Date report was issued by Senversa	Report title	Senversa report reference
3-Apr-24	Waste Classification Letter - Stockpile Assessment - SP018	S19142_023_010_LTR_SP018_Rev0
3-Apr-24	Waste Classification Letter - Stockpile Assessment - SP032	S19142_023_011_Jeffmans_Rev0_
3-May-24	Waste Classification Letter - Stockpile Assessment - SP033	S19142_023_018_Jeffmans_Rev0
15-Apr-24	Waste Classification Letter - Stockpile Assessment - SP035	S19142_023_012_Jeffmans_Rev0
15-Apr-24	Waste Classification Letter - Stockpile Assessment - SP038	S19142_023_015_Jeffmans_Rev0
15-Apr-24	Waste Classification Letter - Stockpile Assessment - SP040	S19142_023_016_Jeffmans_Rev0
6-May-24	Waste Classification Letter - Stockpile Assessment - SP043	S19142_023_019_Jeffmans_Rev0_
7-May-24	Waste Classification Letter - Stockpile Assessment - SP047	S19142_023_021_Jeffmans_Rev0
7-May-24	Waste Classification Letter - Stockpile Assessment - SP048	S19142_023_022_Jeffmans_Rev0
29-May-24	Waste Classification Letter - Stockpile Assessment - SP051	S19142_023_025_Jeffmans_Rev0
28-May-24	Waste Classification Letter - Stockpile Assessment - SP054	S19142_023_026_Jeffmans_Rev0
29-May-24	Waste Classification Letter - Stockpile Assessment - SP055	S19142_023_027_Jeffmans_Rev0
19-Jul-24	Waste Classification Letter - Stockpile Assessment - SP056	S19142_023_033_LTR_Rev0
28-May-24	Waste Classification Letter - Stockpile Assessment - SP052	S19142_023_028_Jeffmans_Rev0
26-Jun-24	Waste Classification Letter - Stockpile Assessment - SP057	S19142_023_028_LET_Rev0
23-Jul-24	Waste Classification Letter - Stockpile Assessment - SP039, SP060 and SP061	S19142_023_019_LET_Rev0
19-Jul-24	Waste Classification Letter - Stockpile Assessment - SP062	S19142_023_035_LTR_Rev0
Treated stockpile assessment reports		
28-Jun-24	Stockpile Assessment TSP004 re-treated	S19142_021_023_LTR_Rev0
22-Jan-24	Stockpile Assessment TSP005	S19142_021_005_LTR_Rev0
12-Jan-24	Stockpile Assessment TSP006	S19142_021_006_LTR_Rev0
14-Dec-23	Stockpile Assessment TSP007	S19142_021_007_LTR_Rev0
28-Jun-24	Stockpile Assessment TSP008 [reportedly includes TSP001, 002 and 003]	S19142_021_026_LTR_Rev0
5-Feb-24	Stockpile Assessment TSP009	S19142_021_010_LTR_Rev0
26-Feb-24	Stockpile Assessment TSP010	S19142_021_012_LTR_Rev0

Date report was issued by Senversa	Report title	Senversa report reference
21-Feb-24	Stockpile Assessment TSP011	S19142_021_013_LTR_Rev0
21-Feb-24	Stockpile Assessment TSP012	S19142_021_015_LTR_Rev0
20-Feb-24	Stockpile Assessment TSP013	S19142_021_016_LTR_Rev0
1-Jul-24	Stockpile Assessment TSP014 (re-treated)	S19142_021_017_LTR_Rev1
22-Feb-24	Stockpile Assessment TSP015	S19142_021_019_LTR_Rev0
28-Jun-24	Stockpile Assessment TSP016	S19142_021_025_LTR_Rev0
16-Jul-24	Stockpile Assessment TSP044	S19142_021_031_LTR_Rev0
Un-treated stockpile reports		
20-Feb-24	Stockpile assessment SP013	S19142_021_009_MEM_Rev0
9-Feb-24	Stockpile assessment SP024	S19142_021_014_LTR_Rev0
20-Feb-24	Stockpile assessment SP025	S19142_021_018_LTR_Rev0
15-Jul-24	Stockpile assessment SP028	S19142_021_032_LTR_Rev0
27-Jun-24	Stockpile assessment SP034	S19142_021_028_LTR_Rev0
9-Jul-24	SP036	S19142_021_034_LTR_Rev0
2-Jul-24	SP041	S19142_021_030_LTR_Rev0
2-Jul-24	Stockpile assessment SP045	S19142_021_032_LTR_Rev0
15-Jul-24	Stockpile assessment SP059	S19142_021_032_LTR_Rev0

2. Auditor commentary

The audit team has reviewed the draft reports listed in Table 1 (to allow project progression) and has prepared commentary within several spreadsheet registers presented in Attachment 1 to Attachment 3. These may be subject to change once the auditor has also reviewed.

3. Concluding remarks

The draft reports listed in Table 1 should be updated based on the auditor commentary presented in Attachment 1 to Attachment 3 and revised documents should be re-submitted for auditor review. Please provide consultant responses to the auditor commentary within the relevant column of the .xls versions of the register (emailed with this IAA). The auditor notes that auditor comments relating to the 'un-treated'

stockpile reports were previously issued to Senversa via email correspondence dated 25 July 2024), those comments are also included in this IAA for completeness.

This letter should be regarded as interim advice to the overall review and should not be considered a Site Audit Statement under the CLM Act, 1997. This interim audit advice letter will subsequently be referred to and provided as an Annex to the final Site Audit Report.

Regards

Jessica Hannaford
Site Auditor Assistant

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Jessica.hannaford@ghd.com

Attachment 1

Auditor comments register: Treated stockpile reports

For all reports: Please screen lab results against revised RBSL's and update conclusions section. Please flag any stockpiles to the auditor where the conclusions have changed based on re-comparison of results to revised RBSLs

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Stockpile Assessment TSP001 re-treated. Rev 0 (Senversa, 28 June 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
	The auditor understands this stockpile was combined with other stockpiles and further assessed with the TSP008 report, as such, it it is considered that this report is now superseded				

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Stockpile Assessment TSP002 re-treated. Rev 0 (Senversa, 28 June 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
	The auditor understands that this stockpile was combined with other stockpiles and further assessed with the TSP008 report, as such, it it is considered that this report is now superseded				

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Stockpile Assessment TSP003 re-treated. Rev 0 (Senversa, 28 June 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
	The auditor understands that this stockpile was combined with other stockpiles and further assessed with the TSP008 report, as such, it it is considered that this report is now superseded				

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Stockpile Assessment TSP004 re-treated. Rev 0 (Senversa, 28 June 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	17-Jul-24		
2	Table 1.1	The stockpile is reportedly 12m wide x 12m long x 2.3m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	17-Jul-24		
3	General	The report would benefit from a short paragraph/diagram (potentially below the intro section) which summarises the overal treatment and sampling process. Just something that provides clarity to the reader about the staging of sampling and remediation and testing, this would help provide more context for the information that follows.	17-Jul-24		
4	Table 2.1	Please provide clarification on the difference between the pre-remediation PID results, the post remediaition PID results and the 'range of PID readings from sub-soil samples' and update report to provide clarity.	17-Jul-24		
5	Table 2.1	It is acknowledged that Senversa has provided a statement on presence of anthropogenic inclusions, however, can Senversa also include statement regarding asbestos observations	17-Jul-24		
6	Section 4/ pg 6	Please update section re: Auditor's endorsement of revised RBSLs (based on Auditor email dated 15 July 2024 re: Modified soil vapour validation approach and RBSLs	17-Jul-24		
7	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	17-Jul-24		
8	Attachment D - Soil Vapour sample integrity	Senversa have stated that samples were received by the lab in a chilled condition - this is noted on the primary sample receipt - but where are sample temperatures recorded? Can you reference the sample temp (reported by lab receipt)	17-Jul-24		
9	Table 2.1	The RVP states that sampling density will generally be consistent with that for stockpiled materials in NSW EPA (2022) guidelines. Please provide a statement clarifying that sampling density is consistent with these guidelines. Although 12 samples were collected and analysed, only 5 were analysed for the broader suite of testing, please provide justification for this.	17-Jul-24		
10	Attachment B - Site Photographs	ASLP results are presented in the site photographs section	17-Jul-24		
11	Attachment C + general	Asbestos analysis was completed but results are not discussed in report or presented in lab summary table	17-Jul-24		
12	Attachment D	Re: use of 2-propanol to assess 'whether sample comprises soil vapour or atmosphere' - just wondering what this testing actually proves in a stockpile scenario? Are there limitations to this method, if so, please note them in the report.	17-Jul-24		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Stockpile Assessment TSP005. Rev 0 (Senversa,22 January 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	18-Jul-24		
2	Table 1.1	Please provide table footnote explaining what 'comprised of previous/combined stockpile ID refers to	18-Jul-24		
3	Attachment C/Table C	Table C? is not labelled - assuming it is ASLP results?	18-Jul-24		
4	Table 1.1	The stockpile is reportedly 15mx15mx2m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	18-Jul-24		
5	General	The report would benefit from a short paragraph/diagram (potentially below the intro section) which summarises the overal treatment and sampling process. Just something that provides clarity to the reader about the staging of sampling and remediation and testing, this would help provide more context for the information that follows.	18-Jul-24		
6	Table 2.1	Please provide clarification on the difference between the pre-remediation PID results, the post remediaition PID results and the 'range of PID readings from sub-soil samples' and update report to provide clarity.	18-Jul-24		
7	Table 2.1	It is acknowledged that Senversa has provided a statement on presence of anthropogenic inclusions, however, can Senversa also include statement regarding asbestos observations	18-Jul-24		
8	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	18-Jul-24		
9	Table 2.1	The RVP states that sampling density will generally be consistent with that for stockpiled materials in NSW EPA (2022) guidelines. Please provide a statement clarifying that sampling density is consistent with these guidelines.	18-Jul-24		
10	Attachment D	Re: use of 2-propanol to assess 'whether sample comprises soil vapour or atmosphere' - just wondering what this testing actually proves in a stockpile scenario? Are there limitations to this method, if so, please note them in the report.	18-Jul-24		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Stockpile Assessment TSP006. Rev 0 (Senversa,12 January 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	18-Jul-24		
2	Table 1.1	Please provide table footnote explaining what 'comprised of previous/combined stockpile ID refers to	18-Jul-24		
3	Table 1.1	The stockpile is reportedly 10mx13mx3.1m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	18-Jul-24		
4	Table 2.1	Please provide justification for anlaysis of VOC and ALSP HVOC only. The RVP states that materials excavated from RA2 will be analysed for heavy metals, TRH, PAH and asbestos (NEPM) + VCH and ASLP VCH.	18-Jul-24		
5	General	The report would benefit from a short paragraph/diagram (potentially below the intro section) which summarises the overal treatment and sampling process. Just something that provides clarity to the reader about the staging of sampling and remediation and testing, this would help provide more context for the information that follows.	18-Jul-24		
6	Table 2.1	Please provide clarification on the difference between the pre-remediation PID results, the post remediaition PID results and the 'range of PID readings from sub-soil samples' and update report to provide clarity.	18-Jul-24		
7	Table 2.1	It is acknowledged that Senversa has provided a statement on presence of anthropogenic inclusions, however, can Senversa also include statement regarding asbestos observations	18-Jul-24		
8	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	18-Jul-24		
9	Table 2.1	The RVP states that sampling density will generally be consistent with that for stockpiled materials in NSW EPA (2022) guidelines. Please provide a statement clarifying that sampling density is consistent with these guidelines.	18-Jul-24		
10	Attachment D	Re: use of 2-propanol to assess 'whether sample comprises soil vapour or atmosphere' - just wondering what this testing actually proves in a stockpile scenario? Are there limitations to this method, if so, please note them in the report.	18-Jul-24		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Stockpile Assessment TSP007. Rev 0 (Senversa,14 December 2023)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	18-Jul-24		
2	Table 1.1	Please provide table footnote explaining what 'comprised of previous/combined stockpile ID refers to	18-Jul-24		
3	Table 1.1	The stockpile is reportedly 12mx10mx2.8m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	18-Jul-24		
4	Table 2.1	Please provide justification for anlaysis of VOC and ALSP HVOC only. The RVP states that materials excavated from RA2 will be analysed for heavy metals, TRH, PAH and asbestos (NEPM) + VCH and ASLP VCH.	18-Jul-24		
5	General	The report would benefit from a short paragraph/diagram (potentially below the intro section) which summarises the overal treatment and sampling process. Just something that provides clarity to the reader about the staging of sampling and remediation and testing, this would help provide more context for the information that follows.	18-Jul-24		
6	Table 2.1	Please provide clarification on the difference between the pre-remediation PID results, the post remediaition PID results and the 'range of PID readings from sub-soil samples' and update report to provide clarity.	18-Jul-24		
7	Table 2.1	It is acknowledged that Senversa has provided a statement on presence of anthropogenic inclusions, however, can Senversa also include statement regarding asbestos observations	18-Jul-24		
8	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	18-Jul-24		
9	Table 2.1	The RVP states that sampling density will generally be consistent with that for stockpiled materials in NSW EPA (2022) guidelines. Please provide a statement clarifying that sampling density is consistent with these guidelines.	18-Jul-24		
10	Attachment D	Please update report with pending interlaboratory dupc	18-Jul-24		
11	Attachment D	Re: use of 2-propanol to assess 'whether sample comprises soil vapour or atmosphere' - just wondering what this testing actually proves in a stockpile scenario? Are there limitations to this method, if so, please note them in the report.	18-Jul-24		

Client: Jeffman Pty Ltd
Project: Stage 1. Waterloo
Report: **Stockpile Assessment TSP008. Rev 0 (Senversa, 28 June 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	18-Jul-24		
2	Table 1.1	The stockpile is reportedly 32mx25mx1.2m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	18-Jul-24		
3	General	The report would benefit from a short paragraph/diagram (potentially below the intro section) which summarises the overal treatment and sampling process. Just something that provides clarity to the reader about the staging of sampling and remediation and testing, this would help provide more context for the information that follows.	18-Jul-24		
4	Table 2.1	Please provide clarification on the difference between the pre-remediation PID results, the post remediaition PID results and the 'range of PID readings from sub-soil samples' and update report to provide clarity.	18-Jul-24		
5	Table 2.1	It is acknowledged that Senversa has provided a statement on presence of anthropogenic inclusions, however, can Senversa also include statement regarding asbestos observations	18-Jul-24		
6	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	18-Jul-24		
7	Table 2.1	The RVP states that sampling density will generally be consistent with that for stockpiled materials in NSW EPA (2022) guidelines. Please provide a statement clarifying that sampling density is consistent with these guidelines.	18-Jul-24		
8	Page 6/Section 4	Please update section re: Auditor's endorsement of revised RBSLs (based on Auditor email dated 15 July 2024 re: Modified soil vapour validation approach and RBSLs	18-Jul-24		
9	Attachment D/Table C	Asbestos results presented as a series of "1"s - please update report	18-Jul-24		
10	Attachment D	Re: use of 2-propanol to assess 'whether sample comprises soil vapour or atmosphere' - just wondering what this testing actually proves in a stockpile scenario? Are there limitations to this method, if so, please note them in the report.	18-Jul-24		

Client: Jeffman Pty Ltd
Project: Stage 1. Waterloo
Report: **Stockpile Assessment TSP009. Rev 0 (Senversa, 05 February 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	18-Jul-24		
2	Table 1.1	The stockpile is reportedly 16mx17mx1.5m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	18-Jul-24		
3	Section 2.0	update error reference	18-Jul-24		
4	General	The report would benefit from a short paragraph/diagram (potentially below the intro section) which summarises the overal treatment and sampling process. Just something that provides clarity to the reader about the staging of sampling and remediation and testing, this would help provide more context for the information that follows.	18-Jul-24		
5	Table 2.1	Please provide justification for anlaysis of VOC and ALSP HVOC only. The RVP states that materials excavated from RA2 will be analysed for heavy metals, TRH, PAH and asbestos (NEPM) + VCH and ASLP VCH.	18-Jul-24		
6	Table 2.1	Please provide clarification on the difference between the pre-remediation PID results, the post remediaition PID results and the 'range of PID readings from sub-soil samples' and update report to provide clarity.	18-Jul-24		
7	Table 2.1	It is acknowledged that Senversa has provided a statement on presence of anthropogenic inclusions, however, can Senversa also include statement regarding asbestos observations	18-Jul-24		
8	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	18-Jul-24		
9	Table 2.1	The RVP states that sampling density will generally be consistent with that for stockpiled materials in NSW EPA (2022) guidelines. Please provide a statement clarifying that sampling density is consistent with these guidelines.	18-Jul-24		
10	Page 6/Section 4	Please update section re: Auditor's endorsement of revised RBSLs (based on Auditor email dated 15 July 2024 re: Modified soil vapour validation approach and RBSLs	18-Jul-24		
11	Attachment D	Re: use of 2-propanol to assess 'whether sample comprises soil vapour or atmosphere' - just wondering what this testing actually proves in a stockpile scenario? Are there limitations to this method, if so, please note them in the report.	18-Jul-24		

Client: Jeffman Pty Ltd
Project: Stage 1. Waterloo
Report: **Stockpile Assessment TSP010. Rev 0 (Senversa, 26 February 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	18-Jul-24		
2	Table 1.1	The stockpile is reportedly 12mx10mx1.9m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	18-Jul-24		
3	General	The report would benefit from a short paragraph/diagram (potentially below the intro section) which summarises the overal treatment and sampling process. Just something that provides clarity to the reader about the staging of sampling and remediation and testing, this would help provide more context for the information that follows.	18-Jul-24		
4	Table 2.1	Please provide justification for anlaysis of VOC and ALSP HVOC only. The RVP states that materials excavated from RA2 will be analysed for heavy metals, TRH, PAH and asbestos (NEPM) + VCH and ASLP VCH.	18-Jul-24		
5	Table 2.1	Please provide clarification on the difference between the pre-remediation PID results, the post remediaition PID results and the 'range of PID readings from sub-soil samples' and update report to provide clarity.	18-Jul-24		
6	Table 2.1	It is acknowledged that Senversa has provided a statement on presence of anthropogenic inclusions, however, can Senversa also include statement regarding asbestos observations	18-Jul-24		
7	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	18-Jul-24		
8	Table 2.1	The RVP states that sampling density will generally be consistent with that for stockpiled materials in NSW EPA (2022) guidelines. Please provide a statement clarifying that sampling density is consistent with these guidelines.	18-Jul-24		
9	Page 6/Section 4	Please update section re: Auditor's endorsement of revised RBSLs (based on Auditor email dated 15 July 2024 re: Modified soil vapour validation approach and RBSLs	18-Jul-24		
10	Attachment D	Re: use of 2-propanol to assess 'whether sample comprises soil vapour or atmosphere' - just wondering what this testing actually proves in a stockpile scenario? Are there limitations to this method, if so, please note them in the report.	18-Jul-24		

Client: Jeffman Pty Ltd
Project: Stage 1. Waterloo
Report: **Stockpile Assessment TSP011. Rev 0 (Senversa, 21 February 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	18-Jul-24		
2	Table 1.1	The stockpile is reportedly 15mx15mx2m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	18-Jul-24		
3	General	The report would benefit from a short paragraph/diagram (potentially below the intro section) which summarises the overal treatment and sampling process. Just something that provides clarity to the reader about the staging of sampling and remediation and testing, this would help provide more context for the information that follows.	18-Jul-24		
4	Table 2.1	Please provide justification for anlaysis of VOC and ALSP HVOC only. The RVP states that materials excavated from RA2 will be analysed for heavy metals, TRH, PAH and asbestos (NEPM) + VCH and ASLP VCH.	18-Jul-24		
5	Table 2.1	Please provide clarification on the difference between the pre-remediation PID results, the post remediaition PID results and the 'range of PID readings from sub-soil samples' and update report to provide clarity.	18-Jul-24		
6	Table 2.1	It is acknowledged that Senversa has provided a statement on presence of anthropogenic inclusions, however, can Senversa also include statement regarding asbestos observations	18-Jul-24		
7	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	18-Jul-24		
8	Table 2.1	The RVP states that sampling density will generally be consistent with that for stockpiled materials in NSW EPA (2022) guidelines. Please provide a statement clarifying that sampling density is consistent with these guidelines.	18-Jul-24		
9	Page 6/Section 4	Please update section re: Auditor's endorsement of revised RBSLs (based on Auditor email dated 15 July 2024 re: Modified soil vapour validation approach and RBSLs	18-Jul-24		
10	Attachment D	Re: use of 2-propanol to assess 'whether sample comprises soil vapour or atmosphere' - just wondering what this testing actually proves in a stockpile scenario? Are there limitations to this method, if so, please note them in the report.	18-Jul-24		

Client: Jeffman Pty Ltd
Project: Stage 1. Waterloo
Report: **Stockpile Assessment TSP012. Rev 0 (Senversa, 21 February 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	18-Jul-24		
2	Table 1.1	The stockpile is reportedly 10mx17mx2m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	18-Jul-24		
3	General	The report would benefit from a short paragraph/diagram (potentially below the intro section) which summarises the overal treatment and sampling process. Just something that provides clarity to the reader about the staging of sampling and remediation and testing, this would help provide more context for the information that follows.	18-Jul-24		
4	Table 2.1	Please provide justification for anlaysis of VOC and ALSP HVOC only. The RVP states that materials excavated from RA2 will be analysed for heavy metals, TRH, PAH and asbestos (NEPM) + VCH and ASLP VCH.	18-Jul-24		
5	Table 2.1	Please provide clarification on the difference between the pre-remediation PID results, the post remediaition PID results and the 'range of PID readings from sub-soil samples' and update report to provide clarity.	18-Jul-24		
6	Table 2.1	It is acknowledged that Senversa has provided a statement on presence of anthropogenic inclusions, however, can Senversa also include statement regarding asbestos observations	18-Jul-24		
7	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	18-Jul-24		
8	Table 2.1	The RVP states that sampling density will generally be consistent with that for stockpiled materials in NSW EPA (2022) guidelines. Please provide a statement clarifying that sampling density is consistent with these guidelines.	18-Jul-24		
9	Page 6/Section 4	Please update section re: Auditor's endorsement of revised RBSLs (based on Auditor email dated 15 July 2024 re: Modified soil vapour validation approach and RBSLs	18-Jul-24		
10	Attachment D	Re: use of 2-propanol to assess 'whether sample comprises soil vapour or atmosphere' - just wondering what this testing actually proves in a stockpile scenario? Are there limitations to this method, if so, please note them in the report.	18-Jul-24		

Client: Jeffman Pty Ltd

Project: Stage 1. Waterloo
Report: **Stockpile Assessment TSP013. Rev 0 (Senversa, 20 February 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	18-Jul-24		
2	Table 1.1	The stockpile is reportedly 13mx9mx2.3m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	18-Jul-24		
3	General	The report would benefit from a short paragraph/diagram (potentially below the intro section) which summarises the overal treatment and sampling process. Just something that provides clarity to the reader about the staging of sampling and remediation and testing, this would help provide more context for the information that follows.	18-Jul-24		
4	Table 2.1	Please provide justification for anlaysis of VOC and ALSP HVOC only. The RVP states that materials excavated from RA2 will be analysed for heavy metals, TRH, PAH and asbestos (NEPM) + VCH and ASLP VCH.	18-Jul-24		
5	Table 2.1	Please provide clarification on the difference between the pre-remediation PID results, the post remediaition PID results and the 'range of PID readings from sub-soil samples' and update report to provide clarity.	18-Jul-24		
6	Table 2.1	It is acknowledged that Senversa has provided a statement on presence of anthropogenic inclusions, however, can Senversa also include statement regarding asbestos observations	18-Jul-24		
7	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	18-Jul-24		
8	Table 2.1	The RVP states that sampling density will generally be consistent with that for stockpiled materials in NSW EPA (2022) guidelines. Please provide a statement clarifying that sampling density is consistent with these guidelines.	18-Jul-24		
9	Page 6/Section 4	Please update section re: Auditor's endorsement of revised RBSLs (based on Auditor email dated 15 July 2024 re: Modified soil vapour validation approach and RBSLs	18-Jul-24		
10	Attachment D	Table mentions TSP006	18-Jul-24		
11	Attachment D	Re: use of 2-propanol to assess 'whether sample comprises soil vapour or atmosphere' - just wondering what this testing actually proves in a stockpile scenario? Are there limitations to this method, if so, please note them in the report.	18-Jul-24		

Client: Jeffman Pty Ltd
Project: Stage 1. Waterloo
Report: **Stockpile Assessment TSP014. Rev 0 (Senversa, 01 July 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	18-Jul-24		
2	Table 1.1	The stockpile is reportedly 10mx5mx2.2m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	18-Jul-24		
3	Table 1.1 pg 2	Has the auditor been provided with the original TSP014 letter? (21 Feb 24)	18-Jul-24		
4	Section 2.0/first paragraph	Error reference	18-Jul-24		
5	General	The report would benefit from a short paragraph/diagram (potentially below the intro section) which summarises the overal treatment and sampling process. Just something that provides clarity to the reader about the staging of sampling and remediation and testing, this would help provide more context for the information that follows.	18-Jul-24		
6	Table 2.1	Please provide clarification on the difference between the pre-remediation PID results, the post remediaition PID results and the 'range of PID readings from sub-soil samples' and update report to provide clarity.	18-Jul-24		
7	Table 2.1	It is acknowledged that Senversa has provided a statement on presence of anthropogenic inclusions, however, can Senversa also include statement regarding asbestos observations	18-Jul-24		
8	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	18-Jul-24		
9	Table 2.1	The RVP states that sampling density will generally be consistent with that for stockpiled materials in NSW EPA (2022) guidelines. Please provide a statement clarifying that sampling density is consistent with these guidelines.	18-Jul-24		
10	Page 6/Section 4	Please update section re: Auditor's endorsement of revised RBSLs (based on Auditor email dated 15 July 2024 re: Modified soil vapour validation approach and RBSLs	18-Jul-24		
11	Attachment D	Re: use of 2-propanol to assess 'whether sample comprises soil vapour or atmosphere' - just wondering what this testing actually proves in a stockpile scenario? Are there limitations to this method, if so, please note them in the report.	18-Jul-24		
12	Attachment C/Table A	Asbestos results presented as a series of '1"s - please update report	18-Jul-24		

Client: Jeffman Pty Ltd
Project: Stage 1. Waterloo
Report: **Stockpile Assessment TSP015. Rev 0 (Senversa, 22 February 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	18-Jul-24		
2	Table 1.1	The stockpile is reportedly 10mx12mx2.1m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	18-Jul-24		
3	General	The report would benefit from a short paragraph/diagram (potentially below the intro section) which summarises the overal treatment and sampling process. Just something that provides clarity to the reader about the staging of sampling and remediation and testing, this would help provide more context for the information that follows.	18-Jul-24		
4	Table 2.1	Please provide justification for anlaysis of VOC and ALSP HVOC only. The RVP states that materials excavated from RA2 will be analysed for heavy metals, TRH, PAH and asbestos (NEPM) + VCH and ASLP VCH.	18-Jul-24		
5	Table 2.1	Please provide clarification on the difference between the pre-remediation PID results, the post remediaition PID results and the 'range of PID readings from sub-soil samples' and update report to provide clarity.	18-Jul-24		
6	Table 2.1	It is acknowledged that Senversa has provided a statement on presence of anthropogenic inclusions, however, can Senversa also include statement regarding asbestos observations	18-Jul-24		
7	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	18-Jul-24		
8	Table 2.1	The RVP states that sampling density will generally be consistent with that for stockpiled materials in NSW EPA (2022) guidelines. Please provide a statement clarifying that sampling density is consistent with these guidelines.	18-Jul-24		
9	Attachment D	Re: use of 2-propanol to assess 'whether sample comprises soil vapour or atmosphere' - just wondering what this testing actually proves in a stockpile scenario? Are there limitations to this method, if so, please note them in the report.	18-Jul-24		
10	Attachment C/Table A	Asbestos results presented as a series of '1"s - please update report	18-Jul-24		

Client: Jeffman Pty Ltd
Project: Stage 1. Waterloo
Report: **Stockpile Assessment TSP016. Rev 0 (Senversa, 28 June 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	18-Jul-24		
2	Table 1.1	The stockpile is reportedly 10mx15mx2.6m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	18-Jul-24		
3	General	The report would benefit from a short paragraph/diagram (potentially below the intro section) which summarises the overal treatment and sampling process. Just something that provides clarity to the reader about the staging of sampling and remediation and testing, this would help provide more context for the information that follows.	18-Jul-24		
4	Table 2.1	Please provide justification for anlaysis of VOC and ALSP HVOC only. The RVP states that materials excavated from RA2 will be analysed for heavy metals, TRH, PAH and asbestos (NEPM) + VCH and ASLP VCH.	18-Jul-24		
5	Table 2.1	Please provide clarification on the difference between the pre-remediation PID results, the post remediaition PID results and the 'range of PID readings from sub-soil samples' and update report to provide clarity.	18-Jul-24		
6	Table 2.1	It is acknowledged that Senversa has provided a statement on presence of anthropogenic inclusions, however, can Senversa also include statement regarding asbestos observations	18-Jul-24		
7	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	18-Jul-24		
8	Table 2.1	The RVP states that sampling density will generally be consistent with that for stockpiled materials in NSW EPA (2022) guidelines. Please provide a statement clarifying that sampling density is consistent with these guidelines.	18-Jul-24		
9	Attachment D	Re: use of 2-propanol to assess 'whether sample comprises soil vapour or atmosphere' - just wondering what this testing actually proves in a stockpile scenario? Are there limitations to this method, if so, please note them in the report.	18-Jul-24		

Client: Jeffman Pty Ltd
Project: Stage 1. Waterloo
Report: **Stockpile Assessment TSP044. Rev 0 (Senversa, 16 July 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	18-Jul-24		
2	Table 1.1	The stockpile is reportedly 11mx10mx1m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	18-Jul-24		
3	General	The report would benefit from a short paragraph/diagram (potentially below the intro section) which summarises the overal treatment and sampling process. Just something that provides clarity to the reader about the staging of sampling and remediation and testing, this would help provide more context for the information that follows.	18-Jul-24		
4	Table 2.1	Please provide clarification on the difference between the pre-remediation PID results, the post remediaition PID results and the 'range of PID readings from sub-soil samples' and update report to provide clarity.	18-Jul-24		
5	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	18-Jul-24		
6	Table 2.1	The RVP states that sampling density will generally be consistent with that for stockpiled materials in NSW EPA (2022) guidelines. Please provide a statement clarifying that sampling density is consistent with these guidelines.	18-Jul-24		
7	Attachment C	Asbestos results are missing from summary tables	18-Jul-24		
8	Attachment D	Re: use of 2-propanol to assess 'whether sample comprises soil vapour or atmosphere' - just wondering what this testing actually proves in a stockpile scenario? Are there limitations to this method, if so, please note them in the report.	18-Jul-24		

Attachment 2

Auditor comments register: Off-site disposal reports

Instructions for addressing auditor comments
Please provide your response to each auditor comment within the 'consultant response column', Once all comments are addressed. Please provide an updated revision of the report in .pdf and a .doc/.pdf version with track changes shown

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP001 REV 0 (Senversa 22 September 2023)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	General	Stage 1 comprises **Part of** Lot 4 and **Part of** Lot 5. Please update all reports. **This comment applies to all reports.**		
2	Section 2/pg 2	Stockpile volume estimated at 350m^3, stockpile dimensions add up to 345m^3 and estimated final volume is 988m^3. Can you please provide the actual estimated volume of SP001? **This comment applies to all reports.**		
3	Section 2/pg 2 /sampling method	Update sampling design guidelines reference from 1995 to 2022 version		
4	Section 2/pg 2 /sampling method	The report states that the stockpile is 1.7m x 11m x 1.85m and the report also states that samples were collected from 0.3m below the surface. Can you please provide justification within the report as to whether samples collected from 0.3m are likely to be representative of the stockpile. **This comment applies to all reports.**		
5	Section 2/pg 2 /primary sample collected	Please provide justification for the number of samples collected? NSW EPA (2022) Sampling design guidelines state that 'Stockpiles of material that require waste classification for disposal or transport to a recycling facility must be sampled in accordance with the minimum number of samples outlined in Table 3 and Table 4' (Section 5.4.6). **This comment applies to all reports.**		
6	Section 2/pg 2 /sample analysis	The waste classification guidelines state that, 'Generators of waste must select the chemical contaminants that are known to be present, or are likely to be present in the waste. This may be informed by the site activities, site history, or the processes which produced the waste. Generators of waste must be able to justify the chemical contaminants selected for testing and keep records of that decision for three years.' Please can you provide a couple of sentences within the report which justify the selection of tested analytes (noting that the receiving landfill will not have access to the RAP/VWP/RWP). **This comment applies to all reports.**		
7	Figure 1	The figure is called 'stockpile location' but where is the stockpile location? Is the red polygon the source of the material? Or just the temporary storage location of the stockpile? Please update the figure for clarity. **This comment applies to all reports.**		
8	Sample receipts	Please clarify why there is no sample temperature reported on the Eurofins sample receipt? Also, please provide commentary within Table D1 (sample preservation) with regards to sample temps reported on the ALS sample receipt. - do tempertures >6 degrees C (if present) impact the useability of the data? **This comment applies to all reports.**		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP002 REV 0 (Senversa 20 September 2023)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	General	Stage 1 comprises **Part of** Lot 4 and **Part of** Lot 5. Please update all reports.		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP004 REV 0 (Senversa 15 April 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Section 2/pg 1/summary	Assuming 2 x **5**2 x 1 is a typo? Please update report		
2	Section 2/pg 2	Section 2 states that 7 primary samples were collected and analysed. Primary sample IDs are provided for samples taken on 27/09/23 (P_SP004-S001 to P_SP004-S003) and 3/04/24 (SP004_S001 to SP004_S004). What does the P mean on the sample IDs from 27/9/24? This does not match what was on the COC, lab results or results tables. There's no explaination as to why these IDs are different or were changed.		
3	Section 2/pg 2	SP004_S005 is not included on the list of primary sample IDs or the list of sample analysis.		
4	Section 2/pg2/QC samples collected	Please provide justification for why no rinsate was collected on 3/04/2024. Sampling method states a hand drill was used to crush materials, was this used for the April sampling? If not, please specify that.		
5	Figure 1	The figure only shows 3 sample locations, section 2 states 7 primary samples were collected and analysed. Should there be 2 figures for the 2 sampling events?		
6	Section 2/pg 2 /sampling method	The report states that the origin of the material was 0.1-0.4 mbgl, but does not specify from what depth the samples were collected from the stockpile, nor is it given in the results tables. Can you please provide this information somewhere and provide justification as to whether samples taken from that depth are likely to be representative of the stockpile?		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP006 REV 0 (Senversa 20 February 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Figure 1	Sample IDs on the figure do not match sample IDs provided elsewhere in the report. Please make these match or provide justification for why they are different.		
2	Attachment C/pg 6	Please provide an explanation of what '1' means under the Asbestos Reported Result		
3	Attachment D/Sample Preservation Handling and Holding Times	The temperature provided by the lab was 7.9°C, above the recommended value of 6°C for SVOC, VOC, and metals. Please provide some words on whether this is likely to impact the validity or representativeness of the analytical data.		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP007 REV 0 (Senversa 3 April 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Section 2/pg 1/summary	Stockpile visual estimate was 140m3. The stockpile dimensions (8.5m x 7.9m x 1.8m) equal 121 m3. Please provide the actual estimated volume of SP007.		
2	Attachment C/pg 7	Please provide an explanation of what '1' means under the Asbestos Reported Result		
3	Attachment D	Trip spike results are not tabulated		
4	Attachment D	Attachment D is missing the QA/QC discussion, it only contains the TB result table. Please provide these.		
5	Attachment D/Sample Preservation Handling and Holding Times	The temperature provided by the lab was 7.9°C, above the recommended value of 6°C for SVOC, VOC, and metals. Please provide some words on whether this is likely to impact the validity or representativeness of the analytical data.		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP010 and SP021 REV 1 (Senversa 5 February 2023)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Section 2/pg 2/Sample analysis	Samples from SP001 are included in this list and shouldnt be		
2	Attachment C/pg 7	Please provide an explanation of what '1' means under the Asbestos Reported Result		
3	Attachment D/pg 2/Laboratory QC Analysis	No commentary has been provided for the three laboratory duplicate failures in report 1061292 for SP021. Three samples failed the lab duplicate criteria but passes the Eurofins QC Acceptance Criteria. This should be noted in the QC section with an explanation about whether or not this affects the validity of the data. See waste class for SP057 for example.		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP017 REV 0 (Senversa 15 April 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Attachment C/Table X	Asbestos is not included as an analtyte on the the result tables but was tested by the lab. Please include.		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP018 REV 0 (Senversa 3 April 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Section 2/pg 2/Origin	The RA location where the spoil originated is not specified, only says "on-site in Lot 3...and Lot 4". Please specify.		
2	Attachment C/pg 4	Please provide an explanation of what '1' means under the Asbestos Reported Result		
3	Attachment D/ pg 1/Soil Trip Blank Sampling and Analysis	The following two statements are conflicting, which is true? "No trip blanks were prepared or analysed in report 1071023" and "Analysed trip blank results were within the acceptable range." Results for TB are provided in Table D1		
4	Attachment D/ pg 1/Soil Trip Spike Sampling and Analysis	The following two statements are conflicting, which is true? '"No trip spike were prepared or analysed in report 1071023" and "Analysed trip spike results were within the acceptable range". Results for TS are provided in Table D2.		
5	Attachment D/Sample Preservation Handling and Holding Times	The temperature provided by the lab was 7.9°C, above the recommended value of 6°C for SVOC, VOC, and metals. Please provide some words on whether this is likely to impact the validity or representativeness of the analytical data.		
6	Attachment D/Sample Preservation Handling and Holding Times	There is one 4 day holding time exceedance for EN60Z: ASLP Leachate - ZHE in samples S006-S010 (ALS report ES2406963). Please provide commentary on whether or not this affects the validity of the data.		
7	Attachment D/pg 2/Laboratory QC Analysis	**1066642-S** - There are four lab duplicate failures in this lab report that are not commented on. They passed the Eurofins QC Acceptance Criteria but still need a comment on whether or not it impacts the outcomes of the assessment. See SP057 for example.		
8	Attachment D/pg 2/Laboratory QC Analysis	**1072013-S** - There is one lab duplicate failure in this lab report that is not commented on. It passed the Eurofins QC Acceptance Criteria but still needs a comment on whether or not it impacts the outcomes of the assessment. See SP057 for example.		
9	Attachment D/pg 2/Laboratory QC Analysis	**1076669-S** - There is one lab duplicate failure in this lab report that is not commented on. It passed the Eurofins QC Acceptance Criteria but still needs a comment on whether or not it impacts the outcomes of the assessment. See SP057 for example.		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP032 REV 0 (Senversa 3 April 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Section 2/pg 2/Origin	The RA location where the spoil originated is not specified, only says "on-site in Lot 3...and Lot 4". Please specify.		
2	Attachment D	The QA/QC discussion is missing from Attachment D, as are the results of the TS. Please provide these.		
3	Attachment D	Please clarify why there is no sample temperature reported on the ALS sample receipt? Also, please provide commentary within Att D with regards to sample temps - do these temps effect the useability of the data?		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP033 REV 0 (Senversa 3 May 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Attachment C/pg 6	Please provide an explanation of what '1' means under the Asbestos Reported Result		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP035 REV 0 (Senversa 15 April 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Section 2/pg 2/Origin	The RA location where the spoil originated is not specified, only says "on-site in Lot 3...and Lot 4". Please specify.		
2	Attachment C/Table 1	Asbestos is not included as an analyte on the the result tables but was tested by the lab. Please include.		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP038 REV 0 (Senversa 15 April 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Attachment C/pg 5	Please provide an explanation of what '1' means under the Asbestos Reported Result		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP040 REV 0 (Senversa 15 April 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Section 2/pg 2/Origin	The RA location where the spoil originated is not specified, only says "on-site in Lot 3...and Lot 4". Please specify.		
2	Attachment C/pg 7	Please provide an explanation of what '1' means under the Asbestos Reported Result		
3	Attachment D/Sample Preservation Handling and Holding Times	The temperature provided by the lab was 9.9°C, above the recommended value of 6°C for SVOC, VOC, and metals. Please provide some words on whether this is likely to impact the validity or representativeness of the analytical data.		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP043 REV 0 (Senversa 6 May 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Section 2/Stockpile volume/pg 2	Stockpile volume estimated at 350m^3, stockpile dimensions (29m x 9m x 1.7m) add up to 444m^3. Can you please provide the actual estimated volume of SP043?		
2	Attachment A/Figure 1	Sample SP043-S003 is not on the figure, please update		
3	Attachment C/pg 6	Please provide an explanation of what '1' means under the Asbestos Reported Result		
4	Attachment C	There are no results tables for the trip spike or trip blank, please provide		
5	Attachment D/Sample Preservation Handling and Holding Times	The temperature provided by the lab was 8.4°C, above the recommended value of 6°C for SVOC, VOC, and metals. Please provide some words on whether this is likely to impact the validity or representativeness of the analytical data.		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP047 REV 0 (Senversa 7 May 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Attachment C	Asbestos is not included as an analyte on the the result tables but was tested by the lab. Please include.		
2	Attachment D/Sample Preservation Handling and Holding Times	The temperature recorded by the lab was 26.3°C and the lab noted that no attempt to chill was evident. This is well above the recommended value of 6°C for SVOC, VOC, and metals. Please provide some words on whether this is likely to impact the validity or representativeness of the analytical data.		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP048 REV 0 (Senversa 7 May 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Section 2/pg 2/Origin	The RA location where the spoil originated is not specified, only says "from north-east of Parcel 1". Please specify.		
2	Attachment C	Asbestos is not included as an analyte on the the result tables but was tested by the lab. Please include.		
3	Attachment D/Sample Preservation Handling and Holding Times	The temperature recorded by the lab was 26.8°C and the lab noted that no attempt to chill was evident. This is well above the recommended value of 6°C for SVOC, VOC, and metals. Please provide some words on whether this is likely to impact the validity or representativeness of the analytical data.		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP051 REV 0 (Senversa 29 May 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Section 2/pg 2/Origin	The RA location where the spoil originated is not specified, only says "from driveway and Parcel 1". Please specify.		
2	Attachment C	Asbestos is not included as an analyte on the the result tables but was tested by the lab. Please include.		
3	Attachment D/pg 2/Laboratory QC Analysis	1101280-L - There is one lab duplicate failure in this lab report that is not commented on. It passed the Eurofins QC Acceptance Criteria but still needs a comment on whether or not it impacts the outcomes of the assessment. See SP057 for example.		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP052 REV 0 (Senversa 28 May 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1		Duplicate sample QC176 is not listed in the QC samples analysed		
2	Attachment C	Asbestos is not included as an analyte on the the result tables but was tested by the lab. Please include.		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP054 REV 0 (Senversa 28 May 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Attachment C/Table X/pg 8	Please provide an explanation of what '1' means under the Asbestos Reported Result.		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP055 REV 0 (Senversa 29 May 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1		Stockpile volume estimated at 70m^3, stockpile dimensions (5m x 6m x 2m) add up to 60m^3. Can you please provide the actual estimated volume of SP055?		
2	Attachment C	Asbestos is not included as an analyte on the the result tables but was tested by the lab. Please include.		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP057 REV 0 (Senversa 26 June 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Section 2/pg 2	Section 2 says 9 primary samples were collected and analysed, and only 9 samples are reported in the results tables. But within section 2, samples S001 to S010 were analysed, the figure has 10 locations on it and the COC has 10 samples on it. How many samples were collected and how many analysed?		
2	Attachment D	The trip spike results table is not provided. Please provide.		
3	Attachment C/Table A/pg 8	Please provide an explanation of what '1' means under the Asbestos Reported Result.		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP056 REV 0 (Senversa 19 July 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Attachment D/Laboratory QC Analysis	**1100949-S-V2** - Provide more commentary on the sample that did not pass the Eurofins QC Acceptance Criteria and why it is not considered to impact the outcome of the assessment		
2	Attachment D/Sample Preservation Handling and Holding Times	The temperature recorded by the lab was 12.8°C. This is above the recommended value of 6°C for SVOC, VOC, and metals. Please provide some words on whether this is likely to impact the validity or representativeness of the analytical data.		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP062 REV 0 (Senversa 19 July 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Attachment D	Results tables for TS and TB are missing, please provide.		
2	Attachment D/pg 2/Laboratory QC Analysis	**1115245**: 'There are seven lab duplicate fails in this report, and only 6 are commented on. (**1115245-L**: Nickel (110%); **1115245-S**: Anthacene (120%), Chrysene (61%), Fluoranthene (87%), Phenanthrene (120%), Pyrene (97%), Cadmium (98%))		

Client: Jeffman Pty Ltd
Project: Stage 1, Waterloo
Report: **Waste Classification Letter - Stockpile Assessment - SP039, SP060 and SP061 REV 0 (Senversa 23 July 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses
1	Attachment D	Results tables for TS are missing, please provide.		

Attachment 3

Auditor comments register: Un-treated stockpile reports

Client: Jeffman Pty Ltd
Project: Staqe 1, Waterloo
Report: **Stockpile assessment SP013. Rev 0 (Senversa, 20 February 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	19-Jul-24		
2	Table 1.1	The stockpile is reportedly 3mx3mx1m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	19-Jul-24		
3	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	19-Jul-24		

Client: Jeffman Pty Ltd
Project: Staqe 1, Waterloo
Report: **Stockpile assessment SP024. Rev 0 (Senversa, 09 February 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	19-Jul-24		
2	Introduction	Please can you provide justification for not treating these soils despite their RA2 origin	19-Jul-24		
3	Table 1.1	The stockpile is reportedly 10mx5mx1m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	19-Jul-24		
4	Table 2.1	Please provide justification for the analytical testing suite	19-Jul-24		
5	Attahcment D/QAQC table	TSP006 is mentioned multiple times	19-Jul-24		
6	Section 4.0	Please screen lab results against revised RBSL's and update conclusions section. Please flag any stockpiles to the auditor where the conclusions have changed based on re-comparison of results to revised RBSLs	19-Jul-24		
7	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	19-Jul-24		

Client: Jeffman Pty Ltd
Project: Staqe 1, Waterloo
Report: **Stockpile assessment SP025. Rev 0 (Senversa, 20 February 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	19-Jul-24		
2	Introduction	Please can you provide justification for not treating these soils despite their RA2 origin	19-Jul-24		
3	Table 1.1	The stockpile is reportedly 18mx10mx2.5m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	19-Jul-24		
4	Table 2.1	Please provide justification for the analytical testing suite	19-Jul-24		
5	Section 4.0	Please screen lab results against revised RBSL's and update conclusions section. Please flag any stockpiles to the auditor where the conclusions have changed based on re-comparison of results to revised RBSLs	19-Jul-24		
6	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	19-Jul-24		

Client: Jeffman Pty Ltd
Project: Staqe 1, Waterloo
Report: **Stockpile assessment SP028. Rev 0 (Senversa, 15 July 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	19-Jul-24		
2	Section 4.0	Please update report section 4.0 + conclusions based on endorsed revised RBSLs.	19-Jul-24		
3	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	19-Jul-24		
4	Table A - Soil analytyical results	Asbestos data presented as series of 1's and 0's. Please update table/table legend	19-Jul-24		

Client: Jeffman Pty Ltd
Project: Staqe 1, Waterloo
Report: **Stockpile assessment SP045. Rev 0 (Senversa, 02 July 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	19-Jul-24		
2	Table 1.1	The stockpile is reportedly 16mx8mx1.5m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	19-Jul-24		
3	Table 2.1	From memory there were some PCB impacted materials in the vicinity of RA11? However, this stocpile was not tested for PCBs - is this a data gap?	19-Jul-24		
4	Section 4.0	Please update report section 4.0 + conclusions based on endorsed revised RBSLs.	19-Jul-24		
5	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	19-Jul-24		
6	Table A - Soil analytyical results	Asbestos data presented as series of 1's. Please update table/table legend	19-Jul-24		

Client: Jeffman Pty Ltd
Project: Staqe 1, Waterloo
Report: **Stockpile assessment SP059. Rev 0 (Senversa, 15 July 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	19-Jul-24		
2	Table 1.1	The stockpile is reportedly 5mx10mx3m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	19-Jul-24		
3	Section 4.0	Please update report section 4.0 + conclusions based on endorsed revised RBSLs.	19-Jul-24		
4	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	19-Jul-24		
5	Table A - Soil analytyical results	An ESL for TRH has been exceeded but has not been discussed in the body of the report	19-Jul-24		
6	Table A - Soil analytyical results	Asbestos data presented as series of 1's. Please update table/table legend	19-Jul-24		
7	Table C - asbestos quanitifcation	Table C appears to include the results of a sieving investigation, however, there is no discussion of the methods/reasoning/results in the body of the report	19-Jul-24		

Client: Jeffman Pty Ltd
Project: Staqe 1, Waterloo
Report: **Stockpile assessment SP034. Rev 0 (Senversa, 27 June 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	19-Jul-24		
2	Table 1.1	The stockpile is reportedly 10mx4mx1m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	19-Jul-24		
3	Table 2.1	From memory there were some PCB impacted materials in the vicinity of RA11? However, this stocpile was not tested for PCBs - is this a data gap?			
4	Section 4.0	Please update report section 4.0 + conclusions based on endorsed revised RBSLs.	19-Jul-24		
5	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	19-Jul-24		
6	Table A - Soil analytyical results	Asbestos data presented as series of 1's. Please update table/table legend	19-Jul-24		

Client: Jeffman Pty Ltd
Project: Staqe 1, Waterloo
Report: **Stockpile assessment SP036. Rev 0 (Senversa, 09 July 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	19-Jul-24		
2	Table 1.1	The stockpile is reportedly 16mx8mx1.6m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	19-Jul-24		
3	Section 2/first paragraph	error reference	19-Jul-24		
4	Section 4.0	Please update report section 4.0 + conclusions based on endorsed revised RBSLs.	19-Jul-24		
5	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	19-Jul-24		
6	Table A - Soil analytyical results	Asbestos data presented as series of 1's. Please update table/table legend	19-Jul-24		
7	Table C - asbestos quanitifcation	Table C appears to include the results of a sieving investigation, however, there is no discussion of the methods/reasoning/results in the body of the report	19-Jul-24		
8	Attachment D/QAQC table	QAQC table references SP045	19-Jul-24		
9	Lab reports	Sample temps recorded on sample receipts in excess of 6 degrees C should be discussed in QAQC section	19-Jul-24		

Client: Jeffman Pty Ltd
Project: Staqe 1, Waterloo
Report: **Stockpile assessment SP041. Rev 0 (Senversa, 02 July 2024)**

Item Number	Location in Document	Auditor's comment	Comment Dates	Consultant Responses	Comment Dates
1	Introduction	Stage 1 comprises Part of Lot 4 and Part of Lot 3. Please update all reports.	19-Jul-24		
2	Table 1.1	The stockpile is reportedly 15mx5mx2m high and all samples were collected from 0.3m depth. Can Senversa provide a statement which justifies this sampling depth and a statement which discusses if samples collected are considered to be representative of the stockpile	19-Jul-24		
3	Section 4.0	Please update report section 4.0 + conclusions based on endorsed revised RBSLs.	19-Jul-24		
4	Figure 1	Figure should be approved for inclusion in final version of report Does the figure show where the material was excavated from or where it was placed after excavation?	19-Jul-24		
5	Table A - Soil analytyical results	Asbestos results not presented in summary tables	19-Jul-24		
6	Attachment D/QAQC table	QAQC table references soil vapour sampling when none was conducted	19-Jul-24		

Appendix C

Site visit observations

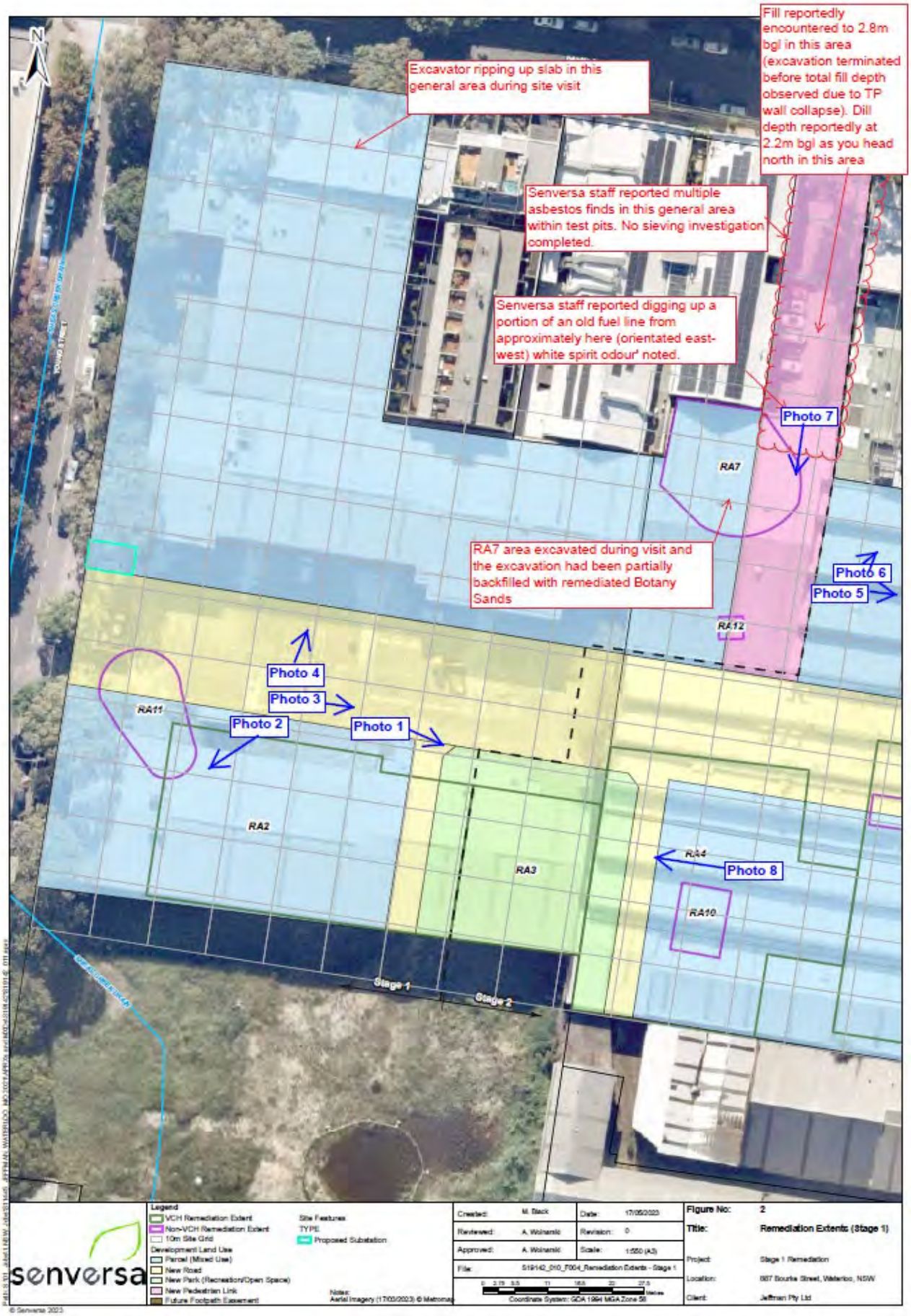
From: Andrew Kohlbuch
To: Andrew Kohlbuch
Date: 16 January, 2024 2:43:11 PM


ENTRY

regards
Andrew Kohlrusch

NSW EPA Audit Site Visit

Audit project ID:	Lawrence Dry Cleaners Stage 1
GHD project number:	
Site address:	Lawrence Dry Cleaners Stage 1, Young Street, Waterloo
Personnel attended site visit:	Sam Vaughan (GHD), Jessica Hannaford (GHD),
Date of site visit:	15 Feb 24
Time of site visit:	13:00 – 14:45
Weather	Overcast, warm, slight breeze
General notes:	Met with Bec and Matt on-site
On-site observations	Site activities during visit: – Concrete slab being ripped up by machinery within stage 1 area near to 'the tree'. Rubble from slab being stockpiled nearby. Senversa reported that approximately 4 x fragments of bonded ACM have been found beneath the partially ripped up slab in stage 1. – GSW special waste (sourced from RA7) has been placed in Stage 2 area and was being loaded into trucks for off-site disposal. – Remediated Botany sands were being spread and compacted (using roller) within the base of the RA2 excavation.


Excavator ripping up slab in this general area during site visit
Fill reportedly encountered to 2.8m bgl in this area (excavation terminated before total fill depth observed due to TP wall collapse). Dill depth reportedly at 2.2m bgl as you head north in this area
Senversa staff reported multiple asbestos finds in this general area within test pits. No sieving investigation completed.
Senversa staff reported digging up a portion of an old fuel line from approximately here (orientated east-west) white spirit odour' noted.
RA7 area excavated during visit and the excavation had been partially backfilled with remediated Botany Sands
Photo 1
Photo 2
Photo 3
Photo 4
Photo 5
Photo 6
Photo 7
Photo 8
RA2
RA3
RA4
RA7
RA10
RA11
RA12
Stage 1
Stage 2
N
Legend
VCH Remediation Extent
Non-VCH Remediation Extent
10m Site Grid
Development Land Use
Parcel (Mixed Use)
New Road
New Park (Recreation/Open Space)
New Pedestrian Link
Future Footpath Easement
Site Features
TYPE
Proposed Substation
Notes:
Aerial Imagery (17/03/2023) © Metromap
Created: M. Black
Date: 17/05/2023
Reviewed: A. Wolnarski
Revision: 0
Approved: A. Wolnarski
Scale: 1:550 (A3)
File: S19142_010_T004_Remediation Extents - Stage 1
Coordinate System: GDA 1994 MGA Zone 56
Figure No: 2
Title: Remediation Extents (Stage 1)
Project: Stage 1 Remediation
Location: 607 Bourke Street, Waterloo, NSW
Client: Jeffman Pty Ltd
senversa
© Senversa 2023

Photolog

Photo 1: RA2 – placement and compaction of remediated Botany Sands

	**Photo 2:** RA2 looking south-east

Photo 3: Sheet pile wall and anchors

	Photo 4: Looking north from RA2

Photo 5: Recovered UST

Photo 6: Stockpiled material in stage 1 contains bonded asbestos. Being taken off-site to landfill as GSW special waste.

Photo 7: Looking south across a portion of stage 1

	**Photo 8:** Looking west over RA2 (groundwater treatment equipment in foreground of image)

NSW EPA Audit Site Visit

Audit project ID:	Lawrence Dry Cleaners Stage 1
GHD project number:	2128078
Site address:	Lawrence Dry Cleaners Stage 1, Young Street, Waterloo
Personnel attended site visit:	Sam Vaughan (GHD)
Date of site visit:	22 March 2024
Time of site visit:	08:00 – 09:05
Weather	Overcast, cool
General notes:	Met with Matt Linz on site
On-site observations	Site activities during visit: – Concrete rubble from slab excavated in NW portion of stage 1 had been placed in stage 2 and was being loaded onto trucks – In days previous, a portion of **RA11** had been excavated to around 1.2m bgl **(photo 1)** – SV viewed open pit. Walls appear to comprise several layers of fill (generally comprising a sandy silt material with waste inclusions eg brick fragments, concrete rubble, some ashy/slag type inclusions **(photo 2)** with a mild hydrocarbon odour. Multiple services reportedly encountered during excavation including a large stormwater pipe. A portion of this pipe has been blocked off to avoid stormwater flooding excavation during forecasted rain over weekend. Fill materials have been excavated and placed into two stockpiles adjacent to the excavation to await laboratory test results. This material is not proposed to go through treatment process as VOC's are not PCoC for this area. No obvious asbestos fragments observed. RA11 appears to have been excavated down to the top of natural Botany Sands. Validation samples collected from wall and base or RA11 – results pending. Further lateral excavation to continue next week. – **RA2** – is around ¾ backfilled (**photo 3)**. Some imported VENM (from Double Bay) (VENM docs to be sent to GHD shortly) has been used to backfill RA2. VENM needed because of deficit created by removing slab and surrounding materials from RA2 and because of some re-compaction of treated materials in RA2. RA2 backfilled as follows (base to GL): • Natural clays • Treated Botany sands • Geofabric • Imported VENM • Geofabric • Treated Botany Sands (not yet placed) but comprising TSP001, 002 and 003 (LHS of **photo 3)**. These stockpiles have not yet been placed in RA2 because, although they passed validation criteria, there were still some VOC compounds above LOR, Senversa were worried that degradation products may elevate VOC concentration above criteria, and so, they re-sampled stockpile as a whole as a double check. They are waiting on lab results to be returned before they place the stockpile/s into RA2. – **NW portion of Stage 1 –** Upper concrete slab mostly removed from area, and lower slab (approximately 1m below upper slab) around ¾ removed (**photo 4)**. Material from between slabs has been stockpiled for testing (**photo 5**). Exposed soils are sandy and no obvious asbestos noted by SV or Senversa. Senversa waiting on arborist report to potentially allow further excavation near tree area (**Photo 6)**. Senversa have not had the opportunity to carry out hand auger samples near tree.

	– **New pedestrian link area (photo 7) –** some shallow test pitting (around 0.6-0.8m deep) **(photo 8)** on the east and western edges of pedestrian link to expose adjacent building foundations to allow engineers inspection. No asbestos visually observed during test pitting.

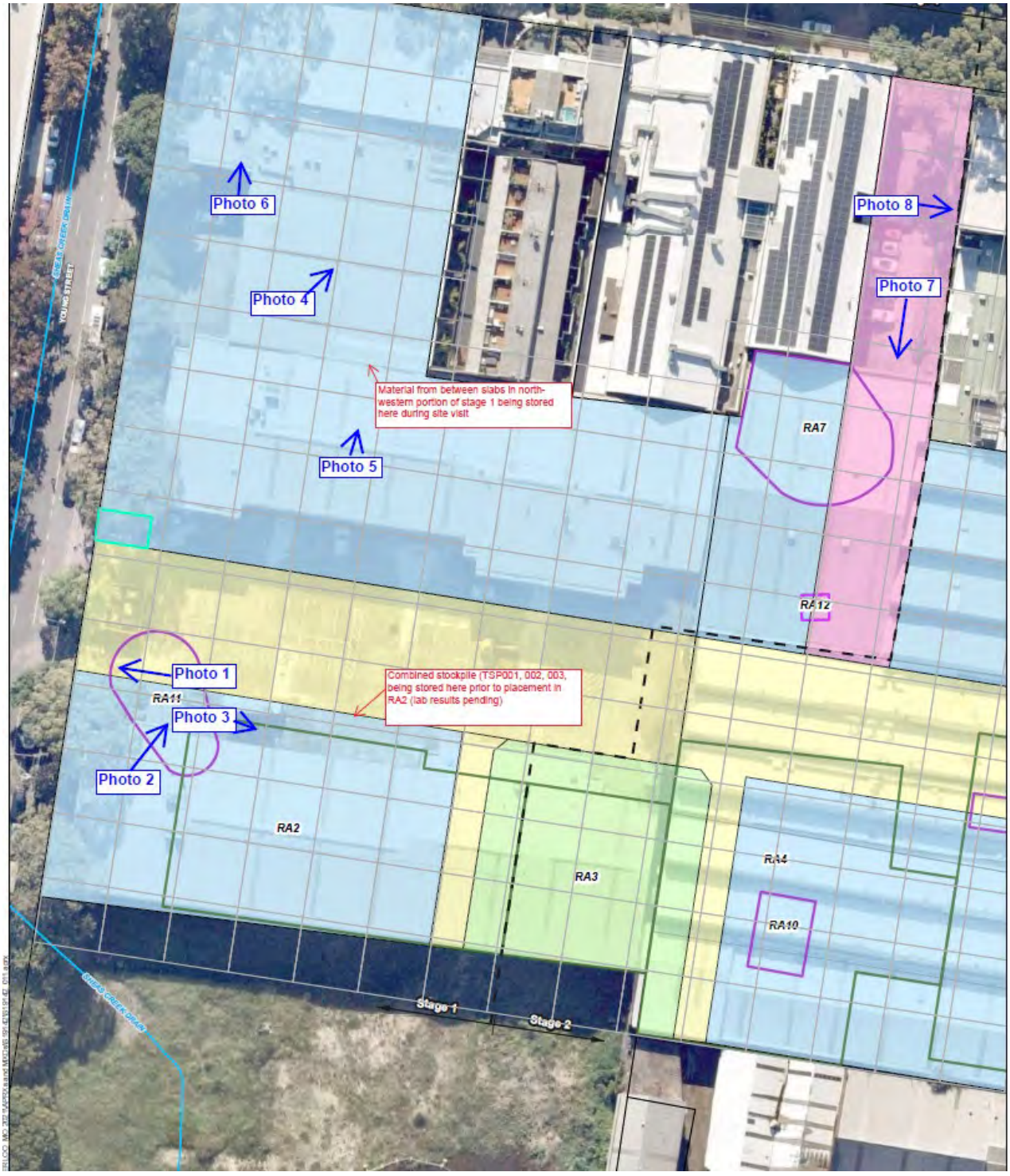


Photo 6
Photo 4
Photo 5
Photo 8
Photo 7
Material from between slabs in north-western portion of stage 1 being stored here during site visit
RA7
RA12
Photo 1
RA11
Photo 3
Photo 2
Combined stockpile (TSP001, 002, 003, being stored here prior to placement in RA2 (lab results pending)
RA2
RA3
RA4
RA10
Stage 1
Stage 2
YOUNG STREET

Photolog

Photo 1:

	**Photo 2:**

	**Photo 3:**

	Photo 4:

	**Photo 5:**

	**Photo 6:**

Photo 7:

	**Photo 8:**

NSW EPA Audit Site Visit

Audit project ID:	Lawrence Dry Cleaners Stage 1
GHD project number:	2128078
Site address:	Lawrence Dry Cleaners Stage 1, Young Street, Waterloo
Personnel attended site visit:	Sam Vaughan (GHD)
Date of site visit:	17 May 2024
Time of site visit:	09:00-10:00
Weather	Cool, bright, scattered clouds
General notes:	Met with Matt Linz on-site
On-site observations	Site activities during visit: – The northern portion of the **pedestrian link** was being excavated by Enviro Pacific (EP) staff (**Photo 1**) to investigate area for asbestos (previously observed within a test pit within the pedestrian link area). Asbestos controls were being adopted, including: remediation staff wearing coveralls, masks, safety glasses. Excavation zone was fenced off and fences were covered with cloth, sediment controls in place. Dust suppression. Shower unit also present. Matt L advised that excavations had been ongoing for a few days, EP had removed soils down to about 0.8m bgl at which point EP encountered a large concrete footing which spanned across a large portion of the northern part of the pedestrian link. Matt L advised that some asbestos fragments had been encountered in this area during excavations, EP's plan is to remove all asbestos impacted soils they encounter in this area and dispose off-site rather than attempt to assess soils against NEPM criteria. Asbestos impacted soils are being excavated from pedestrian link and temporarily stored in stage 1 while chemical testing is completed to further inform waste classification (SV observed stockpiled soils from this area but did not see any obvious ACM fragments). The excavations will continue southward down the pedestrian link toward the zone where asbestos was previously observed at around 2.5m bgl – VENM from a source site near Sydney harbour was being imported to backfill the pedestrian link excavations. Site activities since previous visit: – **RA2** completely filled now **(Photo 2)** (mostly using remediated soils from RA2, but topped up with some imported VENM) all sheet piles removed from perimeter of RA2. 5 groundwater monitoring wells installed within RA2. Wells have 3m slotted screen sections and are screened against the 'normal groundwater level for the site', however, due to recent high rainfall, groundwater is currently around 0.5m bgl at RA2 (i.e. groundwater is currently above screened section). A sixth monitoring well is proposed to be installed to the east of the sheet pile wall located in the vicinity of the proposed public open space area. – **RA11 -** Several test pits were excavated through the area just north of RA11 (where the sheet pile anchors were formerly located), these test pits were done to check the area against residential criteria. A sample collected from one of the test pits indicated an exceedance for PCB's. – **Northern half of stage 1:** The concrete slabs (previously located within the northern half of stage 1) have both been removed from this area (**Photo 3**). Matt stated that no asbestos had been visually observed within that area during slab removal. – The **hand augers** (north-western portion of stage 1) have now all been completed around the trees. No visual observations of contamination noted during hand augers but soil sampling results are still pending.

	– **RA11** (**Photo 4**) – during previous visit RA11 had been excavated and samples collected. Results showed a 'low level' exceedance of PCB's in the base of RA11. – **TCE brick lined pit (located in stage 2)** – since last visit EP have pulled out the steel tank (**Photo 5**) (which had been placed inside the brick lined pit as a method of preventing further TCE contamination whilst the dry cleaners was still operating). Matt reported that when the tank was pulled, some DNAPL was present in the base of the tank (dark brown liquid with strong odour). Matt had collected a sample for analysis. <u>To do over the next 4+ weeks:</u> Matt suggested that remaining tasks that need to be completed at Stage 1 in the following weeks included: 1. Completion of asbestos investigation in the pedestrian link 2. Groundwater sampling and vapour sampling of monitoring wells installed within RA2. 3. Excavation of the driveway located in the northern portion of the pedestrian link (residents have reportedly opted for this work to be completed over 2 x day shifts rather than during 1 x nightworks) 4. Delineation of PCB exceedances (noted above) 5. Installation of sixth groundwater monitoring well (within RA3 area) 6. Last item at stage 1 will be excavating the existing road and test pitting through that area to confirm soils < residential criteria. 7. Hand augers to be completed immediately adjacent to sub-station (within flower bed) under Ausgrid supervision. 8. Once all the above is complete, Stage 1 will commence.


N
DANKS STREET
Stage 1
YOUNG STREET
Asbestos excavations occuring in this area during site visit on 17.05.24. Excavations will progress southward over following weeks.
Photo 1
Photo 2
Photo 3
Photo 4
Photo 5
RA1
RA2
RA3
RA7
RA10
RA11
RA12

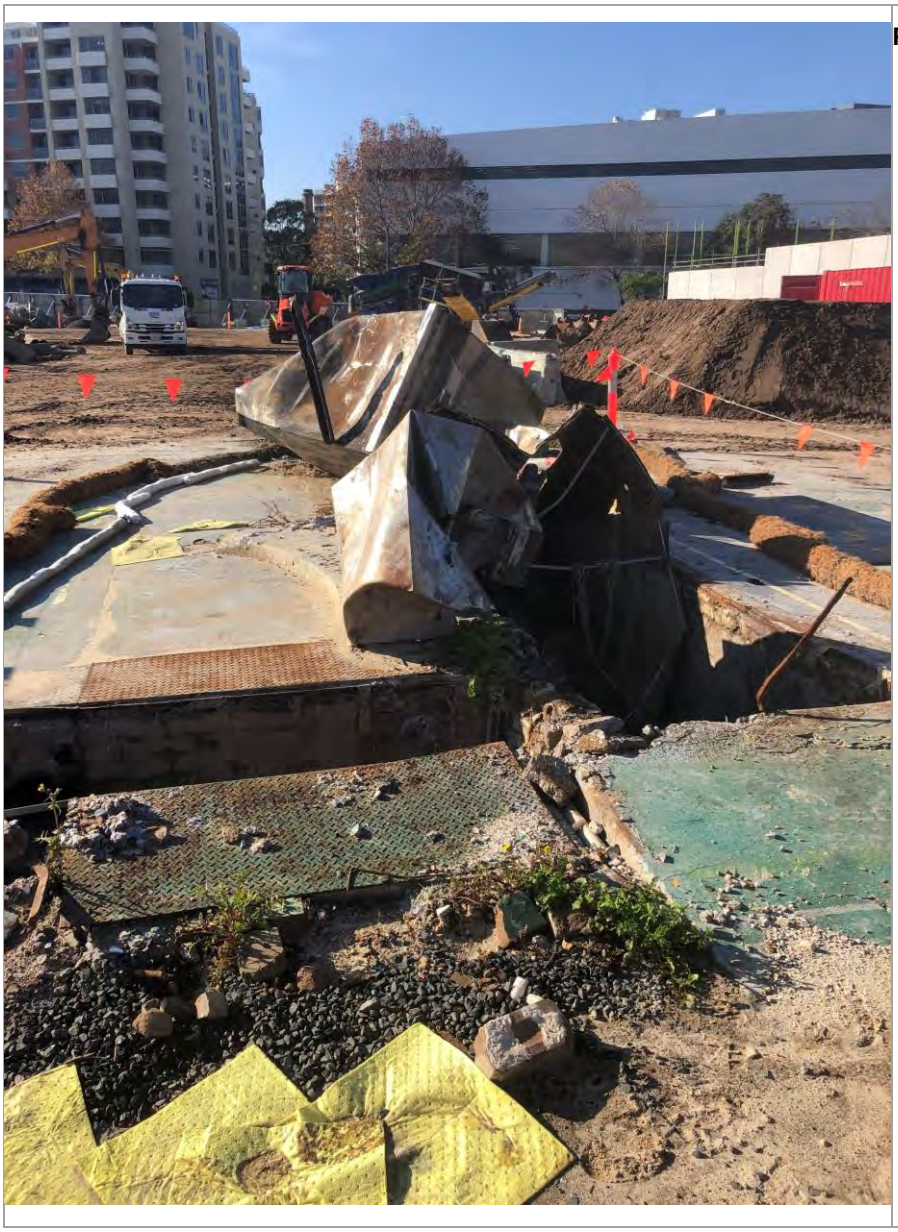
Photolog

Photo 1:

Photo 2:

	**Photo 3:**

Photo 4:

	**Photo 5:**

NSW EPA Audit Site Visit

Audit project ID:	Lawrence Dry Cleaners Stage 1
GHD project number:	28078
Site address:	Lawrence Dry Cleaners Stage 1, Young Street, Waterloo
Personnel attended site visit:	Sam Vaughan (GHD
Date of site visit:	03 September 2024
Time of site visit:	13:00 – 14:00
Weather	Clear skies, cool
General notes:	Met with Matt Linz on site. Francois (McNally also joined for a portion of the walkover)
On-site observations	Site activities occurring during site visit – Limited activities occurring on site at time of walkover, some groundwater monitoring occurring in RA2. ML indicated these results will not be in the final validation report – they are partly for MO compliance and partly for Senversa's own records. – Dust suppression was occurring Since the last site visit, the following activities have occurred: **Stage 1** – Surface soils across the site have been sprayed with green soil stabilser – Pedestrian link has been backfilled – Senversa indicated that groundwater levels were generally still dropping in RA2 **Stage 2** – Sheet pile wall installed along southern boundary of stage 2. Groundwater extraction system along this boundary is up and running – Underground bunker has been demolished – Some fill soils have been excavated from southern boundary of stage 2 and stockpiled in the central portion of stage 2. Some asbestos has been observed.

Photolog

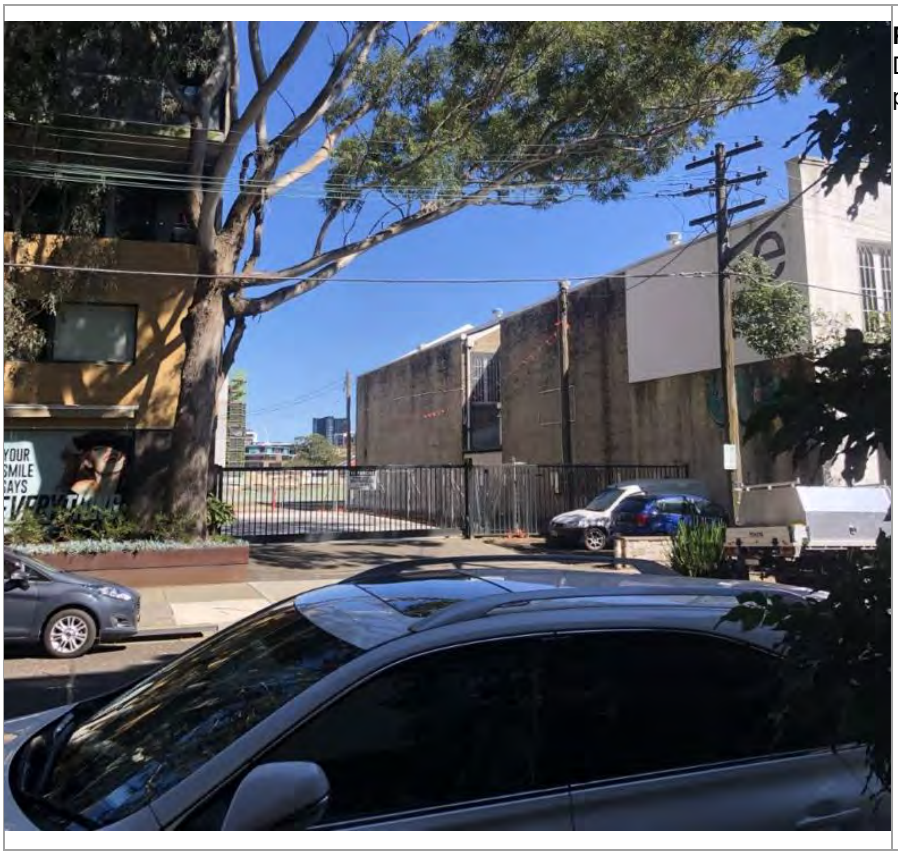


Photo 1: Looking southward from Danks Street down through the pedestrian link

	**Photo 2:** Looking south-west across RA2 and the substation area
	**Photo 3:** Looking south across the eastern extent of RA2 and the western extent of the proposed public park area. Sydney water land in background of photo.

	**Photo 4:** The substation

	**Photo 5:** Looking north-east across RA1 area.

	**Photo 6:** Looking east across Stage 1 from site entrance. Stage 2 in background of photo.

Photo 7: Glass tubes represent possible capacitors within fill materials on Stage 2 (source anticipated to be former electrical manufacturing business). Anecdotal evidence indicates PCBs at around 180mg/kg in this area.

	**Photo 8:** Looking north-west from Stage 1/Stage 2 boundary.

	**Photo 9:** Looking south-east from southern portion of Stage 2. Sheet pile walling has been installed along southern boundary of Stage 2 to prevent off-site migration. Groundwater extraction is also occurring along this boundary.

	**Photo 10:** Looking south from northern portion of pedestrian link.

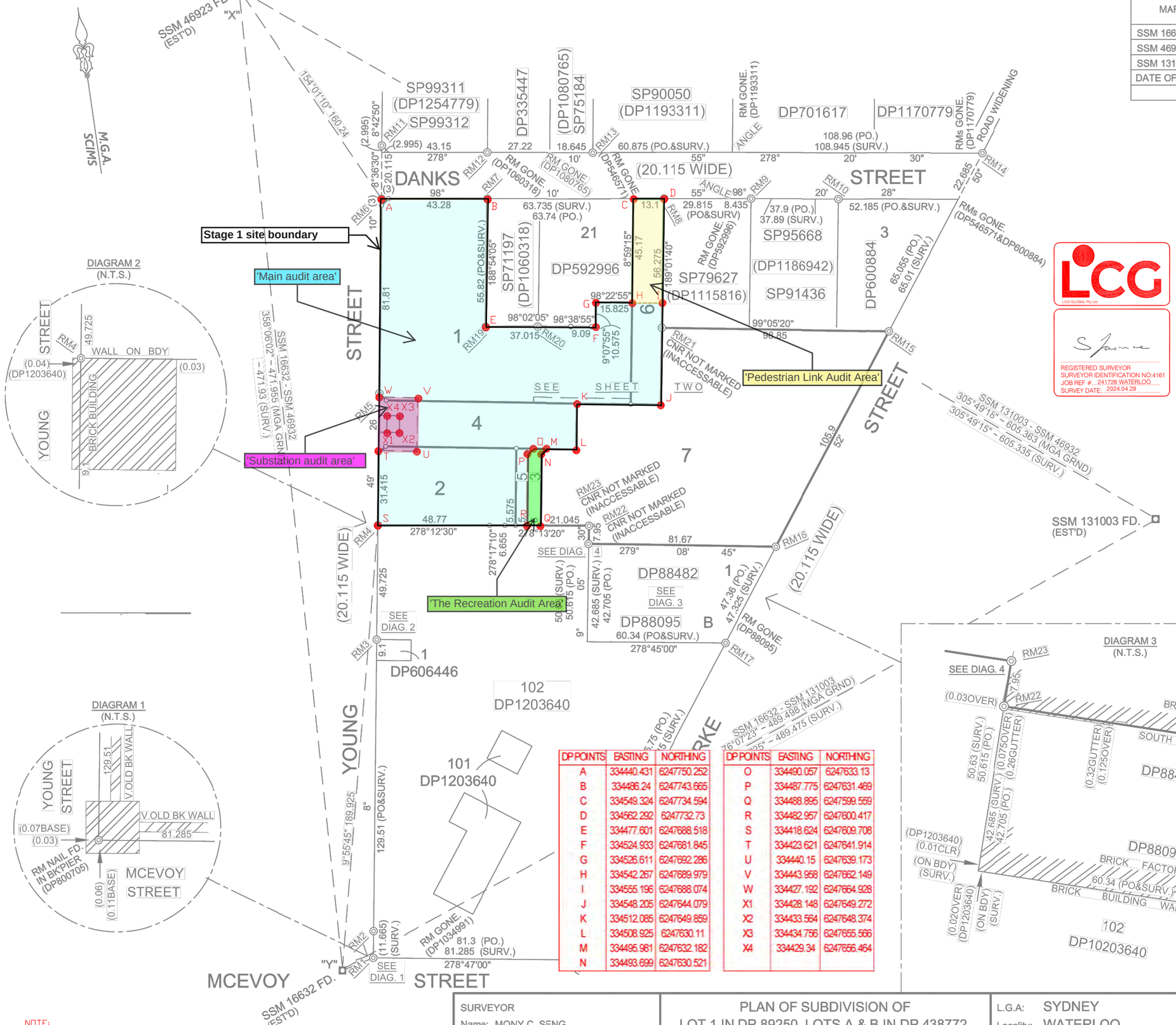
Appendix D

Survey plan of audit areas

COORDINATE SCHEDULE						
MARK	MGA COORDINATES		CLASS	PU	METHOD	STATE
	EASTING	NORTHING				
SSM 16632	334386.337	6247424.086	B	-	SCIMS	FOUND
SSM 46923	334370.695	6247895.749	B	-	SCIMS	FOUND
SSM 131003	334861.515	6247541.477	D	-	SCIMS	FOUND
DATE OF SCIMS COORDINATES: 29-MAY-2023 MGA ZONE: 56 MGA DATUM: GDA2020						
COMBINED SCALE FACTOR: 0.999929						

SCHEDULE OF REFERENCE MARKS

NO.	DESCRIPTIONS		SOURCE
RM1	SSM16632	75°57'40"~3.995	(DP1203640)
RM2	DH& W. FD.	98°48'40"~3.545	(DP800771)
RM3	DH& W. FD.	98°50'40"~3.665	(DP606446)
		98°50'40"~3.655	(SURV.)
RM4	DH& W. FD.	99°46'00"~3.665	(DP204457)
RM5	DH& W. PL.	154°09'00"~6.405	
RM6	RM&SSM's GONE.		(DP1060318)
	DH& W. PL.	259°38'00"~3.17	
RM7	RM GONE.		(DP1060318)
	DH& W. PL.	192°22'30"~2.335	
RM8	DH& W. PL.	205°08'30"~1.2	
RM9	DH& W. FD.	191°28'40"~3.48	(DP1186942)
		191°28'40"~3.52	(SURV.)
RM10	DH& W. FD.	193°37'30"~16.85	(DP1186942)
		193°37'30"~16.885	(SURV.)
RM11	DH& W. FD.	90°56'00"~5.43	(DP1241049)
RM12	DH& W. FD.	6°10'00"~16.47	(DP1241049)
RM13	DH& W. FD.	6°04'00"~3.485	(DP1193311)
RM14	DH& W. FD.	277°33'30"~21.925	(DP1170779)
	DH& W. GONE.		(DP1170779)
RM15	DH& W. PL.	250°35'30"~6.175	
	DH& W. GONE.		(DP546571)
RM16	DH& W. FD.	316°41'30"~3.645	(ORIGIN UNKNOWN)
	DH& W. NOT FD.		(DP88482)
RM17	DH& W. FD. V. FAINT	301°07'30"~3.54	(DP800705)
	DH& W. IN FACE OF BK FD. AT CNR.		(DP800705)
RM18	DH& W. FD.	260°40'30"~5.095	(DP1203640)
	DH& W. GONE.		(DP800771)
RM19	CNR OF WALL AT ROOF FD.	233°28'30"~0.015	(DP1060318)
RM20	CNR OF WALL AT ROOF FD.	98°02'05"~0.015	(DP1060318)
	CNR OF WALL AT ROOF FD.	77°25'00"~0.105	(SURV.)
RM21	CNR OF WALL	69°42'00"~0.48	
RM22	CNR OF WALL	32°24'00"~0.085	
RM23	CNR OF WALL	188°43'00"~7.265	



DP POINTS	EASTING	NORTHING
A	334440.431	6247750.252
B	334486.24	6247743.665
C	334549.324	6247734.594
D	334562.292	6247732.73
E	334477.601	6247688.518
F	334524.933	6247681.845
G	334526.611	6247692.286
H	334542.267	6247689.979
I	334555.196	6247688.074
J	334548.205	6247644.079
K	334512.085	6247649.859
L	334508.925	6247630.11
M	334495.981	6247632.182
N	334493.699	6247630.521

DP POINTS	EASTING	NORTHING
O	334490.057	6247633.13
P	334487.775	6247631.469
Q	334488.895	6247599.559
R	334482.957	6247600.417
S	334418.624	6247609.708
T	334423.621	6247641.914
U	334440.15	6247639.173
V	334443.958	6247662.149
W	334427.192	6247664.928
X1	334428.148	6247649.272
X2	334433.564	6247648.374
X3	334434.756	6247655.566
X4	334429.34	6247656.464

NOTE:
COORDINATE SYSTEM IS IN MGA94.

SURVEYOR Name: MONY C. SENG Date: 10/04/2023 Reference: ECP2727.L.01	PLAN OF SUBDIVISION OF LOT 1 IN DP 89250, LOTS A & B IN DP 438772, LOT 4 IN DP 600884 AND LOT 3 IN DP 775039	L.G.A: SYDNEY Locality: WATERLOO Reduction Ratio 1: 1200 Lengths are in metres	Registered	UNREGISTERED

Appendix E

City of Sydney Council correspondence

From: Jason Clay
To: broit@broham.com.au; Trevor McNally (InTouch)
Subject: FW: 19142 - Jeffman, Waterloo, Remediation - D/2020/45/C Condition 55
Date: Wednesday, 6 November 2024 5:01:23 PM
Attachments: image001.png
image002.png
image004.png
image005.png
image006.png
image007.png
image008.png
image009.png

Communication from Council

Jason Clay
Senior Principal, Contaminated Sites Auditor (NSW and WA)
M: **+61 410 431 674**
www.senversa.com.au
Level 24, 1 Market St,
Djubuguli, Eora Country
Sydney, NSW, 2000, Australia

From: Matthew Girvan <mgirvan@cityofsydney.nsw.gov.au>
Sent: Wednesday, 6 November 2024 3:05 PM
To: Jason Clay <jason.clay@senversa.com.au>
Subject: RE: 19142 - Jeffman, Waterloo, Remediation - D/2020/45/C Condition 55

Hi Jason,

The submitted LTEMP is passive in that it sets out actions that must be undertaken if any intrusive ground works are undertaken that breach the installed marker layer below which contaminated soils remain. This LTEMP would not breach Condition 55.

I note we have email advice from the Site Auditor confirming that this LTEMP is endorsed by him and will be referenced on the final Section A Site Audit Statement which will be required under condition 24.

Kind regards,

Matthew Girvan
Area Coordinator
Planning Assessments

Telephone: +612 9246 7756
cityofsydney.nsw.gov.au

The City of Sydney acknowledges the Gadigal of the Eora nation as the Traditional Custodians of our local area.

From: Jason Clay <jason.clay@senversa.com.au>
Sent: Wednesday, 6 November 2024 12:40 PM
To: Matthew Girvan <mgirvan@cityofsydney.nsw.gov.au>
Subject: RE: 19142 - Jeffman, Waterloo, Remediation - D/2020/45/C Condition 55

Much appreciated. I'll check on the SAS issue date, I think the hold up is due to sale negotiations rather than anything in the ground.

Council approval of the EMP is a contract of sale requirement so approval as soon as possible would be hugely appreciated.

I will check on the date of SAS issue and get back to you.

Regards

Jason Clay
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Hi Jason,

I am waiting on comments from Council's Health and Building unit in relation to your email below. I will let you know as soon as I have received their comments.

When is the SAS likely to be issued? Do you need Council's response prior to the SAS being issued?

Kind regards,

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Matthew

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Regards

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Subject: RE: 19142 - Jeffman, Waterloo, Remediation - D/2020/45/C Condition 55

Matthew

The stage 1 remedial works are complete, and we will be starting stage 2 shortly. The Stage 1 SASs will be issued immanently. As per Andrew Kohlrusch's email below he has accepted the passive EMP for the pedestrian walkway, that is to be dedicated to council, as a final document and will be providing it to you, attached to the SAS, shortly.

If you could see your way to providing some feedback to us, re the council accepting the EMP, on the basis of Andrew's acknowledgement of it we would be enormously grateful.

Council's acceptance of the EMP is a contractual requirement of the sale of stage 1.

If you have any questions, please do not hesitate to contact me.

Regards

Jason Clay
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M: **+61 410 431 674**
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Level 24, 1 Market St,
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Hi Matthew,

I can confirm that I have reviewed the EMP and that it has been prepared as per the NSW EPA *Consultants reporting on contaminated sites* guidelines.

The EMP is considered passive and there is no need to undertake any form of monitoring.

The EMP (as per the NSW EPA *Guidelines for the NSW Site Auditor Scheme (3rd Edition)* will be attached to the SAS to be issued for the pedestrian access link.

Regards
andrew

Andrew Kohlrusch | A GHD PRINCIPAL
Senior Technical Director – Contamination and Remediation
NSW EPA and WA DWER accredited site auditor

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133 Castlereagh Street, Sydney NSW 2000
D 61 2 9239 7187 **M** 61 447 685 055

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Subject: RE: 19142 - Jeffman, Waterloo, Remediation - D/2020/45/C Condition 55

> Some people who received this message don't often get email from mgirvan@cityofsydney.nsw.gov.au. Learn why this is important

Hi Jason,

We are reviewing this.

We will require confirmation from the Site Auditor that they has no concerns with the EMP document and that it will be referenced on their final Site Audit Statement.

Kind regards,

Matthew Girvan
Area Coordinator
Planning Assessments

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Subject: RE: 19142 - Jeffman, Waterloo, Remediation - D/2020/45/C Condition 55

Matthew

Please see attached our passive EMP/AMP for the pedestrian access way. This has been approved by the site auditor Andrew Kohlrusch.

We would be very grateful if you could provide any feedback on this document to myself

and Andrew (cc'd) on Monday, noting that we anticipate the site audit statement for the pedestrian access way is scheduled to be issued on Tuesday.

We apologise for the compressed timescale.

Regards

Jason Clay
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Subject: 19142 - Jeffman, Waterloo, Remediation - D/2020/45/C Condition 55

Matthew

Sincerest apologies for the out of the blue email.

The remediation of stage 1 of the above site is virtually complete and we are anticipating site audit statements, for the different elements of stage 1, including those to be dedicated to council, early next week.

We would therefore be enormously grateful for your urgent attention to the attached letter and the EMP that we will send you, early next week.

Regards

Jason Clay
Senior Principal, Contaminated Sites Auditor (NSW and WA)

M: **+61 410 431 674**
E: **jason.clay@senversa.com.au**

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Hi Jason,

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I note we have email advice from the Site Auditor confirming that this LTEMP is endorsed by him and will be referenced on the final Section A Site Audit Statement which will be required under condition 24.

Kind regards,

Matthew Girvan
Area Coordinator
Planning Assessments

Telephone: +612 9246 7756
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Caution: This email came from outside the organisation. Don't click links or open attachments unless you know the sender, and were expecting this email.

Matthew

Here is the email I sent you recently, if you could see your way to replying that Council accepts the EMP for the pedestrian walkway we would be very grateful.

Regards

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Andrew Kohlrusch | A GHD PRINCIPAL
Senior Technical Director – Contamination and Remediation
NSW EPA and WA DWER accredited site auditor

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We will require confirmation from the Site Auditor that they has no concerns with the EMP document and that it will be referenced on their final Site Audit Statement.

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Senversa acknowledges the Traditional custodians of the lands and waters upon which we conduct our work, and pay our respect to the Elders, past, present and those to come.

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CORRS CHAMBERS WESTGARTH

Sydney
Melbourne
Brisbane
Perth
Port Moresby

5 December 2024

By email: dmalouf@landerer.com.au
David Malouf
Landerer & Company Pty Ltd
Level 31, 133 Castlereagh Street
Sydney NSW 2000

Contact
Chiara Gay (02) 9210 6969
Email: chiara.gay@corrs.com.au

Partner
Peter Calov

Dear David

Jeffman Pty Ltd (Jeffman) and Red Breast Pty Ltd as trustee for the Eisman Family Trust (Red Breast) (together, the Vendor) sale to Waterloo Property Pty Ltd ACN 680 563 713 as trustee for Waterloo Property Unit Trust (Purchaser)

207-229 Young Street, Waterloo – Proposed Lot 1 in Plan of Proposed Subdivision of folio identifiers 1/89250, A/438772, B/438772, 4/600884 and 3/775039 (Stage 1)

We refer to the contract for the sale and purchase of land between the Vendor and the Purchaser in respect of the land contained in proposed lot 1 in plan of proposed subdivision of folio identifiers 1/89250, A/438772, B/438772, 4/600884 and 3/775039, now identified as folio identifier 1/1308636, exchanged on 6 September 2024 (**Stage 1 Contract**).

Unless the context otherwise requires, terms capitalised but not defined in this letter have the same meaning given in the Stage 1 Contract.

1 Remediation Condition Progress

Please see **attached** draft Notice of Satisfaction of Remediation Condition the Vendor intends to serve on the purchaser upon satisfaction of the Remediation Condition.

The following components of the Remediation Condition have been satisfied:

(a) the Stage 1 Remediation Works are complete in satisfaction of clause 38.2(a) of the Stage 1 Contract;

(b) the Site Audit Statements have been issued in satisfaction of clause 38.2(b) of the Stage 1 Contract; and

(c) there have been no variations to the Remediation Action Plan, so no RAP Variations Approvals are required in satisfaction of clause 38.2(c) of the Stage 1 Contract.

We advise as follows in relation to each component of the Remediation Condition.

2 Remediation Condition – Section A1 Site Audit Statements (clause 38.2(b))

Please see **attached** "Jeffman Danks Street South Precinct Stage 1 - Site Audit Report No. SAR – 2128078" prepared by Andrew Kohlrusch of GHD Pty Ltd dated 13 November 2024 (**Site Audit Report**) and the following Site Audit Statements as required by clause 38.2(b) of the Stage 1 Contract:

(a) Section A1 Site Audit Statement for the "Main Audit Area" (clause 38.2(b)(i)(A) of the Stage 1 Contract) dated 13 November 2024 (**Main Area SAS**); and

(b) Section A1 Site Audit Statement for the "Recreation Audit Area" (clause 38.2(b)(i)(B) of the Stage 1 Contract) dated 13 November 2024 (**Recreation Area SAS**).

Andrew Kohlrusch (**Site Auditor**) is a NSW EPA accredited site auditor, under the *Contaminated Land Management Act 1997*, with accreditation number 0403.

Attached is an additional Section A1 Site Audit Statement for the "Substation Audit Area" (the same area marked-up as "*38.2(c) Plans, (i) remediation under the substation*" in Schedule 9 of the Stage 1 Contract) dated 13 November 2024 (**Substation SAS**). We note the Vendor was not required to provide the Substation SAS by the Stage 1 Contract. Clauses 38.2(b)(iv) and 38.2(c)(i) of the Stage 1 Contract provide that the Site Audit Statements may exclude the Substation Audit Area. Regardless, the additional Substation SAS is provided to the Purchaser for completeness.

3 "Pedestrian Link Audit Area" Section A2 Site Audit Statement

Similarly, clauses 38.2(b)(iv) and 38.2(c)(iii) of the Stage 1 Contract provide that the Site Audit Statements that the Vendor is required to obtain under clause 38.2(b) may exclude the area "*up to boundary of the buildings on either side of the pedestrian access to Danks Street*" (as shown in the marked-up plans in Schedule 9 of the Stage 1 Contract) (**Excluded Pedestrian Link Area**) due to geotechnical constrains on remediation in that area. The Stage 1 Contract does not require the Vendor to provide any Site Audit Statement in relation to the Excluded Pedestrian Link Area. However, for completeness, please see **attached** a Section A2 Site Audit Statement for the Excluded Pedestrian Link Area ("Pedestrian Link Audit Area") dated 13 November 2024 (**Pedestrian Link SAS**).

Together, the Main Area SAS, Recreation Area SAS, Substation SAS and Pedestrian Link SAS cover the entirety of the land the subject of the Stage 1 Contract.

4 Pedestrian Link SAS – Long-Term Environmental Management Plan

As a Section A2 Site Audit Statement, the Pedestrian Link SAS certifies that the Excluded Pedestrian Link Area is suitable for use as a pedestrian walkway subject to compliance with a Long-Term Environmental Management Plan (**LTEMP**). We note:

(a) The LTEMP only applies to the Excluded Pedestrian Link Area;

(b) The LTEMP is a passive management plan required for the management of asbestos waste that was encountered within the Excluded Pedestrian Link Area during the Stage 1 Remediation Works, and which could not be removed from that land due to site constraints. The LTEMP does not require active management of the Excluded Pedestrian Link Area, but imposes obligations in the event intrusive ground works are done on that land which penetrate a marker layer below which contaminated soil remains, and may result in that asbestos waste being exposed;

(c) The Excluded Pedestrian Link Area to which the LTEMP applies is required to be dedicated to the City of Sydney Council (**Council**) as public pathway under condition 65 of development consent D/2020/45 (**Development Consent**) upon registration of the Phase 1 plan of subdivision; and

(d) Council have confirmed that the LTEMP does not breach condition 55 of the Development Consent, as it is a passive LTEMP (see correspondence with Council **attached**, also at Appendix E of the Site Audit Report).

The Purchaser can comply with the requirement to dedicate the Excluded Pedestrian Link Area to Council in accordance with the Development Consent.

5 Remediation Condition – RAP Variations Approvals (clause 38.2(c))

Clause 38.2(c) of the Stage 1 Contract provides that the Vendor must obtain and provide to the Purchaser evidence that the Site Auditor and Council's Area Planning Manager have approved variations of the Remediation Action Plan (**RAP**) in relation to excluding remediation under the substation, under and around the trees on the property and up to the boundary of the buildings on either side of the pedestrian access.

The Site Audit Report confirms that the Site Auditor considered that Senversa collected sufficient data to demonstrate that remediation of Stage 1 has been completed in general accordance with the RAP (refer to section 10.6). The issuing of the Site Audit Report and Site Audit Statements is endorsement of the extent to which the Stage 1 Remediation Works have been carried out in accordance with the RAP.

We note that section 10.6 of the Site Audit Report refers to "deviations from the planned remediation." However, we are instructed by the Site Auditor and Senversa that the "deviation" was not related to the scope and type of remediation, but rather to the retention of the concrete slab that extends eastward from Young Street. We are further instructed that, as the RAP was an adaptive management document that provided for contingencies:

(a) these deviations were in adherence with the adaptive management processes in the RAP;

(b) the data collected and presented by Senversa was consistent with the approach outlined in the RAP; and

(c) the RAP overall was adhered to.

Accordingly, as there were no variations to the RAP in completion of the Stage 1 Remediation Works, no RAP Variations Approvals are required.

6 Remediation Condition – 21084 S.44 Notice (clause 38.2(d))

The Vendor is in discussions with the EPA regarding provision of the 21084 S.44 Notice. The Vendor will serve the Notice of Satisfaction of Remediation Condition once this has been issued.

Yours sincerely

Peter Calov
Partner

NSW Site Auditor Scheme

Site Audit Statement

A site audit statement summarises the findings of a site audit. For full details of the site auditor's findings, evaluations and conclusions, refer to the associated site audit report.

This form was approved under the *Contaminated Land Management Act 1997* on 12 October 2017.

For information about completing this form, go to Part IV.

Part I: Site audit identification

Site audit statement no. 088 - 2128078

This site audit is a:

☒ statutory audit

☐ ~~non-statutory audit~~

within the meaning of the *Contaminated Land Management Act 1997*.

Site auditor details

(As accredited under the *Contaminated Land Management Act 1997*)

Name: Andrew Kohlrusch

Company: GHD Pty Ltd

Address: 133 Castlereagh Street, Sydney

Postcode: 2000

Phone: 61 447 685 055

Email: Andrew.kohlrusch@ghd.com

Site details

Address: 207-229 Young Street, Waterloo

Postcode: 2017

Property description

(Attach a separate list if several properties are included in the site audit.)

207-229 Young Street, Waterloo, 2017. Comprising part of existing Lot 3 (DP 775039). The audit boundary is represented by the pale blue filled polygon (i.e. the 'Main Audit Area') presented in Attachment 1 of this SAS.

Local government area: City of Sydney

Area of site (include units, e.g. hectares): 10,478m^2

Current zoning: E1 – Local Centre (Sydney Local Environmental Plan, 2012)

Regulation and notification

To the best of my knowledge:

☐ ~~**the site is** the subject of a declaration, order, agreement, proposal or notice under the *Contaminated Land Management Act 1997* or the *Environmentally Hazardous Chemicals Act 1985,* as follows: (provide the no. if applicable)~~

- ☐ ~~Declaration no.~~
- ☐ ~~Order no.~~
- ☐ ~~Proposal no.~~
- ☐ ~~Notice no.~~

☒ **the site is not** the subject of a declaration, order, proposal or notice under the *Contaminated Land Management Act 1997* or the *Environmentally Hazardous Chemicals Act 1985*.

To the best of my knowledge:

☐ ~~the site **has** been notified to the EPA under section 60 of the *Contaminated Land Management Act 1997*~~

☒ the site **has not** been notified to the EPA under section 60 of the *Contaminated Land Management Act 1997*.

Site audit commissioned by

Name: Jeff Eisman

Company: Jeffman Pty Ltd

Address: Suite 603, 180 Ocean Street, Edgecliff, NSW

Postcode: 2070

Phone: 02 9327 4552

Email: jeisman@bigpond.net.au

Contact details for contact person (if different from above)

~~Name~~

~~Phone~~

~~Email~~

Nature of statutory requirements (not applicable for non-statutory audits)

❑ ~~Requirements under the *Contaminated Land Management Act* 1997 (e.g. management order; please specify, including date of issue)~~

❑ ~~Requirements imposed by an environmental planning instrument (please specify, including date of issue)~~

☒ Development consent requirements under the *Environmental Planning and Assessment Act 1979* (please specify consent authority and date of issue)

D/2020/45C issued by City of Sydney on 23 August 2021

❑ ~~Requirements under other legislation (please specify, including date of issue)~~

Purpose of site audit

☒ **A1** To determine land use suitability

Intended uses of the land: Mixed use: medium to high density residential (with minimal opportunities for soil access) and commercial use.

OR

☐ ~~**A2** To determine land use suitability subject to compliance with either an active or passive environmental management plan~~

~~Intended uses of the land:~~

~~OR~~

~~(Tick all that apply)~~

☐ ~~**B1** To determine the nature and extent of contamination~~

☐ ~~**B2** To determine the appropriateness of:~~

- ☐ ~~an investigation plan~~
- ☐ ~~a remediation plan~~
- ☐ ~~a management plan~~

☐ ~~**B3** To determine the appropriateness of a **site testing plan** to determine if groundwater is safe and suitable for its intended use as required by the *Temporary Water Restrictions Order for the Botany Sands Groundwater Resource 2017*~~

☐ ~~**B4** To determine the compliance with an approved:~~

- ☐ ~~**voluntary management proposal** or~~
- ☐ ~~**management order** under the *Contaminated Land Management Act 1997*~~

☐ ~~**B5** To determine if the land can be made suitable for a particular use (or uses) if the site is remediated or managed in accordance with a specified plan.~~

~~Intended uses of the land:~~

Information sources for site audit

Consultancies which conducted the site investigations and/or remediation:

Senversa (Validation consultant)

EnviroPacific (Principal Contractor/remediation consultant)

Titles of reports reviewed:

Pre remediation reports

- Senversa (2022a) Sampling and Analysis Quality Plan – Stage 1: Jeffman Danks Street South Precinct, Waterloo, NSW (REV 0, 29 April 2022) (**the SAQP**)
- Senversa (2022b) Detailed Site Investigation – Stage 1: Jeffman Waterloo Development, Waterloo, NSW (REV 1, 23 November 2022) (**the Data Gap DSI**)

- Senversa (2022c) Human Health Risk Assessment, Jeffman Waterloo Development, Waterloo NSW (REV 1, 23 November 2022) (**the HHRA**)
- Senversa (2022d) Technical Memorandum - Revision of RAP Remediation Extents in Stage 1 Area (REV 1, 24 November 2022) (**the Revision of RAP Remediation Extents**)
- Senversa (2023a) Technical Memorandum – Results of additional sampling conducted in March 2023 (REV 0, 19 May 2023) (**Post demolition additional sampling results**)
- Senversa (2023b) Remediation Works Plan – Stage 1: Jeffman Danks Street South Precinct, Waterloo, NSW (REV 2, 29 August 2023) (**the Stage 1 RWP**)
- Senversa (2023c) Validation Works Plan – Stage 1 Remediation: Jeffman Danks Street South Precinct, Waterloo, NSW (REV 2, 30 August 2023) (**the Stage 1 VWP**)
- Senversa (2024a) Change in land use remediation end point: Jeffman Danks Street, NSW (REV 0, 01 May 2024)
- Senversa (2024b) Update to risk based screening levels: Jeffman Danks Street (REV 0, 06 June 2024)
- Senversa (2024c) Validation assessment approach for the pedestrian link (REV 0, 11 June 2024)
- Senversa (2024d) Stage 1 remediation – validation update: Jeffman, Waterloo (REV 0, 12 June 2024)
- Senversa (2024e) Stage 1 validation: Modified soil vapour verification approach: Jeffman Danks Street (REV 0, 19 June 2024)
- Senversa (2024f) Stage 1 Remediation – RA1 Vapour Assessment: Jeffman, Waterloo (Revision 0, 12 July 2024)
- Senversa (2024g) Groundwater Validation: VCH Migration Control and Post-Remediation Verification - Stage 1 Remediation (REV 1, 13 September 2024)
- Senversa (2024h) Validation of soils remaining in-situ outside of RWP Remediation Areas – Stage 1 (REV 1, 19 September 2024)
- Senversa (2024i) Stage 1 Remediation Validation Report: Part Danks Street South Precinct, Waterloo, NSW (REV 1, 04 October 2024).

Excavation validation reports

- Senversa (2024j) Excavation Surface Validation: Remediation Excavation – RA2 (Revision 1, 16 September 2024)
- Senversa (2024k) Excavation Validation: Stage 1 remediation – part Lot 4 in DP 600884 (RA7, RA12 and Pedestrian Link) (REV 1, 13 September 2024)
- Senversa (2024l) Excavation Surface Validation: Stage 1 remediation RA11 (Revision 2, 03 October 2024)

Imported materials reports

- Senversa (2024m) Imported material assessment: Virgin Excavated Natural Material, 2-10 Bay Street, Double Bay NSW: Lawrence Dry Cleaners Remediation Project (REV 1, 27 June, 2024)
- Senversa (2024n) Imported material assessment: Mulch – Lawrence Dry Cleaners Remediation Project (REV 0, 08 July 2024)

- Senversa (2024o) Imported material assessment: Virgin Excavated Natural Material, 26-42 Eden Street, Arncliffe, NSW: Lawrence Dry Cleaners Remediation Project (REV 1, 17 September, 2024)
- Senversa (2024p) Imported material assessment: Hanson Bass Point Quarried Products: Lawrence Dry Cleaners Remediation Project (REV 1, 17 September, 2024)
- Senversa (2024q) Imported material assessment: Virgin Excavated Natural Material, 2-10 Darling Drive, Sydney, NSW: Lawrence Dry Cleaners Remediation Project (REV 1, 17 September, 2024)

Off-site disposal reports

- Senversa (2024r) Waste Classification Letter: Stockpile Assessment SP001 (REV 1, 03 September, 2024)
- Senversa (2024s) Waste Classification Letter: Stockpile Assessment SP002 (REV 1, 03 September, 2024)
- Senversa (2024t) Waste Classification Letter: Stockpile Assessment SP004 (REV 1, 03 September, 2024)
- Senversa (2024u) Waste Classification Letter: Stockpile Assessment SP010 and SP021 (REV 2, 03 September, 2024)
- Senversa (2024v) Waste Classification Letter: Stockpile Assessment SP006 (REV 2, 02 October, 2024)
- Senversa (2024w) Waste Classification Letter: Stockpile Assessment SP007 (REV 2, 02 October, 2024)
- Senversa (2024x) Waste Classification Letter: Stockpile Assessment SP017 (REV 2, 03 September, 2024)
- Senversa (2024y) Waste Classification Letter: Stockpile Assessment SP018 (REV 2, 02 October, 2024)
- Senversa (2024z) Waste Classification Letter: Stockpile Assessment SP032 (REV 1, 03 September, 2024)
- Senversa (2024aa) Waste Classification Letter: Stockpile Assessment SP033 (REV 1, 03 September, 2024)
- Senversa (2024ab) Waste Classification Letter: Stockpile Assessment SP035 (REV 1, 03 September, 2024)
- Senversa (2024ac) Waste Classification Letter: Stockpile Assessment SP038 (REV 1, 03 September, 2024)
- Senversa (2024ad) Waste Classification Letter: Stockpile Assessment SP040 (REV 2, 02 October, 2024)
- Senversa (2024ae) Waste Classification Letter: Stockpile Assessment SP043 (REV 2, 02 October, 2024)
- Senversa (2024af) Waste Classification Letter: Stockpile Assessment SP039, SP060 and SP061 (REV 1, 03 September, 2024)
- Senversa (2024ag) Waste Classification Letter: Stockpile Assessment SP047 (REV 2, 02 October, 2024)

- Senversa (2024ah) Waste Classification Letter: Stockpile Assessment SP048 (REV 2, 02 October, 2024)
- Senversa (2024ai) Waste Classification Letter: Stockpile Assessment SP051 (REV 1, 03 September, 2024)
- Senversa (2024aj) Waste Classification Letter: Stockpile Assessment SP054 (REV 1, 03 September, 2024)
- Senversa (2024ak) Waste Classification Letter: Stockpile Assessment SP055 (REV 1, 03 September, 2024)
- Senversa (2024al) Waste Classification Letter: Stockpile Assessment SP052, SP060 and SP061 (REV 1, 03 September, 2024)
- Senversa (2024am) Waste Classification Letter: Stockpile Assessment SP056 (REV 2, 02 October, 2024)
- Senversa (2024an) Waste Classification Letter: Stockpile Assessment SP057 (REV 1, 03 September, 2024)
- Senversa (2024ao) Waste Classification Letter: Stockpile Assessment SP062, SP060 and SP061 (REV 1, 03 September, 2024)
- Senversa (2024ap) Waste Classification Letter: Stockpile Assessment SP068 (REV 1, 03 October 2024)
- Senversa (2024aq) Stage 1 Remediation – RA2 Vapour Verification Assessment: Jeffman, Waterloo (REV 1, 16 September, 2024)

Treated stockpile reports

- Senversa (2024ar) Stockpile Assessment: Stockpile TSP004 (REV 1, 02 September, 2024)
- Senversa (2024as) Stockpile Assessment: Stockpile TSP005 (REV 1, 02 September, 2024)
- Senversa (2024at) Stockpile Assessment: Stockpile TSP006 (REV 1, 02 September, 2024)
- Senversa (2024au) Stockpile Assessment: Stockpile TSP007 (REV 1, 02 September, 2024)
- Senversa (2024av) Stockpile Assessment: Stockpile TSP008 (REV 1, 02 September, 2024)
- Senversa (2024aw) Stockpile Assessment: Stockpile TSP009 (REV 1, 02 September, 2024)
- Senversa (2024ax) Stockpile Assessment: Stockpile TSP010 (REV 1, 02 September, 2024)
- Senversa (2024ay) Stockpile Assessment: Stockpile TSP011 (REV 1, 02 September, 2024)
- Senversa (2024az) Stockpile Assessment: Stockpile TSP012 (REV 1, 02 September, 2024)
- Senversa (2024ba) Stockpile Assessment: Stockpile TSP013 (REV 1, 02 September, 2024)

- Senversa (2024bb) Stockpile Assessment: Stockpile TSP014 (REV 1, 02 September, 2024)
- Senversa (2024bc) Stockpile Assessment: Stockpile TSP015 (REV 1, 02 September, 2024)
- Senversa (2024bd) Stockpile Assessment: Stockpile TSP016 (REV 1, 02 September, 2024)
- Senversa (2024be) Stockpile Assessment: Stockpile TSP044 (REV 1, 02 September, 2024)

Un-treated stockpile reports

- Senversa (2024bf) Stockpile Assessment: Stockpile SP013 (REV 1, 16 August, 2024)
- Senversa (2024bg) Stockpile Assessment: Stockpile SP024 (REV 1, 16 August, 2024)
- Senversa (2024bh) Stockpile Assessment: Stockpile SP025 (REV 1, 16 August, 2024)
- Senversa (2024bi) Stockpile Assessment: Stockpile SP028 (REV 1, 16 August, 2024)
- Senversa (2024bj) Stockpile Assessment: Stockpile SP034 (REV 1, 16 August, 2024)
- Senversa (2024bk) Stockpile Assessment: Stockpile SP041 (REV 1, 16 August, 2024)
- Senversa (2024bl) Stockpile Assessment: Stockpile SP045 (REV 1, 16 August, 2024)
- Senversa (2024bm) Stockpile Assessment: Stockpile SP059 (REV 1, 16 August, 2024)
- Senversa (2024bn) Stockpile Assessment: Stockpile SP036 (REV 1, 16 August, 2024)

Other information reviewed, including previous site audit reports and statements relating to the site:

- Senversa (2019a) Preliminary Site Investigation: Jeffman Danks Street South Precinct (REV 0, 04 March 2019)
- *Senversa (2019b)* Overarching Remediation Action Plan (REV 1, 11 December 2019)
- Senversa (2021a) Remediation Action Plan: Jeffman Danks Street South Precinct, Waterloo, NSW (REV 2, 24 February 2021)
- (Senversa 2021b) Detailed Site Investigation, Jeffman Danks Street South Precinct, Waterloo, NSW. 26 February 2021 (REV 3, 26 February 2021)
- GHD (2021a) Site Audit Report: Danks Street South Precinct, Waterloo, NSW (March, 2021)
- GHD (2021b) Site Audit Statement: 207-229 Young Street, Waterloo and 881-885 Bourke Street, Waterloo and 887-893 Bourke Street, Waterloo (05 March 2021).

Site audit report details

Title: Jeffman Danks Street South Precinct Stage 1: Site Audit Report

Report no. 2128078 Date: 13/11/2024

Part II: Auditor's findings

Please complete either Section A1, Section A2 or Section B, not more than one section. (Strike out the irrelevant sections.)

- Use **Section A1** where site investigation and/or remediation has been completed and a conclusion can be drawn on the suitability of land uses **without the implementation** of an environmental management plan.
- Use **Section A2** where site investigation and/or remediation has been completed and a conclusion can be drawn on the suitability of land uses **with the implementation** of an active or passive environmental management plan.
- Use **Section B** where the audit is to determine:
  - (B1) the nature and extent of contamination, and/or
  - (B2) the appropriateness of an investigation, remediation or management plan[1], and/or
  - (B3) the appropriateness of a site testing plan in accordance with the *Temporary Water Restrictions Order for the Botany Sands Groundwater Source 2017*, and/or
  - (B4) whether the terms of the approved voluntary management proposal or management order have been complied with, and/or
  - (B5) whether the site can be made suitable for a specified land use (or uses) if the site is remediated or managed in accordance with the implementation of a specified plan.

[1] For simplicity, this statement uses the term 'plan' to refer to both plans and reports.

Section A1

I certify that, in my opinion:

The **site is suitable** for the following uses:

(Tick all appropriate uses and strike out those not applicable.)

~~☐ Residential, including substantial vegetable garden and poultry~~

~~☐ Residential, including substantial vegetable garden, excluding poultry~~

~~☐ Residential with accessible soil, including garden (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry~~

~~☐ Day care centre, preschool, primary school~~

☒ Residential with minimal opportunity for soil access, including units

~~☐ Secondary school~~

~~☐ Park, recreational open space, playing field~~

☒ Commercial/industrial

~~☐ Other (please specify):~~

_____

~~**OR**~~

~~☐ I certify that, in my opinion, the **site is not suitable** for any use due to the risk of harm from contamination.~~

~~Overall comments:~~

_____

_____

_____

_____

_____

_____

Section A2

I certify that, in my opinion:

Subject to compliance with the **attached** environmental management plan[2] (EMP), the site is suitable for the following uses:

(Tick all appropriate uses and strike out those not applicable.)

☐ Residential, including substantial vegetable garden and poultry

☐ Residential, including substantial vegetable garden, excluding poultry

☐ Residential with accessible soil, including garden (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry

☐ Day care centre, preschool, primary school

☐ Residential with minimal opportunity for soil access, including units

☐ Secondary school

☐ Park, recreational open space, playing field

☐ Commercial/industrial

☐ Other (please specify):

_____

EMP details

Title:

Author:

Date: No. of pages:

EMP summary

This EMP (attached) is required to be implemented to address residual contamination on the site.

The EMP: (Tick appropriate box and strike out the other option.)

☐ requires operation and/or maintenance of **active** control systems[3]

☐ requires maintenance of **passive** control systems only[3].

[2] Refer to Part IV for an explanation of an environmental management plan.
[3] Refer to Part IV for definitions of active and passive control systems.

~~Purpose of the EMP:~~

~~Description of the nature of the residual contamination:~~

~~Summary of the actions required by the EMP:~~

~~How the EMP can reasonably be made to be legally enforceable:~~

~~How there will be appropriate public notification:~~

~~Overall comments:~~

Section B

Purpose of the plan[4] which is the subject of this audit:

_____

_____

_____

I certify that, in my opinion:

(B1)

☐ The nature and extent of the contamination **has** been appropriately determined

☐ The nature and extent of the contamination **has not** been appropriately determined

AND/OR (B2)

☐ The investigation, remediation or management plan **is** appropriate for the purpose stated above

☐ The investigation, remediation or management plan **is not** appropriate for the purpose stated above

AND/OR (B3)

☐ The site testing plan:

☐ **is** appropriate to determine

☐ **is not** appropriate to determine

if groundwater is safe and suitable for its intended use as required by the *Temporary Water Restrictions Order for the Botany Sands Groundwater Resource 2017*

AND/OR (B4)

☐ The terms of the approved voluntary management proposal* or management order** (strike out as appropriate):

☐ **have** been complied with

☐ **have not** been complied with.

*voluntary management proposal no. _____

**management order no. _____

AND/OR (B5)

☐ The site **can be made suitable** for the following uses:

(Tick all appropriate uses and strike out those not applicable.)

☐ Residential, including substantial vegetable garden and poultry

☐ Residential, including substantial vegetable garden, excluding poultry

[4] For simplicity, this statement uses the term 'plan' to refer to both plans and reports.

- ☐ Residential with accessible soil, including garden (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry
- ☐ Day care centre, preschool, primary school
- ☐ Residential with minimal opportunity for soil access, including units
- ☐ Secondary school
- ☐ Park, recreational open space, playing field
- ☐ Commercial/industrial
- ☐ Other (please specify):

IF the site is remediated/managed* in accordance with the following plan (**attached**):

*Strike out as appropriate

Plan title

Plan author

Plan date No. of pages

SUBJECT to compliance with the following condition(s):

Overall comments:

Part III: Auditor's declaration

I am accredited as a site auditor by the NSW Environment Protection Authority (EPA) under the *Contaminated Land Management Act 1997.*

Accreditation no. 0403

I certify that:

- I have completed the site audit free of any conflicts of interest as defined in the *Contaminated Land Management Act 1997,* and
- with due regard to relevant laws and guidelines, I have examined and am familiar with the reports and information referred to in Part I of this site audit, and
- on the basis of inquiries I have made of those individuals immediately responsible for making those reports and obtaining the information referred to in this statement, those reports and that information are, to the best of my knowledge, true, accurate and complete, and
- this statement is, to the best of my knowledge, true, accurate and complete.

I am aware that there are penalties under the *Contaminated Land Management Act 1997* for wilfully making false or misleading statements.

Signed: 

Date: 13/11/2024

Part IV: Explanatory notes

To be complete, a site audit statement form must be issued with all four parts.

How to complete this form

Part I

Part I identifies the auditor, the site, the purpose of the audit and the information used by the auditor in making the site audit findings.

Part II

Part II contains the auditor's opinion of the suitability of the site for specified uses or of the appropriateness of an investigation, or remediation plan or management plan which may enable a particular use. It sets out succinct and definitive information to assist decision-making about the use or uses of the site or a plan or proposal to manage or remediate the site.

The auditor is to complete either Section A1 or Section A2 or Section B of Part II, **not** more than one section.

Section A1

In Section A1 the auditor may conclude that the land is *suitable* for a specified use or uses OR *not suitable* for any beneficial use due to the risk of harm from contamination.

By certifying that the site is *suitable*, an auditor declares that, at the time of completion of the site audit, no further investigation or remediation or management of the site was needed to render the site fit for the specified use(s). **Conditions must not be** imposed on a Section A1 site audit statement. Auditors may include **comments** which are key observations in light of the audit which are not directly related to the suitability of the site for the use(s). These observations may cover aspects relating to the broader environmental context to aid decision-making in relation to the site.

Section A2

In Section A2 the auditor may conclude that the land is *suitable* for a specified use(s) subject to a condition for implementation of an environmental management plan (EMP).

Environmental management plan

Within the context of contaminated sites management, an EMP (sometimes also called a 'site management plan') means a plan which addresses the integration of environmental mitigation and monitoring measures for soil, groundwater and/or hazardous ground gases throughout an existing or proposed land use. An EMP succinctly describes the nature and location of contamination remaining on site and states what the objectives of the plan are, how contaminants will be managed, who will be responsible for the plan's implementation and over what time frame actions specified in the plan will take place.

By certifying that the site is suitable subject to implementation of an EMP, an auditor declares that, at the time of completion of the site audit, there was sufficient information satisfying guidelines made or approved under the *Contaminated Land Management Act 1997*

(CLM Act) to determine that implementation of the EMP was feasible and would enable the specified use(s) of the site and no further investigation or remediation of the site was needed to render the site fit for the specified use(s).

Implementation of an EMP is required to ensure the site remains suitable for the specified use(s). The plan should be legally enforceable: for example, a requirement of a notice under the CLM Act or a development consent condition issued by a planning authority. There should also be appropriate public notification of the plan, e.g. on a certificate issued under s.149 of *the Environmental Planning and Assessment Act 1979*.

Active or passive control systems

Auditors must specify whether the EMP requires operation and/or maintenance of active control systems or requires maintenance of passive control systems only. Active management systems usually incorporate mechanical components and/or require monitoring and, because of this, regular maintenance and inspection are necessary. Most active management systems are applied at sites where if the systems are not implemented an unacceptable risk may occur. Passive management systems usually require minimal management and maintenance and do not usually incorporate mechanical components.

Auditor's comments

Auditors may also include **comments** which are key observations in light of the audit which are not directly related to the suitability of the site for the use(s). These observations may cover aspects relating to the broader environmental context to aid decision-making in relation to the site.

Section B

In Section B the auditor draws conclusions on the nature and extent of contamination, and/or suitability of plans relating to the investigation, remediation or management of the land, and/or the appropriateness of a site testing plan in accordance with the *Temporary Water Restrictions Order for the Botany Sands Groundwater Source 2017*, and/or whether the terms of an approved voluntary management proposal or management order made under the CLM Act have been complied with, and/or whether the site can be made suitable for a specified land use or uses if the site is remediated or managed in accordance with the implementation of a specified plan.

By certifying that a site *can be made suitable* for a use or uses if remediated or managed in accordance with a specified plan, the auditor declares that, at the time the audit was completed, there was sufficient information satisfying guidelines made or approved under the CLM Act to determine that implementation of the plan was feasible and would enable the specified use(s) of the site in the future.

For a site that *can be made suitable*, any **conditions** specified by the auditor in Section B should be limited to minor modifications or additions to the specified plan. However, if the auditor considers that further audits of the site (e.g. to validate remediation) are required, the auditor must note this as a condition in the site audit statement. The condition must not specify an individual auditor, only that further audits are required.

Auditors may also include **comments** which are observations in light of the audit which provide a more complete understanding of the environmental context to aid decision-making in relation to the site.

Part III

In **Part III** the auditor certifies their standing as an accredited auditor under the CLM Act and makes other relevant declarations.

Where to send completed forms

In addition to furnishing a copy of the audit statement to the person(s) who commissioned the site audit, statutory site audit statements must be sent to

- the **NSW Environment Protection Authority**:
  nswauditors@epa.nsw.gov.au or as specified by the EPA

  AND
- the **local council** for the land which is the subject of the audit.

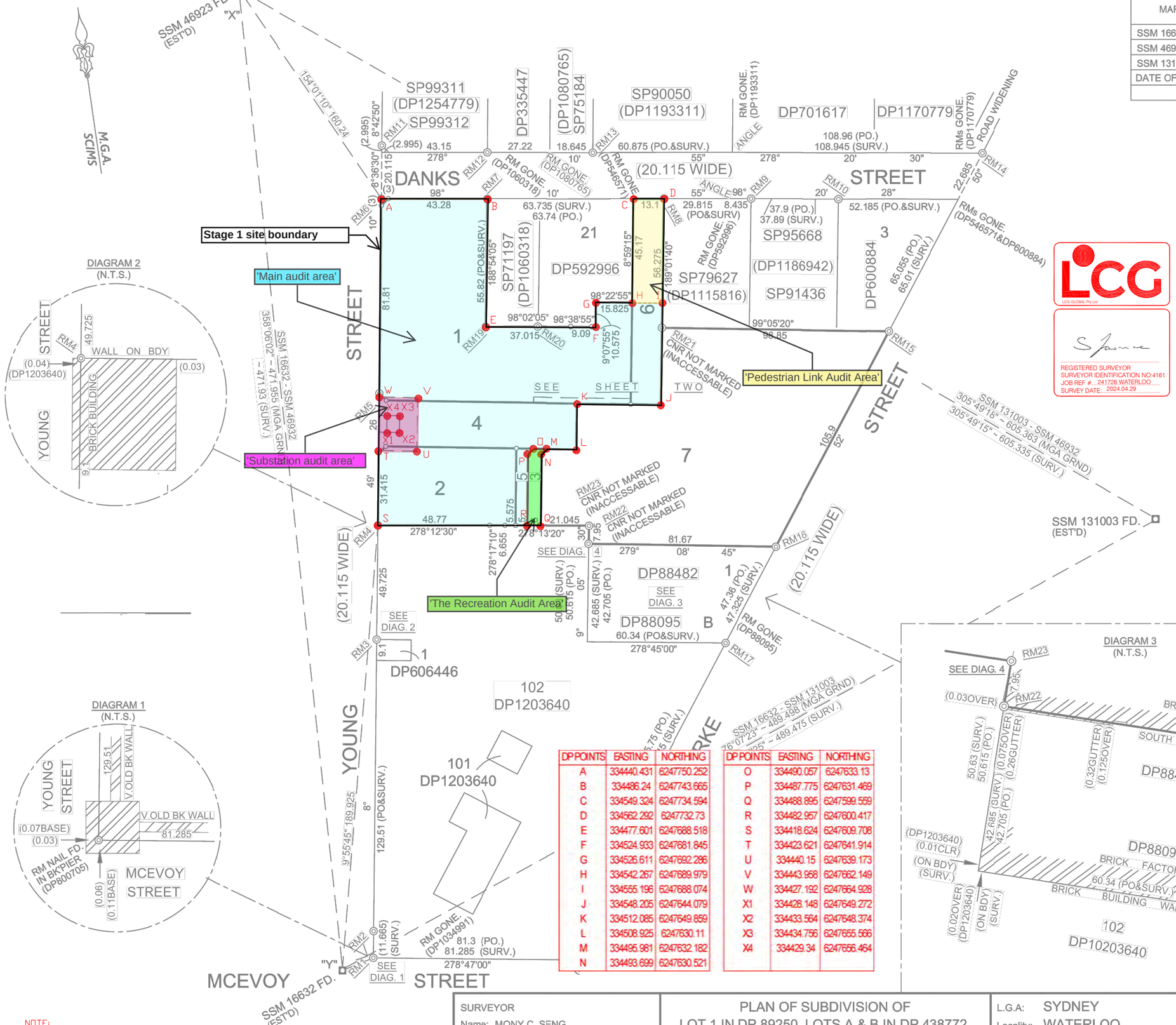
Attachment 1

Survey drawing

COORDINATE SCHEDULE						
MARK	MGA COORDINATES		CLASS	PU	METHOD	STATE
	EASTING	NORTHING				
SSM 16632	334386.337	6247424.086	B	-	SCIMS	FOUND
SSM 46923	334370.695	6247895.749	B	-	SCIMS	FOUND
SSM 131003	334861.515	6247541.477	D	-	SCIMS	FOUND
DATE OF SCIMS COORDINATES: 29-MAY-2023 MGA ZONE: 56 MGA DATUM: GDA2020						
COMBINED SCALE FACTOR: 0.999929						

SCHEDULE OF REFERENCE MARKS

NO.	DESCRIPTIONS		SOURCE
RM1	SSM16632	75°57'40"~3.995	(DP1203640)
RM2	DH& W. FD.	98°48'40"~3.545	(DP800771)
RM3	DH& W. FD.	98°50'40"~3.665	(DP606446)
		98°50'40"~3.655	(SURV.)
RM4	DH& W. FD.	99°46'00"~3.665	(DP204457)
RM5	DH& W. PL.	154°09'00"~6.405	
RM6	RM&SSM's GONE.		(DP1060318)
	DH& W. PL.	259°38'00"~3.17	
RM7	RM GONE.		(DP1060318)
	DH& W. PL.	192°22'30"~2.335	
RM8	DH& W. PL.	205°08'30"~1.2	
RM9	DH& W. FD.	191°28'40"~3.48	(DP1186942)
		191°28'40"~3.52	(SURV.)
RM10	DH& W. FD.	193°37'30"~16.85	(DP1186942)
		193°37'30"~16.885	(SURV.)
RM11	DH& W. FD.	90°56'00"~5.43	(DP1241049)
RM12	DH& W. FD.	6°10'00"~16.47	(DP1241049)
RM13	DH& W. FD.	6°04'00"~3.485	(DP1193311)
RM14	DH& W. FD.	277°33'30"~21.925	(DP1170779)
	DH& W. GONE.		(DP1170779)
RM15	DH& W. PL.	250°35'30"~6.175	
	DH& W. GONE.		(DP546571)
RM16	DH& W. FD.	316°41'30"~3.645	(ORIGIN UNKNOWN)
	DH& W. NOT FD.		(DP88482)
RM17	DH& W. FD. V. FAINT	301°07'30"~3.54	(DP800705)
	DH& W. IN FACE OF BK FD. AT CNR.		(DP800705)
RM18	DH& W. FD.	260°40'30"~5.095	(DP1203640)
	DH& W. GONE.		(DP800771)
RM19	CNR OF WALL AT ROOF FD.	233°28'30"~0.015	(DP1060318)
RM20	CNR OF WALL AT ROOF FD.	98°02'05"~0.015	(DP1060318)
	CNR OF WALL AT ROOF FD.	77°25'00"~0.105	(SURV.)
RM21	CNR OF WALL	69°42'00"~0.48	
RM22	CNR OF WALL	32°24'00"~0.085	
RM23	CNR OF WALL	188°43'00"~7.265	



DP POINTS	EASTING	NORTHING
A	334440.431	6247750.252
B	334486.24	6247743.665
C	334549.324	6247734.594
D	334562.292	6247732.73
E	334477.601	6247688.518
F	334524.933	6247681.845
G	334526.611	6247692.286
H	334542.267	6247689.979
I	334555.196	6247688.074
J	334548.205	6247644.079
K	334512.085	6247649.859
L	334508.925	6247630.11
M	334495.981	6247632.182
N	334493.699	6247630.521

DP POINTS	EASTING	NORTHING
O	334490.057	6247633.13
P	334487.775	6247631.469
Q	334488.895	6247599.559
R	334482.957	6247600.417
S	334418.624	6247609.708
T	334423.621	6247641.914
U	334440.15	6247639.173
V	334443.958	6247662.149
W	334427.192	6247664.928
X1	334428.148	6247649.272
X2	334433.564	6247648.374
X3	334434.756	6247655.566
X4	334429.34	6247656.464

NOTE:
COORDINATE SYSTEM IS IN MGA94.

SURVEYOR Name: MONY C. SENG Date: 10/04/2023 Reference: ECP2727.L.01	PLAN OF SUBDIVISION OF LOT 1 IN DP 89250, LOTS A & B IN DP 438772, LOT 4 IN DP 600884 AND LOT 3 IN DP 775039	L.G.A: SYDNEY Locality: WATERLOO Reduction Ratio 1: 1200 Lengths are in metres	Registered	UNREGISTERED

NSW Site Auditor Scheme

Site Audit Statement

A site audit statement summarises the findings of a site audit. For full details of the site auditor's findings, evaluations and conclusions, refer to the associated site audit report.

This form was approved under the *Contaminated Land Management Act 1997* on 12 October 2017.

For information about completing this form, go to Part IV.

Part I: Site audit identification

Site audit statement no. 090-2128078

This site audit is a:

☒ statutory audit

☐ ~~non-statutory audit~~

within the meaning of the *Contaminated Land Management Act 1997*.

Site auditor details

(As accredited under the *Contaminated Land Management Act 1997*)

Name: Andrew Kohlrusch

Company: GHD Pty Ltd

Address: 133 Castlereagh Street, Sydney

Postcode: 2000

Phone: 92397187

Email: Andrew.kohlrusch@ghd.com

Site details

Address: 207-229 Young Street, Waterloo

Postcode: 2017

Property description

(Attach a separate list if several properties are included in the site audit.)

207-229 Young Street, Waterloo, 2017. Comprising part of existing Lot 3 (DP 775039). The audit boundary is represented by the green filled polygon (i.e. the 'Recreation Audit Area') presented in Attachment 1.

Local government area: City of Sydney LGA

Area of site (include units, e.g. hectares): 200m^2

Current zoning: E1 – Local Centre (Sydney Local Environmental Plan, 2012)

Regulation and notification

To the best of my knowledge:

☐ ~~**the site is** the subject of a declaration, order, agreement, proposal or notice under the *Contaminated Land Management Act 1997* or the *Environmentally Hazardous Chemicals Act 1985,* as follows: (provide the no. if applicable)~~

- ☐ ~~Declaration no.~~
- ☐ ~~Order no.~~
- ☐ ~~Proposal no.~~
- ☐ ~~Notice no.~~

☒ **the site is not** the subject of a declaration, order, proposal or notice under the *Contaminated Land Management Act 1997* or the *Environmentally Hazardous Chemicals Act 1985*.

To the best of my knowledge:

☐ ~~the site **has** been notified to the EPA under section 60 of the *Contaminated Land Management Act 1997*~~

☒ the site **has not** been notified to the EPA under section 60 of the *Contaminated Land Management Act 1997*.

Site audit commissioned by

Name: Jeff Eisman

Company: Jeffman Pty Ltd

Address: Suite 603, 180 Ocean Street, Edgecliff, NSW

Postcode: 2070

Phone: 02 9327 4552

Email: jeisman@bigpond.net.au

Contact details for contact person (if different from above)

~~Name~~

~~Phone~~

~~Email~~

Nature of statutory requirements (not applicable for non-statutory audits)

❑ ~~Requirements under the *Contaminated Land Management Act* 1997 (e.g. management order; please specify, including date of issue)~~

❑ ~~Requirements imposed by an environmental planning instrument (please specify, including date of issue)~~

☒ Development consent requirements under the *Environmental Planning and Assessment Act 1979* (please specify consent authority and date of issue)

D/2020/45C issued by City of Sydney on 23 August 2021

❑ ~~Requirements under other legislation (please specify, including date of issue)~~

Purpose of site audit

☒ **A1** To determine land use suitability

Intended uses of the land: Publicly accessible park area (i.e. public open space)

OR

☐ ~~**A2** To determine land use suitability subject to compliance with either an active or passive environmental management plan~~

~~Intended uses of the land:~~

~~OR~~

~~(Tick all that apply)~~

☐ ~~**B1** To determine the nature and extent of contamination~~

☐ ~~**B2** To determine the appropriateness of:~~

- ☐ ~~an investigation plan~~
- ☐ ~~a remediation plan~~
- ☐ ~~a management plan~~

☐ ~~**B3** To determine the appropriateness of a **site testing plan** to determine if groundwater is safe and suitable for its intended use as required by the *Temporary Water Restrictions Order for the Botany Sands Groundwater Resource 2017*~~

☐ ~~**B4** To determine the compliance with an approved:~~

- ☐ ~~**voluntary management proposal** or~~
- ☐ ~~**management order** under the *Contaminated Land Management Act 1997*~~

☐ ~~**B5** To determine if the land can be made suitable for a particular use (or uses) if the site is remediated or managed in accordance with a specified plan.~~

~~Intended uses of the land:~~

Information sources for site audit

Consultancies which conducted the site investigations and/or remediation:

Senversa Pty Ltd (Validation consultant)

EnviroPacific Services Ltd (Principal Contractor/remediation consultant)

Titles of reports reviewed:

Pre remediation reports

- Senversa (2022a) Sampling and Analysis Quality Plan – Stage 1: Jeffman Danks Street South Precinct, Waterloo, NSW (REV 0, 29 April 2022) (**the SAQP**)
- Senversa (2022b) Detailed Site Investigation – Stage 1: Jeffman Waterloo Development, Waterloo, NSW (REV 1, 23 November 2022) (**the Data Gap DSI**)
- Senversa (2022c) Human Health Risk Assessment, Jeffman Waterloo Development, Waterloo NSW (REV 1, 23 November 2022) (**the HHRA**)

- Senversa (2022d) Technical Memorandum - Revision of RAP Remediation Extents in Stage 1 Area (REV 1, 24 November 2022) (**the Revision of RAP Remediation Extents**)
- Senversa (2023a) Technical Memorandum – Results of additional sampling conducted in March 2023 (REV 0, 19 May 2023) (**Post demolition additional sampling results**)
- Senversa (2023b) Remediation Works Plan – Stage 1: Jeffman Danks Street South Precinct, Waterloo, NSW (REV 2, 29 August 2023) (**the Stage 1 RWP**)
- Senversa (2023c) Validation Works Plan – Stage 1 Remediation: Jeffman Danks Street South Precinct, Waterloo, NSW (REV 2, 30 August 2023) (**the Stage 1 VWP**)
- Senversa (2024a) Change in land use remediation end point: Jeffman Danks Street, NSW (REV 0, 01 May 2024)
- Senversa (2024b) Update to risk based screening levels: Jeffman Danks Street (REV 0, 06 June 2024)
- Senversa (2024c) Validation assessment approach for the pedestrian link (REV 0, 11 June 2024)
- Senversa (2024d) Stage 1 remediation – validation update: Jeffman, Waterloo (REV 0, 12 June 2024)
- Senversa (2024e) Stage 1 validation: Modified soil vapour verification approach: Jeffman Danks Street (REV 0, 19 June 2024)
- Senversa (2024f) Stage 1 Remediation – RA1 Vapour Assessment: Jeffman, Waterloo (Revision 0, 12 July 2024)
- Senversa (2024g) Groundwater Validation: VCH Migration Control and Post-Remediation Verification - Stage 1 Remediation (REV 1, 13 September 2024)
- Senversa (2024h) Validation of soils remaining in-situ outside of RWP Remediation Areas – Stage 1 (REV 1, 19 September 2024)
- Senversa (2024i) Stage 1 Remediation Validation Report: Part Danks Street South Precinct, Waterloo, NSW (REV 1, 04 October 2024).

Excavation validation reports

- Senversa (2024j) Excavation Surface Validation: Remediation Excavation – RA2 (Revision 1, 16 September 2024)
- Senversa (2024k) Excavation Validation: Stage 1 remediation – part Lot 4 in DP 600884 (RA7, RA12 and Pedestrian Link) (REV 1, 13 September 2024)
- Senversa (2024l) Excavation Surface Validation: Stage 1 remediation RA11 (Revision 2, 03 October 2024)

Imported materials reports

- Senversa (2024m) Imported material assessment: Virgin Excavated Natural Material, 2-10 Bay Street, Double Bay NSW: Lawrence Dry Cleaners Remediation Project (REV 1, 27 June, 2024)
- Senversa (2024n) Imported material assessment: Mulch – Lawrence Dry Cleaners Remediation Project (REV 0, 08 July 2024)

- Senversa (2024o) Imported material assessment: Virgin Excavated Natural Material, 26-42 Eden Street, Arncliffe, NSW: Lawrence Dry Cleaners Remediation Project (REV 1, 17 September, 2024)
- Senversa (2024p) Imported material assessment: Hanson Bass Point Quarried Products: Lawrence Dry Cleaners Remediation Project (REV 1, 17 September, 2024)
- Senversa (2024q) Imported material assessment: Virgin Excavated Natural Material, 2-10 Darling Drive, Sydney, NSW: Lawrence Dry Cleaners Remediation Project (REV 1, 17 September, 2024)

Off-site disposal reports

- Senversa (2024r) Waste Classification Letter: Stockpile Assessment SP001 (REV 1, 03 September, 2024)
- Senversa (2024s) Waste Classification Letter: Stockpile Assessment SP002 (REV 1, 03 September, 2024)
- Senversa (2024t) Waste Classification Letter: Stockpile Assessment SP004 (REV 1, 03 September, 2024)
- Senversa (2024u) Waste Classification Letter: Stockpile Assessment SP010 and SP021 (REV 2, 03 September, 2024)
- Senversa (2024v) Waste Classification Letter: Stockpile Assessment SP006 (REV 2, 02 October, 2024)
- Senversa (2024w) Waste Classification Letter: Stockpile Assessment SP007 (REV 2, 02 October, 2024)
- Senversa (2024x) Waste Classification Letter: Stockpile Assessment SP017 (REV 2, 03 September, 2024)
- Senversa (2024y) Waste Classification Letter: Stockpile Assessment SP018 (REV 2, 02 October, 2024)
- Senversa (2024z) Waste Classification Letter: Stockpile Assessment SP032 (REV 1, 03 September, 2024)
- Senversa (2024aa) Waste Classification Letter: Stockpile Assessment SP033 (REV 1, 03 September, 2024)
- Senversa (2024ab) Waste Classification Letter: Stockpile Assessment SP035 (REV 1, 03 September, 2024)
- Senversa (2024ac) Waste Classification Letter: Stockpile Assessment SP038 (REV 1, 03 September, 2024)
- Senversa (2024ad) Waste Classification Letter: Stockpile Assessment SP040 (REV 2, 02 October, 2024)
- Senversa (2024ae) Waste Classification Letter: Stockpile Assessment SP043 (REV 2, 02 October, 2024)
- Senversa (2024af) Waste Classification Letter: Stockpile Assessment SP039, SP060 and SP061 (REV 1, 03 September, 2024)
- Senversa (2024ag) Waste Classification Letter: Stockpile Assessment SP047 (REV 2, 02 October, 2024)

- Senversa (2024ah) Waste Classification Letter: Stockpile Assessment SP048 (REV 2, 02 October, 2024)
- Senversa (2024ai) Waste Classification Letter: Stockpile Assessment SP051 (REV 1, 03 September, 2024)
- Senversa (2024aj) Waste Classification Letter: Stockpile Assessment SP054 (REV 1, 03 September, 2024)
- Senversa (2024ak) Waste Classification Letter: Stockpile Assessment SP055 (REV 1, 03 September, 2024)
- Senversa (2024al) Waste Classification Letter: Stockpile Assessment SP052, SP060 and SP061 (REV 1, 03 September, 2024)
- Senversa (2024am) Waste Classification Letter: Stockpile Assessment SP056 (REV 2, 02 October, 2024)
- Senversa (2024an) Waste Classification Letter: Stockpile Assessment SP057 (REV 1, 03 September, 2024)
- Senversa (2024ao) Waste Classification Letter: Stockpile Assessment SP062, SP060 and SP061 (REV 1, 03 September, 2024)
- Senversa (2024ap) Waste Classification Letter: Stockpile Assessment SP068 (REV 1, 03 October 2024)
- Senversa (2024aq) Stage 1 Remediation – RA2 Vapour Verification Assessment: Jeffman, Waterloo (REV 1, 16 September, 2024)

Treated stockpile reports

- Senversa (2024ar) Stockpile Assessment: Stockpile TSP004 (REV 1, 02 September, 2024)
- Senversa (2024as) Stockpile Assessment: Stockpile TSP005 (REV 1, 02 September, 2024)
- Senversa (2024at) Stockpile Assessment: Stockpile TSP006 (REV 1, 02 September, 2024)
- Senversa (2024au) Stockpile Assessment: Stockpile TSP007 (REV 1, 02 September, 2024)
- Senversa (2024av) Stockpile Assessment: Stockpile TSP008 (REV 1, 02 September, 2024)
- Senversa (2024aw) Stockpile Assessment: Stockpile TSP009 (REV 1, 02 September, 2024)
- Senversa (2024ax) Stockpile Assessment: Stockpile TSP010 (REV 1, 02 September, 2024)
- Senversa (2024ay) Stockpile Assessment: Stockpile TSP011 (REV 1, 02 September, 2024)
- Senversa (2024az) Stockpile Assessment: Stockpile TSP012 (REV 1, 02 September, 2024)
- Senversa (2024ba) Stockpile Assessment: Stockpile TSP013 (REV 1, 02 September, 2024)

- Senversa (2024bb) Stockpile Assessment: Stockpile TSP014 (REV 1, 02 September, 2024)
- Senversa (2024bc) Stockpile Assessment: Stockpile TSP015 (REV 1, 02 September, 2024)
- Senversa (2024bd) Stockpile Assessment: Stockpile TSP016 (REV 1, 02 September, 2024)
- Senversa (2024be) Stockpile Assessment: Stockpile TSP044 (REV 1, 02 September, 2024)

Un-treated stockpile reports

- Senversa (2024bf) Stockpile Assessment: Stockpile SP013 (REV 1, 16 August, 2024)
- Senversa (2024bg) Stockpile Assessment: Stockpile SP024 (REV 1, 16 August, 2024)
- Senversa (2024bh) Stockpile Assessment: Stockpile SP025 (REV 1, 16 August, 2024)
- Senversa (2024bi) Stockpile Assessment: Stockpile SP028 (REV 1, 16 August, 2024)
- Senversa (2024bj) Stockpile Assessment: Stockpile SP034 (REV 1, 16 August, 2024)
- Senversa (2024bk) Stockpile Assessment: Stockpile SP041 (REV 1, 16 August, 2024)
- Senversa (2024bl) Stockpile Assessment: Stockpile SP045 (REV 1, 16 August, 2024)
- Senversa (2024bm) Stockpile Assessment: Stockpile SP059 (REV 1, 16 August, 2024)
- Senversa (2024bn) Stockpile Assessment: Stockpile SP036 (REV 1, 16 August, 2024)

Other information reviewed, including previous site audit reports and statements relating to the site:

- Senversa (2019a) Preliminary Site Investigation: Jeffman Danks Street South Precinct (REV 0, 04 March 2019)
- *Senversa (2019b)* Overarching Remediation Action Plan (REV 1, 11 December 2019)
- Senversa (2021a) Remediation Action Plan: Jeffman Danks Street South Precinct, Waterloo, NSW (REV 2, 24 February 2021)
- (Senversa 2021b) Detailed Site Investigation, Jeffman Danks Street South Precinct, Waterloo, NSW. 26 February 2021 (REV 3, 26 February 2021)
- GHD (2021a) Site Audit Report: Danks Street South Precinct, Waterloo, NSW (March, 2021)
- GHD (2021b) Site Audit Statement: 207-229 Young Street, Waterloo and 881-885 Bourke Street, Waterloo and 887-893 Bourke Street, Waterloo (05 March 2021).

Site audit report details

Title: Jeffman Danks Street South Precinct Stage 1: Site Audit Report

Report no. 2128078 Date: 13/11/2024

Part II: Auditor's findings

Please complete either Section A1, Section A2 or Section B, not more than one section. (Strike out the irrelevant sections.)

- Use **Section A1** where site investigation and/or remediation has been completed and a conclusion can be drawn on the suitability of land uses **without the implementation** of an environmental management plan.
- Use **Section A2** where site investigation and/or remediation has been completed and a conclusion can be drawn on the suitability of land uses **with the implementation** of an active or passive environmental management plan.
- Use **Section B** where the audit is to determine:
  - (B1) the nature and extent of contamination, and/or
  - (B2) the appropriateness of an investigation, remediation or management plan[1], and/or
  - (B3) the appropriateness of a site testing plan in accordance with the *Temporary Water Restrictions Order for the Botany Sands Groundwater Source 2017*, and/or
  - (B4) whether the terms of the approved voluntary management proposal or management order have been complied with, and/or
  - (B5) whether the site can be made suitable for a specified land use (or uses) if the site is remediated or managed in accordance with the implementation of a specified plan.

[1] For simplicity, this statement uses the term 'plan' to refer to both plans and reports.

Section A1

I certify that, in my opinion:

The **site is suitable** for the following uses:

(Tick all appropriate uses and strike out those not applicable.)

☐ ~~Residential, including substantial vegetable garden and poultry~~

☐ ~~Residential, including substantial vegetable garden, excluding poultry~~

☐ ~~Residential with accessible soil, including garden (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry~~

☐ ~~Day care centre, preschool, primary school~~

☐ ~~Residential with minimal opportunity for soil access, including units~~

☐ ~~Secondary school~~

☒ Park, recreational open space, playing field

☐ ~~Commercial/industrial~~

☐ ~~Other (please specify):~~

_____

~~**OR**~~

☐ ~~I certify that, in my opinion, the **site is not suitable** for any use due to the risk of harm from contamination.~~

~~Overall comments:~~

_____

_____

_____

_____

_____

_____

Section A2

I certify that, in my opinion:

Subject to compliance with the **attached** environmental management plan[2] (EMP), the site is suitable for the following uses:

(Tick all appropriate uses and strike out those not applicable.)

☐ Residential, including substantial vegetable garden and poultry

☐ Residential, including substantial vegetable garden, excluding poultry

☐ Residential with accessible soil, including garden (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry

☐ Day care centre, preschool, primary school

☐ Residential with minimal opportunity for soil access, including units

☐ Secondary school

☐ Park, recreational open space, playing field

☐ Commercial/industrial

☐ Other (please specify):

_____

EMP details

Title:

Author:

Date: No. of pages:

EMP summary

This EMP (attached) is required to be implemented to address residual contamination on the site.

The EMP: (Tick appropriate box and strike out the other option.)

☐ requires operation and/or maintenance of **active** control systems[3]

☐ requires maintenance of **passive** control systems only[3].

[2] Refer to Part IV for an explanation of an environmental management plan.
[3] Refer to Part IV for definitions of active and passive control systems.

~~Purpose of the EMP:~~

~~Description of the nature of the residual contamination:~~

~~Summary of the actions required by the EMP:~~

~~How the EMP can reasonably be made to be legally enforceable:~~

~~How there will be appropriate public notification:~~

~~Overall comments:~~

Section B

Purpose of the plan[4] which is the subject of this audit:

_____

_____

_____

I certify that, in my opinion:

(B1)

☐ The nature and extent of the contamination **has** been appropriately determined

☐ The nature and extent of the contamination **has not** been appropriately determined

AND/OR (B2)

☐ The investigation, remediation or management plan **is** appropriate for the purpose stated above

☐ The investigation, remediation or management plan **is not** appropriate for the purpose stated above

AND/OR (B3)

☐ The site testing plan:

☐ **is** appropriate to determine

☐ **is not** appropriate to determine

if groundwater is safe and suitable for its intended use as required by the *Temporary Water Restrictions Order for the Botany Sands Groundwater Resource 2017*

AND/OR (B4)

☐ The terms of the approved voluntary management proposal* or management order** (strike out as appropriate):

☐ **have** been complied with

☐ **have not** been complied with.

*voluntary management proposal no. _____

**management order no. _____

AND/OR (B5)

☐ The site **can be made suitable** for the following uses:

(Tick all appropriate uses and strike out those not applicable.)

☐ Residential, including substantial vegetable garden and poultry

☐ Residential, including substantial vegetable garden, excluding poultry

[4] For simplicity, this statement uses the term 'plan' to refer to both plans and reports.

- ☐ Residential with accessible soil, including garden (minimal home-grown produce contributing less than 10% fruit and vegetable intake), excluding poultry
- ☐ Day care centre, preschool, primary school
- ☐ Residential with minimal opportunity for soil access, including units
- ☐ Secondary school
- ☐ Park, recreational open space, playing field
- ☐ Commercial/industrial
- ☐ Other (please specify):

IF the site is remediated/managed* in accordance with the following plan (**attached**):

*Strike out as appropriate

Plan title

Plan author

Plan date No. of pages

SUBJECT to compliance with the following condition(s):

Overall comments:

Part III: Auditor's declaration

I am accredited as a site auditor by the NSW Environment Protection Authority (EPA) under the *Contaminated Land Management Act 1997.*

Accreditation no. 0403

I certify that:

- I have completed the site audit free of any conflicts of interest as defined in the *Contaminated Land Management Act 1997,* and
- with due regard to relevant laws and guidelines, I have examined and am familiar with the reports and information referred to in Part I of this site audit, and
- on the basis of inquiries I have made of those individuals immediately responsible for making those reports and obtaining the information referred to in this statement, those reports and that information are, to the best of my knowledge, true, accurate and complete, and
- this statement is, to the best of my knowledge, true, accurate and complete.

I am aware that there are penalties under the *Contaminated Land Management Act 1997* for wilfully making false or misleading statements.

Signed: 

Date: 13/11/2024

Part IV: Explanatory notes

To be complete, a site audit statement form must be issued with all four parts.

How to complete this form

Part I

Part I identifies the auditor, the site, the purpose of the audit and the information used by the auditor in making the site audit findings.

Part II

Part II contains the auditor's opinion of the suitability of the site for specified uses or of the appropriateness of an investigation, or remediation plan or management plan which may enable a particular use. It sets out succinct and definitive information to assist decision-making about the use or uses of the site or a plan or proposal to manage or remediate the site.

The auditor is to complete either Section A1 or Section A2 or Section B of Part II, **not** more than one section.

Section A1

In Section A1 the auditor may conclude that the land is *suitable* for a specified use or uses OR *not suitable* for any beneficial use due to the risk of harm from contamination.

By certifying that the site is *suitable*, an auditor declares that, at the time of completion of the site audit, no further investigation or remediation or management of the site was needed to render the site fit for the specified use(s). **Conditions must not be** imposed on a Section A1 site audit statement. Auditors may include **comments** which are key observations in light of the audit which are not directly related to the suitability of the site for the use(s). These observations may cover aspects relating to the broader environmental context to aid decision-making in relation to the site.

Section A2

In Section A2 the auditor may conclude that the land is *suitable* for a specified use(s) subject to a condition for implementation of an environmental management plan (EMP).

Environmental management plan

Within the context of contaminated sites management, an EMP (sometimes also called a 'site management plan') means a plan which addresses the integration of environmental mitigation and monitoring measures for soil, groundwater and/or hazardous ground gases throughout an existing or proposed land use. An EMP succinctly describes the nature and location of contamination remaining on site and states what the objectives of the plan are, how contaminants will be managed, who will be responsible for the plan's implementation and over what time frame actions specified in the plan will take place.

By certifying that the site is suitable subject to implementation of an EMP, an auditor declares that, at the time of completion of the site audit, there was sufficient information satisfying guidelines made or approved under the *Contaminated Land Management Act 1997*

(CLM Act) to determine that implementation of the EMP was feasible and would enable the specified use(s) of the site and no further investigation or remediation of the site was needed to render the site fit for the specified use(s).

Implementation of an EMP is required to ensure the site remains suitable for the specified use(s). The plan should be legally enforceable: for example, a requirement of a notice under the CLM Act or a development consent condition issued by a planning authority. There should also be appropriate public notification of the plan, e.g. on a certificate issued under s.149 of *the Environmental Planning and Assessment Act 1979*.

Active or passive control systems

Auditors must specify whether the EMP requires operation and/or maintenance of active control systems or requires maintenance of passive control systems only. Active management systems usually incorporate mechanical components and/or require monitoring and, because of this, regular maintenance and inspection are necessary. Most active management systems are applied at sites where if the systems are not implemented an unacceptable risk may occur. Passive management systems usually require minimal management and maintenance and do not usually incorporate mechanical components.

Auditor's comments

Auditors may also include **comments** which are key observations in light of the audit which are not directly related to the suitability of the site for the use(s). These observations may cover aspects relating to the broader environmental context to aid decision-making in relation to the site.

Section B

In Section B the auditor draws conclusions on the nature and extent of contamination, and/or suitability of plans relating to the investigation, remediation or management of the land, and/or the appropriateness of a site testing plan in accordance with the *Temporary Water Restrictions Order for the Botany Sands Groundwater Source 2017*, and/or whether the terms of an approved voluntary management proposal or management order made under the CLM Act have been complied with, and/or whether the site can be made suitable for a specified land use or uses if the site is remediated or managed in accordance with the implementation of a specified plan.

By certifying that a site *can be made suitable* for a use or uses if remediated or managed in accordance with a specified plan, the auditor declares that, at the time the audit was completed, there was sufficient information satisfying guidelines made or approved under the CLM Act to determine that implementation of the plan was feasible and would enable the specified use(s) of the site in the future.

For a site that *can be made suitable*, any **conditions** specified by the auditor in Section B should be limited to minor modifications or additions to the specified plan. However, if the auditor considers that further audits of the site (e.g. to validate remediation) are required, the auditor must note this as a condition in the site audit statement. The condition must not specify an individual auditor, only that further audits are required.

Auditors may also include **comments** which are observations in light of the audit which provide a more complete understanding of the environmental context to aid decision-making in relation to the site.

Part III

In **Part III** the auditor certifies their standing as an accredited auditor under the CLM Act and makes other relevant declarations.

Where to send completed forms

In addition to furnishing a copy of the audit statement to the person(s) who commissioned the site audit, statutory site audit statements must be sent to

- the **NSW Environment Protection Authority**:
  nswauditors@epa.nsw.gov.au or as specified by the EPA

  AND
- the **local council** for the land which is the subject of the audit.

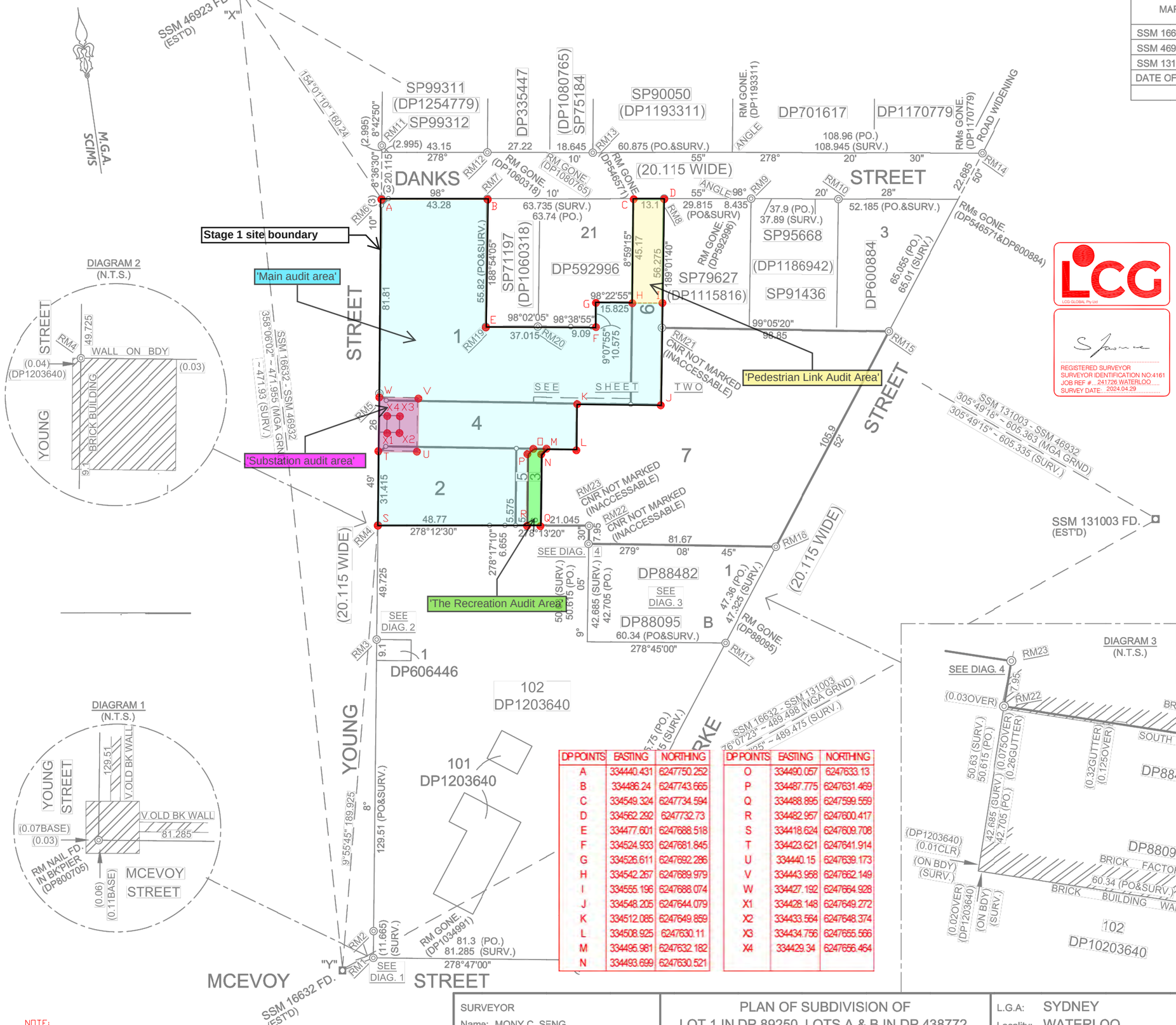
Attachment 1

Survey plans

COORDINATE SCHEDULE						
MARK	MGA COORDINATES		CLASS	PU	METHOD	STATE
	EASTING	NORTHING				
SSM 16632	334386.337	6247424.086	B	-	SCIMS	FOUND
SSM 46923	334370.695	6247895.749	B	-	SCIMS	FOUND
SSM 131003	334861.515	6247541.477	D	-	SCIMS	FOUND
DATE OF SCIMS COORDINATES: 29-MAY-2023 MGA ZONE: 56 MGA DATUM: GDA2020						
COMBINED SCALE FACTOR: 0.999929						

SCHEDULE OF REFERENCE MARKS

NO.	DESCRIPTIONS		SOURCE
RM1	SSM16632	75°57'40"~3.995	(DP1203640)
RM2	DH& W. FD.	98°48'40"~3.545	(DP800771)
RM3	DH& W. FD.	98°50'40"~3.665	(DP606446)
		98°50'40"~3.655	(SURV.)
RM4	DH& W. FD.	99°46'00"~3.665	(DP204457)
RM5	DH& W. PL.	154°09'00"~6.405	
RM6	RM&SSM's GONE.		(DP1060318)
	DH& W. PL.	259°38'00"~3.17	
RM7	RM GONE.		(DP1060318)
	DH& W. PL.	192°22'30"~2.335	
RM8	DH& W. PL.	205°08'30"~1.2	
RM9	DH& W. FD.	191°28'40"~3.48	(DP1186942)
		191°28'40"~3.52	(SURV.)
RM10	DH& W. FD.	193°37'30"~16.85	(DP1186942)
		193°37'30"~16.885	(SURV.)
RM11	DH& W. FD.	90°56'00"~5.43	(DP1241049)
RM12	DH& W. FD.	6°10'00"~16.47	(DP1241049)
RM13	DH& W. FD.	6°04'00"~3.485	(DP1193311)
RM14	DH& W. FD.	277°33'30"~21.925	(DP1170779)
	DH& W. GONE.		(DP1170779)
RM15	DH& W. PL.	250°35'30"~6.175	
	DH& W. GONE.		(DP546571)
RM16	DH& W. FD.	316°41'30"~3.645	(ORIGIN UNKNOWN)
	DH& W. NOT FD.		(DP88482)
RM17	DH& W. FD. V. FAINT	301°07'30"~3.54	(DP800705)
	DH& W. IN FACE OF BK FD. AT CNR.		(DP800705)
RM18	DH& W. FD.	260°40'30"~5.095	(DP1203640)
	DH& W. GONE.		(DP800771)
RM19	CNR OF WALL AT ROOF FD.	233°28'30"~0.015	(DP1060318)
RM20	CNR OF WALL AT ROOF FD.	98°02'05"~0.015	(DP1060318)
	CNR OF WALL AT ROOF FD.	77°25'00"~0.105	(SURV.)
RM21	CNR OF WALL	69°42'00"~0.48	
RM22	CNR OF WALL	32°24'00"~0.085	
RM23	CNR OF WALL	188°43'00"~7.265	



DP POINTS	EASTING	NORTHING
A	334440.431	6247750.252
B	334486.24	6247743.665
C	334549.324	6247734.594
D	334562.292	6247732.73
E	334477.601	6247688.518
F	334524.933	6247681.845
G	334526.611	6247692.286
H	334542.267	6247689.979
I	334555.196	6247688.074
J	334548.205	6247644.079
K	334512.085	6247649.859
L	334508.925	6247630.11
M	334495.981	6247632.182
N	334493.699	6247630.521

DP POINTS	EASTING	NORTHING
O	334490.057	6247633.13
P	334487.775	6247631.469
Q	334488.895	6247599.559
R	334482.957	6247600.417
S	334418.624	6247609.708
T	334423.621	6247641.914
U	334440.15	6247639.173
V	334443.958	6247662.149
W	334427.192	6247664.928
X1	334428.148	6247649.272
X2	334433.564	6247648.374
X3	334434.756	6247655.566
X4	334429.34	6247656.464

NOTE:
COORDINATE SYSTEM IS IN MGA94.

SURVEYOR Name: MONY C. SENG Date: 10/04/2023 Reference: ECP2727.L.01	PLAN OF SUBDIVISION OF LOT 1 IN DP 89250, LOTS A & B IN DP 438772, LOT 4 IN DP 600884 AND LOT 3 IN DP 775039	L.G.A: SYDNEY Locality: WATERLOO Reduction Ratio 1: 1200 Lengths are in metres	Registered	UNREGISTERED

Jeffman Danks Street South Precinct Stage 1 - Site Audit Report

Site Audit Report No. SAR - 2128078

GHD PTY LTD

13 November 2024

→ The Power of Commitment

Project name	Jeffman Audit				
Document title	Jeffman Danks Street South Precinct Stage 1 - Site Audit Report | Site Audit Report No. SAR - 2128078				
Project number	2128078				
File name	2128078_REP_JEFFMAN_STAGE 1_SAR.docx				
Author	Reviewer		Approved for issue		
	Name	Signature	Name	Signature	Date
S Vaughan	A Kohlrusch		A Kohlrusch		13/11/2024

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Acknowledgement of Country

GHD acknowledges Aboriginal and Torres Strait Islander peoples as the Traditional Custodians of the land, water and sky throughout Australia on which we do business. We recognise their strength, diversity, resilience and deep connections to Country. We pay our respects to Elders of the past, present and future, as they hold the memories, knowledges and spirit of Australia. GHD is committed to learning from Aboriginal and Torres Strait Islander peoples in the work we do.

List of Acronyms

Acronym	Definition
ACM	Asbestos containing material
AHD	Australian height datum
ANZECC	Australian and New Zealand Environment and Conservation Council
ARMCANZ	Agriculture and Resource Management Council of Australia and New Zealand
ASC	Assessment of Site Contamination
B(a)P	Benzo(a)pyrene
BGL	Below ground level
BTEX	Benzene, toluene, ethylbenzene and xylenes
CLM	Contaminated Land Management
CoC	Chain of custody
CoPC	Contaminant of potential concern
CoS	City of Sydney
CRC CARE	Cooperative Research Centre for Contamination Assessment and Remediation of the Environment
CSM	Conceptual site model
DA	Development Application
DCE	dichloroethane
DMDC	Determination for Modification of Development Consent
DNAPL	Dense non-aqueous phase liquid
DQIs	Data quality indicators
DQOs	Data quality objectives
DSI	Detailed Site Investigation
EIL	Ecologically based investigation level
EMP	Environmental management plan
EP	EnviroPacific Services Pty Ltd
EPA	Environment Protection Authority
ESL	Ecological screening level
Ha	hectares
HIL	Health-based investigation level
HHRA	Human health risk assessment
HSL	Health screening level
IAA	Interim audit advice letter
LCS	laboratory control sample
LDC	Lawrence Dry Cleaners
LNAPL	Light non-aqueous phase liquid
LOR	Limit of reporting
LTEMP	Long Term Environmental Management Plan
m	metre

Acronym	Definition
m^2	square metres
m^3	cubic metres
mg/kg	milligrams per kilogram
mg/L	milligrams per litre
MO	Management Order
NATA	National Association of Testing Authorities
NEPC	National Environment Protection Council
NEPM	National Environment Protection Measure
NHRMC	National Health and Medical Research Council
NRMMC	Natural Resource Management
NSW	New South Wales
PAH	Polycyclic Aromatic Hydrocarbons
PCB	Polychlorinated biphenyls
PCE	tetrachloroethene
PID	Photo-ionisation detector
PPM	parts per million
PQL	Practical quantification limits
PSI	Preliminary Site Investigation
QA	Quality assurance
QC	Quality control
RA	Remediation Area
RAP	Remedial action plan
RBSL	Risk based screening levels
RPD	Relative percentage difference
RWP	Remediation works plan
RVP	Remediation validation plan
SAQP	Sampling and analytical quality plan
SAR	Site audit report
SAS	Site audit statement
SP	Stockpile
TCE	Trichloroethene
TEQ	Toxic Equivalency Quotient
TRH	Total recoverable hydrocarbons
TSP	Treated Stockpile
USTs	Underground storage tank
VC	Vinyl chloride
VENM	Virgin excavated natural material
VHC	Volatile chlorinated hydrocarbon
VWP	Validation Work Plan
VOC	Volatile organic compound

Contents

Table index

Internal figure index

Appendices

1. Introduction

Jeffman Pty Ltd (Jeffman) has engaged Andrew Kohlrusch ('the auditor') of GHD Pty Ltd (GHD), a New South Wales Environment Protection Authority (NSW EPA) Contaminated Land site auditor accredited under Part 4 of the *Contaminated Land Management Act 1997* (the 'Act') to conduct a site audit of the following properties:

– Lot 3 (DP775039)
– Lot 4 (DP600884)
– Lot A and B (DP438772)
– Lot 1 (DP 89250)

The noted lots are to be remediated owing to historical contamination caused by commercial/industrial land use, most notably a dry cleaning facility (Lawrence Dry Cleaners) that comprises Lot A and B (DP438772) and Lot 1 (DP 89250).

The remedial works are to be conducted in two stages, the first stage (Stage 1) comprises Part of Lot 3 (DP775039) and Part of Lot 4 (DP600884) and remedial works have been completed and validated. Stage 2 remediation will include the lots that comprise the former Lawrence Dry Cleaners.

This Site Audit Report (SAR) applies to the Stage 1 area only (herein referred to as 'Stage 1' or 'the site'). Stage 1 comprises:

– Part of Lot 3 (DP775039) and
– Part of Lot 4 (DP600884).

The Stage 1 site boundary (including lot boundaries) is presented in **Figure 1, Appendix A** (adapted from Senversa, 2024i) and within **Appendix D.**

This site audit has been conducted in accordance with the requirements of the Act as follows:

"site audit" means a review:

a. that relates to management (whether under this Act or otherwise) of the actual or possible contamination of land, and

b. that is conducted for the purpose of determining any one or more of the following matters:

i. the nature and extent of any contamination of the land,

ii. the nature and extent of any management of actual or possible contamination of the land,

iii. whether the land is suitable for any specified use or range of uses,

iv. what management remains necessary before the land is suitable for any specified use or range of uses,

v. the suitability and appropriateness of a plan of management, long-term management plan or a voluntary management proposal.

Furthermore, the Act provides the following definitions:

– *Site Audit Report - means a site audit report prepared by a site auditor in accordance with Part 4 [of the Act].*
– *Site Audit Statement - means a site audit statement prepared by a site auditor in accordance with Part 4 [of the Act].*

The Contaminated Land Management: Guidelines for the NSW Auditor Scheme (3rd edition) (NSW EPA, 2017) state that the services of a site auditor can be utilised by anyone requiring an independent review of information concerning potential or actual site contamination. Such reviews may include independent expert technical advice or 'sign-off' of contaminated site assessments, remediation, or validation work conducted by a contaminated site consultant. The Auditor Guidelines outline the site assessment and audit processes, where the contaminated land consultant is responsible for designing and conducting the site assessments. If necessary, the contaminated land consultant can also manage all remediation and validation activities to achieve specified objectives. The auditor independently reviews the consultant's work and prepares the material outcome of the site audit, i.e. the SAR and SAS.

The auditor notes that all figures and tables presented in this SAR were extracted from the audited documentation listed in **Section 1.6.**

1.1 Regulatory guidelines

This SAR was prepared with reference to the following guidelines which have been made or approved for use by NSW EPA under s.105 of the Act at the time of the site audit and include:

– NEPC, 2013. National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended by the National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No. 1), National Environment Protection Council, May 2013 (**the ASC NEPM**)
– NSW EPA (2020). Contaminated sites: Guidelines for Consultants Reporting on Contaminated sites (**the Consultant Guidelines**)
– NSW EPA (2017). Contaminated Land Management: Guidelines for the New South Wales Site Auditor Scheme (3rd edition) (**the Auditor Guidelines**)
– NSW EPA (2022). Sampling Design Guidelines (**the Sampling Guidelines**)

Other NSW regulatory endorsed documents considered as part of the site audit included:

– NSW EPA (2014). Waste Classification Guidelines Part 1: Classifying Waste (**the Waste Classification Guidelines**)
– WA Department of Health (2021). Guidelines for the Assessment, Remediation and Management of Asbestos-Contaminated Sites in Western Australia (**the Asbestos Guidelines**)
– CRC Care (2015). A Practitioner's guide for the analysis, management and remediation of LNAPL. Technical Report No 34.
– NEPC (2013). National Environment Protection (Assessment of Site Contamination) Measure 1999, as amended by the National Environment Protection (Assessment of Site Contamination) Amendment Measure 2013 (No 1), National Environment Protection Council, May 2013 (**the NEPM**).
– ANZECC/ARMCANZ (2000). Australian and New Zealand Guidelines for Fresh and Marine Water Quality. Australian and New Zealand Environment and Conservation Council and Agriculture and Resource Management Council of Australia and New Zealand, Paper No 4, 2000.
– NHRMC/NRMMC (2011). Australian Drinking Water Guidelines. National Health and Medical Research Council and Natural Resource Management Ministerial Council.

1.2 Site audit purpose

The purpose of this site audit is to independently review the reports listed in **Section 1.6** and state whether the site is suitable for the proposed land uses (based on the data reviewed as part of this audit).

1.3 Site audit details

Stage 1 is located off Young Street, Waterloo, Sydney, NSW, Australia. The Stage 1 boundary is presented in **Figure 1, Appendix A** and a survey plan (which includes the Stage 1 boundary is presented in **Appendix D**). For the purposes of this audit, Stage 1 has been separated into four 'audit areas', all four audit areas are referenced within this Site Audit Report (SAR), however, each audit area has an associated Site Audit Statement. The location of each audit areas is presented in **Appendix D.**

The site identification details and audit details are presented in **Table 1**.

Table 1 Site audit details

Information	Details
Site Auditor	Andrew Kohlrusch
NSW EPA site auditor accreditation No.	0403
NSW EPA SAS No.	**Main Audit Area**: 088-2128078 **Pedestrian Link Audit Area**: 089-2128078 **Recreational Audit Area**: 090-2128078 **Substation Audit Area:** 091-2128078 The audit areas are presented in **Appendix D.**
NSW EPA SAR No.	2128078
Audit category	Statutory – further details are presented in **Section 1.5**
Legal audited area description	This SAR applies to the following lots only: – Part of Lot 3 (DP775039) – Part of Lot 4 (DP600884) The audited area is annotated as the 'Stage 1 Site Boundary' (black polygon) as presented in **Appendix D.**
Site address	– 207-229 Young Street, Waterloo, NSW (Part of Lot 3) – 881-885 Bourke Street, Waterloo, NSW (Part of Lot 4)
Local Government Authority	City of Sydney Council
Site area	**Main Audit Area**: 10,478m^2 **Pedestrian Link Audit Area**: 591m^2 **Recreational Audit Area**: 200m^2 **Substation Audit Area:** 386m^2 Total Stage 1 area: 1.17ha (approximate)
Site owner	Jeffman Pty Ltd
Previous site use	Industrial/commercial (site history is summarised in **Section 1.8**)
Current land use	At the time of issuing this SAR the site is vacant.
Proposed land use	Mixed medium-high density residential and commercial land use (including basement excavations) with a publicly accessible park area and pedestrian walkway (the 'Pedestrian Link') (further information is presented in **Section 2**).
Audit trigger	City of Sydney (CoS) Notice of Determination for Modification of Development Consent (further discussed in **Section 1.5**)

1.4 Audit background

In March 2021, the auditor issued a Section B5 Site Audit Statement (SAS) and associated Site Audit Report (SAR) (GHD 2021a and GHD 2021b respectively). The audit was required by CoS to support the original development application (DA D/2020/45). The Section B5 SAR applied to the following lots:

- Lot 3 (DP775039) (207-229 Young Street Waterloo)
- Lot 4 in DP 600884 (881-885 Bourke Street, Waterloo)
- Lot A&B in DP 438772 and Lot 1 in DP 89250 (887-893 Bourke Street, Waterloo)

The purpose of the audit was to endorse that the aforementioned lots (which include the site) had been assessed in a manner consistent with NSW EPA guidance and to comment on whether the auditor agreed that the site could be made suitable for the proposed land use (the land use at the time of the B5 SAS was subdivision of the site into

a mixed-use development comprising high rise apartments, commercial premises and public open space). Since issue of the B5 SAS, some adjustments have been made to the proposed land use, as summarised in **Section 2**.

The SAR (GHD, 2021b) concluded that if remediation and validation was carried out as per the Remedial Action Plan (RAP) (Senversa, 2021a) and other subsequent modifications to the RAP, the site could be made suitable for the proposed land use.

1.5 Nature of this audit

This audit is statutory, as triggered by the Notice of Determination for Modification of Development Consent (the DMDC) (Application number D/2020/45/C PAN-388735) issued by City of Sydney (CoS) on 23 August 2021 (modified 07 March 2024). The DMDC states: *'On completion of the approved remediation works, a Section A1 Site Audit Statement must be obtained from a NSW Environment Protection Authority accredited Site Auditor and submitted to the Council's Area Planning Manager'.*

The DMDC also states, *'The Site Audit Statement must confirm that the site has been remediated in accordance with the approved Remedial Action Plan and that the site is suitable for its approved use'*.

1.6 Audited documentation

This SAR has been prepared following a review of the following documents:

– **Pre remediation reports**

- Senversa (2022a) Sampling and Analysis Quality Plan – Stage 1: Jeffman Danks Street South Precinct, Waterloo, NSW (REV 0, 29 April 2022) (**the SAQP**)
- Senversa (2022b) Detailed Site Investigation – Stage 1: Jeffman Waterloo Development, Waterloo, NSW (REV 1, 23 November 2022) (**the Data Gap DSI**)
- Senversa (2022c) Human Health Risk Assessment, Jeffman Waterloo Development, Waterloo NSW (REV 1, 23 November 2022) (**the HHRA**)
- Senversa (2022d) Technical Memorandum - Revision of RAP Remediation Extents in Stage 1 Area (REV 1, 24 November 2022) (**the Revision of RAP Remediation Extents**)
- Senversa (2023a) Technical Memorandum – Results of additional sampling conducted in March 2023 (REV 0, 19 May 2023) (**Post demolition additional sampling results**)
- Senversa (2023b) Remediation Works Plan – Stage 1: Jeffman Danks Street South Precinct, Waterloo, NSW (REV 2, 29 August 2023) (**the Stage 1 RWP**)
- Senversa (2023c) Validation Works Plan – Stage 1 Remediation: Jeffman Danks Street South Precinct, Waterloo, NSW (REV 2, 30 August 2023) (**the Stage 1 VWP**)
- Senversa (2024a) Change in land use remediation end point: Jeffman Danks Street, NSW (REV 0, 01 May 2024)
- Senversa (2024b) Update to risk based screening levels: Jeffman Danks Street (REV 0, 06 June 2024)
- Senversa (2024c) Validation assessment approach for the pedestrian link (REV 0, 11 June 2024)
- Senversa (2024d) Stage 1 remediation – validation update: Jeffman, Waterloo (REV 0, 12 June 2024)
- Senversa (2024e) Stage 1 validation: Modified soil vapour verification approach: Jeffman Danks Street (REV 0, 19 June 2024)
- Senversa (2024f) Stage 1 Remediation – RA1 Vapour Assessment: Jeffman, Waterloo (Revision 0, 12 July 2024)
- Senversa (2024g) Groundwater Validation: VCH Migration Control and Post-Remediation Verification - Stage 1 Remediation (REV 1, 13 September 2024)
- Senversa (2024h) Validation of soils remaining in-situ outside of RWP Remediation Areas – Stage 1 (REV 1, 19 September 2024)
- Senversa (2024i) Stage 1 Remediation Validation Report: Part Danks Street South Precinct, Waterloo, NSW (REV 1, 04 October 2024).

– **Excavation validation reports**
  - Senversa (2024j) Excavation Surface Validation: Remediation Excavation – RA2 (Revision 1, 16 September 2024)
  - Senversa (2024k) Excavation Validation: Stage 1 remediation – part Lot 4 in DP 600884 (RA7, RA12 and Pedestrian Link) (REV 1, 13 September 2024)
  - Senversa (2024l) Excavation Surface Validation: Stage 1 remediation RA11 (Revision 2, 03 October 2024)
– **Imported materials reports**
  - Senversa (2024m) Imported material assessment: Virgin Excavated Natural Material, 2-10 Bay Street, Double Bay NSW: Lawrence Dry Cleaners Remediation Project (REV 1, 27 June, 2024)
  - Senversa (2024n) Imported material assessment: Mulch – Lawrence Dry Cleaners Remediation Project (REV 0, 08 July 2024)
  - Senversa (2024o) Imported material assessment: Virgin Excavated Natural Material, 26-42 Eden Street, Arncliffe, NSW: Lawrence Dry Cleaners Remediation Project (REV 1, 17 September, 2024)
  - Senversa (2024p) Imported material assessment: Hanson Bass Point Quarried Products: Lawrence Dry Cleaners Remediation Project (REV 1, 17 September, 2024)
  - Senversa (2024q) Imported material assessment: Virgin Excavated Natural Material, 2-10 Darling Drive, Sydney, NSW: Lawrence Dry Cleaners Remediation Project (REV 1, 17 September, 2024)
– **Off-site disposal reports**
  - Senversa (2024r) Waste Classification Letter: Stockpile Assessment SP001 (REV 1, 03 September, 2024)
  - Senversa (2024s) Waste Classification Letter: Stockpile Assessment SP002 (REV 1, 03 September, 2024)
  - Senversa (2024t) Waste Classification Letter: Stockpile Assessment SP004 (REV 1, 03 September, 2024)
  - Senversa (2024u) Waste Classification Letter: Stockpile Assessment SP010 and SP021 (REV 2, 03 September, 2024)
  - Senversa (2024v) Waste Classification Letter: Stockpile Assessment SP006 (REV 2, 02 October, 2024)
  - Senversa (2024w) Waste Classification Letter: Stockpile Assessment SP007 (REV 2, 02 October, 2024)
  - Senversa (2024x) Waste Classification Letter: Stockpile Assessment SP017 (REV 2, 03 September, 2024)
  - Senversa (2024y) Waste Classification Letter: Stockpile Assessment SP018 (REV 2, 02 October, 2024)
  - Senversa (2024z) Waste Classification Letter: Stockpile Assessment SP032 (REV 1, 03 September, 2024)
  - Senversa (2024aa) Waste Classification Letter: Stockpile Assessment SP033 (REV 1, 03 September, 2024)
  - Senversa (2024ab) Waste Classification Letter: Stockpile Assessment SP035 (REV 1, 03 September, 2024)
  - Senversa (2024ac) Waste Classification Letter: Stockpile Assessment SP038 (REV 1, 03 September, 2024)
  - Senversa (2024ad) Waste Classification Letter: Stockpile Assessment SP040 (REV 2, 02 October, 2024)
  - Senversa (2024ae) Waste Classification Letter: Stockpile Assessment SP043 (REV 2, 02 October, 2024)
  - Senversa (2024af) Waste Classification Letter: Stockpile Assessment SP039, SP060 and SP061 (REV 1, 03 September, 2024)
  - Senversa (2024ag) Waste Classification Letter: Stockpile Assessment SP047 (REV 2, 02 October, 2024)
  - Senversa (2024ah) Waste Classification Letter: Stockpile Assessment SP048 (REV 2, 02 October, 2024)
  - Senversa (2024ai) Waste Classification Letter: Stockpile Assessment SP051 (REV 1, 03 September, 2024)

- Senversa (2024aj) Waste Classification Letter: Stockpile Assessment SP054 (REV 1, 03 September, 2024)
- Senversa (2024ak) Waste Classification Letter: Stockpile Assessment SP055 (REV 1, 03 September, 2024)
- Senversa (2024al) Waste Classification Letter: Stockpile Assessment SP052, SP060 and SP061 (REV 1, 03 September, 2024)
- Senversa (2024am) Waste Classification Letter: Stockpile Assessment SP056 (REV 2, 02 October, 2024)
- Senversa (2024an) Waste Classification Letter: Stockpile Assessment SP057 (REV 1, 03 September, 2024)
- Senversa (2024ao) Waste Classification Letter: Stockpile Assessment SP062, SP060 and SP061 (REV 1, 03 September, 2024)
- Senversa (2024ap) Waste Classification Letter: Stockpile Assessment SP068 (REV 1, 03 October 2024)
- Senversa (2024aq) Stage 1 Remediation – RA2 Vapour Verification Assessment: Jeffman, Waterloo (REV 1, 16 September, 2024)

– **Treated stockpile reports**

- Senversa (2024ar) Stockpile Assessment: Stockpile TSP004 (REV 1, 02 September, 2024)
- Senversa (2024as) Stockpile Assessment: Stockpile TSP005 (REV 1, 02 September, 2024)
- Senversa (2024at) Stockpile Assessment: Stockpile TSP006 (REV 1, 02 September, 2024)
- Senversa (2024au) Stockpile Assessment: Stockpile TSP007 (REV 1, 02 September, 2024)
- Senversa (2024av) Stockpile Assessment: Stockpile TSP008 (REV 1, 02 September, 2024)
- Senversa (2024aw) Stockpile Assessment: Stockpile TSP009 (REV 1, 02 September, 2024)
- Senversa (2024ax) Stockpile Assessment: Stockpile TSP010 (REV 1, 02 September, 2024)
- Senversa (2024ay) Stockpile Assessment: Stockpile TSP011 (REV 1, 02 September, 2024)
- Senversa (2024az) Stockpile Assessment: Stockpile TSP012 (REV 1, 02 September, 2024)
- Senversa (2024ba) Stockpile Assessment: Stockpile TSP013 (REV 1, 02 September, 2024)
- Senversa (2024bb) Stockpile Assessment: Stockpile TSP014 (REV 1, 02 September, 2024)
- Senversa (2024bc) Stockpile Assessment: Stockpile TSP015 (REV 1, 02 September, 2024)
- Senversa (2024bd) Stockpile Assessment: Stockpile TSP016 (REV 1, 02 September, 2024)
- Senversa (2024be) Stockpile Assessment: Stockpile TSP044 (REV 1, 02 September, 2024)

– **Un-treated stockpile reports**

- Senversa (2024bf) Stockpile Assessment: Stockpile SP013 (REV 1, 16 August, 2024)
- Senversa (2024bg) Stockpile Assessment: Stockpile SP024 (REV 1, 16 August, 2024)
- Senversa (2024bh) Stockpile Assessment: Stockpile SP025 (REV 1, 16 August, 2024)
- Senversa (2024bi) Stockpile Assessment: Stockpile SP028 (REV 1, 16 August, 2024)
- Senversa (2024bj) Stockpile Assessment: Stockpile SP034 (REV 1, 16 August, 2024)
- Senversa (2024bk) Stockpile Assessment: Stockpile SP041 (REV 1, 16 August, 2024)
- Senversa (2024bl) Stockpile Assessment: Stockpile SP045 (REV 1, 16 August, 2024)
- Senversa (2024bm) Stockpile Assessment: Stockpile SP059 (REV 1, 16 August, 2024)
- Senversa (2024bn) Stockpile Assessment: Stockpile SP036 (REV 1, 16 August, 2024)

– **Management Plans**

- Senversa (2024bo) Pedestrian Link – Long-Term Environmental Management Plan (Asbestos Management Plan): Part Danks Street South Precinct, Waterloo, NSW (REV 1, 20 September, 2024)

Each report was reviewed by the auditor and review comments were provided to Senversa within interim audit advice letters (IAA) or tracked in audit commentary spreadsheets. Copies of IAAs/audit spreadsheets are presented in **Appendix B.**

1.7 Background reports

The auditor also considered the following documents as background information:

- Senversa (2019a) Preliminary Site Investigation: Jeffman Danks Street South Precinct (REV 0, 04 March 2019)
- *Senversa (2019b)* Overarching Remediation Action Plan (REV 1, 11 December 2019)
- Senversa (2021a) Remediation Action Plan: Jeffman Danks Street South Precinct, Waterloo, NSW (REV 2, 24 February 2021)
- (Senversa 2021b) Detailed Site Investigation, Jeffman Danks Street South Precinct, Waterloo, NSW. 26 February 2021 (REV 3, 26 February 2021)
- GHD (2021a) Site Audit Report: Danks Street South Precinct, Waterloo, NSW (March, 2021)
- GHD (2021b) Site Audit Statement: 207-229 Young Street, Waterloo and 881-885 Bourke Street, Waterloo and 887-893 Bourke Street, Waterloo (05 March 2021).

1.8 Site background

A summary of site history information is presented in **Section 4**. A summary of the more recent site background information is presented below:

- Stage 1 and Stage 2 have been investigated since 2003. The investigations focused primarily on the presence of volatile chlorinated hydrocarbon (VCH) contamination associated with the Lawrence Dry Cleaners (LDC) facility (located in Stage 2). Initial investigations were completed in the early and mid-2000s, with progressive assessment and works to support remediation planning/design of Significant Contaminants (as defined in the NSW EPA Management Order issued on 26 May 2011) identified within the site and adjacent land up until 2011/2012.
- On 31 October 2003 the EPA issued a 'Declaration of Investigation Area' applying to Lot A and Lot B (DP438722)
- On 4 May 2004, the EPA issued a voluntary investigation proposal for the site
- On 2 November 2005, the EPA issued a 'Declaration of Remediation Site' declaring that a portion of the site was a 'remediation site' under the Act (1997) and declared portions of the site to be 'Significantly Contaminated Land' (declaration No. 21084 under section 11 of the *Contaminated Land Management ACT, 1997* (the Act)).
- The portion of the site that was declared to be 'significantly contaminated' was made the subject of an NSW EPA Management Order (MO) (issued 26 May 2011).
    - The MO stated that the 'Significant contaminants' were defined as chlorinated hydrocarbons, including tetrachloroethene (PCE), trichloroethene (TCE), dichloroethane (DCE), and vinyl chloride (VC). The MO states that the NSW EPA believes that the land and groundwater is contaminated and that the contamination is significant enough to warrant regulation. The MO stated that Jeffman Pty Ltd and Lawrence Dry Cleaners Pty Ltd must carry out various investigations and monitoring of various media, conduct remediation actions including preparation, approval and implementation of a remediation action plan (prepared by AECOM in 2011) and provide remediation information to the public and to affected landholders (the MO is further discussed in **Section 1.8.2**).
    - 'Clean-up' of the groundwater plume (as per requirements of the MO) was reportedly achieved before May 2016. This was achieved via implementation of a groundwater extraction and treatment system and Enhanced in-situ bioremediation (EISB).
    - Stage 1 was removed from the MO on 27 June 2024 (further discussed in **Section 1.8**).
- Senversa was engaged as the validation consultant from circa 2019. During this time, Senversa has conducted various stages of intrusive site investigations including PSI, DSI, data gap DSI, human health and

ecological risk assessment. Senversa calculated risk based screening levels (RBSLs) for significant contaminants at the site and prepared a remediation works plan (RWP) and remediation validation plan (RVP).

– The auditor has been involved in the review and endorsement of the Senversa reports and commentary has been periodically presented within various Interim Audit Advice (IAA) letters.
– In March 2021, the auditor prepared a Site Audit Report (SAR) (GHD, 2021a) which included a review and endorsement of the Senversa DSI and the RAP.
– Jeffman appointed EnviroPacific (EP) as the principal contractor to remediate Stage 1 (as per the Senversa RAP, reviewed as part of the GHD SAR). EP is responsible for all remedial works including recording and maintaining accurate and complete documentation to demonstrate successful implementation of the remediation works.
– Stage 1 remediation has been finalised, and this SAR includes the auditor's review of the remediation validation documentation provided by Senversa.

1.8.1 Significantly contaminated land

On 02 November 2005, the NSW EPA declared a portion of the site to be 'Significantly Contaminated' by declaration no. 21084 under Section 11 of the Act.

The significantly contaminated land declaration applies to:

– Lots A and B in DP438772 & Lot 1 in DP89250
– Lot 1 in DP88482
– Lot B in DP88095
– Parts of Lot 3 in DP775039
– Parts of Lot 2 in DP800705

Lot boundaries are presented on **Figure 1, Appendix A** (adapted from Senversa, 2024i).

1.8.2 Management Order

On 26 May 2011, the majority of Stage 1 and Stage 2 (and a portion of the Dahua site to the south) was declared to be Significantly Contaminated Land previously subject to a Management Order (MO) (no. 2011403) (issued by the Land and Environment Court (LEC) under *the Contaminated Land Management Act (1997))*. Stage 1 was removed from the MO on 27 June 2024 – further discussion below.

The MO stated that the 'Significant contaminants' were chlorinated hydrocarbons, including tetrachloroethene (PCE), trichloroethene (TCE), dichloroethene (DCE), and vinyl chloride (VC). The MO states that the NSW EPA believes that the land is contaminated and that the contamination is significant enough to warrant regulation for the following reasons:

– Groundwater beneath the site is known to be contaminated with the Significant Contaminants (listed above) in excess of adopted assessment criteria
– The groundwater has migrated downgradient of the source and has impacted on adjoining sites and may continue to spread which may put potential future users of groundwater at risk.

The MO stated that Jeffman Pty Ltd and Lawrence Dry Cleaners Pty Ltd must carry out various investigations and monitoring of various media, conduct remediation actions including preparation, approval and implementation of a remediation action plan and provide remediation information to the public and to affected landholders.

Amendments to the Management Order requested by Senversa, on behalf of Jeffman, were subsequently approved by the EPA by the issue of s44 notices on 28 August 2014, 27 February 2015, 9 February 2016, 7 July 2017,1 March 2021 and 24 May 2024. The most recent update to the management order included the removal of Stage 1 from the MO, the updated MO boundary is presented in **Figure 1** below.

Figure 1 Updated management order boundary (as of 1 August 2024)

1.9 Permitted land uses

The Sydney Local Environment Plan (2012) defines the Stage 1 land zoning as follows:

Part of Lot 3 (DP775039) - E1 (Local Centre) (Sydney Local Environment Plan 2012)

- Permitted without consent
  - Nil

– Permitted with consent
  - Amusement centres; Boarding houses; Centre-based child care facilities; Commercial premises; Community facilities; Entertainment facilities; Function centres; Hotel or motel accommodation; Information and education facilities; Light industries; Local distribution premises; Medical centres; Oyster aquaculture; Places of public worship; Public administration buildings; Recreation facilities (indoor); Respite day care centres; Service stations; Shop top housing; Tank-based aquaculture; Veterinary hospitals; Any other development not specified above.

– Prohibited
  - Depots; Extractive industries; Freight transport facilities; Heavy industrial storage establishments; Industrial retail outlets; Industries; Pond-based aquaculture; Storage premises; Transport depots

Part of Lot 4 (DP600884) - MU1 (Mixed Use) (Sydney Local Environment Plan 2012)

– Permitted without consent
  - Home occupations

– Permitted with consent
  - Amusement centres; Boarding houses; Car parks; Centre-based child care facilities; Commercial premises; Community facilities; Entertainment facilities; Function centres; Information and education facilities; Light industries; Local distribution premises; Medical centres; Oyster aquaculture; Passenger transport facilities; Places of public worship; Recreation areas; Recreation facilities (indoor); Registered clubs; Respite day care centres; Restricted premises; Shop top housing; Tank-based aquaculture; Tourist and visitor accommodation; Vehicle repair stations; Any other development not specified above.

– Prohibited
  - Extractive industries; Heavy industrial storage establishments; Heavy industries; Pond-based aquaculture

The Stage 1 boundary and lot boundaries are presented on **Figure 1, Appendix A** (adapted from Senversa, 2024i).

1.10 Development application

A Development Application (DA D/2020/45) was submitted to City of Sydney (CoS) on 21 January 2020. The DA set out the subdivision and concept design of the site. Development approval was granted on 23 August 2021. A Section B5 SAS (GHD, 2021a) – stating that the remedial action plan prepared by Senversa (26 February 2021) could render the site suitable for the proposed land uses – was submitted to support the DA.

Since the development approval was issued by CoS, several modifications have been made to the development consent, the most recent modification captured within a *'Notice of determination for modification of development consent' (City of Sydney) (Date of modification: 07 March, 2024).* Part of the updated notice includes additional requirements regarding the engagement of a NSW EPA accredited site auditor, including a requirement to issue a Section A SAS, further information is presented in **Section 1.10.1.**

1.10.1 Notice of determination for modification of development consent

Part B of the notice of determination for modification of development consent (applicable to Stage 1 and Stage 2) states various conditions of consent, a summary of relevant conditions (applicable to the audit process) is presented below:

- **Section 16**
  - The site is to be remediated and validated in accordance with the Remedial Action Plan prepared by Senversa, dated 26 February 2021, reference number S17025_028_rpt rev2 rap and Section B Site Audit Statement, Andrew Kohlrusch of GHD Environmental, dated 5 March 2021
  - The site is to be remediated so that the land is not subject to any onerous long term EMPs that require monitoring and reporting by future landowners.
- **Section 24**
  - On completion of the approved remediation works, a Section A1 Site Audit Statement must be obtained from an NSW Environment Protection Authority accredited Site Auditor and submitted to the Council's Area Planning Manager
  - The Site Audit Statement must confirm that the site has been remediated in accordance with the approved Remedial Action Plan and that the site is suitable for its approved use.
    - (a) In circumstances where the Site Audit Statement is subject to conditions that require ongoing review by the Auditor or Council, these must be reviewed and must be approved by the Council's Health and Building Unit in writing through the Area Planning Manager before the Site Audit Statement is issued.
    - (b) In circumstances where the Site Audit Statement conditions (if applicable) are not consistent with the consent, the development must not proceed until the inconsistency has been resolved to the satisfaction of Council (such as via a S4.55 modification of the consent pursuant to the provisions of the Environmental Planning & Assessment Act 1979).
    - (c) No Certificate of Completion for Public Domain Works or any Occupation Certificate for buildings constructed within the approved development parcels (whichever is sought first) can be issued unless a Section A1 Site Audit Statement has been submitted to and approved by Council in accordance with this condition.
    - (d) Should the site require further remediation and the issue of an A1 Site Audit Statement is not possible following completion of the approved remediation strategy, a Section A2 statement and Site Audit Report from a NSW EPA accredited Site Auditor must be provided to the Area Planning Manager to fully explain the contamination status of the land, reasons why the site could not be fully remediated and what measures will be required to make the land suitable for its use.

1.11 Site inspections

The auditor, Andrew Kohlrusch, and/or the auditor assistant(s), Jessica Hannaford and/or Sam Vaughan, conducted several site visits during the remediation as follows:

- 23 October 2023
- 22 March 2024
- 15 February 2024
- 17 May 2024
- 3 September 2024

The site visits coincided with key milestones (such as completion of the removal contaminated soil at the nominated remediation areas, an inspection of the floor of the excavation of RA2, discussions with Senversa on the scope of work necessary around the sub-station and the tree protection zone and a final visit after all remedial and characterisation works had been completed).

Site visit records (including site photographs) are presented in **Appendix C.**

1.12 Site audit report structure

This SAR documents the audit of the reports referenced in **Section 1.6**. Where the auditor has provided comments on the work, these are highlighted in orange shaded dialogue boxes. The remainder of this report is organised as follows:

Section 2	Proposed Development
Section 3	Site Conditions and Environmental Setting
Section 4	Historical Land Use
Section 5	Remedial Action Plan
Section 6	Pre-remediation Conceptual Site Model
Section 7	Stage 1 Characterisation Reports
Section 8	Remediation and Validation Plans
Section 9	Stockpile and Materials Management
Section 10	Validation Reports
Section 11	Post Remediation Conceptual Site Model
Section 12	Long Term Environmental Management Plan
Section 13	Evaluation of Quality Assurance and Quality Control
Section 14	Other Considerations
Section 15	Audit Conclusions
Section 16	Disclaimer

2. Proposed development

The *'Notice of determination for modification of development consent' (City of Sydney) (Date of modification: 07 March, 2024)* describes the proposed development as '*Concept building envelopes for three mixed-use (commercial and residential) buildings and one residential apartment building and vehicle access locations. The approval also includes a first stage of works including demolition, remediation and subdivision to create four new development parcels and transfer lands, and embellishment works'.*

During Stage 1 remediation works, Jeffman instructed Senversa and EnviroPacific to conduct remediation to make all of Stage 1 suitable for mixed medium-high density residential and commercial land use (including basement excavations), noting the following exceptions:

– the Pedestrian Link Audit Area and the Substation Audit Area (commercial industrial land use)
– the publicly accessible park (public open space land use)

The proposed locations of these items are considered to be fixed and are presented in **Appendix D** (adapted from Senversa, 2024i).

The specific locations of the proposed residential/commercial premises are presently unknown and will be determined by future site owners.

Under an integrated concept Development Application (DA) D/2020/45, Jeffman intends to eventually transfer ownership of the Pedestrian Link and Public Park to City of Sydney Council. A stormwater pipe main and a swale drain is proposed to eventually be constructed beneath the paved surface of the pedestrian link.

3. Site conditions and environmental setting

A summary of the site conditions provided by Senversa in the background reports listed in **Section 1.6 and Section 1.7** are summarised in **Table 2.**

Table 2 Site conditions and environmental setting

Information	
Site description prior to remediation	Prior to demolition of on-site structures in early 2023, Stage 1 included: **Part Lot 3** – Several commercial style warehouse structures comprising offices, café, storage and distribution warehouse and food and beverage equipment maintenance and a surfaced car park **Part Lot 4** – A commercial warehouse comprising furniture retail and storage business (Glicks Furniture) and a surfaced car and access driveway. Additional site history information is presented in **Section 4.**
Site geology	The Senversa DSI (2021b) indicates that the site lithology comprises Triassic Hawkesbury Sandstone at depth, overlain by residual clay from weathering of Triassic Wianamatta Shale and then Quaternary unconsolidated sediment (predominantly aeolian [wind blown] origin). The sands (inferred to be Botany Sands group) have been encountered by Senversa across the site at depths ranging between 4.0m bgl and 9.1m bg. Senversa (2024i) has also reported the presence of minor and discontinuous organic-rich silt and peaty interbeds within the sandy layer in some areas. Fill has generally been encountered overlying the aeolian sands. Previous investigations have identified that the site fill can contain ash, slag, brick, tiles, concrete rubble, fibrous cement sheeting, glass, coal and sandstone and shale rubble. Senversa (2022b) report that fill depths have generally been observed within the order of one to three metres.
Topography and drainage	Senversa (2021b) reported that surface water features in the vicinity of the site include ponds in Centennial Park (around 1-1.5 kilometres to the east) and Sheas Creek stormwater channel (which drains to Alexandra Canal around two kilometres to the south). There are no surface water bodies on the site. Senversa (2021b) reported that water in Sheas Creek stormwater channel flows to the south towards Alexandra Canal. The former Sydney Water property to the immediate south of Stage 1 is lower lying than Stage 1. Surface water flow at the properties is captured by stormwater drains in Bourke Street, Danks Street and Young Street which are likely to discharge to Sheas Creek stormwater channel. A survey plan (drafted 05 July 2024) presented within Senversa (2024i) indicates that the site is generally situated at an approximate elevation of 29 to 30m AHD. The eastern portion of Stage 1 appears to be generally slightly elevated above the remaining portions of Stage 1 with a slight downward slope towards the west and south-west. Senversa (2024i) reported that the final Stage 1 survey indicated the Stage 1 site surface was generally 0.5m lower than the pre-remediation site surface.
Hydrogeology	The site is located within the unconfined Botany Sands Aquifer. Groundwater beneath the site is generally encountered at a depth of two to four metres below ground level (but has also been encountered at shallower depths) and is found in both fill and the within the Botany Sands. Senversa (2022b) report that groundwater flow direction generally mirrors that of the wider area i.e. to the southwest, although a suspected mounding effect within the Stage 2 area may be causing a proportion of flow towards the south-west and possibly to the north. A residual clay layer between Botany Sands and the shale/sandstone is inferred to act as an aquitard. Groundwater flow in the shale/sandstone is reportedly more westerly than in the sands. Senversa (2022b) reported that the hydraulic gradient is 0.02 to 0.05 in the sands and 0.02 to 0.03 in the sandstone. Hydraulic conductivity measurements in the sand range from 0.1 to 5 m/day while the sandstone is regarded as relatively impermeable.

Information	
	Senversa (2024g) noted that the post remediation groundwater data set (including data collected during August 2024) indicates that regional flow patterns around the site within the Botany Sands Aquifer remain broadly similar to pre-remediation flow patterns, i.e. a slight groundwater mound is centred approximately over the central portion of the LDC (located within Stage 2) with flow directions inferred to be to the west, south and east from the 'high point' beneath the former Lawrence Dry Cleaners (LDC) (located within the western portion of stage 2). Senversa (2024g) also note that groundwater level data loggers appear to show an increased rainfall recharge response within areas of the site where pavement/concrete slabs have been removed as part of remediation works. Senversa also report that the presence of the sheet pile wall within the eastern portion of Stage 1 is limiting groundwater flow within the Botany Sands Aquifer from migrating from Stage 2 to Stage 1. Senversa (2024g) reported a broad general increase in groundwater levels in the order of 1m at the site between August 2023 and June 2024 at all monitoring locations across Stage 1 and Stage 2, Senversa indicate this rise is beyond expected historical groundwater level fluctuations and is likely occurring regionally due to above average rainfall levels at the time and is likely partially affected by removal of hardstand at the site, Senversa note that local groundwater levels will likely revert following development at the site.
Surrounding land use	**North:** Mixed commercial/residential buildings along Danks Street comprising retail and café/restaurants at ground level, overlying medium to high density residential apartments with basement car parking at some buildings **South:** Multistorey residential construction in progress immediately off-site to the south-east at the time of issuing this SAR. Immediately south of site is largely vacant, grassed property which includes Sydney Water Corporation buildings and associated infrastructure e.g. water pumping station, pressure tunnel valve house, chlorinating unit and a substation. **East:** Bourke Street, including various commercial properties including car dealership, café, gym, beauty salon, restaurant etc and high density residential dwellings. **West:** Young Street including commercial premises, church, café with residential dwellings beyond.
Receptors	Senversa (2022b) references the following site receptors: – Future residents – Commercial workers – Park users – Road users – Intrusive maintenance workers – Terrestrial ecology of the future park – Construction workers during future development Groundwater receptors are generally not considered because the site is located within zone 2 of the designated temporary water restriction (Botany Sands Groundwater Source). In this zone, all domestic bore water use is banned. Furthermore, Senversa reported that a search of groundwater bores showed that around 95 groundwater bores were registered within 500m of the site, however, the majority were registered as 'monitoring bores' and four were registered as 'manufacturing and industry'. Two bores characterised as 'recreation' are reportedly located 370m east and 470m north-west (and upgradient) of the site. The pre-remediation conceptual site model (CSM) is further discussed in **Section 0**. A post remediation CSM is presented in **Section 11.**

3.1 Auditor discussion – site conditions and environmental setting

The auditor recognised that a substantial number of investigations have been conducted at the site, resulting in a comprehensive understanding of the local environment setting and influences on contaminant migration. Environmental setting information has been discussed in detail within the various reports listed in **Section 1.6 and Section 1.7**.

The site description as well as the immediate surrounding land uses reported in the reviewed reports were generally consistent with the auditor's observations made during the various site visits.

The auditor considered that the information provided by Senversa within the reviewed documentation presents a comprehensive appreciation of the Stage 1 site conditions and environmental setting.

4. Historical land use

Senversa (2022b) report that the site and surrounding land have been utilised for various industrial activities for over 60 years including e.g. electrical, metal fabrication, printing, kerosene lamp manufacture, furniture, appliance repair, furniture manufacturing, vehicle maintenance/depots. The Lawrence Dry Cleaners facility (previously located immediately off-site to the east within Stage 2) reportedly commenced commercial dry cleaning operations circa 1973.

The site had been contaminated by chemicals associated with historical dry cleaning activities (historically located within Stage 2), filling and other industrial activities. Stage 1 and Stage 2 have been the subject of various contamination investigations and remedial activities since the early 2000s (further discussed in **Section 1.8**).

A summary of historical, potentially contaminating activities which may have impacted the site are presented within Table 3 (adapted from Senversa, 2022b). Senversa (2022b) also reported that the information presented in Table 3 was compiled from a combination of desktop review, interviews and reviews of historical aerial photography.

Table 3 Site history summary (adapted from Senversa, 2022b)

Location	Historical potentially contaminating activities
On-site	
Lot 4 (DP600884) (the western portion of this site is within he site boundary for the purposes of this SAR).	**Historical Activities:** Motor body fabrication with associated workshop and storehouses; kerosene lamp manufacturing/distributing (southern portion); machinery manufacturing and motor body building (northern portion, adjacent Danks Street) and possible bus depot. **Chemicals of concern:** VHCs; TPH and BTEX (from fuels, oils, lubricants); PAH (from fuels, oils, coke and ash in fill); ACM; metals; less likely CoPC include pesticides, phenolic compounds, PCBs.
Lot 3 (DP775039)	**Historical activities:** Truck depot with maintenance workshop and storehouses; plumbing supply store; plumbing supplies; equipment repair for the food and beverage industry and possible (confirmed) transformer yard. **Chemicals of concern:** VHCs; TPH and BTEX (from fuels, soils, lubricants); PAH (from fuels, oils, coke and ash in fill); ACM; metals; less likely CoPC include pesticides, phenolic compounds, PCBs.
Off-site	
Lawrence Dry Cleaners (LDC) (located immediately off-site to the east – within Stage 2)	**Historical activities/source:** Electrical engineering and condenser manufacture; printing and manufacturing of carbon paper and stationery; storage and manufacture of wire, nuts and bolts; compressor manufacturing; dry-cleaning facility and; in-filling. **Chemicals of concern:** volatile halogenated compounds (VHCs) (principally tetrachloroethene, trichloroethene, 1,2-dichloroethene, vinyl chloride); total petroleum hydrocarbons (TPH) including benzene, toluene, ethyl benzene and xylenes (BTEX) (from white spirits, maintenance oils); polycyclic aromatic hydrocarbons (PAH) (from oils, coke and ash in fill); asbestos containing materials (ACM); acids/alkalis/detergents (from laundry use); nutrients, methane and metals; less likely contaminants of potential concern (CoPC) include pesticides, phenolic compounds, polychlorinated biphenyls (PCBs).
Dahua and City West Sites (located immediately off-site to the south-east)	The Dahua and/or CityWest sites have previously been used for a range of industrial and water infrastructure/supply uses, with possible contaminants being VHCs; TPH, BTEX and PAH; ACM; metals and PCBs. Activities are known to have included manufacturing of glass jars; motor vehicle repairs; printing works; furniture manufacturing; electrical appliances & equipment have also been historically conducted in land surrounding the site. Further from the site, potentially contaminating land uses include fuel service stations, dry cleaners and iron and steel foundries.

4.1 Auditor discussion – historical land use

The auditor notes that Senversa presented a detailed appreciation of the site's history within the various documents reviewed as part of this audit (i.e. the reports listed in **Section 1.6**) and within the background reports listed in **Section 1.7**. The identification of the activities and/or areas of concern allowed appropriate selection of chemicals of concern for the subsequent sampling programs.

5. Remedial Action Plan

The objectives of the RAP (Senversa, 2021a) was to set the remediation goals, outline the remediation steps to achieve the goals and identify requirements to complete the remediation in an environmentally acceptable manner. The RAP scope of works included:

– Summarising the pre-remediation understanding of the nature and extent of contamination
– Summarising the pre-remediation conceptual site model (CSM)
– Identifying remediation objectives and drivers, assessing remedial options
– Developing a framework of remediation tasks required to implement the remedial approach documenting validation requirements
– Listing requirements for future site development and long term management of residual contamination
– Describing how potential risks to human health and the environment could be mitigate during remediation and how unexpected finds would be managed.

The RAP (Senversa, 2021a) presents clean up criteria for chemicals of concern including the following;

– Soil - VCH (PCE, TCE, DCE; VC), TPH, BTEX, PAHs, PCBs, metals (arsenic, cadmium, iron, chromium, copper, lead, mercury, nickel and zinc), ACM, pesticides and phenolic compounds;
– Groundwater - VCH (PCE, TCE, DCE and VC), TPH, BTEX, PAH, PCBs, acids, alkalis, ammonia, phosphate, methane, metals (arsenic, cadmium, iron, chromium, copper, lead, mercury, nickel and zinc), pesticides, phenolic compounds; and
– Soil vapour and ground gas – VCH (PCE, TCE, DCE and VC), BTEX, TRH, naphthalene and methane.

To assess the efficacy of the remedial works in achieving end points for the land use proposed as part of the subdivision plan, the RAP documented that the remedial work would be validated with reference to assessment criteria, as follows:

– Tier 1 Screening Criteria: Generic assessment criteria presented in ASC NEPM (or by other international regulatory bodies if not available) for the proposed land uses;
– Interim HSLs: Site-specific criteria for Significant Contaminants with consideration of the vapour inhalation and other exposure pathways specific to the proposed future land uses
– Aesthetic and Acute Risk Considerations: Criteria relevant to LNAPL formation, explosive risks, impacts on subsurface infrastructure and visual and olfactory considerations.

The RAP documents that consideration will also be given during the remedial works to aesthetic issues in accessible soils or soils to be used as growing media, including the following:

– No highly malodourous soils.
– No heavy staining or discolouration in soils.
– No large or frequently occurring anthropogenic materials present.
– LNAPL or DNAPL which could impact the integrity of subsurface structures, should be absent.

The RAP (Senversa, 2021a) stated that the remedial strategy would include:

– Remediation of the most significant contamination by VCHs at the source site (located in Stage 2) and low-level VCHs and other potential contaminants in fill material in other areas to make the site suitable for the proposed development.
– Remediation of public domain land to be dedicated to City of Sydney (i.e. roadways, pedestrian link and open space park) such that the land is made suitable with no ongoing management of contamination required.

The RAP (Senversa, 2021a) discussed the Stage 1 and Stage 2 sites in terms of development ‘parcels’ (including Parcel 1 to Parcel 4). Stage 1 comprises Parcel 1 and Parcel 4. The locations of these Parcels are presented on **Figure 2, Appendix A** (adapted from Senversa, 2024i).

6. Pre-remediation conceptual site model

The Validation Work Plan (VWP) (Senversa, 2023c) presented a summary of key complete source-pathway-receptor linkages following completion of the data gap investigation (Senversa, 2022b), conducted subsequent to completion of the RAP that had been reviewed as part of the Section B5 SAS. This 'pre-remediation CSM' is summarised within **Table 4**.

Table 4 Summary of pre-remediation CSM (summarised from the Stage 1 RVP (Senversa, 2023c))

Stage 1 Area	Pathway	Receptor
Mixed residential/commercial parcels	Inhalation of VHCs via: – vapour intrusion into future basements – Shallow ground water seepage into future basements – Leaching from soil to groundwater and then seepage into future basements	Future/existing residents Commercial workers
	– Inhalation from VCH soil vapour within a trench – Direct contact by intrusive maintenance workers and potentially construction workers with VCH impacts and minor B(a)P, metals and TRH in fill soils.	Intrusive maintenance workers
Publicly accessible park, Pedestrian Link, Roadways	– Inhalation of VCHs by park users – Direct contact from soils potentially containing VCH, B(a)P, metals, TRH	Users of the publicly accessible park area
	– Inhalation of VCH by members of the public – Limited potential for direct contact/exposure to dusts due to mostly paved roadway and pedestrian link areas	Roadways and Pedestrian Link users
	– Inhalation from VCH soil vapour within a trench – Direct contact by intrusive maintenance workers and potentially construction workers with VCH impacts and minor B(a)P, metals and TRH in fill soils.	Intrusive maintenance workers
Park, minor landscaping areas	– Senversa (2023c) reported that the habitat value of the site is negligible with limited environmental values present requiring protection.	Terrestrial ecology

Table notes

– *Senversa (2023c) reported that groundwater users – through direct ingestion – were not considered as part of the CSM because groundwater extraction is banned as the area is located within the Botany Sands management zone.*

– *The Senversa (2023c) report assumed that all future site structures would include basement levels, and given the relatively shallow depth of groundwater at the site (generally 2-4m bgl), it was anticipated that all basement levels would intersect groundwater. Senversa also noted that the General terms of approval from Water NSW in D/2020/45) specified that future building basements below the water table are to be 'tanked' i.e. fully watertight for the anticipated life of the building. Notwithstanding, the Senversa HHRA conservatively assumed that there was potential for groundwater to enter the basements (via cracks etc).*

7. Stage 1 characterisation reports

Subsequent to issue of the Section B5 SAR in March 2021, several assessments have been completed which were ultimately used to facilitate the preparation of the RVP and RWP. These assessments are listed below with a summary of relevant objectives, scope of works and findings presented in **Table 5:**

– Senversa (2022a) Sampling and Analysis Quality Plan – Stage 1: Jeffman Danks Street South Precinct, Waterloo, NSW (Revision 0, 29 April 2022) (the **SAQP**)
– Senversa (2022b) Detailed Site Investigation – Stage 1: Jeffman Waterloo Development, Waterloo, NSW (Revision 1, 23 November 2022) (the **Stage 1 Data Gap DSI**)
– Senversa (2022c) Human Health Risk Assessment, Jeffman Waterloo Development, Waterloo NSW (Revision 1, 23 November 2022) (the **HHRA**)
– Senversa (2023a) Technical Memorandum – Results of additional sampling conducted in March 2023 (Revision 0, 19 May 2023) (**Additional sampling results)**

Table 5 Summary of Stage 1 characterisation reports

Report	Objective	Scope of works	Findings
SAQP (Senversa, 2022a)	Document data quality objectives and sampling, analytical and reporting requirements of the supplementary DSI to address data gaps identified in the RAP.	NA	NA
Stage 1 Data gap DSI (Senversa, 2022b)	Address the data gaps identified in the RAP relevant to Stage 1. This principally relates to refining the extent of contamination requiring remediation.	The data gap DSI included an intrusive investigation and sampling program within the accessible portions of the site, with several locations inaccessible owing to the presence of building structures. The investigation included: – Drilling/excavation of 20 soil bores/test pits – Installation of nine soil vapour bores – Installation of 10 groundwater monitoring bores, with aquifer slug testing within five of the bores – Membrane Interphase Probe testing at 13 locations – Development of site specific assessment criteria as part of the HHRA (Senversa, 2022c) and applied in the DSI – Further delineation testing within and near RA2.	– Two USTs were suspected. Soil, soil vapour and groundwater samples from near the USTs did not identify significant hydrocarbon contamination – VCH contamination not detected within RA1 (noting some access restrictions) – Soils within the footprint of the substation could not be sampled – No significant soil, groundwater and soil vapour VCH contamination noted in northern portions of Parcel 1, pedestrian link and Parcel 2. – Senversa (2022b) reported that leachability results and soil headspace vapour indicated that the adopted RBSL's are likely conservative.
HHRA (Senversa, 2022c)	Revision of the interim site-specific screening levels for VCHs that were presented in the RAP based on additional information available on the features of site development. The B(a)P screening values	Calculation of risk based screening levels (RBSLs) using existing site data and assumptions of future development.	Revised RBSLs were developed within the HHRA to be used for site validation purposes.

Report	Objective	Scope of works	Findings
	in ASC NEPM were also refined in the HHRA to reflect actual site conditions and identified ecological and human health receptors.		
Additional sampling results (Senversa, 2023a)	The RAP identified that a key step in delivering the remediation was to conduct further site characterisation works associated with each parcel, the results of which were to be used to refine (if necessary) the extent of remediation – and to be documented in a remedial works plan (RWP). Supplementary sampling was conducted in March 2023 following demolition works. The objectives of the assessment were to address remaining data gaps associated with the presence of the former buildings.	Drilling and test pitting at various locations across Stage 1 including soil and soil vapour testing.	The key outcomes of the works completed in March 2023 were: – No changes to remedial extents in Parcel 1 were proposed. The data confirmed the previous evaluation of remedial extents (as presented in Stage 1 Revision Memo) that remediation of Area 1 was not warranted. – Senversa recommended that Remediation Area 2 (RA2) (in Parcel 4) should be extended to the east to the boundary of Stage 1/Stage 2. Senversa recognised there was some variability in data sets (in particular groundwater and soil vapour) and while there may be some soils/groundwater within the zone that do not require remediation, extension of RA2 will offer greater surety of achieving remedial goals including control of flow of contaminated groundwater from adjacent source areas to the east (in Stage 2). – Asbestos was found at additional locations and Senversa recommended that the contractor will need to develop an approach to avoid mixing ACM with soil that will be subject to power screening as part of the treatment of chlorinated solvent contaminated soils in RA2.

7.1 Auditor discussion: Stage 1 characterisation reports

The auditor reviewed the DSI report to evaluate if data gaps outlined in the RAP (Senversa, 202a) had been addressed and to confirm that the report had been prepared in a manner consistent with the consultant guidelines and the NEPM (2013). The auditor presented interim audit advice (IAAs) which noted that additional soil and soil vapour sampling was required (following the demolition of site structures) during Stage 1 validation. The results of the additional sampling were presented within Senversa 2023a). The auditor reviewed the Senversa (2023a) report and concluded that the scope was consistent with the SAQP (Senversa, 2022a) and allowed for the collection of information to address potential data gaps identified in previous reports. The auditor also concluded that the report included key elements as required by the NSW EPA for a site characterisation report.

The auditor noted that some asbestos had been identified by Senversa in areas where asbestos had not previously been encountered, the auditor commented that the remediation contractor should develop an approach to avoid mixing ACM with soil that will be subject to power screening in all areas of the site where fill was observed.

8. Remediation and Validation plans

Following submission of the RAP, Senversa prepared the following work plans or updates to the remedial approach based on the characterisation reports summarised in **Section 7**:

– Senversa (2022d) Technical Memorandum - Revision of RAP Remediation Extents in Stage 1 Area (REV 1, 24 November 2022) (**the Revision of RAP Remediation Extents**)
– Senversa (2023b) Remediation Works Plan – Stage 1: Jeffman Danks Street South Precinct, Waterloo, NSW (REV 02, 29 August 2023) (**the Stage 1 RWP**)
– Senversa (2023c) Validation Works Plan – Stage 1 Remediation: Jeffman Danks Street South Precinct, Waterloo, NSW (REV 02, 30 August 2023) (**the Stage 1 VWP**)
– Senversa (2024a) Change in land use remediation end point: Jeffman Danks Street, NSW (REV 0, 01 May 2024) (**the change in land use remediation end point letter**)
– Senversa (2024b) Update to risk based screening levels: Jeffman Danks Street (Revision 0, 06 June 2024) (**the RBSL amendment letter**)
– Senversa (2024c) Validation assessment approach for the pedestrian link (Revision 0, 11 June 2024) (**the pedestrian link validation approach**).

A summary of the objectives, scope of works and findings of the remediation and validation planning reports is presented within **Table 6**:

Table 6 Summary of Stage 1 remediation and validation plans

Report	Objective	Scope of works	Findings
The Revision of RAP remediation extents (Senversa, 2022c)	The remediation extents presented within the RAP (Senversa, 2021a) were preliminary and intended to be revised based on the results of the HHRA (Senversa, 2022c) and the Data Gap DSI (Senversa, 2022b). The report objectives were to present the refined remediation extents (remediation areas-RAs) based on risk based screening levels (RBSLs), data gap DSI results and revision of health and ecological investigation levels for benzo(a)pyrene.	Presented the refined remediation extents for Stage 1	The original remediation areas (presented in the RAP) were revised based on the results of additional sampling as part of the Data Gap DSI and application of the RBSLs. The main change compared to the original RAP was that Senversa determined that remediation of RA1 was not required make the site suitable.
The Stage 1 RWP (Senversa, 2023b)	The RWP was prepared to detail the remediation methods, extents and procedures of the proposed remediation at Stage 1.	Documented known extent of contamination within Stage 1 that required remediation. Documented the remediation methodology. Documented the design and execution requirements developed by the remediation contractor to meet remedial objectives set out in the RAP.	NA
The Stage 1 VWP (Senversa, 2023c)	Document the data quality objectives (DQOs) and detailed methodology required to validate whether remediation meets the objectives set out in the RAP (Senversa, 2021a).	The VWP detailed remediation DQOs and the detailed methodology for the proposed remediation at Stage 1, including documenting e.g. roles and responsibilities, presenting criteria for different remediation areas etc	NA
Change in land use remediation end point letter (Senversa, 2024a)	The risk based screening levels (RBSLs) calculated as part of the HHRA (Senversa, 2002c) were based on the original understanding of the proposed site layout (as per the site layout presented within the concept designs in the DA). In 2024, Jeffman requested that most of Stage 1 (refer to Section 2) be remediated to allow mixed commercial/medium-high density residential. To facilitate this aim, Senversa needed to review various data and assess if the majority of the site was suitable for the 'change in land use' or if additional works	Senversa reviewed the historical dataset in the context of the requested 'change in land use'.	Senversa identified that the following RBSLs required revision based on proposed end use changes requested by Jeffman: – RBSLs protective of vapour intrusion into basements required revision – VHC RBSLs applied to Remediation Area 1 (RA1) – Non VHC RBSLs applied to the roadway parcel. Senversa noted that some reasonable assumptions (with regards to

Report	Objective	Scope of works	Findings
	were required etc. As part of this process, Senversa also needed to generate updated risk based screening levels (RBSLs)		building/basement layout) were warranted to avoid the derivation of unnecessarily conservative RBSLs.
The RBSL amendment letter (Senversa, 2024b)	In 2024, Jeffman requested that, for commercial reasons, the Stage 1 remediation should ensure all portions of the site will be suitable for mixed medium-high density residential/commercial (to provide flexibility to future developers with respect to the future site layout). The exceptions are the pedestrian link and the park (the locations and orientations of which are fixed as per the DA concept plans). This update to the proposed Stage 1 layout meant that some of the assumptions used to derive the RBSLs in the HHRA (Senversa, 2022c) (including configuration of structures and basements) was no longer applicable and so the RBSLs required updating to reflect that medium-high density residential structures could be built within any portion of the site (excluding the Pedestrian Link and the proposed Public Park). The following RBSLs were updated: – Soil vapour intrusion RBSL (including building with a basement scenario and building structure constructed on an 'at grade' slab scenario) – Groundwater RBSL relating to seepage of groundwater into a basement and subsequent volatilisation into air spaces within the building/basement – RBSL relating to soil leaching/partitioning to groundwater from saturated/vadose zone soils followed by seepage into a basement and volatilisation into air spaces within the building/basement. – Soil RBSL protective of partitioning into groundwater and the Management Order sum of significant contaminants criterion of 0.5mg/L	In deriving the updated RBSLs, Senversa considered several assumptions: – Vapour modelling was based on the standard commercial and residential building parameters used for the derivation of health screening levels (HSLs) as presented in the ASC NEPM (2013) – RBSLs were developed for both a slab on grade building and a building with a basement level – The groundwater and soil RBSLs assume that in scenarios where buildings have basements, that at least one level of the basements intersects contaminated groundwater and the basement is not tanked (i.e. groundwater can enter) – Any basement levels are used as car parks and are not a place of work or a residential apartment – Conservatively assumed that any basements are orientated with the longest side perpendicular to groundwater flow within the groundwater plume. – Senversa (2024b) report that all other assumptions built into the model are consistent with the original RBSL's as summarised within the HHRA.	The report presents revised RBSLs for the following analytes and media types: – Soil vapour RBSL for VHC compounds (for both slab on grade setting and basement setting). The revised soil vapour RBSLs were reduced by a factor of 3-4 form the original RBSL presented in the HHRA. – Groundwater RBSLs for VHC compounds for both a smaller residential size basement and larger commercial size basement. – Soil leaching to groundwater RBSL for VHC compounds. – Senversa also derived revised RBSLs for soil values protective of the management order for various VHC compounds. – The RBSL's applicable to benzo(a)pyrene (originally derived in the HHRA) were based on generic land use assumptions and did not require revision.
The pedestrian link validation approach (Senversa, 2024c)	Provide further information on the proposed approach to validate the proposed pedestrian	The letter report set out validation criteria and the proposed methods to remediate the pedestrian link. The	Validation criteria for the northern and southern portions of the pedestrian link were set out in the report. The northern

Report	Objective	Scope of works	Findings
	link located within the Danks Street Easement.	proposed remediation methods were based on some sampling which had been undertaken as part of the Stage 1 DSI (Senversa, 2021b) and pre-remediation test pit/trench sampling.	portion was proposed to be validated against commercial/industrial criteria. The southern portion was proposed to be validated against mixed medium-high density residential land use criteria.

8.1 Auditor discussion: Remedial documents

The auditor provided commentary on the RWP (Senversa, 2023b) the VWP (Senversa, 2023c) and the revision of the RAP remediation extents (Senversa, 2022c) in an interim audit advice letter (Jeffman Danks Street South Precinct, Waterloo, NSW, Interim Audit Advice 09, GHD, 6 September, 2023). In preparing the interim advice letter, the auditor considered whether the Stage 1 RWP and Stage 1 VWP were prepared in a manner consistent with guidelines made or endorsed by the NSW EPA. It was the auditor's opinion that the Stage 1 RWP contained the key elements required for a RAP as outlined in the Consultant's Guidelines and the Auditor's Guidelines. The auditor also noted that the Stage 1 VWP was prepared in a manner consistent with the requirements for a sampling plan as listed in the Consultant's Guidelines. The auditor also noted that validation criteria (presented in the VWP) were based on NSW EPA endorsed investigation levels or site-specific target levels (derived using a human health risk assessment that adopted the approach as listed in the NEPM 2013) and the number and locations of samples to be collected in the areas to be validated were consistent with those listed in the *Sampling Design Guidelines*.

The auditor agreed that Senversa would need to review the existing dataset in the context of the updated understanding of the future site layout and derive updated RBSLs which should be based on a reasonable set of end land use assumptions, endorsed by Jeffman.

The auditor was subsequently satisfied that the assumptions used by Senversa (2024b) in modelling the revised RBSLs are reasonable. The auditor is also satisfied that the calculations used by Senversa to derive the updated RBSLs appear to be correct.

9. Stockpile and Materials Management

Senversa (2024i) reported three types of stockpiles being managed at Stage 1:

– ‘Treated soils’ i.e. all soils from RA2 and some soils from RA7 (known to be impacted by VCHs and therefore treated using the track mounted power screen and soil vapour treatment system)
– ‘Un-treated’ i.e. soils excavated from the site for which no treatment was required as no VCH were recorded
– Excavated soils and fill materials which could not be re-used on site (potentially because they were contaminated or there were aesthetic issue) were segregated, subject to waste classification assessment and removal from the site.

9.1 Treated stockpiles

With reference to diagram 1 below (extracted from Senversa, 2023c), materials excavated from the specified remediation areas (RAs) were segregated following excavation based on observed material type. Material not observed to comprise ACM impacts was loaded onto a MS13Z track mounted power screen in conjunction with a skid mounted soil vapour treatment system fitted with a vapour extraction system and aerator to undergo treatment.

Following treatment, the material was stockpiled for validation sampling in accordance with the VWP. If the post treatment validation sampling (for VCHs) indicated the material was suitable for on-site reuse, it was re-used on site.

Diagram 1 *Flow chart of treatment process (extracted from the Validation Work Plan (VWP) (Senversa, 2023c)*

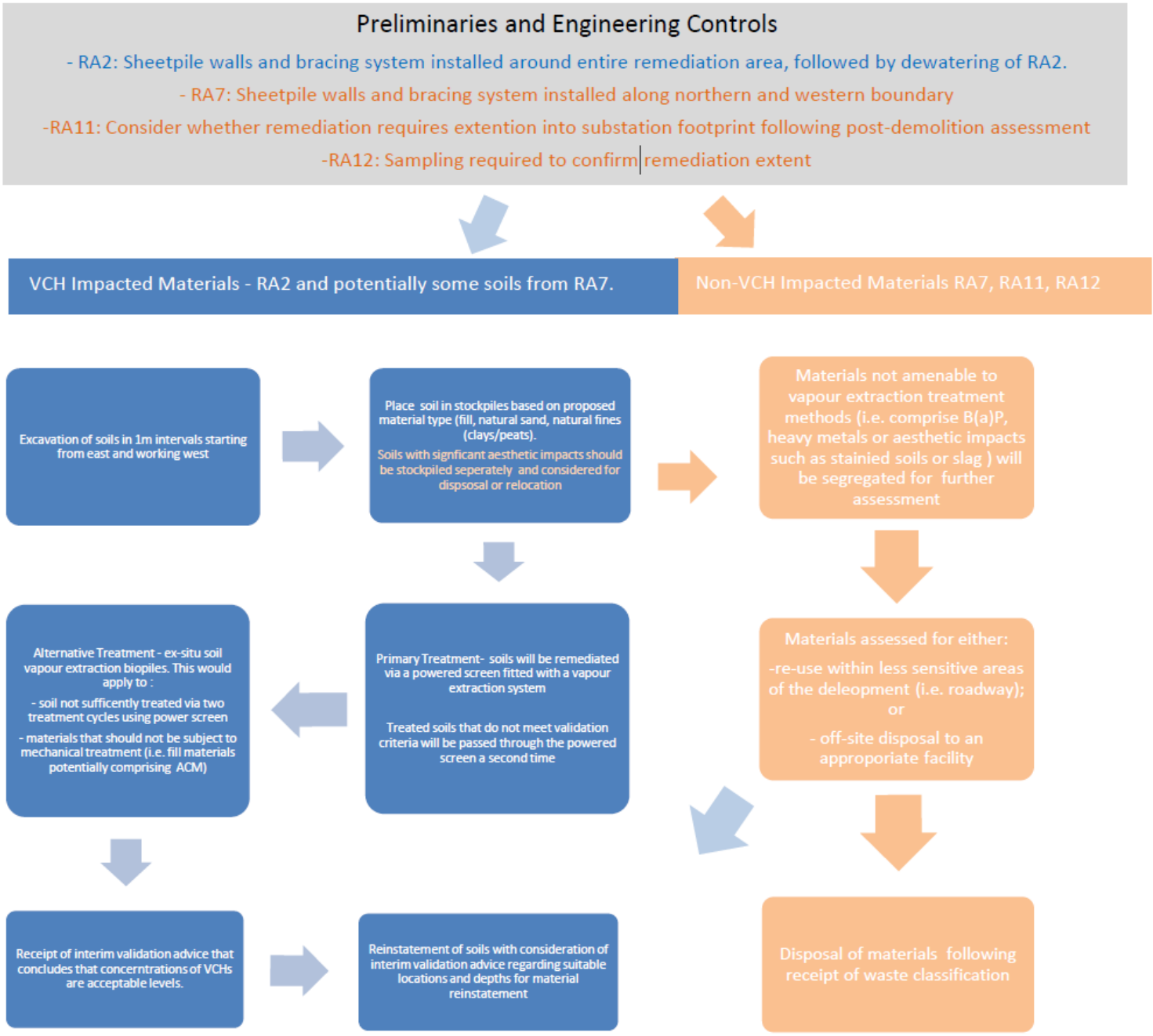


Table 7 Summary of treated stockpiles

Stockpile name (report ref.)	Material source/ source depth	Estimated total volume (m3)*1	Destination and placement depth	Auditor has reviewed and auditor comments addressed in final version of report? ✓/✗
TSP001 (Senversa, 2024ao)	RA2/0.1-0.4m bgl	378	TSP001, 002 and 003 were reportedly combined to form TSP008.	NA
TSP002 (Senversa, 2024ao)	RA2/0.4-0.6m bgl	327		NA
TSP003 (Senversa, 2024ao)	RA2/1.0-1.5m bgl	259		NA
TSP004 (Senversa, 2024ap)	RA2/1.5-2.0m bgl	336	Failed initial treatment validation and then re-treated and re-validated and subsequently approved. Material used as backfill within park area.	✓
TSP005 (Senversa, 2024aq)	RA2/1.5-2.0m bgl	400	Used as backfill at RA2, placed at around 2-3m bgl	✓
TSP006 (Senversa, 2024ar)	RA2/2.0-2.5m bgl	380	Used as backfill at RA7	✓
TSP007 (Senversa, 2024as)	RA2/2.0-2.5m bgl	340	Used as backfill at RA7	✓
TSP008 (Senversa, 2024at)	Formed from TSP001, 002 and 003.	964	Used as backfill in of RA2	✓
TSP009 (Senversa, 2024au)	RA2/2.5-3.0m bgl	408	Used as backfill in western portion of RA2	✓
TSP010 (Senversa, 2024av)	RA2/2.5-3.0m bgl	228	Used as backfill in western portion of RA2	✓
TSP011 (Senversa, 2024aw)	RA2/3.0-3.5m bgl	312	Used as backfill in western portion of RA2	✓
TSP012 (Senversa, 2024ax)	RA2/3.5-4.0m bgl	320	Used as backfill in western portion of RA2, placed at 3.5 – 4.0m bgl.	✓
TSP013 (Senversa, 2024ay)	RA2 ramp/1.5-2.0m bgl	240	Used as backfill in eastern portion of RA2	✓
TSP014 (Senversa, 2024az)	RA2 ramp/1.5-2.0m bgl	100	Used as backfill in eastern portion of RA2	✓
TSP015 (Senversa, 2024ba)	RA2/4.5-5.0m bgl	18	Used as backfill in eastern portion of RA2, placed at 2-3m bgl.	✓
TSP016 (Senversa, 2024bb)	RA2/4.5-5.0m bgl	200	Used as backfill in eastern portion of RA2, placed at 2-3m bgl.	✓

Stockpile name (report ref.)	Material source/ source depth	Estimated total volume (m3)*1	Destination and placement depth	Auditor has reviewed and auditor comments addressed in final version of report? ✓/✗
TSP044 (Senversa, 2024bc)	South of RA11/1.0-1.5m bgl	110	0.0-0.5m bgl – roadway south	✓

Table notes

*1 EPS and Senversa have both provided estimates of stockpile volumes, the estimates mostly correlate, but in some instances there are minor differences. For the purposes of this SAR, the Senversa estimates are used.

9.2 Untreated stockpiles

With reference to Diagram 1, material excavated from other areas not suspected to be impacted with VCHs was sampled for other contaminants of concern and either validated as suitable for re-use on site (these stockpiles are summarised within Table 8) or disposed off-site (these stockpiles are summarised within Table 9).

Table 8 Summary of un-treated stockpiles

Stockpile name (report ref.)	Material source/ source depth	Estimated total volume (m3)*1	Senversa conclusions*1	Destination and placement depth	Auditor has reviewed and auditor comments addressed in final version of report? ✓/✗
SP013 (Senversa, 2024bd)	Excavated from RA7 tank pit sands from 0.2-1.0m bgl.	4m^3	Senversa (2024i) reported that validation sampling indicated the stockpile was suitable for on-site re-use within Development Parcels 1,2,3 and 4 and within Public domain areas (i.e. road or park).	Backfilled within RA7	✓
SP024 (Senversa, 2024be)	Natural clays excavated from RA2 from around 4.0-4.5m bgl	50 m^3		Backfilled into south-west corner of RA2	✓
SP025 (Senversa, 2024bf)	Natural clays excavated from RA2 from around 4.0-4.5m bgl	450 m^3		Backfilled into south-west corner of RA2	✓
SP028 (Senversa, 2024bg)	Sediment from de-watered fines from the water treatment plan for water pumped from Stage 1 excavations	2.7 m^3		Backfilled into RA11	✓
SP030	Parcel 1 – northern section closes to Danks Street	500m^3	Visual assessment indicated stockpile not impacted by asbestos. Material was segregated and sampled progressively. Seventeen asbestos quantification samples completed which indicated that bonded ACM was not present in stockpiles above validation criteria.	Main audit area	**A summary of SP030 is included within Senversa (2024h) – this report has been reviewed by the auditor**

Stockpile name (report ref.)	Material source/ source depth	Estimated total volume (m3)*1	Senversa conclusions*1	Destination and placement depth	Auditor has reviewed and auditor comments addressed in final version of report? ✓/✗
SP031	Fil material source from near the brick wall on Parcel 1 from around 0.1-0.5m bgl.	600 m^3	Visual assessment indicated stockpile not impacted by asbestos. Material was segregated and sampled progressively. Thirteen asbestos quantification samples completed which indicated that bonded ACM was not present in stockpiles above validation criteria.	Main audit area	**A summary of SP031 is included within Senversa (2024h) – this report has been reviewed by the auditor**
SP034 (Senversa, 2024bh)	Fill sands excavated from RA11 from around 0.5-1.0m bgl	40 m^3	The SP034 report indicates that SP034 contained trace foreign materials and a single exceedance of ecological criterion for copper suggesting it may not be suitable for use as accessible soils in the park area. Asbestos not reported in tested samples.	RA11	✓
SP036 (Senversa, 2024bl)	Segregated fill formed during segregation of concrete from soil during loadout. Material was sourced from outside VCH remediation areas and was generally excavated from across stage 1 from around 0.0-0.3m bgl.	205m^3	Validation sampling indicated the stockpile was suitable for on-site re-use within Development Parcels 1,2,3 and 4 and within Public domain areas (i.e. road or park).	Ramp between Stage 1 and Stage 2 where the retaining wall was located	✓
SP041 (Senversa, 2024bi)	Excavated from the east of former RA1 from around 0.8-1.2m bgl.	150 m^3	The SP041 report indicates that SP041 contained trace foreign materials and a single exceedance of ecological criterion for copper suggesting it may not be suitable for use as accessible soils in the park area. Asbestos not reported in tested samples.	0.0-1.0m bgl in south of parcel 1	✓
SP042	Oversize sandstone from south-east of parcel 1 at around 1m bgl	100 m^3		LDC UST	NA

Stockpile name (report ref.)	Material source/ source depth	Estimated total volume (m3)*1	Senversa conclusions*1	Destination and placement depth	Auditor has reviewed and auditor comments addressed in final version of report? ✓/✗
SP045 (Senversa, 2024bj)	Excavated from RA11 from around 0.5-1.0m bgl	200 m^3	Validation sampling has indicated the stockpile is suitable for on-site re-use within Development Parcels 1,2,3 and 4 and within Public domain areas (i.e. road or park).	South of Parcel 1 driveway	✓
SP059 (Senversa, 2024bk)	Excavated from area south of former RA7 from around 0.2-2.0m bgl.	150 m^3	Validation sampling has indicated the stockpile is suitable for on-site re-use within Development Parcels 1,2,3 and 4 and within Public domain areas (i.e. road or park).	-	✓

9.3 Waste management

With reference to the process described in Diagram 1, some of the excavated materials were disposed off-site to a licensed landfill, a summary which is presented in **Table 9**:

Table 9 Summary of waste management

Stockpile name (Report ref.)	Source area	Classification	Stockpile volume (m^3)	Tonnage recorded on tipping dockets	Receiving facility	Waste class report provided and reviewed by auditor? ✓/✗
SP001 (Senversa, 2024r)	Soil from beneath concrete slab in RA2 >0.6m bgl. ACM noted to be present.	Special waste (asbestos waste), General solid waste (non-putrescible)	988 m^3	1,800 tonnes	Brandown Waste and Recycling (231.12 tonnes) and Bingo Waste Services Eastern Creek (1599.18 tonnes)	✓
SP002 (Senversa, 2024s)	Concrete from demolition of secondary subsurface slab	Special waste (asbestos waste), General solid waste (non-putrescible)	160 m^3	110.26 tonnes	Brandown Waste and Recycling	✓
SP004 (Senversa, 2024t)	Suspected slag fill material segregated during excavation of RA2 from 0.1-0.4m bgl.	General solid waste (non-putrescible)	4m^3	-	-	✓
SP006 (Senversa, 2024v)	Spoil from screening of fill material from RA2, from below secondary slab (0.1-0.4m bgl)	Special waste (asbestos waste), General solid waste (non-putrescible)	10 m^3	37.36 tonnes	Cleanaway Erskine Park	✓
SP007 (Senversa, 2024w)	Material collected from the oversize belt during material screening of SP005. Originally sourced from between the first and second slab	Special waste (asbestos waste), General solid waste (non-putrescible)	120m^3	1212.92 tonnes	Cleanaway Erskine Park	✓

Stockpile name (Report ref.)	Source area	Classification	Stockpile volume (m^3)	Tonnage recorded on tipping dockets	Receiving facility	Waste class report provided and reviewed by auditor? ✓/✗
	in RA2 from around 0.2-0.6m bgl.					
SP017 (Senversa, 2024x)	Material segregated for geotechnical purposes from fill excavated from 0.1-0.4m bgl in RA2.	Special waste (asbestos waste), General solid waste (non-putrescible)	100m^3			✓
SP018 (Senversa, 2024y)	Fill excavated from beneath the slabs at SP012 from around 0.3-0.6m bgl	Special waste (asbestos waste), General solid waste (non-putrescible)	45m^3			✓
SP032 (Senversa, 2024z)	Fill from between first and second slab from north-western corner of site in Parcel 1	Special waste (asbestos waste), General solid waste (non-putrescible)	70 m^3			✓
SP035 (Senversa, 2024ab)	Material segregated for geotechnical purposed in part parcel 1 from around 0.5-1.0m bgl	Special waste (asbestos waste), General solid waste (non-putrescible)	350 m^3			✓
SP010 and SP021 (Senversa, 2024u)	**SP010** – Material generated during removal of UST from 0.2-0.5m bgl **SP021** – Excavation of soil from RA7	Special waste (asbestos waste), General solid waste (non-putrescible)	SP010 – 450 m^3 SP021 – 150 m^3	1041.98 tonnes	Cleanaway Erskine Park	✓
SP033 (Senversa, 2024aa)	Material excavated from RA11 from	Special waste (asbestos waste),	20 m^3	1330.28 tonnes	Cleanaway Erskine Park	✓

Stockpile name (Report ref.)	Source area	Classification	Stockpile volume (m^3)	Tonnage recorded on tipping dockets	Receiving facility	Waste class report provided and reviewed by auditor? ✓/✗
	around 1.0-1.3m bgl.	General solid waste (non-putrescible)				
SP043 (Senversa, 2024ae)	Excavated from beneath second slab to the west of RA2 from around 0.6-1.0m bgl. 25m3 of material from SP046 also added.	Special waste (asbestos waste), General solid waste (non-putrescible)	350 m^3			✓
SP047 (Senversa, 2024ag)	Excavated from north of RA2 from around 0.5-1.0m bgl	Special waste (asbestos waste), General solid waste (non-putrescible)	100 m^3			✓
SP048 (Senversa, 2024ah)	Excavated from NE Parcel 1 from around 1-1.2m bgl.	Special waste (asbestos waste), General solid waste (non-putrescible)	60 m^3			✓
SP038 (Senversa, 2024ac)	Material excavated from below the second slab in the southwest corner of Parcel 1 at around 1m bgl	Special waste (asbestos waste), General solid waste (non-putrescible)	200 m^3	1138.34 tonnes (this material reportedly also included 10m3 of material sourced from SP037 from Stage 2 site)	Cleanaway, Erskine Park	✓
SP040 (Senversa, 2024ad)	As above but from around 1.5m bgl	Special waste (asbestos waste), General solid waste (non-putrescible)	30 m^3			✓
SP039, SP060 and SP061 (Senversa, 2024af)	**SP039 –** ashy fill excavated during Parcel 1 slab removal **SP060 –** Fill from EXTP069	Special waste (asbestos waste), General solid waste (non-putrescible)	SP039 – 10m^3 SP060 and SP061 – 5m^3	-	-	✓

Stockpile name (Report ref.)	Source area	Classification	Stockpile volume (m^3)	Tonnage recorded on tipping dockets	Receiving facility	Waste class report provided and reviewed by auditor? ✓/✗
	SP061 – Fill from EXTP061					
SP050	Danks Street easement north from around 0.3m bgl	Special waste (asbestos waste), General solid waste (non-putrescible	$10m^3$	See SP056	See SP056	Consolidated with SP056 for disposal
SP051 (Senversa, 2024ai)	Excavated fill material post screening from the south of driveway and Parcel 1 from an approximate depth of 0.1 – 0.5m bgl.	Special waste (asbestos waste), General solid waste (non-putrescible)	$210m^3$	1200.38 tonnes	Bingo Waste Services, Eastern Creek	✓
SP052 (Senversa, 2024al)	Excavated fill material from Danks Street pedestrian walkway from an approximate depth of 0.1 – 1m bgl.	Special waste (asbestos waste), General solid waste (non-putrescible)	$175m^3$			✓
SP054 (Senversa, 2024aj)	Excavated fill from Dank Street pedestrian walkway from around 0.2-0.8m bgl.	Special waste (asbestos waste), General solid waste (non-putrescible)	$85\ m^3$			✓
SP055 (Senversa, 2024ak)	Excavated fill from Dank Street pedestrian walkway from around 0.1-1.0m bgl.	Special waste (asbestos waste), General solid waste (non-putrescible)	$60\ m^3$			✓

Stockpile name (Report ref.)	Source area	Classification	Stockpile volume (m^3)	Tonnage recorded on tipping dockets	Receiving facility	Waste class report provided and reviewed by auditor? ✓/✗
SP053	Excavated oversize fill material from south of RA7 at 0.5-1.0m bgl	Special waste (asbestos waste), General solid waste (non-putrescible)	Consolidated with SP057 for disposal	See SP057	See SP057	Consolidated with SP057 for disposal
SP056 (Senversa, 2024am)	Fines and road base material from under Dank Street easement from around 0.1-0.2m bgl. SP050 (10m3) was reportedly consolidated with SP056 for disposal.	Special waste (asbestos waste), General solid waste (non-putrescible)	40m^3	-	-	✓
SP057 (Senversa, 2024an)	Excavated fill from south of Danks Street pedestrian walkway and south of RA7 from around 0.2-1.2m bgl. Also comprises ashy material within SP039 and SP053 and material from SP060 and SP061.	Special waste (asbestos waste), General solid waste (non-putrescible)	612 m^3	880.92 tonnes	Cleanaway Erskine Park	✓
SP060	From EXTP69 1.5-1.8m bgl	Special waste (asbestos waste), General solid waste (non-putrescible)	5m3	See SP057	See SP057	SP060 and SP061 were consolidated with SP057 for disposal
SP061	From EXTP65 at 1.5-1.8m bgl	Special waste (asbestos waste), General solid waste (non-putrescible)	5m3	See SP057	See SP057	

Stockpile name (Report ref.)	Source area	Classification	Stockpile volume (m^3)	Tonnage recorded on tipping dockets	Receiving facility	Waste class report provided and reviewed by auditor? ✓/✗
SP062 (Senversa, 2024ao)	Excavated from additional test pit excavated from south of RA7 from around 1.5-1.8m bgl	Special waste (asbestos waste), General solid waste (non-putrescible)	$20m^3$	-	-	✓
SP068 (Senversa, 2024ap)	Excavated fill material from VTP14 in roadway from an approximate depth of 0 – 1m bgl	Special waste (asbestos waste), General solid waste (non-putrescible)	$23m^3$	-	-	✓

Table notes

- The Auditor notes that some information for some stockpiles is missing. The Auditor has requested this information but at the time of issuing this SAR has not received it.

9.3.1 Concrete Waste

Senversa (2024i) report that a total of 5586.88 tonnes of concrete material was removed from the site, this material was reportedly taken to a range of recycling facilities including: Metropolitan Demolition, Concrete Recyclers – Camelia, Bing Recycling Eastern Creek, EBH Wyong, Ecorr-Wetherill Park, Widemere Recycling, Metro, EBH Concrete Recycling, Boral Recycling Wetherill Park, Porter Creek Depot, Camelia.

9.3.2 Steel waste

Senversa (2024i) report that a total of 134.22 tonnes of mixed steel was removed from the site and submitted to SIMS Metal Management – St Peters and Sell and Parker – Banksmeadow.

9.3.3 Liquid waste

Table 10 Summary of liquid waste removed from the site

Source	Classification	Estimated volume (m^3)	Tonnage recorded on tipping dockets	Receiving facility
Glicks UST – RA7	Oily water	5.6	2.68	Bulk recovery solutions
Grease Trap in Parcel 1	Grease	7.0	1.5	Cleanaway St. Marys
LDC UST	Liquid	27	9.08	South Windsor

9.4 Validation of imported materials

9.4.1 VENM and quarried materials

Senversa (2024i) reported that Virgin Excavated Natural Material (VENM) was imported to the site to backfill excavations and to meet design levels. Senversa provided the auditor with VENM reports to review. A summary of the volumes and source of the imported material is presented within **Table 11**:

Table 11 Summary of VENM and quarried material imported to the site

VENM source	VENM report reference	Imported VENM volume (m^3)	Imported material subject to testing and analysis on arrival at Stage 1 site?	Auditor satisfied that the material imported to the site meets the definition of VENM or is otherwise suitable for importation to the site
2-10 Bay Street, Double Bay, NSW	Senversa (2024m)	'Up to 2,000m^3' of excavated sand (pale yellow/yellow) and sandstone rock (orange/red/white, weathered'.	☑	☑
26-42, Eden Street, ARNECLIFFE	Senversa (2024o)	'Up to 2,456m^3' of excavated sandstone (medium grained, weathered, pale yellow to light brown)	☑	☑
2-10 Darling Drive, Sydney, NSW	Senversa (2024q)	'Up to 190m^3' of red/brown/grey mottled highly weathered sandstone and sandy clay (excavated sandstone)	☑	☑
Hanson Bass Point Quarry Quarried Products	Senversa (2024p)	'Up to 500m^3' of quarried product comprising 10-20mm aggregate and 20mm type DGB road base (DGB20)	☑	☑

9.4.2 Mulch

Senversa (2024i) reported that mulch was imported to the site for use as a soil improvement. The mulch was placed in several locations including around the root zones of the retained trees located on the western and northern perimeter of Stage 1. Senversa report that all imported mulch was generated from mixed leaves and woodchips only. A summary of imported mulch is presented in **Table 12**.

Table 12 Summary of imported mulch

Mulch source	Imported mulch report reference	Imported mulch volume (m^3)	Imported material subject to testing and analysis on arrival at Stage 1 site?	Auditor satisfied that the material imported to the site is suitable?
BC Sands, 26 Atkinson Road, Taren Point (reportedly generated from mixed leaves and woodchips)	(Senversa, 2024n)	Senversa reported 'approximately 120m^3'.	☑	☑ GHD has conducted a consolidation of BC Sands delivery dockets which indicate that 125.65m^3 of mulch was imported for use at Stage 1.

9.5 Auditor discussion: Imported materials and waste and stockpile management

Senversa generally prepared individual reports for each of the 'treated stockpiles', the 'un-treated stockpiles' and for each of the soil stockpiles that required off-site disposal to a licensed landfill. The auditor notes that some materials requiring off-site disposal were 'pre-classified' under NSW EPA (2014) guidelines and therefore waste classification reports were not presented for some waste types. Where provided by the validation consultant, each report was subject to auditor review and commentary. Auditor comments were presented in interim audit advice spreadsheets presented in Appendix B. The auditor accepted that the sampling and validation of stockpiles retained and re-used on site was appropriate and generally complied with the requirements of the RWP (Senversa, 2023b) and the VWP (Senversa, 2023c) and applicable NSW EPA guidelines.

The auditor noted that the waste classification reports provided for auditor review generally met the requirements of the NSW EPA (2014) Waste Classification Guidelines: Part 1 – Classifying Waste.

The auditor was satisfied that the imported material information presented for auditor review demonstrated that imported material was suitable for re-use on site.

As noted in Table 9, some disposal information was missing for several stockpiles. The auditor had requested this information from Senversa but did not receive it prior to completion of this audit report. However, the discrepancy is considered relatively minor given that it applies to approximately 100m^3 of soil and that the auditor would not suspect that material would have been inappropriately disposed off site given the calibre and integrity of the consultant and remediation contractor.

10. Validation reports

As part of the validation works, Senversa provided the auditor with the following documentation:

– Senversa (2024j) Excavation Surface Validation Remediation Excavation - RA2. REV 1 (Senversa, 16 September 2024) (**RA2 validation report**)
– Senversa (2024k) Excavation validation - Part of Lot 4 in DP 600884 (RA7, RA12 and Pedestrian Link. REV 1 (Senversa, 13 September 2024) (**RA7, RA12 and Pedestrian Link Validation Report**)
– Senversa (2024l) Excavation Surface Validation: Stage 1 remediation RA11. REV 2 (03 October 2024) (**RA11 validation report**)
– Senversa (2024f) Stage 1 Remediation – RA1 Vapour Assessment: Jeffman, Waterloo. REV A, (Senversa, 12 July 2024) (**the RA1 vapour assessment**)
– Senversa (2024g) Groundwater Validation: VCH Migration Control and Post-Remediation Verification - Stage 1 Remediation. REV 1 (13 September 2024) (**Stage 1 groundwater validation assessment**)
– Senversa (2024h) Validation of soils remaining in-situ outside of RWP Remediation Areas – Stage 1. REV 1 (Senversa, 19 September 2024)
– Senversa (2024i) Stage 1 Remediation Validation Report: Part Danks Street South Precinct, Waterloo, NSW. REV 1 (Senversa, 04 October 2024).

A summary of the objectives, scope of works, key findings and auditor's commentary of the above reports is presented in **Table 13** to **Table 15** below:

10.1 Validation of remediation areas

Senversa presented several reports for auditor review relating to the validation of the identified remediation areas (RA). The objectives, scope of works, findings and auditor commentary associated with each of these reports is presented in **Table 13**:

Table 13 Summary of remediation area validation reports

Report	Objective	Scope of works	Findings	Auditor commentary
Excavation Surface Validation Remediation Excavation - RA2 (Senversa, 2024j)	Present validation results for remediation excavation RA2.	The site features discussed in the following text are presented within **Figure 3, Appendix A** (adapted from Senversa, 2024h). Senversa (2024j) reported that sheet pile walls were installed around the perimeter of RA2 to allow excavations to be advanced to depths of up to 5m bgl. Groundwater within RA2 was progressively extracted during excavation works which was then subject to treatment via an on-site treatment plant prior to off-site disposal via trade waste. When the excavation was complete (i.e. all fill materials removed and natural clays exposed and soil samples collected from the base) RA2 was backfilled with validated soils and the western, northern and southern sheet pile walls removed. The excavation walls were sampled and analysed for contaminants of concern, followed by sampling of the base of the excavation. Sixty one wall samples and 119 base samples were collected and analysed for VOCs, fill samples were also analysed for heavy metals, TRH, PAH, and asbestos. Selected samples were analysed for ASLP VCHs.	The general lithology encountered within RA2 included: concrete slab generally overlying several layers of fill (comprising silty or clayey sand or sand with trace anthropogenic fill inclusions – including some bonded ACM fragments) and slag (varying between approximately 1.5m to 4.5m thickness), overlying natural Botany Sands overlying residual clays. **Validation sample exceedances** – Eastern wall: Average PID results from samples collected was 14.8ppm (PID criteria was 5ppm). The eastern wall is located outside of the Stage 1 boundary, the soils in this area will be managed as part of the stage 2 remediation. – Western Wall: Slightly elevated VCH results above adopted RBSLs were reported within a sample collected from 2m depth. Senversa undertook additional 'step-out' testing on a 2.5m grid around the exceedance and no additional RBSL exceedances were noted. ASLP analysis was undertaken on the exceeding sample and VCH's were not reported above LOR. – Southern Wall: Average PID results along southern excavation wall were 2.38ppm (adopted criteria of 5ppm). Senversa also reported low and acceptable concentrations of other contaminants of concern within the southern wall with respect to health criteria. – Northern wall: Average PID results along northern excavation wall were 1.41ppm (adopted criteria of 5ppm). Senversa also reported low and acceptable concentrations of other contaminants of concern within the southern wall with respect to health criteria. – Excavation base: Senversa report that the base of the excavation would be below groundwater level and therefore groundwater exposure pathways would be the main hazard, however, there were limited detections of VCHs above LOR and no exceedances of RBSLs and no VCHs detected above LOR in base soil samples analysed for ASLP. Several elevated PID results were reported from base samples (average PID result was 5ppm), however Senversa did not malodours and therefore elevated PID results were potentially attributable to naturally occurring organic compounds – and the auditor is aware that PID readings can be recorded from many other substances, not just contaminants/chemicals. – In addition to the exceedances noted above, five wall samples were also reported with TRH greater than adopted ecological criteria. The exceedances were all located at 2m depth. Senversa stated that the ecological exceedances would be assessed in the context of the entire stage 1 within the site validation report.	RA2 excavation and subsequent validation sampling appeared to have been conducted in a manner generally consistent with the approved RWP and VWP. The auditor noted that the reported ecological exceedances detected in some excavation wall samples were at 2m bgl (generally ecological criteria only apply to the upper 2m of soil, except in arid environments) and that Senversa intended to consider ecological criteria exceedances on a more holistic, site wide scale within the final validation report.

Report	Objective	Scope of works	Findings	Auditor commentary
Excavation Validation: Stage 1 Remediation – part Lot 4 in DP 600884 (RA7, RA12 and Pedestrian Link) (Senversa, 2024k)	Present validation results for remediation of the portion of Stage 1 located within Part Lot 4 (DP 600884) including RA7 and RA12.	The site features discussed in the following text are presented within **Figure 4, Appendix A** (adapted from Senversa, 2024h). RA7 and RA12 Senversa (2024k) reported that the initial driver for remediation at RA7 was removal of a UST and surrounding fill impacted by benzo(a)pyrene and TRHs. The remediation area however was expanded as some validation samples had exceedances of adopted validation criteria in some wall samples. Senversa (2024k) reported that RA12 was a small, isolated remediation area with remediation driven by elevated lead results in a shallow soil sample (the extent of which was defined by additional sampling). RA7 was remediated by removal of concrete slabs, installation of sheet piles (northern and western RA7 boundaries – to protect adjacent building structures), removal of a UST (no observed breaches or holes in tank) and removal of associated residual sand and oily water from the UST and surrounding backfill sands and fill materials down to around the top of the Botany Sands layer. RA7 was extended southward given presence of ACM observations and potential hydrocarbon/lead impacts. This southward expansion of RA7 connected RA12. Depth of excavation was generally to top of Botany Sands layer. Pedestrian Link (general) The RWP did not envisage that the Pedestrian Link (PL) would require remediation (beyond RA7 and RA12), however, test pitting within the PL during the fill verification process encountered asbestos (up to 1.8m bgl), lead and hydrocarbon impacted fill materials. At one test pit location, asbestos fibres were reported above adopted assessment criteria. Pedestrian Link: Northern extent This relatively small (60m^2), publicly accessible, asphalt surfaced area is located outside the site boundary gate at the northern extent of the pedestrian link. Senversa investigated this area by excavating one test pit (to 1m bgl) and two hand augers (to 0.5-0.7m bgl) – the base of fill was not encountered in this area. Pedestrian Link: Northern portion The northern portion of the pedestrian link was remediated by removing the concrete slab, installing a shoring system (to protect adjacent buildings), setting up environmental controls including asbestos exclusion zone, followed by excavating fill materials to the maximum practicable extent (which was approximately 2m below ground surface (bgs) within the central portion, and 1m bgs (eastern portion) and 0.9m bgs (western and north-eastern portion). Excavation depth was limited in these areas due to the presence of adjacent building footings (east and west portions) and due to geotechnical advice related to the structural integrity of the adjacent structures (central portion). In total, Senversa (2024k) reported that 87 excavation wall samples and 80 validation base samples were collected from the areas described above with soil samples generally analysed for heavy metals, BTEX, PAH, asbestos (%w/w) and VOCs, with selected samples analysed for PCBs.	**Validation results** Following excavation and removal of fill materials from the majority of the area (noting total depth of fill could not be removed from northern portion of pedestrian link due to geotechnical advice relating to the stability of adjacent structures), the excavation walls and bases were sampled for contaminants of concern, results are summarised below: RA7 and RA12 Two exceedances of ecological criteria were reported for copper and TRH in the western extent, Senversa concluded that these exceedances were low and acceptable based on statistical analysis. No other exceedances (including the adopted PID criteria) were noted within in this area. Pedestrian Link: Northern extent Soil samples collected from the single test pit and two hand auger locations did not report any exceedances of adopted assessment criteria and evidence of asbestos was not observed. The two hand augers and one test pit were terminated prior to reaching the base of fill materials. Pedestrian Link: Northern portion Senversa (2024k) reported that the vertical extent of fill could not be removed in the northern portion of the pedestrian link as fill was observed to extend up to 3m bgl in this area. Following the excavation to the extent practicable and safe, Senversa collected validation samples from the walls and base of the excavations. Five exceedances of adopted human health validation criteria (related to PAH, TRH, lead and B(a)P TEQ) were recorded in this area, with each exceedance located along the excavation wall which forms the shared boundary with Stage 2. Senversa considered these samples to be located 'off-site' and furthermore, have indicated that these soils are planned to be removed as part of the Stage 2 works. Senversa concluded that '*limited exceedances of conservative health based criteria remain'* in this area – this was supported by Senversa's statistical review of the data set that determined that remaining exceedances presented a low and acceptable risk based on future land use setting of the northern portion of pedestrian link, namely a pedestrian walkway and the southern portion of the pedestrian link being potentially used for mixed use medium-high density residential and/or commercial use. Friable asbestos exceeding health screening levels was reported at 2m bgs and 3m bgs within DSTP09 (located in the south-eastern area of the northern portion of the pedestrian link). Asbestos was detected in four other excavation base samples within the northern portion of the pedestrian link but below health screening levels. The only other reported asbestos exceedances (above adopted health screening levels) were reported at 1m below ground surface along the shared Stage 1/Stage 2 boundary – Senversa considered these exceedances are located off-site and indicated that these fill materials will be remediated during the Stage 2 works. Following validation sampling, a geotextile layer was placed over the walls and base of the excavated area, the extent of the geotextile marker layer is presented **in Figure 4a, Appendix A** (adapted from Senversa, 2024h). The area was then backfilled with imported VENM and validated materials from SP059 and SP013. Overall conclusions Senversa (2024k) concluded that: – Validation was conducted in general accordance with the RWP and VWP – The northern portion and northern extent of the pedestrian link (i.e. the Pedestrian Link Audit Area) are suitable for use as a pedestrian link as per the concept design plans in the DA, provided that a passive LTEMP is developed to notify future intrusive construction workers of the presence of asbestos below the geotextile marker layer. – The southern portion of the pedestrian link was concluded to be suitable for mixed high-density residential and commercial land use (as well as for use as a pedestrian link).	The auditor noted that Jeffman's intention is to dedicate the Pedestrian Link to City of Sydney Council. The location of the northern portion of the pedestrian link (PL) is fixed. The proposed route of the southern portion of the pedestrian link is presently unknown. The presence of asbestos (albeit at >2m bgl) within the northern portion of the PL warrants management via a passive management plan which will be attached to the relevant Site Audit Statement. The purpose of the management plan is to notify future maintenance/construction workers of the presence of asbestos at depth. Normal use of the area – as a pedestrian link or surface maintenance – would not warrant any actions to mitigate exposure to the asbestos.
Stage 1 Remediation Validation: Remediation Excavation RA11 and substation footprint (Senversa, 2024l)	The purpose of the letter was to present validation results for: – RA11 excavation, and	The site features discussed in the following text are presented within **Figure 3, Appendix A** (adapted from Senversa, 2024h). Senversa (2024l) reported the validation results of RA11 and the substation together as the northwestern wall of RA11	RA11 validation results The general lithology encountered during RA11 excavations and the substation exclusion zone vacuum excavations was:	The auditor supported the Senversa (2024l) conclusions regarding the RA11 validation, i.e. that remediation and validation of RA11 was generally conducted in accordance with RWP and

Report	Objective	Scope of works	Findings	Auditor commentary
	– The substation area (including the substation footprint and exclusion zone)	forms the south-eastern boundary of the substation exclusion zone. Although data relating to the substation is presented within the Senversa, 2024l <u>RA11</u> RA11 was remediated owing to the presence of PAH and TRH concentrations in soils, and visual observations of aesthetic impacts (e.g. slag, black staining and hydrocarbon odours) reported during previous investigation works. Senversa reported that RA11 was excavated to greater extents than presented within the RWP and to a depth of 1m-1.3m bgl (to top of Botany Sands). RA11 validation sampling included sampling and analysis of 35 wall samples and eight excavation base samples. Validation samples were analysed for TRH, PAH, asbestos and VOCs with some samples analysed for PCBs. <u>Substation</u> The 'substation' is an active Ausgrid facility. The Senversa RWP and VWP assumed that the substation would be relocated during demolitions or remediation stages, however, Senversa reported that under the instruction of Jeffman, the substation is to remain in-situ and was in use at the time of validation reporting. Due to safety constraints imposed by Ausgrid, the area immediately surrounding the substation could not be investigated and sampled. <u>Substation exclusion zone</u> The 'substation exclusion zone' is a 3m buffer zone around the substation where limited sampling (using 'non-destructive' vacuum excavation techniques) only was permitted. Seven narrow diameter vacuum excavated holes were excavated to a depth of 1.6m bgl (all boreholes were terminated within a layer logged as natural sand (assumed Botany Sands). In addition, a trench was excavated along the eastern extent of the exclusion zone to facilitate subsurface observations and collections of three additional sets of samples. Samples were collected at regular intervals through the soil profile (0.2m, 0.5m, 1.5m bgl). In total, 30 samples were collected and analysed in this area. Senversa reported that asbestos analysis was conducted using 50gram samples given the limited volume of spoil collected from the vacuum excavation pits.	– 0.2m thick concrete slab overlying several fill layers up to 1.1m thickness (generally comprising a silty sand/gravelly silty sand with some brick and concrete inclusions) overlying natural Botany Sands. – 35 PID samples were collected coinciding with all base and wall samples. Two PID results reported VOCs at 8.9ppm and 7.3ppm at depths of 1m and 0.5m respectively within a single validation location (RA11_W3). Average PID results for RA11 was 0.9ppm. – Soil samples reported several exceedances of ecological criteria for a residential setting for copper (5 samples from 3 locations) – results ranged between 300mg/kg to 1,000mg/kg (residential criteria is 230mg/kg). – PCBs were above HIL B in one validation base sample (recorded concentration was 2.6mg/kg, criteria is 1mg/kg). Senversa considered this exceedance to be anomalous given that no other base samples reported PCBs above laboratory LOR. – Benzo(a)pyrene (exceeding ecological screening levels and site specific RBSLs), benzo(a)pyrene TEQ and Sum of PAHs (exceeding HILs B) were reported within a single sample collected from the western wall at 1m bgl. – TRH fraction (C16-C34) exceeded relevant ecological screening levels at two locations at three sample depths. All exceedances were reported within samples collected from the western wall of RA11. One of these samples also exceeded the relevant TRH management limit. <u>Substation exclusion zone validation results</u> Vacuum excavation logs indicated the substation exclusion zone lithology generally comprised: a thin layer of mulch, overlying two to three fill layers (of around 1.5m thickness) beneath which were the Botany Sands. The fill layers generally comprised silty sands with some anthropogenic fill materials (e.g. brick and glass fragments. No odours or staining were recorded on field logs. PID results collected for each layer were generally less than 1ppm (maximum of 1.5ppm). A single sample reported lead concentrations above human health criterion (for a high density residential setting) (SS03, 1,500mg/kg). Statistical calculations however conducted by Senversa indicated that the 95% UCL for lead in the exclusion zone was 380mg/kg (below the adopted health criteria). Several exceedances of adopted ecological criteria for an urban residential setting were reported for copper (three sample locations), lead (one sample) and zinc (two sample locations). All exceedances were detected in either the 1m bgl or 1.5m bgl samples. No other analytes exceeded the relevant criteria. Bonded asbestos was not reported above the health screening levels in a single sample collected from W15 (1m bgl) (located on the eastern boundary of the substation exclusion zone). Senversa concluded that the results collected supported that the remediation objectives had been met to the extent practicable.	VWP requirements and that remediation objectives were generally met to the extent practicable (noting that extending soil removal to the north-west of RA11 could not be safety implemented given the sub-station exclusion zone).

10.2 Validation outside the remediation areas

Senversa presented several reports relating to the validation of areas of Stage 1 located outside the identified remediation areas (RA). The objectives, scope of works, findings and auditor commentary associated with each of these reports is presented in **Table 14**:

Table 14 Summary of validation outside of remediation areas

Report	Objective	Scope of works	Findings	Auditor commentary
Validation of soils remaining in-situ outside RWP remediation areas – Stage 1 (Senversa, 2024h)	Summarise the remediation actions and document soil validation results for portions of the Stage 1 site located outside the identified remediation areas pedestrian link and substation.	The site features discussed in the following text are presented within **Figure 5, Appendix A** (adapted from Senversa, 2024h). Senversa report that the RAP, RWP and VWP did not identify remediation beyond the identified RAs, the pedestrian link and the substation – and that the works outside these areas was limited to removal of concrete slabs, additional asbestos assessment and removal of asbestos contaminated fill materials. A summary is presented below: Senversa (2024h) reported that the concrete slab removal works generally comprised: – Progressive removal of concrete slabs and inspection for adhered ACM of the underlying 0.4-0.5m of fill materials followed by excavation. These fill materials were initially segregated based on visual assessment for ACM presence. ACM impacted materials were reportedly segregated for off-site disposal. – During validation test pitting, some impacted soils or remnant infrastructure was unexpectedly encountered and Senversa reported that some minor remedial excavations were conducted as follows: • Grease trap in parcel 1 – located between concrete slabs at around 0.4-1.2m bgl in Parcel 1. The contents of the grease trap were removed using vacuum truck. The trap was excavated and the walls and base of the excavation were subject to validation sampling. No exceedances of adopted validation criteria were reported. <u>Retained road</u> – The east-west orientated roadway has been retained at the site – this is a deviation from the VWP and RWP. During excavation works within areas located immediately to the north and south of the retained road, the perimeter walls of the road were exposed and inspected and sampled. Senversa sampled the northern and southern boundary excavation walls as well as conducting some asbestos quantification at five locations along the northern wall. At least four areas were sampled along the southern wall. Four test pits were also excavated through the road. Around 14 500mL soil samples were analysed for asbestos (%w/w) from the aforementioned testing locations – no asbestos was detected in any of the samples analysed. <u>Root zone of retained trees</u> – Senversa report that around 18 trees are to be retained along the western and northern boundaries of Stage 1 (as per DA conditions). Following arborist advice, Senversa (2024h) were advised that samples proximal to the trees could be collected via hand tool sampling methods only. Other arborist advice was that a portion of concrete slab was to be retained within the north-western corner of the site, as the trees in this area reportedly required the slab for support, and removal of the slab could lead to instability. – Thiry four hand augured sampling locations were conducted within the vicinity of the trees and 34 samples were analysed for contaminants of potential concern (CoPC). <u>Part Parcel 4</u> – Soil analytical data for this area was collected from 14 testing locations. Asbestos quantification was conducted on samples collected at eight of these testing locations.	<u>Retained road</u> – PID results collected from retained road excavations ranged between 0.0 and 4.0ppm. – Minor exceedance of revised RBSLs for TCE were reported in soils collected from NDW04, however, two step out testing locations (east and west of the exceedance) did not report TCE above RBSLs. – ACM was not observed during field work nor identified by the laboratory in analysed samples. Senversa however noted that ACM had been previously encountered beneath concrete slabs to the north of the retained road and therefore the presence of ACM beneath the retained road 'cannot be precluded'. <u>Grease trap</u> – Grease trap in parcel 1 – located between concrete slabs at around 0.4-1.2m bgl in Parcel 1. The contents of the grease trap were removed using vac truck. The trap was excavated and the walls and base of the excavation were sampled. No exceedances of adopted validation criteria were reported. <u>Tree protection zone</u> – PID results ranged from 0.0 to 0.3ppm – Hand auger drilling did not penetrate the full depth of fill in the retained trees area, however, Senversa reported that some historical testing locations in the area indicated deeper fill and the presence of a concrete slab in some areas of the tree protection zone. – Soil samples collected from the tree protection zone did not report exceedances of adopted human health criteria. One sample (SB019/0.9-1.0) reported TRH >C16-C34 above the relevant ecological screening level. Asbestos was not observed or detected by the laboratory in any of the analysed samples. – Senversa noted that the retained slab (north-west corner of site) and use of hand auger sampling techniques meant that the contamination assessment in this area was limited. However, Senversa did note that the uncertainty has been mitigated by restrictions on future use and intrusive works within the tree protection zone (as per concept DA approval) and no human health exceedances were reported in the 20 samples analysed from the tree protection area. <u>Parcel 1 soil summary</u> – Senversa reported that data from more than 50 sampling locations at Stage 1 beyond the remediation areas provided sufficient information on post remediation site conditions. Senversa reported that the following exceedances of adopted assessment criteria were identified in situ within Stage 1: • TCE (above site specific RBSLs) – NRW-04 (step out testing indicated no further exceedances) • TRH (>C16-C134) (above ecological screening levels) within SB019. <u>Retained road</u> – Senversa reported that exceedances within site soils included: • B(a)P (TEQ) (exceeding HIL B in EXTP14-W3 • >C16-C34 (exceeding EIL in EXTP14-W3 • Arsenic (exceeding EIL in SRW-04) • Zinc (exceeding EIL in SRW-04)	<u>Retained</u> Road The retained road is around 85m long by 6.5m wide (around 0.05ha). The auditor noted that Senversa analysed 20 soil samples collected from 16 sampling locations within and immediately adjacent to the retained road. Senversa testing location logs indicate that fill materials (which in some instances had recorded evidence of brick, plastic, metal and terracotta – potentially indicative of demolition type rubble) had been encountered to a depth of around 2 bgl in the western portion of the road and <0.5m bgl in the eastern portion. However, it was noted that this ACM was reportedly present as single, isolated fragments in a 'good-fair' condition distributed sporadically rather than present in significant volumes or in clusters. Senversa considered the likelihood of the presence of asbestos to be encountered beneath the retained road to be low and acceptable. <u>Tree protection zone</u> The auditor noted that test pitting is the preferred approach for asbestos observations and testing, however, acknowledged that arborist advice who recommended to Senversa that protecting tree root zones, and therefore test pitting could not be conducted immediately adjacent to trees. Furthermore, the auditor noted that a concrete slab had to be maintained within the north-west corner of the site to act as a cantilever to the tree roots. The auditor noted that the trees are protected and arborist advice indicated that removal of the slab may result in damage to the trees. The auditor acknowledged that while there is some potential for contaminants of concern (including asbestos) to be located in the tree protection zones (including beneath retained slabs within the north-western corner of the site), the risk of contamination being encountered in the future is mitigated by the sampling and analysis that could be achieved by Senversa and because these areas are unlikely to be disturbed during future development.

Report	Objective	Scope of works	Findings	Auditor commentary
		Part Park – The western extent of the proposed park is located inside the Stage 1 boundary. The majority of this portion of the proposed park was excavated and validated as part of the RA2 remediation works. A small portion of the Stage 1 portion of the park (around 20m^2) was not excavated as part of the RA2 remediation, however, Senversa (2024h) reported that one location (SV10) was sampled in this area.	Part Parcel 4 – Senversa reported the following exceedances in this area: • VTP64 – concentrations of copper and zinc above EIL • B(a)P (TEQ) (exceeding HIL B in EXTP69_W2_0.7) • TRH >C16-C34 (exceeding ESL in EXTP69_W2_0.7). Part Park – Fill was observed to 5m bgl, samples were collected and analysed for CoPC. No exceedances of adopted validation criteria were reported.	

10.3 Groundwater validation

Senversa prepared a groundwater monitoring report (2024g) that focused on RA2, given there was no groundwater contamination identified across Stage 1. The objectives, scope of works, findings and auditor commentary associated with each of these reports is presented in **Table 15.**

Table 15 Summary of groundwater validation reports

Report	Objective	Scope of works	Findings	Auditor commentary
Groundwater Validation report: VCH migration control and post-remediation Verification (Senversa, 2024g)	Present results and validation outcomes of the groundwater assessment required by the VWP	Senversa (2024g) reported that RA2 required remediation of VCH contamination in soil, groundwater and soil vapour. Joint grouted sheet pile walling was installed around the RA2 footprint and a groundwater extraction and treatment system was used to remove water from the remediation area and to prevent the migration of VCH contamination from the source site to the east. Treated groundwater was reportedly disposed to trade waste. Following the removal of contaminated soils from RA2 (including validation sampling from base and walls), RA2 was backfilled with imported VENM/treated and validated site won soils. Subsequent to the backfill of RA2, six groundwater monitoring wells were installed within the footprint of the remediated area to a depth that reportedly coincided with the base of the backfilled materials/top of natural clays. The first of two groundwater monitoring events occurred around four weeks later. The second event occurred around 2 weeks after the first. The groundwater sampling event also included collection of samples from seven wells that are located proximal to but outside RA2. In accordance with the VWP groundwater samples were analysed for VCHs and analytical results were compared to risk based screening levels (RBSLs).	Groundwater levels Senversa (2024g) reported that average groundwater elevation recorded within the six wells located within the RA2 footprint was 26.5m AHD compared to an average of 25.8m AHD reported within the Senversa DSI (2021b). This was a larger fluctuation than previously recorded seasonal variations. Senversa stated that *while higher water levels have been recorded over the validation period, they are considered a temporary artefact of the hard stand removal and significant rainfall during validation that will abate to ambient conditions at the developed site'.* Senversa noted that the most recent groundwater monitoring round (August, 2024) appeared to show a decrease in groundwater level in some areas of Stage 1 and on this basis, Senversa asserted that the conclusions of the HHRA remained relevant, i.e. that an intrusive worker within a trench would not have ongoing regular contact with site groundwater. Senversa (2024g) reported that groundwater level monitoring inferred that the regional flow pattern around the site within the Botany Sands Aquifer remains broadly similar to the pre-remediation patterns, noting a slight groundwater 'mounding' centred around the former dry cleaning facility located on Stage 2 and to the east (within Stage 2) of the RA2 sheet pile wall. Groundwater Field parameters – Average pH results indicated approximately neutral groundwater – Average electrical conductivity indicated predominantly freshwater conditions – Oxidation reduction readings indicated slightly reducing to oxidising conditions – Average dissolved oxygen indicated generally poorly oxygenated conditions – Average groundwater temperatures were reportedly within the seasonal range Groundwater laboratory results – Senversa reported that 'total significant contaminants' were not detected at concentrations exceeding the Management Order Criterion of 500ug/L. – VCH concentrations (i.e. PCE, TCE, cis-1,2-DCE and VC) were reported at concentrations below the revised RBSLs. – Senversa reported a substantial groundwater quality improvement based on results of groundwater testing completed during the DSI in comparison to most recent data collected. Senversa also noted that whilst there are some recorded deviations local to the extraction wells and the sheet pile system, the flow pattern remains broadly similar to pre-remediation conditions. – Senversa concluded that the post remediation groundwater validation has been conducted adequately and consistent with requirements in the VWP. Senversa also reported that remediation objectives have been achieved because VCH concentrations within Stage 1 groundwater were reduced to 'low and acceptable levels' and that VCH migration from Stage 2 to into Stage 1 is being controlled so that risks are also considered low and acceptable despite some monitoring wells in Stage 2 reporting exceedances of Management Order criteria. – Senversa noted that the direct contact pathway for groundwater exposure was not relevant to the site as groundwater is not extracted at the site or surrounding land and the depth to groundwater precluded ongoing regular contact with intrusive maintenance workers.	The auditor noted that groundwater levels were slightly shallower compared to pre-remediation levels, but supports Senversa's conclusions that this may be related to above average rainfall conditions and removal of hard standing. The auditor also noted that to prevent contaminated groundwater in Stage 2 impacting the remediated Stage 1 area, a sheet pile wall (installed into residual clays and weathered bedrock) remains in place and groundwater extraction is occurring on the eastern side of the sheet pile wall. Senversa has reported that during the excavation of RA2, the internal wall of the sheet pile wall (i.e., the down hydraulic gradient side) was inspected with no visual seepage noted supporting the effectiveness of the sheet pile wall to prevent migration of contaminated groundwater from Stage 2..

10.4 Vapour validation

Senversa (2024f and 2024aq) presented remediation related validation results. The objectives, scope of works, findings and auditor commentary associated with each of the reports is presented in Table 16.

Table 16 Summary of vapour validation reports

Report	Objective	Scope of works	Findings	Auditor commentary
Stage 1 Remediation – RA1 Vapour Assessment, Jeffman, Waterloo (Senversa, 20224f)	Assess the potential vapour risk post site woks/remediation in RA1 via comparison of results to revised RBSLs.	The RAP (Senversa, 2021a) identified elevated soil vapour concentrations in RA1. This assessment included comparison of vapour results to the original RBSLs and concluded that although some soil vapour concentrations were elevated it was not considered to present an unacceptable risk under the original concept design. More recently, Senversa was requested (by Jeffman) to assess the majority of the site for suitability for mixed high density residential/commercial land use – this request prompted the original RBSLs to be revised. The RA1 vapour data was then compared to the revised RBSLs which indicated that there were some locations within RA1 which exceeded the revised RBSLs prompting additional vapor investigations. The investigations included: – Soil vapour sampling on an approximate 10m grid across the area where previous soil vapour exceedances had been identified (vapour pins were installed using hand augers to a maximum depth of around 0.5m bgl). – Summa cannisters were used to collect samples from the vapour pins, and samples were analysed for the 'TO-15' suite of VHCs (which included analysis of the 'significant contaminants'). – Comparison of vapour results to revised RBSLs.	Field parameter results Methane, carbon monoxide and hydrogen sulphide were not detected. PID results ranged from 0.1 to 0.3ppm. Analytical results Senversa reported that VHCs were not reported above the revised RBSLs, although PCE, TCE and cis-1,2 DCE were detected above the laboratory limit of reporting in several instances. Senversa concluded that vapour samples collected from RA1 following the remediation reported low and acceptable concentrations (with respect to vapour intrusion risk) of VHCs (below revised RBSLs).	The auditor supported Senversa's conclusions that vapour data collected from RA1 and compared to the revised RBSLs indicates that this area is unlikely to represent a vapour intrusion risk to future receptors within buildings.
Stage 1 remediation – RA2 Vapour Verification Assessment (Senversa, 2024aq)	Provide the post site works/remediation vapour verification results required by the VWP through comparison to the updated RBSL for RA2 and the area to the west of RA2.	RA2 was remediated as per the description presented within the first row of Table 13. Area to the west of RA2 – background Senversa reported that the area to the west of RA2 was investigated as follows: – Test pitting was carried out to the north and west of RA2 to assess fill materials with some of the test pits targeting isolated residual VCH impacts reported within the RA2 wall. Additional soil samples were collected from soil vapor bores. – One test pit (VTP65) reported TCE concentrations above the revised RBSL at a depth of 0.5-0.6m bgl, however, samples collected from above and below did not report TCE above RBSLs. A 10m2 area around VTP65 was excavated to 1m bgl, with subsequent validation samples from the base and walls not recording TCE above RBSLs. – Test pit VTP69 reported benzo(a)pyrene and TRH C16-C34 above adopted HIL-B at 0.7-0.8m bgl. A 10m2 area around VTP69 was excavated to a depth of circa 1m bgl. Validation samples from the base and walls of VTP69 reported some additional, minor, exceedances of adopted assessment criteria for hydrocarbons. Senversa stated it would consider the VTP69 minor wall exceedances holistically with the broader dataset for the site. Vapour validation – RA2 and west of RA2 – Senversa reported that 11 soil vapour probes were installed across RA2 and the area to the west of RA2. Two rounds of vapour sampling were completed. – Vapour probes were installed using hand augers to around 0.5m bgl (SV011 was installed to 1.5m bgl). – Shroud testing was conducted to identify potential leaks. Samples were collected using a Summa canister and analysed for select TO-15 suite of VHCs (which included the significant contaminants)	Vapour results Field equipment did not detect methane, carbon monoxide or hydrogen sulphide at any of the testing locations. Oxygen readings ranged between 0 and 21.1%. Carbon dioxide readings ranged between 0 and 9.5% while PID readings ranged between 0.0 and 1.5ppm. Analytical results **Round 1** Senversa reported that all concentrations of VCHs were below the revised RBSLs with one exception at SV010. TCE was recorded at SV010 at 7.73mg/m^3 – above the revised RBSL for slab on grade (3mg/m^3) and basement scenario (6.2mg/m^3). Several other vapour samples reported VCHs above the laboratory LOR, but not above revised RBSLs. **Round 2** Senversa reported that all concentrations of VCHs were below the revised RBSLs at all monitoring locations. Some VHC compounds were reported above laboratory LOR at the majority of testing locations but none were reported above revised RBSLs. Additional monitoring at SV012 and SV013 only Two additional soil vapour probes were installed proximal to SV010. Senversa reported that all concentrations of VCHs were below the revised RBSLs at both testing locations. Some VHC compounds were reported above laboratory LOR, but below revised RBSLs in samples collected from both testing locations. Follow-up sampling SV010, SV012 and SV013 were all re-sampled. Senversa reported that all concentrations of VCHs were below the revised RBSLs in samples collected from all three monitoring locations. Concentrations of PCE, TCE and cis-1,2 DCE were detected above LOR, but below revised RBSLs in the samples collected from all three locations. Senversa conclusions Senversa reported that the concentrations of VCHs in soil vapour in the RA2 area were below the updated RBSLs for a slab on grade building, adjacent to a building with a basement, and, open space scenarios. Senversa concluded that, *'vapour intrusion risk at RA2 from soil vapour concentration is considered low and acceptable'.*	The auditor noted that an elevated TCE concentration was reported within a single vapour monitoring location to the west of RA2, however, the auditor was satisfied that sufficient additional lines of evidence (in the form of additional monitoring and sampling and comparison to revised RBSLs) supported the Senversa conclusion that the overall vapour intrusion risk at RA2 from soil vapour to future receptors within a mixed use commercial/medium-high density residential is likely low and acceptable.

10.5 Final site validation

Senversa issued a Final Site Validation report (Senversa, 2024g), of which a summary of the objectives, scope and findings is presented in **Table 17.** The Final Site Validation comprised the key elements of the individual remediation area reports, data collected outside the remediation areas and soil vapour groundwater monitoring data.

Table 17 Summary of final site validation report

Objective/s	Scope of works	Findings
Senversa (2024i) report that the final validation report objectives were to report, consolidate and summarise the remediation and validation efforts and to demonstrate that the remedial objectives described in the RAP have been achieved such that Stage 1 of the site is suitable for the proposed land use. To demonstrate compliance with contaminated land guidelines and applicable regulatory requirements and to demonstrate that the requirements of the RWP and the VWP have been met.	The final validation report includes: – A review of interim validation reports – A summary of the remediation and validation approach, including any deviations from the RAP and RWP – A review of materials management – A quality assurance and quality control assessment – Updated conceptual site model – Summarise remediation and validation outcomes. The Senversa (2024i) report summarises the findings in terms of 'audit areas' as follows: – The 'Pedestrian Link Audit Area' (i.e. the northern portion and northern extent of the pedestrian link – required to be suitable for use as a pedestrian walkway i.e. commercial/industrial use. – The 'Recreation Audit Area' (i.e. the portion of the proposed park that is located within Stage 1 – required to be suitable for use as a publicly accessible park area) – The 'Substation Audit Area' (i.e. the substation and the 3m exclusion zone surrounding the substation). – The 'Main Audit Area' (i.e. the remaining portions of Stage 1 – required to be suitable for mixed use commercial and medium-high density residential). The audit areas are presented in **Appendix D.** The Remediation Areas (RA) referenced in the following text are presented within **Figure 3a** and **Figure 3b**, Appendix A (adapted from Senversa, 2024h). The Senversa (2024i) report presents a consolidation of all the iterative remediation validation reports (previously summarised within **Section 9** and **Section 10** of this SAR. Although previously summarised in previous sections of this report, for completeness, the remedial activities included within the Senversa (2024i) are summarised below: **Main Audit Area** RA7 – Removal of concrete slab – Remove UST and contents of UST – Excavation of impacted fill – Off-site disposal of some fill – Collection of validation samples from base and walls – Backfill of RA7 excavation with approved site won material and imported VENM Former RA1 Based on the client requested update to final land use (as summarised in **Section 2**), Senversa compared historical RA1 vapour data to revised RBSLs. Following this comparison, Senversa determined that additional vapour assessment was required to assess RA1 and so additional vapour probes were installed and sampled. RA12 – Removal of concrete slab – Excavation of impacted fill – Off-site disposal of some fill – Collection of validation samples from base and walls – Backfill of RA12 excavation with approved site won material and imported VENM Parcel 1 (located West of RA7) – Removal of two concrete slabs – Excavation and segregation of fill – Off-site disposal of some fill to a licensed landfill facility – Validation sampling of base and walls of excavation – Reinstatement with approved site won material Tree protection zone (located within Parcel 1) (refer to Figure 5, Appendix A) – Soil sampling using hand augers within the root zone at a rate of two samples per retained trees to a maximum depth of 0.5m bgl. – Fill soils could not be removed from tree protection zones	The findings of the Stage 1 Remediation Validation work have been reported iteratively within the reports summarised within **Section 10.1 to Section 10.4910** of this SAR. The Senversa (2024i) report presents a holistic summary of all validation data, a summary of the Senversa (2024i) findings are presented below: **Main Audit Area** RA7 and RA12 – UST and associated piping removed and disposed to a metal recycling facility – Validation samples collected from base and walls of RA7 and RA12 met validation criteria. Former RA1 The assessment concluded that analytical results for soil vapour were below the adopted RBSLs and vapour risk at the former RA1 was considered low and acceptable for slab on grade medium-high density residential land use and basement construction. Parcel 1 (located West of RA7) – RA11 (located within Main Audit Area) • Validation samples reported several CoPC that exceeded human health and ecological criteria generally relating to copper, hydrocarbons and PCB. Senversa completed a statistical assessment which indicated that the exceedances represented an acceptable risk. Senversa reported that the risk to ecological receptors was likely to be low, however, the soils for RA11 may not be suitable for use as growing media. – Tree protection zone • Senversa reported no exceedances of the adopted validation criteria. Retained Road (between Parcel 1 and Parcel 4) – Senversa reported that ACM was not observed in excavated faces (northern and southern boundary of road area) – Ecological exceedances were recorded for zinc and arsenic; Senversa considered these exceedances to be isolated and potentially related to metal fragment inclusions rather than widespread contamination. RA2 – Several exceedances of adopted PID validation criteria and ecological criteria were recorded, however, Senversa concluded that, overall, soil validation results met the adopted validation criteria. – Senversa reported that vapour intrusion risk at RA2 was low and acceptable. Groundwater – Senversa reported that validation sampling of groundwater has concluded that remediation in Stage 1 has achieved the remediation objectives set out in the RAP. Senversa reported that VCH concentrations were low and acceptable subject to ongoing implementation of the RAP and monitoring and groundwater control in Stage 2 as required by the Management Order. Soil Vapour – Senversa reported that vapour intrusion risk was low and acceptable for slab on grade medium-high density residential or for less conservative uses e.g. commercial/industrial or medium-high density land use with basement) Asbestos clearance – Senversa reported that following the completion of remediation at Stage 1, the site was inspected for the presence of ACM, eleven fragments were found during the initial clearance and no fragments were reported following a second surface clearance inspection. Statistical assessment and overall conclusions: Main Audit Area Senversa reported that over 400 soil samples had been collected and analysed for metals, TRH and PAH within the Main Audit Area, and more than 700 samples were collected and analysed for VCHs. Furthermore, groundwater, soil vapour (stockpile and in-situ sampling), and stockpile leachability sampling and analysis was conducted to provide further lines of evidence in relation to vapour presence and/or migration. Several exceedances of human health and ecological criteria were reported within soils in the Main Audit Area – generally applying to some heavy metal analytes, some TRH fractions, PAHs, VCHs and PCBs however, statistical analysis of the sampling results (primarily the calculation of

Objective/s	Scope of works	Findings
	– Imported mulch was placed at the base of the trees Retained road area – Some areas excavated because of hydrocarbon impacted soils identified during validation test pitting – Validation sampling of northern and southern faces of exposed road edges. Parcel 4 (outside RA2 footprint) – Removal of two concrete slabs and fill between slabs – Excavation and segregation of asbestos impacted materials – Some areas excavated because of VCH and hydrocarbon impacted soils identified during validation test pitting – Off-site disposal of some fill to a licensed landfill facility – Validation sampling and analysis from base and walls of excavation – Senversa reported that the retention of the pavement in this area prevented validation in accordance with the VWP, however, the area was assessed the area by reviewing historical data from the area (11 sampling locations) supplemented with ACM field quantification along northern and southern perimeter excavation faces at 10m linear sampling intervals and four soil samples collected per wall for chemical analysis. **Main Audit Area/Recreation Audit Area** RA2 (the eastern extent of RA2 forms the Recreational Audit Area) – Sheet pile walls installed around perimeter – Dewatered – Removal of concrete slabs – Excavation and segregation of asbestos fill – Excavation and treatment of VCH impacted soils – Progressive sampling and analysis of base and walls during excavations – Backfill of RA2 excavation with approved site won material and imported VENM – Removal of sheet pile walls from western, northern and southern perimeter. Eastern sheet wall remains in place. The majority of the Recreational Audit Area is located within the eastern extent of the RA2 excavation. The northernmost portion of the Recreational Audit Area was located outside the RA2 excavation. The portion that was excavated was reportedly excavated to a depth of 3.0m bgl. **Pedestrian Link Audit Area** Pedestrian Link (the northern portion and northern extent of the pedestrian link form the Pedestrian Link Audit Area) The RAP did not consider that the Pedestrian Link Audit Area would require remediation, however during slab removal works in this are fill was observed to impacted by ACM. Soils were tested for heavy metals, PAH, and asbestos. VCHs were not considered to be contaminants of concern. – Design and installation of shoring system to mitigate adjacent building stability risks – Concrete slab removal – Excavation of asbestos impacted fill – noting some practical limitations due to presence of footings from adjacent structures – Off-site disposal of asbestos waste to landfill – Validation sampling and analysis from base and walls of excavation – Backfill area with imported VENM and quarried material **Substation Audit Area** – No intrusive investigations could be conducted within the fenced substation compound due to safety restrictions. – Vacuum excavation techniques were utilised to collect soil samples from the 3m exclusion area (located within the 'substation audit area, but outside of the fenced substation compound) to a maximum depth of 1.5m bgl. – Soil samples were also collected from a trenched excavation located along the eastern boundary of the substation exclusion zone	the 95% UCL for exceeding analytes) indicated that remedial efforts had been achieved to the extent practicable and that the Main Audit Area is suitable for its proposed use. **Recreation Audit Area** Soils The recreational audit area is intended to be dedicated to Council. Senversa reported that validation samples collected from the base of the excavation (RA2) met the validation criteria. Some ecological criteria exceedances (TRHs in two samples) and a human health exceedance of lead in one sample were reported in the eastern wall of the Recreation Audit Area, but given that these samples were collected from the wall of the Stage 1/Stage 2 boundary, Senversa pointed out that the exceedances were located off-site. One ecological exceedance of TRH fraction > C16-C34 was reported in the southern boundary of the recreational audit area, however the exceedance was from 2m bgl, as per NEPM ecological criteria generally only apply to the upper 2m of the soil profile. The auditor considered too that this was only an isolated occurrence and would not likely affect plant growth given the much larger area where no TRHs were recorded. Groundwater Senversa concluded that the remediation objectives set out in the RAP have been achieved for groundwater within the Recreation Audit Area. Senversa reported that groundwater VCH concentrations have been reduced to low and acceptable levels, and potential VCH migration from the source site in Stage 2 to Stage 1 is being effectively managed. Soil Vapour Senversa reported that vapour intrusion risk was low and acceptable for slab on grade medium-high density residential or for less conservative uses (e.g. commercial/industrial or medium-high density land use with basement) Asbestos clearance Senversa reported that following the completion of remediation at Stage 1, the exposed soils were inspected for the presence of ACM. Eleven fragments were found during the initial clearance, but no fragments were encountered during the second clearance. Statistical assessment and overall conclusions: Recreational Audit Area Senversa reported that 34 validation samples were collected from the base and walls of the recreational audit area, and, five historical sampling locations from this area had also been sampled and analysed. Samples were generally analysed for VCHs, heavy metals, TRHs and some samples were analysed for asbestos. Furthermore, groundwater, soil vapour (stockpile and in-situ sampling), and stockpile leachability sampling and analysis was conducted. Only one ecological exceedance related to TRH >C16-C34 was identified – subsequent statistical analysis through 95% UCL calculation identified that the soils met the site criteria. Senversa concluded that '*no residual contamination requiring management was identified within the Recreational Audit Area'* and that '*the remedial objectives have been met such that the Recreational Audit Area is suitable for it's proposed recreational public open space land use'.* **Pedestrian Link Audit Area** Soils Senversa report that asbestos was identified in fill and was excavated to the lateral and vertical extents possible based on constraints associated with foundations of adjacent buildings. Asbestos in the form of fibrous asbestos and asbestos fines was identified at depths of 1.9m bgl or greater with the exception of one sample collected from approximately one metre in from the eastern boundary. However, Senversa reported that further lateral excavation could not be completed due to the presence of additional building foundations. Senversa reported that once fill soils had been excavated to the maximum practical limits, an orange coloured geotextile was placed over the base and side of the excavation and the area was backfilled with VENM to final ground surface level. Senversa reported that the human health risks associated with residual asbestos in the Pedestrian Link Audit Area can be managed via a passive environmental management plan (EMP). Senversa concluded that the area is suitable for its proposed use as a pedestrian access way. Groundwater and soil vapour Senversa reported that the RAP did not require groundwater or soil vapour remediation or validation within the Pedestrian Link Audit area. Asbestos The Pedestrian Link was re-instated with imported VENM materials to the finished surface level and so asbestos clearance of the site surface was not required. Conclusions Senversa concluded that the Pedestrian Link Audit Area does not present an unacceptable risk to human health or ecological receptors and is suitable for proposed commercial/industrial use subject to implementation of an LTEMP to manage the presence of asbestos that remains beneath the geotextile marker layer.

Objective/s	Scope of works	Findings
		Substation Audit Area Soils Exceedances of adopted human health and/or ecological commercial/industrial land use criteria were reported for a for copper, zinc, various TRH fractions, benzo(a)pyrene and benzo(a)pyrene TEQ. Groundwater and soil vapour The investigations that informed the RAP (Senversa, 2021a) concluded that VCHs did not exceed adopted groundwater assessment criteria for groundwater and soil vapour and therefore Senversa did not conduct further groundwater or soil vapour assessment within the Substation Audit Area. Asbestos Bonded asbestos fragments (bonded ACM) were detected in one of 19 samples analysed, but below adopted validation criteria. Statistical assessment and overall conclusions: Substation Audit Area Senversa calculated 95% UCLs for the soil results that exceeded adopted assessment criteria and stated that overall, the risk to human health and ecological receptors to commercial/industrial receptors was low and acceptable. Senversa reported that if the Substation Audit Area were to be used for a more sensitive land use e.g. medium to high density residential, then further assessment and management would be required.

10.6 Auditor discussion: Validation

The auditor considered that Senversa collected sufficient data to demonstrate that remediation of Stage 1 had been completed in general accordance with the RAP (Senversa, 2021a) and the RWP (Senversa, 2023b). Deviations from the planned remediation have been clearly documented and generally related to:

- practical limitations preventing remediation, for example, the RA11 excavation being limited by the presence of the substation exclusion zone,
- the northern and eastern extents of Parcel 1 remediation being limited by the presence of the tree protection zone and
- portions of the Pedestrian Link Audit Area excavation being limited by the presence of sub-surface building footings.

The auditor noted that where exceedances of human health or ecological exceedances were identified within on-site soils, Senversa conducted statistical assessments of the data sets (using NEPM recommended methods) which have concluded that the risks are low and acceptable to the specified future users of each portion of the site. In the case of the Pedestrian Link Audit Area, where asbestos is located in soils at depth, the human health risk is being managed by implementation of a long term environmental management plan (LTEMP).

The auditor noted that a deviation to the RAP and RWP was that an east-west orientated trafficable roadway has been retained at the site. The retention of the road was requested by Jeffman and has been retained to provide access to the Stage 2 area (given the safety constraints in accessing Stage 2 from Bourke Street). The auditor noted that Senversa has presented several lines of evidence (including visual inspections and sampling of the northern and southern walls of the road) to support that the likelihood of encountering asbestos below the retained road is low, but acknowledged the potential for some asbestos to be encountered during future works in this area. In this regard the auditor noted that in all likelihood, the amount of asbestos that could be present would be at concentrations less than the relevant NEPM criterion for residential with minimal access to soils. If asbestos was identified soil in this area following removal of the concrete roadway and it needed to be disposed off-site, it would need to be characterised as per relevant NSW EPA waste disposal guidelines with subsequent disposal to an appropriately licenced facility.

The auditor also noted that should the substation audit area be developed for a more sensitive land use (i.e. for medium to high density residential land use) then further investigations and or/management would be required.

11. Post remediation - Conceptual site model

Senversa (2024i) presented a post remediation conceptual site model, a summary is presented in **Table 18** below. The Audit Areas referenced in **Table 18** are presented in **Appendix D.**

Table 18 Summary of post remediation conceptual site model

Audit area	Receptor	Pathway	Discussion
'Main audit area'	Future residents and commercial workers living/working within future building structures within the main audit area	Inhalation of VCHs via by residents and commercial workers within future buildings and basements from: – Shallow ground water seepage into future basements – Leaching from soil to groundwater and then seepage into future basements	Senversa (2024i) reported that the remediation conducted within Stage 1 has reduced VCH concentrations in groundwater to low and acceptable levels. Furthermore, a Water NSW Order that is applicable to the area that the site resides (i.e. within the mapped Botany Sands Aquifer restriction area) states that basements constructed within the area must be tanked and watertight for the anticipated life of the building. With regards to the VCH impacted groundwater that remains in Stage 2, Senversa reported that the groundwater retention system appears to be working effectively with no groundwater seepage observed during the RA2 excavations. Vapour intrusion risk was found to be low and acceptable for the most conservative potential land use i.e. slab on grade medium to high density residential or for less sensitive uses e.g. commercial/industrial land use/ medium to high density residential (including basement) land use.
		Direct contact and/or dust inhalation/ingestion with residual contaminated soils	Senversa (2024i) report that this exposure pathway is limited on the basis that development plans indicate that the area will be mostly covered by buildings or pavement with minimal landscaping areas. Furthermore, Senversa (2024i) report that statistical analysis of residual soil contaminants and asbestos quantification results from indicate that the main audit area is suitable for mixed use medium-high density residential/commercial industrial end use.
	Intrusive maintenance workers working within a trench	– Inhalation of VCH vapours – Direction contact with residual contaminated soils	Senversa (2024i) reported that soil vapour sampling conducted across Stage 1 reported concentration of VCHs below adopted assessment criteria protective of medium-high density residential land use which is more conservative than the criteria used to screen data to assess risks to intrusive maintenance workers. Senversa concluded there were no unacceptable risks to intrusive maintenance workers working within trenches in the main audit area. With regards to intrusive maintenance workers being exposed to residual contamination within the main audit area, Senversa (2024i) report that soils within the Stage 1 audit area were validated as suitable for medium-high density residential land use (which is more conservative criteria than the criteria used to screen soils data to assess risks to intrusive maintenance workers), on this basis, Senversa reported there were no unacceptable

Audit area	Receptor	Pathway	Discussion
			risks to intrusive maintenance workers from direct contact of soils and/or inhalation/ingestion of dusts within the main audit area.
	Terrestrial ecological receptors	– Rootzone uptake – Biota uptake	Senversa (2024i) reported that the habitat value of the site is negligible and there are limited environmental values present requiring protection, although it was noted that, following re-development, it is possible that site soils could be used as growing media within minor landscaping areas. Senversa (2024i) report that soils within the main audit area are generally considered suitable for use as growing media.
The 'Recreational Audit Area'	Open space users using the Stage 1 portion of the proposed public park	– VCH inhalation by park users – Direct contact with contaminated soils (including dust ingestion/inhalation)	Senversa (2024i) reported that soil vapour sampling conducted within and proximal to the Stage 1 portion of the public park indicated no unacceptable risks to future recreational or public open space users of the Stage 1 portion of the park. With regards to direct contact/dust exposure, Senversa report that the Stage 1 portion of the park was excavated to a depth of ca 4.5m bgl and backfilled with either imported VENM or site won fill materials which had been validated as suitable for on-site re-use. Based on the aspects, Senversa concluded that there were no unacceptable risks.
	Intrusive maintenance workers	– Direct contact with contaminated soils (including dust ingestion/inhalation) – VCH inhalation by intrusive maintenance workers	Senversa (2024i) reported that soils within the Stage 1 portion of the park area were validated as suitable for recreational/public open space use – being more conservative than the criteria that is protective of intrusive maintenance workers. Therefore, Senversa reported there is no unacceptable risk to future intrusive maintenance workers from direct contact of soils within the Stage 1 park area. With regards to vapour risk to intrusive maintenance workers within the park, Senversa (2024i) reported there were no unacceptable risks to intrusive workers from soil vapour in Stage 1 given that all Stage 1 soil results were below medium-high density residential criteria (which is more conservative criteria than those protective of intrusive maintenance workers)
	Terrestrial ecological receptors	– Rootzone uptake – Biota uptake	Senversa (2024i) reported that the habitat value of the site is negligible and there are limited environmental values present requiring protection, although it was noted that, following re-development, it is possible that site soils could be used as growing media within minor landscaping areas. Senversa (2024i) reported that the Stage 1 portion of the park was backfilled with imported VENM from 2.5m to 1.0m bgl and the upper 1m was backfilled with site won material which had been validated as suitable for recreational/public open space use.
The 'Pedestrian Link Audit Area'	Users (i.e. pedestrian foot traffic) of the pedestrian link	– VCH inhalation by pedestrian link users – Direct contact with contaminated soils (including dust ingestion/inhalation)	Senversa (2024i) report that vapour sampling conducted across Stage 1 indicated that concentrations of VCH were below adopted assessment criteria protective of public open space users indicating no unacceptable risk to pedestrian link users.

Audit area	Receptor	Pathway	Discussion
			With regards to direct contact/dust exposure, Senversa report that the concept DA indicates that the pedestrian link will mostly be a paved walkway and therefore access to soils is considered to be limited. An EMP will also be implemented which will notify future contractors of the presence
	Intrusive maintenance workers	– Direct contact with contaminated soils (including dust ingestion/inhalation) – VCH inhalation by intrusive maintenance workers	Soils within the pedestrian link audit area were excavated to the extent practicable i.e. to between 0.9 to 2.0m bgl (excavations within the eastern, western and north-eastern extents of the pedestrian link were limited by the presence of adjacent building foundations). Some asbestos (in excess of health screening levels) remains at the base of the excavation in this area. Senversa reported that the base and walls of the excavation were covered with an orange coloured geofabric marker layer, and VENM was placed on top of the marker layer. Senversa reported there is no exposure risk to intrusive workers working above the marker layer. A passive EMP will be required to manage exposure to soils below the marker layer. With regards to vapour risk to intrusive maintenance workers within the pedestrian link, Senversa (2024i) reported no unacceptable risk to intrusive workers from soil vapour at Stage 1 on the basis of all Stage 1 soil results being below medium-high density residential criteria for relevant CoPCs (which is more conservative criteria than those protective of intrusive maintenance workers)
	Terrestrial ecological receptors	– Rootzone uptake – Biota uptake	Senversa (2024i) reported that the pedestrian walkway is of limited ecological value because it will be predominantly utilised as a paved pedestrian walkway. The Pedestrian Link audit area was backfilled with imported VENM the total depth of excavation to the surface.
The 'Substation Audit Area'	Intrusive maintenance workers	– Direct contact and/or dust inhalation/ingestion with residual contaminated soils	The Substation is presently used a fenced, locked substation (no ceiling) area with a sealed concrete floor, as such residents etc are unlikely to come into contact with soils within the majority of this area, furthermore, VCHs were not identified as a contaminant of concern for this portion of the site. Senversa (2024i) report that although some exceedances of human health and ecological criteria exist within the substation exclusion area, statistical assessment shows a low and acceptable risk.
	Terrestrial ecological receptors	– Rootzone uptake – Biota uptake	Senversa (2024i) report that the substation audit area is of limited ecological value as it will either function as a substation or as a sealed roadway.

Table notes

Senversa does not consider that groundwater at Stage 1 represents a plausible source of contamination to on-site or off-site intrusive maintenance workers (based on the 'typical' depth to groundwater at the site and surrounding area nor to off-site drinking water receptors (based on restrictions to abstraction placed on the Botany Sands Aquifer) nor to ecological receptors (based on the distance from the site to nearby receiving water bodies and identified groundwater dependent ecosystems).

11.1 Auditor discussion – conceptual site model

The auditor considered that the post-remediation CSM was completed in a manner generally consistent with the steps recommended in the ASC NEPM. The auditor noted the information provided within the reports listed in Section 1.6 and Section 1.7 demonstrated that identified S-P-R linkages are generally considered to represent a low and acceptable risk to identified receptors within Stage 1 in the context of the identified future users of each portion of the Audit Area. The RAP acknowledged and the Management Order requires continued operation of the groundwater containment system in Stage 2 to prevent migration of contamination onto Stage 1 until the completion of Stage 2 remediation has been completed.

12. Long Term Environmental Management Plan: Pedestrian Link Audit Area

The Pedestrian Link Audit Area is intended to be dedicated to Council for future use as a sealed pedestrian walkway (with limited access to soils).

With reference to the summary presented within **Table 17** Senversa has reported that fill within the Pedestrian Link Audit Area was excavated and removed from the lateral and vertical extents possible based on constraints associated with foundations of adjacent buildings. Senversa did however report that some asbestos in the form of fibrous asbestos and asbestos fines was identified and remains in-situ at depths of 1.9m bgl or greater.

Senversa reported that following the excavation of fill to the maximum practical and safe limit, an orange coloured geotextile was placed over the base and side of the excavation and the area was backfilled with VENM to final ground surface level. Senversa stated that health risks associated with asbestos remaining in the Pedestrian Link Audit Area could be managed via a passive Long Term Environmental Management Plan (LTEMP).

The LTEMP has been reviewed by CoS and the auditor. The auditor has reviewed the LTEMP in the context of the relevant NSW EPA guidance pertaining to an LTEMP. The auditor's review is summarised in **Table 19.**

Table 19 Summary of review of Pedestrian Link LTEMP

Requirement	Auditor Commentary
Document status	The report clearly states it is an LTEMP and was reviewed and approved for issue by Mr Jason Clay (Senversa). It was issued as a final on 20 September 2024. The report was commissioned by the site owner Jeff Eisman of Jeffman Pty Ltd.
Title	The report clearly states it is a long term environmental management plan.
Purpose	The stated objective of the Long Term Environmental Management Plan (LTEMP) is to briefly summarise the occurrence of asbestos containing materials (ACM) at the site and to outline the procedures and controls for the management of asbestos during operation of the site as a pedestrian link and during any future intrusive work.
Background	Relevant site background details have been presented within the LTEMP
Description of existing/residual contamination	A summary of the residual contamination including description of the capping material/cap depth etc has been presented within the LTEMP
Management activities	Responsibilities were clearly outlined, including details on how site workers or visitors need to be briefed if the capped area is to be disturbed. Given the LTEMP is passive, no specific management activities were noted, only if the cap is disturbed.
Inspection, maintenance, environmental sampling, analysis and reporting (if applicable)	Section 3.0 of the LTEMP lists the relevant management requirements should the area be disturbed.
Monitor and review of environmental management plan	The LTEMP states that it should be reviewed periodically to ensure it remains fit for purpose.
Communications and notifications	Senversa reported that the LTEMP can be reasonably made legally enforceable pursuant to Section 19 of the Work Health and Safety Act 2011 (NSW) and Chapter 8 of the Work Health Regulation 2017 (NSW) and Chapter 8 of the Work Health and Safety Regulation 2017 (NSW). Under these provisions, a person conducting a business or undertaking (PCBU) must ensure, so far as reasonably practicable, the health and safety of workers and other persons, including in relation to asbestos. A PCBU must also ensure the provision of any information, such as the LTEMP, that is necessary to protect all persons from risks at the site. In NSW, this is regulated and enforced by SafeWork NSW. In addition, this LTEMP is enforceable under the conditions of consent for the development application D/2020/45, which allowed that any land that is to be dedicated to the City as part of the associated Planning Agreement must not be encumbered by any LTEMP other than a passive LTEMP as submitted to and approved by the Site Auditor and Council's Area Planning Manager.

Requirement	Auditor Commentary
	City of Sydney was issued a copy of the LTEMP on 20 September 2024. In response, Matthew Girwan of CoS requested (in an email dated 23 September 2024) that 'it *will require confirmation from the Site Auditor that they has no concerns with the EMP document and that it will be referenced on their final Site Audit Statement'.* The auditor responded to CoS in an email on 23 September 2024 that: *I can confirm that I have reviewed the EMP and that it has been prepared as per the NSW EPA Consultants reporting on contaminated sites guidelines.* *The EMP is considered passive and there is no need to undertake any form of monitoring.* *The EMP (as per the NSW EPA Guidelines for the NSW Site Auditor Scheme (3rd Edition) will be attached to the SAS to be issued for the pedestrian access link*. In a final correspondence from Council, Council stated, '*The submitted LTEMP is passive in that it sets out actions that must be undertaken if any intrusive ground works are undertaken that breach the installed marker layer below which contaminated soils remain. This LTEMP would not breach Condition 55.* *I note we have email advice from the Site Auditor confirming that this LTEMP is endorsed by him and will be referenced on the final Section A Site Audit Statement which will be required under condition 24'.* Evidence of the noted correspondence with Council is presented in **Appendix E.**

12.1 Auditor discussion: LTEMP – Pedestrian Link Audit Area

The auditor has reviewed the LTEMP and deemed it to be passive and prepared in a manner consistent with NSW EPA requirements. Auditor commentary is presented in Appendix B of this SAR.

The auditor considered that the LTEMP is an appropriate document to record the nature of the contamination in the Pedestrian Link Audit Area. The asbestos contamination has been capped in a manner consistent with standard industry practice and users of the area will not be exposed to asbestos.

The following statements in relation to the requirements of Section 3.4.6 of the Auditor Guidelines are made:

a) The LTEMP has been reviewed by the auditor. Auditor commentary (captured within interim audit advice commentary presented in Appendix B) has been adequately addressed.

b) The auditor agreed that the LTEMP can be made to be legally enforceable under WHS (2017) regulations, and under the conditions of consent for the development application (D/2020/45) – which the auditor considered to be a mechanism of legal enforceability.

c) The land to which the LTEMP applies is intended to be dedicated to City of Sydney Council therefore public notification is not relevant.

d) Email correspondence from CoS have been received which states that the LTEMP is passive and would not breach Condition 55 (as presented in **Appendix E**).

13. Evaluation of quality assurance and quality control

Senversa has provided various reports for auditor review (as listed in **Section 1.6**). In instances where these reports have presented sampling results a QA/QC compliance assessment has generally been completed. The final validation report (Senversa, 2024i) includes a holistic assessment of the QA/QC result for all samples collected as part of the validation works. The auditor has reviewed the QA/QC assessments summarised within each of the individual reports, evidence of which is presented within interim audit advice letters (presented in **Appendix B**). The QA/QC measures (both field and laboratory), as presented in Senversa (2024i) have been reviewed against applicable requirements of the NSW EPA (2020) *Consultants Reporting on Contaminated Land* guidelines, a summary of which is presented in **Table 20.**

Table 20 Comparison of field and laboratory QA/QC to **NSW EPA (2020)** *Consultant Guidelines*

NSW EPA (2020) criteria	Auditor comment
Field sampling QA/QC assessment	
Details of sampling team	Senversa (2024i) reported that remediation was completed by and under the supervision of experienced field staff
Reference to sampling plan/method, including any deviations from it – sampling and analysis quality plan	Senversa has referenced the sampling plan and other DQIs referenced within the remediation planning documents. Senversa has clearly presented any deviations from the plan.
Decontamination procedures carried out between sampling events	Senversa (2024i) reported that the decontamination methods were consistent with stated procedures.
Logs for each sample collected, including date, time, location (with GPS coordinates if possible), sampler, duplicate samples, chemical analyses to be performed, site observations and weather/environmental (i.e. surroundings) conditions. Include any diagrams, maps, photos.	Field logs have been provided within the various reports submitted for auditor review. Field logs generally included appropriate information for the purposes of the assessment. Climatic information has been presented to support vapour validation assessments. Field records have been provided within report appendices for e.g. groundwater monitoring and vapour monitoring works.
Chain of custody fully identifying – for each sample – the sampler, nature of the sample, collection date, analyses to be performed, sample preservation method, departure time from the site and dispatch courier(s) (where applicable)	Senversa presented all chain of custody forms within the appendices of relevant reports. CoC's present the required information.
Field quality assurance/quality control results (e.g. field blank, rinsate blank, trip blank, laboratory prepared trip spike)	Senversa clearly presented field QA/QC results in tables and provided relevant discussions within various reports, including providing discussion of any non-compliances and the potential impact on the useability of the data set.
Statement of duplicate frequency	Senversa presented a clear statement within the final validation report on the overall duplicate/triplicate frequency for each media type. Soils duplicate/triplicate frequencies were slightly below the planned quantity of 1 duplicate and 1 triplicate per 20 soil samples. The actual frequency achieved was calculated to be 1 in 23 samples, however this still equated to 53 duplicate and 53 triplicate samples having been collected and analysed which the auditor considered to be adequate for the purposes of the QC assessment. Groundwater and soil vapour duplicate and triplicate frequencies were greater than the planned frequency.
Background sample results	NA
Field instrument calibrations (when used)	Senversa has clearly presented equipment calibration bump test and calibration records for a photo ionisation detector and water quality meter.

NSW EPA (2020) criteria	Auditor comment
Sampling devices and equipment	Senversa presented adequate information with regards to the sampling devices and equipment used. Where required, calibration/bump check records have been presented.
Laboratory analysis QA/QC assessment	
A copy of signed chain-of-custody forms acknowledging receipt date, time and temperature and identity of samples included in shipments	Signed chain of custody forms have been appended to various reports presented to the auditor for review.
Record of holding times and a comparison with method specifications	Senversa reported holding time breaches in the reports presented for auditor review. Where breaches were documented, Senversa presented an appropriate discussion around the useability of the data for the purposes of the assessment/relevant objectives of the report.
Analytical methods used, including any deviations	Sample receipt documentation has been appended to Senversa reports which clearly specifies the analytical methods. Deviations (if presented) are reported on laboratory documentation.
Laboratory accreditation for analytical methods used, also noting any methods used which are not covered by accreditation	Senversa stated that the laboratories were NATA accredited for the analysis performed.
Laboratory performance for the analytical method using inter-laboratory duplicates	Senversa documented laboratory performance outliers which exceed the Senversa and laboratory DQIs. Where deviations have occurred, they have been appropriately discussed.
Surrogates and spikes used throughout the full method process, or only in parts. Results are corrected for the recovery	This information was presented within the laboratory documentation appended to Senversa reports.
A list of what spikes and surrogates were run with their recoveries and acceptance criteria (tabulate)	
Practical quantification limits (PQL)	
Reference laboratory control sample (LCS) and check results	
Laboratory duplicate results (tabulate)	
Laboratory blank results (tabulate)	
Results are within control chart limits	
Evaluation of all quality assurance/control information listed above against the stated data quality objectives, including a quality assurance/control data evaluation	

13.1 QA/QC summary

When looking holistically at the whole dataset collected as part of the remediation validation works, Senversa (2024i) stated that some minor deviations from the QA/QC acceptance criteria were recorded for field duplicate and triplicate frequency and some exceedances of adopted RPD criteria between some primary and duplicate/triplicate samples were also recorded. However, Senversa noted that whilst some QA/QC results were outside the specified acceptance criteria, they were not considered to significantly impact the quality or representativeness of the data and that the majority of the results indicated that precision and accuracy of the data was within acceptable limits. Senversa (2024i) concluded that the results were suitable for use for their intended purpose in forming conclusions relation to the contamination status of soil, soil vapour and groundwater at the site.

13.2 Auditor discussion – quality assurance and quality control

Senversa has presented validation results in a series of interim reports. Each interim report included an assessment of quality assurance and quality control including an assessment of:

- Field duplicate/triplicate frequency and relative percentage differences between primary and duplicate samples
- Rinsate blank frequency and results
- Trip blank and trip spike frequency and results
- Sample preservation, handling and holding times
- Laboratory quality control assessment (e.g. laboratory duplicates, control spikes, surrogate recovery, method blanks, matrix spike recoveries and matrix spike recovery duplicates).
- Tabulated trip blank, trip spike and RPD results were presented

Where deviations from the stated data quality indicators (DQIs) were reported, Senversa presented a logical discussion with regards to the impact of the discrepancies in relation to the useability of the dataset(s) in the context of the assessment.

The auditor progressively reviewed each of the individual data quality assessments and all comments were provided to Senversa within interim audit advice (IAA) (refer to **Appendix B**) and subsequently addressed by Senversa. The auditor notes that Senversa has documented some deviations from the planned acceptance criteria, however, the auditor agrees with Senversa that these discrepancies are generally minor and unlikely to significantly impact the overall useability of the data for the purposes of Stage 1 validation.

The auditor noted that Senversa collected only a few rinsate samples as part of the investigation and validation sampling despite utilising some pieces of re-useable sampling equipment, e.g. hand augers, interphase probes/dip meters etc. The auditor however considered this to be a relatively minor issue given that Senversa confirmed that de-contamination was performed on equipment in accordance within the RWP. The auditor also is of the opinion that the absence of rinsate blanks suggests that decontamination of equipment could not be demonstrated, but that this could only lead to potential cross contamination (if it occurred) which could only result in additional remediation, not less.

14. Other considerations

14.1 Ecological considerations

The site and surrounding area consist of commercial/ industrial land use and high rise apartments. Apart from some ornamental urban parks, there are no ecological communities in the vicinity of the site. The RAP also identified limited ecological receptors or sensitive environments on the site, or immediately surrounding the site. The proposed development will include an open space park and the remaining portions of the site are likely to included minor landscaping areas with remaining areas covered by roads, pavement and buildings.

The DSI report documented exceedances of the ecological assessment criteria for B(a)P, TRH, copper and zinc in some fill materials underlying roadways, Parcel, 2 and Parcel 4. The exceedances were within fill material. The RAP considered all fill is not suitable for use as growing media, unless validated as suitable within the root zone of minor landscaping areas (e.g. small garden beds or trees adjacent to the road). The fill material within the open space park area has been removed as part of the Source site soil removal in RA2.

Shallow groundwater on the site may migrate off-site and discharge to Shea's Creek, which is the nearest surface water body located to the west of the site. Near the site, the creek comprises a concrete box-culvert, which flows along a former natural drainage line to Alexandra Canal. Off-site migration and possible seepage into the Sheas Creek have been has assessed and addressed via the Management Order. Previous assessments have concluded there are negligible risks from VCHs from groundwater migration and ingress with NSW EPA agreeing to cessation of monitoring of Shea's Creek surface water in 2014 (Notice Number 20144422 dated 28 August 2014) and air space in 2016 (Notice Number 20154444 dated 9 February 2016).

Senversa (2024i) noted that some soils at the site may not be suitable for use as a growing medium, for example, soils within and adjacent to RA11. However, Senversa (2024i) reported that soils within the Main Audit Area are generally considered suitable for use as growing media. Senversa (2024i) reported that soils within the Recreational Audit Area generally comprise backfilled VENM and site won soils validated as suitable for public open space use and therefore there is considered to be no unacceptable risk to ecological receptors from soils in this area. Senversa (2024i) also stated that soils in the Pedestrian Link Audit Area are of limited ecological value as this area will be paved – noting that the area was backfilled with imported VENM.

14.2 Aesthetic impacts

Aesthetic impacts have the potential to be present within fill soils located beneath retained road, investigations within and proximal to this location have noted some inclusions of brick, plastic, metal, concrete fragments, wood. However, Senversa did not observe any odours or dark staining during any assessment works conducted in this area. If this area requires excavation to facilitate future developments, the future developer should take steps to test materials for off site disposal (if the material is not to be retained on site) and if necessary segregate materials that could be reused on site that are aesthetically impacted. The auditor and the auditor assistant did not identify odorous or stained soils during the site visits that would constitute an aesthetic issue.

14.3 Chemical mixtures

These aspects are not considered relevant for the purposes of this audit.

14.4 Potential contaminant migration

Senversa (2024i) reported that, *'validation was conducted per the VWP that supports that migration of VCH contamination from the Source Site (located within the Stage 2 remediation boundary) has been adequately addressed through installation and ongoing operation of the groundwater containment system as required by the RAP and Management Order'.* During exaction of RA2, Senversa inspected the western side of the exposed sheet pile wall (i.e. down hydraulic gradient) and noted that no seepage was observed. The auditor noted that post remediation groundwater testing for the presence of VCHs at locations within RA2 did not record any of these chemicals at concentrations greater than the RBSLs. These results demonstrate that the removal of contaminated

soil from RA2 has improved the groundwater quality in this area of the site. Coupled with the control of contaminant migration from the source of the VCHs (Stage 2), the risk of migration of contaminants from Stage 1 is considered low.

14.5 Auditor discussion – other considerations

The auditor noted that the conceptual site model presented in the RAP (Senversa, 2021a) demonstrated the habitat value of the site appears to be negligible with limited environmental values present requiring protection. Following the re-development of Stage 1, it is possible that site soils could be used as growing media within minor landscaping areas, but Senversa (2024i) reported that soils within the main audit area are generally suitable for use as growing medium and soil within the Stage 1 park area has also been validated as suitable for recreational/public open space use.

Groundwater receptors are generally not considered within the Senversa (2024i) post remediation conceptual site model, but the auditor deemed this a reasonable assumption given the noted restrictions on groundwater abstraction at the site and surrounding area, the distance between the site to receiving water bodies and off-site ecological receptors and the typical depth of groundwater. Furthermore, future basement excavations would need to be tanked, thereby restricting groundwater ingress. The auditor considered that this information supports that VCHs in groundwater would not generally represent a direct contact hazard to intrusive maintenance workers or other human health/ecological receptors.

15. Audit conclusions

15.1 Consultant conclusions

In summary, Senversa (2024i) concluded that:

- The Stage 1 remediation works were completed in a manner that was generally consistent with the requirements of the RAP and modified RWP and any deviations were documented.
- The Stage 1 remediation works were validated in accordance with the requirements of the RAP, RWP, VWP and the ASC NEPM and other relevant guidelines and any deviations were presented within Senversa (2024i).
- The Main Audit Area is suitable for mixed medium to high density residential use with minimal opportunity for soil access and commercial uses
- The Recreational Audit Area is suitable for open space recreational use, mixed medium to high density residential use with minimal opportunity for soil access and commercial uses.
- The Substation Audit Area is suitable for continued use as a substation and a roadway (as specified in the RAP)
- The Pedestrian Link Audit Area is suitable for use as a pedestrian link subject to appropriate implementation of a passive LTEMP as a notification mechanism and to manage exposure to residual fill materials at depth if disturbed.

15.2 Auditor discussion – consultant conclusions

The auditor supports the overall conclusions made by Senversa, and agrees that, in general, remediation works appear to have been conducted in accordance with the approved RAP (Senversa, 2021a) and approved RWP (Senversa, 2023b). Some deviations to the approved remediation and validation works presented within the RAP and RWP are noted, however, these are generally considered to be acceptable given that the deviations generally relate to practical limits of excavation associated with potential safety issues (e.g. limits on mechanical exaction sampling in the Substation Audit Area due to the presence of high voltage electrical cables or in the Pedestrian Link Audit Area due to the presence of buried building foundations etc).

The auditor concludes that, based on the information provided by Senversa within the documents listed in **Section1.6** and **Section 1.7,** and, based on the various site inspections conducted by the auditor and/or the auditor's assistant/s (refer to **Section 1.11** and **Appendix C)** the following Audit Areas (as presented within **Appendix D** of this SAR) are considered to be suitable for the following uses:

- The **Main Audit Area** is suitable for use as mixed medium to high density residential use (with minimal opportunity for soil access) and commercial use.
- The **Recreational Audit Area** is suitable for open space recreational use.
- The **Substation Audit Area** is suitable for commercial/industrial use (i.e. continued use as a substation or for potential future use as a sealed roadway)
- The **Pedestrian Link Audit Area** is suitable for commercial/industrial use (i.e. a mostly sealed pedestrian walkway) subject to implementation of the Pedestrian Link – Long Term Environmental Management Plan (Asbestos Management Plan) (Senversa, 2024bo).

These conclusions relate to the suitability of each of the above audit areas for their intended land use (as also defined above and within each of the relevant Site Audit Statements (SAS)). Should material presently retained on site require off-site disposal as part of future development, additional waste classification testing and reporting (in accordance with NSW EPA (2014) Waste Classification Guidelines will be required.

16. Disclaimer

This Site Audit Report (the "Report") and accompanying Site Audit Statement have been prepared in accordance with relevant provisions of P*art 4 of the Contaminated Land Management (CLM) Act 1997 (NSW) ("CLM Act 1997")*. The Site Audit Statement represents the Auditor's opinion of the suitability and appropriateness of the documentation listed in Section 1.6 and 1.7 to validate the site as suitable (from a contamination perspective) for the defined proposed land uses, based on the condition of the site at the date the Site Audit Statement is signed.

This Report:

1. has been prepared by Andrew Kohlrusch and his support team as indicated in the appropriate sections of this Report ("GHD") for Jeffman Pty Ltd (the "Client');
2. may be used and relied on by the Client;
3. may be used by and provided to the EPA and the relevant planning authority for the purpose of meeting statutory obligations in accordance with the relevant sections of the CLM Act 1997 or the Environment Planning and Assessment (EP&A) Act 1979;
4. may be provided to other third parties but such third parties' use of or reliance on the Report is at their sole risk, as this Report must not be relied on by any person other than those listed in paragraphs 1-3 above without the prior written consent of GHD; and
5. may only be used for the purpose as stated in Section 1.2 of the Report (and must not be used for any other purpose).

GHD and its servants, employees and officers (including the Auditor) otherwise expressly disclaim responsibility to any person other than the Client arising from or in connection with this Report.

To the maximum extent permitted by law, all implied warranties and conditions in relation to the services provided by GHD and the Report are excluded unless they are expressly stated to apply in this Report.

The services undertaken by the Auditor, his team and GHD in connection with preparing this Report were undertaken in accordance with current profession practice and by reference to relevant guidelines made or approved by the EPA under Section 105 of the CLM Act 1997.

The opinions, conclusions and any recommendations in this Report are based on assumptions made by the Auditor, [his/her/their] team and GHD when undertaking services and preparing the Report ("Assumptions"), as specified throughout this Report.

GHD and the Auditor expressly disclaim responsibility for any error in, or omission from, this Report arising from or in connection with any of the Assumptions being incorrect.

Subject to the paragraphs in this section of the Report, the opinions, conclusions and any recommendations in this Report are based on conditions encountered and information reviewed at the time of preparation of this Report and are relevant until such times as the site conditions or relevant legislations changes, at which time, GHD expressly disclaims responsibility for any error in, or omission from, this Report arising from or in connection with those opinions, conclusions and any recommendations.

The Auditor and GHD has prepared this Report on the basis of information provided by the Client, Senversa and EnviroPacific and others who provided information to GHD (including Government authorities), which the Auditor and GHD has not independently verified or checked ("Unverified Information") beyond the agreed scope of work.

The Auditor and GHD expressly disclaim responsibility in connection with the Unverified Information, including (but not limited to) errors in, or omissions from, the Report, which were caused or contributed to by errors in, or omissions from, the Unverified Information.

This Report and Site Audit Statement should be read in full and no excerpts are taken to be representative of the findings of this Report.

The opinions, conclusions and any recommendations in this Report are based on information obtained from, and testing undertaken at or in connection with, specific sampling points and may not fully represent the conditions that may be encountered across the site at other than these locations. Site conditions at other parts of the site may be different from the site conditions found at the specific sampling points.

Although reasonable care has been used to assess the extent to which the data collected from site is representative of the overall site condition and its beneficial uses, investigations undertaken in respect of this Report are constrained by the particular site conditions as discussed in this Report. As a result, not all relevant site features and conditions may have been identified in this Report.

Site conditions (including any the presence of hazardous substances and/or site contamination) may change after the date of this Report. The Auditor and GHD expressly disclaim responsibility:

– arising from, or in connection with, any change to the site conditions; and
– to update this Report if the site conditions change.

These disclaimers should be read in conjunction with the entire Report and no excerpts are taken to be representative of the findings of this Report.

Appendix A

Figures

Path: \\Vic-fp-01\gis\01_Jobs\1 NSW_Jobs\S11445_JEFFMAN_WATERLOO_MO 2021\APRXs and MXDs\S19142\S19142_049_Stage 1 RVR.aprx

senversa

Legend

- Management Order Area (MO Notice Number 20111403)
- Source Site (MO Notice Number 20154405)
- The Site
- Lot Boundary
- Excluded from Site Audit Area
- Stage 1; Stage 2
- Stage line

Notes:
Aerial Imagery (17/03/2023) © Metromap

Created:	M. Black	Date:	27/09/2024
Reviewed:	E. Cooke	Revision:	0
Approved:	M. Beasley	Scale:	1:1,100 (A3)
File:	S19142_049_F001_Site Location		

0 30 60 Metres

Coordinate System: GDA 1994 MGA Zone 56

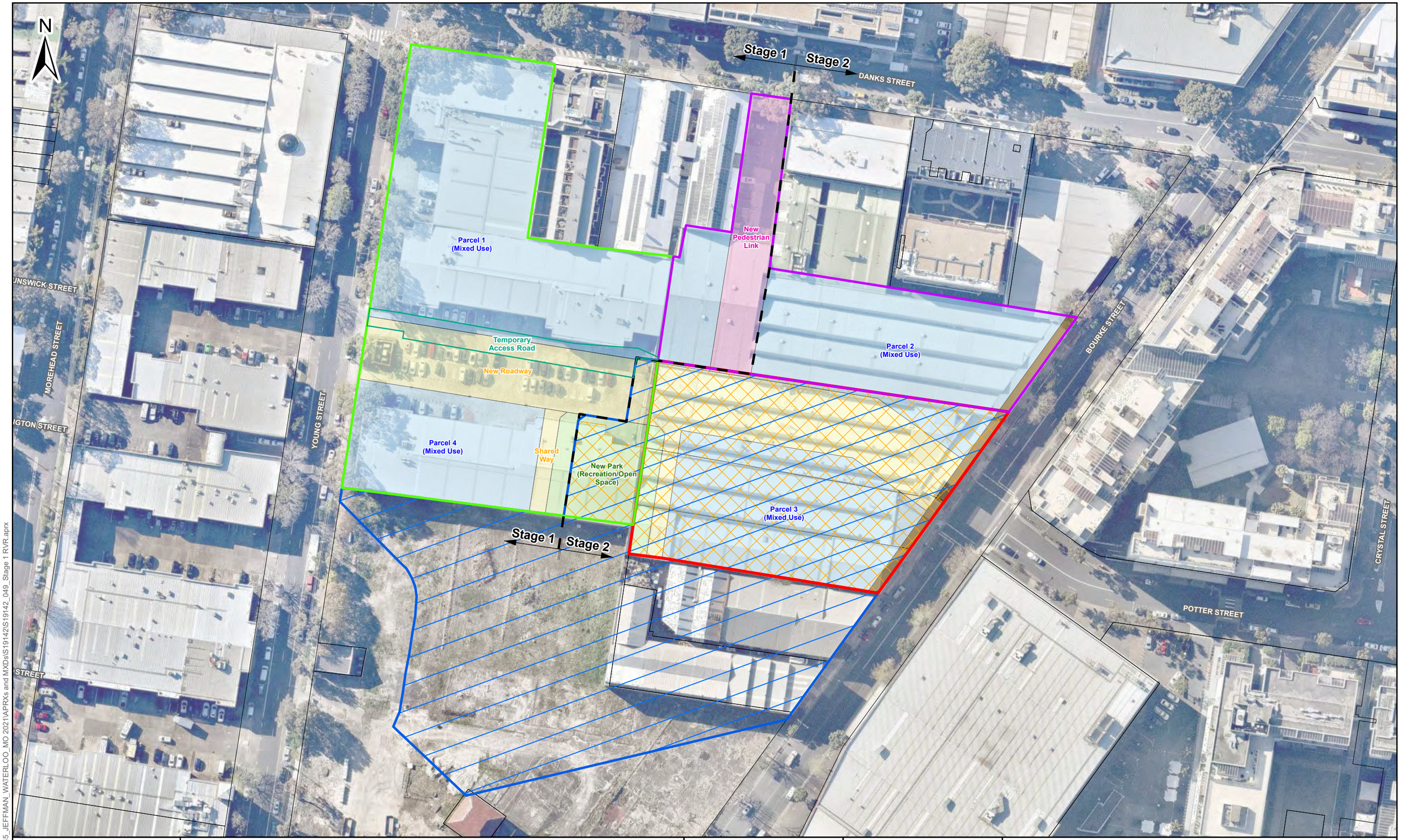
Figure No: 1

Title: Site Location

Project: Stage 1 Remediation Validation Report

Location: 887 Bourke Street, Waterloo NSW, Australia

Client: Jeffman Pty Ltd



senversa

Legend

- Management Order Area (MO Notice Number 20111403)
- Source Site (MO Notice Number 20154405)
- Lawrence Dry Cleaners
- Lot 3 Young Street
- Lot 4 Bourke Street
- Lot Boundary
- Stage 1; Stage 2
- Stage line

Development Land Use

- Parcel (Mixed Use)
- New Road
- New Park (Recreation/Open Space)
- New Pedestrian Link
- Future Footpath Easement
- Temporary Access Road

Notes:
Aerial Imagery (17/03/2023) © Metromap

Created:	M. Black	Date:	17/09/2024
Reviewed:	E. Cooke	Revision:	0
Approved:	M. Beasley	Scale:	1:1,100 (A3)
File:	S19142_049_F002_Dev Application Layout		

0 5 10 20 30 40 50 60 70 Metres

Coordinate System: GDA 1994 MGA Zone 56

Figure No: 2

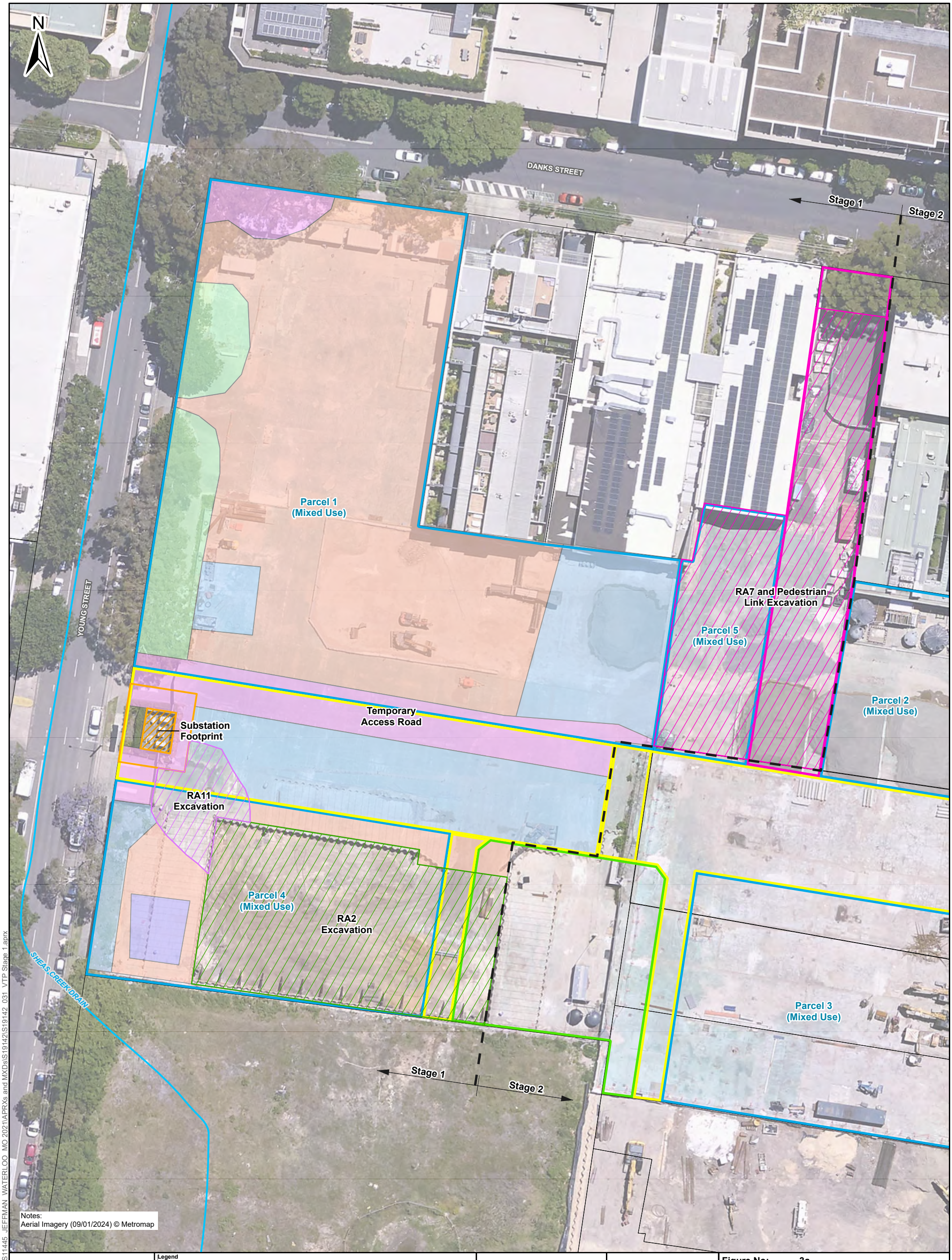
Title: Site Plan – Development Application Layout

Project: Stage 1 Remediation Validation Report

Location: 887 Bourke Street, Waterloo NSW, Australia

Client: Jeffman Pty Ltd

Path: S:\01_Jobs\1.NSW_Jobs\S11445_JEFFMAN_WATERLOO_MO 2021\APRXs and MXDs\S19142\S19142_049_Stage 1 RVR.aprx



Legend

- Stage 1; Stage 2
- Stage line
- RA11 Excavation
- RA2 Excavation
- RA7 and Pedestrian Link Excavation
- Substation 3m Exclusion Zone
- Substation Footprint

Development Land Use

- Parcel (Mixed Use)
- New Road
- New Park (Recreation/Open Space)
- New Pedestrian Link

Area of Retained/Removed Hardstand

- Garden Bed
- Retained Slab
- Secondary Slab - Removed
- Single Slab - Removed
- Tertiary Slab - Removed
- Lot Boundary
- Sheas Creek Drain

Created:	M. Black	Date:	3/09/2024
Reviewed:	B. Chapple	Revision:	0
Approved:	M. Beasley	Scale:	1:600 (A3)
File:	S19142_031_F002_Retained and Removed Hardstand		

0 12.5 25 Metres

Coordinate System: GDA 1994 MGA Zone 56

Figure No: 3a

Title: Areas of Retained and Removed Hardstand

Project: Remediation - Stage 1

Location: 887 Bourke Street, Waterloo NSW, Australia

Client: Jeffman Pty Ltd

Path: S:\01_Jobs\1 NSW_Jobs\S11445_JEFFMAN_WATERLOO_MO 2021\APRXs and MXDs\S19142\S19142_031_VTP Stage 1.aprx

senversa

Legend

Development Land Use
- Parcel (Mixed Use)
- New Road
- New Pedestrian Link
- Lot Boundary
- Stage 1; Stage 2
- Stage line
- Site Access Gate

- Proposed Non-VCH Remediation Extent
- Northern Portion of Pedestrian Link
- Southern Portion of Pedestrian Link (Modified end land use)
- Part Parcel 1
- Lot 3 Young Street
- Lot 4 Bourke Street

Created:	M. Black	Date:	13/09/2024
Reviewed:	M. Linz	Revision:	0
Approved:	M. Beasley	Scale:	1:300 (A3)
File:	S19142_024_F001_Overview of Validation Areas		

0 5 10 Metres

Coordinate System: GDA 1994 MGA Zone 56

Figure No: 3b

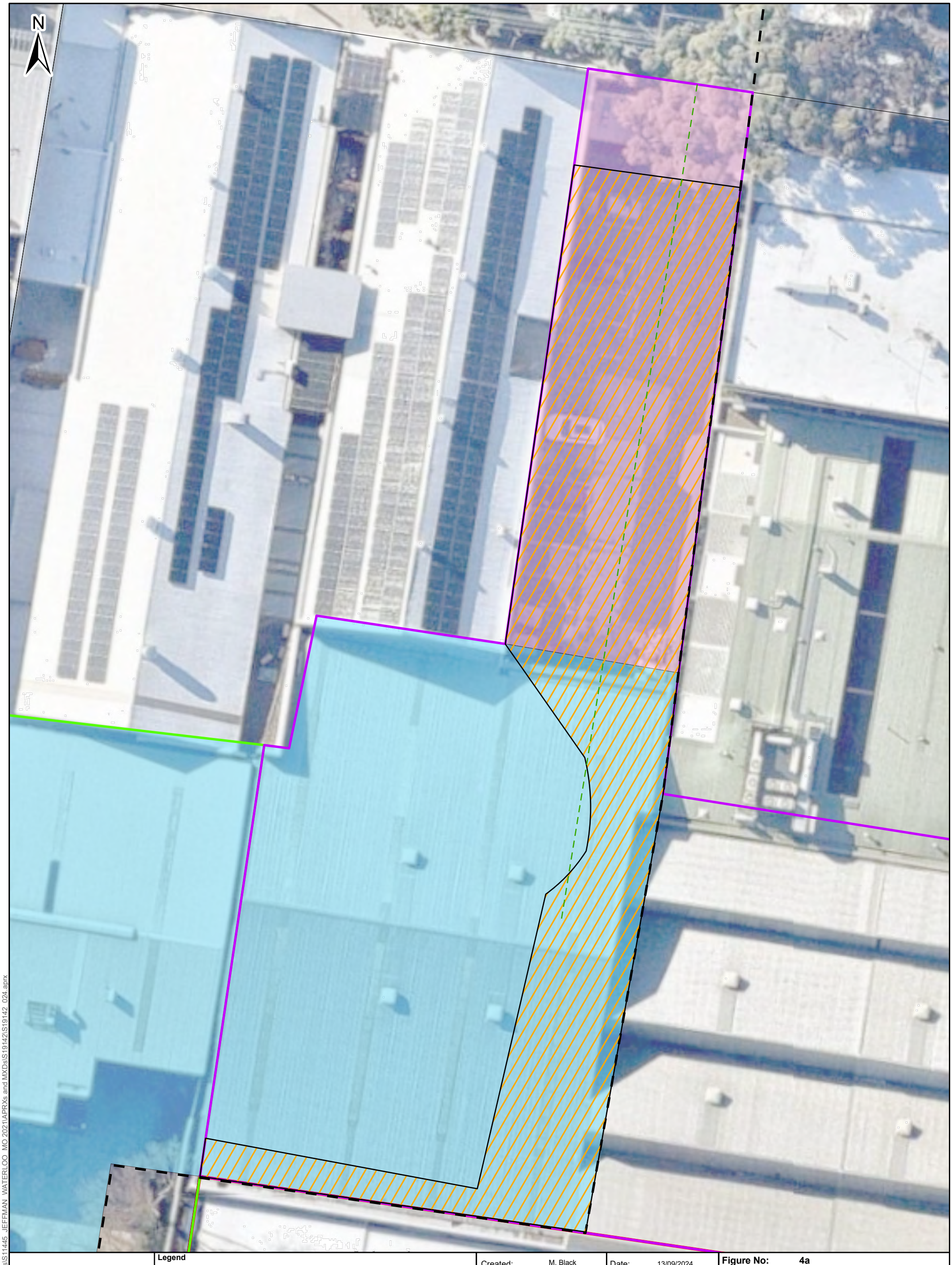
Title: Overview of Validation Areas

Project: Stage 1 Remediation

Location: 887 Bourke Street, Waterloo NSW, Australia

Client: Jeffman Pty Ltd

Path: S:\01_Jobs\1_NSW_Jobs\S11445_JEFFMAN_WATERLOO_MO 2021\APRXs and MXDs\S19142\S19142_024.aprx



Legend

- Lawrence Dry Cleaners
- Lot 3 Young Street
- Lot 4 Bourke Street
- Lot Boundary
- Stage 1; Stage 2
- Stage line

Amended Development Landuse

- Medium to High Density Residential
- Pedestrian Link
- Recreational / Open Space
- Approximate Marker Layer Location
- Approximate Location of Redundant Sewer Main

Created:	M. Black	Date:	13/09/2024
Reviewed:	E. Cooke	Revision:	0
Approved:	M. Beasley	Scale:	1:260 (A3)
File:	S19142_024_F005_Marker Layer Location		

0 1 2 4 6 8 10 Metres

Coordinate System: GDA 1994 MGA Zone 56

Figure No: 4a

Title: Amended Land Use and Marker Layer

Project: Stage 1 Remediation

Location: 887 Bourke Street, Waterloo, NSW, AU

Client: Jeffman Pty Ltd

Path: S:\01_Jobs\1.NSW_Jobs\S11445_JEFFMAN_WATERLOO_MO 2021\APRXs and MXDs\S19142\S19142_024.aprx