






PRELIMINARY ASSESSMENT: Acid Sulfate

New Pool and Boatshed at **1742 Pittwater Road, Bayview**

<i>Class of land as shown on Acid Sulfate Soils Planning Maps</i>		<i>Type of Works</i>
	1	Any works
	2	Works below the natural ground surface. Works by which the water table is likely to be lowered.
	3	Works beyond 1m below the natural ground surface. Works by which the water table is likely to be lowered beyond 1m below the natural ground surface.
	4	Works beyond 2m below the natural ground surface. Works by which the water table is likely to be lowered beyond 2m below the natural ground surface.
	5	Works on land below 5m AHD and within 500m of adjacent Class1, 2, 3 or 4 land which are likely to lower the watertable below 1m AHD on adjacent Class 1, 2, 3 or 4 land.
<i>The class of the site is highlighted in red, it should be noted that the classification does not mean acid sulfate soils are present on site but that there is a risk they could be present.</i>		

1. Proposed Development

- 1.1** Demolish the existing seawall and pool and construct a new seawall, pool, boat ramp, and boatshed on the downhill side of the property by excavating to a maximum depth of ~1.9m for the boatshed.
- 1.2** Details of the proposed development are shown on 6 drawings prepared by Gartner Trovato Architects, Project number 1920, drawings numbered A-01 to 06, dated 29/7/19.

2. Site Description

The site was inspected on the 9th September, 2019 and previously on the 1st August, 2019, and 31st July, 2014.

The block encompasses the steep bank that rises from that waterfront at Pittwater and the gentle slope that rises above that to the road. The Sydney 1:100 000 Geological sheet

indicates the site is underlain by the Newport Formation of the Narrabeen Group. This is described as interbedded laminite, shale and quartz to lithic quartz sandstone.

The NSW Environment and Heritage mapping program (eSpade) maps the soil landscape of the property as 'Erina'. One of the ground tests encountered manmade fill over a weakly pedal, brownish-black fine sandy loam (er1). Their documentation indicates these soils range in pH from 4.5 to 6.0. The remaining ground tests were done on the tidal flat immediately below the property and encountered weathered shale of the Narrabeen Group immediately below the surface.

The sand sediments, extending to a depth of not more than ~1.0m, are likely Holocene in age (spanning in time from present to ~10,000 years ago). The Narrabeen Group of Rocks are Middle Triassic in age (~250 million years).

3. Earthworks

An excavation to a maximum depth of ~1.9m will be required to construct the proposed boatshed. It will cover an area of ~15m². The excavation is mainly through the rising slope at the waterfront that consists of the Narrabeen Group Rocks that do not generate acid sulfate conditions.

4. Watertable

The base of the excavation for the boatshed is at RL2.1m and is above the watertable. The footings for the seawall are at the mean high-water mark.

5. Field Testing

Four hand auger holes were put down in the location shown on the site plan attached. Field pH and peroxide testing was carried out on samples taken from the auger holes at regular intervals. The logs of the auger holes and the test results are as follows.

AUGER HOLE 1 (~RL2.2) – AH1

Depth (m)	Material Encountered
0.0 to 0.5	FILL , disturbed clayey soil, dark brown and brown, loose, dry, fine to coarse grained with fine trace organic matter.
0.5 to 0.8	CLAYEY SOIL , dark brown to black, loose, damp, fine to medium grained with fine trace organic matter.

Refusal @ 0.8m in clayey soil. No watertable encountered.

TEST: AH1	FIELD pH & PEROXIDE RESULTS				
Sample depth (m)	pH _F	30% Peroxide reaction	pH _{FOX}	pH _F - pH _{FOX}	SS=Shell J=Jarosite R=Roots
0.4	7.2	No Reaction	7.2	0.0	<5% R
0.8	6.7	No Reaction	6.8	-0.1	<5% R

AUGER HOLE 2 (~RL0.0) – AH2

Depth (m)	Material Encountered
0.0 to 0.2	GRAVELLY SAND , yellow and grey, very loose, very wet, coarse grained with shells.
0.2 to 0.4	CLAY , weathered shale, grey, stiff to hard, dry, fine grained.

End of test @ 0.4m in weathered shale. Test taken under ~0.1m of seawater.

TEST: AH2	FIELD pH & PEROXIDE RESULTS				
Sample depth (m)	pH _F	30% Peroxide reaction	pH _{FOX}	pH _F - pH _{FOX}	SS=Shell J=Jarosite R=Roots
0.1	7.5	No Reaction	7.6	-0.1	~10%SS
0.4	8.0	No Reaction	7.4	0.6	-

AUGER HOLE 3 (~RL0.0) – AH3

Depth (m) Material Encountered

0.0 to 0.2 **CLAY**, weathered shale, grey, firm to stiff, dry, fine grained.

End of test @ 0.2m in weathered shale. Test taken under ~0.1m of seawater.

TEST: AH3	FIELD pH & PEROXIDE RESULTS				
Sample depth (m)	pH _F	30% Peroxide reaction	pH _{FOX}	pH _F - pH _{FOX}	SS=Shell J=Jarosite R=Roots
0.2	7.1	No Reaction	7.4	-0.3	-

AUGER HOLE 4 (~RL0.0) – AH4

Depth (m) Material Encountered

0.0 to 0.4 **CLAY**, weathered shale, grey, firm to stiff, dry, fine grained.

End of test @ 0.4m in weathered shale. Test taken under ~0.1m of seawater.

TEST: AH4	FIELD pH & PEROXIDE RESULTS				
Sample depth (m)	pH _F	30% Peroxide reaction	pH _{FOX}	pH _F - pH _{FOX}	SS=Shell J=Jarosite R=Roots
0.4	7.3	No Reaction	8.0	-0.7	-

6. Conclusions

This report was carried out in accordance with the Field pH and Peroxide Test guidelines (ASSMAC, 1998).

No Acid Sulfate Soils were identified in the test holes. The pH_F levels tested in all auger holes did not fall lower than 6.7. This is above a PH of 4 that is an indicator of acid sulfate soils. No Potential Acid Sulfate Soils were identified in the test holes. The measured pH_F levels varied up to 0.7 from the measured pH_{FOX} levels. A movement of 1 unit or more is an indicator of potential acid sulfate soils. In addition, the measured pH_{FOX} for all tests did not fall lower than 6.8. A $pH_{FOX} < 3$ is a strong indicator of potential acid sulfate soils. No observable colour change or sulphurous odours were identified during the peroxide testing. No reactions to peroxide testing were observed.

This preliminary assessment indicates that an Acid Sulfate Soils management plan is not required for the proposed works.

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No. 1744
1 & 2 STOREY
BRICK HOUSE
TILE ROOF

No.1744
1 & 2 STOREY
BRICK HOUSE
TILE ROOF

78.23 TO MHWM

No.1742
EXISTING HOUSE
TILE ROOF

DECK

BOAT SHED

2

2

 AH_2

No.1740
1 & 2 STOREY
RENDERED HOUSE
METAL ROOF

**No.1740
1 & 2 STOREY
RENDERED HOUSE
METAL ROOF**

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PROJECT
ELMSLIE POOL
NEW POOL AND BOATSHED
1742 PITTWATER ROAD, BAY VIEW NSW

PROJECT NO. 1920 SCALE 1:200 @ A3 DATE 29/7/19 DRAWING NO. A-01