12 Solid Waste Management

Council recognizes the need to divert as much solid waste from the waste stream as possible by encouraging various forms of waste minimization. This will act to both conserve resources and lengthen the life of landfill sites.

The Issues:

In addition to the commercial and industrial sectors, it is estimated that Australians generate on average half a tone of domestic garbage per person annually. A substantial proportion of this waste stream can be reduced, reused or recycled with appropriate education and incentives. The introduction of wheelie bins needs to be tempered with a strong recycling strategy, such as kerb-side collections or recycling depots in convenient locations to reduce the amount of recyclables in the waste stream.

Historically, local authorities focused attention on removing waste to a community landfill to protect public health. These days, the community is faced not only with public health issues, but also those of environmental health, rapidly depleting resources, escalating costs of disposal, scarcity of available land and awareness of environmental damage associated with inappropriate waste disposal. The growing urgency of the problem has seen the re-emergence of some older practices such as waste minimization, re-use, recycling and composting. Council has established recycling depots and kerb-side collection of recyclable goods in the past couple of years, which have received overwhelming public support.

In addition to the management of solid waste, local authorities are faced with the proper storage, transport and disposal of other more intractable wastes. Clinical waste needs specialized handling and disposal, treated effluent can be re-used and the ever growing amounts of hazardous waste need specialized storage, handling and treatment as they cannot be disposed of in sanitary landfills. Liquid, clinical and hazardous wastes are addressed in the following chapters.

At present, specific categories of solid waste generated in Townsville is accepted for disposal at the Van tassel St. Sanitary Landfill. Trade, liquid and hazardous wastes are not accepted here. Clinical waste can be disposed at the landfill by special arrangement and some types of hazardous waste (asbestos and encapsulated materials), treated in accordance with government guidelines have also been accepted.

The effective management of solid waste is currently limited by a number of factors. Whilst it is possible for local government to deal with solid waste in the traditional manner (by securing it in landfill sites), the cost-benefit ratios of recycling and reprocessing schemes are usually not economic at the local level, particularly in north Queensland where transport costs to southern plants and markets can be prohibitive. It is suggested that greater proactive involvement by the State and Commonwealth Government in developing integrated schemes covering these areas is required to overcome this problem. Greater uptake of recycled products by domestic and commercial consumers, and involvement in recycling schemes, would enhance the economics of waste minimization. Naturally, over-packaging and reliance on non-recyclable products has a negative impact on waste minimization.

Responding to the community's wishes, Council has initiated a recycling scheme for metals, plastics and glass.

The objectives for Solid Waste Management in Townsville are to:

Encourage the community to reduce the amount of waste generated; and

Promote the reuse and recycling of resources to decrease the volume of the waste stream going into the sanitary landfill and conserve resources.

Areas for Council Action:

To educate the public about reducing, reusing and recycling waste, Council should consider the following actions:

Review the present waste management strategy to further emphasize the following points:

- Minimize the volume of solid waste generated;
- Target community groups and sectors responsible for generating large amounts of waste;
- To identify types of waste and recover resource materials from the waste stream;
- To increase the viability and cost efficiency of recycling in Townsville for the Council and commercial contractors;
- To increase the types of recyclables recovered from the waste stream;
- To create community awareness of waste minimization through an intensive educational campaign;

Start composting and make your own topsoil.

- To encourage recycling processing plants to service Townsville and the northern region to eliminate high transportation costs; To encourage domestic composting in a knowledgeable and efficient manner to safeguard public health; and,
- To reduce the volume of garden refuse in the landfill by providing a community composting area. (ENV)

Facilitator-use and exchange centers for domestic and industrial materials. (ENV)

Revive anti-litter campaigns. (ENV)

Prepare site criteria, pollution control, rehabilitation requirements and environmental impact criteria for future landfills. (ENV: PD)

Lobby State Government and industry to negotiate recycling targets for each recoverable resource. Set annual, achievable targets for Townsville. (ENV)

Prepare and promote an annual report of Townsville's recycling rates to encourage development of processing facilities in the north. (ENV)

Apply for State Government grants to aid in reducing the waste stream. (ENV)

Review the user pays system for domestic and commercial waste taken to landfill sites. (ENV)

Areas for Community Action:

Take part in kerb-side recycling and other recycling programs.

Purchase products, which are easily reused or recycled.

Demand and purchase products with less packaging.

Try to ensure the products you buy are long lasting and durable, not disposable.

Support markets using recycled materials.

Set up a compost heap at home. Advice is available from Council and many books are available showing how to do this efficiently.

Areas for Research:

There are several areas where long-term research is necessary. They include:

Research to maximize the efficiency and increase the utilization of kerb-side collection. Ways of extending the scope of recycling programs to include waste water (e.g.. treated effluent), industrial waste etc.

Methods to minimize waste generation within the community.

Improvement of the current pollution control methods.

Methods to encourage the community to accept responsibility for waste generation and disposal.

13 Liquid Waste Management

Council recognizes the need to continually upgrade and improve the standards of admission, treatment and the disposal of treated sewage and other forms of liquid waste as the funds and technology become available.

The Issues:

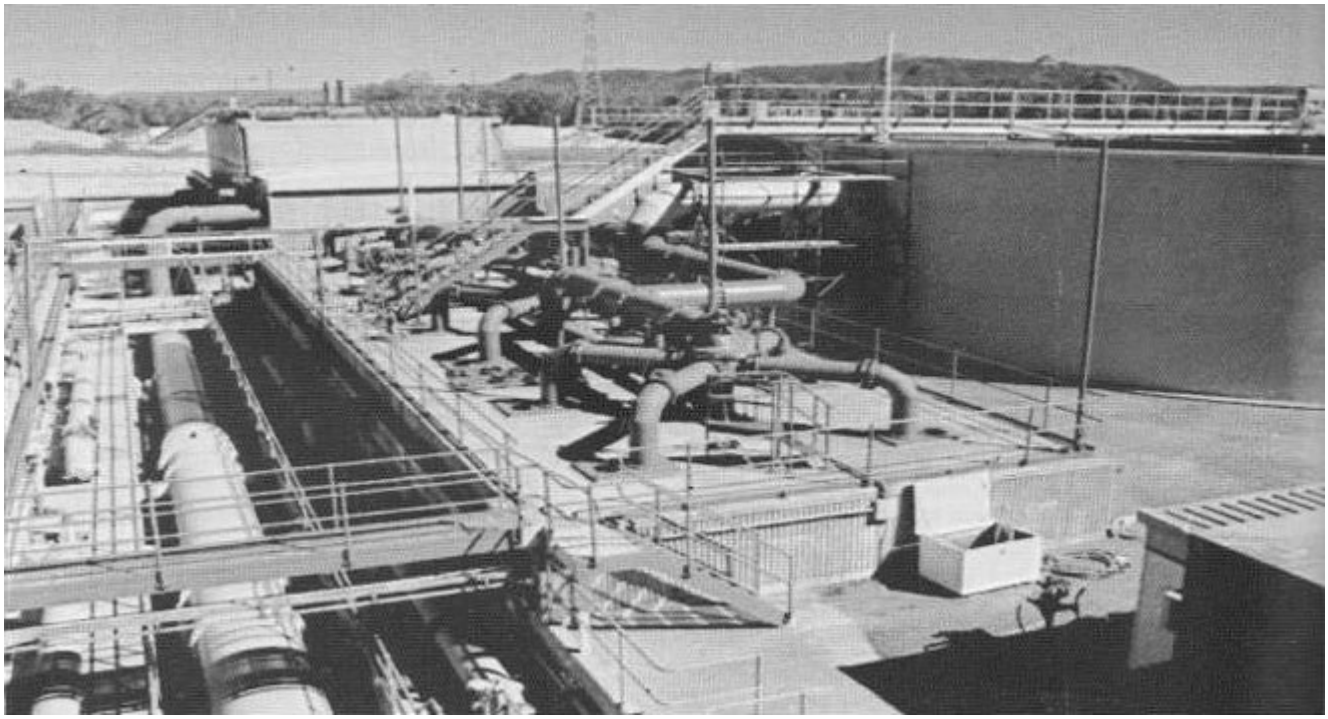
This section covers the major environmental issues associated with liquid trade (industrial) waste, sewage effluent quality and sewage sludge. Council is presently developing a detailed Trade Waste Policy covering this area.

Liquid waste is of two major types - sewage and storm water. The Townsville City Council, like most major local authorities, has in place an integrated sewerage system to serve the community. Also incorporated into the waste stream is run-off from land, roads and industrial practices via the storm water drains.

The liquid waste arising from industry and discharged to the sewers is more often referred to as Trade Waste.

Trade waste is either discharged legally or illegally directly into the environment or to the sewers. Those which are discharged to receiving waters (i.e., the natural environment) require a license from the Department of Environment and Heritage, whilst liquid waste discharged to the sewer is under local authority control, in accordance with Council's Trade Waste Policy.

The Townsville City Council has four operational sewage treatment plants (STP's), three of which provide complete secondary treatment of sewage. Secondary treatment accelerates the breakdown of organic pollutants to remove the greater proportion of soluble organic compounds and suspended solids. However this treatment does not remove all nutrient loads, heavy metals or pathogens. It is planned to treat sewage effluent by ultra-violet sterilization at two of the STP's (Mt St John and Nelly Bay). Chlorination of treated effluent is utilized at the Bohle STP.



Advanced treatment technology and effluent re-use helps to minimize the environmental impact of those things we have to do.

The end result of the treatment process is treated sewage effluent and sewage sludge. Most sludge is presently disposed of by landfill or sea outfall. A local defense base and a golf club are utilizing re-use of treated effluent and investigations are under way to extend this to a number of open-space areas. Some 60-70% of all treated effluent from Mt St John, Townsville's major treatment plant, is expected to be re-used under normal dry season conditions once these plans are in place. Presently most treated effluent is disposed at sea.

The various components of sewage such as phosphorus and nitrogen, heavy metals and no biodegradable components can often have an adverse affect on the environment when discharged if the standard of admission, plant operation and sitting is inadequate. Sewer admission standards for trade waste in Townsville are considered to be in line with quality criteria for the rest of the state, and in some instances, admission standards exceed the requirements of other major Queensland cities. The Water Resources Commission (1990a) have recently proposed to develop a Model Trade Waste Policy incorporating national standards for dealing with trade waste. Townsville standards may then be reviewed in the light of these new guidelines.

The objectives for managing Liquid Waste in Townsville are to:

Improve both the admission quality of trade waste and the quality of treated effluent for disposal;

Cease disposing of sewage sludge at sea;

Increase the re-use rate of treated effluent, sewage sludge and trade waste; and,

Reduce the volumes of trade waste requiring treatment and disposal.

Areas for Council Action:

To achieve the above objectives, Council should consider the following actions:

Upon the acceptance of the proposed Trade Waste Policy, sewer admission standards should be strictly monitored and national guidelines considered when introduced. (ENV: WS)

Review methods to control and monitor illegal admission of trade waste into the sewer system to reduce the volume and types of toxic materials in the system. (ENV: WS: PD)

Prepare Aim to reduce volumes of trade waste entering the sewer system by the following means:

- Encourage industry to voluntarily reduce volumes of liquid waste;
- Encourage industry to recycle waste where practicable; and,
- Encourage industry to employ improved Technology to achieve waste reduction. (ENV)

Extend the waste management strategy to deal with liquid waste and in particular the re-use of treated effluent. (ENV: WS)

Liaise with other authorities to provide a co ordinate waste management strategy. (ENV)

Develop a revised Trade Waste Register for Townsville. (ENV: PD)

Where necessary, enforce on-site treatment prior to admission into the sewer system to improve quality of wastewater. (ENV: PD: WS)

Investigate the alternative uses of sewage sludge e.g. fertiliser, soil conditioner. (ENV: WS)

Review and contribute to the current draft guide-lines presently being developed by the Water Resources Commission on Trade Waste. (ENV: WS: PD)

Areas for Community Action:

Report any fish kills, pollution, or illegal dumping to the Dept of Environment and Heritage.

For advice on disposal of herbicides or insecticides, ring DEH or Council.

Adopt a nearby watercourse as a neighborhood project and advise council of possible pollution due to liquid trade waste.

Areas for Research:

The development of Pollution Control Ponds.

Environmentally responsible sludge disposal: and/ or utilization.

The volume and nature of Trade Waste entering the sewage system.