SECTION 12.1 HERETAUNGA PLAINS UNCONFINED AQUIFER RESOURCE MANAGEMENT UNIT

12.1.1 INTRODUCTION

The Heretaunga Plains Unconfined Aquifer Resource Management Unit (RMU) protects the unconfined portion of the Heretaunga Plains groundwater supply. The aquifer system exists at a depth between 200m and 250m and extends some 20km out into Hawke Bay. The aquifer is unconfined where there is no impermeable surface or layer to prevent or minimise the downward flow of liquids or other water borne elements to the ground water resource. A large proportion of the water which enters the unconfined aquifer comes from the bed of the Ngaruroro River between Roys Hill and Fernhill. The extent of the area is indicated on the Planning Maps.

The Heretaunga Plains unconfined aquifer is the main groundwater resource for people living on and adjacent to Heretaunga Plains and provides these communities with 85% of their water requirements. The water drawn off the aquifer is used for public water supply, irrigation and industrial uses and therefore demand for water is high, especially during drier periods when agricultural and horticultural production relies solely upon the underground supply. The quality and quantity of the unconfined aquifer is potentially threatened by overuse, pollution from existing land use activities, activities whose effects could have an adverse effect on the resource such as industry, aggregate extraction, the cumulative effect of agrichemical applications and on-site sewerage treatment systems associated with residential buildings.

The maintenance of water quality and quantity is also important to local Iwi. Clean water is important in relation to the provision of mahinga kai and in maintaining the life-force of water which incorporates physical and spiritual values. Contamination or mixing of different bodies of water adversely affects these values.

Safeguarding the life-supporting capacity of water is one of the fundamental principles of the Resource Management Act. The effects of land use activities occurring on land overlying the unconfined aquifer will therefore need to be controlled in order to protect the long term sustainability of the water resource, which is vital to the social and economic well being and safety of the District's community.

12.1.2 RESOURCE MANAGEMENT ISSUES

- ***The Heretaunga Plains unconfined aquifer is a significant natural resource in the District which is vital to the sustainable management of the Heretaunga Plains and the social, economic and cultural well being of the Hawke's Bay Region.***

  It is estimated that groundwater provides about 85% of all the water used for domestic, horticultural, viticultural, agricultural and industrial water requirements for the people living on and adjacent to the Heretaunga Plains. Horticultural and farming activities are seasonally dependent on uncontaminated and plentiful groundwater supplies. The production of crops on the Heretaunga Plains area constitutes in excess of 40% of the total New Zealand harvest. It is vital therefore that the long term quality and quantity of the resource is protected for future generations.

- ***The effects of land use activities can lead to contamination of the Heretaunga Plains unconfined aquifer and adversely affect its current and future life supporting capacity.***

  Groundwater in the Heretaunga Plains Unconfined Aquifer is vulnerable to contamination from the effects of activities on the surface. This is because there is no impermeable surface sediment which would prevent or minimise the downward flow of contaminants. The water quality of the unconfined aquifer is at most risk from the effects of activities on the overlying land which involve on-site wastewater disposal, or the use or storage of chemicals, fuels or fertilisers. These effects can include the contamination of the water resource through accidental spills or leaching, or through the inappropriate application of chemicals or fertilisers to the land. The water resource is also potentially at risk from nitrogen contamination associated with the leaching of organic wastes into the groundwater from stock grazing on the land.

  Land adjacent to Omahu Road is zoned for industry and the presence of any materials and processes used in these industries also pose a direct risk of contamination. The Council needs to identify and control those elements, processes or activities whose effects could potentially contaminate the unconfined aquifer.

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- ***Existing activities occur on some sites located over the Heretaunga Plains Unconfined Aquifer which are, or may be, contaminated by hazardous substances which pose a potential threat to the quality of the water resource.***

  Historically, some land use activities, that have been allowed to establish over the Heretaunga Plains Unconfined Aquifer, have used or stored chemicals, fuels or fertilisers which are a potential threat to its life supporting capacity. Their establishment occurred at a time when little was known about the ground water systems of the Heretaunga Plains. These sites have the potential to contaminate the underground water resource and will, along with any other contaminated sites which become known to the Council, need to be monitored to ensure that leachates from their activities are not infiltrating and contaminating the water resource.

- ***Knowledge about the effects of land use activities on the Unconfined Aquifer is incomplete.***

  While the existence of the unconfined aquifer has been known for at least twenty years, information regarding the effects of land use activities on the quality and quantity of the resource is still being researched. This incomplete knowledge of effects makes it difficult to determine, without scientific justification, the level of contamination likely to be experienced from the effects of land use activities. Ongoing research is required to enable statutory bodies and the community to more fully understand the level of risk of land use activities on the unconfined aquifer, and accordingly monitor the District Plan's effectiveness in controlling the effects of activities. The District Plan may therefore need to be modified as more information becomes available.

12.1.3 OBJECTIVE

- *AQO1 To ensure that the life supporting capacity of the Heretaunga Plains Unconfined Aquifer Water Resource is not compromised by the effects of land use activities occurring above it.*

12.1.4 POLICIES

•AQP1 No material, chemical or substance that may threaten the life supporting capacity of the unconfined aquifer shall be allowed to be stored or used in a manner that will enable it to enter the unconfined aquifer.

Explanation

While there is limited knowledge of the range, quantity and interrelated effects of leachate material on the aquifer, the risk of contamination, should it occur, is likely to be significant. The District Plan will adopt a precautionary approach to the storage, use, and disposal of all materials in order to avoid the entry of any hazardous substance in to the aquifer.

•AQP2 Prohibit the use of substances whose effects have the potential to cause irrevocable damage to the Heretaunga Plains Unconfined Aquifer.

Explanation

Some activities utilise substances whose effects pose an unacceptable high risk to the water quality of the unconfined aquifer. These activities should not be allowed to locate on the land overlying the resource.

Activities such as timber treatment mills use toxic substances (such as Arsenic) in their processing. Accidental spillage and infiltration of these toxic substances (even in minute quantities) into the unconfined aquifer, could have disastrous effects on the health and safety of the community who rely on the water resource for drinking, industrial, horticultural, or other uses. As the infiltration of highly toxic compounds may adversely affect the life supporting capacity of the resource should spillage occur, Council, in conjunction with other agencies, will continue to identify materials, processes or activities which pose such a detrimental effect that would make mitigation impractical or ineffective, and accordingly should be prevented from establishing over the aquifer.

•AQP3 Activities that are undertaken over the Heretaunga Plains Unconfined Aquifer will be specifically evaluated to ensure that appropriate mitigation measures are put in place to protect the aquifer from any adverse effects of these activities.

Explanation

The aquifer is susceptible to the infiltration of a wide range of substances used by various activities. These can occur, either as a result of system failure, or as a result of poor management. Providing the risks associated with these can be avoided or effectively mitigated, activities occurring on land overlying the aquifer can be accommodated.

•AQP4 Control the use and storage of chemicals, organic matter and fertilisers on land overlying the Heretaunga Plains Unconfined Aquifer to protect against the risk of contamination of the ground water from inappropriate management practices and from accidental spills.

Explanation

Most activities occurring in the Plains Zone use agrichemicals to maintain high levels of primary production and to control pests in crops. In addition, animal waste can also generate high nutrient output which may affect the underlying water resource. The District Plan will enable Council to regulate chemical application to the level where the adverse effects of such chemicals on the groundwater resource can be avoided.

- **AQP5 Monitor land use activities occurring on land overlying the Heretaunga Plains Unconfined Aquifer to protect the resource from contaminants.**

  Explanation

  Substances utilised by new and existing land use activities overlying the aquifer, pose a potential threat of contamination. Activities and their effects will be monitored by Council to ensure that appropriate land use practices are employed to ensure compliance with the District Plan.

- **AQP6 The District Plan will be reviewed and updated as improved information on the impact of chemicals and other substances on the aquifer become available, to enable controls to be targeted in high risk areas or activities.**

  Explanation

  There is limited information available about the types and quantities of substances which are likely to be a threat to the Heretaunga Plains Aquifer resource. Council will support initiatives which endeavour to better define these elements, and the circumstances which will pose a threat to the unconfined aquifer, and will continue to review the provisions of the District Plan in order to allow maximum flexibility for land uses while still affording protection to the unconfined aquifer.

12.1.5 METHODS

These Objectives and Policies will be implemented through the following Methods.

- **Hastings District Plan**

  Rules In The Heretaunga Plains Unconfined Aquifer Resource Management Unit. The Unconfined Aquifer lies over other activity zones. Rules will be utilised to introduce additional Performance Standards to protect the water resource from the adverse effect of land use activities. Once the rules of the Heretaunga Plains Unconfined Aquifer have been complied with, the rules of the relevant Zone will apply.

  Rules for District Wide Activities may also be modified by the rules of the Heretaunga Plains Unconfined Aquifer before the rules of the DWA may apply.

- **Hawke's Bay Regional Policy Statement and Plans**

  The Hawke's Bay Regional Water Plan in particular adopts specific policies and rules to protect the water resource of the Unconfined Aquifer. The District Plan will ensure that Council does not adopt policies that are inconsistent with the Hawke's Bay Regional Policy Statement or Plans.

- **Land Information Memorandum**

  When Council is requested to supply a LIM relating to a site(s) overlying the Heretaunga Plains Unconfined Aquifer a statement will be included that the area is sensitive to groundwater contamination from the effects of activities and accordingly higher levels of environmental protection will be required in establishing activities which utilise substances which, if not managed correctly, have the potential to cause damage to this resource.

- **Industry Codes of Practice**

  In processing applications for resource consents, Council will give specific attention to the potential impact from the effects of any activity on the long term sustainability of the water resource. Relevant Industry Codes of Practice can be used for guidelines in assessing the ability of any proposed mitigation measure to safely protect this resource.

- **Research and Information**

  The Hastings District Council will work with statutory bodies to identify those elements, processes and effects of activities which pose a direct threat to the aquifer. As the wider community is able to define and target these effects more accurately, the Council will modify the provisions of the District Plan to reflect the improved knowledge about the nature of the aquifer and the threat posed to its long term sustainability.

- **Industrial Development Strategy**

  As part of the District Plan, the Council has rezoned additional industrial land in the Tomoana and Whakatu areas. The development of these areas will not threaten the Unconfined Aquifer, as they provide a planned alternative resource for activities whose effects cannot be avoided or mitigated should they be located on land over the unconfined aquifer.

- **Hastings District Council's Consolidated Bylaws 1995**

  Council will continue to enforce its bylaws to ensure that all trade waste generated in the Industrial, Commercial and Residential zones, and which has the potential to detrimentally affect the Unconfined Aquifer, is managed within the urban reticulation system.

- **Monitoring**

  The Hawke's Bay Regional Council undertakes monitoring of the Heretaunga Plains Unconfined Aquifer. In addition to monitoring conditions applying to land use consents the Hastings District Council will liaise with the Regional Council to ensure that the results of monitoring programmes are integrated into relevant policies and rules established by the Council for activities occurring over the unconfined aquifer.

12.1.6 ANTICIPATED OUTCOMES

It is anticipated that the following specific outcomes will be achieved.

- The life supporting capacity of the Heretaunga Plains Unconfined Aquifer will be safeguarded.

- Further knowledge about the Heretaunga Plains Unconfined Aquifer and the effects which various chemicals and substances can have on it will be gained.

12.1.7 RULES

The rules of the Heretaunga Plains Unconfined Aquifer Resource Management Unit shall be complied with first, then the relevant underlying zone or District Wide Activity rules shall apply. Activities shall be assessed as a particular status under the rules of this RMU (e.g. permitted or restricted discretionary) before they can be assessed and the relevant Rules and Standard(s) and Terms of the underlying Zoning or District Wide Activity apply.

12.1.7.1 PERMITTED ACTIVITY

The following activities shall be Permitted

- ANY ACTIVITY WHICH COMPLIES WITH THE PERFORMANCE STANDARDS AND TERMS OF THIS RMU IN SECTION 12.1.8.

12.1.7.2 RESTRICTED DISCRETIONARY ACTIVITIES

(a) For the following activities the Council will restrict the exercise of its discretion to the ability of the activity to achieve the particular outcome(s) of the Performance Standard(s) and Term(s) which it fails to meet, and the ability of the activity to meet the remaining Performance Standards and Terms in Section 12.1.8. Activities will be assessed and conditions may be imposed in relation to the Assessment Criteria specified in Section 12.1.9.

- ANY ACTIVITY PERMITTED IN THIS RMU BUT NOT MEETING ONE OR MORE OF THE PERFORMANCE STANDARDS IN SECTION 12.1.8.

(b) Applications may be considered without the need to obtain the written approval of affected persons and may be considered without notification. Activities will be assessed and conditions may be imposed in relation to those matters identified in Section 12.1.9 that Council has restricted its discretion over.

12.1.7.3 PROHIBITED ACTIVITIES

The following activities shall be prohibited.

- THE STORAGE, HANDLING OR USE OF THE FOLLOWING SUBSTANCES:

SUBSTANCE	NOTATION
Arsenic	As

12.1.8 PERFORMANCE STANDARDS AND TERMS

The following Performance Standards and Terms shall apply to all Permitted and Restricted Discretionary Activities. These Performance Standards and Terms are additional to and not in substitution for discharge consents, for the discharge of water or contaminants (including nitrogen loading either through direct application or from animal wastes) onto land, which may be required from the Hawke's Bay Regional Council.

12.1.8.1 ORGANIC MATTER, CHEMICAL, FERTILISER AND FUEL HANDLING AND/OR STORAGE

All organic matter, chemicals, fertilisers and fuels (including fuel operated machinery and vehicles) shall be stored and/or handled on areas which have impervious surfaces and where facilities are provided to prevent contaminants from being washed or spilled into natural ground or entering any piped stormwater systems or stormwater ground soakage

Outcome
The quality of the ground water in the Unconfined Aquifer will be protected from the accidental spillage of chemicals, fuels and fertilisers on to the land.

12.1.8.2 STORMWATER DISPOSAL

Stormwater disposal shall be to a suitable soakage mechanism or a reticulated system approved by Council. Discharge of stormwater to public roads or road reserve requires the prior consent of Council.

Outcome
The water in the unconfined aquifer will be protected from contaminants that may be carried in stormwater.

12.1.9 ASSESSMENT CRITERIA – RESTRICTED DISCRETIONARY ACTIVITIES

Explanation:

For Restricted Discretionary Activities, the following identify those matters which Council has restricted its discretion over in assessing resource consent applications.

(a) The nature and quantity of chemicals and/or substances to be stored or provided on the site and the methods proposed for storing and processing those substances.

(b) The methods to be employed to avoid, remedy or mitigate the effects of accidental discharges to ground including bunding, storage, warning systems and emergency procedures determined by the scale of the activity.

(c) The availability of a fully reticulated stormwater and sewerage disposal system or on site treatment systems for the treatment of contaminated waste water or stormwater from buildings and yards.

(d) The method of disposal of both solid and liquid waste and the volume of waste disposal.

(e) The duration of any consent given.

(f) Compliance and risk monitoring programmes.

(g) Financial contributions and/or bonds.

(h) The scale and intensity of use of the activity.

(i) The record of compliance and acceptable risk management of any existing activity where expansion of the activity is proposed.

(j) The actual and potential effects of any accidental spillage or discharge on the receiving environment.

(k) The extent of public and tangata whenua interest in the activity and/or its effects.

12.1.10 INFORMATION REQUIREMENTS

Any application for a resource consent for a Restricted Discretionary Activity identified in Sections 12.1.7. shall include a management plan describing the scope and nature of the activity (including measures to control its effects) and an assessment of the effects of the activity. Those matters to be included with the application are set out below:

Information to be provided with applications shall include the following:

(a) The nature and volume of all chemicals to be used on the site, including the provisions to be made for their storage, handling or disposal.

(b) A risk assessment which identifies procedures and methods for risk minimisation, emergency response, containment of spillage and site clean up in the event of an accident.

(c) The design and capacity of any bunding proposed. In general a bunded area should have sufficient capacity to contain all liquid storage on the site in the event of an accidental spill. In the case of industrial activities a bunded area should also have sufficient capacity to contain waste water generated during fire fighting.

(d) Information regarding the actual or potential cumulative and synergistic effects of organic matter chemicals and substances stored or processed on the site.

(e) The methods of disposal of solid and liquid waste to avoid potential contamination, particularly in the absence of any reticulated stormwater or sewerage system.

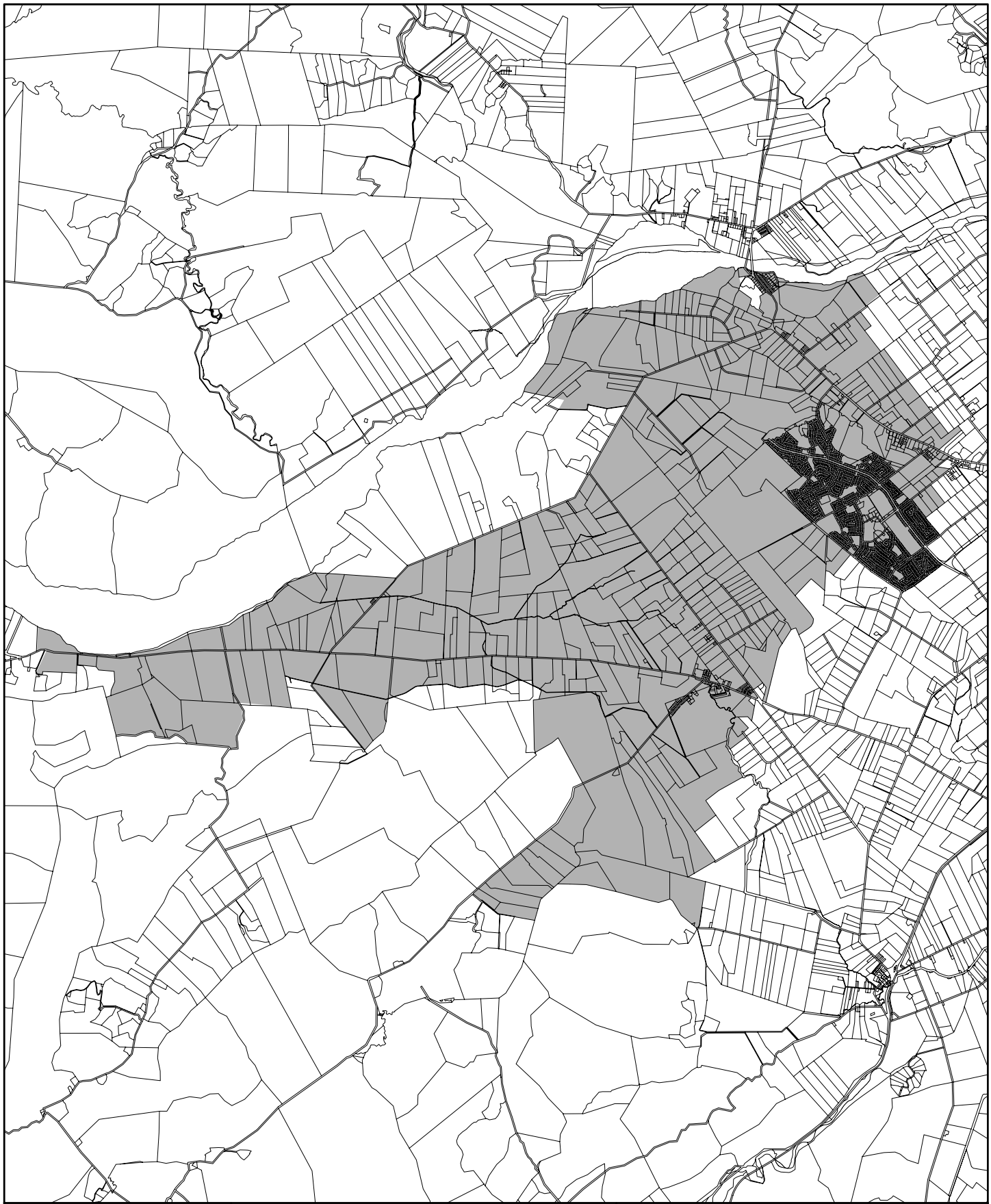
(f) The potential for accidental spillage or discharge of contaminants into the ground or stormwater channels from outside work areas, storage areas and industrial yards.

(g) The extent and frequency of any monitoring programme proposed.

(h) The environmental management and quality assurance practices proposed or likely to be employed by applicants.

(i) Details of resource consents required from the Hawke's Bay Regional Council in respect of the activity to which the application relates, and whether or not such consents have been applied for.

HERETAUNGA PLAINS UNCONFINED AQUIFER



Hastings District Council
G.I.S. Section

Grid: New Zealand Map Grid
Height Datum: Mean Sea Level
Coordinates in Metres
Geodetic Datum 1949

Scale 1 : 85000

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