

Fact Sheet: Development in Lloyd

The Lloyd Urban Release Area (URA) is an area rezoned partially for residential purposes under the Wagga Wagga Local Environmental Plan 2010. The Lloyd URA is located on the south-western fringe of the Wagga Wagga urban area, and is bound roughly by the red line on Figure 1 below.

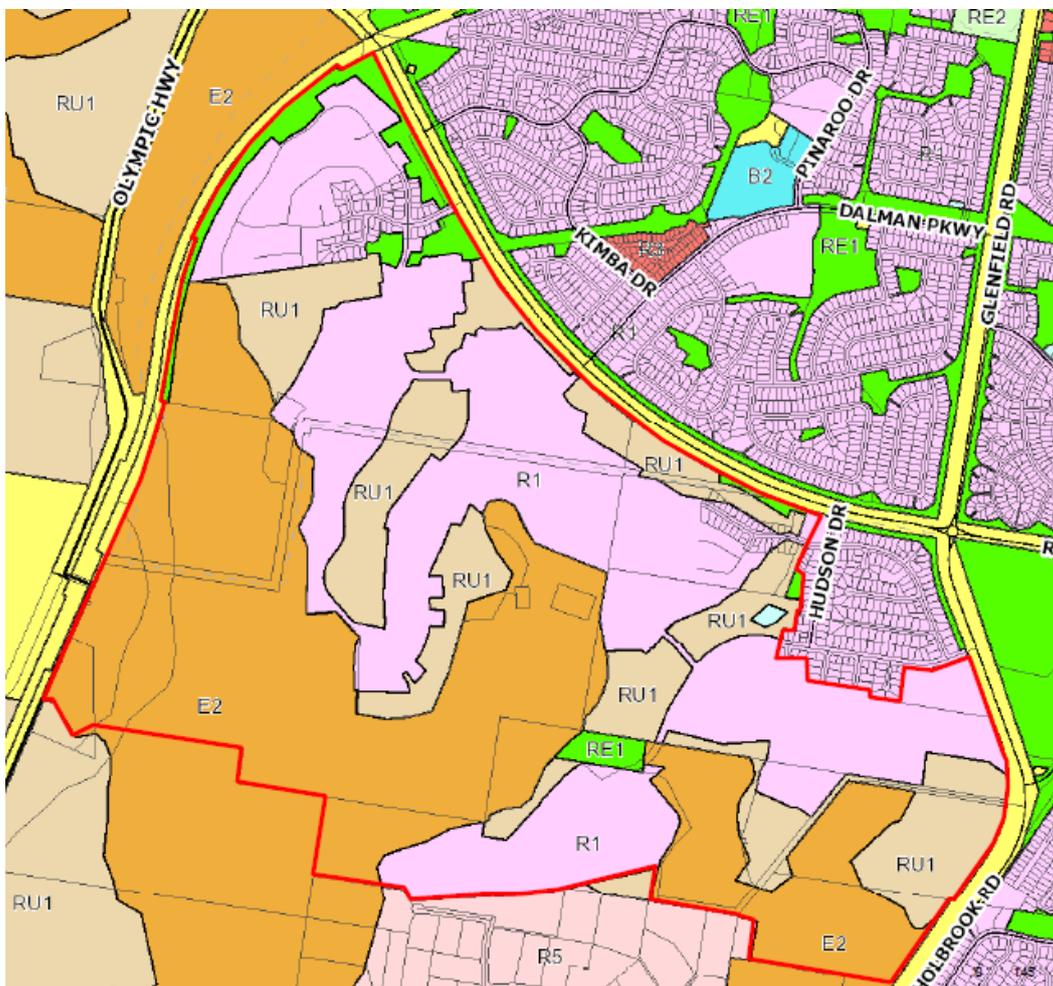


Figure 1 – Lloyd Urban Release Area.

The Lloyd URA is located in an area that is particularly important for managing urban salinity within the broader Wagga Wagga urban area. As such, the rezoning of the land for residential purposes was permitted only if certain special controls and measures were implemented to help minimize any impacts on the areas role in managing urban salinity.

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What is urban salinity?

Salinity is the accumulation of salt in the upper layer of soil brought to the surface by a rising watertable (i.e. the upper surface of groundwater below which layers of rock, sand and gravel are saturated with water). The salts occurring naturally in the soil are deposited, in concentration, in the upper layer as the groundwater passes through, reaches the top and is evaporated.

Increased water into the soil in hilly areas (i.e. the upper catchment or **recharge area**) increases salinity in downslope areas (i.e. the lower catchment or **discharge area**). The additional water that infiltrates into the soil runs downslope to the low lying discharge areas and adds to the volume of water in the ground. As this increases, the watertable rises and eventually reaches the surface depositing salt.

Urban salinity is the term that is used when salinity occurs in a built up area. Urban activity and development significantly increases the infiltration of water in recharge areas. Sources of this water include watering of gardens and lawns, increased runoff from paved surfaces and leaking underground pipes.

The Lloyd URA is located in a recharge area. Suburbs such as Glenfield are located in discharge areas.

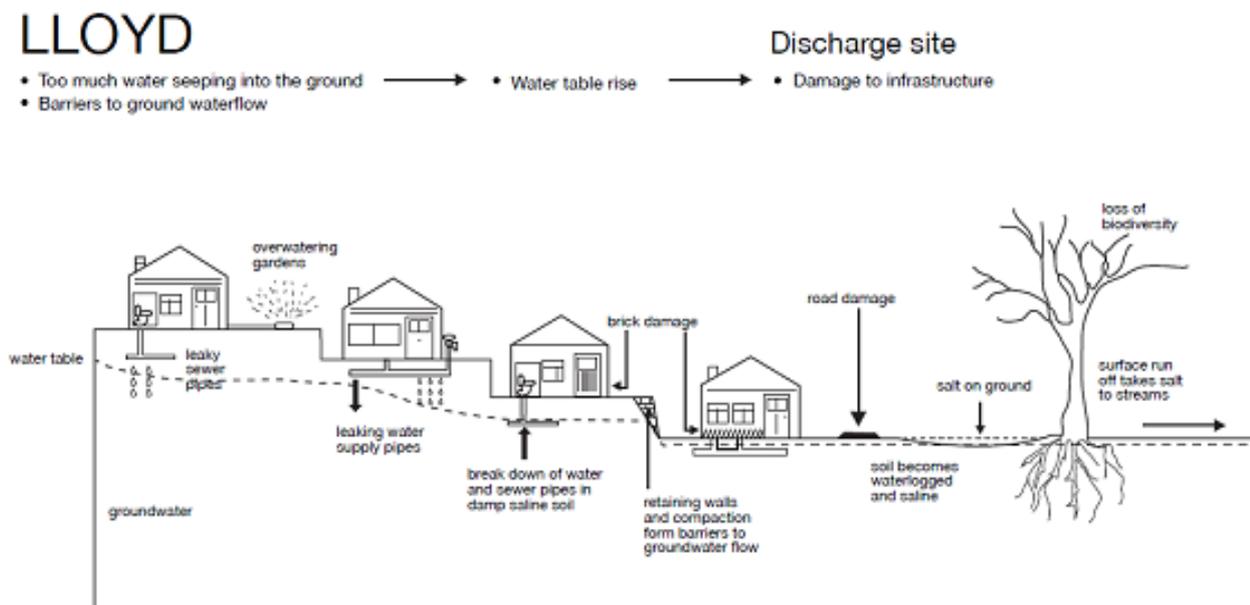


Figure 2 – Representation of Urban Salinity

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What are the impacts of urban salinity?

The impacts of urban salinity are mostly felt in the low lying discharge areas where the groundwater rises to the surface, far away from where the extra water is being added to the soil in the higher recharge areas. In Wagga Wagga, the impacts of salinity are unlikely to be felt in Lloyd, but the way land is used in Lloyd will determine if other areas such as Glenfield suffer adverse effects. The types of impacts likely to be experienced in these areas include:

- Decreased life span of some bricks and concrete structures (i.e. damage to houses and buildings)
- Damage to roads such as potholes and cracks
- Waterlogging of soil
- Lawns and plants die. In “hot spots”, bare salt scalds develop and nothing grows



Figure 3 – Impacts of salinity on brickwork

What are the special requirements in Lloyd?

Council, in order to allow for the subdivision of the land and the release of additional residential lots in the city, was able to grant approval for the subdivision subject to a number of conditions. Complying with these conditions requires the property owner to think carefully about the design of the lot as a whole (i.e. integrating the house with gardens, landscaping structures, pools and shedding). For example, a large house

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with generous patios/verandahs and a swimming pool may already meet the 80:20 ratio (see explanation below) and not require further conditions to be met.

To help reduce the risk of negative salinity impacts occurring in discharge areas within the city, such as Glenfield, it is important to minimise the amount of water entering the soil in recharge areas of Lloyd. To achieve this there are a number of special requirements that apply to developments in Lloyd that do not apply elsewhere in Wagga Wagga. These include:

- Ensuring that a minimum of 80% of the suburb is covered by impervious surfaces (i.e. a surface through which water cannot penetrate). For each individual allotment there is a special plan which indicates the minimum area of the site which must be impervious and includes the road immediately adjacent to the allotment (to the centerline). Examples of impervious surfaces include:
 - Roofs of dwellings and sheds drained to stormwater.
 - Driveways and concrete areas drained to stormwater.
 - Gardens with a concrete or compacted base (compacted to permeability no greater than 1×10^{-7} m/s) and drained to stormwater.
- Prohibition on the use of grey water reuse systems (grey water originates from piped town water and therefore is in addition to natural rainfall over the Lloyd area)
- Requirement for all lawns, gardens and landscaping to be in maintained throughout their life in accordance with the landscaping and garden design guidelines approved for each stage of the subdivision

In addition to this nature strips have been treated by the developer to be impervious. It is the property owner's responsibility to maintain this impermeability.

At Occupation Certificate stage, the building surveyor will be looking to ensure that the 80% impervious to 20% pervious ratio is in place over the allotment. This will require the provision of an impermeability certificate for any areas of compacted gravel (a certificate from an appropriately qualified person such as an engineer that demonstrates that the compaction of the soil reaches the minimum standards required by Council of a permeability no greater than 1×10^{-7} m/s) and drainage details of impervious areas.

What else can people do to reduce their impact in Lloyd?

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Beyond the special requirements of Council, people can adjust their habits to reduce the amount of water enter the ground at Lloyd. This means planting water wise gardens and reducing the amount of watering carried out on lawn and garden areas.

Where can I get more information?

More information on salinity, and development in Lloyd, can be found on the Lloyd Section of the Wagga Wagga City Council website or by phoning Council on 1300 292 442.