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Date of submission: Sunday, 6 May 2018

Submission: Damien Hawcroft

[redacted]

IPART

Subject :Solo Water's application for amendment to their approved Licence 16_035 ("Variation"). Submission for Objections deadline 9th May 2018. I have owned a house at Catherine Hill Bay (CHB) for 36 years and my family and I have an ongoing love for the Bay given its sense of being a very special and unique place with heritage significance. Attached is my submission of objection and I ask IPART not to approve Solo's Variation as the immediate and long term impact on the Bay's heritage, clean beach, public health and natural environment will be a disaster for the Bay, as well as for LMCC, community at large, and the tourist industry.

Damien Hawcroft
[redacted]

IPART

Subject :Solo Water's application for amendment to their approved Licence 16_035 ("Variation"). Submission for Objections deadline 9th May 2018

I have owned a house at Catherine Hill Bay (CHB) for 36 years and my family and I have an ongoing love for the Bay given its sense of being a very special and unique place with heritage significance.

CHB is one of only 2 villages in NSW designated to be of "State Heritage Significance" as defined in the Heritage Act - State Heritage Register.

Lake Macquarie City Council's (LMCC) Heritage Guidelines – adopted by Council 11 June 2013 state in "Section 4.1 Significance …….The extended settlement of Catherine Hill Bay has significance for its landscape and its buildings, but also because of its unique history of development. Catherine Hill Bay has picturesque and distinctive historic townscapes, and land / seascapes unrivalled in Lake Macquarie, as well as a binding historic theme."

Given the following reasons:

1. CHB's "State Heritage Significance", this being only one of two designated Heritage Villages in NSW

2. LMCC described CHB as having "distinctive historic townscapes, and land / seascapes unrivalled in Lake Macquarie"

3. The recent increase in the number of people (local / state and country wide / tourists) and families who visit the Bay to enjoy its beach particularly that sand / surf area near the surf club and adjacent to the lagoon into which Solo propose to dump 2.0 to 9.8 tonnes of recycled waste water each day .

   Adding to this increasing number of people visiting the Bay is the recent projection by LMCC that "CHB will be by far the fastest growing suburb in eastern Lake Macquarie over the 15 year life of the Plan (2015 – 2030). A projected population increase of 1382%" (See Reference 1)

4. That Solo propose to discharge effluent by running recycled water away from the Beaches real estate development into a creek that flows past existing heritage houses feeding a lagoon located on the beach at CHB.

   Solo propose that the recycled water would be released to coincide with wet weather "**the majority of the time**" in the following quantities (Solo's Variation Section 4.3.7)

   a. wet weather release of 98 kL/day (9.8 tonnes) of recycled water per day
   b. dry weather release of 2 kL/day (2.0 tonnes) of recycled water per day

   This lagoon is located adjacent to the most popular part of the beach and in summer this lagoon is used as a safe pool for swimming / playing / cooling down, particularly for families with young children.

Also, in the event of a rough /dangerous surf, families and their children tend to use the lagoon's calmer and safer waters. This has been the case for at least the past 36 years that I have owned my house at CHB!

Over the past 36 years, my observation is that the lagoon rarely breaks through the beach and into the ocean. This event is very dependent on Mother Nature and with Solo's quoted release values, the lagoon could be relatively full most of the year and historically, available to the public as a safe swimming /playing pool!

5. That Solo propose to discharge recycled water into the creek and lagoon which is located:

   a. adjacent to the most popular part of the beach
   b. approximately 100m north of surf club
   c. below the only covered BBQ / picnic area in CHB

   Also, when the lagoon's water flows into the surf (very rarely) its direction of flow can vary from either a direct path into the ocean OR to the north east OR to the south east. The lagoon's direction of flow is very dependent on Mother Nature and as experienced by LMCC's personnel, the flow line from the lagoon into the ocean cannot be manually altered on a permanent basis.

6. AUSTRALIAN 21 GUIDELINES FOR WATER RECYCLING: MANAGING HEALTH AND ENVIRONMENTAL RISKS (See Reference 2) which states in The Exposure Assessment Section that "The main route of exposure to microbial hazards from recycled water is ingestion ……. And that assessment of exposure requires consideration of both intended and unintended uses. Unintended uses can take two forms:

   • deliberate misuse — for example, filling a swimming pool with recycled water supplied for non-drinking residential use

   • accidental misuse — for example, mistakenly cross-connecting water supplies.

   Solo's addendum proposes to fill the CHB beach lagoon (our local safe swimming hole) with recycled water which contradicts the Australian Guidelines as being **"deliberate misuse"**

7. Nipper numbers at the CHB surf club was 120 in 2015 and in 2018 stands at 160, and with new developments in the Bay and surrounding suburbs this number will only increase.

   If IPART approve Solo's addendum, the perception of families and friends that flock to the CHB beach will be that sewerage water is now running into the family swimming lagoon, and at times onto the beach and into the surf water.

   Perception is everything and very hard to change, and no matter what is said about recycled water Vs sewerage water or signposted, this perception will stick. Approving this addendum will ruin the Bay's reputation for having a beautiful, safe and clean beach, the result being a reduction in the number of Surf Club's members / nippers, as well as massive reduction in the number of people that swim at the Bay.

8. Solo's Variation requires recycled water to flow into the creek that runs behind houses located along Lindsley St and beside houses built along the southern end of Flowers Drive. Also, the lagoon into which the creek runs sits diagonally opposite the Flowers Drive houses.

   These houses, creek and lagoon are located inside the defined Lake Macquarie City Council's Coastal Risk Area (Coastal Risk Map Foreshore Building Line Map Environmentally Sensitive Land Map - Sheet CL1_011). Given predictions of an approximate sea rise of 1m by the 2100, the lagoon, creek and houses will be exposed to flooding. This exposure will be exacerbated by high tides and big swells, and will make the control of wet and dry weather releases into the creek / lagoon / beach / surf extremely difficult to manage

I ask IPART not to approve Solo's Variation as the immediate and long term impact on the Bay's heritage, clean beach, public health and natural environment will be a disaster for the Bay, as well as for LMCC, community at large, and the tourist industry.

Damien Hawcroft

REFERENCE 1 : Lake Macquarie City Council's Draft DEVELOPMENT CONTRIBUTIONS PLAN - Recreational and Land Plan - Belmont Contributions Catchment 2015 – 2030 states;

CHB will be by far the fastest growing suburb in eastern Lake Macquarie over the 15 year life of the Plan. A projected population increase of 1382% and because of this, and also the remoteness of CHB, they plan to invest in a number of new sports, recreational and community facilities in our suburb.

A summary of Table 1 follows:

Dwellings (2015) = 120 Existing Persons (2015) = 171
Projected additional Dwellings (2030) = 778 Projected additional Persons (2030) = 2,363 Total Dwellings (2030) = 898 Total Persons (2030) = 2,534 Growth = 1382.0 %

From the above figures and statement "Catherine Hill Bay, with an additional 2,363 persons (1,382% increase) will reach a total population of 2,534 people" alone, assumptions cannot be made that translate directly to defining and budgeting for massive infrastructure spends that may not be warranted for Catherine Hill Bay.

REFERENCE 2 : NATIONAL WATER QUALIT Y MANAGEMENT STRATEGY

AUSTRALIAN 21 GUIDELINES FOR WATER RECYCLING: MANAGING HEALTH AND ENVIRONMENTAL RISKS (PHASE1) 2006 - Natural Resource Management Ministerial Council Environment Protection and Heritage Council Australian Health Ministers Conference

Executive summary

This document — the National Water Quality Management Strategy (NWQMS) National Guidelines for Water Recycling: Managing Health and Environmental Risks — is an authoritative reference for the supply, use and regulation of recycled water schemes. ……

……..These Guidelines should always be implemented in collaboration with relevant authorities such as those for protection of health and the environment. The guidelines consider management of risks to human health and environmental health (Chapters 3 and 4, respectively), and focus on two specific situations — water recycled from a centralised sewage treatment plant and from greywater.

The approach is to identify major health risks and the preventive measures needed to reduce those risks to an acceptably low level. Sources of recycled water such as sewage and greywater can contain a wide range of agents that pose risks to human health, including pathogenic (disease-causing) microorganisms and chemicals. Microbial hazards include bacteria, viruses, protozoa and, to a lesser extent, helminths. Chemical hazards include inorganic and organic chemicals, pesticides, potential endocrine disruptors, pharmaceuticals and disinfection by products. For human health, the main focus is on microbial hazards, although chemicals must also be considered, with some emerging areas of concern with long-term exposure to low levels of chemicals.

Section 3.2.3 Exposure assessment

…….The main route of exposure to microbial hazards from recycled water is ingestion, including ingestion of droplets produced by sprays (although lower volumes are involved in this situation). Some microorganisms found in recycled water have the potential to cause respiratory illness (e.g. certain types of adenoviruses and

enteroviruses) and, for these organisms, inhalation of fine aerosols (rather than droplets) may be a source of infection. …….

Assessment of exposure requires consideration of both intended and unintended uses. Unintended uses can take two forms:

• deliberate misuse — for example, filling a swimming pool with recycled water supplied for non-drinking residential use

• accidental misuse — for example, mistakenly cross-connecting water supplies.