

Proposed Stormwater Drainage Systems in the Liverpool Local Government Area.

Stormwater Channels in Urban areas.

Comparing systems – old, new and proposed.

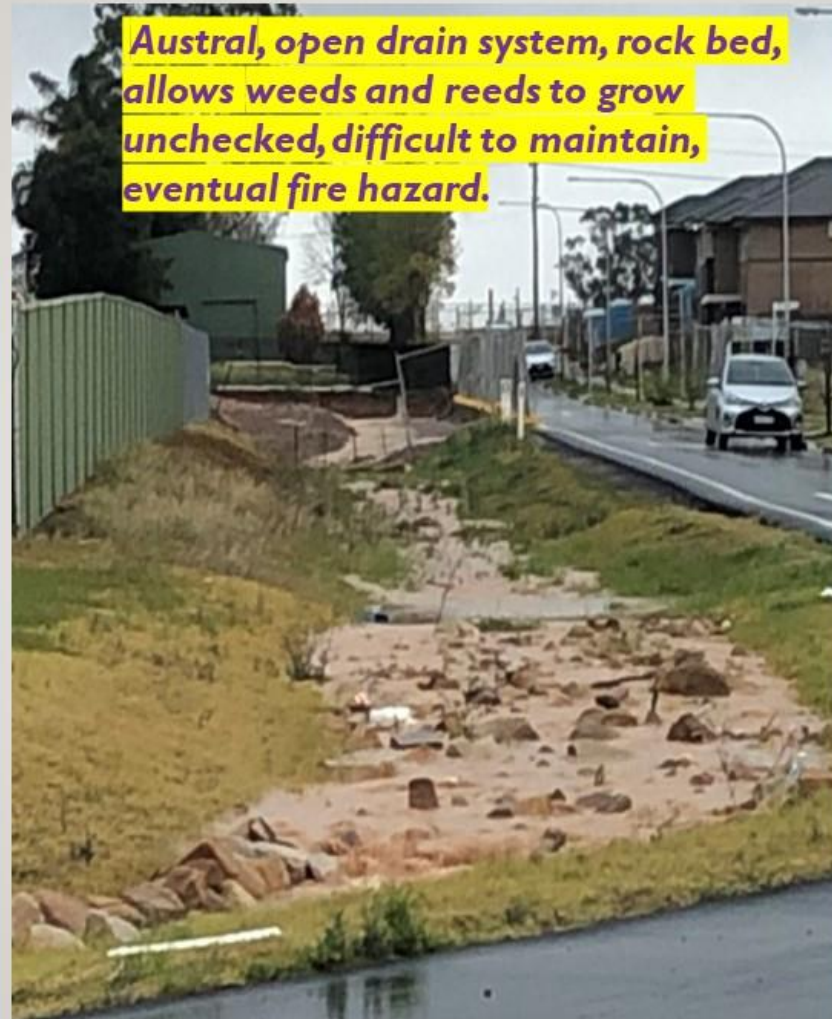
By Councillor Peter Harle

- Liverpool City Council is in the process of analysing stormwater and flood water control systems in the new areas of Austral, West Hoxton, Rossmore and existing areas of Middleton Grange and Edmondson Park.*
- Residents need to be aware of these proposals and ensure that they meet their needs.*
- I have major concerns with those proposals and believe they will lead to many undesirable health and safety effects on nearby residential developments. Residents need to be aware of these proposals and raise concerns with Liverpool City Council to ensure they meet residents needs and wants.*
- It is evident from the following information that there are major concerns with the proposed Open Drain Stormwater and flood drainage system currently being constructed.*

CURRENT STORMWATER CHANNELS

**This is the current
and proposed
system of open
drains; rocks, reeds,
weeds, and
unsightly rubbish
traps.**

**Smelly in dry
periods and very
difficult to
maintain.**



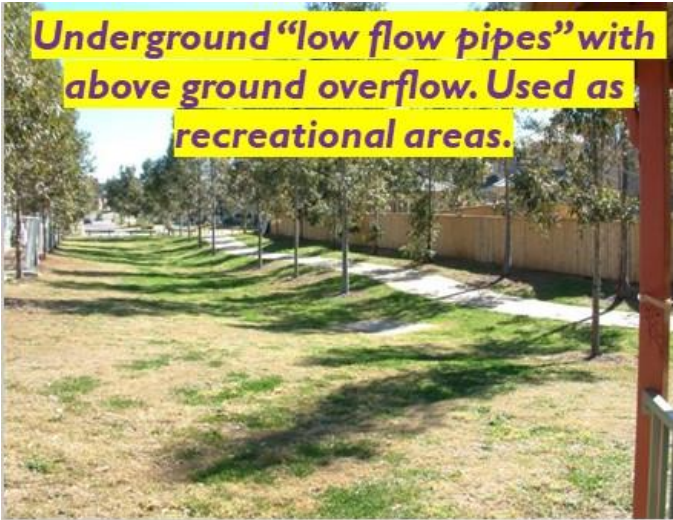


Dry reeds are a major fire hazard in winter. Rocks at the bottom of these drains make it almost impossible to cut and maintain reed growth. Not ideal in suburban areas with adjoining homes.

Cleaning out blocked channel due to bank erosion.

Ineffective, cleanout, underpass remains partially blocked

Underground “low flow pipes” with above ground overflow. Used as recreational areas.



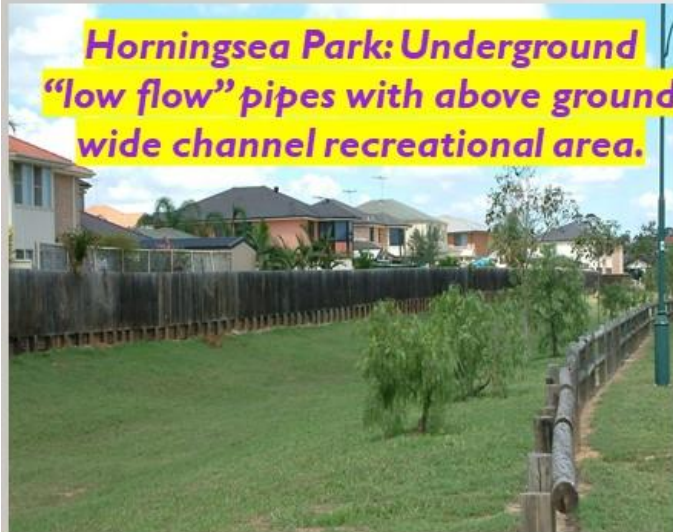
Horningsea park: underground pipes, above ground overflow, used as recreational area



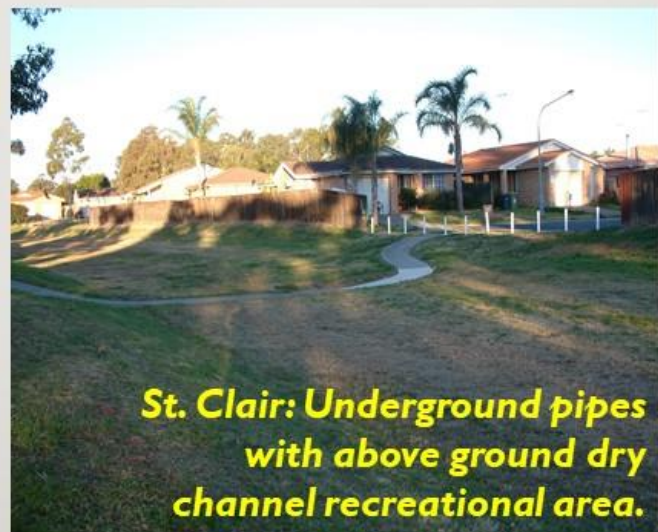
Examples of existing “low flow” combined underground and above ground stormwater and flood control channels. No place for vermin, reeds, weeds and rubbish to collect. Only require grass cutting and minimum long term maintenance.

During flood events water is spread across a wide channel, eventually flowing into major creeks and rivers. “Billabongs” or small lakes could be incorporated spaced at 500m intervals or more to allow water to clean itself, fish and marine animals are used to minimise mosquitos.

Horningsea Park: Underground “low flow” pipes with above ground wide channel recreational area.



St. Clair: Underground pipes with above ground dry channel recreational area.



An example of this is at Bedwell Park near Horningsea Park which is part of the overall “low flow” system, it works well, with Gross Pollution Traps installed.



Open drains, lined sandstone banks



Underpass drains blocked causing road flooding.



Underpass and Gross Pollution trap.



Recent drainage works at 17 Ave Austral. Similar works are proposed in new developed areas. These open drains have not yet overgrown with difficult to remove vegetation and rubbish.



Hinchinbrook: Open Drainage Channel after weed cutting and heavy rain washed away cut reeds.



Dry reeds become a fire hazard, attract rats and snakes.



High maintenance, requires regular rubbish removal.



Open drain, soil erosion and high maintenance.

Open stormwater channels are difficult to maintain, trap street borne rubbish, a place for rats, snakes, mice and mosquitos to hang out. Produce bad odours in summer especially during extended dry periods. Are serious fire hazards when reeds, weeds and grass dry out. This is the State Governments' preferred stormwater and floodwater control system and want Councils to install in place of existing "low flow" piped underground drains and concrete lined canal systems which are much less maintenance intensive. Residents need to oppose open drain systems. Once constructed they will cost millions of \$ to replace and remediate.

As an elected Councillor representing our community, I have major concerns with proposed stormwater drainage systems and firsthand experience. There are numerous negative impacts of the open stormwater drainage systems currently being implemented despite residents' objections.

After numerous complaints from residents over several years, including a petition of more than 1900 signatures, I convinced Council that it needs to obtain community feedback before implementing stormwater drainage systems in new development areas such as Austral, Rossmore and Bringelly.

Residents need to be aware of existing systems and their impacts on nearby residential developments. Systems similar to those in the slides above exist at Horningsea Park, Hinchinbrook and Middleton Grange. There are obvious disadvantages of the open drainage systems in current use. However, State Government regulations impose constraints on Councils that are not necessarily in the best interest of the community.

As an elected Councillor I will be opposing the open drain stormwater system with their many negative effects on the community, let alone the huge maintenance costs to Council and ratepayers.

Open drain systems, including flood detention basins exist at Amalfi Park, Middleton Grange and incomplete drainage sections at Bedwell lake near Horningsea Park.

An example of the "**low flow piped**" system was built in Horningsea Park (circa 2004) at Sarah Hollands Drive. It provides easy to maintain grassy recreational areas during dry periods and is used extensively by residents for Picnics, and a recreational area for children to kick a football around.

During major flood events flood waters flow above ground within the stormwater channels and without damaging the grass covered channel. These channels are easy to maintain at comparative little cost compared to the necessary twice annual reed cutting and clearing of the open drain channels proposed in new development areas.

Examples of housing estates using a combination of underground **low-flow-pipes** and above ground stormwater channels exist at St Clair near Saint Marys. It has existed without problems since the 1990s. However, the State Government and environmental lobby groups have turned the State Governments against those systems claiming more needs to be done to ensure clean water flows into creeks and rivers. To that end concrete lined canals are no longer the preferred option, instead **open drainage channels** with vegetation (riparian zones) are preferred options, notwithstanding that they are **a haven for rats, snakes, mice, mosquitos and generally are major**

rubbish traps that require specialised mechanical equipment to regularly cut and remove overgrown vegetation.

In addition, there are major health problems during hot summers when drains dry out and cause unpleasant odours due to rotting vegetation and dead animals. They also attract Ibis into residential areas causing additional unpleasant issues.

Based on existing systems, once open drain systems have been constructed, they cannot be updated, improved, or retrofitted without enormous financial costs to Council and ratepayers, as such they are unlikely to be upgraded. That is why it needs to be done once, done properly and in the best interests of the community.

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