wks	Mon 27/06/22	Fri 30/09/22	0%	4	6	0 wks
6	1.1.3	Territory Approval	0 wks	Fri 30/09/22	Fri 30/09/22	0%	5	9	0 wks
7									
8	1.2	**Utility Establishment Phase**	16 wks	Mon 3/10/22	Fri 3/02/23	0%			0 wks
9	1.2.1	Ministerial exemption	10 wks	Mon 3/10/22	Fri 9/12/22	0%	6	10SS,11	0 wks
10	1.2.2	Operating Certificate - D&C	10 wks	Mon 3/10/22	Fri 9/12/22	0%	9SS	11	0 wks
11	1.2.3	Service Operating Certificate	6 wks	Mon 12/12/22	Fri 3/02/23	0%	9,10	15	0 wks
12									
13	1.3	**Delivery Phase**	36 wks	Mon 6/02/23	Fri 13/10/23	0%			0 wks
14	1.3.1	**Design & approvals**	8 wks	Mon 6/02/23	Fri 31/03/23	0%			0 wks
15	1.3.1.1	Specification & checklists	2 wks	Mon 6/02/23	Fri 17/02/23	0%	11	20FF+1 wk,16	0 wks
16	1.3.1.2	Water Quality monitoring prograr	2 wks	Mon 6/02/23	Fri 17/02/23	0%	15SS	17	0 wks
17	1.3.1.3	Water Inf Operating Plan	2 wks	Mon 20/02/23	Fri 3/03/23	0%	16	20FF+1 wk,18	0 wks
18	1.3.1.4	Operational doc approval	4 wks	Mon 6/03/23	Fri 31/03/23	0%	17	27	20 wks
19	1.3.2	**Procurement Phase**	9 wks	Mon 27/02/23	Fri 28/04/23	0%			0 wks
20	1.3.2.1	Tender package prep	2 wks	Mon 27/02/23	Fri 10/03/23	0%	17FF+1 wk,121		0 wks
21	1.3.2.2	Tendering	5 wks	Mon 13/03/23	Fri 14/04/23	0%	20	22	0 wks
22	1.3.2.3	Award	2 wks	Mon 17/04/23	Fri 28/04/23	0%	21	24	0 wks
23	1.3.3	**Construction**	24 wks	Mon 1/05/23	Fri 13/10/23	0%			0 wks
24	1.3.3.1	Detailed design elements	8 wks	Mon 1/05/23	Fri 23/06/23	0%	22	25SS+2 wks,26	0 wks
25	1.3.3.2	Procurement	7 wks	Mon 15/05/23	Fri 30/06/23	0%	24SS+2 wks		15 wks
26	1.3.3.3	Construction & Commissioning	14 wks	Mon 15/05/23	Fri 18/08/23	0%	24SS+2 wks	27	0 wks
27	1.3.3.4	Verification	8 wks	Mon 21/08/23	Fri 13/10/23	0%	26,18	28SS+2 wks	0 wks
28	1.3.3.5	Handover	4 wks	Mon 4/09/23	Fri 29/09/23	0%	27SS+2 wks		2 wks



Indicative Program

Task | Inactive Task | Manual Summary Rollup | External Milestone | Baseline Milestone
Split | Inactive Milestone | Manual Summary | Deadline | Baseline Summary
Milestone | Inactive Summary | Start-only | Critical | Progress
Summary | Manual Task | Finish-only | Critical Split | Manual Progress
Project Summary | Duration-only | External Tasks | Baseline | Slippage

Page 1

ACT Government
Environment, Planning and Sustainable Development

CABINET

MINISTERIAL BRIEF

To:	Minister for Housing and Suburban Development	**Cabinet No.: 21/352** Rec'd Minister's Office …/…/…
From:	Chief Executive Officer, Suburban Land Agency	
Subject:	Exposure Draft Lodgement of Cabinet item 21/352 West Belconnen (Ginninderry) Stormwater Harvesting Project	
Critical Date:	7 September 2022	
Critical Reason:	Final Lodgement is due 10am 7 September 2022 for Cabinet Consideration on 15 September 2022	

Purpose
To seek agreement to the draft submission and associated attachments to undergo exposure circulation.

Recommendations
That you:

1. **Note** the information contained in this brief;

Noted / Please Discuss

2. **Agree** to lodge the draft Cabinet submission and associated documents for final circulation; and

Agreed / Not Agreed / Please Discuss

3. **Agree** to a Directorate Official attending the Expenditure Review Committee and Cabinet meeting to provide support and further advice to the submission.

Agreed / Not Agreed / Please Discuss

Yvette Berry MLA 27/8/22

Minister's Office Feedback

Background

1. The topography of the Ginninderry development site is challenging given the natural slope towards the Murrumbidgee River, which creates potential environmental risks for the river corridor from stormwater run-off and the damage that this would inflict upon the high value habitat through these areas, which are home to a range of threatened and endangered species.

2. The significance of this issue is highlighted in the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) planning approval, which includes a requirement for the Ginninderry Joint Venture (GJV) to minimise stormwater run-off into the local environment.

3. To meet the conditions of the abovementioned planning and environmental approvals, a series of containment ponds have been designed as part of the overall Ginninderry Master Plan. These ponds will be used primarily for the capture and storage of stormwater run-off from within the development. The utilisation of stormwater needs to be considered strategically in the context of the financial, ecological, community and social impacts.

4. The management of stormwater also forms part of Ginninderry's six-star green star rated communities which has recently been re-certified for a further five years.

Issues

5. Three stormwater management options were considered:
    a. A utility – considered a viable alternative that was progressed to a business case.
    b. A transfer pipeline – discounted prior to business case stage given ecological impact and financial cost.
    c. Aquifer recharge/ groundwater injection – discounted prior to business case stage given expert advice that existing hydrological experts deemed the underlying geology of the Ginninderry development unsuitable for this type of initiative.

6. A stormwater harvesting model was developed to consider the utility-based options for the stormwater re-use initiative, these included:
    a. Icon Water – not considered a viable option as Icon Water does not manage stormwater infrastructure.
    b. Transport Canberra and City Services Directorate (TCCS) – considered a viable option given TCCS's management of existing stormwater infrastructure.
    c. GJV short-term (up to 5 years), TCCS long-term – considered a viable option given the GJV's need for a stormwater management initiative.
    d. Private Ownership – not considered a viable option given the investment risk for establishing a one-off utility.

7. Through consultation with Treasury and TCCS, it has been determined that the preference is for the Ginninderry JV to fund, design, procure, construct and commission the stormwater harvesting facility, with the asset to be transferred/gifted to TCCS to own, operate and maintain after it has been successfully commissioned.

8. However, through the exposure draft consultation, TCCS has requested that this proposal go through a two stage Cabinet approval process, whereby a future Cabinet submission will be

prepared once detailed design of the facility is completed to establish a stronger basis for operational costs which will inform a future budget bid by TCCS.

Financial Implications

9. The financial implications have been removed from the first pass Cabinet submission and will be developed further prior to the second pass.

10. The SLA will work closely and collaboratively with TCCS and Treasury to ensure costs are reflective of each parties expectations balanced against available evidence for facilities of this nature.

Consultation

Internal

11. The Suburban Land Agency, Commercial Finance.

Cross Directorate

12. TCCS, Executive Group Manager City Operations:
    a. All commentary on initial drafts have been incorporated into the submission.
    b. No objections to proceeding to final process noting the requested two pass process

13. Treasury, Executive Branch Manager Economic and Financial Analysis and Executive Branch Manager, Central Agencies
    a. All commentary on initial drafts have been incorporated into the submission.
    b. No objections to proceeding to final process.

External

14. Numerous independent water sensitive urban design experts have provided input into the project over the last two years.

Benefits/Sensitivities

15. There are significant benefits to both the Ginninderry JV and the Territory, including allowing the GJV to maintain their EPBC Act 1999 conditional approval as well as the extensive community and social positives of having expansive well maintained open areas.

16. There is potential to sell stormwater to commercial entities if commercially viable once the facility is operational.

17. The main sensitivity involves the increased maintenance of urban areas within Ginninderry that aren't serviced by TCCS under 'Business as Usual' operations. Further, upon any transfer to TCCS an ongoing Treasury appropriation will be required for TCCS to manage and operate the utility. This has the ability to be offset by the revenue opportunities available to the utility, however there is no support within Treasury or TCCS at this stage to seek commercial revenue sources to offset costs.

Media Implications

18. Nil anticipated.

Signatory Name:	Tom Gordon	Phone:	x75553
Action Officer:	Nick Vithalis	Phone:	x51494

Summary of Attachments

1 – Draft Cabinet submission

- A – Table of Comments
- B – Open Access Information release
- C – Wellbeing Impact Assessment
- D – Stormwater Management Options
- E – TCCS Priority Irrigation Areas
- F – Modelling Results
- G – Regulatory Impacts
- H – Ginninderry Stormwater Harvesting Facility Program

CABINET BRIEF 21/352

Title	**West Belconnen (Ginninderry) Joint Venture – Stormwater Harvesting Project**
Minister	Yvette Berry MLA Minister for Housing and Suburban Development
Cabinet date	Thursday, 15 September 2022
Recommended position	SUPPORT

Submission recommendations

The submission recommends a two stage Cabinet approval process for the Ginninderry Joint Venture (GJV) Stormwater Recycling Initiative. In this first stage, the GJV is seeking a Ministerial exemption to establish an unlicenced water utility to achieve the project's sustainability principals and Water Sensitive Urban Design (WSUD) requirements under the Environment Protection and Biodiversity Conservation (EPBC) Act 1999 planning and environmental approvals. This includes progressing detailed design works and an application to the Utilities Technical Regulator (UTR) for Design & Construct Operating Certificate for the Utility to irrigate Priority 1, 2 and 3 areas.

The second stage future submission will seek agreement to capital and expenditure costs associated with the proposed construction, commissioning and eventual handover of the Utility from the GJV to Transport Canberra and City Services (TCCS) who will seek a perpetual exemption to hold a utility licence for the operation of the Ginninderry stormwater harvesting network and obtain an operating certificate from the UTR. The costs presented in this further Cabinet submission will form the basis of a Transport Canberra and City Services budget bid for appropriation in 2023-24 budget cycle.

The recommended two stage Cabinet approval process is a result of exposure draft consultation. As part of this consultation, TCCS changed their proposed approach to the previously accepted delivery program. The change in process represents TCCS' revised approach to balancing the risk of asset acceptance particularly in relation to existing operating expenditure (OPEX) cost estimates as well as their perceived risk of meeting EPBC requirements. The Chief Minister, Treasury and Economic Development Directorate (CMTEDD) supports the proposed approach, and the Suburban Land Agency (SLA) will work closely and collaboratively with TCCS and CMTEDD to ensure the risks are understood and managed to deliver the first stage of a stormwater harvesting network which will allow the GJV to achieve best practice water sensitive urban design (WSUD) whilst adhering to the relevant EPBC approvals and conditions.

Wellbeing Impact Assessment

The proposal will have a positive impact on the Ginninderry development open spaces and residents. Irrigating key areas throughout the development will encourage more people to purchase land at Ginninderry but also create areas for residents to enjoy outdoor recreation in well maintain parks and ovals – anecdotally improving physical and mental wellbeing.

Context and consultation

The topography of the Ginninderry development site is challenging given the natural slope towards the Murrumbidgee River, which creates potential environmental risks for the river corridor from additional stormwater run-off and the damage that this would inflict upon the high value habitat through these areas, which are home to a range of threatened and endangered species.

Cleared:	John Dietz, CEO Suburban Land Agency
Prepared by:	Nick Vithalis, Senior Project Manager

The significance of this issue is highlighted in the Commonwealth Government's Environment Protection and EPBC Act 1999 planning approval, which includes a requirement for the Ginninderry JV to minimise stormwater run-off into the local environment so that run off is not significantly greater than what would have occurred naturally.

There is also a broader policy context to this issue, with an emphasis on integrated water management and water sensitive urban design being expressed across several ACT Government policy documents, including:

- The ACT Water Strategy 2014-2044 provides a 30-year strategy for the management of the ACT Government's water resources. It emphasises integrated water management and green infrastructure (vegetation and waterbodies) in the urban context to slow runoff, ameliorate flooding, reduce pollutants and sediment entering waterways, and improve the ACT's resilience to climate change.
- The ACT Planning Strategy 2018 supports the ACT Water Strategy by identifying initiatives and actions to protect waterway assets and support WSUD in urban development and planning. The Planning Strategy includes actions to update the ACT's WSUD Code to ensure the entire water cycle is considered early in the planning and design of new urban areas.
- The ACT Climate Change Strategy 2019-25 also references the need to create liveable urban spaces, indicating that … "the impacts of a changing climate on people, infrastructure and services will be well-managed and urban heat impacts will be reduced by an established network of street trees, waterways and parks supported by healthy soils".
- The Living Infrastructure Plan: Cooling the City sets a framework for maintaining and enhancing trees, soils, and waterways to keep Canberra cool, healthy and liveable in a changing climate.

All ACT Government Directorates affected by this proposal have been consulted in the development of the Cabinet submission and are generally supportive of the broad intent of the proposal, particularly its environmental merits.

Final Agency Documentation, including further extensive comments from TCCS were received late, approximately two days prior to the ERC meeting. TCCS noted their support conditional upon a 2nd pass Cabinet Submission. Other comments were not addressed as part of this 1st pass submission given the late receipt. These comments will be addressed, and the SLA will work collaboratively with TCCS, in preparing the 2nd pass Cabinet Submission.

Cleared:	John Dietz, CEO Suburban Land Agency
Prepared by:	Nick Vithalis, Senior Project Manager

ACT Government

CABINET SUBMISSION

21/352

Title	West Belconnen (Ginninderry) Joint Venture – Stormwater Harvesting Project
Meeting type	Cabinet
Minister	Yvette Berry MLA Minister for Housing and Suburban Development
Cabinet date	Wednesday, 28 September 2022
Status	FINAL
Relationship to previous decisions	3 December 2019: Economic Development Subcommittee – Update 23 November 2020: Economic Development Subcommittee – Update
Purpose	To seek Cabinet's agreement to the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development.
Category	Category 2 - Government business
Financial impact	Yes
Treasury agreement	Yes Date provided for Treasury agreement to financial implications: 28/06/2022 Date of Treasury agreement: 05/07/2022
Is ERC consideration required?	Yes If yes, select ERC meeting date: Thursday, 15 September 2022
Legislative change	No - change to legislation not required
Regulatory impact	Yes There are several regulatory processes that apply to the Ginninderry Stormwater Harvesting Project – these have been outlined as an attachment to this submission.
Wellbeing Impact Assessment	Yes
Primary Wellbeing Domain	Environment and climate

RECOMMENDATIONS

1) I recommend Cabinet agree:

   a. A two stage Cabinet approval process for the Ginninderry Joint Venture Stormwater Recycling Initiative;

   b. Stage 1 (this submission) approval for the Ginninderry Joint Venture to seek Ministerial exemption to establish an unlicenced water utility to achieve the project's sustainability principals and Water Sensitive Urban Design requirements under the Environment Protection and Biodiversity Conservation Act 1999 planning and environmental approvals. This includes progressing detailed design works and an application to the Utilities Technical Regulator for Design and Construct Operating Certificate for the Utility to irrigate Priority 1, 2 and 3 areas as detailed in this paper;

   c. Stage 2 (future submission) seeking agreement to capital and expenditure costs associated with the proposed construction, commissioning and eventual handover of the Utility from the Ginninderry Joint Venture to Transport Canberra and City Services who will seek a perpetual exemption to hold a utility licence for the operation of the Ginninderry stormwater harvesting network and obtain an operating certificate from the Utilities Technical Regulator. The costs presented in this further Cabinet submission will form the basis of a Transport Canberra and City Services budget bid for appropriation in 2023-24 budget cycle.

2) I recommend Cabinet note:

   a. the planning approval conditions for the Ginninderry Joint Venture under the Environment Protection and Biodiversity Conservation Act 1999 require specific actions to control excess stormwater run-off from the development into the Murrumbidgee River and Ginninderra Creek;

   b. work to date has explored and discounted a variety of options and has identified the establishment of a utility as the preferred approach to manage and operate any future stormwater harvesting initiative;

   c. Extensive scenario-based financial modelling has been undertaken in support of this submission;

   d. pending Cabinet approval of the second submission, the Ginninderry Joint Venture will procure, construct and commission the stormwater harvesting facility in accordance with requirements specified by the Utilities Technical Regulator; and

   e. pending the Ginninderry Joint Venture's achievement of defect-free construction certification and a fully successful commissioning process, Ginninderry stormwater reticulation and irrigation assets be transferred/gifted to Transport Canberra and City Services Directorate to own, operate and maintain under the new utility.

3) I recommend Cabinet note:

a. the advice to the Chief Minister on the release of the Cabinet Decision Summary (Attachment B) as required under Section 23 of the Freedom of Information Act 2016; and

b. the following summaries to be released:

   i. Cabinet agreed to the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development.

   ii. The proposal will have a positive impact on the Ginninderry development open spaces and for residents by irrigating key areas throughout the development will encourage more people to purchase land at Ginninderry but also create areas for residents to enjoy outdoor recreation in well maintain parks and ovals – anecdotally improving physical and mental wellbeing.

SUPPORTING ARGUMENT

BACKGROUND

1) The Ginninderry Joint Venture (Ginninderry JV) is a 30 to 40-year development project in West Belconnen that will see 11,500 dwellings delivered in the ACT and nearby NSW. The ACT Government is a 60 per cent partner in the Ginninderry JV, with Riverview Projects Pty Ltd holding the remaining 40 per cent.

2) The topography of the Ginninderry development site is challenging given the natural slope towards the Murrumbidgee River, which creates potential environmental risks for the river corridor from additional stormwater run-off and the damage that this would inflict upon the high value habitat through these areas, which are home to a range of threatened and endangered species.

3) The significance of this issue is highlighted in the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) planning approval, which includes a requirement for the Ginninderry JV to minimise stormwater run-off into the local environment so that run off is not significantly greater than what would have occurred naturally.

4) There is also a broader policy context to this issue, with an emphasis on integrated water management and water sensitive urban design being expressed across several ACT Government policy documents.

a. The *ACT Water Strategy 2014-2044* provides a 30-year strategy for the management of the ACT Government's water resources. It emphasises integrated water management and green infrastructure (vegetation and waterbodies) in the urban context to slow runoff, ameliorate flooding, reduce pollutants and sediment entering waterways, and improve the ACT's resilience to climate change.

b. The *ACT Planning Strategy 2018* supports the ACT Water Strategy by identifying initiatives and actions to protect waterway assets and support Water Sensitive Urban Design (WSUD) in urban development and planning. The Planning Strategy includes actions to update the ACT's WSUD Code to ensure the entire water cycle is considered early in the planning and design of new urban areas.

c. The *ACT Climate Change Strategy 2019-25* also references the need to create liveable urban spaces, indicating that … "*the impacts of a changing climate on people, infrastructure and services will be well-managed and urban heat impacts will be reduced by an established network of street trees, waterways and parks supported by healthy soils*".

d. Finally, the *Living Infrastructure Plan: Cooling the City* sets a framework for maintaining and enhancing trees, soils, and waterways to keep Canberra cool, healthy and liveable in a changing climate.

5) The emphasis on integrated water management approaches in the ACT is mirrored at the national level. A recent report by the Productivity Commission into the progress of Australian governments in achieving the objectives, outcomes and timelines anticipated under the *Intergovernmental Agreement on a National Water Initiative* identified several actions to improve urban water and stormwater management in Australia.

Managing stormwater run-off at Ginninderry

6) To meet the requirements of the planning and environmental approvals, a series of containment ponds have been designed as part of the overall Ginninderry Master Plan. These ponds will be used primarily for the capture and storage of stormwater run-off from within the development, however, they will also give rise to several other benefits as outlined below.

a. *Improving water quality* – ponds and wetlands reduce urban generated pollution and assist to protect waterway water quality.

b. *Minimising urban heat island effect* – urban areas can be up to 3-10 degrees hotter than nearby rural areas if urban heat island effect is not actively managed.

c. *Supporting public health outcomes* – green areas have been shown to improve mental and physical wellbeing.

d. *Contributing to resilience of cities* – mitigate climate change and effects of sudden weather events.

e. *Supporting local biodiversity* – provide critical vegetation and structures for flora and fauna, with recent studies showing 30 percent of Australian threatened species exist in and around cities.

f. *Reduced portable water use* – the network (Priority 1 areas) would substitute potable water currently used for irrigation with fit-for-purpose stormwater.

7) Acknowledging the need to consider the delivery and broader management of these ponds, the Ginninderry JV, the Suburban Land Agency (SLA) (acting as Agent for the ACT Government in the Ginninderry JV), Transport Canberra and City Services (TCCS) and ACT Treasury established a Ginninderry Stormwater Reuse Working Group in 2018 to facilitate cross governmental engagement on this project.

8) To support the Working Group, the Ginninderry JV engaged several WSUD consultants to examine the costs and benefits of various stormwater management options, including a bypass pipeline, managed aquifer recharge, groundwater injection and stormwater storage and/or reuse. For the reasons summarised below, only stormwater reuse was prosecuted further as it was the only option considered technically and commercially viable and able to deliver the benefits (outlined at Paragraph 6) above.

a. *Bypass Pipeline* – in the early planning stages of the stormwater reuse initiative a consultant report identified a 17km long bypass pipeline as one option. However, at an estimated cost of $12 million (excluding contingency), and with significant associated environmental and aesthetic impacts on the Conservation Corridor, this option was discounted as unviable.

b. *Groundwater Injection/Managed Aquifer Recharge* – a WSUD expert analysed a managed aquifer recharge and groundwater injection option for stormwater management. They concluded from hydrogeological information that such an option would have limited capability and significant investigation costs would be required with no guarantee of success. These options were discounted as unviable.

c. *Additional Storage* – an initial high-level costing (see Paragraph 27 for indicative cost) was undertaken to consider the use of large tanks or an underground storage system to capture the urban excess. Noting the ponds and wetlands for the first suburb of Strathnairn are already developed, the option of increasing the size of these ponds was not considered feasible. This option was discounted as unviable on both a technical and commercial basis.

9) On 3 December 2019, representatives from TCCS and the SLA made a presentation to the Economic Development Subcommittee of Cabinet on the work-to-date, highlighting the need to establish a utility as required by the *Utilities Act 2000* as was similarly required for the Sullivans Creek and Inner North Reticulation Network. The Subcommittee noted the stormwater reuse concept and preferred utility option with the requirement to return to Cabinet for further consideration.

10) There was a further paper presented to the Economic Development Subcommittee by the SLA on 23 November 2020 indicating the utility model a requirement and recommending the proposal proceed to the business case stage.

11) Notwithstanding the previous intent to bring this matter forward as a budget business case, it was ultimately suggested by Treasury that this Cabinet Submission would be preferable given the previous engagement with the Economic Development Subcommittee and the regulatory matters that are canvassed herein.

Environment Protection and Biodiversity Conservation Act 1999 (EPBC) planning approval

12) As noted in paragraphs 22 and 36, the Ginninderry JV currently holds a six star green star communities rating from the Green Building Council of Australia, and many design and maintenance strategies are targeted at meeting the aspirations detailed in the vision for the project.

13) In addition to Green Star 6 Star Certification, EPBC approval has been granted on the condition that WSUD measures are in place to:

    a. Reduce potable water reliance;

    b. reuse stormwater onsite; and

c. maintain stormwater runoff to pre-development levels.

14) The conditions attached to the EPBC approval stipulate that the approval holder must ensure development actions at the West Belconnen site are undertaken in accordance with the endorsed Program. The approval holder is Riverview Projects (ACT) Pty Ltd whom is responsible for all conditions under the EPBC approval. The responsibilities of these conditions cannot be transferred to other parties and are reported to the Commonwealth via an annual reporting process.

15) The endorsed Program stipulates that a centralised harvesting and treatment scheme will supply recycled stormwater throughout the residential areas, with potential for off-site irrigation also. Any excess stormwater will be held in detention ponds and discharged at pre-development peak flows to the existing drainage lines.

16) The proposed stormwater harvesting and treatment is essential to managing stormwater runoff within the West Belconnen site and is a required to maintain best practice WSUD and achieve compliance as required under the EPBC approval. It also ensures that excess stormwater is harvested and utilised to irrigate priority 2 and 3 areas when possible (based on the water balance), further ensuring the Ginninderry JV continues to meet their six star green star communities rating.

17) Once the stormwater harvesting and treatment facility is operational, the focus will be on avoidance, mitigation and management of stormwater flows, and as long as the WSUD strategy is being followed then compliance to the EPBC conditions will be achieved.

18) It is proposed that the SLA, TCCS and Riverview will work collaboratively to ensure that the facility is compliant to all EPBC requirements once operational.

ISSUES & OPTIONS

19) Since these presentations to the Economic Development Subcommittee of Cabinet, two substantial pieces of work have been undertaken, these include a detailed review of the issues, implications and options for the utility and its management, and detailed financial modelling of the proposal.

Stormwater Reuse Options

20) The stormwater strategy differentiates neighbourhood supply into three priorities:

a. Priority 1 - Parks, ovals and areas that TCCS would normally irrigate once the development area has been handed over for on-going maintenance.

b. Priority 2 - Local parks and areas that TCCS would not normally irrigate once the development area has been handed over for on-going maintenance.

c. Priority 3 - Arterial road verges and areas that TCCS would not normally irrigate once the development area has been handed over for on-going maintenance.

21) Priority areas are detailed further in Attachment E, but they effectively scale up based on the highest need to the least high need of physical spaces that will require irrigation to maintain natural and aesthetic urban spaces and community infrastructure.

22) Typically, TCCS is only provided with funding to irrigate Priority 1 areas, however, Ginninderry is intended to be an innovative and world leading development and there are a variety of amenity and maintenance requirements that are necessary to achieve the target. Ginninderry currently holds a six star green star communities rating from the Green Building Council of Australia, and many design and maintenance strategies are targeted at meeting the aspirations detailed in the vision for the project.

a. In recognition of these commitments, there has already been a significant upfront investment in irrigation reticulation and soft landscaping (shrubs, trees and turf) in Priority 2 and 3 areas as detailed below and it is important that these areas be appropriately maintained moving forward to recognise this investment.
   i. Irrigation Reticulation:$2.4m
   ii. Green Link: $130,000
   iii. The Grove: $40,000
   iv. Hilltop (includes the park at the top and the planting along the bottom of the wall): $145,000
   v. Green Wedge: $60,000

23) Therefore, the stormwater harvesting system has been designed to irrigate these areas and there is expected to be adequate capacity in times of normal or high rainfall.

24) However, it is envisaged that in times of very low rainfall or particularly dry periods when there is not adequate non-potable water to irrigate all priority areas, irrigation would only occur to the extent practical to maintain plant health and life. This would ultimately be a decision for Government and would be considered in line with the irrigation policy that applies across the ACT. Any decision not to irrigate all priority areas would have to be offset against potential capital replacement costs to reinstate plant life as a result of not irrigating these areas.

25) Based on the above and in agreement with Treasury and TCCS, further analysis was undertaken to consider two broad stormwater re-use options (with several sub-options also analysed for completeness).

a. Irrigation of Priority 1 Areas (only)
   i. Sub-Option 1 – no utility and large-scale storage of excess stormwater in lieu of additional irrigation i.e. large tank system or underground storage of excess stormwater.
   ii. Sub-Option 2 – utility to sell excess stormwater to local businesses (e.g. Magpies Golf Club)

b. Irrigation of Priority 1, 2 and 3 Areas

i. Sub-Option 1 – no utility

ii. Sub-Option 2 – utility to sell excess stormwater to local businesses (e.g. Magpies Golf Club)

26) Additional considerations include the comparison of marginal costs (storage versus additional irrigation and maintenance) and potential additional revenue from the sale of stormwater under the utility option as well as the potable water savings for Priority 1 areas.

27) At an estimated additional cost of $7.5-10.3 million, the analysis concluded that large scale storage of excess stormwater in lieu of additional irrigation would not be commercially viable. Such a scheme would also pose several technical challenges given the storage ponds and wetlands in Strathnairn have already been constructed. If not reused the stored water would also need to be safely discharged in a way to maintain protection of the Murrumbidgee River Corridor.

Stormwater Management – No Utility

28) If no utility was established for the stormwater reuse option, there would be savings in terms of establishment costs and ongoing compliance costs, however there would not be the flexibility to sell excess stormwater to local businesses in future, if feasible. The stormwater could only be reused for irrigation of estate assets normally managed by TCCS and the focus would be exclusively on irrigating the Ginninderry development area.

29) Without the flexibility of a utility to potentially sell stormwater to other entities or an economic and technically viable way to store excess stormwater, there would need to be significant urban excesses released into the environment in breach of Ginninderry JV's EPBC Act conditional approval.

Stormwater Management - Utility

30) The Ginninderry JV commissioned a review of the following four utility management and ownership options:

a. Icon Water;

b. TCCS;

c. Ginninderry short term; TCCS long term; and

d. Private ownership.

31) Further detail on these options, including an analysis of the strengths and weaknesses of each, is provided at Attachment D.

32) The Icon Water option was discounted as stormwater management does not align with its business model, while the option of a private utility was also ultimately rejected. It was considered unlikely a private utility would be willing to invest in the development of a local

ACT capability for establishment of a one-off utility of this nature. Furthermore, there may be some risk with the establishment of a private utility given the importance of the utility to manage both environmental and commercial outcomes..

33) Therefore, in consultation with the Ginninderry Stormwater Reuse Working Group, these four options were discounted to two:

a. Ginninderry in the short-term and TCCS in the long-term, and

b. TCCS.

34) There are two important dimensions to consider when reviewing the remaining two utility options for ongoing operation post commissioning:

a. Governance and management of the utility —
   i. Which organisation is best placed to manage the ongoing operation of the utility?

b. Scale and scope of services and assets to be irrigated by the utility —
   i. How large is the scale of utility infrastructure i.e. would the scope of irrigated areas extend beyond those traditionally maintained by TCCS after asset handover (e.g. parks and playing fields) to areas not traditionally maintained by TCCS (such as verges / medians and potentially, the Magpies Golf Club)?

35) A utility may generate a revenue stream when excess stormwater is available to be sold to local businesses like the Magpie's Golf Club or schools and other businesses within the Ginninderry development area when they come online.

36) As flagged above, in determining an appropriate level of service provision, it is important to consider that Ginninderry is intended to be an innovative and world leading development and that there are a variety of amenity and maintenance requirements. Irrigating all Priority areas will meet the Ginninderry JV's EPBC Act conditional approval whilst also supporting the project to achieve the target green star community rating.

37) Ultimately this will mean that the level of service provided to this area will differ to other suburbs in the catchment and irrigating secondary and tertiary areas could create a precedence issue when there is insufficient stormwater to irrigate, or over irrigating when stormwater is plentiful. This risk would need to be managed and documented in a clear communication strategy.

38) Given the parallels between this proposal and the Sullivans Creek Inner North Reticulation Network, it is the view of the agencies involved that the Ginninderry JV should fund, design, procure, construct and commission the stormwater harvesting infrastructure with TCCS to subsequently own, operate and maintain the assets thereafter. Both Ginninderry JV and TCCS will require an exemption from holding a utility licence and operation certificates granted by the Utilities Technical Regulator to undertake these activities.

Financial Analysis

39) Recognising that a conclusion on appropriate governance and management is not possible in the absence of detailed financial analysis, the Ginninderry JV commissioned a piece of work to understand the expected whole of life impact of the stormwater reuse infrastructure, in particular the ability for the infrastructure to recoup some capital and operational costs under a utility business model.

a. The modelling draws on engineering, hydrological analysis, quantity survey data, and Government and market research to determine a range of whole of life financial outcomes and investment metrics. It also determines expected investment outcomes utilising a range of prices at which recycled water can be sold, and then tests sensitivity of the outcomes to different assumptions.

b. The modelling covers expected operations of a stormwater reuse facility over a 20-year period whereby the facility collects and distributes water from the aforementioned containment ponds through infrastructure to end users in and around the Ginninderry development.

c. The model assumes that the current joint venture partners are accountable for all funding relating to design, procurement, construction and commissioning of the infrastructure with TCCS assuming ownership, operation and maintenance subsequent to successful commissioning.

d. The modelling includes some administrative overheads, on-going regulatory compliance costs and estimates residual or 'terminal' values to inform asset allocation decisions.

e. SLA and Riverview Group will work closely with TCCS and Treasury to undertake further detailed financial modelling and to incorporate detailed costings from the detailed design phase and will come back to Expenditure Review Committee and Cabinet to request approval of operational and capital expenditure costs and proceed to construction.

40) It is assumed that the facility will be progressively developed consistent with the wider Ginninderry development. The water storage infrastructure is expected to occur over three phases: three ponds by late 2023, an additional two ponds by 2025 and a final pond by 2030. The water reticulation and irrigation infrastructure are expected to be developed as one project and be completed during 2023.

41) The model therefore front ends infrastructure development, and progressively increases water supply as new ponds come online. The model considers the infrastructure aspects as fixed costs, which determine the feasible long-term supply of water.

42) The stormwater to be stored in the ponds is a function of rainfall, run off and reuse. The expected levels have been estimated by hydrological experts based on decade average rainfall data within the catchment from 1935 to the present day. The experts assessed 25th, 50th and 75th percentile likely rainfall and the modelling adopts the 50th percentile as a baseline for

the 20 years of operation and uses the alternatives as scenarios to test the range of potential outcomes.

43) The model works on the basis that stormwater will be available for purchase by three potential customer groups:

a. TCCS, who will irrigate and maintain public spaces in the Ginninderry development. This is a proxy for total neighbourhood supply.

b. The Magpies Golf Club, who will purchase water to increase reliable irrigation supplies at a lower cost than alternatives.

c. An 'other' category, which may be other public or private entities who may become customers at some point in the future, depending on need and the potential for the facility to supply additional water.

44) The model relies on parameters and assumptions that interact to generate financial and investment outputs, with three groups of inputs driving the model — irrigation water balances, infrastructure expenditure estimation, and prices customers may be willing to pay — and supply of water based on the delivery phases.

a. Phases 1, 2 and 3 meet all the Priority 1 supply.

b. Priority 2 and 3 supply is progressively met as more supply becomes available and more area is irrigated using stormwater.

c. The Magpies Golf Club supply is constrained as a residual based on the difference between total feasible supply and neighbour priorities. No phase meets all the potential demand from the Magpies Golf Club, however, if excess exists it can be allocated to the Magpies Golf Club as ‘additional’ supply.

45) The patterns modelled are summarised in Table 2 at Attachment F.

46) The infrastructure expenditure parameters are based on detailed unit pricing schedules for the equipment required to construct the stormwater harvesting network. The two main components are initial capital expenditures and consequential operational expenditures. As outlined in Table 3 at Attachment F, the data shows a build up from a minimum investment to get the utility started and includes additional works with an allowance for contingency.

47) The modelling assumes that customers will pay for the stormwater they are supplied from the facility. This pricing is tested using scenario assessments and suggests a 63.5 per cent discount compared to the marginal Icon Water potable price.

48) After 20 years the model assumes a residual value of the asset based on a salvage value. This salvage value is the written down value of the capital expenditures at year 21 based on the Australian Taxation Office diminishing value method for an asset with a 45-year economic life.

49) The business model generates time series results over 20 years for revenues, capital expenses and operational expenses, then summarises these into NPV and nominal totals. The totals are compared to estimate total costs, total capital expenditure (capex), operational expenditure (opex) and total revenue. These totals are then compared to estimate the net impact (revenue less costs), benefit to cost ratios, the net benefit to investment cost ratio and the internal rate of return.

50) Tables 5, 6 & 7 at Attachment F summarise the results of the various scenarios modelled. All scenarios modelled demonstrate revenues meet all capex and opex (i.e. Total Cost) at the modelled prices. Base scenarios (Tables 6 & 7) including and excluding sale of excess water to the Magpies Golf Club have been modelled assuming a minor surplus (IRR of 7%) reflective of potential commercial ownership and operation of the utility. The Government scenario (Table 8) assumes TCCS own and operate the utility based on the implicit price at which the scheme under TCCS ownership meets total costs (i.e. no surplus). Based on the extensive modelling conducted to date, if capex is assumed as a sunk cost then there are significantly positive returns to opex.

Modelled impact on Government

51) As noted above, under normal arrangements TCCS would only be funded to irrigate Priority 1 areas. For Ginninderry, the Priority 1 areas include the Strathnairn Neighbourhood Park and the School Oval, which combined have an irrigation demand of 35,537 kl/year. In the absence of the proposed utility, the cost of irrigating these areas with potable water on average would be $207,208/year, totalling $4,347,597 in nominal terms over 20 years.

52) Assuming the utility is owned by Government as recommended by this Submission, the analysis indicates the cost of irrigating all three Priority Areas with recycled water would be $223,963/year, totalling $4,703,230 in nominal terms over 20 years. In addition to this amount TCCS will be incurring additional maintenance costs for the Priority 2 and 3 areas not typically maintained at an estimated costs of $39,459/year — $33,312 for mowing and $6,147 for litter picking — totalling $789,180 in nominal terms over 20 years. Combining the recycled water costs with the additional maintenance costs, the total cost to Government over 20 years is $5,492,410.

53) Noting that irrigation of Priority 1 areas with potable water is business as usual (BAU), irrigation of Priority 1, 2 3 areas with recycled water from the Utility then represents an additional cost to Government (beyond BAU) of $1,144,813 over 20 years in nominal terms (or additional cost of $57,241/year).

54) All of the analysis above has been undertaken on the basis that the price being set for the recycled water is sufficient to recover the upfront capital expenditure and the ongoing operating expenditure for the new facility (i.e. the total cost). However, given the Ginninderry JV is funding all the upfront capital costs with TCCS to then assume operational responsibility, the pricing model could be adjusted to simply cover operating costs plus a margin. This would provide the scope to significantly reduce pricing well below $1.63/kL which in turn would

enable the irrigation of all Priority areas at no additional cost to government. The ultimate pricing model to be adopted will be a matter for UTR and TCCS to determine.

Additional Supply for Commercial Purposes

55) Furthermore, beyond the supply of water to irrigate Priority areas 1, 2 and 3, any additional water supply that is excess to irrigating Priority areas within Strathnairn could be supplied to surrounding commercial users (such as the Magpies Golf Club) or used to potential supply water for irrigation of key open space areas located in Ginninderry's new suburb of Macnamara (that would otherwise be irrigated with potable water). This would provide further economies in support of the ongoing operations of the utility. Despite this, we have not considered this opportunity explicitly in this Submission, however this opportunity could be pursued further once the utility is operational.

Financial Risk

56) While the modelling to date has included sensitivity analysis to take account of various factors and scenarios, it is important that Cabinet note that the water balance assumptions underpinning the modelling are still subject to variance. Although the modelling has taken a long-run average (adopting a 50th percentile average rainfall pattern over a 10 year period), sustained periods of lower-than-average rainfall will impact supply. There will be periods that will be dryer than the assumed modelling which will result in less availability of water for irrigation and the potential need for supplementary water sources to be provided (either potable or Lower Molonglo Water Quality Control Centre recycled water) at a significantly greater cost. Conversely it is also possible that in slightly wetter periods there would potentially be more water that could be supplied to other users.

FINANCIAL IMPACT

57) This Submission has outlined a range of costings and is seeking agreement for the establishment of a utility to be managed by TCCS and for the Ginninderry JV to commence construction works on the associated infrastructure. The Submission is also seeking agreement to TCCS expanding its baseline irrigation regime. However, to accommodate TCCS's request due to the current phase of the project and existing cost information available, a further Cabinet submission will be developed once approvals and operational certificate is obtained from the UTR will be brought forward, presenting costs based on construction ready-design documentation.

58) For normal Greenfield developments TCCS is required to maintain priority 1 areas to a service level that includes irrigation. This would be typically provided for via a potable water source. Funding for these maintenance costs is provided via an agreed growth model that provides additional maintenance funding on an annual basis. This stormwater harvesting solution will require TCCS to maintain priority 2 and 3 areas to a higher than normal standard.

59) The incremental cost (to TCCS) of maintaining priority 2 and 3 areas is estimated at $120,000 p.a. These additional costs include mowing, litter picking, purchasing potable water for irrigation and maintenance of the irrigation system.

60) If the stormwater harvesting solution is expanded to future developments within Ginninderry, these incremental costs will increase accordingly. However as noted the establishment of a Utility may also realise other benefits that go towards offsetting these incremental costs to Government.

61) As noted in paragraph 46, the financial impact will be detailed in a further submission once the relevant detailed design and approvals have been granted.

WELLBEING IMPACT SUMMARY

62) A Wellbeing Impact Assessment is provided at Attachment C.

CONSULTATION

External stakeholders

63) The Magpies Golf Club has been consulted on the proposal and have indicated a strong desire to purchase water.

ACT Government agencies

64) The SLA consulted with TCCS and the Chief Minister, Treasury and Economic Development Directorate in the development of this submission. Advice was also sought from the UTR and is included as Attachment G to the submission.

65) Treasury have expressed concern about making commitments to irrigate areas other than priority 1. They noted that whilst the irrigation assets would be a similar model to the Inner North Reticulation Network, a key difference is that there is limited storage in this model. Therefore, in very wet years there will be a need to irrigate land when it is not required and in dry years supply will be insufficient to meet demand.

66) Treasury noted that without a storage facility, in dry years there will only be capacity to irrigate priority one areas. Based on analysis undertaken by Treasury for the non potable water review, this is also the time that other users such as the Magpies would be looking to purchase water. Therefore, without additional storage capacity, it is not recommended to make commitments to irrigate areas other than priority one areas, at this stage.

67) In very dry years, Treasury consider that it would only be appropriate for the government to purchase water to maintain priority 1 areas in these circumstances, in line with the irrigation policy that applies across the ACT.

68) An exposure draft of this submission was circulated to all directorates. A table of comments is provided at Attachment A.

MEDIA/COMMUNICATIONS

69) The Ginninderry JV has based much of its marketing and brand value on the creation of a unique and aesthetically pleasing location. The management of stormwater is critical to the Ginninderry JV development both in achieving its EPBC conditional requirements and the aesthetic value the development itself.

IMPLEMENTATION

70) Subject to Cabinet's agreement to the recommended approach, the delivery program at Attachment H sets out the steps required to achieve establishment of the utility and operational commencement of the stormwater harvesting facility by the end of September 2023.

HUMAN RIGHTS IMPACT

71) Nil.

Minister's signature _____ Date ___/___/_____

ATTACHMENTS

A	Table of comments
B	Open Access decision summary
C	Wellbeing Impact Assessment
D	Stormwater Management Options
E	Priority Irrigation Areas
F	Modelling Results
G	Regulatory Impacts
H	Ginninderry Stormwater Harvesting Facility Program

ACT Government

CABINET SUBMISSION

21/352

Title	West Belconnen (Ginninderry) Joint Venture – Stormwater Harvesting Project
Meeting type	Cabinet
Minister	Yvette Berry MLA Minister for Housing and Suburban Development
Cabinet date	Wednesday, 28 September 2022
Status	FINAL
Relationship to previous decisions	3 December 2019: Economic Development Subcommittee – Update 23 November 2020: Economic Development Subcommittee – Update
Purpose	To seek Cabinet's agreement to the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development.
Category	Category 2 - Government business
Financial impact	Yes
Treasury agreement	Yes Date provided for Treasury agreement to financial implications: 28/06/2022 Date of Treasury agreement: 05/07/2022
Is ERC consideration required?	Yes If yes, select ERC meeting date: Thursday, 15 September 2022
Legislative change	No - change to legislation not required
Regulatory impact	Yes There are several regulatory processes that apply to the Ginninderry Stormwater Harvesting Project – these have been outlined as an attachment to this submission.
Wellbeing Impact Assessment	Yes
Primary Wellbeing Domain	Environment and climate

RECOMMENDATIONS

1) I recommend Cabinet agree:

   a. A two stage Cabinet approval process for the Ginninderry Joint Venture Stormwater Recycling Initiative;

   b. Stage 1 (this submission) approval for the Ginninderry Joint Venture to seek Ministerial exemption to establish an unlicenced water utility to achieve the project's sustainability principals and Water Sensitive Urban Design requirements under the Environment Protection and Biodiversity Conservation Act 1999 planning and environmental approvals. This includes progressing detailed design works and an application to the Utilities Technical Regulator for Design and Construct Operating Certificate for the Utility to irrigate Priority 1, 2 and 3 areas as detailed in this paper;

   c. Stage 2 (future submission) seeking agreement to capital and expenditure costs associated with the proposed construction, commissioning and eventual handover of the Utility from the Ginninderry Joint Venture to Transport Canberra and City Services who will seek a perpetual exemption to hold a utility licence for the operation of the Ginninderry stormwater harvesting network and obtain an operating certificate from the Utilities Technical Regulator. The costs presented in this further Cabinet submission will form the basis of a Transport Canberra and City Services budget bid for appropriation in 2023-24 budget cycle.

2) I recommend Cabinet note:

   a. the planning approval conditions for the Ginninderry Joint Venture under the Environment Protection and Biodiversity Conservation Act 1999 require specific actions to control excess stormwater run-off from the development into the Murrumbidgee River and Ginninderra Creek;

   b. work to date has explored and discounted a variety of options and has identified the establishment of a utility as the preferred approach to manage and operate any future stormwater harvesting initiative;

   c. Extensive scenario-based financial modelling has been undertaken in support of this submission;

   d. pending Cabinet approval of the second submission, the Ginninderry Joint Venture will procure, construct and commission the stormwater harvesting facility in accordance with requirements specified by the Utilities Technical Regulator; and

   e. pending the Ginninderry Joint Venture's achievement of defect-free construction certification and a fully successful commissioning process, Ginninderry stormwater reticulation and irrigation assets be transferred/gifted to Transport Canberra and City Services Directorate to own, operate and maintain under the new utility.

3) I recommend Cabinet note:

a. the advice to the Chief Minister on the release of the Cabinet Decision Summary (Attachment B) as required under Section 23 of the Freedom of Information Act 2016; and

b. the following summaries to be released:

   i. Cabinet agreed to the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development.

   ii. The proposal will have a positive impact on the Ginninderry development open spaces and for residents by irrigating key areas throughout the development will encourage more people to purchase land at Ginninderry but also create areas for residents to enjoy outdoor recreation in well maintain parks and ovals – anecdotally improving physical and mental wellbeing.

SUPPORTING ARGUMENT

BACKGROUND

1) The Ginninderry Joint Venture (Ginninderry JV) is a 30 to 40-year development project in West Belconnen that will see 11,500 dwellings delivered in the ACT and nearby NSW. The ACT Government is a 60 per cent partner in the Ginninderry JV, with Riverview Projects Pty Ltd holding the remaining 40 per cent.

2) The topography of the Ginninderry development site is challenging given the natural slope towards the Murrumbidgee River, which creates potential environmental risks for the river corridor from additional stormwater run-off and the damage that this would inflict upon the high value habitat through these areas, which are home to a range of threatened and endangered species.

3) The significance of this issue is highlighted in the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) planning approval, which includes a requirement for the Ginninderry JV to minimise stormwater run-off into the local environment so that run off is not significantly greater than what would have occurred naturally.

4) There is also a broader policy context to this issue, with an emphasis on integrated water management and water sensitive urban design being expressed across several ACT Government policy documents.

a. The *ACT Water Strategy 2014-2044* provides a 30-year strategy for the management of the ACT Government's water resources. It emphasises integrated water management and green infrastructure (vegetation and waterbodies) in the urban context to slow runoff, ameliorate flooding, reduce pollutants and sediment entering waterways, and improve the ACT's resilience to climate change.

b. The *ACT Planning Strategy 2018* supports the ACT Water Strategy by identifying initiatives and actions to protect waterway assets and support Water Sensitive Urban Design (WSUD) in urban development and planning. The Planning Strategy includes actions to update the ACT's WSUD Code to ensure the entire water cycle is considered early in the planning and design of new urban areas.

c. The *ACT Climate Change Strategy 2019-25* also references the need to create liveable urban spaces, indicating that … "*the impacts of a changing climate on people, infrastructure and services will be well-managed and urban heat impacts will be reduced by an established network of street trees, waterways and parks supported by healthy soils*".

d. Finally, the *Living Infrastructure Plan: Cooling the City* sets a framework for maintaining and enhancing trees, soils, and waterways to keep Canberra cool, healthy and liveable in a changing climate.

5) The emphasis on integrated water management approaches in the ACT is mirrored at the national level. A recent report by the Productivity Commission into the progress of Australian governments in achieving the objectives, outcomes and timelines anticipated under the *Intergovernmental Agreement on a National Water Initiative* identified several actions to improve urban water and stormwater management in Australia.

Managing stormwater run-off at Ginninderry

6) To meet the requirements of the planning and environmental approvals, a series of containment ponds have been designed as part of the overall Ginninderry Master Plan. These ponds will be used primarily for the capture and storage of stormwater run-off from within the development, however, they will also give rise to several other benefits as outlined below.

a. *Improving water quality* – ponds and wetlands reduce urban generated pollution and assist to protect waterway water quality.

b. *Minimising urban heat island effect* – urban areas can be up to 3-10 degrees hotter than nearby rural areas if urban heat island effect is not actively managed.

c. *Supporting public health outcomes* – green areas have been shown to improve mental and physical wellbeing.

d. *Contributing to resilience of cities* – mitigate climate change and effects of sudden weather events.

e. *Supporting local biodiversity* – provide critical vegetation and structures for flora and fauna, with recent studies showing 30 percent of Australian threatened species exist in and around cities.

f. *Reduced portable water use* – the network (Priority 1 areas) would substitute potable water currently used for irrigation with fit-for-purpose stormwater.

7) Acknowledging the need to consider the delivery and broader management of these ponds, the Ginninderry JV, the Suburban Land Agency (SLA) (acting as Agent for the ACT Government in the Ginninderry JV), Transport Canberra and City Services (TCCS) and ACT Treasury established a Ginninderry Stormwater Reuse Working Group in 2018 to facilitate cross governmental engagement on this project.

8) To support the Working Group, the Ginninderry JV engaged several WSUD consultants to examine the costs and benefits of various stormwater management options, including a bypass pipeline, managed aquifer recharge, groundwater injection and stormwater storage and/or reuse. For the reasons summarised below, only stormwater reuse was prosecuted further as it was the only option considered technically and commercially viable and able to deliver the benefits (outlined at Paragraph 6) above.

a. *Bypass Pipeline* – in the early planning stages of the stormwater reuse initiative a consultant report identified a 17km long bypass pipeline as one option. However, at an estimated cost of $12 million (excluding contingency), and with significant associated environmental and aesthetic impacts on the Conservation Corridor, this option was discounted as unviable.

b. *Groundwater Injection/Managed Aquifer Recharge* – a WSUD expert analysed a managed aquifer recharge and groundwater injection option for stormwater management. They concluded from hydrogeological information that such an option would have limited capability and significant investigation costs would be required with no guarantee of success. These options were discounted as unviable.

c. *Additional Storage* – an initial high-level costing (see Paragraph 27 for indicative cost) was undertaken to consider the use of large tanks or an underground storage system to capture the urban excess. Noting the ponds and wetlands for the first suburb of Strathnairn are already developed, the option of increasing the size of these ponds was not considered feasible. This option was discounted as unviable on both a technical and commercial basis.

9) On 3 December 2019, representatives from TCCS and the SLA made a presentation to the Economic Development Subcommittee of Cabinet on the work-to-date, highlighting the need to establish a utility as required by the *Utilities Act 2000* as was similarly required for the Sullivans Creek and Inner North Reticulation Network. The Subcommittee noted the stormwater reuse concept and preferred utility option with the requirement to return to Cabinet for further consideration.

10) There was a further paper presented to the Economic Development Subcommittee by the SLA on 23 November 2020 indicating the utility model a requirement and recommending the proposal proceed to the business case stage.

11) Notwithstanding the previous intent to bring this matter forward as a budget business case, it was ultimately suggested by Treasury that this Cabinet Submission would be preferable given the previous engagement with the Economic Development Subcommittee and the regulatory matters that are canvassed herein.

Environment Protection and Biodiversity Conservation Act 1999 (EPBC) planning approval

12) As noted in paragraphs 22 and 36, the Ginninderry JV currently holds a six star green star communities rating from the Green Building Council of Australia, and many design and maintenance strategies are targeted at meeting the aspirations detailed in the vision for the project.

13) In addition to Green Star 6 Star Certification, EPBC approval has been granted on the condition that WSUD measures are in place to:

    a. Reduce potable water reliance;

    b. reuse stormwater onsite; and

c. maintain stormwater runoff to pre-development levels.

14) The conditions attached to the EPBC approval stipulate that the approval holder must ensure development actions at the West Belconnen site are undertaken in accordance with the endorsed Program. The approval holder is Riverview Projects (ACT) Pty Ltd whom is responsible for all conditions under the EPBC approval. The responsibilities of these conditions cannot be transferred to other parties and are reported to the Commonwealth via an annual reporting process.

15) The endorsed Program stipulates that a centralised harvesting and treatment scheme will supply recycled stormwater throughout the residential areas, with potential for off-site irrigation also. Any excess stormwater will be held in detention ponds and discharged at pre-development peak flows to the existing drainage lines.

16) The proposed stormwater harvesting and treatment is essential to managing stormwater runoff within the West Belconnen site and is a required to maintain best practice WSUD and achieve compliance as required under the EPBC approval. It also ensures that excess stormwater is harvested and utilised to irrigate priority 2 and 3 areas when possible (based on the water balance), further ensuring the Ginninderry JV continues to meet their six star green star communities rating.

17) Once the stormwater harvesting and treatment facility is operational, the focus will be on avoidance, mitigation and management of stormwater flows, and as long as the WSUD strategy is being followed then compliance to the EPBC conditions will be achieved.

18) It is proposed that the SLA, TCCS and Riverview will work collaboratively to ensure that the facility is compliant to all EPBC requirements once operational.

ISSUES & OPTIONS

19) Since these presentations to the Economic Development Subcommittee of Cabinet, two substantial pieces of work have been undertaken, these include a detailed review of the issues, implications and options for the utility and its management, and detailed financial modelling of the proposal.

Stormwater Reuse Options

20) The stormwater strategy differentiates neighbourhood supply into three priorities:

a. Priority 1 - Parks, ovals and areas that TCCS would normally irrigate once the development area has been handed over for on-going maintenance.

b. Priority 2 - Local parks and areas that TCCS would not normally irrigate once the development area has been handed over for on-going maintenance.

c. Priority 3 - Arterial road verges and areas that TCCS would not normally irrigate once the development area has been handed over for on-going maintenance.

21) Priority areas are detailed further in Attachment E, but they effectively scale up based on the highest need to the least high need of physical spaces that will require irrigation to maintain natural and aesthetic urban spaces and community infrastructure.

22) Typically, TCCS is only provided with funding to irrigate Priority 1 areas, however, Ginninderry is intended to be an innovative and world leading development and there are a variety of amenity and maintenance requirements that are necessary to achieve the target. Ginninderry currently holds a six star green star communities rating from the Green Building Council of Australia, and many design and maintenance strategies are targeted at meeting the aspirations detailed in the vision for the project.

a. In recognition of these commitments, there has already been a significant upfront investment in irrigation reticulation and soft landscaping (shrubs, trees and turf) in Priority 2 and 3 areas as detailed below and it is important that these areas be appropriately maintained moving forward to recognise this investment.
   i. Irrigation Reticulation:$2.4m
   ii. Green Link: $130,000
   iii. The Grove: $40,000
   iv. Hilltop (includes the park at the top and the planting along the bottom of the wall): $145,000
   v. Green Wedge: $60,000

23) Therefore, the stormwater harvesting system has been designed to irrigate these areas and there is expected to be adequate capacity in times of normal or high rainfall.

24) However, it is envisaged that in times of very low rainfall or particularly dry periods when there is not adequate non-potable water to irrigate all priority areas, irrigation would only occur to the extent practical to maintain plant health and life. This would ultimately be a decision for Government and would be considered in line with the irrigation policy that applies across the ACT. Any decision not to irrigate all priority areas would have to be offset against potential capital replacement costs to reinstate plant life as a result of not irrigating these areas.

25) Based on the above and in agreement with Treasury and TCCS, further analysis was undertaken to consider two broad stormwater re-use options (with several sub-options also analysed for completeness).

a. Irrigation of Priority 1 Areas (only)
   i. Sub-Option 1 – no utility and large-scale storage of excess stormwater in lieu of additional irrigation i.e. large tank system or underground storage of excess stormwater.
   ii. Sub-Option 2 – utility to sell excess stormwater to local businesses (e.g. Magpies Golf Club)

b. Irrigation of Priority 1, 2 and 3 Areas

i. Sub-Option 1 – no utility

ii. Sub-Option 2 – utility to sell excess stormwater to local businesses (e.g. Magpies Golf Club)

26) Additional considerations include the comparison of marginal costs (storage versus additional irrigation and maintenance) and potential additional revenue from the sale of stormwater under the utility option as well as the potable water savings for Priority 1 areas.

27) At an estimated additional cost of $7.5-10.3 million, the analysis concluded that large scale storage of excess stormwater in lieu of additional irrigation would not be commercially viable. Such a scheme would also pose several technical challenges given the storage ponds and wetlands in Strathnairn have already been constructed. If not reused the stored water would also need to be safely discharged in a way to maintain protection of the Murrumbidgee River Corridor.

Stormwater Management – No Utility

28) If no utility was established for the stormwater reuse option, there would be savings in terms of establishment costs and ongoing compliance costs, however there would not be the flexibility to sell excess stormwater to local businesses in future, if feasible. The stormwater could only be reused for irrigation of estate assets normally managed by TCCS and the focus would be exclusively on irrigating the Ginninderry development area.

29) Without the flexibility of a utility to potentially sell stormwater to other entities or an economic and technically viable way to store excess stormwater, there would need to be significant urban excesses released into the environment in breach of Ginninderry JV's EPBC Act conditional approval.

Stormwater Management - Utility

30) The Ginninderry JV commissioned a review of the following four utility management and ownership options:

a. Icon Water;

b. TCCS;

c. Ginninderry short term; TCCS long term; and

d. Private ownership.

31) Further detail on these options, including an analysis of the strengths and weaknesses of each, is provided at Attachment D.

32) The Icon Water option was discounted as stormwater management does not align with its business model, while the option of a private utility was also ultimately rejected. It was considered unlikely a private utility would be willing to invest in the development of a local

ACT capability for establishment of a one-off utility of this nature. Furthermore, there may be some risk with the establishment of a private utility given the importance of the utility to manage both environmental and commercial outcomes..

33) Therefore, in consultation with the Ginninderry Stormwater Reuse Working Group, these four options were discounted to two:

a. Ginninderry in the short-term and TCCS in the long-term, and

b. TCCS.

34) There are two important dimensions to consider when reviewing the remaining two utility options for ongoing operation post commissioning:

a. Governance and management of the utility —
   i. Which organisation is best placed to manage the ongoing operation of the utility?

b. Scale and scope of services and assets to be irrigated by the utility —
   i. How large is the scale of utility infrastructure i.e. would the scope of irrigated areas extend beyond those traditionally maintained by TCCS after asset handover (e.g. parks and playing fields) to areas not traditionally maintained by TCCS (such as verges / medians and potentially, the Magpies Golf Club)?

35) A utility may generate a revenue stream when excess stormwater is available to be sold to local businesses like the Magpie's Golf Club or schools and other businesses within the Ginninderry development area when they come online.

36) As flagged above, in determining an appropriate level of service provision, it is important to consider that Ginninderry is intended to be an innovative and world leading development and that there are a variety of amenity and maintenance requirements. Irrigating all Priority areas will meet the Ginninderry JV's EPBC Act conditional approval whilst also supporting the project to achieve the target green star community rating.

37) Ultimately this will mean that the level of service provided to this area will differ to other suburbs in the catchment and irrigating secondary and tertiary areas could create a precedence issue when there is insufficient stormwater to irrigate, or over irrigating when stormwater is plentiful. This risk would need to be managed and documented in a clear communication strategy.

38) Given the parallels between this proposal and the Sullivans Creek Inner North Reticulation Network, it is the view of the agencies involved that the Ginninderry JV should fund, design, procure, construct and commission the stormwater harvesting infrastructure with TCCS to subsequently own, operate and maintain the assets thereafter. Both Ginninderry JV and TCCS will require an exemption from holding a utility licence and operation certificates granted by the Utilities Technical Regulator to undertake these activities.

Financial Analysis

39) Recognising that a conclusion on appropriate governance and management is not possible in the absence of detailed financial analysis, the Ginninderry JV commissioned a piece of work to understand the expected whole of life impact of the stormwater reuse infrastructure, in particular the ability for the infrastructure to recoup some capital and operational costs under a utility business model.

a. The modelling draws on engineering, hydrological analysis, quantity survey data, and Government and market research to determine a range of whole of life financial outcomes and investment metrics. It also determines expected investment outcomes utilising a range of prices at which recycled water can be sold, and then tests sensitivity of the outcomes to different assumptions.

b. The modelling covers expected operations of a stormwater reuse facility over a 20-year period whereby the facility collects and distributes water from the aforementioned containment ponds through infrastructure to end users in and around the Ginninderry development.

c. The model assumes that the current joint venture partners are accountable for all funding relating to design, procurement, construction and commissioning of the infrastructure with TCCS assuming ownership, operation and maintenance subsequent to successful commissioning.

d. The modelling includes some administrative overheads, on-going regulatory compliance costs and estimates residual or 'terminal' values to inform asset allocation decisions.

e. SLA and Riverview Group will work closely with TCCS and Treasury to undertake further detailed financial modelling and to incorporate detailed costings from the detailed design phase and will come back to Expenditure Review Committee and Cabinet to request approval of operational and capital expenditure costs and proceed to construction.

40) It is assumed that the facility will be progressively developed consistent with the wider Ginninderry development. The water storage infrastructure is expected to occur over three phases: three ponds by late 2023, an additional two ponds by 2025 and a final pond by 2030. The water reticulation and irrigation infrastructure are expected to be developed as one project and be completed during 2023.

41) The model therefore front ends infrastructure development, and progressively increases water supply as new ponds come online. The model considers the infrastructure aspects as fixed costs, which determine the feasible long-term supply of water.

42) The stormwater to be stored in the ponds is a function of rainfall, run off and reuse. The expected levels have been estimated by hydrological experts based on decade average rainfall data within the catchment from 1935 to the present day. The experts assessed 25th, 50th and 75th percentile likely rainfall and the modelling adopts the 50th percentile as a baseline for

the 20 years of operation and uses the alternatives as scenarios to test the range of potential outcomes.

43) The model works on the basis that stormwater will be available for purchase by three potential customer groups:

a. TCCS, who will irrigate and maintain public spaces in the Ginninderry development. This is a proxy for total neighbourhood supply.

b. The Magpies Golf Club, who will purchase water to increase reliable irrigation supplies at a lower cost than alternatives.

c. An 'other' category, which may be other public or private entities who may become customers at some point in the future, depending on need and the potential for the facility to supply additional water.

44) The model relies on parameters and assumptions that interact to generate financial and investment outputs, with three groups of inputs driving the model — irrigation water balances, infrastructure expenditure estimation, and prices customers may be willing to pay — and supply of water based on the delivery phases.

a. Phases 1, 2 and 3 meet all the Priority 1 supply.

b. Priority 2 and 3 supply is progressively met as more supply becomes available and more area is irrigated using stormwater.

c. The Magpies Golf Club supply is constrained as a residual based on the difference between total feasible supply and neighbour priorities. No phase meets all the potential demand from the Magpies Golf Club, however, if excess exists it can be allocated to the Magpies Golf Club as ‘additional’ supply.

45) The patterns modelled are summarised in Table 2 at Attachment F.

46) The infrastructure expenditure parameters are based on detailed unit pricing schedules for the equipment required to construct the stormwater harvesting network. The two main components are initial capital expenditures and consequential operational expenditures. As outlined in Table 3 at Attachment F, the data shows a build up from a minimum investment to get the utility started and includes additional works with an allowance for contingency.

47) The modelling assumes that customers will pay for the stormwater they are supplied from the facility. This pricing is tested using scenario assessments and suggests a 63.5 per cent discount compared to the marginal Icon Water potable price.

48) After 20 years the model assumes a residual value of the asset based on a salvage value. This salvage value is the written down value of the capital expenditures at year 21 based on the Australian Taxation Office diminishing value method for an asset with a 45-year economic life.

49) The business model generates time series results over 20 years for revenues, capital expenses and operational expenses, then summarises these into NPV and nominal totals. The totals are compared to estimate total costs, total capital expenditure (capex), operational expenditure (opex) and total revenue. These totals are then compared to estimate the net impact (revenue less costs), benefit to cost ratios, the net benefit to investment cost ratio and the internal rate of return.

50) Tables 5, 6 & 7 at Attachment F summarise the results of the various scenarios modelled. All scenarios modelled demonstrate revenues meet all capex and opex (i.e. Total Cost) at the modelled prices. Base scenarios (Tables 6 & 7) including and excluding sale of excess water to the Magpies Golf Club have been modelled assuming a minor surplus (IRR of 7%) reflective of potential commercial ownership and operation of the utility. The Government scenario (Table 8) assumes TCCS own and operate the utility based on the implicit price at which the scheme under TCCS ownership meets total costs (i.e. no surplus). Based on the extensive modelling conducted to date, if capex is assumed as a sunk cost then there are significantly positive returns to opex.

Modelled impact on Government

51) As noted above, under normal arrangements TCCS would only be funded to irrigate Priority 1 areas. For Ginninderry, the Priority 1 areas include the Strathnairn Neighbourhood Park and the School Oval, which combined have an irrigation demand of 35,537 kl/year. In the absence of the proposed utility, the cost of irrigating these areas with potable water on average would be $207,208/year, totalling $4,347,597 in nominal terms over 20 years.

52) Assuming the utility is owned by Government as recommended by this Submission, the analysis indicates the cost of irrigating all three Priority Areas with recycled water would be $223,963/year, totalling $4,703,230 in nominal terms over 20 years. In addition to this amount TCCS will be incurring additional maintenance costs for the Priority 2 and 3 areas not typically maintained at an estimated costs of $39,459/year — $33,312 for mowing and $6,147 for litter picking — totalling $789,180 in nominal terms over 20 years. Combining the recycled water costs with the additional maintenance costs, the total cost to Government over 20 years is $5,492,410.

53) Noting that irrigation of Priority 1 areas with potable water is business as usual (BAU), irrigation of Priority 1, 2 3 areas with recycled water from the Utility then represents an additional cost to Government (beyond BAU) of $1,144,813 over 20 years in nominal terms (or additional cost of $57,241/year).

54) All of the analysis above has been undertaken on the basis that the price being set for the recycled water is sufficient to recover the upfront capital expenditure and the ongoing operating expenditure for the new facility (i.e. the total cost). However, given the Ginninderry JV is funding all the upfront capital costs with TCCS to then assume operational responsibility, the pricing model could be adjusted to simply cover operating costs plus a margin. This would provide the scope to significantly reduce pricing well below $1.63/kL which in turn would

enable the irrigation of all Priority areas at no additional cost to government. The ultimate pricing model to be adopted will be a matter for UTR and TCCS to determine.

Additional Supply for Commercial Purposes

55) Furthermore, beyond the supply of water to irrigate Priority areas 1, 2 and 3, any additional water supply that is excess to irrigating Priority areas within Strathnairn could be supplied to surrounding commercial users (such as the Magpies Golf Club) or used to potential supply water for irrigation of key open space areas located in Ginninderry's new suburb of Macnamara (that would otherwise be irrigated with potable water). This would provide further economies in support of the ongoing operations of the utility. Despite this, we have not considered this opportunity explicitly in this Submission, however this opportunity could be pursued further once the utility is operational.

Financial Risk

56) While the modelling to date has included sensitivity analysis to take account of various factors and scenarios, it is important that Cabinet note that the water balance assumptions underpinning the modelling are still subject to variance. Although the modelling has taken a long-run average (adopting a 50th percentile average rainfall pattern over a 10 year period), sustained periods of lower-than-average rainfall will impact supply. There will be periods that will be dryer than the assumed modelling which will result in less availability of water for irrigation and the potential need for supplementary water sources to be provided (either potable or Lower Molonglo Water Quality Control Centre recycled water) at a significantly greater cost. Conversely it is also possible that in slightly wetter periods there would potentially be more water that could be supplied to other users.

FINANCIAL IMPACT

57) This Submission has outlined a range of costings and is seeking agreement for the establishment of a utility to be managed by TCCS and for the Ginninderry JV to commence construction works on the associated infrastructure. The Submission is also seeking agreement to TCCS expanding its baseline irrigation regime. However, to accommodate TCCS's request due to the current phase of the project and existing cost information available, a further Cabinet submission will be developed once approvals and operational certificate is obtained from the UTR will be brought forward, presenting costs based on construction ready-design documentation.

58) For normal Greenfield developments TCCS is required to maintain priority 1 areas to a service level that includes irrigation. This would be typically provided for via a potable water source. Funding for these maintenance costs is provided via an agreed growth model that provides additional maintenance funding on an annual basis. This stormwater harvesting solution will require TCCS to maintain priority 2 and 3 areas to a higher than normal standard.

59) The incremental cost (to TCCS) of maintaining priority 2 and 3 areas is estimated at $120,000 p.a. These additional costs include mowing, litter picking, purchasing potable water for irrigation and maintenance of the irrigation system.

60) If the stormwater harvesting solution is expanded to future developments within Ginninderry, these incremental costs will increase accordingly. However as noted the establishment of a Utility may also realise other benefits that go towards offsetting these incremental costs to Government.

61) As noted in paragraph 46, the financial impact will be detailed in a further submission once the relevant detailed design and approvals have been granted.

WELLBEING IMPACT SUMMARY

62) A Wellbeing Impact Assessment is provided at Attachment C.

CONSULTATION

External stakeholders

63) The Magpies Golf Club has been consulted on the proposal and have indicated a strong desire to purchase water.

ACT Government agencies

64) The SLA consulted with TCCS and the Chief Minister, Treasury and Economic Development Directorate in the development of this submission. Advice was also sought from the UTR and is included as Attachment G to the submission.

65) Treasury have expressed concern about making commitments to irrigate areas other than priority 1. They noted that whilst the irrigation assets would be a similar model to the Inner North Reticulation Network, a key difference is that there is limited storage in this model. Therefore, in very wet years there will be a need to irrigate land when it is not required and in dry years supply will be insufficient to meet demand.

66) Treasury noted that without a storage facility, in dry years there will only be capacity to irrigate priority one areas. Based on analysis undertaken by Treasury for the non potable water review, this is also the time that other users such as the Magpies would be looking to purchase water. Therefore, without additional storage capacity, it is not recommended to make commitments to irrigate areas other than priority one areas, at this stage.

67) In very dry years, Treasury consider that it would only be appropriate for the government to purchase water to maintain priority 1 areas in these circumstances, in line with the irrigation policy that applies across the ACT.

68) An exposure draft of this submission was circulated to all directorates. A table of comments is provided at Attachment A.

MEDIA/COMMUNICATIONS

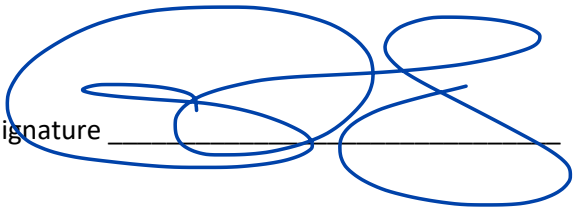
69) The Ginninderry JV has based much of its marketing and brand value on the creation of a unique and aesthetically pleasing location. The management of stormwater is critical to the Ginninderry JV development both in achieving its EPBC conditional requirements and the aesthetic value the development itself.

IMPLEMENTATION

70) Subject to Cabinet's agreement to the recommended approach, the delivery program at Attachment H sets out the steps required to achieve establishment of the utility and operational commencement of the stormwater harvesting facility by the end of September 2023.

HUMAN RIGHTS IMPACT

71) Nil.

Minister's signature  Date 05/09/22

ATTACHMENTS

A	Table of comments
B	Open Access decision summary
C	Wellbeing Impact Assessment
D	Stormwater Management Options
E	Priority Irrigation Areas
F	Modelling Results
G	Regulatory Impacts
H	Ginninderry Stormwater Harvesting Facility Program

ATTACHMENT A

EXPOSURE DRAFT COMMENTS – 21/352

Exposure circulation undertaken: Full exposure circulation

Reason for exception: N/A

Dates circulated: 4 to 10 November 2021

Directorate	Comment	Response
CMTEDD	Supported. 1. The submission describes that there are several regulatory processes that apply to the stormwater harvesting project yet only describes two. The processes under the *Utilities Act 2000* and *Utilities Technical Regulation Act 2014* are adequately captured but the requirements that the potential utility would have under the *Water Resources Act 2007* are not mentioned. 2. The submission should include that the Utility (Ginninderry Joint Venture) or a linked entity (potentially TCCS) would need to acquire a suitable volume of Water Access Entitlements and the cost of these entitlements should be accounted for in the cab sub description. 3. The Utility would be required to hold an on-going licence for water extraction with associated fees including an annual admin charge and Water Abstraction Charge and potential subsidies as per Treasury determinations. 4. The issue of a water extraction licence by the Environment Protection Authority may include	1. *Water Resource Act 2007* information has been added to Attachment G. 2. A 10% contingency has been included in the model to account for any unexpected costs. It wasn't clear whether this charge was in addition to the Network Facilities Tax, and therefore wasn't included in the model. Further, there is a non-potable water review being conducted, resulting in the associated fees likely changing. 3. The Water Abstraction Charge (WAC) is not included within the model. As structured WAC is akin to an ad valorem tax (at the point of transaction i.e. sales tax). The model assessed the financials from the perspective of a Utility Owner and Operator. If WAC applied, this lifts the price to consumer to around $2.11. Any collection would be passed straight through to the regulator, and as such does not impact the finances. The model also allows for the net present value of the Network Facilities Tax (see Table 4, Attachment F). 4. A 10% contingency has been included in the model to account for any unexpected costs.

	conditions for monitoring of waterways (ponds) and pumping restrictions if water quality poses an issue. 5. Treasury notes the submission does not detail that in order to irrigate priority areas over 2,000 sprinklers would be required, resulting in upfront capital and ongoing repairs and maintenance costs to TCCS, which are estimated at over $200,000 per annum. Managing the priority areas which are greater than would normally be provided would increase costs associated with mowing and other activities required to maintain open spaces and amenity within the development. 6. The Utility Technical Regulator would be required to ensure the utility meets regulatory requirements. These additional costs have been estimated as part of the modelling at about $13,500 per year but Treasury expects these costs would be substantially higher in the initial years when more compliance and regulatory work is required. 7. Given the preferred option is only viable if TCCS is appropriated funding for these additional irrigation activities, and the majority of the irrigation service would be provided to Government, Treasury considers it would be more efficient and economically viable for TCCS to operate the utility from inception, with the JV responsible for the design, procurement and build. 8. This approach would be less complex to administer and enable a more transparent funding process than if the utility was operated by the JV. We also note	5. The Ginninderry Joint Venture have installed the irrigation reticulation system so there would be no additional upfront CAPEX costs. The model anticipates a total OPEX cost ranging from c.$155k to $210k over the life of the Utility. The actual cost for repairs and maintenance of the irrigation system are based on the costs the JV are currently incurring for maintenance of the irrigation system. Further it is proposed that another Cabinet Submission is submitted after three years of utility operation to confirm details like this more accurately after the utility has been operational for a sufficient period of time. 6. A regulatory cost figure was discussed and agreed through the Ginninderry Stormwater Re-use Committee meetings. There is contingency built into the model to cover any unexpected additional costs. 7. TCCS has previously provided advice at the Ginninderry Stormwater Reuse Committee that their preference is for the GJV to initially operate the utility and then subsequent transition operations to TCCS after five years was their preferred position 8. As above.

	TCCS already has experience operating a facility of this type.	
JACS	Supported.	
HD	Supported. The Health Protection Service (HPS) supports the exposure draft cabinet submission noting that the operators of the stormwater harvesting, or reuse scheme must consider guidance provided in the National Health and Medical Research Council Guidelines for Water Recycling: Managing Health and Environmental Risks 2009 (the Guidelines) in the design, operation and management of the scheme. Operational costings should account for ongoing maintenance and operational monitoring in accordance with the Guidelines. Adhering to the Guidelines will ensure the human health risks of using harvested stormwater can be addressed.	Noted.
CHS	Supported.	
EDU	Supported.	
TCCS	Supported for consideration by Cabinet. 1. TCCS notes the intent to control excess storm water run-off from the development into the Murrumbidgee River. Additional options could be presented that meet the requirement of the ACT Municipal Infrastructure Standards for Stormwater (MIS 08) without the need to establish a Utility or to irrigate areas other than the Priority 1 area.	1. Paragraph 8 of Cabinet Submission notes the alternative stormwater management options and why they were discounted. 2. Noted. The project is designed as a trial/ proof of concept which will be managed by the Ginninderry Joint Venture. A further Cabinet Submission is proposed after three years of operation, to consider additional knowledge gained during this period, prior to any transfer to TCCS.

	2. TCCS has concerns about the financial viability and associated risks with the establishment of a utility to manage and operate the stormwater harvesting facility. a. There are risks associated in assuming a positive revenue gain for TCCS without demonstrating the full cost implications. b. For example, noting that additional funding would be required to support the irrigation of Priority 2 and 3 areas. It is unclear how the proposed annual budget appropriation of $55,000 per annum has been calculated. c. The anticipated cost to supply water for the purpose of irrigating the proposed priorities areas is likely to significantly exceed $55,000. This cost also does not factor in the additional maintenance and operational expenses to maintain irrigated assets, such as mowing, weed control etc. TCCS would require its base funding to be supplemented for ongoing management over an above the current growth funding model applied to existing new estates. 3. It is assumed that TCCS is not taking the lead in preparing a Business Case to cover associated O&M costs.	The estimated $55k proposed additional funding budget appropriation for TCCS operations management was the baseline from the model. It is proposed that this will be covered by the utility through the start-up phase and the final impacts will be calculated and resolved with TCCS and brought forward in the follow up Cabinet Submission that will also address governance. The $55k is an estimate as the average additional costs over the life of the Utility. As noted above. Part of the recommendation of the Cabinet Submission is that Cabinet agrees to additional funding for TCCS if and when the utility is transferred to them. 3. All work relating to the Ginninderry Stormwater Re-Use Initiative will be the responsibility of the Suburban Land Agency and or the Ginninderry Joint Venture until it is transferred.
CSD	Supported.	
EPSD	Supported.	
MPC	Supported.	

Statutory Office Holder	Supported.	

EXPOSURE DRAFT COMMENTS (2ND PASS) – 21/352

Final circulation undertaken: Full exposure circulation

Reason for exception: N/A

Dates circulated: 22 – 29 July 2022

Directorate	Comment	Response
CMTEDD	• The proposed approach to stormwater harvesting is supported, noting it is the most cost-effective option, as compared with the construction of regional scale ponds or a lake, which would not be feasible on the constrained site. • The recommendations would benefit from being updated to be more prescriptive on the options available for Government and to better distinguish the relationships and dependency between the recommendations put forward for Cabinet. In particular, recommendations 1a and 1c appear to rely upon Cabinet's agreement of 1b and 1d as the preferred option for establishment and operation of the proposed stormwater harvesting infrastructure. • CMTEDD understands that TCCS requires more detail about the harvesting system to accurately estimate the ongoing operational costs, and to confirm that the system will meet the EPBC Act regulatory requirements. On that basis, CMTEDD is supportive of the submission at this stage, but	• Noted. • Recommendations have been updated in line with TCCS preferences. • Submission and Recommendations have been amended to reflect TCCS's request to undertake a two pass Cabinet process. The future submission will detail the financial impacts based on detailed design. The SLA, Riverview Group and TCCS will work closely to determine the opex costs. • A section has been added to the submission to provide an overview of the EPBC requirements. In terms of the specific detail, this will be worked through with TCCS to ensure everyone is across the EPBC requirements in managing the harvesting system upon completion and handover. • Prior to the second pass, the modelling will be updating to incorporate further feedback to date, including supply to the 'other' category, and updated costs that will again be worked through in consultation with TCCS and Treasury.

	recommends that detailed financial impacts are brought back to ERC/Cabinet once the detailed design work has been undertaken. This would ideally be done in time for consideration through the 2023-24 Budget process or 2022-23 Budget Review. ○ Accordingly, CMTEDD strongly recommends that the recommendations be updated to recommend a two-pass process whereby final agreement to the Utility does not occur until detailed costings are provided to Cabinet for consideration and that this Submission seeks the agreement necessary to enable detailed design and regulatory actions to progress to support the development of detailed costings. ○ To that end, CMTEDD suggests that Recommendation 1(f) be removed, together with the expense impacts for additional operational funding in the Financial impacts summary table. The submission should clearly identify that the table contains current estimates only. ○ The recommendations should be updated to seek agreement to the SLA working closely with TCCS and Treasury to undertake detailed financial modelling and that detailed costings will come back	

	to ERC/Cabinet through a later budget process. • The revenue estimate from the utility asset transfer to TCCS, as well as depreciation, may remain in the financial table based on calculations already undertaken. Treasury notes that ultimately these values will depend on the final asset(s) developed by the Joint Venture. • CMTEDD understands from further discussion with the SLA that the irrigation of Priority 2 and 3 areas is only proposed when necessary to manage stormwater runoff into the Murrumbidgee River during periods of increased rainfall consistent with requirements under the *Environment Protection and Biodiversity Conservation Act* (EPBC Act). ○ Recommendation E would be improved by clarifying that maintaining priority areas 2 and 3 is not a baseline level of service that will be provided to the Ginninderry development and will only be provided to meet the requirements imposed by the EPBC Act. • To support Cabinet's consideration of the recommendations, and noting the information provided in Attachment G on regulatory impacts, the submission would benefit from the inclusion of further detail on the utility license requirements and the eligibility and suitability of	

	the Ginninderry JV and TCCS seeking and receiving exemptions from holding a utility license under the *Utilities Act 2000*. As the proposal for Government appears to rely upon regulatory approval processes, CMTEDD would support this dependency being reflected in the recommendations and captured within the discussion of the Submission.
	• The Water Abstraction Charge (WAC), and ongoing licence fees for water extraction were previously identified as additional costs which would need to be applied to the model.
	  ○ The response to these comments argued that the WAC is akin to an ad valorem tax which would be passed straight through to the regulator, does not impact the finances and was therefore not included in the model.
	  ▪ This argument is not accepted because the charge is borne by the Utility and a portion of it may pass through to customers but definitely not to the 'regulator'.
	• CMTEDD previously raised the need for resources to support monitoring of waterways (ponds) and pumping restrictions in the event of water quality deterioration within the pond network. These predictable costs appear to be met within the	

	identified 10% contingency in the operating model. ○ Water quality issues related to water quantity problems are not unexpected but are certain to occur at some time given the combined impacts of climate change, and the ACT's background climate variability. The submission could provide discussion of why it is appropriate to deal with these anticipated costs as a part of a contingency, and any risk of future unfunded additional costs to government operations. • The Submission appears to reflect the previous proposal that the Joint Venture operate the Utility for an interim period, for example, the Submission details that stormwater reuse model works on the basis that stormwater will be available for purchase by three potential customers groups being TCCS, the Magpies Golf Club and an 'other' category. Given the Submission now seeks agreement for the stormwater reticulation assets to be transferred/gifted to TCCS, rather than being retained by the JV, CMTEDD understands that the Utility would no longer operate on a commercial basis and that the discussion on the sale of water would no longer be applicable. • CMTEDD notes the Government's response to the non-potable water review is currently under	

	development. CMTEDD supports the Cabinet Submission being considered prior to its release given that the response is expected to focus on addressing the pricing of surface and ground water, alongside the consideration of alternative assistance measures. As such, any decisions on the Ginninderry utility will not be significantly impacted by outcomes of the Government response and would still be set at a rate to achieve full cost recovery. In addition, the Government response is expected to be completed in late 2022, and as such could result in significant delays to the stormwater project if Cabinet consideration on this stormwater harvesting project was delayed to consider the response to the non-potable water review.	
JACS	Supported.	
HD	Supported. ACT Health Directorate (ACTHD) notes the options under consideration and supports the submission. Quality of stormwater and the associated management controls need to be considered in proportion to the level of risk from the agreed option. As a general principle, the more likely it is that stormwater will place people or the environment at risk, the stricter the water quality and management controls need to be.	• Noted. The submission will now go through a two pass process an updated modelling will ensure testing and analysis costs are reflected appropriately.

	ACTHD recommends the submission make reference to the need for risk management controls to include water quality testing commensurate with the health risks associated with the final proposal and reference that Transport Canberra and City Services (TCCS) will work with the Health Protection Service regarding the management of water quality considerations (refer Attachment G: Regulatory Impacts). ACTHD also recommends that the submission note that the ACT Government Analytical Laboratory (ACTGAL) in ACTHD delivers microbiology and environmental chemistry services including in relation to water quality and that TCCS will work with ACTGAL to put in place any necessary testing arrangements including as part of any future remedial actions in response to any non-conformance. ACTGAL is a NATA accredited laboratory providing international best practice scientific analytical services to government and private clients. The Modelling and costings should reflect testing and analysis costs to ensure these costs are built into the forward the business case and budget for the proposal. These additional costs should be reflected in the indexed and ongoing costs at recommendation 1 (f) of the submission.	
CHS	Supported.	
EDU	Supported.	

TCCS	Not supported in current form. TCCS has two major concerns: 1. TCCS' primary concern is that demonstration of EPBC condition requirements will transfer to TCCS on handover of the network, and it is unclear how achievement of compliance will be verified. Compliance with EPBC condition requirements is stated as the primary purpose of this stormwater harvesting network. That is, to ensure that runoff does not exceed pre-development volumes. The purpose of this EPBC conditional development requirement is to protect threatened species habitat, threatened species and highly sensitive and valuable ecological communities and river ecosystems. The submission currently doesn't demonstrate how the EPBC Act conditions will be met in the GJV modelling or system operating protocols for application by TCCS after the network is transferred. 2. TCCS' secondary concern is that capex and opex cost estimates of the network are preliminary at this stage and are effectively unable to be substantiated until detailed design is completed/development approvals and operating certificate are obtained from the Utilities Technical Regulator. The associated risks to TCCS with Cabinet agreeing to preliminary costs being the basis of future	• The submission has been updated to reflect TCCS's changes to the recommendations and the request to adopt a two pass process. As a result, the financial impact table has been removed pending the second pass. • Additional detail has been included around the EPBC approval and conditions. SLA and Riverview will continue to work closely with TCCS to ensure EPBC conditions and reporting are understood prior to the second pass. • Additional TCCS informal comments and suggestions have been incorporated where appropriate.

	budget appropriations is considered unacceptably high. To address this risk, TCCS request that financial information is removed from the Financial Impacts section of the sub with capital costs being summarised in the body of the sub and opex costs removed. This will avoid unsubstantiated opex costs being locked in as an agreed appropriation. To address these major issues of concern, TCCS recommends that a further cabinet submission be prepared to address compliance and opex cost risks in detail, based on construction-ready design documentation and documented network operating procedures/protocols. TCCS support for the cabinet submission is pending: - proposed changes to recommendations - removal of financial information from Financial Impacts section of the cabinet submission - clarification of information presented in Attachments E, F, G and H. Suggest recommendations are amended to state as below: 1) I recommend Cabinet agree: a. the Ginninderry Joint Venture seek an exemption to hold a utility licence for design, construction	

	and commissioning phases of the stormwater harvesting infrastructure and obtain an operating certificate from the Utilities Technical Regulator. b. To enable presentation of accurately reflected capex and opex costs, the Ginninderry Joint Venture will prepare a further cabinet submission once development approvals and operational certificate is obtained from the Utilities Technical Regulator, presenting substantiated costs based on construction ready-design documentation. Costs presented in this further cabinet decision will form the basis of a TCCS budget bid for appropriation in 2023-24 budget cycle. The cabinet submission will also detail operational procedures for the network that demonstrate that compliance with *EPBC Act* condition requirements is achievable when the network is transferred to TCCS. c. Pending Cabinet approval of the second submission, the Ginninderry Joint Venture will procure, construct and commission the stormwater harvesting facility in accordance with requirements specified by the Utilities Technical Regulator.	

	d. Pending successful network commissioning by the Ginninderry Joint Venture, Transport Canberra and City Services Directorate seek a perpetual exemption to hold a utility licence for the operation of the Ginninderry stormwater harvesting network and obtain an operating certificate from the Utilities Technical Regulator. e. Pending the Ginninderry Joint Venture's achievement of defect-free construction certification and a fully successful commissioning process and verified operational procedures that demonstrably achieve compliance with *EPBC Act* condition requirements, Ginninderry stormwater reticulation and irrigation assets be transferred/gifted to Transport Canberra and City Services Directorate to own, operate and maintain under the new utility. 2) I recommend Cabinet note: a. Capital costs are preliminary estimates and operational costs will be further determined after detailed design is completed. b. The stormwater harvesting initiative is a pilot/ proof of concept to inform development of solutions for subsequent stages, subject to future cabinet consideration.	

	c. the Implementation milestones and timeframes set out in Attachment H. 3) I recommend Cabinet note: a. the planning approval conditions for the Ginninderry Joint Venture under the *Environment Protection and Biodiversity Conservation Act 1999* require specific actions to control excess stormwater run-off from the development into the Murrumbidgee River; b. work to date has explored and discounted a variety of options and has identified the establishment of a utility as the preferred approach to manage and operate any future stormwater harvesting initiative; c. legislation requires the establishment of a utility for non-drinking water supply at this scale and is generally supported by a range of other ACT policy and strategy documents promoting integrated water cycle management as a means to improving environmental outcomes and supporting social wellbeing; and d. preliminary scenario-based financial modelling has been undertaken in support of this submission. Additional detailed comments have been provided to SLA separately from this commentary process.	

CSD	Supported.	
MPC	Supported.	
Statutory Office Holder	Supported.	

FINAL COMMENTS – 21/352

Final circulation undertaken: 2 day final circulation

Reason for exception: N/A

Dates circulated: 7 – 9 September 2022

Directorate	Comment	Response
CMTEDD	CMTEDD supports this submission, noting the below comments. • The two-stage Cabinet approval process for the Stormwater Recycling Initiative is strongly supported. CMTEDD notes, however, that the Submission does not clearly identify at which stage final agreement to the Utility occurs and that this could pre-emptively limit options for Government when considering the future submission on capital and expenditure costs associated with the proposed construction, commissioning and eventual handover of the Utility to TCCS. • CMTEDD understands from previous discussions with the SLA during exposure consultation that the irrigation of Priority 2 and 3 areas (areas not normally maintained by TCCS) is only proposed when necessary to manage stormwater runoff into the Murrumbidgee River during periods of increased rainfall consistent with requirements under the EPBC Act. Consistent with this advice, CMTEDD would	• Comments are noted. • Paragraph 16 has not been amended given this issue is addressed in paragraphs 12-18 and 24. The SLA notes this comment however and will ensure this issue is adequately articulated in the 2nd pass submission. • The Wellbeing Impact Assessment will be updated to reflect the additional comments in the 2nd pass submission once further work on the EPBC conditional requirements has been undertaken as part of this submission process (as noted in TCCS' comments below).

	support paragraph 16) being amended to better reflect that the irrigation of Priority 2 and 3 areas would only occur when necessary to meet EPBC approval requirements as opposed to when additional service is possible. • Given the above comments, it may be appropriate for the Cabinet Decision and Wellbeing Impact Summaries to be reviewed or amended to reflect these sensitivities. In particular, CMTEDD considers that the Wellbeing Impact Summary should focus on the positive impacts to the environment as a result of effective stormwater run-off management, noting that the irrigation of Priority 2 and 3 areas is not consistent with servicing for other suburbs in the Territory and could viewed as an additional level of service being provided for Ginninderry. • The revised Submission and response to comments are clear on the regulatory requirements (costs and processes) for Utilities Technical Regulation and the Environment Protection Authority. Namely there will be a need for the ministerial exemptions to Ginninderry JV and TCCS from the *Utilities Act 2000*, a requirement for a design and construct certificate for Ginninderry JV and an operational certificate for TCCS. • In regard to the water quality, the revision is better in explaining that the stormwater harvesting and reuse simply has to happen (whatever the cost) in order to meet water quality objectives for both the standard ACT objectives and the Ginninderry JV	

	aspirations of a 6 star rating for the development. The submission also acknowledges the variation in conditions (drought and la niña) that will change the nature and extent of stormwater re-use.	
JACS	Supported.	N/A
HD	Supported.	N/A
CHS	Supported.	N/A
EDU	Supported.	N/A
TCCS	Supported, noting a subsequent cabinet submission will: - further define TCCS OPEX costs for operation of the utility and additional water purchase costs and maintenance costs associated with additional irrigation. - Clarify EPBC condition requirements and how these can be achieved by TCCS once the network is handed over from Ginninderry Joint Venture. *EPBC condition requirements* TCCS recommends that legal advice is sought to specifically clarify TCCS' responsibilities to meet compliance requirements as owner/operator, and this advice be presented to Cabinet in the subsequent cabinet submission to ensure Territory obligations vs Riverview obligations are clear. TCCS has sought the following clarifications from SLA: ○ Specific condition requirements to achieve compliance with the EPBC Act (e.g. exact measurement types and locations).	• The SLA notes TCCS' support condition upon refining the TCCS OPEX costs and clarifying the EPBC conditions, and will work collaboratively with TCCS prior to the 2nd pass submission to ensure all parties are comfortable with the proposal. • The SLA appreciates TCCS' additional detailed comments, however notes that due to the late receipt of these comments it is not possible to revise the 1st pass Cabinet submission to address all of the queries. • The SLA will work together with TCCS to ensure that all conditions and requirements surrounding EPBC approval are understood, and will also seek legal advice on meeting these conditions prior to the 2nd pass submission. • The SLA notes that TCCS provided high level estimated OPEX costs which were qualified and based on the Inner North Stormwater Reticulation Network. The SLA were advised that the figures provided were not adjusted to reflect the relative size of this proposal. The timing of the provision of these costs (provided after the 2nd pass exposure comments

	○ Confirmation of whether Riverview is the responsible entity for EPBC Act requirements following handover to the owner/operator (TCCS). Suggest legal advice is sought. ○ Given Riverview is the responsible entity, a summary of how one party will be able to act as the operator while another party has the legal responsibility (in general/basic terms). What are the implications on TCCS in the case that compliance is not achieved? ○ A brief understanding on the appetite of the regulatory entity for flexibility in the event of non-compliance. In addition, what is the appetite for the EPBC Act requirements to be phased out after a period of satisfactory conditions? The more specifics TCCS has in writing from the regulator, the more this risk can be assessed. ○ A copy of the hydrology model used to demonstrate that the various flow requirements of the EPBC Act conditions requirements may be achieved. Para 15 – refer to TCCS comment on Para 40-41 on estimated OPEX costs. Given annual OPEX costs are preliminarily estimated at around $1.4-$1.6M, a one-off storage tank construction cost of $7.5-$10.3M may be more feasible than was initially considered, which would enable sale of water to Magpies Gold Club and 'other' commercial users, to increase utility revenue. TCCS recommends that this financial analysis is undertaken and presented to Cabinet in the subsequent cabinet submission for consideration. Para 28 – seeking clarification on how is it possible for all the reticulation infrastructure be constructed by 2023, prior to	were addressed) inhibited the use of these figures in the modelling. The agreed position between the SLA and TCCS was to note these costs and work collaboratively prior to the 2nd pass submission to update the modelling to reflect these costs, and also extend the 20 year lifecycle model to 50 years. • In the consultation period during 2021 and 2022, and in consideration of feasibility studies undertaken, the agreed position was to not consider additional storage as it was cost prohibitive. Furthermore, Treasury has strongly expressed that there is no appetite to sell water to commercial users at this stage. This financial analysis has already been undertaken and discounted. • The SLA notes the comment on the approval timeframe, and notes that it is preliminary. Further consultation with the UTR will be undertaken to determine the approval pathway and requirements prior to the 2nd pass submission. • Given the late receipt of comments, the appendices have not been updated. TCCS's comments in regards to the appendices will be addressed as noted above in the 2nd pass submission.

	the final 3 ponds scheduled for construction in 2025 and 2030? Para 35 – TCCS water purchase agreements will not guarantee water supply under any scenario. Water will be supplied only when it is available. Has the GJV undertaken volumetric reliability assessments for each site proposed to be irrigated? If not, this is critical to provide % of time water is likely to be available for irrigation. Para 36 – as previously stated, a 20-year lifecycle model is insufficient to reflect true whole-of-life replacement costs of infrastructure and equipment and is therefore misleading. For subsequent cabinet submission, please adopt a 50-year model in accordance with industry standards. Para 40 and 41 – TCCS does not agree with the costs outlined in this para. Preliminary estimated TCCS OPEX costs have been provided to SLA and indicate annual costs to TCCS are in the order of $1.4-$1.6M. Para 42 – UTR and TCCS do not have a role in determining unregulated water pricing. It is Treasury's role to determine non-drinking water pricing. Para 45 – submission seeks agreement to commence detailed design, rather than construction works. Para 48 - The GJV stormwater harvesting project is designed as a trial/proof of concept to determine whether EPBC condition requirements can be met and determine actual OPEX costs. A further Cabinet Submission after three years of operation is recommended to determine feasibility for expansion of the network to future developments within Ginninderry, taking into account increasing incremental costs.	

	Para 53 – TCCS supports Treasury's concerns. Para 54 - TCCS supports Treasury's comment. Para 55 - TCCS supports Treasury's comment. Attachment F – TCCS has provided estimated OPEX costs to SLA, though these costs are not reflected in this cabinet submission. TCCS has requested a copy of the hydrological model from SLA to assess volumetric reliability to proposed irrigation sites. Costs inputs to model will likely increase once detailed design determines operating protocol and TCCS verifies estimated preliminary OPEX costs to SLA. Attachment H – TCCS has concerns that the preliminary timeframe presented is unrealistic. For example, design and approvals program is only 8 weeks, which is inadequate for any Development Application process. The timeframe for the subsequent cabinet submission process is not included in the program, though this cabinet submission agrees to a second submission being presented for consideration. TCCS recommends that the program is reviewed and presented as realistically as possible for Cabinet's information.	
CSD	Supported.	N/A
EPSD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
MPC	Supported.	N/A
Statutory Office Holder	Supported.	N/A

FINAL COMMENTS (POST ERC) – 21/352

Final circulation undertaken: Choose an item.

Reason for exception: State reason for exception to full circulation or state N/A

Dates circulated: Provide dates circulated

Directorate	Comment	Response
CMTEDD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
JACS	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
HD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
CHS	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
EDU	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
TCCS	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
CSD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
EPSD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
MPC	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
Statutory Office Holder	Choose an item. [Provide comments.]	[Drafting directorate to provide response]

ATTACHMENT B

OPEN ACCESS ASSESSMENT: CABINET DECISION AND WELLBEING IMPACT ASSESSMENT SUMMARY

The Chief Minister must proactively release the information described in section 23 of the *Freedom of Information Act 2016* (the FOI Act) unless the information is contrary to the public interest in accordance with sections 16 and 17, and schedules 1 and 2 of the FOI Act. Please refer to the Cabinet Sharepoint Site for further guidance on what is within the scope of Open Access requirements.

If you believe that release of this information is within the scope of Open Access requirements and would be contrary to the public interest, please complete Part B.

PART A: Release proposed

Number and title of decision: **21/352 West Belconnen (Ginninderry) Stormwater Harvesting Project**

Proposed summary of the decision for public release
Cabinet agreed to the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development.

Proposed summary of the Wellbeing Impact Assessment for public release
The proposal will have a positive impact on the Ginninderry development open spaces and for residents by irrigating key areas throughout the development will encourage more people to purchase land at Ginninderry but also create areas for residents to enjoy outdoor recreation in well maintain parks and ovals – anecdotally improving physical and mental wellbeing.

Attachments for release
Click here to enter text.

Summary of the decision	**Release through the Open Access website?**	**Release by Directorate?**
Summary of the decision	Yes	
Attachment A Table of final agency comments		
Attachment B Open Access Assessment – Decision Summary		
Attachment C Wellbeing Impact Assessment	No	
Attachment D Stormwater Management Options	No	No
Attachment E TCCS Priority Irrigation Areas	No	Yes
Attachment F Modelling Results	No	No
Attachment G Regulatory Impacts	No	Yes
Attachment H Ginninderry Stormwater Harvesting Facility Program	No	No

WELLBEING IMPACT ASSESSMENT

Proposal Name: Ginninderry (West Belconnen) Joint Venture – Stormwater Harvesting Project **SLA** **Wellbeing Impact 1**

Purpose of proposal

This proposal seeks agreement to establish a utility to manage and operate stormwater harvesting for the Ginninderry development.

Impact description

We anticipate that the proposal will have the following wellbeing impacts across the environment and climate and access and connectivity wellbeing domains:

- Major impact on residents on Ginninderry development suburbs
- Major impact on Ginninderry recreation and open space areas
- Minor impact on local flora and fauna through the on-going irrigation and maintenance will create passages through the landscape for travel and nesting opportunities.
- Minor impact to ACT community through increase in irrigation operation and maintenance costs for TCCS
- Minor impact to ACT community through potential revenue collected by the resale of stormwater

The proposal will have a positive impact on the Ginninderry development open spaces and for residents by irrigating key areas throughout the development will encourage more people to purchase land at Ginninderry but also create areas for residents to enjoy outdoor recreation in well maintain parks and ovals – anecdotally improving physical and mental wellbeing.

There will be both some positive and negative impacts to the ACT budget through the increased irrigation by way of increased maintenance (mowing etc) but also the opportunity to sell excess stormwater to local businesses like the golf course and create an additional revenue stream.

Who is affected?

Residents of the Ginninderry Development area – Strathnairn, Macnamara and new yet to be named suburbs in the ACT and NSW. This will likely impact the 30,000 plus residents of these suburbs as well as other Canberrans that visit once the development has been complete Impacts to the eight specific groups identified under the ACT Government's Wellbeing Framework

- Aboriginal and Torres Strain Islanders Peoples – nil impact
- Carers – nil impact
- Children and Young People – nil direct impacts, however it should be noted that the creation and maintenance of green and water recreational areas increases wellbeing and improves physical and mental health. Further the reuse of stormwater is a sustainable approach to water utilisation and will benefit future generations.
- Culturally and Linguistically Diverse People – nil direct impacts however it should be noted that land purchases to date have been dominated by people from the Asian sub-continent. This has created a tremendously diverse culture within the Strathnairn. The Ginninderry JV expect this cultural diversity to continue throughout the development.
- LGBTIQ+ People – nil impact
- Older Canberrans – nil direct impacts, however it should be noted that the creation and maintenance of green and water recreational areas increase wellbeing and improves physical and mental health.
- People with a disability – nil impact
- Across gender People – nil impact

Wellbeing domain

Environment and climate

Timeframe

Between one and five years

The development of the first few stormwater collection ponds has already been completed. It is expected that stormwater irrigation could be operational by 2023 with the first stage of Macnamara.

Evidence base and data

What do we know now?

Rainfall data has been modelling using historical data from the Bureau of Meteorology, this data has also been modelled conservatively to demonstrate the most likely outcomes in terms of stormwater that is available for reuse. The modelling work was completed by WSUD experts.

Irrigation costs to the ACT Government have been obtained from Transport Canberra and City Services (TCCS) and based on actual data from other irrigation projects from around Canberra.

What do we need to know?

Rainfall and the amount of stormwater required for irrigation is still based on modelling of past events. The impact of rainfall will be reviewed regularly through the first five years of operation to ensure that the stormwater reuse initiative is providing a net positive impact to the ACT community.

WELLBEING IMPACT ASSESSMENT

Accountability and evaluation – how will we know this proposal has been successful?

This proposal will be evaluated on three grounds:

- Additional cost to ACT Government to irrigate versus the additional revenue received from the sale of excess stormwater
- Ability of the storage ponds and stormwater reuse to minimise stormwater run off days into the Conservation Corridor, thus not impacting the Ginninderry JV EPBC Act conditional approval.
- Ability of the Ginninderry JV to maintain their six star green star communities rating. This has been noted by numerous potential and actual land purchasers at Ginninderry as being a key reason for their purchase. They want to live in a development that has a high focus on sustainability.

The Ginninderry JV propose to build the Ginninderry Stormwater reuse utility and once complete handing it over for Government operation.

Key relationships

Key stakeholders have been engaged to provide input on the development of this proposal from various areas of Government as well as research and analysis commissioned from Water Sensitive Urban Design experts.

Government

Engagement has taken place and continues with representatives from ACT Treasury, Environment, Planning and Sustainable Development Directorate through the Chief Engineer and TCCS as the operators of the ACT's stormwater network.

Private Sector

The Ginninderry JV and SLA have engaged expert advice from leading Water Sensitive Urban Design experts in the modelling and development of options for the reuse of stormwater within the Ginninderry development area.

ATTACHMENT D

STORMWATER MANAGEMENT OPTIONS

Stormwater Management Options	Feasibility	Commentary
Utility	Yes	• Regulated utility to manage and reticulation infrastructure and associated use of stormwater (via Ministerial exemption from holding a utilities licence) • Series of different models
By-Pass Pipeline	No	• Process by which stormwater is piped further downstream into order to minimise local environmental impacts • Issues with constructability and cost.
Aquifer Recharge	No	• Process by which excess stormwater is injected back into existing underground aquifers • Limited capability to injecting, storing and extracting the necessary volumes of recycled water to justify
Additional Storage	No	• Storage of urban excess in lieu of additional irrigation to priority 2 & 3 areas. • At an estimated additional cost of $7.5-10.3 million not commercially viable. • Also several technical challenges given the storage ponds and wetlands in Strathnairn have already been constructed and if not reused the stored water would also need to be safely discharged in a way to maintain protection of the Murrumbidgee River Corridor.

OPTION 1: TCCS MANAGED UTILITY

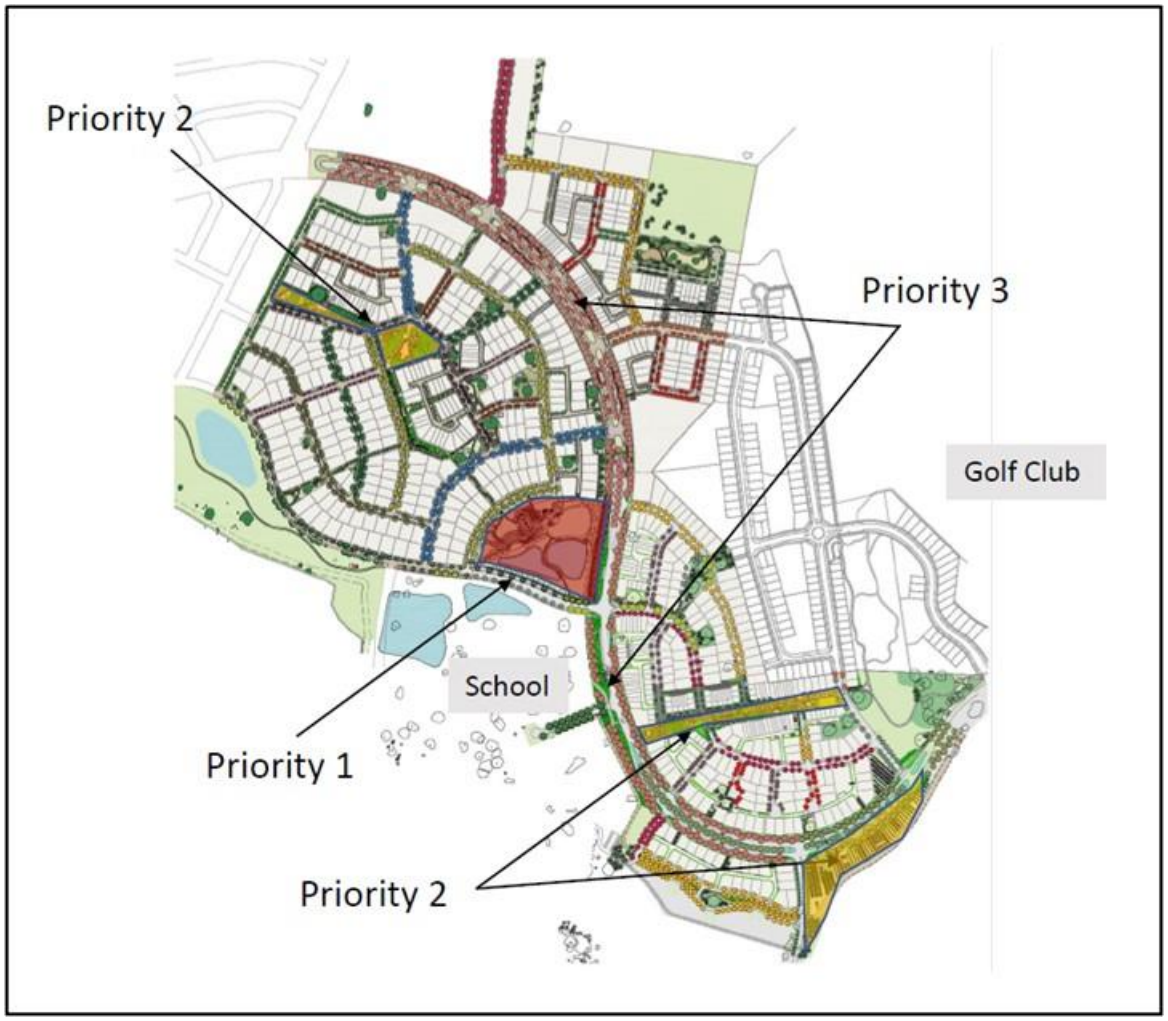
Strengths • TCCS already own, operate and maintain the ACT's Stormwater network	**Opportunities** • Replication - in other SLA / other developments • Revenue - there revenue creation opportunities with local golf course and future businesses and schools • Innovation - stormwater reuse is world leading WSUD • Proof of concept - for future land development along West Edge
Weaknesses • Inequality – potential for Strathnairn to be seen as a suburb with a higher level of service than other suburbs • Management costs – TCCS doesn't have funding to manage an initiative like this. An annual appropriation from Treasury would be required at some point in the future	**Threats** • TCCS is not funded adequately to operate and maintain the harvesting network compliantly • Infrastructure constructed is unable to meet compliancy requirements • Drought - lack of rain impacts commercial viability of utility

OPTION 2: GJV MANAGED WATER UTILITY (FOR FIVE YEARS)

Strengths • Cost share with a private developer • Five-year proof of concept prior to handover • Lessons learnt and operations streamlined prior to handover • Handover period to be organised	**Opportunities** • Replication - in other SLA / other developments • Revenue - revenue creation opportunities with local golf course and future businesses and schools • Innovation - stormwater reuse is world leading WSUD • Proof of concept - for future land development along West Edge
Weaknesses • Inequality - potential for Strathnairn to be seen as a suburb with a higher level of service than other suburbs • Management costs - TCCS doesn't have funding to manage a initiative like this. An annual appropriation from Treasury would be required at some point in the future depending on option chosen	**Threats** • Drought - lack of rain impacts viability of utility • Floods / Storms - utility will need to be able to manage flood and storm events to not impact residents and local environment • Lack of revenue does not enable adequate operation and maintenance to meet compliancy requirements

ATTACHMENT E

GINNINDERRY ON-SITE IRRIGATION PRIORITY AREAS



ATTACHMENT F

STORMWATER MODELLING RESULTS

Table 1: Pond infrastructure

Pond	Total [kL]			Harvestable [kL]		
#	*Phase 1*	*Phase 2*	*Phase 3*	*Phase 1*	*Phase 2*	*Phase 3*
B5	28,511	28,511	28,511	9,591	9,591	9,591
B8	14,599	14,599	14,599	5,513	5,513	5,513
B46	13,372	13,372	13,372	5,358	5,358	5,358
B10		5,319	5,319		3,479	3,479
B12		3,930	3,930		3,479	3,479
B45			141,885			99,845
Total	56,482	65,730	207,615	20,461	27,419	127,264

Table 2: Phasing of supply by priority

	Neighbourhood [kL]			Golf [kL]	
	Priority 1	*Priority 2*	*Priority 3*	*Potential*	*Deficit*
Phase 1	35,537	51,130	28,580	17,712	-54,788
Phase 2	35,537	51,130	28,580	22,618	-49,882
Phase 3	35,537	51,130	28,580	54,362	-18,138

Table 3: Capital expenditure

Component	Unit	Value	Total
Pumpwell and Collection Pits	$	214,550	
Treatment Room	$	222,400	
Automation	$	100,000	
Irrigation Pumps and Tanks	$	254,050	
Pumpwell and Pumps Install	$	80,000	
Treatment Room	$	50,000	
Treatment Room-Equipment	$	35,000	
Treatment Room-Commissioning and Validation	$	30,000	
Treatment Room-Engineering Plans etc	$	27,000	
Irrigation Pumps-Install	$	15,000	
Installation	$	237,000	
Base Total (Exc GST)	$		1,028,000
Roads and Access	$	50,000	
Rising Mains/Pipes- Budget	$	175,000	
Conduits for electrical	$	30,000	
EXTRAS (Exc GST)	$		255,000
Base + Extras (Exc GST)	$		1,283,000
Contingency	$	128,300	
Base + Extras + Contingency (Exc GST)	**$**		**1,411,300**

Table 4: Operational expenditure

Item	Unit	NPV 7%	Of total
R&M: Reactive	$	171,160	8.6%
UV Spares (Lamps and Wipers)	$	13,313	0.7%
Media Replacement	$	11,369	0.6%
Misc Spares	$	16,853	0.8%
Labour: Planned R&M	$	300,785	15.2%
Power	$	576,165	29.0%
Chemicals	$	55,361	2.8%
UTR Operating	$	198,967	10.0%
Irrigation Opex	$	226,163	11.4%
Labour: Operations	$	414,113	20.9%
Subtotal	**$**	**1,984,250**	

Table 5: Base Model Results (including sale of excess supply to Golf)

These results are based on a price of **$1.76/kL** ($2.08 /kL to consumer including WAC) at which the 20 yr NPV of total revenue is equal to total cost (IRR of 7%). The 20-year median price (after infl.) is $2.10 (ex-WAC).

Financial Metrics	NPV 3% $m	NPV 7% $m	NPV 10% $m	Nominal $m
Project total cost [TC]	**$4.24**	**$3.40**	**$2.99**	**$5.26**
Project Capital Expenditure [CAPEX]	$1.41	$1.41	$1.41	$1.41
Project Operational Expenditure [OPEX]	$2.83	$1.98	$1.58	$3.84
Project total revenue [TR]	**$5.22**	**$3.40**	**$2.56**	**$7.53**
Net Impact: TR-TC	$0.98	$0.00	-$0.43	$2.27
Net Impact: TR-OPEX	$2.39	$1.41	$0.98	$3.68

Investment Metrics	NPV 3% x/%	NPV 7% x/%	NPV 10% x/%	Nominal x/%
Benefit Cost Ratio [BCR]: TC	1.23	1.00	0.86	1.43
BCR: OPEX	1.85	1.71	1.62	1.96
Net benefit to investment ratio [NBIR]: TC	0.70	0.00	-0.31	1.61
NBIR: OPEX	1.70	1.00	0.69	2.61
Internal Rate of Return [IRR]:TC	7.0%	7.0%	7.0%	na
IRR: OPEX	50.8%	50.8%	50.8%	na

Table 6: Base Model Results (excluding sale of excess supply to golf)

These results are based on a price of **$2.33/kL** ($2.64 /kL to consumer including WAC) at which the 20 yr NPV of total revenue is equal to total cost (IRR of 7%). The 20-year median price (after infl.) is $2.98 (ex-WAC).

Financial Metrics	**NPV 3%** **$m**	**NPV 7%** **$m**	**NPV 10%** **$m**	**Nominal** **$m**
Project total cost [TC]	**$4.24**	**$3.40**	**$2.99**	**$5.26**
Project Capital Expenditure [CAPEX]	$1.41	$1.41	$1.41	$1.41
Project Operational Expenditure [OPEX]	$2.83	$1.98	$1.58	$3.84
Project total revenue [TR]	**$5.12**	**$3.40**	**$2.60**	**$7.29**
Net Impact: TR-TC	$0.88	$0.00	-$0.40	$2.03
Net Impact: TR-OPEX	$2.30	$1.41	$1.02	$3.45

Investment Metrics	**NPV 3%** **x/%**	**NPV 7%** **x/%**	**NPV 10%** **x/%**	**Nominal** **x/%**
Benefit Cost Ratio [BCR]: TC	1.21	1.00	0.87	1.39
BCR: OPEX	1.81	1.71	1.64	1.90
Net benefit to investment ratio [NBIR]: TC	0.63	0.00	-0.28	1.44
NBIR: OPEX	1.63	1.00	0.72	2.44
Internal Rate of Return [IRR]:TC	7.0%	7.0%	7.0%	na
IRR: OPEX	67.5%	67.5%	67.5%	na

Table 7: Government Ownership Model Results (excludes sale of excess supply to golf)

These results are based on the implicit price at which the scheme under TCCS ownership meets total costs which is a price of **$1.63/kL** ($1.94 including WAC). Over the 20-year period the median implicit price is $2.08/kL (ex-WAC). To be clear the implicit price is the derived unit price for fulfilling priority 1,2 and 3 demand where the 20 year nominal total cost is the same as the 20 year nominal total implicit revenue (a BCR of 1 and zero discount rate).

Financial Metrics	**NPV 3%** **$m**	**NPV 7%** **$m**	**NPV 10%** **$m**	**Nominal** **$m**
Project total cost [TC]	**$4.24**	**$3.40**	**$2.99**	**$5.26**
Project Capital Expenditure [CAPEX]	$1.41	$1.41	$1.41	$1.41
Project Operational Expenditure [OPEX]	$2.83	$1.98	$1.58	$3.84
Project total revenue [TR]	**$3.68**	**$2.42**	**$1.84**	**$5.27**
Net Impact: TR-TC	-$0.56	-$0.98	-$1.15	$0.01
Net Impact: TR-OPEX	$0.85	$0.43	$0.26	$1.43

Investment Metrics	**NPV 3%** **x/%**	**NPV 7%** **x/%**	**NPV 10%** **x/%**	**Nominal** **x/%**
Benefit Cost Ratio [BCR]: TC	0.87	0.71	0.62	1.00
BCR: OPEX	1.30	1.22	1.17	1.37
Net benefit to investment ratio [NBIR]: TC	-0.40	-0.69	-0.82	0.01
NBIR: OPEX	0.60	0.31	0.18	1.01
Internal Rate of Return [IRR]:TC	0.1%	0.1%	0.1%	na
IRR: OPEX	22.4%	22.4%	22.4%	na

Table 8: Model Results – prices under different scenarios compared to alternatives

	Base price	20 year+ median
Modelled		
Base (incl. Golf)	1.76	2.27
Base (excl. Golf)	2.33	2.98
TCCS—implicit (excl. Golf)	1.63	2.08
Comparative		
ICON marginal potable	4.94	6.32
75% ICON marginal	3.71	4.67
INRN	3.74	4.79

Table 9: Total Operating Costs and Big Cost Drivers

Base FY	R&M: Reactive	Power	Chemicals	UV Spares (Lamps and Wipers)	Media Replacement	Misc Spares	UTR related	Labour: Planned R&M	Labour: Operations	IRRIGATION MAINTENANCE
2020	0	0	0	0	0	0	0	0	0	0
2021	13,443	51,641	4,962	0	0	1,511	20,140	25,375	34,936	20,271
2022	13,638	52,003	4,997	0	0	1,521	17,746	25,756	35,460	20,413
2023	15,879	52,367	5,032	4,085	0	1,532	17,870	26,142	35,992	20,556
2024	14,038	52,734	5,067	0	0	1,542	17,995	26,534	36,532	20,700
2025	14,243	53,103	5,102	0	0	1,553	18,121	26,932	37,079	20,844
2026	16,536	53,474	5,138	4,171	0	1,564	18,248	27,336	37,636	20,990
2027	14,661	53,849	5,174	0	0	1,575	18,376	27,746	38,200	21,137
2028	14,874	54,226	5,210	0	0	1,586	18,504	28,162	38,773	21,285
2029	17,221	54,605	5,247	4,259	0	1,597	18,634	28,585	39,355	21,434
2030	22,549	54,987	5,283	0	14,475	1,608	18,764	29,014	39,945	21,584
2031	15,534	55,372	5,320	0	0	1,620	18,896	29,449	40,544	21,735
2032	17,935	55,760	5,358	4,349	0	1,631	19,028	29,890	41,152	21,888
2033	15,991	56,150	5,395	0	0	1,642	19,161	30,339	41,770	22,041
2034	16,224	56,543	5,433	0	0	1,654	19,295	30,794	42,396	22,195
2035	18,681	56,939	5,471	4,441	0	1,665	19,430	31,256	43,032	22,350
2036	16,701	57,338	5,509	0	0	1,677	19,566	31,725	43,678	22,507
2037	16,945	57,739	5,548	0	0	1,689	19,703	32,201	44,333	22,664
2038	19,460	58,143	5,587	4,535	0	1,701	19,841	32,684	44,998	22,823
2039	17,443	58,550	5,626	0	0	1,713	19,980	33,174	45,673	22,983
2040	25,459	58,960	5,665	0	15,521	1,725	20,120	33,671	46,358	23,144
	171,160	576,165	55,361	13,313	11,369	16,853	198,967	300,785	414,113	226,163
	337,453	1,104,485	106,125	25,840	29,996	32,306	379,420	586,763	807,842	433,545

ATTACHMENT G

REGULATORY IMPACTS

Ginninderry Regulatory Overview

The key regulatory steps for the Ginninderry stormwater project include:

1) Ministerial exemption which grants the utility an exemption from holding a licence in accordance with Section 22 of the *Utilities Act 2000*;
2) Design and Construct (D&C) Operating Certificate in accordance with Section 43 of the *Utilities (Technical Regulation) Act 2014*; and
3) Provision of Service (PoS) Operating Certificate in accordance with Section 43 of the *Utilities (Technical Regulation) Act 2014*.

The Utility Technical Regulator (UTR) has advised that ministerial and regulatory approval processes cannot commence until a Cabinet decision is made. At the Ginninderry JV request, UTR has provided a rough timeframe on the regulatory approvals, based off other utility submissions, subsequent to the Cabinet decision.

- Ministerial exemption (This timeframe is dependent on the Cabinet process)
    - Utility applies to Minister for Water, Energy and Emissions Reduction for an exemption from holding a licence.
    - Minister grants / denies exemption request (this includes preparing the exemption instrument).
- Design & Construct Operating Certificate (8-24 weeks)
    - Utility submits a Design and Construct Operating Certificate application, which includes a draft Regulatory Plan. (2-8 weeks)
    - UTR reviews draft Regulatory Plan and provides feedback. This includes engagement with Health Protection Services (HPS) regarding the management of water quality considerations. (2 weeks)
    - Utility resubmits Regulatory Plan for approval (if UTR feedback isn't appropriately addressed, UTR will request another Regulatory Plan be submitted). (2-8 weeks)
    - UTR approves utility's regulatory plan and grants utility with Design and Construct Operating Certificate. (2-6 weeks)
- Provision of Service Operating Certificate (8-24 weeks)
    - Utility submits a Provision of Service Operating Certificate application, which includes a draft Regulatory Plan. (2-8 weeks)
    - UTR reviews Regulatory Plan and provides feedback, including liaison with HPS. (2 weeks)

- Utility resubmits Regulatory Plan for approval (if UTR feedback isn't appropriately addressed, UTR will request another Regulatory Plan to be submitted). (2-8 weeks)
- UTR approves utility's Regulatory Plan and grants utility with Provision of Service Operating Certificate. (2-6 weeks)

- Cost Recovery
  - Cost recovery for unlicensed regulated utilities is undertaken in accordance with the *Utilities (Technical Regulation) Operating Certificate Fees Determination 2019*.
  - Cost recovery will commence once an application is received for an Operating Certificate and continue during construction and into the operational phase of the system.

Overview of Utility Regulation & Governance Arrangements

Regulated utility services must be designed, constructed, maintained and operated to meet the minimum safety, reliability and functional requirements of that installation. The *Utilities Act 2000* provides a regulatory framework for electricity, gas, water and sewerage utility services.

Technical regulation is provided by the Technical Regulator under the *Utilities (Technical Regulation) Act 2014*. Technical regulation is concerned with the operation of utility services and the protection and maintenance of licensed and unlicensed regulated utilities. The Independent Competition and Regulatory Commission (ICRC) is the economic regulator responsible for licensing utilities in the ACT. Unlicensed regulated utilities (see below under scope), and utilities subject to licensing provided with a Ministerial exemption from holding a licence, are required to obtain an operating certificate from the Technical Regulator.

The Director-General of the EPSDD is the Technical Regulator of utility services in the ACT, reporting to the Minister for Water, Energy and Emissions Reduction. The role of the Technical Regulator is to provide safe, reliable and efficient delivery of gas, electricity and water services to the ACT community. The UTR team within Access Canberra supports the Technical Regulator in the administration of the *Utilities (Technical Regulation) Act 2014* and provides advice regarding elements of the *Utilities Act 2000.*

Policy advice in relation to matters such as exemptions is provided by the relevant policy area in EPSDD, in this case the Water Policy Team.

Scope of Technical Regulation

- Licensed Utilities (ICRC and UTR)
  - Licensed electricity and gas transmission and distribution (TransGrid, EAPL ltd (APA Group), Evoenergy
  - Licensed water and sewerage, including drinking water supply dams (Icon Water)
- Unlicensed Utilities (UTR)
  - Exempted utilities; subject to licensing but provided with a Ministerial exemption from holding a licence from the ICRC but requiring an operating certificate from

the Technical Regulator (QPRC Sewage Treatment Plant, TCCS Inner-North Reticulation Network, Essential Energy distribution network)

- Unlicensed regulated utilities (light rail; TCCS & QPRC dams; solar farms; large batteries etc.)

Water Resources Act 2007

Under the *Water Resources Act 2007* the management and use of Territory water resources must consider the physical, economic and social well-being of the people of Canberra whilst protecting the ecosystems that depend on those resources. They must also protect aquatic ecosystems from damage and ensure water resources are able to meet the future generational needs.

Considerations must also be given to:

- environmental flow and the impact that any initiative will have on environmental flows.
- water access entitlements; and
- water license requirements.

Licence Exemption (Minister for Water, Energy and Emissions Reduction)

An unregulated utility can be granted a Ministerial exemption from holding a licence in accordance with Section 22 of the *Utilities Act 2000*. A licence exemption relates to the requirement for a utility to hold a licence from the ICRC under the *Utilities Act 2000*. The exemption can be conditioned, to provide further requirements applied to the utility. A utility provided with a licence exemption requires an operating certificate from the Technical Regulator.

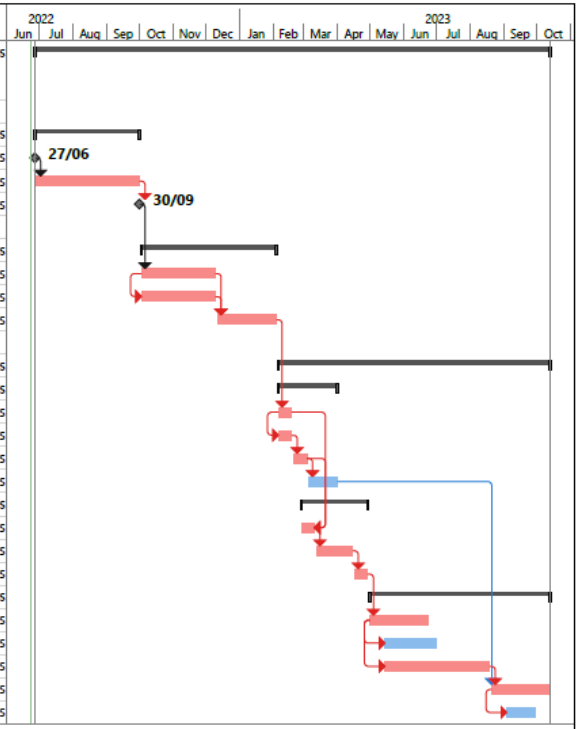
Operating Certificates

The operating certificate is issued following submission of a regulatory plan by an unlicensed regulated utility or exempted utility. An unlicensed regulated utility is required to apply for an operating certificate to the Technical Regulator in accordance with Section 43 of *the Utilities (Technical Regulation) Act 2014.* The operating certificate process allows UTR to develop regulatory controls for the utility in response to the design, construction methodology and operational processes considered in the regulatory plan.

UTR typically issues two operating certificates; a design and construction operating certificate prior to commencement of construction that includes commissioning of the system, and a provision of service operating certificate for an operational system.

Ginninderry Stormwater Harvesting Facility Program ATTACHMENT H

ID	WBS	Task Name	Duration	Start	Finish	% Complete	Predecessors	Successors	Total Slack
1	1	**SWH Delivery - Ginninderry**	66 wks	Mon 27/06/22	Fri 13/10/23	0%			0 wks
2									
3	1.1	**Business Case Phase**	14 wks	Mon 27/06/22	Fri 30/09/22	0%			0 wks
4	1.1.1	Exposure Draft Circulation	0 wks	Mon 27/06/22	Mon 27/06/22	0%		5	0 wks
5	1.1.2	Territory Review	14 wks	Mon 27/06/22	Fri 30/09/22	0%	4	6	0 wks
6	1.1.3	Territory Approval	0 wks	Fri 30/09/22	Fri 30/09/22	0%	5	9	0 wks
7									
8	1.2	**Utility Establishment Phase**	16 wks	Mon 3/10/22	Fri 3/02/23	0%			0 wks
9	1.2.1	Ministerial exemption	10 wks	Mon 3/10/22	Fri 9/12/22	0%	6	10SS,11	0 wks
10	1.2.2	Operating Certificate - D&C	10 wks	Mon 3/10/22	Fri 9/12/22	0%	9SS	11	0 wks
11	1.2.3	Service Operating Certificate	6 wks	Mon 12/12/22	Fri 3/02/23	0%	9,10	15	0 wks
12									
13	1.3	**Delivery Phase**	36 wks	Mon 6/02/23	Fri 13/10/23	0%			0 wks
14	1.3.1	**Design & approvals**	8 wks	Mon 6/02/23	Fri 31/03/23	0%			0 wks
15	1.3.1.1	Specification & checklists	2 wks	Mon 6/02/23	Fri 17/02/23	0%	11	20FF+1 wk,16	0 wks
16	1.3.1.2	Water Quality monitoring prograr	2 wks	Mon 6/02/23	Fri 17/02/23	0%	15SS	17	0 wks
17	1.3.1.3	Water Inf Operating Plan	2 wks	Mon 20/02/23	Fri 3/03/23	0%	16	20FF+1 wk,18	0 wks
18	1.3.1.4	Operational doc approval	4 wks	Mon 6/03/23	Fri 31/03/23	0%	17	27	20 wks
19	1.3.2	**Procurement Phase**	9 wks	Mon 27/02/23	Fri 28/04/23	0%			0 wks
20	1.3.2.1	Tender package prep	2 wks	Mon 27/02/23	Fri 10/03/23	0%	17FF+1 wk,121		0 wks
21	1.3.2.2	Tendering	5 wks	Mon 13/03/23	Fri 14/04/23	0%	20	22	0 wks
22	1.3.2.3	Award	2 wks	Mon 17/04/23	Fri 28/04/23	0%	21	24	0 wks
23	1.3.3	**Construction**	24 wks	Mon 1/05/23	Fri 13/10/23	0%			0 wks
24	1.3.3.1	Detailed design elements	8 wks	Mon 1/05/23	Fri 23/06/23	0%	22	25SS+2 wks,26	0 wks
25	1.3.3.2	Procurement	7 wks	Mon 15/05/23	Fri 30/06/23	0%	24SS+2 wks		15 wks
26	1.3.3.3	Construction & Commissioning	14 wks	Mon 15/05/23	Fri 18/08/23	0%	24SS+2 wks	27	0 wks
27	1.3.3.4	Verification	8 wks	Mon 21/08/23	Fri 13/10/23	0%	26,18	28SS+2 wks	0 wks
28	1.3.3.5	Handover	4 wks	Mon 4/09/23	Fri 29/09/23	0%	27SS+2 wks		2 wks



Indicative Program

Task | Inactive Task | Manual Summary Rollup | External Milestone | Baseline Milestone
Split | Inactive Milestone | Manual Summary | Deadline | Baseline Summary
Milestone | Inactive Summary | Start-only | Critical | Progress
Summary | Manual Task | Finish-only | Critical Split | Manual Progress
Project Summary | Duration-only | External Tasks | Baseline | Slippage

Page 1

ACT Government
Environment, Planning and Sustainable Development

CABINET

MINISTERIAL BRIEF

To:	Minister for Housing and Suburban Development	**Cabinet No.: 21/352** Rec'd Minister's Office …/…/…
From:	Chief Executive Officer, Suburban Land Agency	
Subject:	Exposure Draft Lodgement of Cabinet item 21/352 West Belconnen (Ginninderry) Stormwater Harvesting Project	
Critical Date:	20 September 2022	
Critical Reason:	Final Lodgement is due 10am 20 September 2022 for Cabinet Consideration on 28 September 2022	

Purpose
To seek agreement to the submission and associated attachments for final lodgement.

Recommendations
That you:

1. **Note** the information contained in this brief;

Noted / Please Discuss

2. **Sign and Agree** for EPSDD to lodge the final Cabinet submission and associated documents with the Cabinet Office on behalf of the SLA; and

Signed / Not Signed / Please Discuss

3. **Agree** to John Dietz, CEO of the SLA and Tom Gordon, Executive Director, Development Delivery attending the Cabinet meeting to provide support and further advice to the submission.

Agreed / Not Agreed / Please Discuss

Yvette Berry MLA ……/20 09 22

Minister's Office Feedback

Background

1. The topography of the Ginninderry development site is challenging given the natural slope towards the Murrumbidgee River, which creates potential environmental risks for the river corridor from stormwater run-off and the damage that this would inflict upon the high value habitat through these areas, which are home to a range of threatened and endangered species.
2. The significance of this issue is highlighted in the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) planning approval, which includes a requirement for the Ginninderry Joint Venture (GJV) to minimise stormwater run-off into the local environment.
3. To meet the conditions of the abovementioned planning and environmental approvals, a series of containment ponds have been designed as part of the overall Ginninderry Master Plan. These ponds will be used primarily for the capture and storage of stormwater run-off from within the development. The utilisation of stormwater needs to be considered strategically in the context of the financial, ecological, community and social impacts.
4. The management of stormwater also forms part of Ginninderry's six-star green star rated communities which has recently been re-certified for a further five years.

Issues

5. Three stormwater management options were considered:
    a. A utility – considered a viable alternative that was progressed to a business case.
    b. A transfer pipeline – discounted prior to business case stage given ecological impact and financial cost.
    c. Aquifer recharge/ groundwater injection – discounted prior to business case stage given expert advice that existing hydrological experts deemed the underlying geology of the Ginninderry development unsuitable for this type of initiative.
6. A stormwater harvesting model was developed to consider the utility-based options for the stormwater re-use initiative, these included:
    a. Icon Water – not considered a viable option as Icon Water does not manage stormwater infrastructure.
    b. Transport Canberra and City Services Directorate (TCCS) – considered a viable option given TCCS's management of existing stormwater infrastructure.
    c. GJV short-term (up to 5 years), TCCS long-term – considered a viable option given the GJV's need for a stormwater management initiative.
    d. Private Ownership – not considered a viable option given the investment risk for establishing a one-off utility.
7. Through consultation with Treasury and TCCS, it has been determined that the preference is for the Ginninderry JV to fund, design, procure, construct and commission the stormwater harvesting facility, with the asset to be transferred/gifted to TCCS to own, operate and maintain after it has been successfully commissioned.
8. However, through the exposure draft consultation, TCCS has requested that this proposal go through a two stage Cabinet approval process, whereby a future Cabinet submission will be prepared once detailed design of the facility is completed to establish a stronger basis for operational costs which will inform a future budget bid by TCCS.

Financial Implications

9. The financial implications have been removed from the first pass Cabinet submission and will

be developed further prior to the second pass.

10. The SLA will work closely and collaboratively with TCCS and Treasury to ensure costs are reflective of each parties expectations balanced against available evidence for facilities of this nature.

Consultation

Internal

11. The Suburban Land Agency, Commercial Finance.

Cross Directorate

12. TCCS, Executive Group Manager City Operations:
    a. All commentary on initial drafts have been incorporated into the submission.
    b. No objections to proceeding to final process noting the requested two pass process

13. Treasury, Executive Branch Manager Economic and Financial Analysis and Executive Branch Manager, Central Agencies
    a. All commentary on initial drafts have been incorporated into the submission.
    b. No objections to proceeding to final process.

External

14. Numerous independent water sensitive urban design experts have provided input into the project over the last two years.
15. The submission was considered by Expenditure Review Committee on 15 September 2022 and was agreed, with no changes required.

Benefits/Sensitivities

16. There are significant benefits to both the Ginninderry JV and the Territory, including allowing the GJV to maintain their EPBC Act 1999 conditional approval as well as the extensive community and social positives of having expansive well maintained open areas.
17. There is potential to sell stormwater to commercial entities if commercially viable once the facility is operational.
18. The main sensitivity involves the increased maintenance of urban areas within Ginninderry that aren't serviced by TCCS under 'Business as Usual' operations. Further, upon any transfer to TCCS an ongoing Treasury appropriation will be required for TCCS to manage and operate the utility. This has the ability to be offset by the revenue opportunities available to the utility, however there is no support within Treasury or TCCS at this stage to seek commercial revenue sources to offset costs.

Media Implications

19. Nil anticipated.

Signatory Name:	Tom Gordon	Phone:	x75553
Action Officer:	Nick Vithalis	Phone:	x51494

Attachments

Attachment	Title
Attachment 1	Cabinet Submission – West Belconnen (Ginninderry) Stormwater Harvesting Project Attachment A – Table of Comments Attachment B – Open Access Decision and Wellbeing Impact Assessment Summary Attachment C – Wellbeing Impact Assessment Template Attachment D – Stormwater Management Options Attachment E – TCCS Priority Irrigation Areas Attachment F – Modelling Results Attachment G – Regulatory Impacts Attachment H – Ginninderry Stormwater Harvesting Facility Program
Attachment 2	Cabinet Meeting Brief

ACT Government

CABINET SUBMISSION

21/352

Title	West Belconnen (Ginninderry) Joint Venture – Stormwater Harvesting Project
Meeting type	Cabinet
Minister	Yvette Berry MLA Minister for Housing and Suburban Development
Cabinet date	Wednesday, 28 September 2022
Status	FINAL
Relationship to previous decisions	3 December 2019: Economic Development Subcommittee – Update 23 November 2020: Economic Development Subcommittee – Update
Purpose	To seek Cabinet's agreement to the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development.
Category	Category 2 - Government business
Financial impact	Yes
Treasury agreement	Yes Date provided for Treasury agreement to financial implications: 28/06/2022 Date of Treasury agreement: 05/07/2022
Is ERC consideration required?	Yes If yes, select ERC meeting date: Thursday, 15 September 2022
Legislative change	No - change to legislation not required
Regulatory impact	Yes There are several regulatory processes that apply to the Ginninderry Stormwater Harvesting Project – these have been outlined as an attachment to this submission.
Wellbeing Impact Assessment	Yes
Primary Wellbeing Domain	Environment and climate

RECOMMENDATIONS

1) I recommend Cabinet agree:

   a. A two stage Cabinet approval process for the Ginninderry Joint Venture Stormwater Recycling Initiative;

   b. Stage 1 (this submission) approval for the Ginninderry Joint Venture to seek Ministerial exemption to establish an unlicenced water utility to achieve the project's sustainability principals and Water Sensitive Urban Design requirements under the Environment Protection and Biodiversity Conservation Act 1999 planning and environmental approvals. This includes progressing detailed design works and an application to the Utilities Technical Regulator for Design and Construct Operating Certificate for the Utility to irrigate Priority 1, 2 and 3 areas as detailed in this paper;

   c. Stage 2 (future submission) seeking agreement to capital and expenditure costs associated with the proposed construction, commissioning and eventual handover of the Utility from the Ginninderry Joint Venture to Transport Canberra and City Services who will seek a perpetual exemption to hold a utility licence for the operation of the Ginninderry stormwater harvesting network and obtain an operating certificate from the Utilities Technical Regulator. The costs presented in this further Cabinet submission will form the basis of a Transport Canberra and City Services budget bid for appropriation in 2023-24 budget cycle.

2) I recommend Cabinet note:

   a. the planning approval conditions for the Ginninderry Joint Venture under the Environment Protection and Biodiversity Conservation Act 1999 require specific actions to control excess stormwater run-off from the development into the Murrumbidgee River and Ginninderra Creek;

   b. work to date has explored and discounted a variety of options and has identified the establishment of a utility as the preferred approach to manage and operate any future stormwater harvesting initiative;

   c. Extensive scenario-based financial modelling has been undertaken in support of this submission;

   d. pending Cabinet approval of the second submission, the Ginninderry Joint Venture will procure, construct and commission the stormwater harvesting facility in accordance with requirements specified by the Utilities Technical Regulator; and

   e. pending the Ginninderry Joint Venture's achievement of defect-free construction certification and a fully successful commissioning process, Ginninderry stormwater reticulation and irrigation assets be transferred/gifted to Transport Canberra and City Services Directorate to own, operate and maintain under the new utility.

3) I recommend Cabinet note:

a. the advice to the Chief Minister on the release of the Cabinet Decision Summary (Attachment B) as required under Section 23 of the Freedom of Information Act 2016; and

b. the following summaries to be released:

i. Cabinet agreed to the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development.

ii. The proposal will have a positive impact on the Ginninderry development open spaces and for residents by irrigating key areas throughout the development will encourage more people to purchase land at Ginninderry but also create areas for residents to enjoy outdoor recreation in well maintain parks and ovals – anecdotally improving physical and mental wellbeing.

SUPPORTING ARGUMENT

BACKGROUND

1) The Ginninderry Joint Venture (Ginninderry JV) is a 30 to 40-year development project in West Belconnen that will see 11,500 dwellings delivered in the ACT and nearby NSW. The ACT Government is a 60 per cent partner in the Ginninderry JV, with Riverview Projects Pty Ltd holding the remaining 40 per cent.

2) The topography of the Ginninderry development site is challenging given the natural slope towards the Murrumbidgee River, which creates potential environmental risks for the river corridor from additional stormwater run-off and the damage that this would inflict upon the high value habitat through these areas, which are home to a range of threatened and endangered species.

3) The significance of this issue is highlighted in the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) planning approval, which includes a requirement for the Ginninderry JV to minimise stormwater run-off into the local environment so that run off is not significantly greater than what would have occurred naturally.

4) There is also a broader policy context to this issue, with an emphasis on integrated water management and water sensitive urban design being expressed across several ACT Government policy documents.

a. The *ACT Water Strategy 2014-2044* provides a 30-year strategy for the management of the ACT Government's water resources. It emphasises integrated water management and green infrastructure (vegetation and waterbodies) in the urban context to slow runoff, ameliorate flooding, reduce pollutants and sediment entering waterways, and improve the ACT's resilience to climate change.

b. The *ACT Planning Strategy 2018* supports the ACT Water Strategy by identifying initiatives and actions to protect waterway assets and support Water Sensitive Urban Design (WSUD) in urban development and planning. The Planning Strategy includes actions to update the ACT's WSUD Code to ensure the entire water cycle is considered early in the planning and design of new urban areas.

c. The *ACT Climate Change Strategy 2019-25* also references the need to create liveable urban spaces, indicating that … "*the impacts of a changing climate on people, infrastructure and services will be well-managed and urban heat impacts will be reduced by an established network of street trees, waterways and parks supported by healthy soils*".

d. Finally, the *Living Infrastructure Plan: Cooling the City* sets a framework for maintaining and enhancing trees, soils, and waterways to keep Canberra cool, healthy and liveable in a changing climate.

5) The emphasis on integrated water management approaches in the ACT is mirrored at the national level. A recent report by the Productivity Commission into the progress of Australian governments in achieving the objectives, outcomes and timelines anticipated under the *Intergovernmental Agreement on a National Water Initiative* identified several actions to improve urban water and stormwater management in Australia.

Managing stormwater run-off at Ginninderry

6) To meet the requirements of the planning and environmental approvals, a series of containment ponds have been designed as part of the overall Ginninderry Master Plan. These ponds will be used primarily for the capture and storage of stormwater run-off from within the development, however, they will also give rise to several other benefits as outlined below.

a. *Improving water quality* – ponds and wetlands reduce urban generated pollution and assist to protect waterway water quality.

b. *Minimising urban heat island effect* – urban areas can be up to 3-10 degrees hotter than nearby rural areas if urban heat island effect is not actively managed.

c. *Supporting public health outcomes* – green areas have been shown to improve mental and physical wellbeing.

d. *Contributing to resilience of cities* – mitigate climate change and effects of sudden weather events.

e. *Supporting local biodiversity* – provide critical vegetation and structures for flora and fauna, with recent studies showing 30 percent of Australian threatened species exist in and around cities.

f. *Reduced potable water use* – the network (Priority 1 areas) would substitute potable water currently used for irrigation with fit-for-purpose stormwater.

7) Acknowledging the need to consider the delivery and broader management of these ponds, the Ginninderry JV, the Suburban Land Agency (SLA) (acting as Agent for the ACT Government in the Ginninderry JV), Transport Canberra and City Services (TCCS) and ACT Treasury established a Ginninderry Stormwater Reuse Working Group in 2018 to facilitate cross governmental engagement on this project.

8) To support the Working Group, the Ginninderry JV engaged several WSUD consultants to examine the costs and benefits of various stormwater management options, including a bypass pipeline, managed aquifer recharge, groundwater injection and stormwater storage and/or reuse. For the reasons summarised below, only stormwater reuse was prosecuted further as it was the only option considered technically and commercially viable and able to deliver the benefits (outlined at Paragraph 6) above.

a. *Bypass Pipeline* – in the early planning stages of the stormwater reuse initiative a consultant report identified a 17km long bypass pipeline as one option. However, at an estimated cost of $12 million (excluding contingency), and with significant associated environmental and aesthetic impacts on the Conservation Corridor, this option was discounted as unviable.

b. *Groundwater Injection/Managed Aquifer Recharge* – a WSUD expert analysed a managed aquifer recharge and groundwater injection option for stormwater management. They concluded from hydrogeological information that such an option would have limited capability and significant investigation costs would be required with no guarantee of success. These options were discounted as unviable.

c. *Additional Storage* – an initial high-level costing (see Paragraph 27 for indicative cost) was undertaken to consider the use of large tanks or an underground storage system to capture the urban excess. Noting the ponds and wetlands for the first suburb of Strathnairn are already developed, the option of increasing the size of these ponds was not considered feasible. This option was discounted as unviable on both a technical and commercial basis.

9) On 3 December 2019, representatives from TCCS and the SLA made a presentation to the Economic Development Subcommittee of Cabinet on the work-to-date, highlighting the need to establish a utility as required by the *Utilities Act 2000* as was similarly required for the Sullivans Creek and Inner North Reticulation Network. The Subcommittee noted the stormwater reuse concept and preferred utility option with the requirement to return to Cabinet for further consideration.

10) There was a further paper presented to the Economic Development Subcommittee by the SLA on 23 November 2020 indicating the utility model a requirement and recommending the proposal proceed to the business case stage.

11) Notwithstanding the previous intent to bring this matter forward as a budget business case, it was ultimately suggested by Treasury that this Cabinet Submission would be preferable given the previous engagement with the Economic Development Subcommittee and the regulatory matters that are canvassed herein.

Environment Protection and Biodiversity Conservation Act 1999 (EPBC) planning approval

12) As noted in paragraphs 22 and 36, the Ginninderry JV currently holds a six star green star communities rating from the Green Building Council of Australia, and many design and maintenance strategies are targeted at meeting the aspirations detailed in the vision for the project.

13) In addition to Green Star 6 Star Certification, EPBC approval has been granted on the condition that WSUD measures are in place to:

a. Reduce potable water reliance;
b. reuse stormwater onsite; and
c. maintain stormwater runoff to pre-development levels.

14) The conditions attached to the EPBC approval stipulate that the approval holder must ensure development actions at the West Belconnen site are undertaken in accordance with the endorsed Program. The approval holder is Riverview Projects (ACT) Pty Ltd whom is responsible for all conditions under the EPBC approval. The responsibilities of these conditions cannot be transferred to other parties and are reported to the Commonwealth via an annual reporting process.

15) The endorsed Program stipulates that a centralised harvesting and treatment scheme will supply recycled stormwater throughout the residential areas, with potential for off-site irrigation also. Any excess stormwater will be held in detention ponds and discharged at pre-development peak flows to the existing drainage lines.

16) The proposed stormwater harvesting and treatment is essential to managing stormwater runoff within the West Belconnen site and is a required to maintain best practice WSUD and achieve compliance as required under the EPBC approval. It also ensures that excess stormwater is harvested and utilised to irrigate priority 2 and 3 areas when possible (based on the water balance), further ensuring the Ginninderry JV continues to meet their six star green star communities rating.

17) Once the stormwater harvesting and treatment facility is operational, the focus will be on avoidance, mitigation and management of stormwater flows, and as long as the WSUD strategy is being followed then compliance to the EPBC conditions will be achieved.

18) It is proposed that the SLA, TCCS and Riverview will work collaboratively to ensure that the facility is compliant to all EPBC requirements once operational.

ISSUES & OPTIONS

19) Since these presentations to the Economic Development Subcommittee of Cabinet, two substantial pieces of work have been undertaken, these include a detailed review of the issues, implications and options for the utility and its management, and detailed financial modelling of the proposal.

Stormwater Reuse Options

20) The stormwater strategy differentiates neighbourhood supply into three priorities:

a. Priority 1 - Parks, ovals and areas that TCCS would normally irrigate once the development area has been handed over for on-going maintenance.
b. Priority 2 - Local parks and areas that TCCS would not normally irrigate once the development area has been handed over for on-going maintenance.
c. Priority 3 - Arterial road verges and areas that TCCS would not normally irrigate once the development area has been handed over for on-going maintenance.

21) Priority areas are detailed further in Attachment E, but they effectively scale up based on the highest need to the least high need of physical spaces that will require irrigation to maintain natural and aesthetic urban spaces and community infrastructure.

22) Typically, TCCS is only provided with funding to irrigate Priority 1 areas, however, Ginninderry is intended to be an innovative and world leading development and there are a variety of amenity and maintenance requirements that are necessary to achieve the target. Ginninderry currently holds a six star green star communities rating from the Green Building Council of Australia, and many design and maintenance strategies are targeted at meeting the aspirations detailed in the vision for the project.

a. In recognition of these commitments, there has already been a significant upfront investment in irrigation reticulation and soft landscaping (shrubs, trees and turf) in Priority 2 and 3 areas as detailed below and it is important that these areas be appropriately maintained moving forward to recognise this investment.
   i. Irrigation Reticulation:$2.4m
   ii. Green Link: $130,000
   iii. The Grove: $40,000
   iv. Hilltop (includes the park at the top and the planting along the bottom of the wall): $145,000
   v. Green Wedge: $60,000

23) Therefore, the stormwater harvesting system has been designed to irrigate these areas and there is expected to be adequate capacity in times of normal or high rainfall.

24) However, it is envisaged that in times of very low rainfall or particularly dry periods when there is not adequate non-potable water to irrigate all priority areas, irrigation would only occur to the extent practical to maintain plant health and life. This would ultimately be a decision for Government and would be considered in line with the irrigation policy that applies across the ACT. Any decision not to irrigate all priority areas would have to be offset against potential capital replacement costs to reinstate plant life as a result of not irrigating these areas.

25) Based on the above and in agreement with Treasury and TCCS, further analysis was undertaken to consider two broad stormwater re-use options (with several sub-options also analysed for completeness).

a. Irrigation of Priority 1 Areas (only)
   i. Sub-Option 1 – no utility and large-scale storage of excess stormwater in lieu of additional irrigation i.e. large tank system or underground storage of excess stormwater.
   ii. Sub-Option 2 – utility to sell excess stormwater to local businesses (e.g. Magpies Golf Club)

b. Irrigation of Priority 1, 2 and 3 Areas
   i. Sub-Option 1 – no utility
   ii. Sub-Option 2 – utility to sell excess stormwater to local businesses (e.g. Magpies Golf Club)

26) Additional considerations include the comparison of marginal costs (storage versus additional irrigation and maintenance) and potential additional revenue from the sale of stormwater under the utility option as well as the potable water savings for Priority 1 areas.

27) At an estimated additional cost of $7.5-10.3 million, the analysis concluded that large scale storage of excess stormwater in lieu of additional irrigation would not be commercially viable. Such a scheme would also pose several technical challenges given the storage ponds and wetlands in Strathnairn have already been constructed. If not reused the stored water would also need to be safely discharged in a way to maintain protection of the Murrumbidgee River Corridor.

Stormwater Management – No Utility

28) If no utility was established for the stormwater reuse option, there would be savings in terms of establishment costs and ongoing compliance costs, however there would not be the flexibility to sell excess stormwater to local businesses in future, if feasible. The stormwater could only be reused for irrigation of estate assets normally managed by TCCS and the focus would be exclusively on irrigating the Ginninderry development area.

29) Without the flexibility of a utility to potentially sell stormwater to other entities or an economic and technically viable way to store excess stormwater, there would need to be significant urban excesses released into the environment in breach of Ginninderry JV's EPBC Act conditional approval.

Stormwater Management - Utility

30) The Ginninderry JV commissioned a review of the following four utility management and ownership options:

a. Icon Water;
b. TCCS;
c. Ginninderry short term; TCCS long term; and
d. Private ownership.

31) Further detail on these options, including an analysis of the strengths and weaknesses of each, is provided at Attachment D.

32) The Icon Water option was discounted as stormwater management does not align with its business model, while the option of a private utility was also ultimately rejected. It was considered unlikely a private utility would be willing to invest in the development of a local ACT capability for establishment of a one-off utility of this nature. Furthermore, there may be some risk with the establishment of a private utility given the importance of the utility to manage both environmental and commercial outcomes..

33) Therefore, in consultation with the Ginninderry Stormwater Reuse Working Group, these four options were discounted to two:

a. Ginninderry in the short-term and TCCS in the long-term, and
b. TCCS.

34) There are two important dimensions to consider when reviewing the remaining two utility options for ongoing operation post commissioning:

a. Governance and management of the utility —
    i. Which organisation is best placed to manage the ongoing operation of the utility?
b. Scale and scope of services and assets to be irrigated by the utility —
    i. How large is the scale of utility infrastructure i.e. would the scope of irrigated areas extend beyond those traditionally maintained by TCCS after asset handover (e.g. parks and playing fields) to areas not traditionally maintained by TCCS (such as verges / medians and potentially, the Magpies Golf Club)?

35) A utility may generate a revenue stream when excess stormwater is available to be sold to local businesses like the Magpie's Golf Club or schools and other businesses within the Ginninderry development area when they come online.

36) As flagged above, in determining an appropriate level of service provision, it is important to consider that Ginninderry is intended to be an innovative and world leading development and that there are a variety of amenity and maintenance requirements. Irrigating all Priority areas will meet the Ginninderry JV's EPBC Act conditional approval whilst also supporting the project to achieve the target green star community rating.

37) Ultimately this will mean that the level of service provided to this area will differ to other suburbs in the catchment and irrigating secondary and tertiary areas could create a precedence issue when there is insufficient stormwater to irrigate, or over irrigating when stormwater is plentiful. This risk would need to be managed and documented in a clear communication strategy.

38) Given the parallels between this proposal and the Sullivans Creek Inner North Reticulation Network, it is the view of the agencies involved that the Ginninderry JV should fund, design, procure, construct and commission the stormwater harvesting infrastructure with TCCS to subsequently own, operate and maintain the assets thereafter. Both Ginninderry JV and TCCS will require an exemption from holding a utility licence and operation certificates granted by the Utilities Technical Regulator to undertake these activities.

Financial Analysis

39) Recognising that a conclusion on appropriate governance and management is not possible in the absence of detailed financial analysis, the Ginninderry JV commissioned a piece of work to understand the expected whole of life impact of the stormwater reuse infrastructure, in particular the ability for the infrastructure to recoup some capital and operational costs under a utility business model.

a. The modelling draws on engineering, hydrological analysis, quantity survey data, and Government and market research to determine a range of whole of life financial outcomes and investment metrics. It also determines expected investment outcomes utilising a range of prices at which recycled water can be sold, and then tests sensitivity of the outcomes to different assumptions.
b. The modelling covers expected operations of a stormwater reuse facility over a 20-year period whereby the facility collects and distributes water from the aforementioned containment ponds through infrastructure to end users in and around the Ginninderry development.
c. The model assumes that the current joint venture partners are accountable for all funding relating to design, procurement, construction and commissioning of the infrastructure with TCCS assuming ownership, operation and maintenance subsequent to successful commissioning.
d. The modelling includes some administrative overheads, on-going regulatory compliance costs and estimates residual or 'terminal' values to inform asset allocation decisions.
e. SLA and Riverview Group will work closely with TCCS and Treasury to undertake further detailed financial modelling and to incorporate detailed costings from the detailed design phase and will come back to Expenditure Review Committee and Cabinet to request approval of operational and capital expenditure costs and proceed to construction.

40) It is assumed that the facility will be progressively developed consistent with the wider Ginninderry development. The water storage infrastructure is expected to occur over three phases: three ponds by late 2023, an additional two ponds by 2025 and a final pond by 2030. The water reticulation and irrigation infrastructure are expected to be developed as one project and be completed during 2023.

41) The model therefore front ends infrastructure development, and progressively increases water supply as new ponds come online. The model considers the infrastructure aspects as fixed costs, which determine the feasible long-term supply of water.

42) The stormwater to be stored in the ponds is a function of rainfall, run off and reuse. The expected levels have been estimated by hydrological experts based on decade average rainfall data within the catchment from 1935 to the present day. The experts assessed 25th, 50th and 75th percentile likely rainfall and the modelling adopts the 50th percentile as a baseline for the 20 years of operation and uses the alternatives as scenarios to test the range of potential outcomes.

43) The model works on the basis that stormwater will be available for purchase by three potential customer groups:

a. TCCS, who will irrigate and maintain public spaces in the Ginninderry development. This is a proxy for total neighbourhood supply.
b. The Magpies Golf Club, who will purchase water to increase reliable irrigation supplies at a lower cost than alternatives.

c. An 'other' category, which may be other public or private entities who may become customers at some point in the future, depending on need and the potential for the facility to supply additional water.

44) The model relies on parameters and assumptions that interact to generate financial and investment outputs, with three groups of inputs driving the model — irrigation water balances, infrastructure expenditure estimation, and prices customers may be willing to pay — and supply of water based on the delivery phases.

a. Phases 1, 2 and 3 meet all the Priority 1 supply.
b. Priority 2 and 3 supply is progressively met as more supply becomes available and more area is irrigated using stormwater.
c. The Magpies Golf Club supply is constrained as a residual based on the difference between total feasible supply and neighbour priorities. No phase meets all the potential demand from the Magpies Golf Club, however, if excess exists it can be allocated to the Magpies Golf Club as 'additional' supply.

45) The patterns modelled are summarised in Table 2 at Attachment F.

46) The infrastructure expenditure parameters are based on detailed unit pricing schedules for the equipment required to construct the stormwater harvesting network. The two main components are initial capital expenditures and consequential operational expenditures. As outlined in Table 3 at Attachment F, the data shows a build up from a minimum investment to get the utility started and includes additional works with an allowance for contingency.

47) The modelling assumes that customers will pay for the stormwater they are supplied from the facility. This pricing is tested using scenario assessments and suggests a 63.5 per cent discount compared to the marginal Icon Water potable price.

48) After 20 years the model assumes a residual value of the asset based on a salvage value. This salvage value is the written down value of the capital expenditures at year 21 based on the Australian Taxation Office diminishing value method for an asset with a 45-year economic life.

49) The business model generates time series results over 20 years for revenues, capital expenses and operational expenses, then summarises these into NPV and nominal totals. The totals are compared to estimate total costs, total capital expenditure (capex), operational expenditure (opex) and total revenue. These totals are then compared to estimate the net impact (revenue less costs), benefit to cost ratios, the net benefit to investment cost ratio and the internal rate of return.

50) Tables 5, 6 & 7 at Attachment F summarise the results of the various scenarios modelled. All scenarios modelled demonstrate revenues meet all capex and opex (i.e. Total Cost) at the modelled prices. Base scenarios (Tables 6 & 7) including and excluding sale of excess water to the Magpies Golf Club have been modelled assuming a minor surplus (IRR of 7%) reflective of potential commercial ownership and operation of the utility. The Government scenario (Table 8) assumes TCCS own and operate the utility based on the implicit price at which the scheme

under TCCS ownership meets total costs (i.e. no surplus). Based on the extensive modelling conducted to date, if capex is assumed as a sunk cost then there are significantly positive returns to opex.

Modelled impact on Government

51) As noted above, under normal arrangements TCCS would only be funded to irrigate Priority 1 areas. For Ginninderry, the Priority 1 areas include the Strathnairn Neighbourhood Park and the School Oval, which combined have an irrigation demand of 35,537 kl/year. In the absence of the proposed utility, the cost of irrigating these areas with potable water on average would be $207,208/year, totalling $4,347,597 in nominal terms over 20 years.

52) Assuming the utility is owned by Government as recommended by this Submission, the analysis indicates the cost of irrigating all three Priority Areas with recycled water would be $223,963/year, totalling $4,703,230 in nominal terms over 20 years. In addition to this amount TCCS will be incurring additional maintenance costs for the Priority 2 and 3 areas not typically maintained at an estimated costs of $39,459/year — $33,312 for mowing and $6,147 for litter picking — totalling $789,180 in nominal terms over 20 years. Combining the recycled water costs with the additional maintenance costs, the total cost to Government over 20 years is $5,492,410.

53) Noting that irrigation of Priority 1 areas with potable water is business as usual (BAU), irrigation of Priority 1, 2 3 areas with recycled water from the Utility then represents an additional cost to Government (beyond BAU) of $1,144,813 over 20 years in nominal terms (or additional cost of $57,241/year).

54) All of the analysis above has been undertaken on the basis that the price being set for the recycled water is sufficient to recover the upfront capital expenditure and the ongoing operating expenditure for the new facility (i.e. the total cost). However, given the Ginninderry JV is funding all the upfront capital costs with TCCS to then assume operational responsibility, the pricing model could be adjusted to simply cover operating costs plus a margin. This would provide the scope to significantly reduce pricing well below $1.63/kL which in turn would enable the irrigation of all Priority areas at no additional cost to government. The ultimate pricing model to be adopted will be a matter for UTR and TCCS to determine.

Additional Supply for Commercial Purposes

55) Furthermore, beyond the supply of water to irrigate Priority areas 1, 2 and 3, any additional water supply that is excess to irrigating Priority areas within Strathnairn could be supplied to surrounding commercial users (such as the Magpies Golf Club) or used to potential supply water for irrigation of key open space areas located in Ginninderry's new suburb of Macnamara (that would otherwise be irrigated with potable water). This would provide further economies in support of the ongoing operations of the utility. Despite this, we have not considered this opportunity explicitly in this Submission, however this opportunity could be pursued further once the utility is operational.

Financial Risk

56) While the modelling to date has included sensitivity analysis to take account of various factors and scenarios, it is important that Cabinet note that the water balance assumptions underpinning the modelling are still subject to variance. Although the modelling has taken a long-run average (adopting a 50th percentile average rainfall pattern over a 10 year period), sustained periods of lower-than-average rainfall will impact supply. There will be periods that will be dryer than the assumed modelling which will result in less availability of water for irrigation and the potential need for supplementary water sources to be provided (either potable or Lower Molonglo Water Quality Control Centre recycled water) at a significantly greater cost. Conversely it is also possible that in slightly wetter periods there would potentially be more water that could be supplied to other users.

FINANCIAL IMPACT

57) This Submission has outlined a range of costings and is seeking agreement for the establishment of a utility to be managed by TCCS and for the Ginninderry JV to commence construction works on the associated infrastructure. The Submission is also seeking agreement to TCCS expanding its baseline irrigation regime. However, to accommodate TCCS's request due to the current phase of the project and existing cost information available, a further Cabinet submission will be developed once approvals and operational certificate is obtained from the UTR will be brought forward, presenting costs based on construction ready-design documentation.

58) For normal Greenfield developments TCCS is required to maintain priority 1 areas to a service level that includes irrigation. This would be typically provided for via a potable water source. Funding for these maintenance costs is provided via an agreed growth model that provides additional maintenance funding on an annual basis. This stormwater harvesting solution will require TCCS to maintain priority 2 and 3 areas to a higher than normal standard.

59) The incremental cost (to TCCS) of maintaining priority 2 and 3 areas is estimated at $120,000 p.a. These additional costs include mowing, litter picking, purchasing potable water for irrigation and maintenance of the irrigation system.

60) If the stormwater harvesting solution is expanded to future developments within Ginninderry, these incremental costs will increase accordingly. However as noted the establishment of a Utility may also realise other benefits that go towards offsetting these incremental costs to Government.

61) As noted in paragraph 46, the financial impact will be detailed in a further submission once the relevant detailed design and approvals have been granted.

WELLBEING IMPACT SUMMARY

62) A Wellbeing Impact Assessment is provided at Attachment C.

CONSULTATION

External stakeholders

63) The Magpies Golf Club has been consulted on the proposal and have indicated a strong desire to purchase water.

ACT Government agencies

64) The SLA consulted with TCCS and the Chief Minister, Treasury and Economic Development Directorate in the development of this submission. Advice was also sought from the UTR and is included as Attachment G to the submission.

65) Treasury have expressed concern about making commitments to irrigate areas other than priority 1. They noted that whilst the irrigation assets would be a similar model to the Inner North Reticulation Network, a key difference is that there is limited storage in this model. Therefore, in very wet years there will be a need to irrigate land when it is not required and in dry years supply will be insufficient to meet demand.

66) Treasury noted that without a storage facility, in dry years there will only be capacity to irrigate priority one areas. Based on analysis undertaken by Treasury for the non potable water review, this is also the time that other users such as the Magpies would be looking to purchase water. Therefore, without additional storage capacity, it is not recommended to make commitments to irrigate areas other than priority one areas, at this stage.

67) In very dry years, Treasury consider that it would only be appropriate for the government to purchase water to maintain priority 1 areas in these circumstances, in line with the irrigation policy that applies across the ACT.

68) An exposure draft of this submission was circulated to all directorates. A table of comments is provided at Attachment A.

MEDIA/COMMUNICATIONS

69) The Ginninderry JV has based much of its marketing and brand value on the creation of a unique and aesthetically pleasing location. The management of stormwater is critical to the Ginninderry JV development both in achieving its EPBC conditional requirements and the aesthetic value the development itself.

IMPLEMENTATION

70) Subject to Cabinet's agreement to the recommended approach, the delivery program at Attachment H sets out the steps required to achieve establishment of the utility and operational commencement of the stormwater harvesting facility by the end of September 2023.

HUMAN RIGHTS IMPACT

71) Nil.

Minister's signature _____ Date 20/09/22

ATTACHMENTS

A	Table of comments
B	Open Access decision summary
C	Wellbeing Impact Assessment
D	Stormwater Management Options
E	Priority Irrigation Areas
F	Modelling Results
G	Regulatory Impacts
H	Ginninderry Stormwater Harvesting Facility Program

ACT Government

CABINET SUBMISSION

21/352

Title	West Belconnen (Ginninderry) Joint Venture – Stormwater Harvesting Project
Meeting type	Cabinet
Minister	Yvette Berry MLA Minister for Housing and Suburban Development
Cabinet date	Wednesday, 28 September 2022
Status	FINAL
Relationship to previous decisions	3 December 2019: Economic Development Subcommittee – Update 23 November 2020: Economic Development Subcommittee – Update
Purpose	To seek Cabinet's agreement to the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development.
Category	Category 2 - Government business
Financial impact	Yes
Treasury agreement	Yes Date provided for Treasury agreement to financial implications: 28/06/2022 Date of Treasury agreement: 05/07/2022
Is ERC consideration required?	Yes If yes, select ERC meeting date: Thursday, 15 September 2022
Legislative change	No - change to legislation not required
Regulatory impact	Yes There are several regulatory processes that apply to the Ginninderry Stormwater Harvesting Project – these have been outlined as an attachment to this submission.
Wellbeing Impact Assessment	Yes
Primary Wellbeing Domain	Environment and climate

RECOMMENDATIONS

1) I recommend Cabinet agree:

   a. A two stage Cabinet approval process for the Ginninderry Joint Venture Stormwater Recycling Initiative;

   b. Stage 1 (this submission) approval for the Ginninderry Joint Venture to seek Ministerial exemption to establish an unlicenced water utility to achieve the project's sustainability principals and Water Sensitive Urban Design requirements under the Environment Protection and Biodiversity Conservation Act 1999 planning and environmental approvals. This includes progressing detailed design works and an application to the Utilities Technical Regulator for Design and Construct Operating Certificate for the Utility to irrigate Priority 1, 2 and 3 areas as detailed in this paper;

   c. Stage 2 (future submission) seeking agreement to capital and expenditure costs associated with the proposed construction, commissioning and eventual handover of the Utility from the Ginninderry Joint Venture to Transport Canberra and City Services who will seek a perpetual exemption to hold a utility licence for the operation of the Ginninderry stormwater harvesting network and obtain an operating certificate from the Utilities Technical Regulator. The costs presented in this further Cabinet submission will form the basis of a Transport Canberra and City Services budget bid for appropriation in 2023-24 budget cycle.

2) I recommend Cabinet note:

   a. the planning approval conditions for the Ginninderry Joint Venture under the Environment Protection and Biodiversity Conservation Act 1999 require specific actions to control excess stormwater run-off from the development into the Murrumbidgee River and Ginninderra Creek;

   b. work to date has explored and discounted a variety of options and has identified the establishment of a utility as the preferred approach to manage and operate any future stormwater harvesting initiative;

   c. Extensive scenario-based financial modelling has been undertaken in support of this submission;

   d. pending Cabinet approval of the second submission, the Ginninderry Joint Venture will procure, construct and commission the stormwater harvesting facility in accordance with requirements specified by the Utilities Technical Regulator; and

   e. pending the Ginninderry Joint Venture's achievement of defect-free construction certification and a fully successful commissioning process, Ginninderry stormwater reticulation and irrigation assets be transferred/gifted to Transport Canberra and City Services Directorate to own, operate and maintain under the new utility.

3) I recommend Cabinet note:

a. the advice to the Chief Minister on the release of the Cabinet Decision Summary (Attachment B) as required under Section 23 of the Freedom of Information Act 2016; and

b. the following summaries to be released:

   i. Cabinet agreed to the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development.

   ii. The proposal will have a positive impact on the Ginninderry development open spaces and for residents by irrigating key areas throughout the development will encourage more people to purchase land at Ginninderry but also create areas for residents to enjoy outdoor recreation in well maintain parks and ovals – anecdotally improving physical and mental wellbeing.

SUPPORTING ARGUMENT

BACKGROUND

1) The Ginninderry Joint Venture (Ginninderry JV) is a 30 to 40-year development project in West Belconnen that will see 11,500 dwellings delivered in the ACT and nearby NSW. The ACT Government is a 60 per cent partner in the Ginninderry JV, with Riverview Projects Pty Ltd holding the remaining 40 per cent.

2) The topography of the Ginninderry development site is challenging given the natural slope towards the Murrumbidgee River, which creates potential environmental risks for the river corridor from additional stormwater run-off and the damage that this would inflict upon the high value habitat through these areas, which are home to a range of threatened and endangered species.

3) The significance of this issue is highlighted in the Commonwealth Government's *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) planning approval, which includes a requirement for the Ginninderry JV to minimise stormwater run-off into the local environment so that run off is not significantly greater than what would have occurred naturally.

4) There is also a broader policy context to this issue, with an emphasis on integrated water management and water sensitive urban design being expressed across several ACT Government policy documents.

a. The *ACT Water Strategy 2014-2044* provides a 30-year strategy for the management of the ACT Government's water resources. It emphasises integrated water management and green infrastructure (vegetation and waterbodies) in the urban context to slow runoff, ameliorate flooding, reduce pollutants and sediment entering waterways, and improve the ACT's resilience to climate change.

b. The *ACT Planning Strategy 2018* supports the ACT Water Strategy by identifying initiatives and actions to protect waterway assets and support Water Sensitive Urban Design (WSUD) in urban development and planning. The Planning Strategy includes actions to update the ACT's WSUD Code to ensure the entire water cycle is considered early in the planning and design of new urban areas.

c. The *ACT Climate Change Strategy 2019-25* also references the need to create liveable urban spaces, indicating that … "*the impacts of a changing climate on people, infrastructure and services will be well-managed and urban heat impacts will be reduced by an established network of street trees, waterways and parks supported by healthy soils*".

d. Finally, the *Living Infrastructure Plan: Cooling the City* sets a framework for maintaining and enhancing trees, soils, and waterways to keep Canberra cool, healthy and liveable in a changing climate.

5) The emphasis on integrated water management approaches in the ACT is mirrored at the national level. A recent report by the Productivity Commission into the progress of Australian governments in achieving the objectives, outcomes and timelines anticipated under the *Intergovernmental Agreement on a National Water Initiative* identified several actions to improve urban water and stormwater management in Australia.

Managing stormwater run-off at Ginninderry

6) To meet the requirements of the planning and environmental approvals, a series of containment ponds have been designed as part of the overall Ginninderry Master Plan. These ponds will be used primarily for the capture and storage of stormwater run-off from within the development, however, they will also give rise to several other benefits as outlined below.

a. *Improving water quality* – ponds and wetlands reduce urban generated pollution and assist to protect waterway water quality.

b. *Minimising urban heat island effect* – urban areas can be up to 3-10 degrees hotter than nearby rural areas if urban heat island effect is not actively managed.

c. *Supporting public health outcomes* – green areas have been shown to improve mental and physical wellbeing.

d. *Contributing to resilience of cities* – mitigate climate change and effects of sudden weather events.

e. *Supporting local biodiversity* – provide critical vegetation and structures for flora and fauna, with recent studies showing 30 percent of Australian threatened species exist in and around cities.

f. *Reduced portable water use* – the network (Priority 1 areas) would substitute potable water currently used for irrigation with fit-for-purpose stormwater.

7) Acknowledging the need to consider the delivery and broader management of these ponds, the Ginninderry JV, the Suburban Land Agency (SLA) (acting as Agent for the ACT Government in the Ginninderry JV), Transport Canberra and City Services (TCCS) and ACT Treasury established a Ginninderry Stormwater Reuse Working Group in 2018 to facilitate cross governmental engagement on this project.

8) To support the Working Group, the Ginninderry JV engaged several WSUD consultants to examine the costs and benefits of various stormwater management options, including a bypass pipeline, managed aquifer recharge, groundwater injection and stormwater storage and/or reuse. For the reasons summarised below, only stormwater reuse was prosecuted further as it was the only option considered technically and commercially viable and able to deliver the benefits (outlined at Paragraph 6) above.

a. *Bypass Pipeline* – in the early planning stages of the stormwater reuse initiative a consultant report identified a 17km long bypass pipeline as one option. However, at an estimated cost of $12 million (excluding contingency), and with significant associated environmental and aesthetic impacts on the Conservation Corridor, this option was discounted as unviable.

b. *Groundwater Injection/Managed Aquifer Recharge* – a WSUD expert analysed a managed aquifer recharge and groundwater injection option for stormwater management. They concluded from hydrogeological information that such an option would have limited capability and significant investigation costs would be required with no guarantee of success. These options were discounted as unviable.

c. *Additional Storage* – an initial high-level costing (see Paragraph 27 for indicative cost) was undertaken to consider the use of large tanks or an underground storage system to capture the urban excess. Noting the ponds and wetlands for the first suburb of Strathnairn are already developed, the option of increasing the size of these ponds was not considered feasible. This option was discounted as unviable on both a technical and commercial basis.

9) On 3 December 2019, representatives from TCCS and the SLA made a presentation to the Economic Development Subcommittee of Cabinet on the work-to-date, highlighting the need to establish a utility as required by the *Utilities Act 2000* as was similarly required for the Sullivans Creek and Inner North Reticulation Network. The Subcommittee noted the stormwater reuse concept and preferred utility option with the requirement to return to Cabinet for further consideration.

10) There was a further paper presented to the Economic Development Subcommittee by the SLA on 23 November 2020 indicating the utility model a requirement and recommending the proposal proceed to the business case stage.

11) Notwithstanding the previous intent to bring this matter forward as a budget business case, it was ultimately suggested by Treasury that this Cabinet Submission would be preferable given the previous engagement with the Economic Development Subcommittee and the regulatory matters that are canvassed herein.

Environment Protection and Biodiversity Conservation Act 1999 (EPBC) planning approval

12) As noted in paragraphs 22 and 36, the Ginninderry JV currently holds a six star green star communities rating from the Green Building Council of Australia, and many design and maintenance strategies are targeted at meeting the aspirations detailed in the vision for the project.

13) In addition to Green Star 6 Star Certification, EPBC approval has been granted on the condition that WSUD measures are in place to:

    a. Reduce potable water reliance;

    b. reuse stormwater onsite; and

c. maintain stormwater runoff to pre-development levels.

14) The conditions attached to the EPBC approval stipulate that the approval holder must ensure development actions at the West Belconnen site are undertaken in accordance with the endorsed Program. The approval holder is Riverview Projects (ACT) Pty Ltd whom is responsible for all conditions under the EPBC approval. The responsibilities of these conditions cannot be transferred to other parties and are reported to the Commonwealth via an annual reporting process.

15) The endorsed Program stipulates that a centralised harvesting and treatment scheme will supply recycled stormwater throughout the residential areas, with potential for off-site irrigation also. Any excess stormwater will be held in detention ponds and discharged at pre-development peak flows to the existing drainage lines.

16) The proposed stormwater harvesting and treatment is essential to managing stormwater runoff within the West Belconnen site and is a required to maintain best practice WSUD and achieve compliance as required under the EPBC approval. It also ensures that excess stormwater is harvested and utilised to irrigate priority 2 and 3 areas when possible (based on the water balance), further ensuring the Ginninderry JV continues to meet their six star green star communities rating.

17) Once the stormwater harvesting and treatment facility is operational, the focus will be on avoidance, mitigation and management of stormwater flows, and as long as the WSUD strategy is being followed then compliance to the EPBC conditions will be achieved.

18) It is proposed that the SLA, TCCS and Riverview will work collaboratively to ensure that the facility is compliant to all EPBC requirements once operational.

ISSUES & OPTIONS

19) Since these presentations to the Economic Development Subcommittee of Cabinet, two substantial pieces of work have been undertaken, these include a detailed review of the issues, implications and options for the utility and its management, and detailed financial modelling of the proposal.

Stormwater Reuse Options

20) The stormwater strategy differentiates neighbourhood supply into three priorities:

a. Priority 1 - Parks, ovals and areas that TCCS would normally irrigate once the development area has been handed over for on-going maintenance.

b. Priority 2 - Local parks and areas that TCCS would not normally irrigate once the development area has been handed over for on-going maintenance.

c. Priority 3 - Arterial road verges and areas that TCCS would not normally irrigate once the development area has been handed over for on-going maintenance.

21) Priority areas are detailed further in Attachment E, but they effectively scale up based on the highest need to the least high need of physical spaces that will require irrigation to maintain natural and aesthetic urban spaces and community infrastructure.

22) Typically, TCCS is only provided with funding to irrigate Priority 1 areas, however, Ginninderry is intended to be an innovative and world leading development and there are a variety of amenity and maintenance requirements that are necessary to achieve the target. Ginninderry currently holds a six star green star communities rating from the Green Building Council of Australia, and many design and maintenance strategies are targeted at meeting the aspirations detailed in the vision for the project.

a. In recognition of these commitments, there has already been a significant upfront investment in irrigation reticulation and soft landscaping (shrubs, trees and turf) in Priority 2 and 3 areas as detailed below and it is important that these areas be appropriately maintained moving forward to recognise this investment.
   i. Irrigation Reticulation:$2.4m
   ii. Green Link: $130,000
   iii. The Grove: $40,000
   iv. Hilltop (includes the park at the top and the planting along the bottom of the wall): $145,000
   v. Green Wedge: $60,000

23) Therefore, the stormwater harvesting system has been designed to irrigate these areas and there is expected to be adequate capacity in times of normal or high rainfall.

24) However, it is envisaged that in times of very low rainfall or particularly dry periods when there is not adequate non-potable water to irrigate all priority areas, irrigation would only occur to the extent practical to maintain plant health and life. This would ultimately be a decision for Government and would be considered in line with the irrigation policy that applies across the ACT. Any decision not to irrigate all priority areas would have to be offset against potential capital replacement costs to reinstate plant life as a result of not irrigating these areas.

25) Based on the above and in agreement with Treasury and TCCS, further analysis was undertaken to consider two broad stormwater re-use options (with several sub-options also analysed for completeness).

a. Irrigation of Priority 1 Areas (only)
   i. Sub-Option 1 – no utility and large-scale storage of excess stormwater in lieu of additional irrigation i.e. large tank system or underground storage of excess stormwater.
   ii. Sub-Option 2 – utility to sell excess stormwater to local businesses (e.g. Magpies Golf Club)

b. Irrigation of Priority 1, 2 and 3 Areas

i. Sub-Option 1 – no utility

ii. Sub-Option 2 – utility to sell excess stormwater to local businesses (e.g. Magpies Golf Club)

26) Additional considerations include the comparison of marginal costs (storage versus additional irrigation and maintenance) and potential additional revenue from the sale of stormwater under the utility option as well as the potable water savings for Priority 1 areas.

27) At an estimated additional cost of $7.5-10.3 million, the analysis concluded that large scale storage of excess stormwater in lieu of additional irrigation would not be commercially viable. Such a scheme would also pose several technical challenges given the storage ponds and wetlands in Strathnairn have already been constructed. If not reused the stored water would also need to be safely discharged in a way to maintain protection of the Murrumbidgee River Corridor.

Stormwater Management – No Utility

28) If no utility was established for the stormwater reuse option, there would be savings in terms of establishment costs and ongoing compliance costs, however there would not be the flexibility to sell excess stormwater to local businesses in future, if feasible. The stormwater could only be reused for irrigation of estate assets normally managed by TCCS and the focus would be exclusively on irrigating the Ginninderry development area.

29) Without the flexibility of a utility to potentially sell stormwater to other entities or an economic and technically viable way to store excess stormwater, there would need to be significant urban excesses released into the environment in breach of Ginninderry JV's EPBC Act conditional approval.

Stormwater Management - Utility

30) The Ginninderry JV commissioned a review of the following four utility management and ownership options:

a. Icon Water;

b. TCCS;

c. Ginninderry short term; TCCS long term; and

d. Private ownership.

31) Further detail on these options, including an analysis of the strengths and weaknesses of each, is provided at Attachment D.

32) The Icon Water option was discounted as stormwater management does not align with its business model, while the option of a private utility was also ultimately rejected. It was considered unlikely a private utility would be willing to invest in the development of a local

ACT capability for establishment of a one-off utility of this nature. Furthermore, there may be some risk with the establishment of a private utility given the importance of the utility to manage both environmental and commercial outcomes..

33) Therefore, in consultation with the Ginninderry Stormwater Reuse Working Group, these four options were discounted to two:

a. Ginninderry in the short-term and TCCS in the long-term, and

b. TCCS.

34) There are two important dimensions to consider when reviewing the remaining two utility options for ongoing operation post commissioning:

a. Governance and management of the utility —
   i. Which organisation is best placed to manage the ongoing operation of the utility?

b. Scale and scope of services and assets to be irrigated by the utility —
   i. How large is the scale of utility infrastructure i.e. would the scope of irrigated areas extend beyond those traditionally maintained by TCCS after asset handover (e.g. parks and playing fields) to areas not traditionally maintained by TCCS (such as verges / medians and potentially, the Magpies Golf Club)?

35) A utility may generate a revenue stream when excess stormwater is available to be sold to local businesses like the Magpie's Golf Club or schools and other businesses within the Ginninderry development area when they come online.

36) As flagged above, in determining an appropriate level of service provision, it is important to consider that Ginninderry is intended to be an innovative and world leading development and that there are a variety of amenity and maintenance requirements. Irrigating all Priority areas will meet the Ginninderry JV's EPBC Act conditional approval whilst also supporting the project to achieve the target green star community rating.

37) Ultimately this will mean that the level of service provided to this area will differ to other suburbs in the catchment and irrigating secondary and tertiary areas could create a precedence issue when there is insufficient stormwater to irrigate, or over irrigating when stormwater is plentiful. This risk would need to be managed and documented in a clear communication strategy.

38) Given the parallels between this proposal and the Sullivans Creek Inner North Reticulation Network, it is the view of the agencies involved that the Ginninderry JV should fund, design, procure, construct and commission the stormwater harvesting infrastructure with TCCS to subsequently own, operate and maintain the assets thereafter. Both Ginninderry JV and TCCS will require an exemption from holding a utility licence and operation certificates granted by the Utilities Technical Regulator to undertake these activities.

Financial Analysis

39) Recognising that a conclusion on appropriate governance and management is not possible in the absence of detailed financial analysis, the Ginninderry JV commissioned a piece of work to understand the expected whole of life impact of the stormwater reuse infrastructure, in particular the ability for the infrastructure to recoup some capital and operational costs under a utility business model.

a. The modelling draws on engineering, hydrological analysis, quantity survey data, and Government and market research to determine a range of whole of life financial outcomes and investment metrics. It also determines expected investment outcomes utilising a range of prices at which recycled water can be sold, and then tests sensitivity of the outcomes to different assumptions.

b. The modelling covers expected operations of a stormwater reuse facility over a 20-year period whereby the facility collects and distributes water from the aforementioned containment ponds through infrastructure to end users in and around the Ginninderry development.

c. The model assumes that the current joint venture partners are accountable for all funding relating to design, procurement, construction and commissioning of the infrastructure with TCCS assuming ownership, operation and maintenance subsequent to successful commissioning.

d. The modelling includes some administrative overheads, on-going regulatory compliance costs and estimates residual or 'terminal' values to inform asset allocation decisions.

e. SLA and Riverview Group will work closely with TCCS and Treasury to undertake further detailed financial modelling and to incorporate detailed costings from the detailed design phase and will come back to Expenditure Review Committee and Cabinet to request approval of operational and capital expenditure costs and proceed to construction.

40) It is assumed that the facility will be progressively developed consistent with the wider Ginninderry development. The water storage infrastructure is expected to occur over three phases: three ponds by late 2023, an additional two ponds by 2025 and a final pond by 2030. The water reticulation and irrigation infrastructure are expected to be developed as one project and be completed during 2023.

41) The model therefore front ends infrastructure development, and progressively increases water supply as new ponds come online. The model considers the infrastructure aspects as fixed costs, which determine the feasible long-term supply of water.

42) The stormwater to be stored in the ponds is a function of rainfall, run off and reuse. The expected levels have been estimated by hydrological experts based on decade average rainfall data within the catchment from 1935 to the present day. The experts assessed 25th, 50th and 75th percentile likely rainfall and the modelling adopts the 50th percentile as a baseline for

the 20 years of operation and uses the alternatives as scenarios to test the range of potential outcomes.

43) The model works on the basis that stormwater will be available for purchase by three potential customer groups:

a. TCCS, who will irrigate and maintain public spaces in the Ginninderry development. This is a proxy for total neighbourhood supply.

b. The Magpies Golf Club, who will purchase water to increase reliable irrigation supplies at a lower cost than alternatives.

c. An 'other' category, which may be other public or private entities who may become customers at some point in the future, depending on need and the potential for the facility to supply additional water.

44) The model relies on parameters and assumptions that interact to generate financial and investment outputs, with three groups of inputs driving the model — irrigation water balances, infrastructure expenditure estimation, and prices customers may be willing to pay — and supply of water based on the delivery phases.

a. Phases 1, 2 and 3 meet all the Priority 1 supply.

b. Priority 2 and 3 supply is progressively met as more supply becomes available and more area is irrigated using stormwater.

c. The Magpies Golf Club supply is constrained as a residual based on the difference between total feasible supply and neighbour priorities. No phase meets all the potential demand from the Magpies Golf Club, however, if excess exists it can be allocated to the Magpies Golf Club as ‘additional’ supply.

45) The patterns modelled are summarised in Table 2 at Attachment F.

46) The infrastructure expenditure parameters are based on detailed unit pricing schedules for the equipment required to construct the stormwater harvesting network. The two main components are initial capital expenditures and consequential operational expenditures. As outlined in Table 3 at Attachment F, the data shows a build up from a minimum investment to get the utility started and includes additional works with an allowance for contingency.

47) The modelling assumes that customers will pay for the stormwater they are supplied from the facility. This pricing is tested using scenario assessments and suggests a 63.5 per cent discount compared to the marginal Icon Water potable price.

48) After 20 years the model assumes a residual value of the asset based on a salvage value. This salvage value is the written down value of the capital expenditures at year 21 based on the Australian Taxation Office diminishing value method for an asset with a 45-year economic life.

49) The business model generates time series results over 20 years for revenues, capital expenses and operational expenses, then summarises these into NPV and nominal totals. The totals are compared to estimate total costs, total capital expenditure (capex), operational expenditure (opex) and total revenue. These totals are then compared to estimate the net impact (revenue less costs), benefit to cost ratios, the net benefit to investment cost ratio and the internal rate of return.

50) Tables 5, 6 & 7 at Attachment F summarise the results of the various scenarios modelled. All scenarios modelled demonstrate revenues meet all capex and opex (i.e. Total Cost) at the modelled prices. Base scenarios (Tables 6 & 7) including and excluding sale of excess water to the Magpies Golf Club have been modelled assuming a minor surplus (IRR of 7%) reflective of potential commercial ownership and operation of the utility. The Government scenario (Table 8) assumes TCCS own and operate the utility based on the implicit price at which the scheme under TCCS ownership meets total costs (i.e. no surplus). Based on the extensive modelling conducted to date, if capex is assumed as a sunk cost then there are significantly positive returns to opex.

Modelled impact on Government

51) As noted above, under normal arrangements TCCS would only be funded to irrigate Priority 1 areas. For Ginninderry, the Priority 1 areas include the Strathnairn Neighbourhood Park and the School Oval, which combined have an irrigation demand of 35,537 kl/year. In the absence of the proposed utility, the cost of irrigating these areas with potable water on average would be $207,208/year, totalling $4,347,597 in nominal terms over 20 years.

52) Assuming the utility is owned by Government as recommended by this Submission, the analysis indicates the cost of irrigating all three Priority Areas with recycled water would be $223,963/year, totalling $4,703,230 in nominal terms over 20 years. In addition to this amount TCCS will be incurring additional maintenance costs for the Priority 2 and 3 areas not typically maintained at an estimated costs of $39,459/year — $33,312 for mowing and $6,147 for litter picking — totalling $789,180 in nominal terms over 20 years. Combining the recycled water costs with the additional maintenance costs, the total cost to Government over 20 years is $5,492,410.

53) Noting that irrigation of Priority 1 areas with potable water is business as usual (BAU), irrigation of Priority 1, 2 3 areas with recycled water from the Utility then represents an additional cost to Government (beyond BAU) of $1,144,813 over 20 years in nominal terms (or additional cost of $57,241/year).

54) All of the analysis above has been undertaken on the basis that the price being set for the recycled water is sufficient to recover the upfront capital expenditure and the ongoing operating expenditure for the new facility (i.e. the total cost). However, given the Ginninderry JV is funding all the upfront capital costs with TCCS to then assume operational responsibility, the pricing model could be adjusted to simply cover operating costs plus a margin. This would provide the scope to significantly reduce pricing well below $1.63/kL which in turn would

enable the irrigation of all Priority areas at no additional cost to government. The ultimate pricing model to be adopted will be a matter for UTR and TCCS to determine.

Additional Supply for Commercial Purposes

55) Furthermore, beyond the supply of water to irrigate Priority areas 1, 2 and 3, any additional water supply that is excess to irrigating Priority areas within Strathnairn could be supplied to surrounding commercial users (such as the Magpies Golf Club) or used to potential supply water for irrigation of key open space areas located in Ginninderry's new suburb of Macnamara (that would otherwise be irrigated with potable water). This would provide further economies in support of the ongoing operations of the utility. Despite this, we have not considered this opportunity explicitly in this Submission, however this opportunity could be pursued further once the utility is operational.

Financial Risk

56) While the modelling to date has included sensitivity analysis to take account of various factors and scenarios, it is important that Cabinet note that the water balance assumptions underpinning the modelling are still subject to variance. Although the modelling has taken a long-run average (adopting a 50th percentile average rainfall pattern over a 10 year period), sustained periods of lower-than-average rainfall will impact supply. There will be periods that will be dryer than the assumed modelling which will result in less availability of water for irrigation and the potential need for supplementary water sources to be provided (either potable or Lower Molonglo Water Quality Control Centre recycled water) at a significantly greater cost. Conversely it is also possible that in slightly wetter periods there would potentially be more water that could be supplied to other users.

FINANCIAL IMPACT

57) This Submission has outlined a range of costings and is seeking agreement for the establishment of a utility to be managed by TCCS and for the Ginninderry JV to commence construction works on the associated infrastructure. The Submission is also seeking agreement to TCCS expanding its baseline irrigation regime. However, to accommodate TCCS's request due to the current phase of the project and existing cost information available, a further Cabinet submission will be developed once approvals and operational certificate is obtained from the UTR will be brought forward, presenting costs based on construction ready-design documentation.

58) For normal Greenfield developments TCCS is required to maintain priority 1 areas to a service level that includes irrigation. This would be typically provided for via a potable water source. Funding for these maintenance costs is provided via an agreed growth model that provides additional maintenance funding on an annual basis. This stormwater harvesting solution will require TCCS to maintain priority 2 and 3 areas to a higher than normal standard.

59) The incremental cost (to TCCS) of maintaining priority 2 and 3 areas is estimated at $120,000 p.a. These additional costs include mowing, litter picking, purchasing potable water for irrigation and maintenance of the irrigation system.

60) If the stormwater harvesting solution is expanded to future developments within Ginninderry, these incremental costs will increase accordingly. However as noted the establishment of a Utility may also realise other benefits that go towards offsetting these incremental costs to Government.

61) As noted in paragraph 46, the financial impact will be detailed in a further submission once the relevant detailed design and approvals have been granted.

WELLBEING IMPACT SUMMARY

62) A Wellbeing Impact Assessment is provided at Attachment C.

CONSULTATION

External stakeholders

63) The Magpies Golf Club has been consulted on the proposal and have indicated a strong desire to purchase water.

ACT Government agencies

64) The SLA consulted with TCCS and the Chief Minister, Treasury and Economic Development Directorate in the development of this submission. Advice was also sought from the UTR and is included as Attachment G to the submission.

65) Treasury have expressed concern about making commitments to irrigate areas other than priority 1. They noted that whilst the irrigation assets would be a similar model to the Inner North Reticulation Network, a key difference is that there is limited storage in this model. Therefore, in very wet years there will be a need to irrigate land when it is not required and in dry years supply will be insufficient to meet demand.

66) Treasury noted that without a storage facility, in dry years there will only be capacity to irrigate priority one areas. Based on analysis undertaken by Treasury for the non potable water review, this is also the time that other users such as the Magpies would be looking to purchase water. Therefore, without additional storage capacity, it is not recommended to make commitments to irrigate areas other than priority one areas, at this stage.

67) In very dry years, Treasury consider that it would only be appropriate for the government to purchase water to maintain priority 1 areas in these circumstances, in line with the irrigation policy that applies across the ACT.

68) An exposure draft of this submission was circulated to all directorates. A table of comments is provided at Attachment A.

MEDIA/COMMUNICATIONS

69) The Ginninderry JV has based much of its marketing and brand value on the creation of a unique and aesthetically pleasing location. The management of stormwater is critical to the Ginninderry JV development both in achieving its EPBC conditional requirements and the aesthetic value the development itself.

IMPLEMENTATION

70) Subject to Cabinet's agreement to the recommended approach, the delivery program at Attachment H sets out the steps required to achieve establishment of the utility and operational commencement of the stormwater harvesting facility by the end of September 2023.

HUMAN RIGHTS IMPACT

71) Nil.

Minister's signature _____ Date ___/___/_____

ATTACHMENTS

A	Table of comments
B	Open Access decision summary
C	Wellbeing Impact Assessment
D	Stormwater Management Options
E	Priority Irrigation Areas
F	Modelling Results
G	Regulatory Impacts
H	Ginninderry Stormwater Harvesting Facility Program

CABINET BRIEF 21/352

Title	**West Belconnen (Ginninderry) Joint Venture – Stormwater Harvesting Project**
Minister	Yvette Berry MLA Minister for Housing and Suburban Development
Cabinet date	Wednesday, 28 September 2022
Recommended position	SUPPORT

Submission recommendations

The submission recommends a two stage Cabinet approval process for the Ginninderry Joint Venture (GJV) Stormwater Recycling Initiative. In this first stage, the GJV is seeking a Ministerial exemption to establish an unlicenced water utility to achieve the project's sustainability principals and Water Sensitive Urban Design (WSUD) requirements under the Environment Protection and Biodiversity Conservation (EPBC) Act 1999 planning and environmental approvals. This includes progressing detailed design works and an application to the Utilities Technical Regulator (UTR) for Design & Construct Operating Certificate for the Utility to irrigate Priority 1, 2 and 3 areas.

The second stage future submission will seek agreement to capital and expenditure costs associated with the proposed construction, commissioning and eventual handover of the Utility from the GJV to Transport Canberra and City Services (TCCS) who will seek a perpetual exemption to hold a utility licence for the operation of the Ginninderry stormwater harvesting network and obtain an operating certificate from the UTR. The costs presented in this further Cabinet submission will form the basis of a Transport Canberra and City Services budget bid for appropriation in 2023-24 budget cycle.

The recommended two stage Cabinet approval process is a result of exposure draft consultation. As part of this consultation, TCCS changed their proposed approach to the previously accepted delivery program. The change in process represents TCCS' revised approach to balancing the risk of asset acceptance particularly in relation to existing operating expenditure (OPEX) cost estimates as well as their perceived risk of meeting EPBC requirements. The Chief Minister, Treasury and Economic Development Directorate (CMTEDD) supports the proposed approach, and the Suburban Land Agency (SLA) will work closely and collaboratively with TCCS and CMTEDD to ensure the risks are understood and managed to deliver the first stage of a stormwater harvesting network which will allow the GJV to achieve best practice water sensitive urban design (WSUD) whilst adhering to the relevant EPBC approvals and conditions.

Wellbeing Impact Assessment

The proposal will have a positive impact on the Ginninderry development open spaces and residents. Irrigating key areas throughout the development will encourage more people to purchase land at Ginninderry but also create areas for residents to enjoy outdoor recreation in well maintain parks and ovals – anecdotally improving physical and mental wellbeing.

Context and consultation

The topography of the Ginninderry development site is challenging given the natural slope towards the Murrumbidgee River, which creates potential environmental risks for the river corridor from additional stormwater run-off and the damage that this would inflict upon the high value habitat through these areas, which are home to a range of threatened and endangered species.

Cleared:	John Dietz, CEO Suburban Land Agency
Prepared by:	Nick Vithalis, Senior Project Manager

The significance of this issue is highlighted in the Commonwealth Government's Environment Protection and EPBC Act 1999 planning approval, which includes a requirement for the Ginninderry JV to minimise stormwater run-off into the local environment so that run off is not significantly greater than what would have occurred naturally.

There is also a broader policy context to this issue, with an emphasis on integrated water management and water sensitive urban design being expressed across several ACT Government policy documents, including:

- The ACT Water Strategy 2014-2044 provides a 30-year strategy for the management of the ACT Government's water resources. It emphasises integrated water management and green infrastructure (vegetation and waterbodies) in the urban context to slow runoff, ameliorate flooding, reduce pollutants and sediment entering waterways, and improve the ACT's resilience to climate change.
- The ACT Planning Strategy 2018 supports the ACT Water Strategy by identifying initiatives and actions to protect waterway assets and support WSUD in urban development and planning. The Planning Strategy includes actions to update the ACT's WSUD Code to ensure the entire water cycle is considered early in the planning and design of new urban areas.
- The ACT Climate Change Strategy 2019-25 also references the need to create liveable urban spaces, indicating that … "the impacts of a changing climate on people, infrastructure and services will be well-managed and urban heat impacts will be reduced by an established network of street trees, waterways and parks supported by healthy soils".
- The Living Infrastructure Plan: Cooling the City sets a framework for maintaining and enhancing trees, soils, and waterways to keep Canberra cool, healthy and liveable in a changing climate.

All ACT Government Directorates affected by this proposal have been consulted in the development of the Cabinet submission and are generally supportive of the broad intent of the proposal, particularly its environmental merits.

Final Agency Documentation, including further extensive comments from TCCS were received late, approximately two days prior to the Expenditure Review Committee (ERC) meeting. TCCS noted their support conditional upon a 2nd pass Cabinet Submission. Other comments were not addressed as part of this 1st pass submission given the late receipt. These comments will be addressed, and the SLA will work collaboratively with TCCS, in preparing the 2nd pass Cabinet Submission.

The submission was considered by ERC on 15 September 2022 and was agreed, with no changes required.

Cleared:	John Dietz, CEO Suburban Land Agency
Prepared by:	Nick Vithalis, Senior Project Manager

ATTACHMENT A

EXPOSURE DRAFT COMMENTS – 21/352

Exposure circulation undertaken: Full exposure circulation

Reason for exception: N/A

Dates circulated: 4 to 10 November 2021

Directorate	Comment	Response
CMTEDD	Supported. 1. The submission describes that there are several regulatory processes that apply to the stormwater harvesting project yet only describes two. The processes under the *Utilities Act 2000* and *Utilities Technical Regulation Act 2014* are adequately captured but the requirements that the potential utility would have under the *Water Resources Act 2007* are not mentioned. 2. The submission should include that the Utility (Ginninderry Joint Venture) or a linked entity (potentially TCCS) would need to acquire a suitable volume of Water Access Entitlements and the cost of these entitlements should be accounted for in the cab sub description. 3. The Utility would be required to hold an on-going licence for water extraction with associated fees including an annual admin charge and Water Abstraction Charge and potential subsidies as per Treasury determinations. 4. The issue of a water extraction licence by the Environment Protection Authority may include	1. *Water Resource Act 2007* information has been added to Attachment G. 2. A 10% contingency has been included in the model to account for any unexpected costs. It wasn't clear whether this charge was in addition to the Network Facilities Tax, and therefore wasn't included in the model. Further, there is a non-potable water review being conducted, resulting in the associated fees likely changing. 3. The Water Abstraction Charge (WAC) is not included within the model. As structured WAC is akin to an ad valorem tax (at the point of transaction i.e. sales tax). The model assessed the financials from the perspective of a Utility Owner and Operator. If WAC applied, this lifts the price to consumer to around $2.11. Any collection would be passed straight through to the regulator, and as such does not impact the finances. The model also allows for the net present value of the Network Facilities Tax (see Table 4, Attachment F). 4. A 10% contingency has been included in the model to account for any unexpected costs.

	conditions for monitoring of waterways (ponds) and pumping restrictions if water quality poses an issue. 5. Treasury notes the submission does not detail that in order to irrigate priority areas over 2,000 sprinklers would be required, resulting in upfront capital and ongoing repairs and maintenance costs to TCCS, which are estimated at over $200,000 per annum. Managing the priority areas which are greater than would normally be provided would increase costs associated with mowing and other activities required to maintain open spaces and amenity within the development. 6. The Utility Technical Regulator would be required to ensure the utility meets regulatory requirements. These additional costs have been estimated as part of the modelling at about $13,500 per year but Treasury expects these costs would be substantially higher in the initial years when more compliance and regulatory work is required. 7. Given the preferred option is only viable if TCCS is appropriated funding for these additional irrigation activities, and the majority of the irrigation service would be provided to Government, Treasury considers it would be more efficient and economically viable for TCCS to operate the utility from inception, with the JV responsible for the design, procurement and build. 8. This approach would be less complex to administer and enable a more transparent funding process than if the utility was operated by the JV. We also note	5. The Ginninderry Joint Venture have installed the irrigation reticulation system so there would be no additional upfront CAPEX costs. The model anticipates a total OPEX cost ranging from c.$155k to $210k over the life of the Utility. The actual cost for repairs and maintenance of the irrigation system are based on the costs the JV are currently incurring for maintenance of the irrigation system. Further it is proposed that another Cabinet Submission is submitted after three years of utility operation to confirm details like this more accurately after the utility has been operational for a sufficient period of time. 6. A regulatory cost figure was discussed and agreed through the Ginninderry Stormwater Re-use Committee meetings. There is contingency built into the model to cover any unexpected additional costs. 7. TCCS has previously provided advice at the Ginninderry Stormwater Reuse Committee that their preference is for the GJV to initially operate the utility and then subsequent transition operations to TCCS after five years was their preferred position 8. As above.

	TCCS already has experience operating a facility of this type.	
JACS	Supported.	
HD	Supported. The Health Protection Service (HPS) supports the exposure draft cabinet submission noting that the operators of the stormwater harvesting, or reuse scheme must consider guidance provided in the National Health and Medical Research Council Guidelines for Water Recycling: Managing Health and Environmental Risks 2009 (the Guidelines) in the design, operation and management of the scheme. Operational costings should account for ongoing maintenance and operational monitoring in accordance with the Guidelines. Adhering to the Guidelines will ensure the human health risks of using harvested stormwater can be addressed.	Noted.
CHS	Supported.	
EDU	Supported.	
TCCS	Supported for consideration by Cabinet. 1. TCCS notes the intent to control excess storm water run-off from the development into the Murrumbidgee River. Additional options could be presented that meet the requirement of the ACT Municipal Infrastructure Standards for Stormwater (MIS 08) without the need to establish a Utility or to irrigate areas other than the Priority 1 area.	1. Paragraph 8 of Cabinet Submission notes the alternative stormwater management options and why they were discounted. 2. Noted. The project is designed as a trial/ proof of concept which will be managed by the Ginninderry Joint Venture. A further Cabinet Submission is proposed after three years of operation, to consider additional knowledge gained during this period, prior to any transfer to TCCS.

	2. TCCS has concerns about the financial viability and associated risks with the establishment of a utility to manage and operate the stormwater harvesting facility. a. There are risks associated in assuming a positive revenue gain for TCCS without demonstrating the full cost implications. b. For example, noting that additional funding would be required to support the irrigation of Priority 2 and 3 areas. It is unclear how the proposed annual budget appropriation of $55,000 per annum has been calculated. c. The anticipated cost to supply water for the purpose of irrigating the proposed priorities areas is likely to significantly exceed $55,000. This cost also does not factor in the additional maintenance and operational expenses to maintain irrigated assets, such as mowing, weed control etc. TCCS would require its base funding to be supplemented for ongoing management over an above the current growth funding model applied to existing new estates. 3. It is assumed that TCCS is not taking the lead in preparing a Business Case to cover associated O&M costs.	The estimated $55k proposed additional funding budget appropriation for TCCS operations management was the baseline from the model. It is proposed that this will be covered by the utility through the start-up phase and the final impacts will be calculated and resolved with TCCS and brought forward in the follow up Cabinet Submission that will also address governance. The $55k is an estimate as the average additional costs over the life of the Utility. As noted above. Part of the recommendation of the Cabinet Submission is that Cabinet agrees to additional funding for TCCS if and when the utility is transferred to them. 3. All work relating to the Ginninderry Stormwater Re-Use Initiative will be the responsibility of the Suburban Land Agency and or the Ginninderry Joint Venture until it is transferred.
CSD	Supported.	
EPSD	Supported.	
MPC	Supported.	

Statutory Office Holder	Supported.	

EXPOSURE DRAFT COMMENTS (2ND PASS) – 21/352

Final circulation undertaken: Full exposure circulation

Reason for exception: N/A

Dates circulated: 22 – 29 July 2022

Directorate	Comment	Response
CMTEDD	• The proposed approach to stormwater harvesting is supported, noting it is the most cost-effective option, as compared with the construction of regional scale ponds or a lake, which would not be feasible on the constrained site. • The recommendations would benefit from being updated to be more prescriptive on the options available for Government and to better distinguish the relationships and dependency between the recommendations put forward for Cabinet. In particular, recommendations 1a and 1c appear to rely upon Cabinet's agreement of 1b and 1d as the preferred option for establishment and operation of the proposed stormwater harvesting infrastructure. • CMTEDD understands that TCCS requires more detail about the harvesting system to accurately estimate the ongoing operational costs, and to confirm that the system will meet the EPBC Act regulatory requirements. On that basis, CMTEDD is supportive of the submission at this stage, but	• Noted. • Recommendations have been updated in line with TCCS preferences. • Submission and Recommendations have been amended to reflect TCCS's request to undertake a two pass Cabinet process. The future submission will detail the financial impacts based on detailed design. The SLA, Riverview Group and TCCS will work closely to determine the opex costs. • A section has been added to the submission to provide an overview of the EPBC requirements. In terms of the specific detail, this will be worked through with TCCS to ensure everyone is across the EPBC requirements in managing the harvesting system upon completion and handover. • Prior to the second pass, the modelling will be updating to incorporate further feedback to date, including supply to the 'other' category, and updated costs that will again be worked through in consultation with TCCS and Treasury.

	recommends that detailed financial impacts are brought back to ERC/Cabinet once the detailed design work has been undertaken. This would ideally be done in time for consideration through the 2023-24 Budget process or 2022-23 Budget Review. ○ Accordingly, CMTEDD strongly recommends that the recommendations be updated to recommend a two-pass process whereby final agreement to the Utility does not occur until detailed costings are provided to Cabinet for consideration and that this Submission seeks the agreement necessary to enable detailed design and regulatory actions to progress to support the development of detailed costings. ○ To that end, CMTEDD suggests that Recommendation 1(f) be removed, together with the expense impacts for additional operational funding in the Financial impacts summary table. The submission should clearly identify that the table contains current estimates only. ○ The recommendations should be updated to seek agreement to the SLA working closely with TCCS and Treasury to undertake detailed financial modelling and that detailed costings will come back	

	to ERC/Cabinet through a later budget process. • The revenue estimate from the utility asset transfer to TCCS, as well as depreciation, may remain in the financial table based on calculations already undertaken. Treasury notes that ultimately these values will depend on the final asset(s) developed by the Joint Venture. • CMTEDD understands from further discussion with the SLA that the irrigation of Priority 2 and 3 areas is only proposed when necessary to manage stormwater runoff into the Murrumbidgee River during periods of increased rainfall consistent with requirements under the *Environment Protection and Biodiversity Conservation Act* (EPBC Act). ○ Recommendation E would be improved by clarifying that maintaining priority areas 2 and 3 is not a baseline level of service that will be provided to the Ginninderry development and will only be provided to meet the requirements imposed by the EPBC Act. • To support Cabinet's consideration of the recommendations, and noting the information provided in Attachment G on regulatory impacts, the submission would benefit from the inclusion of further detail on the utility license requirements and the eligibility and suitability of	

	the Ginninderry JV and TCCS seeking and receiving exemptions from holding a utility license under the *Utilities Act 2000*. As the proposal for Government appears to rely upon regulatory approval processes, CMTEDD would support this dependency being reflected in the recommendations and captured within the discussion of the Submission.
	• The Water Abstraction Charge (WAC), and ongoing licence fees for water extraction were previously identified as additional costs which would need to be applied to the model.
	  ○ The response to these comments argued that the WAC is akin to an ad valorem tax which would be passed straight through to the regulator, does not impact the finances and was therefore not included in the model.
	  ▪ This argument is not accepted because the charge is borne by the Utility and a portion of it may pass through to customers but definitely not to the 'regulator'.
	• CMTEDD previously raised the need for resources to support monitoring of waterways (ponds) and pumping restrictions in the event of water quality deterioration within the pond network. These predictable costs appear to be met within the	

	identified 10% contingency in the operating model. ○ Water quality issues related to water quantity problems are not unexpected but are certain to occur at some time given the combined impacts of climate change, and the ACT's background climate variability. The submission could provide discussion of why it is appropriate to deal with these anticipated costs as a part of a contingency, and any risk of future unfunded additional costs to government operations. • The Submission appears to reflect the previous proposal that the Joint Venture operate the Utility for an interim period, for example, the Submission details that stormwater reuse model works on the basis that stormwater will be available for purchase by three potential customers groups being TCCS, the Magpies Golf Club and an 'other' category. Given the Submission now seeks agreement for the stormwater reticulation assets to be transferred/gifted to TCCS, rather than being retained by the JV, CMTEDD understands that the Utility would no longer operate on a commercial basis and that the discussion on the sale of water would no longer be applicable. • CMTEDD notes the Government's response to the non-potable water review is currently under	

	development. CMTEDD supports the Cabinet Submission being considered prior to its release given that the response is expected to focus on addressing the pricing of surface and ground water, alongside the consideration of alternative assistance measures. As such, any decisions on the Ginninderry utility will not be significantly impacted by outcomes of the Government response and would still be set at a rate to achieve full cost recovery. In addition, the Government response is expected to be completed in late 2022, and as such could result in significant delays to the stormwater project if Cabinet consideration on this stormwater harvesting project was delayed to consider the response to the non-potable water review.	
JACS	Supported.	
HD	Supported. ACT Health Directorate (ACTHD) notes the options under consideration and supports the submission. Quality of stormwater and the associated management controls need to be considered in proportion to the level of risk from the agreed option. As a general principle, the more likely it is that stormwater will place people or the environment at risk, the stricter the water quality and management controls need to be.	• Noted. The submission will now go through a two pass process an updated modelling will ensure testing and analysis costs are reflected appropriately.

	ACTHD recommends the submission make reference to the need for risk management controls to include water quality testing commensurate with the health risks associated with the final proposal and reference that Transport Canberra and City Services (TCCS) will work with the Health Protection Service regarding the management of water quality considerations (refer Attachment G: Regulatory Impacts). ACTHD also recommends that the submission note that the ACT Government Analytical Laboratory (ACTGAL) in ACTHD delivers microbiology and environmental chemistry services including in relation to water quality and that TCCS will work with ACTGAL to put in place any necessary testing arrangements including as part of any future remedial actions in response to any non-conformance. ACTGAL is a NATA accredited laboratory providing international best practice scientific analytical services to government and private clients. The Modelling and costings should reflect testing and analysis costs to ensure these costs are built into the forward the business case and budget for the proposal. These additional costs should be reflected in the indexed and ongoing costs at recommendation 1 (f) of the submission.	
CHS	Supported.	
EDU	Supported.	

TCCS	Not supported in current form. TCCS has two major concerns: 1. TCCS' primary concern is that demonstration of EPBC condition requirements will transfer to TCCS on handover of the network, and it is unclear how achievement of compliance will be verified. Compliance with EPBC condition requirements is stated as the primary purpose of this stormwater harvesting network. That is, to ensure that runoff does not exceed pre-development volumes. The purpose of this EPBC conditional development requirement is to protect threatened species habitat, threatened species and highly sensitive and valuable ecological communities and river ecosystems. The submission currently doesn't demonstrate how the EPBC Act conditions will be met in the GJV modelling or system operating protocols for application by TCCS after the network is transferred. 2. TCCS' secondary concern is that capex and opex cost estimates of the network are preliminary at this stage and are effectively unable to be substantiated until detailed design is completed/development approvals and operating certificate are obtained from the Utilities Technical Regulator. The associated risks to TCCS with Cabinet agreeing to preliminary costs being the basis of future	• The submission has been updated to reflect TCCS's changes to the recommendations and the request to adopt a two pass process. As a result, the financial impact table has been removed pending the second pass. • Additional detail has been included around the EPBC approval and conditions. SLA and Riverview will continue to work closely with TCCS to ensure EPBC conditions and reporting are understood prior to the second pass. • Additional TCCS informal comments and suggestions have been incorporated where appropriate.

	budget appropriations is considered unacceptably high. To address this risk, TCCS request that financial information is removed from the Financial Impacts section of the sub with capital costs being summarised in the body of the sub and opex costs removed. This will avoid unsubstantiated opex costs being locked in as an agreed appropriation. To address these major issues of concern, TCCS recommends that a further cabinet submission be prepared to address compliance and opex cost risks in detail, based on construction-ready design documentation and documented network operating procedures/protocols. TCCS support for the cabinet submission is pending: - proposed changes to recommendations - removal of financial information from Financial Impacts section of the cabinet submission - clarification of information presented in Attachments E, F, G and H. Suggest recommendations are amended to state as below: 1) I recommend Cabinet agree: a. the Ginninderry Joint Venture seek an exemption to hold a utility licence for design, construction	

	and commissioning phases of the stormwater harvesting infrastructure and obtain an operating certificate from the Utilities Technical Regulator. b. To enable presentation of accurately reflected capex and opex costs, the Ginninderry Joint Venture will prepare a further cabinet submission once development approvals and operational certificate is obtained from the Utilities Technical Regulator, presenting substantiated costs based on construction ready-design documentation. Costs presented in this further cabinet decision will form the basis of a TCCS budget bid for appropriation in 2023-24 budget cycle. The cabinet submission will also detail operational procedures for the network that demonstrate that compliance with *EPBC Act* condition requirements is achievable when the network is transferred to TCCS. c. Pending Cabinet approval of the second submission, the Ginninderry Joint Venture will procure, construct and commission the stormwater harvesting facility in accordance with requirements specified by the Utilities Technical Regulator.	

	d. Pending successful network commissioning by the Ginninderry Joint Venture, Transport Canberra and City Services Directorate seek a perpetual exemption to hold a utility licence for the operation of the Ginninderry stormwater harvesting network and obtain an operating certificate from the Utilities Technical Regulator. e. Pending the Ginninderry Joint Venture's achievement of defect-free construction certification and a fully successful commissioning process and verified operational procedures that demonstrably achieve compliance with *EPBC Act* condition requirements, Ginninderry stormwater reticulation and irrigation assets be transferred/gifted to Transport Canberra and City Services Directorate to own, operate and maintain under the new utility. 2) I recommend Cabinet note: a. Capital costs are preliminary estimates and operational costs will be further determined after detailed design is completed. b. The stormwater harvesting initiative is a pilot/ proof of concept to inform development of solutions for subsequent stages, subject to future cabinet consideration.	

	c. the Implementation milestones and timeframes set out in Attachment H. 3) I recommend Cabinet note: a. the planning approval conditions for the Ginninderry Joint Venture under the *Environment Protection and Biodiversity Conservation Act 1999* require specific actions to control excess stormwater run-off from the development into the Murrumbidgee River; b. work to date has explored and discounted a variety of options and has identified the establishment of a utility as the preferred approach to manage and operate any future stormwater harvesting initiative; c. legislation requires the establishment of a utility for non-drinking water supply at this scale and is generally supported by a range of other ACT policy and strategy documents promoting integrated water cycle management as a means to improving environmental outcomes and supporting social wellbeing; and d. preliminary scenario-based financial modelling has been undertaken in support of this submission. Additional detailed comments have been provided to SLA separately from this commentary process.	

CSD	Supported.	
MPC	Supported.	
Statutory Office Holder	Supported.	

FINAL COMMENTS – 21/352

Final circulation undertaken: 2 day final circulation

Reason for exception: N/A

Dates circulated: 7 – 9 September 2022

Directorate	Comment	Response
CMTEDD	CMTEDD supports this submission, noting the below comments. • The two-stage Cabinet approval process for the Stormwater Recycling Initiative is strongly supported. CMTEDD notes, however, that the Submission does not clearly identify at which stage final agreement to the Utility occurs and that this could pre-emptively limit options for Government when considering the future submission on capital and expenditure costs associated with the proposed construction, commissioning and eventual handover of the Utility to TCCS. • CMTEDD understands from previous discussions with the SLA during exposure consultation that the irrigation of Priority 2 and 3 areas (areas not normally maintained by TCCS) is only proposed when necessary to manage stormwater runoff into the Murrumbidgee River during periods of increased rainfall consistent with requirements under the EPBC Act. Consistent with this advice, CMTEDD would	• Comments are noted. • Paragraph 16 has not been amended given this issue is addressed in paragraphs 12-18 and 24. The SLA notes this comment however and will ensure this issue is adequately articulated in the 2nd pass submission. • The Wellbeing Impact Assessment will be updated to reflect the additional comments in the 2nd pass submission once further work on the EPBC conditional requirements has been undertaken as part of this submission process (as noted in TCCS' comments below).

	support paragraph 16) being amended to better reflect that the irrigation of Priority 2 and 3 areas would only occur when necessary to meet EPBC approval requirements as opposed to when additional service is possible. • Given the above comments, it may be appropriate for the Cabinet Decision and Wellbeing Impact Summaries to be reviewed or amended to reflect these sensitivities. In particular, CMTEDD considers that the Wellbeing Impact Summary should focus on the positive impacts to the environment as a result of effective stormwater run-off management, noting that the irrigation of Priority 2 and 3 areas is not consistent with servicing for other suburbs in the Territory and could viewed as an additional level of service being provided for Ginninderry. • The revised Submission and response to comments are clear on the regulatory requirements (costs and processes) for Utilities Technical Regulation and the Environment Protection Authority. Namely there will be a need for the ministerial exemptions to Ginninderry JV and TCCS from the *Utilities Act 2000*, a requirement for a design and construct certificate for Ginninderry JV and an operational certificate for TCCS. • In regard to the water quality, the revision is better in explaining that the stormwater harvesting and reuse simply has to happen (whatever the cost) in order to meet water quality objectives for both the standard ACT objectives and the Ginninderry JV	

	aspirations of a 6 star rating for the development. The submission also acknowledges the variation in conditions (drought and la niña) that will change the nature and extent of stormwater re-use.	
JACS	Supported.	N/A
HD	Supported.	N/A
CHS	Supported.	N/A
EDU	Supported.	N/A
TCCS	Supported, noting a subsequent cabinet submission will: - further define TCCS OPEX costs for operation of the utility and additional water purchase costs and maintenance costs associated with additional irrigation. - Clarify EPBC condition requirements and how these can be achieved by TCCS once the network is handed over from Ginninderry Joint Venture. *EPBC condition requirements* TCCS recommends that legal advice is sought to specifically clarify TCCS' responsibilities to meet compliance requirements as owner/operator, and this advice be presented to Cabinet in the subsequent cabinet submission to ensure Territory obligations vs Riverview obligations are clear. TCCS has sought the following clarifications from SLA: ○ Specific condition requirements to achieve compliance with the EPBC Act (e.g. exact measurement types and locations).	• The SLA notes TCCS' support condition upon refining the TCCS OPEX costs and clarifying the EPBC conditions, and will work collaboratively with TCCS prior to the 2nd pass submission to ensure all parties are comfortable with the proposal. • The SLA appreciates TCCS' additional detailed comments, however notes that due to the late receipt of these comments it is not possible to revise the 1st pass Cabinet submission to address all of the queries. • The SLA will work together with TCCS to ensure that all conditions and requirements surrounding EPBC approval are understood, and will also seek legal advice on meeting these conditions prior to the 2nd pass submission. • The SLA notes that TCCS provided high level estimated OPEX costs which were qualified and based on the Inner North Stormwater Reticulation Network. The SLA were advised that the figures provided were not adjusted to reflect the relative size of this proposal. The timing of the provision of these costs (provided after the 2nd pass exposure comments

	○ Confirmation of whether Riverview is the responsible entity for EPBC Act requirements following handover to the owner/operator (TCCS). Suggest legal advice is sought. ○ Given Riverview is the responsible entity, a summary of how one party will be able to act as the operator while another party has the legal responsibility (in general/basic terms). What are the implications on TCCS in the case that compliance is not achieved? ○ A brief understanding on the appetite of the regulatory entity for flexibility in the event of non-compliance. In addition, what is the appetite for the EPBC Act requirements to be phased out after a period of satisfactory conditions? The more specifics TCCS has in writing from the regulator, the more this risk can be assessed. ○ A copy of the hydrology model used to demonstrate that the various flow requirements of the EPBC Act conditions requirements may be achieved. Para 15 – refer to TCCS comment on Para 40-41 on estimated OPEX costs. Given annual OPEX costs are preliminarily estimated at around $1.4-$1.6M, a one-off storage tank construction cost of $7.5-$10.3M may be more feasible than was initially considered, which would enable sale of water to Magpies Gold Club and 'other' commercial users, to increase utility revenue. TCCS recommends that this financial analysis is undertaken and presented to Cabinet in the subsequent cabinet submission for consideration. Para 28 – seeking clarification on how is it possible for all the reticulation infrastructure be constructed by 2023, prior to	were addressed) inhibited the use of these figures in the modelling. The agreed position between the SLA and TCCS was to note these costs and work collaboratively prior to the 2nd pass submission to update the modelling to reflect these costs, and also extend the 20 year lifecycle model to 50 years. • In the consultation period during 2021 and 2022, and in consideration of feasibility studies undertaken, the agreed position was to not consider additional storage as it was cost prohibitive. Furthermore, Treasury has strongly expressed that there is no appetite to sell water to commercial users at this stage. This financial analysis has already been undertaken and discounted. • The SLA notes the comment on the approval timeframe, and notes that it is preliminary. Further consultation with the UTR will be undertaken to determine the approval pathway and requirements prior to the 2nd pass submission. • Given the late receipt of comments, the appendices have not been updated. TCCS's comments in regards to the appendices will be addressed as noted above in the 2nd pass submission.

	the final 3 ponds scheduled for construction in 2025 and 2030? Para 35 – TCCS water purchase agreements will not guarantee water supply under any scenario. Water will be supplied only when it is available. Has the GJV undertaken volumetric reliability assessments for each site proposed to be irrigated? If not, this is critical to provide % of time water is likely to be available for irrigation. Para 36 – as previously stated, a 20-year lifecycle model is insufficient to reflect true whole-of-life replacement costs of infrastructure and equipment and is therefore misleading. For subsequent cabinet submission, please adopt a 50-year model in accordance with industry standards. Para 40 and 41 – TCCS does not agree with the costs outlined in this para. Preliminary estimated TCCS OPEX costs have been provided to SLA and indicate annual costs to TCCS are in the order of $1.4-$1.6M. Para 42 – UTR and TCCS do not have a role in determining unregulated water pricing. It is Treasury's role to determine non-drinking water pricing. Para 45 – submission seeks agreement to commence detailed design, rather than construction works. Para 48 - The GJV stormwater harvesting project is designed as a trial/proof of concept to determine whether EPBC condition requirements can be met and determine actual OPEX costs. A further Cabinet Submission after three years of operation is recommended to determine feasibility for expansion of the network to future developments within Ginninderry, taking into account increasing incremental costs.	

	Para 53 – TCCS supports Treasury's concerns. Para 54 - TCCS supports Treasury's comment. Para 55 - TCCS supports Treasury's comment. Attachment F – TCCS has provided estimated OPEX costs to SLA, though these costs are not reflected in this cabinet submission. TCCS has requested a copy of the hydrological model from SLA to assess volumetric reliability to proposed irrigation sites. Costs inputs to model will likely increase once detailed design determines operating protocol and TCCS verifies estimated preliminary OPEX costs to SLA. Attachment H – TCCS has concerns that the preliminary timeframe presented is unrealistic. For example, design and approvals program is only 8 weeks, which is inadequate for any Development Application process. The timeframe for the subsequent cabinet submission process is not included in the program, though this cabinet submission agrees to a second submission being presented for consideration. TCCS recommends that the program is reviewed and presented as realistically as possible for Cabinet's information.	
CSD	Supported.	N/A
EPSD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
MPC	Supported.	N/A
Statutory Office Holder	Supported.	N/A

FINAL COMMENTS (POST ERC) – 21/352

Final circulation undertaken: Choose an item.

Reason for exception: State reason for exception to full circulation or state N/A

Dates circulated: Provide dates circulated

Directorate	Comment	Response
CMTEDD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
JACS	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
HD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
CHS	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
EDU	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
TCCS	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
CSD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
EPSD	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
MPC	Choose an item. [Provide comments.]	[Drafting directorate to provide response]
Statutory Office Holder	Choose an item. [Provide comments.]	[Drafting directorate to provide response]

ATTACHMENT B

OPEN ACCESS ASSESSMENT: CABINET DECISION AND WELLBEING IMPACT ASSESSMENT SUMMARY

The Chief Minister must proactively release the information described in section 23 of the *Freedom of Information Act 2016* (the FOI Act) unless the information is contrary to the public interest in accordance with sections 16 and 17, and schedules 1 and 2 of the FOI Act. Please refer to the Cabinet Sharepoint Site for further guidance on what is within the scope of Open Access requirements.

If you believe that release of this information is within the scope of Open Access requirements and would be contrary to the public interest, please complete Part B.

PART A: Release proposed

Number and title of decision: **21/352 West Belconnen (Ginninderry) Stormwater Harvesting Project**

Proposed summary of the decision for public release
Cabinet agreed to the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development.

Proposed summary of the Wellbeing Impact Assessment for public release
The proposal will have a positive impact on the Ginninderry development open spaces and for residents by irrigating key areas throughout the development will encourage more people to purchase land at Ginninderry but also create areas for residents to enjoy outdoor recreation in well maintain parks and ovals – anecdotally improving physical and mental wellbeing.

Attachments for release
Click here to enter text.

Summary of the decision	**Release through the Open Access website?**	**Release by Directorate?**
Summary of the decision	Yes	
Attachment A Table of final agency comments		
Attachment B Open Access Assessment – Decision Summary		
Attachment C Wellbeing Impact Assessment	No	
Attachment D Stormwater Management Options	No	No
Attachment E TCCS Priority Irrigation Areas	No	Yes
Attachment F Modelling Results	No	No
Attachment G Regulatory Impacts	No	Yes
Attachment H Ginninderry Stormwater Harvesting Facility Program	No	No

ATTACHMENT B

OPEN ACCESS ASSESSMENT: CABINET DECISION AND WELLBEING IMPACT ASSESSMENT SUMMARY

The Chief Minister must proactively release the information described in section 23 of the *Freedom of Information Act 2016* (the FOI Act) unless the information is contrary to the public interest in accordance with sections 16 and 17, and schedules 1 and 2 of the FOI Act. Please refer to the Cabinet Sharepoint Site for further guidance on what is within the scope of Open Access requirements.

If you believe that release of this information is within the scope of Open Access requirements and would be contrary to the public interest, please complete Part B.

PART A: Release proposed

Number and title of decision: **21/352 West Belconnen (Ginninderry) Stormwater Harvesting Project**

Proposed summary of the decision for public release
Cabinet agreed to the establishment of a utility to manage and operate stormwater harvesting for the Ginninderry development.

Proposed summary of the Wellbeing Impact Assessment for public release
The proposal will have a positive impact on the Ginninderry development open spaces and for residents by irrigating key areas throughout the development will encourage more people to purchase land at Ginninderry but also create areas for residents to enjoy outdoor recreation in well maintain parks and ovals – anecdotally improving physical and mental wellbeing.

Attachments for release
Click here to enter text.

Summary of the decision	**Release through the Open Access website?**	**Release by Directorate?**
Summary of the decision	Yes	
Attachment A Table of final agency comments		
Attachment B Open Access Assessment – Decision Summary		
Attachment C Wellbeing Impact Assessment	No	
Attachment D Stormwater Management Options	No	No
Attachment E TCCS Priority Irrigation Areas	No	Yes
Attachment F Modelling Results	No	No
Attachment G Regulatory Impacts	No	Yes
Attachment H Ginninderry Stormwater Harvesting Facility Program	No	No

WELLBEING IMPACT ASSESSMENT

Proposal Name: Ginninderry (West Belconnen) Joint Venture – Stormwater Harvesting Project **SLA** **Wellbeing Impact 1**

Purpose of proposal

This proposal seeks agreement to establish a utility to manage and operate stormwater harvesting for the Ginninderry development.

Impact description

We anticipate that the proposal will have the following wellbeing impacts across the environment and climate and access and connectivity wellbeing domains:

- Major impact on residents on Ginninderry development suburbs
- Major impact on Ginninderry recreation and open space areas
- Minor impact on local flora and fauna through the on-going irrigation and maintenance will create passages through the landscape for travel and nesting opportunities.
- Minor impact to ACT community through increase in irrigation operation and maintenance costs for TCCS
- Minor impact to ACT community through potential revenue collected by the resale of stormwater

The proposal will have a positive impact on the Ginninderry development open spaces and for residents by irrigating key areas throughout the development will encourage more people to purchase land at Ginninderry but also create areas for residents to enjoy outdoor recreation in well maintain parks and ovals – anecdotally improving physical and mental wellbeing.

There will be both some positive and negative impacts to the ACT budget through the increased irrigation by way of increased maintenance (mowing etc) but also the opportunity to sell excess stormwater to local businesses like the golf course and create an additional revenue stream.

Who is affected?

Residents of the Ginninderry Development area – Strathnairn, Macnamara and new yet to be named suburbs in the ACT and NSW. This will likely impact the 30,000 plus residents of these suburbs as well as other Canberrans that visit once the development has been complete Impacts to the eight specific groups identified under the ACT Government's Wellbeing Framework

- Aboriginal and Torres Strain Islanders Peoples – nil impact
- Carers – nil impact
- Children and Young People – nil direct impacts, however it should be noted that the creation and maintenance of green and water recreational areas increases wellbeing and improves physical and mental health. Further the reuse of stormwater is a sustainable approach to water utilisation and will benefit future generations.
- Culturally and Linguistically Diverse People – nil direct impacts however it should be noted that land purchases to date have been dominated by people from the Asian sub-continent. This has created a tremendously diverse culture within the Strathnairn. The Ginninderry JV expect this cultural diversity to continue throughout the development.
- LGBTIQ+ People – nil impact
- Older Canberrans – nil direct impacts, however it should be noted that the creation and maintenance of green and water recreational areas increase wellbeing and improves physical and mental health.
- People with a disability – nil impact
- Across gender People – nil impact

Wellbeing domain

Environment and climate

Timeframe

Between one and five years

The development of the first few stormwater collection ponds has already been completed. It is expected that stormwater irrigation could be operational by 2023 with the first stage of Macnamara.

Evidence base and data

What do we know now?

Rainfall data has been modelling using historical data from the Bureau of Meteorology, this data has also been modelled conservatively to demonstrate the most likely outcomes in terms of stormwater that is available for reuse. The modelling work was completed by WSUD experts.

Irrigation costs to the ACT Government have been obtained from Transport Canberra and City Services (TCCS) and based on actual data from other irrigation projects from around Canberra.

What do we need to know?

Rainfall and the amount of stormwater required for irrigation is still based on modelling of past events. The impact of rainfall will be reviewed regularly through the first five years of operation to ensure that the stormwater reuse initiative is providing a net positive impact to the ACT community.

WELLBEING IMPACT ASSESSMENT

Accountability and evaluation – how will we know this proposal has been successful?

This proposal will be evaluated on three grounds:

- Additional cost to ACT Government to irrigate versus the additional revenue received from the sale of excess stormwater
- Ability of the storage ponds and stormwater reuse to minimise stormwater run off days into the Conservation Corridor, thus not impacting the Ginninderry JV EPBC Act conditional approval.
- Ability of the Ginninderry JV to maintain their six star green star communities rating. This has been noted by numerous potential and actual land purchasers at Ginninderry as being a key reason for their purchase. They want to live in a development that has a high focus on sustainability.

The Ginninderry JV propose to build the Ginninderry Stormwater reuse utility and once complete handing it over for Government operation.

Key relationships

Key stakeholders have been engaged to provide input on the development of this proposal from various areas of Government as well as research and analysis commissioned from Water Sensitive Urban Design experts.

Government

Engagement has taken place and continues with representatives from ACT Treasury, Environment, Planning and Sustainable Development Directorate through the Chief Engineer and TCCS as the operators of the ACT's stormwater network.

Private Sector

The Ginninderry JV and SLA have engaged expert advice from leading Water Sensitive Urban Design experts in the modelling and development of options for the reuse of stormwater within the Ginninderry development area.

ATTACHMENT D

STORMWATER MANAGEMENT OPTIONS

Stormwater Management Options	Feasibility	Commentary
Utility	Yes	• Regulated utility to manage and reticulation infrastructure and associated use of stormwater (via Ministerial exemption from holding a utilities licence) • Series of different models
By-Pass Pipeline	No	• Process by which stormwater is piped further downstream into order to minimise local environmental impacts • Issues with constructability and cost.
Aquifer Recharge	No	• Process by which excess stormwater is injected back into existing underground aquifers • Limited capability to injecting, storing and extracting the necessary volumes of recycled water to justify
Additional Storage	No	• Storage of urban excess in lieu of additional irrigation to priority 2 & 3 areas. • At an estimated additional cost of $7.5-10.3 million not commercially viable. • Also several technical challenges given the storage ponds and wetlands in Strathnairn have already been constructed and if not reused the stored water would also need to be safely discharged in a way to maintain protection of the Murrumbidgee River Corridor.

OPTION 1: TCCS MANAGED UTILITY

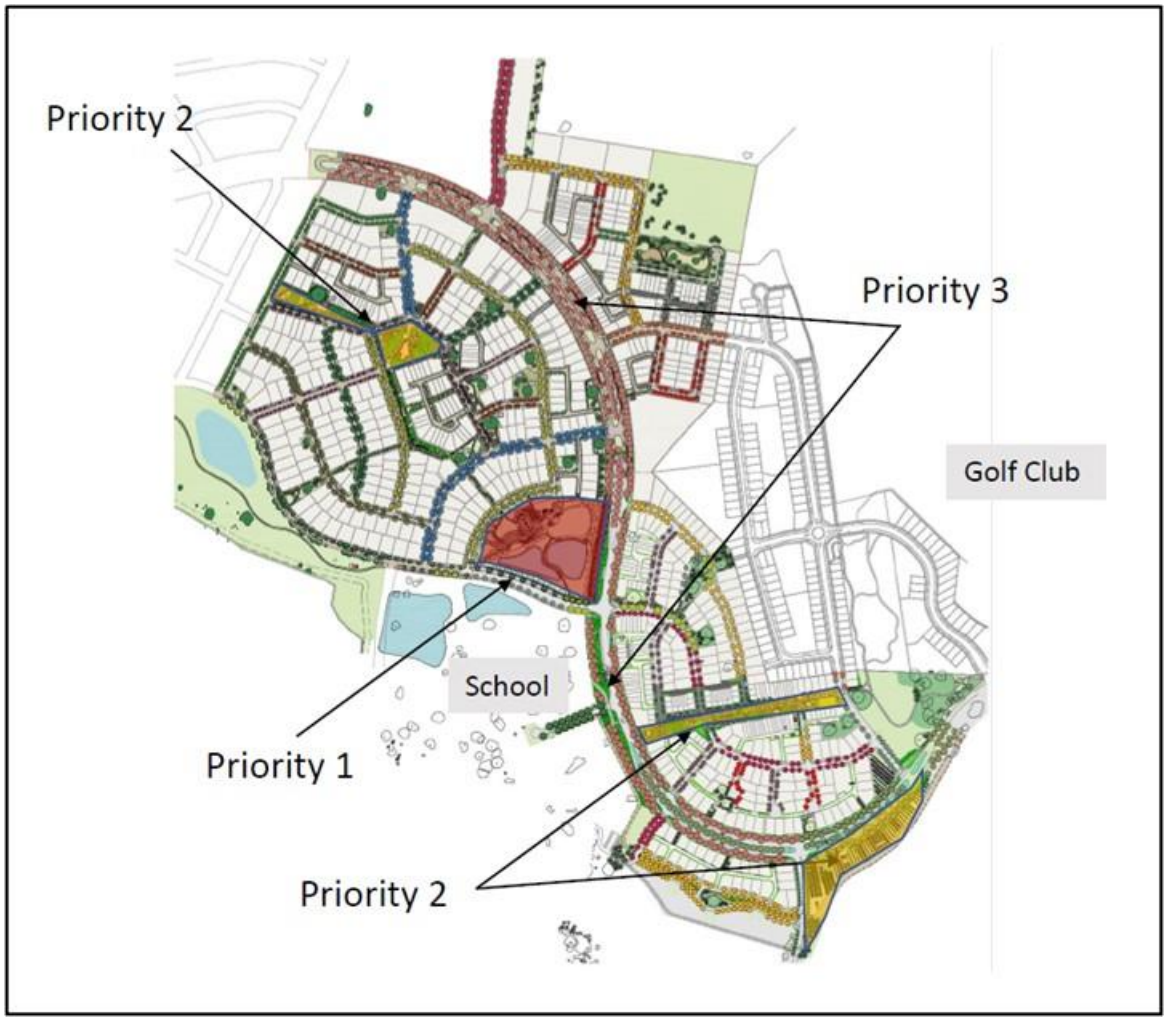
Strengths • TCCS already own, operate and maintain the ACT's Stormwater network	**Opportunities** • Replication - in other SLA / other developments • Revenue - there revenue creation opportunities with local golf course and future businesses and schools • Innovation - stormwater reuse is world leading WSUD • Proof of concept - for future land development along West Edge
Weaknesses • Inequality – potential for Strathnairn to be seen as a suburb with a higher level of service than other suburbs • Management costs – TCCS doesn't have funding to manage an initiative like this. An annual appropriation from Treasury would be required at some point in the future	**Threats** • TCCS is not funded adequately to operate and maintain the harvesting network compliantly • Infrastructure constructed is unable to meet compliancy requirements • Drought - lack of rain impacts commercial viability of utility

OPTION 2: GJV MANAGED WATER UTILITY (FOR FIVE YEARS)

Strengths • Cost share with a private developer • Five-year proof of concept prior to handover • Lessons learnt and operations streamlined prior to handover • Handover period to be organised	**Opportunities** • Replication - in other SLA / other developments • Revenue - revenue creation opportunities with local golf course and future businesses and schools • Innovation - stormwater reuse is world leading WSUD • Proof of concept - for future land development along West Edge
Weaknesses • Inequality - potential for Strathnairn to be seen as a suburb with a higher level of service than other suburbs • Management costs - TCCS doesn't have funding to manage a initiative like this. An annual appropriation from Treasury would be required at some point in the future depending on option chosen	**Threats** • Drought - lack of rain impacts viability of utility • Floods / Storms - utility will need to be able to manage flood and storm events to not impact residents and local environment • Lack of revenue does not enable adequate operation and maintenance to meet compliancy requirements

ATTACHMENT E

GINNINDERRY ON-SITE IRRIGATION PRIORITY AREAS



ATTACHMENT F

STORMWATER MODELLING RESULTS

Table 1: Pond infrastructure

Pond	Total [kL]			Harvestable [kL]		
#	*Phase 1*	*Phase 2*	*Phase 3*	*Phase 1*	*Phase 2*	*Phase 3*
B5	28,511	28,511	28,511	9,591	9,591	9,591
B8	14,599	14,599	14,599	5,513	5,513	5,513
B46	13,372	13,372	13,372	5,358	5,358	5,358
B10		5,319	5,319		3,479	3,479
B12		3,930	3,930		3,479	3,479
B45			141,885			99,845
Total	56,482	65,730	207,615	20,461	27,419	127,264

Table 2: Phasing of supply by priority

	Neighbourhood [kL]			Golf [kL]	
	Priority 1	*Priority 2*	*Priority 3*	*Potential*	*Deficit*
Phase 1	35,537	51,130	28,580	17,712	-54,788
Phase 2	35,537	51,130	28,580	22,618	-49,882
Phase 3	35,537	51,130	28,580	54,362	-18,138

Table 3: Capital expenditure

Component	Unit	Value	Total
Pumpwell and Collection Pits	$	214,550	
Treatment Room	$	222,400	
Automation	$	100,000	
Irrigation Pumps and Tanks	$	254,050	
Pumpwell and Pumps Install	$	80,000	
Treatment Room	$	50,000	
Treatment Room-Equipment	$	35,000	
Treatment Room-Commissioning and Validation	$	30,000	
Treatment Room-Engineering Plans etc	$	27,000	
Irrigation Pumps-Install	$	15,000	
Installation	$	237,000	
Base Total (Exc GST)	$		1,028,000
Roads and Access	$	50,000	
Rising Mains/Pipes- Budget	$	175,000	
Conduits for electrical	$	30,000	
EXTRAS (Exc GST)	$		255,000
Base + Extras (Exc GST)	$		1,283,000
Contingency	$	128,300	
Base + Extras + Contingency (Exc GST)	**$**		**1,411,300**

Table 4: Operational expenditure

Item	Unit	NPV 7%	Of total
R&M: Reactive	$	171,160	8.6%
UV Spares (Lamps and Wipers)	$	13,313	0.7%
Media Replacement	$	11,369	0.6%
Misc Spares	$	16,853	0.8%
Labour: Planned R&M	$	300,785	15.2%
Power	$	576,165	29.0%
Chemicals	$	55,361	2.8%
UTR Operating	$	198,967	10.0%
Irrigation Opex	$	226,163	11.4%
Labour: Operations	$	414,113	20.9%
Subtotal	**$**	**1,984,250**	

Table 5: Base Model Results (including sale of excess supply to Golf)

These results are based on a price of **$1.76/kL** ($2.08 /kL to consumer including WAC) at which the 20 yr NPV of total revenue is equal to total cost (IRR of 7%). The 20-year median price (after infl.) is $2.10 (ex-WAC).

Financial Metrics	NPV 3% $m	NPV 7% $m	NPV 10% $m	Nominal $m
Project total cost [TC]	**$4.24**	**$3.40**	**$2.99**	**$5.26**
Project Capital Expenditure [CAPEX]	$1.41	$1.41	$1.41	$1.41
Project Operational Expenditure [OPEX]	$2.83	$1.98	$1.58	$3.84
Project total revenue [TR]	**$5.22**	**$3.40**	**$2.56**	**$7.53**
Net Impact: TR-TC	$0.98	$0.00	-$0.43	$2.27
Net Impact: TR-OPEX	$2.39	$1.41	$0.98	$3.68

Investment Metrics	NPV 3% x/%	NPV 7% x/%	NPV 10% x/%	Nominal x/%
Benefit Cost Ratio [BCR]: TC	1.23	1.00	0.86	1.43
BCR: OPEX	1.85	1.71	1.62	1.96
Net benefit to investment ratio [NBIR]: TC	0.70	0.00	-0.31	1.61
NBIR: OPEX	1.70	1.00	0.69	2.61
Internal Rate of Return [IRR]:TC	7.0%	7.0%	7.0%	na
IRR: OPEX	50.8%	50.8%	50.8%	na

Table 6: Base Model Results (excluding sale of excess supply to golf)

These results are based on a price of **$2.33/kL** ($2.64 /kL to consumer including WAC) at which the 20 yr NPV of total revenue is equal to total cost (IRR of 7%). The 20-year median price (after infl.) is $2.98 (ex-WAC).

Financial Metrics	**NPV 3%** **$m**	**NPV 7%** **$m**	**NPV 10%** **$m**	**Nominal** **$m**
Project total cost [TC]	**$4.24**	**$3.40**	**$2.99**	**$5.26**
Project Capital Expenditure [CAPEX]	$1.41	$1.41	$1.41	$1.41
Project Operational Expenditure [OPEX]	$2.83	$1.98	$1.58	$3.84
Project total revenue [TR]	**$5.12**	**$3.40**	**$2.60**	**$7.29**
Net Impact: TR-TC	$0.88	$0.00	-$0.40	$2.03
Net Impact: TR-OPEX	$2.30	$1.41	$1.02	$3.45

Investment Metrics	**NPV 3%** **x/%**	**NPV 7%** **x/%**	**NPV 10%** **x/%**	**Nominal** **x/%**
Benefit Cost Ratio [BCR]: TC	1.21	1.00	0.87	1.39
BCR: OPEX	1.81	1.71	1.64	1.90
Net benefit to investment ratio [NBIR]: TC	0.63	0.00	-0.28	1.44
NBIR: OPEX	1.63	1.00	0.72	2.44
Internal Rate of Return [IRR]:TC	7.0%	7.0%	7.0%	na
IRR: OPEX	67.5%	67.5%	67.5%	na

Table 7: Government Ownership Model Results (excludes sale of excess supply to golf)

These results are based on the implicit price at which the scheme under TCCS ownership meets total costs which is a price of **$1.63/kL** ($1.94 including WAC). Over the 20-year period the median implicit price is $2.08/kL (ex-WAC). To be clear the implicit price is the derived unit price for fulfilling priority 1,2 and 3 demand where the 20 year nominal total cost is the same as the 20 year nominal total implicit revenue (a BCR of 1 and zero discount rate).

Financial Metrics	**NPV 3%** **$m**	**NPV 7%** **$m**	**NPV 10%** **$m**	**Nominal** **$m**
Project total cost [TC]	**$4.24**	**$3.40**	**$2.99**	**$5.26**
Project Capital Expenditure [CAPEX]	$1.41	$1.41	$1.41	$1.41
Project Operational Expenditure [OPEX]	$2.83	$1.98	$1.58	$3.84
Project total revenue [TR]	**$3.68**	**$2.42**	**$1.84**	**$5.27**
Net Impact: TR-TC	-$0.56	-$0.98	-$1.15	$0.01
Net Impact: TR-OPEX	$0.85	$0.43	$0.26	$1.43

Investment Metrics	**NPV 3%** **x/%**	**NPV 7%** **x/%**	**NPV 10%** **x/%**	**Nominal** **x/%**
Benefit Cost Ratio [BCR]: TC	0.87	0.71	0.62	1.00
BCR: OPEX	1.30	1.22	1.17	1.37
Net benefit to investment ratio [NBIR]: TC	-0.40	-0.69	-0.82	0.01
NBIR: OPEX	0.60	0.31	0.18	1.01
Internal Rate of Return [IRR]:TC	0.1%	0.1%	0.1%	na
IRR: OPEX	22.4%	22.4%	22.4%	na

Table 8: Model Results – prices under different scenarios compared to alternatives

	Base price	20 year+ median
Modelled		
Base (incl. Golf)	1.76	2.27
Base (excl. Golf)	2.33	2.98
TCCS—implicit (excl. Golf)	1.63	2.08
Comparative		
ICON marginal potable	4.94	6.32
75% ICON marginal	3.71	4.67
INRN	3.74	4.79

Table 9: Total Operating Costs and Big Cost Drivers

Base FY	R&M: Reactive	Power	Chemicals	UV Spares (Lamps and Wipers)	Media Replacement	Misc Spares	UTR related	Labour: Planned R&M	Labour: Operations	IRRIGATION MAINTENANCE
2020	0	0	0	0	0	0	0	0	0	0
2021	13,443	51,641	4,962	0	0	1,511	20,140	25,375	34,936	20,271
2022	13,638	52,003	4,997	0	0	1,521	17,746	25,756	35,460	20,413
2023	15,879	52,367	5,032	4,085	0	1,532	17,870	26,142	35,992	20,556
2024	14,038	52,734	5,067	0	0	1,542	17,995	26,534	36,532	20,700
2025	14,243	53,103	5,102	0	0	1,553	18,121	26,932	37,079	20,844
2026	16,536	53,474	5,138	4,171	0	1,564	18,248	27,336	37,636	20,990
2027	14,661	53,849	5,174	0	0	1,575	18,376	27,746	38,200	21,137
2028	14,874	54,226	5,210	0	0	1,586	18,504	28,162	38,773	21,285
2029	17,221	54,605	5,247	4,259	0	1,597	18,634	28,585	39,355	21,434
2030	22,549	54,987	5,283	0	14,475	1,608	18,764	29,014	39,945	21,584
2031	15,534	55,372	5,320	0	0	1,620	18,896	29,449	40,544	21,735
2032	17,935	55,760	5,358	4,349	0	1,631	19,028	29,890	41,152	21,888
2033	15,991	56,150	5,395	0	0	1,642	19,161	30,339	41,770	22,041
2034	16,224	56,543	5,433	0	0	1,654	19,295	30,794	42,396	22,195
2035	18,681	56,939	5,471	4,441	0	1,665	19,430	31,256	43,032	22,350
2036	16,701	57,338	5,509	0	0	1,677	19,566	31,725	43,678	22,507
2037	16,945	57,739	5,548	0	0	1,689	19,703	32,201	44,333	22,664
2038	19,460	58,143	5,587	4,535	0	1,701	19,841	32,684	44,998	22,823
2039	17,443	58,550	5,626	0	0	1,713	19,980	33,174	45,673	22,983
2040	25,459	58,960	5,665	0	15,521	1,725	20,120	33,671	46,358	23,144
	171,160	576,165	55,361	13,313	11,369	16,853	198,967	300,785	414,113	226,163
	337,453	1,104,485	106,125	25,840	29,996	32,306	379,420	586,763	807,842	433,545

ATTACHMENT G

REGULATORY IMPACTS

Ginninderry Regulatory Overview

The key regulatory steps for the Ginninderry stormwater project include:

1) Ministerial exemption which grants the utility an exemption from holding a licence in accordance with Section 22 of the *Utilities Act 2000*;
2) Design and Construct (D&C) Operating Certificate in accordance with Section 43 of the *Utilities (Technical Regulation) Act 2014*; and
3) Provision of Service (PoS) Operating Certificate in accordance with Section 43 of the *Utilities (Technical Regulation) Act 2014*.

The Utility Technical Regulator (UTR) has advised that ministerial and regulatory approval processes cannot commence until a Cabinet decision is made. At the Ginninderry JV request, UTR has provided a rough timeframe on the regulatory approvals, based off other utility submissions, subsequent to the Cabinet decision.

- Ministerial exemption (This timeframe is dependent on the Cabinet process)
    - Utility applies to Minister for Water, Energy and Emissions Reduction for an exemption from holding a licence.
    - Minister grants / denies exemption request (this includes preparing the exemption instrument).
- Design & Construct Operating Certificate (8-24 weeks)
    - Utility submits a Design and Construct Operating Certificate application, which includes a draft Regulatory Plan. (2-8 weeks)
    - UTR reviews draft Regulatory Plan and provides feedback. This includes engagement with Health Protection Services (HPS) regarding the management of water quality considerations. (2 weeks)
    - Utility resubmits Regulatory Plan for approval (if UTR feedback isn't appropriately addressed, UTR will request another Regulatory Plan be submitted). (2-8 weeks)
    - UTR approves utility's regulatory plan and grants utility with Design and Construct Operating Certificate. (2-6 weeks)
- Provision of Service Operating Certificate (8-24 weeks)
    - Utility submits a Provision of Service Operating Certificate application, which includes a draft Regulatory Plan. (2-8 weeks)
    - UTR reviews Regulatory Plan and provides feedback, including liaison with HPS. (2 weeks)

- Utility resubmits Regulatory Plan for approval (if UTR feedback isn't appropriately addressed, UTR will request another Regulatory Plan to be submitted). (2-8 weeks)
- UTR approves utility's Regulatory Plan and grants utility with Provision of Service Operating Certificate. (2-6 weeks)

- Cost Recovery
  - Cost recovery for unlicensed regulated utilities is undertaken in accordance with the *Utilities (Technical Regulation) Operating Certificate Fees Determination 2019*.
  - Cost recovery will commence once an application is received for an Operating Certificate and continue during construction and into the operational phase of the system.

Overview of Utility Regulation & Governance Arrangements

Regulated utility services must be designed, constructed, maintained and operated to meet the minimum safety, reliability and functional requirements of that installation. The *Utilities Act 2000* provides a regulatory framework for electricity, gas, water and sewerage utility services.

Technical regulation is provided by the Technical Regulator under the *Utilities (Technical Regulation) Act 2014*. Technical regulation is concerned with the operation of utility services and the protection and maintenance of licensed and unlicensed regulated utilities. The Independent Competition and Regulatory Commission (ICRC) is the economic regulator responsible for licensing utilities in the ACT. Unlicensed regulated utilities (see below under scope), and utilities subject to licensing provided with a Ministerial exemption from holding a licence, are required to obtain an operating certificate from the Technical Regulator.

The Director-General of the EPSDD is the Technical Regulator of utility services in the ACT, reporting to the Minister for Water, Energy and Emissions Reduction. The role of the Technical Regulator is to provide safe, reliable and efficient delivery of gas, electricity and water services to the ACT community. The UTR team within Access Canberra supports the Technical Regulator in the administration of the *Utilities (Technical Regulation) Act 2014* and provides advice regarding elements of the *Utilities Act 2000.*

Policy advice in relation to matters such as exemptions is provided by the relevant policy area in EPSDD, in this case the Water Policy Team.

Scope of Technical Regulation

- Licensed Utilities (ICRC and UTR)
  - Licensed electricity and gas transmission and distribution (TransGrid, EAPL ltd (APA Group), Evoenergy
  - Licensed water and sewerage, including drinking water supply dams (Icon Water)
- Unlicensed Utilities (UTR)
  - Exempted utilities; subject to licensing but provided with a Ministerial exemption from holding a licence from the ICRC but requiring an operating certificate from

the Technical Regulator (QPRC Sewage Treatment Plant, TCCS Inner-North Reticulation Network, Essential Energy distribution network)

- Unlicensed regulated utilities (light rail; TCCS & QPRC dams; solar farms; large batteries etc.)

Water Resources Act 2007

Under the *Water Resources Act 2007* the management and use of Territory water resources must consider the physical, economic and social well-being of the people of Canberra whilst protecting the ecosystems that depend on those resources. They must also protect aquatic ecosystems from damage and ensure water resources are able to meet the future generational needs.

Considerations must also be given to:

- environmental flow and the impact that any initiative will have on environmental flows.
- water access entitlements; and
- water license requirements.

Licence Exemption (Minister for Water, Energy and Emissions Reduction)

An unregulated utility can be granted a Ministerial exemption from holding a licence in accordance with Section 22 of the *Utilities Act 2000*. A licence exemption relates to the requirement for a utility to hold a licence from the ICRC under the *Utilities Act 2000*. The exemption can be conditioned, to provide further requirements applied to the utility. A utility provided with a licence exemption requires an operating certificate from the Technical Regulator.

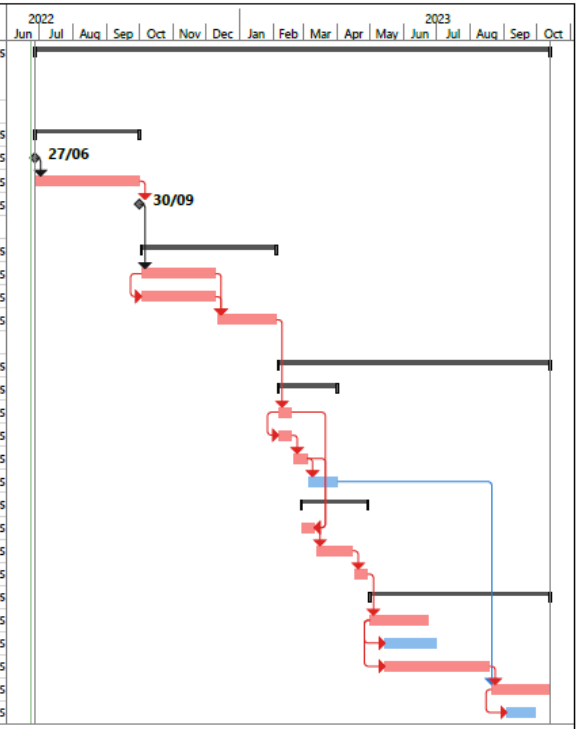
Operating Certificates

The operating certificate is issued following submission of a regulatory plan by an unlicensed regulated utility or exempted utility. An unlicensed regulated utility is required to apply for an operating certificate to the Technical Regulator in accordance with Section 43 of *the Utilities (Technical Regulation) Act 2014.* The operating certificate process allows UTR to develop regulatory controls for the utility in response to the design, construction methodology and operational processes considered in the regulatory plan.

UTR typically issues two operating certificates; a design and construction operating certificate prior to commencement of construction that includes commissioning of the system, and a provision of service operating certificate for an operational system.

Ginninderry Stormwater Harvesting Facility Program ATTACHMENT H

ID	WBS	Task Name	Duration	Start	Finish	% Complete	Predecessors	Successors	Total Slack
1	1	**SWH Delivery - Ginninderry**	66 wks	Mon 27/06/22	Fri 13/10/23	0%			0 wks
2									
3	1.1	**Business Case Phase**	14 wks	Mon 27/06/22	Fri 30/09/22	0%			0 wks
4	1.1.1	Exposure Draft Circulation	0 wks	Mon 27/06/22	Mon 27/06/22	0%		5	0 wks
5	1.1.2	Territory Review	14 wks	Mon 27/06/22	Fri 30/09/22	0%	4	6	0 wks
6	1.1.3	Territory Approval	0 wks	Fri 30/09/22	Fri 30/09/22	0%	5	9	0 wks
7									
8	1.2	**Utility Establishment Phase**	16 wks	Mon 3/10/22	Fri 3/02/23	0%			0 wks
9	1.2.1	Ministerial exemption	10 wks	Mon 3/10/22	Fri 9/12/22	0%	6	10SS,11	0 wks
10	1.2.2	Operating Certificate - D&C	10 wks	Mon 3/10/22	Fri 9/12/22	0%	9SS	11	0 wks
11	1.2.3	Service Operating Certificate	6 wks	Mon 12/12/22	Fri 3/02/23	0%	9,10	15	0 wks
12									
13	1.3	**Delivery Phase**	36 wks	Mon 6/02/23	Fri 13/10/23	0%			0 wks
14	1.3.1	**Design & approvals**	8 wks	Mon 6/02/23	Fri 31/03/23	0%			0 wks
15	1.3.1.1	Specification & checklists	2 wks	Mon 6/02/23	Fri 17/02/23	0%	11	20FF+1 wk,16	0 wks
16	1.3.1.2	Water Quality monitoring prograr	2 wks	Mon 6/02/23	Fri 17/02/23	0%	15SS	17	0 wks
17	1.3.1.3	Water Inf Operating Plan	2 wks	Mon 20/02/23	Fri 3/03/23	0%	16	20FF+1 wk,18	0 wks
18	1.3.1.4	Operational doc approval	4 wks	Mon 6/03/23	Fri 31/03/23	0%	17	27	20 wks
19	1.3.2	**Procurement Phase**	9 wks	Mon 27/02/23	Fri 28/04/23	0%			0 wks
20	1.3.2.1	Tender package prep	2 wks	Mon 27/02/23	Fri 10/03/23	0%	17FF+1 wk,121		0 wks
21	1.3.2.2	Tendering	5 wks	Mon 13/03/23	Fri 14/04/23	0%	20	22	0 wks
22	1.3.2.3	Award	2 wks	Mon 17/04/23	Fri 28/04/23	0%	21	24	0 wks
23	1.3.3	**Construction**	24 wks	Mon 1/05/23	Fri 13/10/23	0%			0 wks
24	1.3.3.1	Detailed design elements	8 wks	Mon 1/05/23	Fri 23/06/23	0%	22	25SS+2 wks,26	0 wks
25	1.3.3.2	Procurement	7 wks	Mon 15/05/23	Fri 30/06/23	0%	24SS+2 wks		15 wks
26	1.3.3.3	Construction & Commissioning	14 wks	Mon 15/05/23	Fri 18/08/23	0%	24SS+2 wks	27	0 wks
27	1.3.3.4	Verification	8 wks	Mon 21/08/23	Fri 13/10/23	0%	26,18	28SS+2 wks	0 wks
28	1.3.3.5	Handover	4 wks	Mon 4/09/23	Fri 29/09/23	0%	27SS+2 wks		2 wks



Indicative Program

Task | Inactive Task | Manual Summary Rollup | External Milestone | Baseline Milestone
Split | Inactive Milestone | Manual Summary | Deadline | Baseline Summary
Milestone | Inactive Summary | Start-only | Critical | Progress
Summary | Manual Task | Finish-only | Critical Split | Manual Progress
Project Summary | Duration-only | External Tasks | Baseline | Slippage

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