

Land Use Development
Mundaring-Waste Management
Proposed Residential Development,
Stoneville Road

Glen Retreat

Report and Recommendations
of the
Environmental Protection Authority

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LAND USE DEVELOPMENT MUNDARING -
WASTE MANAGEMENT
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GLEN RETREAT

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1. BACKGROUND

The Environmental Protection Authority has an objective to ensure that a minimum of nutrients, and other contaminants, produced as a result of human settlements, enter the Swan-Canning estuarine system. Major sources of nutrients include groundwater and stormwater drainage polluted by septic tank effluent and synthetic and animal fertilisers.

The significance of drainage from the hills catchment in terms of nutrient inputs to the Swan Canning estuarine system has not been fully investigated, although data collected to date by the Waterways Commission suggest a marked decline in the water quality of streams within catchment areas containing unsewered development.

In regard to the Mundaring municipal district, the Environmental Protection Authority determined last year that the issue of waste management for a group of projects required assessment under Part IV of the Environmental Protection Act, 1986, and that the level of assessment would be Notice of Intent. Specifically, the Authority identified three proposed developments where waste management was a major issue:

- . Mundaring Primary School, Pt Loc 1699 Stevens Street;
- . redevelopment of the town centre; and
- . residential development, Pt Loc 1699 Stoneville Road.

In June last year, the Environmental Protection Authority reported in Bulletin 333 on the proposed primary school in Stevens Street. The Authority concluded that conventional on-site effluent disposal would be unacceptable, and recommended that, until reticulated sewerage became available, effluent be contained in a system of appropriately designed and located sealed holding tanks which would be pumped out regularly. In September last year, the Authority reported on redevelopment of the town centre by Mair and Company, and concluded that conventional on-site effluent disposal would be unacceptable.

This report addresses the proposal to develop Pt Loc 1699 for residential purposes. A report detailing the proposal has been submitted to the Authority on behalf of the proponent, Glen Retreat, and the level of information provided was determined to be adequate for assessment by the Authority.

2. PROPOSAL

The land proposed for residential development comprises Pt Location 1699 owned by Glen Retreat having an area of approximately 46 ha. An area of 4 ha will be excluded and developed for the new Mundaring Primary School, while an equivalent area is to be excised from an adjoining reserve and added to the residential development.

The land is located on the Darling Plateau in the catchment of Jane Brook and Bugle Tree Creek. The soils vary from sandy gravels in the lower areas to gravelly sand with caprock and small boulders in the upland areas. The land is generally well vegetated with jarrah-marri bushland, and a portion is cleared to pasture. Results of investigations into the site's characteristics have been provided to the Authority.

It is proposed to develop 150 residential lots ranging in size from 2000 m² to 3475 m². All urban services will be supplied to the development, with the exception of reticulated sewerage. It is proposed that effluent disposal will be by septic tank/leach drain systems with alternating leach drains. On lots in the upland areas containing caprock, installation may be difficult and it is proposed that careful inspection by the Council Health Inspectors will ensure correct placement of effluent disposal systems.

In regard to stormwater drainage, it is proposed that drainage from road pavements be collected and, following removal of silts, discharged along natural drainage lines or water courses to Bugle Tree Creek and a Jane Brook tributary.

The proponent expects that large areas of native vegetation will be retained following development, with comparatively small areas of garden and lawn.

3. ENVIRONMENTAL ASSESSMENT

The Environmental Protection Authority's objective with regard to effluent disposal is that all urban areas are connected to reticulated sewerage. However, achieving this objective would require substantial financial commitments for new headworks and backlog connection, and the Authority recognises the need for compromise.

With the above in mind, the Environmental Protection Authority considers residential development in the Darling Ranges in the metropolitan region should be connected to reticulated sewerage unless:

- . lot sizes are greater than or equal to 4000 m²;
- . lot sizes are between 2000 - 4000 m², the method of on-site effluent disposal is not conventional (eg alternating leach drains), and environmental acceptability can be demonstrated (depend on landform, soil type and permeability, vegetation, associated land uses etc).

Further, the Authority considers acceptable environmental conditions include:

- . at least 2 metres vertical separation between the base of the leach drain and the highest known groundwater level or bedrock;
- . at least 100 metres horizontal separation between the disposal system and the nearest water body.

The Environmental Protection Authority has assessed the proposal for on-site effluent disposal associated with residential development on Pt Loc 1699 in the context of the above criteria. The Authority has examined the information and commitments by the proponent and concluded that on-site effluent disposal would be acceptable providing the final subdivision design and location of building envelopes is such that each lot provides an environmentally acceptable location for a septic tank/leach drain system.

Further, the Authority considers removal of native vegetation should be minimised. Specifically, clearing should only occur within appropriately located building envelopes and for the provision of services and roads.

In regard to stormwater drainage, the Environmental Protection Authority is opposed to the direct discharge of any waters to Bugle Tree Creek or the Jane Brook tributary. Given the good drainage characteristics of the site, all stormwater drainage, including road pavement drainage, should be disposed of on-site, except in extreme storm events.

RECOMMENDATION 1

The Environmental Protection Authority would prefer that the proposed residential development on Pt Loc 1699 Stevens Street Mundaring be connected to reticulated sewerage. As a less desirable option, the Environmental Protection Authority is prepared to recognise that on-site effluent disposal may be acceptable subject to the commitments made by the proponent in the Notice of Intent and the Recommendations contained in this Report.

RECOMMENDATION 2

The Environmental Protection Authority recommends that the final subdivision design and location of building envelopes should provide an environmentally acceptable location for the installation of each septic tank/leach drain system, to the satisfaction of the Shire of Mundaring.

RECOMMENDATION 3

The Environmental Protection Authority recommends that statutory provision be made in the Shire of Mundaring's Town Planning Scheme to ensure no clearing occurs outside the appropriately located building envelopes.

RECOMMENDATION 4

The Environmental Protection Authority recommends that the stormwater drainage system should be designed to contain on-site drainage from a one in one hundred year storm event, to the satisfaction of Shire of Mundaring.

4. CONCLUSION

Upon assessment of the Glen Retreat proposal, the Environmental Protection Authority has concluded that, while connection to reticulated sewerage is preferred, on-site effluent disposal associated with the residential development would be environmentally acceptable subject to development occurring according to the commitments made by the proponent and the Environmental Protection Authority's recommendations.

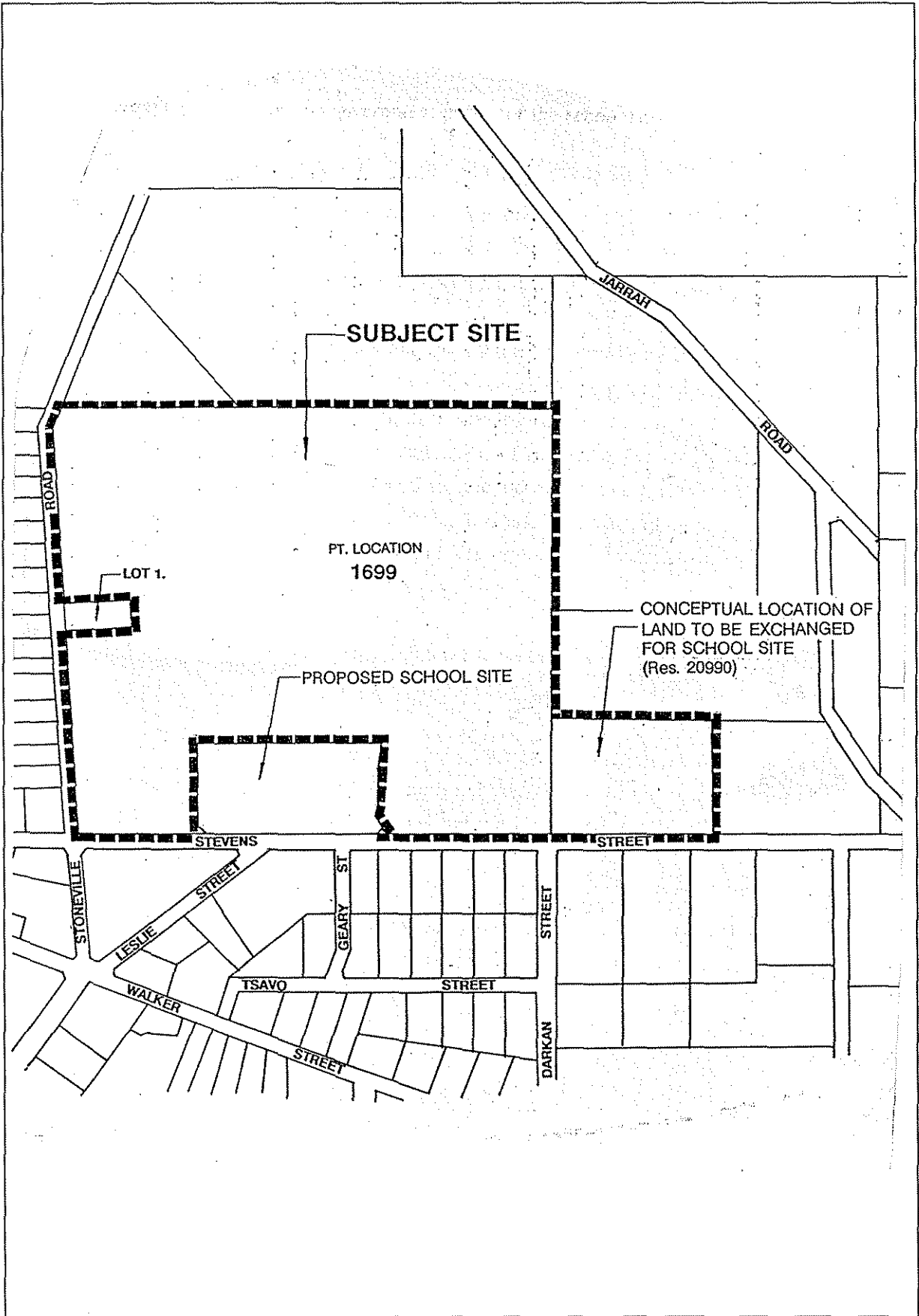


Figure 1: Location of proposed residential development.