



FREQUENTLY ASKED QUESTIONS FOR BURWOOD BEACH WWTW OPTIONS

BURWOOD BEACH WASTEWATER TREATMENT WORKS (WWTW) IS HUNTER WATER'S LARGEST WASTEWATER TREATMENT PLANT



WHY IS A LONG TERM PLAN NEEDED?

The population of Newcastle is forecast to grow by more than 15% by 2036*. The long-term plan is to ensure the Burwood Beach Wastewater Treatment Works (WWTW) continues to meet the needs of our growing community until at least 2040. This includes complying with the licensing requirements of the NSW Environment Protection Agency, protecting public health and respecting the health of our oceans and waterways. (*<http://forecast.id.com.au/newcastle>)

HOW IS THE COMMUNITY BEING INVOLVED IN THE PROCESS?

Hunter Water is seeking community feedback on the four options for Burwood Beach WWTW. All four options address public health concerns, while each has different social, financial and environmental impacts and benefits. Community input on the four options will help Hunter Water achieve a balance of impacts and benefits that aligns with community values.

Community members are invited to:

- Take part in the online survey which is available on the website from 24 February to 21 March 2014. If you would prefer to receive a survey in the mail please call Hunter Water on 1300 657 657.
- Attend the Community Open Day at Burwood Beach WWTW on 15 March 2014. Please register to attend at www.hunterwater.com.au/burwoodconsultation before Sunday 9 March 2014, as numbers will be limited for safety reasons.
- Review and provide feedback on the options during the public exhibition period from 24 February to 30 March 2014. You can access the Options Summary Report at www.hunterwater.com.au/burwoodupgrade. Alternatively if you would prefer to receive a copy of the report in the mail please call 1300 657 657.

Hunter Water has also engaged an independent organisation, Jetty Research, to contact a number of Hunter Water customers, at random, to discuss their thoughts on the future options for Burwood Beach WWTW. This survey has now been completed.

A Community Reference Group (CRG) was formed in 2010 and comprises an independent Chair and eight community members from a broad cross-section of the community. The Group will continue to meet and provide feedback to Hunter Water until mid 2014.

IF I COMPLETE THE COMMUNITY SURVEY WILL MY PERSONAL DETAILS BE KEPT BY HUNTER WATER?

People completing the telephone or online survey will be asked whether they would like to join the Hunter Water Customer Panel. If they elect to do so, their contact details will be collected by the independent company (Jetty Research) engaged to undertake the survey on behalf of Hunter Water. Personal contact details will be detached from the survey response and passed on to Hunter Water for this purpose. Personal details provided by community members will not be linked with individual survey responses. If people elect not to join the Hunter Water Customer Panel their personal contact details will not be collected.

WHO WILL APPROVE THE BURWOOD BEACH WWTW STAGE 3 PROJECT?

The preferred option will be subject to an Environmental Impact Assessment and will need the approval of the NSW Environmental Protection Agency (EPA).

HAVE HEALTH IMPACTS ASSOCIATED WITH OCEAN RELEASES OF EFFLUENT AND BIOSOLIDS BEEN ASSESSED?

More than 13 years of continuous monitoring data, including the Beachwatch program, shows that our beaches are among the cleanest in NSW. All current data indicates that there are no significant health impacts from the current operation of the plant.

In 2010 a comprehensive Health Risk Assessment was undertaken. The full report on this study is at www.hunterwater.com.au/burwoodupgrade:

- Our beaches continue to be some of Australia's cleanest as demonstrated by ongoing Beachwatch monitoring data. There are negligible health risks resulting from the release of biosolids.
- There is a slight elevation in risk as a result of the release of treated effluent. Periods of elevated risk are infrequent and unpredictable.
- Surfers appear to be a higher risk group as they notionally use the beach more often and for longer periods and potentially swallow more seawater.

IS THERE ANY EVIDENCE OF BEACH WATER QUALITY HAVING AN IMPACT ON ILLNESS RATES?

There is no epidemiological data to suggest beach use results in higher illness rates.

WHEN, AND HOW OFTEN, DO PERIODS OF POORER WATER QUALITY OCCUR?

The movement and fate of microbes in the flows released are influenced by a number of environmental conditions such as water temperature, currents, winds and sunlight. The combination of environmental conditions that can result in the effluent plume moving back towards the beach is not limited to a particular time of day or season.

Beachwatch data shows that local beaches have Category A water quality overall, amongst the best in NSW, and that periods of poorer water quality are rare.

HAVE IMPACTS ASSOCIATED WITH OCEAN RELEASES OF EFFLUENT AND BIOSOLIDS ON MARINE ECOLOGY BEEN ASSESSED?

In 2013 the Burwood Beach Marine Environmental Assessment Program (MEAP), a two and half year series of integrated scientific investigations to assess environmental impacts of the releases from the Burwood Beach WWTW, was completed. It found that the release of effluent and biosolids from the Burwood Beach outfalls is having only a localised effect on ecological conditions in the receiving environment. Water quality is altered generally to within 500 metres from the diffusers but biological effects were subtle and localised generally to within 20 metres of the discharge. No large scale or regional effects were observed during the MEAP.

Further information on the findings of this study, including a Summary Report, an Integrated Assessment of Monitoring Report and eight individual Study Reports, is at www.hunterwater.com.au/burwoodupgrade

WHAT HAPPENS TO THE TREATED EFFLUENT AND BIOSOLIDS AFTER THEY ARE RELEASED INTO THE OCEAN FROM THE BURWOOD BEACH WWTW?

Global experience has shown that releasing properly treated wastewater through effective ocean outfalls is a sustainable strategy with minimal environmental impact. The managed release of treated effluents to the ocean at appropriate locations utilises the ocean's natural cleansing capacity instead of energy-intensive treatment processes to ensure that environmental and human health standards are met and maintained.

The ocean environment which receives releases of treated effluent and biosolids from the Burwood Beach WWTW is dynamic, meaning it is subject to ongoing movement from currents and winds. This causes the treated effluent and biosolids to be quickly diluted and naturally dispersed. Concentrations of toxins and other contaminants in the local ecosystem are kept low, nutrient levels do not cause harmful algal blooms, dissolved oxygen concentrations are maintained in the water and there is minimal sediment accumulation on the sea floor.

WHAT EFFECT DOES THE RELEASE OF NITROGEN AT BURWOOD BEACH WWTW HAVE ON THE ENVIRONMENT?

Nitrogen is essential in supporting plant life and growth and along with phosphorus is a key component of fertilisers. Nitrogen is also one of a number of components in the treated effluent and biosolids released into the ocean from the Burwood Beach WWTW. Other sources of nitrogen in our ocean waters include stormwater runoff, flows from the Hunter River and natural upwelling from deeper parts of the ocean.

Increased levels of nitrogen have been observed in the ocean, generally within 500 metres from the outfall. Importantly, however, no excessive algal growth has been observed in this area as the released nitrogen is quickly dispersed and diluted due to the strong influences of currents and winds.

IF BIOSOLIDS REUSE ON LAND IS IMPLEMENTED, WHERE WOULD THE BIOSOLIDS FROM BURWOOD BEACH WWTW BE REUSED?

Hunter Water's biosolids, produced from other treatment plants, are typically reused for soil improvement for agriculture, minesite rehabilitation or mine buffer zones. Selecting appropriate reuse sites would be undertaken by suitably trained contractors employed to manage the reuse of Hunter Water's biosolids.

WHAT DO BIOSOLIDS LOOK LIKE?

Before drying, biosolids look like a dark mud, rich in organic matter and some may have a plasticine texture. After drying, they are soil-like in appearance, much like garden mulch or potting mix. In some cases, the dried biosolids are made into pellets and look similar to some commercial fertilisers. www.biosolids.com.au/q-a-aust-nz.php#bio11

WHAT DO BIOSOLIDS SMELL LIKE?

Biosolids may have their own distinctive odour depending on the type of treatment it has been through. Some biosolids have a stronger odour that may be offensive to some people, while most biosolids have a slightly musty, ammonia odour. Sulphur and ammonia compounds (both plant nutrients) in biosolids are normally the cause of these odours. Typically odours are reduced after the biosolids have been applied and incorporated into the topsoil. One of the objectives of biosolids management is to ensure that offensive odours are minimised. Reuse of biosolids from Burwood Beach WWTW would be undertaken by suitably trained contractors in accordance with relevant NSW guidelines to ensure minimal risk of unpleasant odour releases. www.biosolids.com.au/q-a-aust-nz.php#bio11

IS THERE ANY PUBLIC HEALTH RISK FROM REUSING BIOSOLIDS ON LAND?

When conducted according to regulations, years of research has shown that land application of biosolids is safe. However, concerns do still remain regarding soil and groundwater contamination from trace elements, toxic chemicals, and potentially harmful disease-causing organisms. In response to these concerns, the EPA in the United States of America conducted a comprehensive risk assessment that evaluated the health risk to the general population as well as to a highly exposed individual. To date, there have been no documented cases of negative impacts to human health when a biosolids program has met all the federal and state requirements.

This is the same for Australia. There is no evidence that the beneficial use of biosolids has led to negative human health impacts. To be absolutely sure, the Australian water industry is undertaking further detailed research and risk assessment. Additionally, various Environmental Management Systems and Quality Management Systems are employed. The water industry in Australia and New Zealand complies with regulatory requirements and Guidelines put in place by relevant regulatory authorities in the various Australian States and Territories and federally, and in New Zealand, providing further levels of safety and risk minimisation. www.biosolids.com.au/q-a-aust-nz.php#bio11

WHERE CAN I LEARN MORE ABOUT THE REUSE OF BIOSOLIDS ON LAND?

The Australian and New Zealand Biosolids Partnership (ANZBP), a member based group consisting of organisations committed to the sustainable management of biosolids, was created in 2007 to promote and support the sustainable management of biosolids in Australia and New Zealand. Lots of general information about biosolids and biosolids reuse, including a list of frequently asked questions on this topic, is contained on their website at www.biosolids.com.au.

HAVE IMPACTS ON TERRESTRIAL ECOLOGY (FLORA AND FAUNA) FROM REUSING BURWOOD BEACH BIOSOLIDS ON LAND BEEN ASSESSED?

A specific land capability study to examine the effects of applying biosolids (containing nutrients and other components) from Burwood Beach WWTW to land has not been conducted. This type of investigation is typically site-specific and requires information about the intended land application site(s). As reuse sites for Hunter Water biosolids are routinely selected by a suitably trained biosolids reuse contractor, and availability of reuse sites is dependent on a range of factors including market influences, it is not possible to conduct a detailed study of this nature. Importantly, however, any reuse of biosolids from Burwood Beach WWTW would be undertaken in accordance with relevant NSW guidelines to prevent adverse impacts on soil properties and flora and fauna.

WAS EFFLUENT RECYCLING CONSIDERED IN THE OPTIONS?

Hunter Water supports viable effluent reuse schemes. A number of investigations into recycled water have shown the best opportunity for reusing wastewater from Burwood Beach WWTW is the Kooragang Industrial Water Scheme (KIWS), which is currently under construction. When completed in late 2014 this scheme will reuse all the wastewater from the Shortland WWTW and will initially require up to 6 million litres a day of wastewater from the Burwood Beach catchment. This will produce 3.2 billion litres of recycled water annually from the KIWS. The amount required from Burwood Beach WWTW will decrease over time due to population growth in the Shortland catchment without reducing the total amount of recycled water produced at KIWS.