

SITE ASSESSMENT TECHNICAL NOTE

**SY0103 Unwin Street
New Odour Control Unit
Project No. 20033669**

Revision History

Document Revision	Revision Date	Prepared By	Reviewed By
0	08/04/2019	████	████
1	4/9/2019	████	████
2	2/10/2019	████	████

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Abbreviations

BC	Business Case
CHAIR	Construction Hazard Assessment Implication Review
CPDMS	Capital Project Delivery Management Systems
DC	Delivery Contractor
DTC	Deemed to Comply
FIFMP	Flow Isolation Flow Management Plan
FMECA	Failure Mode, Effects and Criticality Analysis
HAZOP	Hazard and Operability Study
HV	High Voltage
I/O	Inputs/Outputs
IPT	Integrated Project Team
ITP	Inspection and Test Plan
LOTO	Lock Out Tag Out
LV	Low Voltage
O&M	Operation and Maintenance
OCU	Odour Control Unit
OH&S	Occupational Health and Safety
P&ID	Process and Instrumentation Diagram
PFD	Process Functional Description
REF	Review of Environmental Factors
SW	Sydney Water
SWL	Safe Working Load
WPS	Water Pumping Station

Table of Contents

1	Summary Statement	4
1.1	Recommendations	4
1.1.1	Preferred Option(s)	4
2	Background Information	5
3	Objectives of the Project	7
3.1	Overall Objectives	7
3.2	Technical Note Objectives	7
3.3	Exclusions, Assumptions & Limitations	7
4	Site Assessment	10
4.1	Technical Requirements	10
4.2	Site Comparison	11
4.2.1	Existing Site Background Information	11
4.2.2	Alternative Site Background Information	11
4.2.3	Possible North East Site	12
4.2.4	Site Options Comparison	14
4.2.5	Discussion Points	15
4.2.6	Recommendation	19
5	References	20
6	Attachment Index	21

Figures

Figure 1:	Aerial view of proposed site at Unwin Street	5
Figure 2:	Parcel of land potentially available for the proposed OCU	6
Figure 3:	Proposed OCU arrangement on the original site	11
Figure 4:	Possible OCU arrangement on the alternative site	12
Figure 5:	Northeast site	13
Figure 6:	Hydra information	13

Tables

Table 1:	Options Summary	4
Table 2:	Technical Parameters	10
Table 3:	Option Comparison OCU Sites	14
Table 4:	Discussion Points Associated with the OCU Sites	15
Table 5:	██████████	17
Table 6:	██████████	18

1 Summary Statement

1.1 Recommendations

Based on the preliminary analysis done in this high-level site assessment and MCA assessment, the recommendation for implementation going forward to the Revised Concept Design phase is;

- Installation of the OCU on the original Sydney Water owned site adjacent to the Wolli Creek merging chamber.

1.1.1 Preferred Option(s)

Table 1 summarises the Options considered, and indicates the recommended/ preferred option.

Table 1: Options Summary

Summary of Options Considered		Preferred Option
A	Installation of OCU at Original Site	✓
B	Installation of OCU at Alternative Site	✗

2 Background Information

Corrosion and odour issues in Sydney Water systems have been addressed in a reactive manner to date and this has resulted in high cost asset repair. To address these issues, Sydney Water developed integrated Corrosion and Odour Management Strategies for all 24 wastewater systems and treatment plants using hydraulic/ventilation and sulphide models and a Cost Benefit Impact tool to establish system based solutions.

Corrosion of assets due to ineffective ventilation currently costs Sydney Water about \$■ m a year and without intervention this is expected to rise to about \$■ m by 2031. The proposed work will more effectively remove hydrogen sulphide generated in the network and, thereby reduce corrosion rates of concrete structures and defer capital renewals. An added benefit will be the reduction of odour impact on customers.

The proposed OCU site at Unwin Street, Tempe (Figure 1) was chosen as the preferred location for the new OCU after the completion of a two-year study using multi criteria assessment with Sydney Water stakeholders. The assessment included parameters such as land ownership, environmental impacts and the ability of the H₂S removal to minimise odour issues to the maximum number of customers along Western Branch Submain.

The site for the OCU on the northern side of Wollie Creek, adjacent to the Wollie Creek merging chamber structure, is constrained due to the rocky nature of the area, access issues, including public access expectations, contamination and the size of the OCU to be installed. The concept design developed (Attachment 2) addressed the issue of minimising the amount of rock cut, minimising the amount of contaminated material to be removed and maintenance of public access through the site.

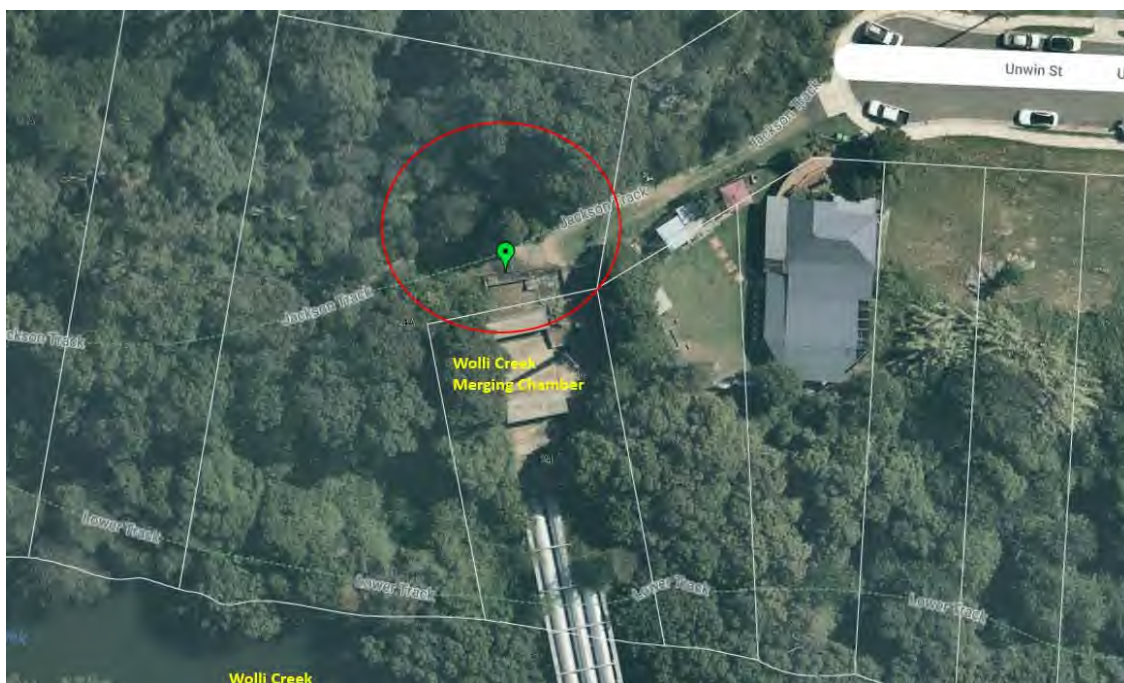


Figure 1: Aerial view of proposed site at Unwin Street

Following development of the concept design, an alternative location was suggested, due to the possibility of a land swap deal with the Department of Planning, who own the parcel of land adjacent to the Sydney Water site (Figure 2) (██████████, personal communication February 2019).



Figure 2: Parcel of land potentially available for the proposed OCU

Additional desktop investigations were done to perform a high level evaluation of the proposed alternative site to determine if it offered any advantages over the original site.

3 Objectives of the Project

3.1 Overall Objectives

The problem statement, as defined in the SWC Business Case, is summarised below:

ID	Issue/Location	Concept Satisfies Need
1	The purpose of this design is to provide a new activated carbon odour control unit (OCU) (SY0103) to remove H ₂ S from the sewer network and treat odour before discharge.	✓
2	Decommissioning of two existing OCUs (SY0042 & SY0043), which are at the end of their useful life. These units have dangerous/restricted maintenance access and operational issues, resulting in odour discharge and customer complaints.	✓

Functional/Performance (Acceptance) Criteria

- 1 Reliable and cost effective installation of a 6m³/s OCU, achieving the required reduction in H₂S concentrations and allowing ready access for maintenance.

3.2 Technical Note Objectives

In order to develop the final scope of work for the project this Technical Note has been developed. The objective of this Technical Note is:

Technical Note Objectives

- 1 To present a high level multi criteria analysis (MCA) of the proposed alternative site in comparison to the original site for the placement of the proposed OCU.

3.3 Exclusions, Assumptions & Limitations

The exclusions, limitations and constraints associated with this Technical Note are documented below:

Exclusions

- 1 No geotechnical, survey, odour modelling or noise modelling investigation work has been undertaken on the alternative site during the high-level options assessment.

Assumptions

- 1 It has been assumed that the existing structures (sheds etc. that have encroached on the proposed land) will be removed by the landowner responsible for them.
- 2 Only minor changes are required to the electrical design for the alternative site location.

- 3 The arrangement of the OCU for the alternative site will be similar to the original site arrangement.
- 4 Given the absence of geotechnical information on the alternative site, assumptions have been made in the estimation of work to be done on this site (see below).

Limitations

- 1 Existing ground conditions for the alternative site have not been assessed by a geotechnical engineer.
- 2 Land ownership related issues (related to the land swap arrangement) and council liaison is outside the scope of the design. Any relevant approvals will need to be obtained by the DC or through official SW channels (i.e. Property Management), if required during the delivery of the project.
- 3 This assessment is high level only. The alternative site has been assessed for two options, one with a piers slab (to account for poor ground conditions) and one with a slab on cut and fill (for more favourable ground conditions).

Risks and Site Constraints

- 1 Space constraints on the alternative site will mean the OCU will be very close to the boundary line of the residential property. This will also result in potentially higher impact of noise, odour and traffic movements on the residential property during construction, and ongoing maintenance of the OCU.
- 2 Presence of contamination and/or shallow rock may impact the costs allowed for the alternative site.
- 3 Relocation of the vent stack may require a taller vent stack and/or additional acoustic mitigation measures that may impact the costs allowed for the alternative site.
- 4 Delays/difficulties with the land swap arrangement.
- 5 Objections to the OCU being located on the alternative site.

Pricing Assumptions

- 1 For the cut and fill slab at the alternative site an area of 15m x 12m x 2m average depth has been assumed.
- 2 An allowance of 20% rock has been made for the cut fill slab option.
- 3 The access road for the alternative site is shorter than the original site (150m² allowed for). Costs for reduced road construction and associated asbestos contaminated material disposal have been prorated (refer Geotechnical Report, Alliance Geotechnical, 12/4/18)
- 4 50% of the cut fill volume of the alternative site (15 x 12 x 2m) is contaminated. Cost of disposal is \$█/tonne.
- 5 Three post type duct supports have been allowed for the alternative site arrangement.

- 6 Costs associated with design, procurement, construction preliminaries, mechanical and electrical installation, instrumentation and control installation and commissioning are assumed to be the same.
-

4 Site Assessment

The following section briefly details the high-level assessment of the two sites considered for the OCU placement.

4.1 Technical Requirements

Table 2: Technical Parameters

NEW OCU		
Parameter	Units	Performance Target
Air Flow Rate	m ³ /s	
H ₂ S Concentration Average	ppm	
H ₂ S Concentration Peak	ppm	
Number of OCU tanks	No.	
Tank Size	Approx.	
OCU type	NA	
OCU arrangement	NA	
Ducting	mm	
Vent Stack	m	

* Capacity advised by Sydney Water (PIBC) and confirmed at kick off meeting (refer minutes)

4.2 Site Comparison

To identify the preferred site for the OCU.

4.2.1 Existing Site Background Information

- The original site for the OCU is located to the north of the existing merging chamber at Wolli Creek. The area is space constrained, has rock present and there is public access through the site (Jackson's Track).
- Geotechnical investigations show that asbestos is present to the east of the proposed location (presumed to be due to the previous demolition and removal of an old fibro shed). The actual footprint area for the OCU is not contaminated with asbestos.
- Rock cut will be required to allow for installation of the OCU.
- A boardwalk will be required to maintain public access through the site.
- The Wolli Creek Preservation Society have raised issues with this location and are actively opposed to it.



Figure 3: Proposed OCU arrangement on the original site

4.2.2 Alternative Site Background Information

- Department of Planning have indicated that they own the parcel of land adjacent to the existing Sydney Water site (refer Figure 2) and they have proposed a land swap with Sydney Water. The details, costs and timing of the land swap arrangement are not known.
- No investigative works (survey, geotechnical, odour, noise) have been done on the alternative site at this time.
- No rock is present above ground at the alternative site.

- The alternative site is located adjacent to a residential property. The owner of this property appears to have encroached onto the land owned by Department of planning and onto the access land owned by Council (Figure 3).



Figure 4: Possible OCU arrangement on the alternative site

4.2.3 Possible North East Site

Another site to the northeast of the merging chamber was raised as a possible location, as it is a vacant block in the vicinity of the merging chamber (refer Figure 5).

The use of this site as a location for the OCU was discounted due to technical and land ownership/use issues.

The ductwork required to reach the site to the northeast would be long (over 80 metres), resulting in the need for a much larger fan and associated acoustic housing. The routing of the required DN1050 duct to this location would be problematic and would most likely require the duct to be buried.

In addition to this, the land appears to have an access restriction over it according to the Hydra information (refer Figure 6).

This site was not considered further.



Figure 5: Northeast site

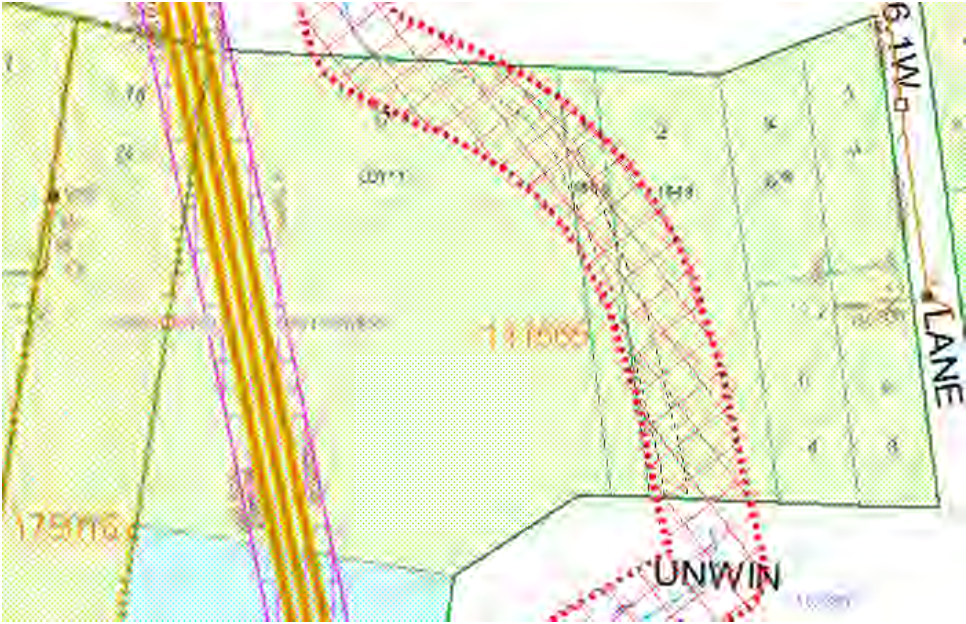


Figure 6: Hydra information

4.2.4 Site Options Comparison

- **Option A:** Original Site
- **Option B:** Alternative Site

Cost estimation information is provided in Attachment 3.

Table 3: Option Comparison OCU Sites

OPTION A – Original Site	OPTION B – Alternative Site
Positives	Positives
Ground conditions are known.	Reduced rock cut (none above ground).
Noise and odour investigations have been completed.	No public access through site.
REF and investigations are complete. No additional costs or delays to project.	Shorter access road (less asbestos removal).
Land owned by Sydney Water. No potential issues/costs with land swap arrangements.	No issues with the Wolli Creek Preservation Society.
No potential issues with proximity of residences	Aboriginal heritage items unlikely to be in the vicinity.
Aboriginal heritage items unlikely to be in the vicinity.	Vegetation removal, where required, is unlikely to have any impact on native flora.
Vegetation removal, where required, is unlikely to have any impact on native flora.	
Less visual impact	
Negatives	Negatives
Additional rock cut required.	Unknown ground conditions – additional geotechnical & contamination investigations will be required.
Public access through site.	Embankment between merging chamber site and alternative site is steep and the stability is unknown.
Boardwalk required to accommodate safe public access.	REF and site investigations will need to be undertaken at considerable cost and will cause delay to the project (at least 6 months)..
Longer access road (more asbestos removal).	Potential issues/costs with land swap arrangements.

Wolli Creek Preservation Society are actively opposed to this location.

Proximity of residential property – visual and noise impacts during construction and ongoing operation and maintenance

More visible to a greater number of properties due to being closer to Unwin Street and having less screening from vegetation and natural features.

\$ [REDACTED]

\$ [REDACTED]*
Piered Slab Foundation
 \$ [REDACTED]*
Slab Foundation

* Does not include additional cost for the production of a new REF.

4.2.5 Discussion Points

The table below summarises some of the discussion points that may affect the selection of the preferred site.

Table 4: Discussion Points Associated with the OCU Sites

Parameter	Option A – Original Site	Option B – Alternative Site
Construction Cost (Low cost considered advantageous. High cost considered disadvantageous)	High Cost. Rock cutting required, difficult access, contamination. Ground conditions known.	High Cost. Unknown ground conditions. Bearing pressures, presence of shallow rock and presence of contaminated material not known. Potential additional cost due to requirement for additional vent stack height and /or noise mitigation measures to achieve acceptable levels. Potential additional cost for improved foundations, disposal of contaminated material, construction delay.
Environment & Community Impact (Low impact considered advantageous. High impact considered disadvantageous)	Medium Impact. Visual and audible impacts on amenity will be less, for both construction and ongoing operation and maintenance due to the OCU being further away from the residential property. Amenity	High Impact. Visual and audible impacts on amenity for the residential property will be high, for both construction and ongoing operation and maintenance due to the OCUs proximity to the

Parameter	Option A – Original Site	Option B – Alternative Site
	<p>impacts on the public will be transient as they pass the OCU.</p> <p>Maintenance of public access through the site using a cantilevered boardwalk may have public liability and ongoing maintenance issues.</p> <p>Presence of Aboriginal heritage items unlikely.</p> <p>Impact on flora species unlikely.</p>	<p>residential property. The OCU will also be visible to other residences in Unwin Street.</p> <p>Ongoing issues and complaints may be an issue (similar to previous issues experienced at SY0042 West Botany Street).</p> <p>Presence of Aboriginal heritage items unlikely.</p> <p>Impact on flora species unlikely.</p>
<p>Construction Impact (Low impact considered advantageous. High impact considered disadvantageous)</p>	<p>Medium Impact. Construction of OCU will be further away from residential property.</p>	<p>High Impact. Construction will be adjacent to residential property.</p>
<p>Operation & Maintenance Requirements (Low requirements considered advantageous. High requirements considered disadvantageous)</p>	<p>Low Impact Replacement of carbon will require crane and truck. These will be further away from residential property.</p>	<p>Medium Impact Replacement of carbon will require crane and truck. These will be adjacent to residential property. Anecdotal information for OCUs close to residential buildings suggests that higher OPEX costs are experienced.</p>
<p>Advantages & Opportunities</p>	<p>Possible gifting of land to the north west of the site as a trade-off to having the OCU on this site.</p> <p>Transfer of boardwalk to NPWS as part of access track. Maintenance of boardwalk to be done by NPWS (similar to previous arrangements).</p>	
<p>Disadvantages & Risks</p>	<p>The Wolli Creek Preservation Society are actively opposed to this location. Anecdotal evidence of campaigns against previous infrastructure constructions has seen delays and cancellation of works.</p>	<p>Delay/extended process in confirmation of land swap, unknown costs, construction delay.</p> <p>Additional foundation requirements may result in construction delay and additional cost.</p>

Table 5: MCA Criteria

Selection Criteria	Weighting %	Description
1. Financial		
2. Constructability		
3. Environment and Community		
4. Operation		
5. Maintenance		

Table 6: MCA Results

	SELECTION CRITERIA	WEIGHTING %	OPTION A	OPTION B
1	FINANCIAL			
2	CONSTRUCTABILITY			
3	ENVIRONMENT & COMMUNITY			
4	OPERATION			
5	MAINTENANCE			
TOTAL				

SWWA Options Ranking Tool (SORT)

REVISION DATE

MCA for OCU Location

CATCHMENT	PROJECT	LOCATION	OPTIONS							
Southern Region	SY0043	To be determined	1	2	3	4	5	6	7	8
			Princes Highway, Arncliffe	Arncliffe St, Turrella	Turrella St., Turrella	Unwin St, Earlwood	Undercliffe Rd, Earlwood	Wanstead Park	West Botany	Eve St

MANDATORY CRITERIA	SCORE	SCORING GUIDE	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N	Y/N
M1 Meets DECC licence targets for odour	Y/N		Y	Y	Y	Y	Y	Y	Y	Y
M2 Reduces risk of system failure	Y/N	Option reduces risk of Sydney Water breaching licence requirements; STS Licence, Others?	Y	Y	Y	Y	Y	Y	Y	Y

RANKING CRITERIA	SCORE	SCORING GUIDE	Score	Score	Score	Score	Score	Score	Score	Score
STAKEHOLDERS			9.00	7.00	9.00	10.00	7.00	7.00	5.00	7.00
General Comments			Development plan on neighbouring property for multi storey development Road access tight Aqueduct on site makes maintenance access difficult - OCU would need to go on aqueduct which is not ideal	Site is adjacent to apartment blocks Aqueduct on site makes maintenance access difficult - OCU would need to go on aqueduct which is not ideal Single lane road on bend no stop signs Low area with poor air dispersal	Apartment blocks, child care close by. Not SW land, Council park. Low area, poor air dispersal.	Wolli Creek Preservation Society opposed to the OCU on this site.	Surrounded by houses. Low area - poor air dispersal.	Houses close by. Would be in a park close to playground and require access road through park. Low area - poor air dispersal.	Not enough land and difficult access. Site to be decommissioned.	Site to be decommissioned.
OPERATION AND MAINTENANCE			14.00	14.00	13.00	17.00	14.00	13.00	11.00	11.00
Comments			Maintain access to existing hatches Available off street parking for use during traverses Heritage issues	Busy road rising main inlet SPS99 and syphonic overflow at this location that need regular inspection and maintenance Heritage issues	Height issues Heritage issues Can access using existing points	Use existing air inlets so no further work required	Heritage issues	Heritage issues	Existing penetration can be used	Existing penetration can be used
ENVIRONMENTAL			23.00	22.00	21.00	21.00	22.00	21.00	25.00	24.00
General Comments			Risk of environmental incident was taken as overflows	Risk of environmental incident was taken as overflows	Risk of environmental incident was taken as overflows	Vegetation and spoil removal from rock cutting. Access from quiet residential street.	Risk of environmental incident was taken as overflows	Risk of environmental incident was taken as overflows	Risk of environmental incident was taken as overflows	Risk of environmental incident was taken as overflows
SAFETY			6.00	6.00	8.00	10.00	8.00	8.00	7.00	10.00
General Comments			Tight access requiring traffic and pedestrian control and cranes	Tight access requiring traffic and pedestrian control and cranes	OCU at ground level	Dedicated access road Maintain access for Jackson's Track	OCU at ground level	OCU at ground level	Tight access requiring traffic and pedestrian control and cranes	
ADDITIONAL BENEFITS			7.00	6.00	7.00	9.00	7.00	8.00	6.00	9.00
General Comments			Plans for neighbouring multi storey development	Next to existing 7 storey apartment building		Reducing existing odours			Reintroducing an odour issue following decommissioning of OCU	Reducing existing odours

CALCULATION TABLE		STAKEHOLDER SCORES	9.00	7.00	9.00	10.00	7.00	7.00	5.00	7.00
	17.6%	STAKEHOLDER PERCENTAGE SCORES	60.00%	46.67%	60.00%	66.67%	46.67%	46.67%	33.33%	46.67%
	23.5%	OPERATION AND MAINTENANCE SCORES	14.00	14.00	13.00	17.00	14.00	13.00	11.00	11.00
		OPERATION AND MAINTENANCE PERCENTAGE SCORES	70.00%	70.00%	65.00%	85.00%	70.00%	65.00%	55.00%	55.00%
	35.3%	ENVIRONMENTAL SCORES	23.00	22.00	21.00	21.00	22.00	21.00	25.00	24.00
		ENVIRONMENTAL PERCENTAGE SCORES	76.67%	73.33%	70.00%	70.00%	73.33%	70.00%	83.33%	80.00%
	11.8%	SAFETY SCORES	6.00	6.00	8.00	10.00	8.00	8.00	7.00	10.00
		SAFETY PERCENTAGE SCORES	60.00%	60.00%	80.00%	100.00%	80.00%	80.00%	70.00%	100.00%
	11.8%	ADDITIONAL BENEFITS SCORES	7.00	6.00	7.00	9.00	7.00	8.00	6.00	9.00
		ADDITIONAL BENEFITS PERCENTAGE SCORES	70.00%	60.00%	70.00%	90.00%	70.00%	80.00%	60.00%	90.00%
Check	100.0%	TOTAL SCORES	59.00	55.00	58.00	67.00	58.00	57.00	54.00	61.00
		TOTAL PERCENTAGE SCORES	69.41%	64.71%	68.24%	78.82%	68.24%	67.06%	63.53%	71.76%

4.2.6 Recommendation

The results from the MCA analysis were close – 2.9 for Option A (Original Site) and 2.26 for Option B (alternative Site).

The risks identified with the original site include:

- The Wolli Creek Preservation Society, who are actively opposed to this location.
- Issues with liability and maintenance of the boardwalk through the site to maintain public access - these may be addressed by a potential agreement with NPWS, whereby Sydney Water construct the asset and hand ownership over to NPWS for liability and maintenance. Similar arrangements have been made previously.

The main risks identified with the alternative site include:

- The location will have significant and enduring impact on the amenity of the adjacent and nearby residential properties. Locating OCUs close to residential properties has historically resulted in complaints and reputational harm. To locate an OCU so close to a residence would also be in direct conflict with Sydney Water's core value of 'customer at the heart'.
- No site investigations have been done at this stage. The results of these investigations may impact the final cost estimate for the project.
- No details are known at this stage of the arrangements for the land swap and the potential timeframes involved.

Based on the high-level MCA assessment detailed herein (Section 4.2.5), the original site (although it has a higher cost) offers:

Less impact on the ongoing amenity of the site, impacts on the community will be transient for people passing the OCU

- Lower construction impact due to the site being further away and less visible to residences
- Lower ongoing operation and maintenance impact due to the site being further away and less visible to residences
- Location better aligns with Sydney Water's core values

Given the assessment and risks associated with the alternative site it is recommended that the original site be utilised for the location of the new OCU.

Sydney Water have confirmed the selection of Option A (original site) location (refer **Attachment 4**).

5 References

File Name	Description
-	E-mail from [REDACTED] regarding land swap possibility 15-2-2019
CBC 6140	PIBC - SY103 Consolidate SY42 & SY43
20033669 SY0103 KO Minutes Updated	Kick Off Meeting Minutes
5658-ER-1-1 Rev A	Geotechnical Report, Alliance Geotechnical, 12/4/18.
	[REDACTED]
20033669 SY0103 OCU CDR Rev 02	Concept Design Report

6 Attachment Index

Please note that in PDF format, Attachments can be accessed by clicking on the paperclip icon on the left hand side of your PDF viewer.

No.	Title	Revision	Format	Comment
1	Consolidated Stakeholder Comments		-	
2	Concept Design Report	2	PDF	
3	P50 Estimations	-	PDF	
4	Site Confirmation e-mail from Sydney Water	-	PDF	

Attachment 1 - Consolidated Stakeholder Comments

ID	Issue	Raised by	Date	Designer Response	Designer	Date	Closed?
1	Issues with OCU next to resident (similar to Botany SY0042). GI raised changes in design with respect to the fan location (to suck air through the carbon bed, rather than pushing air through the bed) will result in clean air being sucked into the unit rather than H ₂ S being pushed out of the unit.	RW, KK	9-4-19	<p>The OCU will be designed to current SW standards and should be more reliable than the older OCUs currently in the system.</p> <p>Communications will need to be undertaken with the resident as part of the ongoing design/assessment.</p> <p>Original site has been endorsed by Sydney Water as the preferred location for the OCU.</p>	ST AM	TBA	Y
2	<p>Department of Planning has contacted the resident to advise that they are looking to dispose of the land. Property owner has requested 4 weeks to remove sheds etc. They are not aware of what is proposed for the land.</p> <p>Refer Item 15</p>	AM	9-4-19	<p>Department of Planning should be driving the removal of sheds etc from the land. This will aid SW's image for future negotiations with respect to the OCU.</p> <p>Communications will need to be undertaken with the resident as part of the ongoing design/assessment.</p> <p>Original site has been endorsed by Sydney Water as the preferred location for the OCU.</p>	AM	TBA	Y



3	Sheds on site may be asbestos.	RW	9-4-19	<p>It is assumed that the owner will remove/relocate the sheds.</p> <p>Geotechnical investigations will determine if there is any contamination on the site.</p> <p>Original site has been endorsed by Sydney Water as the preferred location for the OCU.</p>	Note ST	TBA	Y
4	Check easement ownership for NE site	RW	9-4-19	The easement appears to be for water supply	RW	9-4-19	Y
5	The land swap with Department of Planning shall be of equal area. Land above existing pipelines, carrier easements and the access road need to be retained. The top of the property (NW corner) can be swapped as this offer the least potential impact to SW operations and maintenance activities.	RW, KK	9-4-19	<p>Details of the land swap will need to be negotiated with the Department of Planning, with input from Operations.</p> <p>Original site has been endorsed by Sydney Water as the preferred location for the OCU.</p>	AM	TBA	Y
6	GI raised the possibility of encroachment on council land to allow additional flexibility/optimisation of the OCU placement.	GI	9-4-19	<p>Any encroachment would need to be discussed and agreed with Council prior to construction.</p> <p>Design shall determine if any encroachment is required or would offer significant advantages to the design as part of the concept design.</p>	AM ST	TBA	Y

Original site has been endorsed by Sydney Water as the preferred location for the OCU.

7	If the alternative site is not feasible, there is the possibility of a land gift to the NP for use of the original site as a 'sweetener' to WCPS.	RW	9-4-19	Feasibility of this approach would need to be investigated and agreed with Sydney Water.	Note	TBA	N
8	Include allowance for the presence of asbestos on the alternative site in the estimates, to allow for 'worst case' scenario.	RW, SP	9-4-19	Allowance to be included in cost estimates.	ST	9-4-19	Y
9	Major concerns with potential resident objections	RW	9-4-19	Communications will need to be undertaken with the resident as part of the ongoing design/assessment. Refer Item 15 Original site has been endorsed by Sydney Water as the preferred location for the OCU.	AM	TBA	Y
10	Above comments to be included in report and report issued to stakeholders for review and comment by the end of the week.	RW	9-4-19	Report and attachments to be issued.	ST	9-4-19	Y
11	Vent shaft visibility /tank visibility may cause residential concerns/objections.	RW, AM	9-4-19	Communications with resident to address these issues.	AM	TBA	Y

Original site has been endorsed by Sydney Water as the preferred location for the OCU.

ASSESSMENT MEETING FOR OCU LOCATION 1-8-19

12	<p>The original location for the OCU is on the existing Sydney Water land.</p> <p>The alternative location is on Department of Planning land, adjacent to an existing residence.</p>	ST	1/8/19	 	-	-	-
13	<p>The primary driver for the project is corrosion and odour in the network system, not odour complaints.</p>	JS	1/8/19	Noted	-	-	-
14	<p>More detail should be put into the Site Assessment Technical Note to clarify this and add more detail to emphasise the importance of protecting the sewers against corrosion.</p>	JS	1/8/19	<p>ST to revise Site Assessment Technical Note to this effect.</p> <p>GI to provide more background information on system.</p>	ST	9/8/19	Y
					GI	9/8/19	Y

15	The owner of the residence adjacent to the Department of planning land does not want the OCU next to their property – they would prefer the original location on existing Sydney Water land.	CM	1/8/19	The closest unit will be about 1 metre away from their boundary. The tanks are about 4 metres high and 4.2 metres in diameter.	-	-	-
16	Wolli Creek preservation society are claiming that the original location is taking into account a single resident and this location will affect the whole community.	CM	1/8/19	The original location will have a transient effect on members of the community that pass the OCU but will have a constant and enduring effect on the resident.	-	-	-
17	Where OCUs are placed close to residents there are more frequent complaints and ongoing issues with customers.	KK	1/8/019	Noted	-	-	-
18	The land adjacent to the residence is owned by Department of Planning. The timing and conditions of the proposed land swap are not known.	CM	1/8/019	If payment for the land is required, this will impact the cost effectiveness of this option. Delays in the land swap may create construction delays and have additional cost impacts.	-	-	-
19	The vent stack and OCU will be more visible to the general public if it is located on the alternative site.	ST, CM	1/8/19	Noted	-	-	-
20	The land over the SWOOS and the existing access to the merging chamber will need to be retained for maintenance.	KK, JS	1/8/019	Noted	-	-	-

21	National Parks did not want to have an alternative access for the Jackson Track passing over the escarpment to the north of the original site.	ST	1/8/19	Noted	-	-	-
22	The cantilevered walkway around the unit (if located on the original site) will need to be maintained. Group Property have recently agreed with the City of Sydney to build a walkway/cycleway over an existing asset whereby Sydney Water undertook the construction but the City of Sydney will own and maintain the walkway/cycleway. Sydney Water do not want the ongoing liability and maintenance of the walkway.	CM KL	1/8/19	Look at the possibility of a similar sharing arrangement with National Parks for the walkway, whereby Sydney Water provide the walkway but it is maintained by National Parks.	CM	16/8/19	N
23	Aboriginal heritage issues have been identified as being in the area. The original location is more likely to impact on any Aboriginal heritage.	ED	1/8/19	REF to be checked to determine status of Aboriginal heritage risk. Additional investigations may be required at detailed design/prior to construction if issues are identified.	AS	9/8/19	N
24	The location of the vent stack will be close to the floor level of the residences to the north of the site, while it will be above the residence adjacent to the Department of Planning land.	KL	1/8/19	The closest residence to the north is about 55 metres away from the proposed vent stack location. Odour modelling has been done using EPA approved modelling software and no odour issues were	-	-	-

highlighted with the dispersion
modelling results.

