7.00 - SOILS

7.01 SOIL TYPE/CHARACTERISTICS

7.01.1 Receiving Environment

The site for the proposed treatment works at Marshmeadows has been reclaimed from the original course of the river/estuary. The site is currently used for grazing and silage and has not been zoned for any specific purpose in the New Ross Development Plan.

All of the low lying Marshmeadows area is part of the flood plain of the Barrow. A flood embankment and drainage system with sluice gates was constructed in the past to minimize flooding of this area.

A preliminary site investigation was conducted at the Marshmeadows site in the summer of 1991 by Westmeath County Council. Boreholes, trial holes and probes were drilled and excavated. In general, the ground consists of upper organic silts over estuarine sands over gravel. Some peat was encountered. The soil is of poor grazing quality and has no flora or fauna of importance. Dr. Eric Farrell of Trinity College, Dublin has assessed the results of the preliminary site investigation. His assessment is reproduced in full at Appendix E.

7.01.2 Characteristics of the Proposal

For the indicative design prepared for the EIS, imported fill at depths between 2.5m to 4m will be required at the proposed site in order to bring the general level of the site up to 4.8mod. Piles bearing on the gravels underlying the site will support the structures associated with the development. Anti-slip measures could be required in order to ensure the stability of the fill volume.

The sludge generated in the plant will be transported to the treatment plant at Wexford and where it will be treated and subsequently spread on agricultural land.

7.01.3 Potential Impact of the Proposal

Construction impacts involve the importation of fill material and constructing earthen banks and berms after completion of the works.

The proposed land take for the works is approximately 3.029 hectares (7.485 acres) of poor quality

agricultural land. Approximately 150,000m^3 of fill material will need to be imported to raise the level of the site.

7.01.4 Mitigation Measures

Measures may be required to ensure the stability of the fill embankment. This can be achieved by placing the fill well in advance, thus allowing all primary settlement to take place before construction begins or by constructing berms around the edge of the filling.

7.01.5 Predicted Impact of the Proposal

There is expected to be significant ground settlement arising from the filling operation.

Following on from this however, it is predicted that the impact of the proposed sewage treatment works on the soil, on the site will not be significant.

The spreading of sludge will have no negative impact on the soil in the area of the treatment plant as it will be transported to Wexford for treatment and reuse.

7.01.6 Monitoring

No monitoring of the soil on site will be required.

7.01.7 Reinstatement

Reinstatement of the topsoil on the site will be carried out as part of the landscaping of the site.

7.02 FOUNDATIONS

7.02.1 Receiving Environment

A detailed ground investigation assessment has been conducted at the Marshmeadows site by Dr. Eric Farrell of Trinity College, Dublin and this is presented in Appendix E. This report indicates that, with the implementation of the filling operation, the associated ground improvement measures and the construction of a piled foundation system, the conditions can be made suitable for the installation of the proposed works.

7.02.2 Characteristics of the Proposal

It is likely that a piled foundation system will be used to support the structures associated with the works. The placing and compaction of the fill material and the driving of piles may cause minor

vibrations.

7.02.3 Potential Impact of the Proposal

Significant quantities of fill material will have to be imported to accommodate the siting of the plant at the Marshmeadows site. This will necessitate an increase in construction traffic to and from the site for the initial period of construction. The mitigation of the associated impact has been previously discussed in Section 6.1.

7.02.4 Mitigation Measures

No mitigation measures are deemed to be required other than those outlined in Section 6.1.

Predicted Impact of the Proposal

The construction of foundations for the plant buildings will not have any long term negative effects on the environment.

Monitoring

Monitoring of any adjacent structures can be carried out to ensure that there will be no potentially damaging vibrations to the structures during the filing and piling operations.

Reinstatement

No reinstatement will be required.

8.00 - Ecological Impacts

8.01 LAND BASED HABITATS

A study of the ecology of the proposed treatment works site was commissioned and carried out under the supervision of Prof. J.K.Collins of University College, Cork. A report summarizing the findings of this study and describing possible impacts of the proposed development on the ecology was prepared by Prof. Collins and Richard Mundy and is reproduced in full at Appendix B. The flora and habitats in the Marshmeadows site and the impact of the proposed wastewater treatment plant are discussed below.

8.01.1 Receiving Environment

The Marshmeadows site is a man-made habitat having been reclaimed from the Barrow estuary. The flora is essentially poor quality pasture with some hedges and scrub. The flora on the site is not rare or even uncommon comprising mainly grasses, reeds and hawthorn. The site provides a feeding area for a number of common bird species however it is unlikely that any species actually breed on the site as the site is used for grazing and silage. The ecological value of the site is largely limited to the ditches, and these ditches are believed to be used by a number of bird species and by otters. Use of the site by otters was indicated by the presence of spraint along the western ditch.

8.01.2 Characteristics of the Proposal

The existing site up to the western boundary ditch will be filled by imported granular material at between 2m and 3m to bring the general level of the site above high tide mark. The filling will be tapered to form a sloping embankment at the edge of the fill area generally in accordance with the recommendations of the geotechnical report. Further enabling works prior to actual construction will likely require the provision of a number of end bearing piles under each of the treatment works structures and buildings, and these may be up to 25m in depth. Construction of the treatment works buildings and landscaping and re-planting will be as described in earlier sections of this report.

8.01.3 Potential Impact of the Environment

Much of the vegetation currently to be found on the site will be covered during the filling operation. The Flora and Fauna study report concludes that the ecological value of the site is largely limited to the ditches as these provide habitats for dragonflies and aquatic invertebrates but most importantly are

used by otters. The otter is listed under annexes II (Priority Species) and IV of the EU habitats directive to which Ireland is a signatory. As an Annex II priority species, the otter is classified as endangered and under the provisions of the directive member states are required to take the requisite measures to establish a strict protection for such species in their natural range and to prohibit deterioration of breeding sites and resting places.

8.01.4 Mitigation Measures

Owing to the fact that the indigenous flora are neither rare or even uncommon, minimal mitigation measures are required in this respect. The use of the western boundary of the site by otters requires that mitigation measures are provided to minimize the impact of the proposal. The mitigation measures recommended in the Flora and Fauna Study report have been reproduced below as follows.

The quality of the ditches bordering the site, particularly to the south and west should be maintained. A number of measures could be implemented to do this as stated below.

- The flow of the ditches should be uninterrupted, hence dumping of spoil, hard-core, topsoil etc into the ditches should be avoided.
- The banks of the ditches should not be modified (for example by canalization) thus ensuring access for otters
- Discharges of organic matter and other pollutants into the ditches should be avoided, both during the construction phase and during the on-going operation of the plant
- Direct runoff into the ditches from the road (which may be contaminated with oil) could be avoided by appropriate cambering and the installation of drains.
- If the new access road is heavily used or used at night, underpasses and fencing for otters could be installed at appropriate points to reduce the risk of road casualties.
- The trees and small shrubs along the riverbank should be retained where possible and the undisturbed nature of the riverbank should also be maintained if possible

8.01.5 Predicted Impact of the Proposal

The comprehensive measures proposed above to conserve the otter habitat will form part of the design brief for the Contractor for the design, construction and operation of the works. With such

measures in place, the longer term impact of the proposal is negligible. However, any existing habitats which are disturbed by construction will be expected to regenerate elsewhere on the site, thus there will be no-long term adverse effects on the environment. Any existing hedgerows which are removed during construction will be replanted as part of the landscaping process and the existing hedgerow nesting birds will be expected to return.

8.01.6 Monitoring

Monitoring of the regenerated hedgerows and vegetation areas should be performed to ensure that they are adequate and conducive to the return of the original wildlife.

8.01.7 Reinstatement

Replanting of previously existing hedgerows with native species such as gorse, hawthorn etc., would enhance the visual aspect of the development and also improve its value as a site for wildlife.

8.02 ESTUARINE HABITATS

8.02.1 Receiving Environment

In addition to the fish, such as salmon, eels and sea trout, which live in and migrate through the Barrow estuary and river, the waters of the Barrow at New Ross provide a habitat for a wide variety of plankton and bottom dwelling marine fauna.

Plankton constitute the mass of microscopic organisms which live suspended in water and which may be divided into zooplankton (animal plankton) and phytoplankton (plant plankton, *e.g.* algae). Zooplankton are mostly herbivores feeding on phytoplankton.

There is little published data on the benthic (bottom dwelling) fauna for the estuary at New Ross. Because the river is mainly freshwater there is little or no shellfish in this area.

8.02.2 Characteristics of the Proposal

The treated effluent will be discharged through a outfall pipe, approximately 350m south of Marshmeadows jetty.

8.02.3 Potential Impact of the Proposal

The use of fauna species as biological indicator organisms is usually confined to macrofauna alone, although it is considered that meiofauna are more suitable for assessing the pollution status of

estuaries (Kennedy, 1986).

At the point of discharge of the treated effluent there is unlikely to be any detectable change is water quality beyond the effluent mixing zone. This contrasts with the existing situation where raw sewage plumes at higher tides and exposed sewage flows across the mudflats at low tides are clearly visible at a number of the larger outfalls from the town. Associated with these untreated discharges is deposition on the river bed. When such deposition occurs, it can lead to oxygen depletion and cause loss of benthic species. Suspended particles can also clog the tentacles, fine filters and gills of species such as molluscs and may lead to the localised removal of these species up to a few hundred metres from the point of discharge depending on the dispersion achieved and the pollution load. Likewise, the lamellate gills of many species are readily clogged by suspended solids and species which do not migrate can die.

The presence of artificial organic compounds including chlorinated hydrocarbons, polychlorinated biphenyls (PCB's), pesticides and polycyclic aromatic hydrocarbons (PAH's) can have a direct impact on aquatic organisms. PAH's can be present in domestic wastewater and have been the cause of sublethal and lethal carcinogenisis in aquatic organisms (Kennedy, 1986).

8.02.4 Mitigation Measures

In general, there should be no requirement for mitigation measures. If found to be necessary, stricter treatment requirements, namely nutrient removal, can be implemented at a future date.

8.02.5 Predicted Impact of the Proposal

The effects of suspended solids and the presence of artificial organic compounds in the discharged effluent have previously been explained. However in the case of New Ross the concentrations of PCB's, pesticides and PAH's in the effluent should not be such as to give rise to any such effects. Also, the suspended solids in the effluent will be less than 35mg/l at the point of discharge and sediment de-oxygenation is not likely to occur outside the initial mixing zone. Therefore the proposed location of the outfall diffuser should have no negative effects on the Barrow estuary or the fish and marine fauna which live and migrate through it.

With the installation of the treatment plant, there will generally be cleaner waters throughout the estuary due to the elimination of raw sewage discharges from New Ross town and the reduced solids concentrations in the treated effluent, except in the vicinity of the diffuser which constitutes a new outlet where none existed in the past.

However, the benefits to the entire harbour and estuary of a single outfall for treated sewage downstream of the town, compared to over fourteen existing raw sewage outfalls located at the harbour itself, far outweighs any deterioration in water quality at or near the proposed outfall.

8.02.6 Monitoring

Regular monitoring by the Local Authorities will enable adverse changes in conditions to be identified and assessed. Provision has been made within the plant for stricter treatment requirements should they be deemed necessary.

8.02.7 Reinstatement

No reinstatement will not be required.

8.03 NATURAL HERITAGE AREA AND SPECIAL AREAS OF CONSERVATION

8.03.1 Receiving Environment

There are two areas of special conservation within a mile of the town (Duchas, 1995). At Mountgarrett, north of New Ross a registered SAC has been identified on the basis of botanic life found on the steep banks of the Barrow, where a woodland of oak, ash and sycamore occurs with an acidic ground flora. The plant species saw wort (Serratula), which is recorded nowhere else in Ireland, grows close to the river on rocks that are occasionally flooded. Invertebrate and bird fauna seem relatively rich. This site is 4ha in size.

At Oaklands south of New Ross, all of the wooded area is also a designated SAC. Oak wood occurs here amongst conifers and it has a characteristic ground flora and fauna. The area has educational value and is 26ha in size.

The tidal reaches of the Barrow are a Special Area of Conservation between St. Mullins in County Carlow and Cheekpoint in Waterford Harbour. This stretch of water supports populations of Twaite Shad (a member of the herring family) which is a protected species under the EU Habitats Directive. Low dissolved oxygen is believed to be the main reason for the historic decline in Twaite Shad numbers. Other possibilities include gravel bed siltation, temperature changes in the water column and rising ammonia levels. As well as shad, there are various species of plants protected under the Flora Protection Order including one previously thought to be extinct in Ireland until discovered on the banks of the Barrow in 1990. The lower reaches of the Barrow are also noted as grounds for wintering wildfowl.

The locations of the SACs referred to above are shown at Figure 8.1.

8.03.2 Characteristics of the Proposal

The proposed works will be located a considerable distance from the nearest ASI at Oaklands wood.

8.03.3 Potential Impact of the Proposal

The development, given its distance form the nearest ASI, will not result in any negative impacts on any ASI's or on their important characteristics. There will be no atmospheric discharges which could adversely affect the vegetation at Oaklands.

8.03.4 Mitigation Measures

No mitigation measures should be required.

8.03.5 Predicted Impact of the Proposal

Due to the distance of the ASI's from the proposed site it is not envisaged that there will be any negative effects resulting from the treatment works

8.03.6 Monitoring

No monitoring with regard to ASI's will be required.

8.03.7 Reinstatement

No reinstatement will be required.

9.00 Socio-Economic Impacts

9.01 LAND USE

9.01.1 Receiving Environment

The proposed site is situated within a polder of limited agricultural value and has not been zoned for any specific development in the New Ross Development Plan (as shown in Figure 9.1). There is an oil and gas storage facility nearby and the land surrounding the site is either agricultural or industrial. The Planning Department of Wexford County Council have no objection to the use of the site for the proposed development.

9.01.2 Characteristics of the Proposal

Provision of the sewage treatment works to treat municipal effluent will create a use for the land at the Marshmeadows site. The site is 3.029 hectares (7.485 acres) in size.

9.01.3 Potential Impact of the Proposal

The siting of a wastewater treatment works can have a significant impact on future land use or development potential. Residential development can be less attractive to potential developers in areas in close proximity to a treatment works while existing residents with properties in proximity to a new treatment works are often hostile to such developments and frequently claim that its presence impacts negatively on the value of their property. These concerns are usually based on a perception that sewage treatment works are unsightly, generate unpleasant odours and constitute a hazard to human health. While such concerns may have been valid some years ago, modern standards of design, particularly in respect of odour treatment, landscaping, sludge handling and screening of the works, mean that there is now an increasing acceptance that such concerns are unfounded. As has been highlighted elsewhere in this report, residential developments in more developed countries frequently take place right upto the boundary of an existing works.

The provision of a treatment works will enhance the attractiveness of the New Ross area as a residential and tourist area, with the elimination of unsightly discharges of raw sewage at 14 points along the riverfront. Additionally the existence of a WWTW at New Ross should assist industrial development in the area, even where industry will be charged for using the facility. This is because

charges to industry for conveyance and treatment of industrial wastewaters will often be significantly less than those associated with the construction and operation of dedicated treatment facilities on site by the industries themselves. Similarly, the existence of a trunk sewer along the N25 (Wexford) road could promote development along this route due to the availability of wastewater treatment facilities.

Adjacent sites will be unattractive for development by sensitive food processing and pharmaceutical industries. It is noted however that the area in question is not zoned for such developments under the New Ross Development Plan of 1998.

9.01.4 Mitigation Measures

Proper design, construction and operation of the treatment works will minimize the potential negative impact of odour and noise from the works (see Sections 6.1 and 6.2). Sensitive screening and landscaping will shield the works from direct view in as far as practicably possible. The visual impact of the development and proposals for any mitigation measures are described at Chapter 11.

9.01.5 Predicted Impact of the Proposal

The provision of a wastewater treatment plant in the area will serve to encourage interest in the surrounding land by industrial developers. However a small number of industries may be deterred from operating here due to the sensitive nature of their products.

Residential developers may also decide not to invest in the area, though the industrial character of the area, the need to raise ground levels to avoid flooding and the possible routing of a major road to bypass the town through the area are perhaps more important factors than the nearby presence of a sewage treatment works.

9.01.6 Monitoring

No monitoring will be required.

9.01.7 Reinstatement

No reinstatement will be required.

9.02 FISHERIES

9.02.1 Receiving Environment

Although New Ross is not one of the top 50 fishing ports in Ireland, there is a significant fish

processing company in the town. These fish are caught off the coastline and brought to New Ross for processing. Salmon, sea trout and eels pass through the port and estuary on route to and from their breeding grounds which extend to the upper reaches of the Rivers Barrow and Nore. Although little fishing occurs at New Ross itself, drift netting prevails south of New Ross and snap netting north of the town. Upstream, at Graiguenamanagh, there is excellent coarse and game angling.

There is potential for a shellfish industry, including cockles and mussels, in the saline reaches of the estuary. But this is far enough downstream for the New Ross effluent discharges to have minimal effect on the potential development of the industry. The provision of a treatment plant can only help this situation.

9.02.2 Characteristics of the Proposal

Treated effluent from the works will be discharged through a submerged 600mm diameter outfall pipe. The treated effluent will have a BOD concentration of not greater than 25mg/l and SS concentration of 35mg/l before dilution, as a 95% ile. The outfall will be situated at a location and depth so as it will not interfere with shipping.

9.02.3 Potential Impact of the Proposal

The condition of the receiving waters in the Barrow estuary will be improved by the implementation of the New Ross Main Drainage Scheme and by the provision of the proposed wastewater treatment works. Other discharges upstream of New Ross Harbour will still influence the water quality in the Harbour.

The reduction of BOD levels in the estuary to values not greater than 4mg/l is designed to ensure that, in general, the passage of salmon and other migratory fish in the estuary is not hampered. Even though the EC Fisheries Directive 78/659/EEC gives a guideline figure of 3mg/l for BOD, there is no mandatory figure given in the Directive and experience in the Barrow river has indicated that this is unduly restrictive. Certain parts of the river have regularly recorded values of 5mg/l or greater, yet there has been no evidence to date of detrimental effects on the migration of fish through these reaches.

The acidity of the waters will not be affected to any significant degree by the treatment process.

9.02.4 Mitigation Measures

If required, further improvement in the quality of the effluent being discharged from the proposed

sewage treatment works could be obtained through the installation of some form of tertiary treatment.

9.02.5 Predicted Impact of the Proposal

There is no doubt that provision of a wastewater treatment works at New Ross treating sewage to secondary standard will lead to an improvement in the quality of the estuarine waters. With the elimination of gross solids and rags and a reduction in suspended solids in the harbour waters, the difference will be quite evident and this can only help to ensure fisheries are not adversely affected. A cleaner, less-polluted estuary and harbour can only be beneficial for fisheries in the area.

9.02.6 Monitoring

During operation of the works, routine monitoring of the estuarine waters by Kilkenny Regional Laboratory of the EPA will continue to provide data on river quality, in particular the levels of BOD, DO, nitrates, unionized ammonia and phosphates in the estuary to ensure they do not overly exceed the figures set out by the EC Fisheries Directive 78/659/EC.

9.02.7 Reinstatement

No reinstatement will be required

9.03 INDUSTRY

9.03.1 Receiving Environment

Most of the main industries in the Rosbercon area are either located on the Waterford Road (N25), or in Raheen Industrial Estate. On the Wexford side of New Ross there are industrially zoned areas in Butlersland and Marshmeadows. The 1999 Development Plan for New Ross is shown at Figure 9.1 above.

In Marshmeadows, the Barrow Storage Co. Ltd. stores gas and oil for various other firms including Burmah, Maxol, PMPA, Campus oil and Calor Kosangas. The Nolan Transport firm has a fleet of 60 trucks and has an office with approximately 15 employees adjacent to Oaklands quarry. Trucks are parked on a site adjoining the oil storage depot.

Celtic Seafoods Ltd., based in Butlersland beside the N25 road, processes herrings and this company employs a considerable number of people during peak season. The effluent arising from Celtic Seafoods Ltd. is discharged after primary treatment to the municipal sewerage system and into the Barrow. At the time of writing (August 2000) it is understood that this industry is to close.

Butlersland has recently been designated a medium industrial area and it is expected that most new industries will be based in Butlersland or Marshmeadows. An advance factory has been constructed in Butlersland and is awaiting tenants.

With the exception of the Albatross Fertiliser Plant and the Waterford Co-Op Mart, the remaining industrial and commercial premises within the Development Area produce effluent which is of a domestic standard.

The Albatross Fertilizer Plant is no longer involved in the manufacture of fertilizers but concentrates solely on the blending and distribution of a dry fertilizer product. The oil waste produced from the blending process is stored in interceptor tanks on site and drawn off for disposal by suction tankers when appropriate. Surface water runoff from the plant discharges to the River Barrow via a culvert on the Waterford Road.

Waterford Co-Op Marts uses large quantities of water for washing and cleaning purposes. A slurry pit on site stores all of the wash-waters together with all surface water runoff. This slurry pit is emptied on a regular basis by the Co-Op.

The remaining industries and commercial premises within the Development Area discharge their effluent either directly to a watercourse or to individual septic tanks.

The larger industries in the development area, together with the products they manufacture/distribute, are listed in Table 9.2.

Table No. 9.2 - Industries Within the Development Area

Premises	*Product*
Albatross Fertilisers	Agricultural Fertilisers
Barrow Valley Marine	Boat building/repair
IME/O'Brien Cement	Cement Distributors
I.A.W.S.	Agricultural products distributors
Stafford Fuels	Coal distributors
Stafford Shipping	Importer and distributor of animal foodstuffs *etc.*
Texaco Ireland Ltd.	Oil products distributor
Shell Ireland Ltd.	Oil products distributor
Irish Driver Harris Colt	Electric cables
Freedom Wear	Garment manufacturers
Celtic Seafoods	Fish processing
Nolan Transport	Transport firm
Barrow Storage Co.	Bulk oil and gas storage
Duncannon Fish Co.	Fish processing
Steele and Co. Ltd.	Steel fabrication and general engineering

Minch Norton	Malt but barley drying only, at New Ross

9.03.2 Characteristics of the Proposal

The proposed treatment works site at the Marshmeadows site is in an area which in itself is not zoned for development but is situated near sites in Marshmeadows and Butlersland which are zoned for industrial development in the New Ross Development Plan. The pumping station structure will be mostly underground with only the control buildings visible.

The Barrow Storage Company is adjacent to the proposed site. Celtic Seafoods is over 1800 metres from the quarry site. The Brandon House hotel at Southknock is over 1.3km from the site.

9.03.3 Potential Impact of the Proposal

Construction of the rising main and sewer from the Quay pumping station along the N25 road will facilitate future industrial or commercial development in the Marshmeadows/Southknock area.

There are no sensitive industries (*e.g.* food processing) within 1km of the works which may regard the potential risk from aerosols or odours as detrimental to their reputation or products.

There will be extra traffic using the entrance to the treatment works from the Campile road but this in only deemed significant during the construction period. Following commissioning of the works, the traffic generated would not be expected to be significantly greater than that generated at present.

9.03.4 Mitigation Measures

While the mitigation measures proposed by the specialists on noise and odour, Acoustic Associates and Envirocon respectively, are designed to minimize potential adverse impacts on nearby residences, their implementation will also minimize effects on any nearby industries, particularly the Barrow Storage Company.

9.03.5 Predicted Impact of the Proposal

The New Ross Development Plan has zoned areas in Marshmeadows and Butlersland for industrial development, while there is no doubt that the presence of the works in this area would be an incentive for any prospective industries, there are certain sensitive industries who would most likely not consider locating in this area, these include the biomedical industry (sterility requirements etc.) and sensitive food industries. However the absence of such a small number of industries will not hinder the growth and development of this area.

The works can only be beneficial to the area from an industrial development view point.

9.03.6 Monitoring

Monitoring should be carried out to ensure that the works is having no adverse effects on nearby industries and that the plant has the ability to handle both the quantity and content of the discharges coming from such industries under their trade discharge licence agreements with the local authority should they elect to connect to the public sewer.

Any negative impacts on industries will be checked by the mitigation measures put in place for the nearby residences but it is always prudent to monitor impacts from the point of view of the different affected sectors.

9.03.7 Reinstatement

No reinstatement will be required.

9.04 RESIDENTIAL AREAS

The public perception of wastewater treatment works is often that of an unsightly, malodorous site which attracts flies and vermin and presents a health hazard to nearby residents. The reality may be different but it is often difficult to persuade the public of this. The choice of sites for treatment works is therefore usually constrained by a desire to avoid residential areas. Residents may feel that the value of their property might be reduced. The Marshmeadows site is preferable to the other sites considered in this regard, which were closer to residential developments. It is because of this that noise and odour impact studies were carried out at the preferred site at Marshmeadows and also at the Oaklands Quarry site option.

9.04.1 Receiving Environment

The nearest residential dwelling is at a distance of 200m from the site boundary. The next closest dwellings are in the Riverview housing estate, some of which overlook the site from a distance of 900m.

9.04.2 Characteristics of the Proposal

The proposed sewage treatment works will, insofar as possible, be designed to shield public view.

All buildings will be constructed in good quality finishes. In addition, specially selected shrubs, trees and vegetation will assist in giving a pleasing appearance.

Figure 1.6 shows a sewage treatment works screened from adjacent housing with embankments, trees, and shrubs. This particular works is located in Denmark and indicates that residential development need not be hindered by an adjacent sewage treatment works.

As previously described in the sections on noise and odour, measures will be taken to minimize the potential for nuisance and disturbance to nearby residences.

9.04.3 Potential Impact of the Proposal

With the proposed odour and noise reduction measures in place, there ought to be minimal negative effect on the nearby residents. The night time noise levels should be less than 35dB(A) at the outside of any adjacent residence, and the perception of odour should also be minimal. Careful blending of the works with its surroundings by means of screening, sensitive construction and pleasant landscaping should alleviate the functional appearance of the treatment works within a few years. During the construction phase there will be adverse impacts from noise and dust as outlined in Section 3.6. These, however, will be of a temporary nature and are subject to regulatory controls.

9.04.4 Mitigation Measures

Under normal operating conditions and with the provision of ameliorative measures as described above, there should be no requirements for further mitigation measures. Any legitimate views and opinions expressed during the publication period of this environmental impact statement can be taken into consideration and acted upon by the local authority if deemed necessary.

9.04.5 Predicted Impact of the Proposal

Modern treatment plants are well designed and operated and therefore rarely experience problems generally perceived by the public. However it is difficult to persuade people of this and so the presence of the treatment plant may deter any previous interest in the area by residential developers.

When the mitigation measures for noise and odour are in place and correctly enforced combined with thoughtful landscaping, screening and building finishes, the impact on the nearby residences should be negligible and any negative presumptions made by individuals can be overcome.

9.04.6 Monitoring

Regular monitoring of noise levels in relation to nearby residences should be undertaken to ensure the recommended target noise levels are being reached. If these can be regularly obtained, they will serve to lessen the general negative public presumptions of the treatment plant.

9.04.7 Reinstatement

Careful screening and landscaping of the site, coupled with the proposed odour and noise mitigation measures should limit any complaints. In the longer term both residents and residential developers may come to view the works not as offensive but as a natural requirement in a progressive society.

9.05 RECREATIONAL AND LEISURE ACTIVITIES

9.05.1 Receiving Environment

In the New Ross Development Plan (New Ross Urban District Council, 1998), specific areas on both sides of the Barrow, north of New Ross Bridge, are designated for development as public amenity areas and riverside walks. In the town area, gross solids and debris are visible in the river and this detracts considerably from the amenity value of the quays. The Marshmeadows area is an industrial area and there is no facility to walk along the flood embankment. The broad-leaved woods at Oaklands, contain pathways which are very pleasant in good weather.

New Ross is situated on the main route for ferry traffic landing at Rosslare from the continent and Britain to the prime tourist areas in the west and southwest. On going efforts to establish the town as a centre for tourist activity in the south east have come to fruition with cruises on the Barrow, angling and other maritime leisure activities along Hook Peninsula and visits to the famous arboretum at John F. Kennedy Park becoming increasingly popular. In the town itself the recently opened full-scale replica emigrant ship and visitors centre on the quay at New Ross is proving to be a successful attraction. The proximity of the ship to a number of sewage outfalls on the quay detracts from its amenity value.

9.05.2 Characteristics of the Proposal

The proposed pumping station and sewage treatment works buildings will be built incorporating good quality architectural finishes. Extensive landscaping will help shield the units from passers-by and minimize their associated visual impact.

Treatment of all foul sewage will reduce the waste loads to be discharged to the estuary by approximately 90% and will remove all gross solids from the effluent.

9.05.3 Potential Impact of the Proposal

Treatment of the domestic wastewaters will result in a cleaner river, eliminate odours from existing outfalls and enhance the amenity value of boat cruises, quayside activities and riverside walks.

Improved water quality in the estuary will ease the passage of migratory fish which will in turn be beneficial to local angling interests. This would be particularly the case at Graiguenamanagh, and Saint Mullins on the Barrow as well as Inistioge and Thomastown on the Nore, all of which are renowned for both coarse and game angling.

There are no beaches in the New Ross area and the nearest bathing areas are situated much further downstream. Treatment of all foul wastes will enhance the water quality at such areas.

Compliance with the Department of the Environment criteria and EC Directives is a very important element in the maintenance of environmental quality. It is accepted that bathing waters and recreational areas should not act as receiving waters for the discharge of untreated sewage. Such wastes should be treated to the required standards before discharge.

9.05.4 Mitigation Measures

The provision of the sewage treatment works will enhance the water quality in the Barrow Nore Suir Estuary. The various screening, landscaping and other mitigation measures proposed at the site are designed to ensure that no adverse effects are experienced by passers-by on the Wexford or Campile Roads and the redevelopment of the Marshmeadows site will rejuvenate the presently under-utilized site.

9.05.5 Predicted Impact of the Proposal

The removal from New Ross Harbour of up to fourteen raw sewage outfalls will improve water quality and in turn encourage its use and attraction for recreational and amenity purposes. The discharge of the treated effluent to the Barrow Estuary at the proposed outfall location may lead to a localised deterioration of water quality but this will be limited to the initial mixing zone and as has already been stated the predicted impact of the proposal in respect of water quality generally is a significant improvement over the current regime.

The treatment of the wastewater from New Ross will also enhance the bathing areas and recreational areas further downstream.

Proper construction, landscaping and operation of the Works will minimize any potential negative impact on any recreational and leisure activities in the area.

9.05.6 Monitoring

The area in the vicinity of the works should be regularly monitored to guarantee, that any mitigation

measures put into practice are adequate and that it continues to be a desirable area for leisure activities i.e. walking, cycling etc.

9.05.7 Reinstatement

Proper screening of the works and regeneration of any hedgerow or planted areas which may have been disturbed will ensure that the surrounding countryside continues to be a popular recreational area.

9.06 POWER AND WATER SUPPLY

9.06.1 Receiving Environment

There is a high tension overhead cable along the Campile road and close to the N25 road. An existing watermain serves the oil storage depots at Marshmeadows along the Campile Road.

9.06.2 Characteristics of the Proposal

Normally, high tension electricity is only required where the maximum demand is greater than 500kW. The proposed works will have a lower power requirement than 500kW and so a low tension transformer station will be needed to facilitate the electricity supply to the works.

Extension of the existing watermain to the works will provide an adequate supply of water to the proposed site. The water requirements are for sludge dewatering plant and screen washing, make-up water for treatment processes, general hose down, canteen and washing facilities and such like.

9.06.3 Potential Impact of the Proposal

Water, for use during construction and during operation of the works, will be piped from the existing system. Power cables will be ducted under the access road to the site. No additional capacity is expected to be required in order to service this development.

9.06.4 Mitigation Measures

In the case of a power failure a standby generator will cut in to provide electricity for the operation of the works.

9.06.5 Predicted Impact of the Proposal

The small number of additional power cables and water supply pipes required for the plant will be placed underground and therefore will not disrupt the aesthetic nature of the area any further.

The total water requirement for the site will have little impact on water pressure in the public system and water usage will be low.

9.06.6 Monitoring

No monitoring will be required.

9.06.7 Reinstatement

Any areas disrupted by the laying of pipes and cables should be returned to their original condition.

9.07 TRANSPORT AND COMMUNICATIONS

9.07.1 Receiving Environment

The Campile road goes from New Ross via John F. Kennedy park to the south of the county following the River Barrow for part of this route. It is classified as a local road. The N25 National Primary Route links Wexford and Waterford through New Ross. Heavy vehicles use the N25 road, as does much of the through traffic. Traffic during winter is reasonably light on the Campile road but could be expected to increase during the summer because of tourist influx.

9.07.2 Characteristics of the Proposal

Construction and operation of the works will involve two distinct classes of vehicle and products. The main construction traffic will be associated with the importation fill material, delivery of construction materials to the site and the transport of machinery and plant items to and from the site. The latter traffic will be confined to the start-up and finish of the project. The construction traffic will be the cause of some inconvenience in the short term and should be time-tabled in order to minimize the disruption. During the filling operation, a considerable number of trucks will enter and leave the site each day.

During operation of the works, the importation of sludges is expected to amount to less than 5 No. $18m^3$ tanker truck visits in a typical working day. Prior to onward transportation to the Wexford sludge treatment centre, all sludges will be de-watered to at least 20% dry solids. This achieves a dramatic reduction in the volume of sludge to be transported and therefore in the amount of increased traffic associated with the day to day operation of the works. Transportation of the dewatered sludges is to be in purpose built, sealed skips, having a minimum capacity of $10m^3$. The number of journeys to the Wexford treatment centre to transport the dewatered sludges is expected to be in the region of 5 per week. It follows therefore that following construction, traffic levels on roads leading to the site will not be significantly affected by the presence of the works.

9.07.3 Potential Impact of the Proposal

During the construction phase, particularly the importation of fill to the site, traffic levels to the site along the Campile Road and other roads leading to the source of fill material, will increase significantly. The number of journeys and the period of the fill operation, will be largely at the contractor's discretion, and will depend on the source and on the number of tipper trucks dedicated to the operation but typically some 50 round trips per day to the works from the fill site could be expected for a period of 30 to 40 working weeks. Note that under the DBO form of procurement , the contractor would be free to construct ground levels to a lower level than that adopted for the indicative design, possibly in conjunction with a final effluent pumping station or tidal storage tanks. During the remainder of the construction period, traffic levels will be significantly reduced, but again quantification is not possible as this will be dependant upon the contractor's working methods. The Campile Road from the N25 to the site at Marshmeadows is a good quality road with a carriageway width exceeding that of many National primary routes in the area. No additional measures to improve access to the site are therefore required. The overall result of the construction activity will therefore be short term intensification of traffic movements between the site and the source for the fill material.

The day to day operation of the works will result in slightly increased traffic levels on the Campile Road. The increase is likely to be in the region of 5 tanker journeys per day, with daily access by operations staff (perhaps 2 No.). Export of dewatered sludges to Wexford is not expected to exceed 5 skip journeys per week. Other traffic generated by the works would be skip journeys to the landfill with grit and screenings (weekly), monthly delivery of consumables (polyelectrolytes), occasional visits by Engineering staff, utility companies etc.

9.07.4 Mitigation Measures

The reduction in the volume of sludge to be transported off-site by dewatering has a significant effect on the number of journeys associated with the operation of the works, and is therefore a particularly important mitigation measure. Traffic through the town, particularly on the approaches to O'Hanrahan Bridge has increased dramatically in recent years. By routing traffic on the N25 road and on the ring road where feasible, its impact on New Ross town centre can be minimized. During operation of the works, there will be no need for tanker or skip lorries to cross the bridge, with all sludge imports to New Ross arising on the Wexford side of the Barrow. The vacuum tankers and skip lorries will usually operate only from Monday to Friday during normal working hours. The vehicles will have to be maintained and cleaned at regular intervals to ensure that they do not appear unsightly and washing facilities will be provided at the treatment works site.

Construction traffic will be time-tabled to minimize disruption and will generally only operate during normal working hours on a five day week. Hosing down of the trucks may be required to ensure that no dust or mud is brought on to the public roads from the site during the construction period.

9.07.5 Predicted Impact of the Proposal

The main cause of disruption to the area due to increased traffic will naturally be during the construction phase. The form of procurement proposed will allow the employer (Wexford County Council) to include any stipulations it deems desirable into the contract documents, including traffic control measures. Following from this, by enforcing the proposed mitigation measures, traffic generated by the operating treatment plant should cause limited impact.

9.07.6 Monitoring

All vehicles used to transport the generated sludge should be monitored to ensure that they are consistently clean and sanitary.

9.07.7 Reinstatement

No reinstatement will be required.

9.08 LANDFILL

9.08.1 Receiving Environment

The existing landfill site for the county is at Killurin about 12km north west of the town of Wexford. This site receives solid waste, including municipal refuse, from most of the county of Wexford.

9.08.2 Characteristics of the Proposal

Currently all wastewater sludges in the County are disposed of to landfill. Under the terms of the proposed sludge management plan for County Wexford, this will cease completely with the opening of the sludge treatment centre at Wexford. Thereafter all sludges in the County, including sludges from the New Ross works will be exported to the central sludge treatment facility at Wexford for treatment prior to reuse on agricultural land Note that this method, beneficial re-use, is the preferred national and European means of disposal. No sludge will therefore be sent to landfill from the New Ross works. Under the indicative design prepared for the EIA, compacted screenings and grit are to be sent to landfill. The comparatively small volumes (perhaps 1 No. skip per week) arising and the low organic content, makes landfill the most suitable means of disposal.

9.08.3 Potential Impact of the Proposal

The small volumes proposed for disposal to landfill will not significantly decrease the design life of the landfill site.

9.08.4 Mitigation Measures

None proposed.

9.08.5 Predicted Impact of the Proposal

Due to the limited quantities of screenings and grit which will be transported to the landfill site, it is not predicted that there will be any negative impacts as a result.

9.08.6 Monitoring

Monitoring of the quantities of screenings being disposed of to landfill will take place.

9.08.7 Reinstatement

No reinstatement will be required.

10.0 - Material Assets

10.01 ASSIMILATIVE CAPACITY OF TIIE HARBOUR

10.01.1 Receiving Environment

The Barrow Estuary at New Ross Harbour has a large flow of water and this can be used to assimilate a limited volume of waste effluents from both domestic and industrial sources without causing undue environmental damage. The waste assimilation capacity of the harbour has been considered by An Foras Forbatha in the WQMP for the Suir Barrow Nore Estuary (Carlow County Council *et al.*, 1990) in which they estimated the actual assimilative capacity of the estuary assuming an outfall located downstream of the town (opposite the Marshmeadows jetty) and from which they calculated the sustainable BOD load associated with that estimated capacity.

The design approach adopted for this scheme is in line with the "Environment Action Programme" (Department of the Environment, 1990) which places greater emphasis than ever before on the principle of precautionary action. The principle suggests that it is unwise to utilize a resource to its limit (in this instance, the Barrow estuary to its full assimilative capacity) just because detrimental environmental effects do not immediately result from that use. The intention is to preserve resources (in this case, the receiving waters) as far as possible in a naturally balanced state.

Results of routine monthly monitoring by the Regional Water Laboratory in Kilkenny at New Ross Bridge indicate an average BOD level of 2.5mg/l in 1999. (See Table 5.1 and Appendix A). New Ross Bridge is upstream of most of the discharges but, due to the tidal flux, these BOD levels can be assumed to be inclusive of the effects of the untreated domestic and industrial discharges at New Ross.

10.01.2 Characteristics of the Proposal

The interception of all of the industrial and domestic discharges from New Ross town and the domestic effluent from the Rosbercon area will eliminate most of the existing outfalls into the estuary. The outfall from the proposed wastewater treatment works will discharge continuously and should achieve rapid dilution with entrainment of the receiving water in the effluent plume at the point of discharge.

Under the WQMP for the Barrow estuary referred to in earlier chapters, the maximum permitted level

of BOD in the estuary is 4mg/l. This limit is applied to the waters of the estuary outside mixing zones where effluents are introduced to the flow. The mixing zone is that volume adjacent to an outfall where exceedance of the WQMP standards is considered acceptable. The size of the mixing zone is dependent on the characteristics of the discharges and amount of environmental disturbance acceptable. It should reflect the ability of the estuary, at the discharge point, to absorb pollution without undue environmental damage. This depends on freshwater flow, tidal range and type of discharge. The WQMP for the Suir-Barrow-Nore estuary limits the mixing zone to 10% of the width of the estuary at the outfall. Proper design of the outfall will ensure that BOD, SS and nutrient concentrations remain within acceptable levels at the boundary of the mixing zone. For reasons previously outlined, it is not intended to design the outfall to ensure compliance in the Estuary with the Bathing Water (76/160/EEC) and Shellfish Water (79/923/EEC) standards for Total and Faecal Coliform counts.

10.01.3 Potential Impact of the Proposal

As stated earlier, the EU Directive on Urban Wastewater (91/271/EEC) requires the mandatory treatment of wastewater to secondary standard for the town of New Ross.

Following construction of the wastewater treatment works at New Ross, the projected decrease in the pollutant load discharged to the estuary from New Ross and its environs will be of the order of 1,400kg BOD/day. Interpolation of the data presented in Table A5 indicates a predicted mean decrease in BOD of 0.3mg/l at New Ross bridge. After secondary treatment only 10% (140kg BOD/day) of the total load will be discharged through the outfall which is well below the minimum assimilative capacity of 2,830kg/day.

From the above discussion, it is clear that, at present, there is considerable reserve assimilative capacity in the estuary at New Ross. Secondary treatment, as proposed, will ensure that the capacity of the receiving waters to assimilate effluent discharges will be not be exceeded as a result of discharges from the New Ross treatment works.

10.01.4 Mitigation Measures

If it is discovered that the standards as set out in the Water Quality Management Plan are not being met and if the cause is attributed to the effluent from the treatment works, various measures can be taken, including the installation of nutrient removal facilities, as required, to upgrade the treatment process. Such measures are, however, unlikely to be required for a significant period of time, if at all.

TABLE 10.1 - Predicted BOD Increases at Selected Points for a Discharge of 154 kg BOD/day at New Ross

Control Station:	*Distance d/s of outfall [km]:*	*Predicted BOD Increase [mg/l]:*					
		Continuous Discharge:			*Intermittent Discharge:*		
		Max	*Mean*	*Min*	*Max*	*Mean*	*Min*
New Ross Bridge	-1.25	0.06	0.04	0.005	0.06	0.021	0.0
Former Rossco Co.	0	0.09	0.05	0.03	0.10	0.037	0.0
Annagh Castle	1.75	0.07	0.05	0.04	0.09	0.05	0.006
Stokestown House	3.15	0.065	0.045	0.023	0.085	0.05	0.03
Stokestown Point	3.92	0.065	0.042	0.016	0.083	0.05	0.024

10.01.5 Predicted Impact of the Proposal

The predicted increase in BOD levels in New Ross Harbour due to the discharge of this future treated effluent BOD load of 154kg/day are shown in Table 10.1. The treated effluent BOD load is 10% of the untreated BOD load of 1,540kg/day. Under neap tides and 95 percentile flows, these increases in background BOD levels are insignificant. The removal of the remaining 90% of the pollutant load (1400 kg BOD/day) is estimated to lead to a reduction of 0.3mg/l at New Ross bridge. Therefore, treatment of the domestic and industrial wastewater from New Ross will result in a net decrease in BOD levels in the estuary.

Lower levels of BOD, nutrient concentrations and lower suspended solids will ensure that the assimilative capacity of the estuary is not being used to its limit and so is in accordance with Department of the Environment and Local Government regulations. Also, the Barrow estuary will be preserved in its natural balanced condition.

10.01.6 Monitoring

Monitoring of the effluent at the works and in the estuary by the relevant authorities will reveal if the required Water Quality Management Plan standards are being met.

10.01.7 Reinstatement

No reinstatement will be required.

10.02 LAND OWNERSHIP AND ACCESS

The proposed site is at present in private ownership and is intermittently used for the grazing of cattle. The local authority has entered into negotiations to purchase the land by agreement which, it is understood, is acceptable to the owners. An area of 3.029 hectares (7.485 acres) will be required to

accommodate the works. The boundaries of the proposed site are shown in Figure 10.1. A site for the proposed pumping station will also have to be purchased.

10.03 DEVELOPMENT POTENTIAL AND EXPANSION

The first phase of the treatment works at New Ross will have the capacity, once commissioned, to treat wastewater arising from 14,850 persons equivalent (p.e.). By the year 2015 it is expected that the population growth and industrial expansion will result in the wastewater treatment capacity being exceeded. The layout of the treatment works has been planned with that future expansion in mind. Therefore, after 2015 the design capacity for wastewater could be expected to increase to 24,650 p.e.

Additional units will be provided to accommodate the increased quantity of waste. A typical arrangement of these units is shown in the layout of the Sewage Treatment Works at Figure 1.2. The proposed site as shown on Figure 10.1 is sufficiently large to facilitate long term expansion of the treatment works beyond the year 2025 should this be required.

11.00 - Visual Impact

11.01 TOPOGRAPHY

The site at Marshmeadows is generally below the level of the Campile road and the high tide mark. It consists of a reclaimed area of the Barrow estuary and has a flood embankment adjacent to the river. The remainder of the site slopes gently up to the Campile road.

The site is visible from the N25 and Campile roads. This is illustrated in photograph No. 13 in Chapter 14, showing the existing view from the N25 road. The post construction view will be a considerable improvement, following the provision of mitigation measures such as landscaping, shrub planting and the use of high quality external finishes. The proposed post construction landscaping measures are shown in chapter 1 of this document

The land to the south of the site is agricultural in nature and is primarily used for grazing.

The indicative design prepared for the EIS assumes that the site would be graded between levels of approximately 4.8mod. Consequently there would be no risk of flooding from the River Barrow. Rainwater will be discharged to either the outfall via a site surface water drainage system.

11.02 LANDSCAPE AND BUILDINGS

The layout of the site is dictated to a large extent by the functional requirements of the treatment works. However, through careful use of earthworks, landscaping and appropriate architectural forms, the treatment works can be made to blend in with its surroundings and not become an over prominent feature in the landscape.

Most of the site will be obscured from view from most vantage points by the existing landscape and developments and by the strategic planting of trees and shrubs around the site boundary. The latter will require some time in which to become fully established. An isometric view of the site is presented in Figure 1.7

The existing view of the Marshmeadows site from its south eastern corner is shown in photograph No.13 in Chapter 14.

12.00 - Cultural Heritage

The origins of the town lie in the establishment of a monastic settlement there by St. Abban during the 6th century known as Ros Mhic Threoin. Abban died at New Ross in 620 AD and is credited with founding another monastery at nearby Adamstown, from which it draws its name. In common with other monastic sites in the Country, the monastery at New Ross is thought to have fallen into decline following Viking raids at the end of the 8th century. The establishment of important Viking settlements at Wexford to the south and at Waterford to the west, incline some historians to believe that there may have been a significant Viking settlement along the Barrow at New Ross but evidence for this is limited. A prosperous Norman town was established by Isabella de Clare, daughter of Strongbow and grand-daughter of Diarmuid Mac Murrough who first brought the Normans to Ireland. The first bridge to span the River Barrow at New Ross was completed in 1211.

After the death of Isabella, the Norman townspeople came into conflict with a number of Irish septs from lands outside the town and built a wall one mile in length with four gates to defend the town. Despite the wall however, the town was repeatedly sacked with many of its inhabitants killed or put to flight after attacks led mainly by Art Mac Morrough Kavanagh at the end of the 14th century. The attacks followed a land dispute arising from an attempt to implement the English inspired, 'Statutes of Kilkenny'. Mac Murrough was eventually poisoned at New Ross having accepted an invitation to parley with the garrison commander.

New Ross competed with Waterford as a port. It is said that competition was so fierce that New Ross men hijacked ships bound for Waterford. This rivalry was finally settled when King James II gave New Ross the right to trade freely as a port in the charter of 1688.

During the rebellion of 1641 confederate forces under Thomas Preston were defeated by the royalist Duke of Ormond at New Ross. In 1649 the town was surrendered to Cromwell to spare its inhabitants the slaughter meted out to the citizens of Wexford some 2 weeks previously.

In what was to be a turning point in the 1798 rebellion in Wexford, some 20,000 Irish insurgents led by Bagenal Harvey briefly occupied the town but were ultimately repulsed by government forces. Their failure to hold the town confined the rebellion to Wexford and prevented the spread of rebellion to Munster and the Midlands.

Evidence of this illustrious history is still to be seen in the street layout in the town area, basically

unchanged in 300 years, and in the many monuments and buildings of historic interest.

Buildings of interest include the Tholsel or "Toll Stall", a place where payments were made for the right of privilege or passage. This was built in 1749 based on a design by the London architect, William Kent. The building was dismantled and rebuilt at the end of the 18th century when the foundation subsided. Today the building houses the County Council and Urban District Council offices and also holds (amongst other artefacts dating back to the 17th century) the Mace and Charter presented by King James II in 1688.

Across the road from the Tholsel there is a monument commemorating the 1798 rebellion. A second monument to the rising is situated at the remains of Three Bullet Gate to the south east of the town which was a scene of particularly intense fighting during the storming of the town by the insurgents. Three Bullet Gate is so named because three cannon balls fired by Cromwell's men in 1649 lodged in the stonework of one the gates of the old Norman town.

Other Buildings of interest include the Old Trinity Hospital, founded by Thomas Gregory, Haughton Hospital, completed in 1809, and the Session house built in 1832. There are several old schoolhouses including the Grammar school founded in 1719. Some schools still in use date back to the last century including St. Michael's National School, built in 1800 and relocated in 1862, Good Counsel College built in 1880, *etc.*

The religious influence dates back to the origin of the town, Ros Mhic Threoin, and has resulted in many churches and religious monuments been erected. Some of these are quite ancient, such as St. Abban's Well. Some date back to the 13th century, *e.g.* St. Mary's Abbey (1311), part of which was rebuilt as St Mary's Protestant Church in 1811. Other churches include the church of St. Mary and Michael started in 1849 and completed in 1902.

All of the above features are remote from the treatment works site and the proposed works is not expected to impact on the cultural heritage of the town and its environs. The proposed site for the treatment works is a reclaimed area of the Barrow flood-plain. Figure 12.1 is an extract from the New Ross development plan of 1998 and shows areas of archaeological potential around New Ross, none of which extend beyond the UDC boundary. Accordingly the development of the wastewater treatment works is of no significance in archaeological terms.

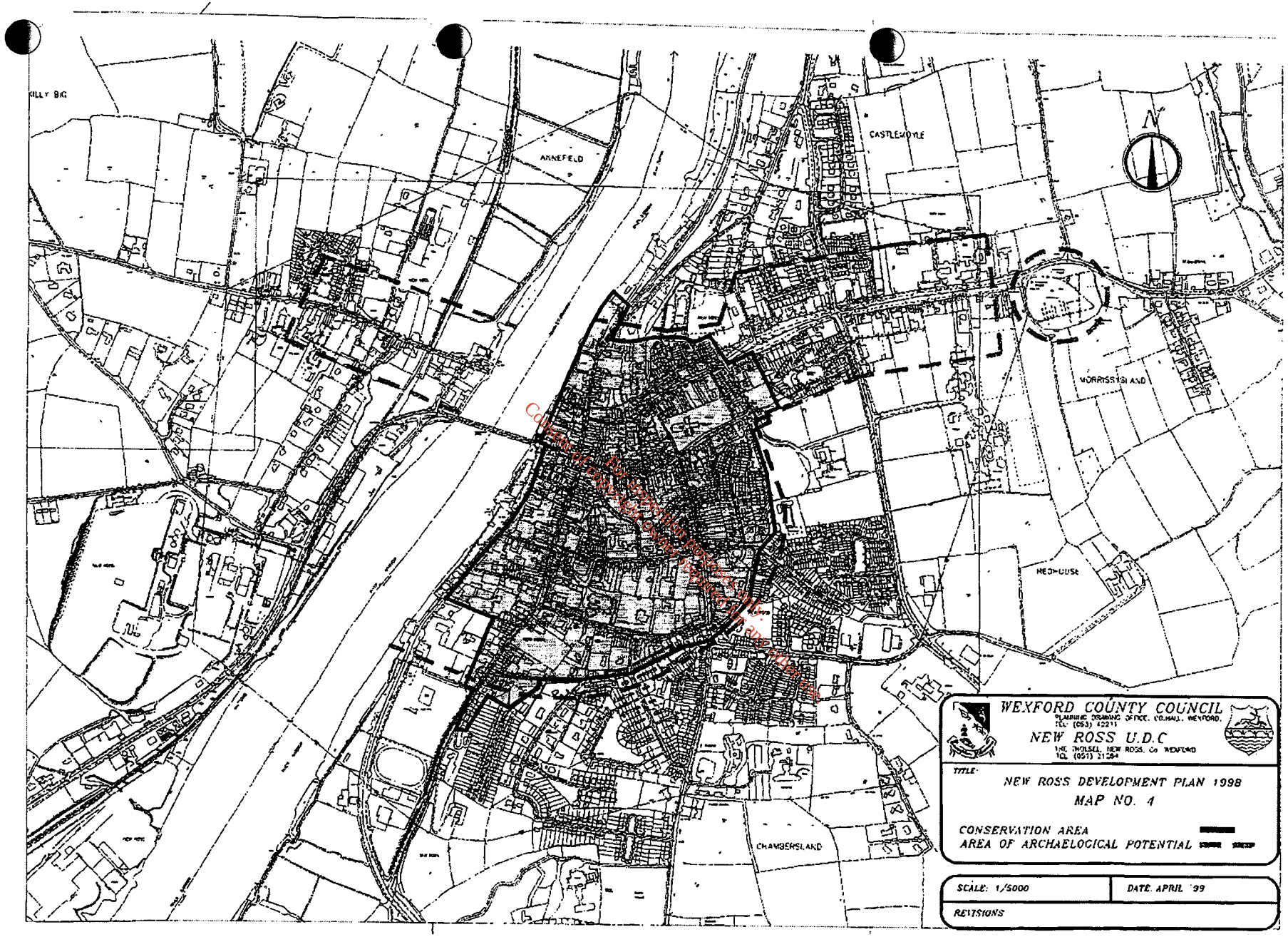

FIGURE 12.1 - AREAS OF ARCHAEOLOGICAL INTEREST

13.00 SUMMARY OF LONG TERM IMPACTS

13.01 SUMMARY OF IMPACTS

The previous eight sections have described the environmental impacts that are likely to arise as a result of the decision to provide sewage treatment facilities at New Ross. These impacts have been considered in detail in respect of the proposed site for the treatment works. The following provides a brief summary of the overall impact of the proposal.

The provision of a wastewater treatment works for New Ross is a statutory requirement under Irish Law. The construction of the works at the site proposed at Marshmeadows will enable the County Council to discharge their obligations in this respect. A brief summary of the impacts of the proposal is presented below.

- Significant reduction (>90%) in the polluting matter entering the river leading to
    - Enhanced water quality for migratory fish and fowl
    - Enhanced aesthetic appearance of the river encouraging recreational and tourist related activities on the river
    - A reduced public health risk following the occasional flooding (tidal and fluvial) of the quays
- The town will be provided with a facility which will significantly enhance its ability to attract industrial and other developments to the town
- Sludge arising at the treatment works will, following treatment at the central sludge treatment facility at Wexford town, be beneficially re-used as an agricultural fertiliser. This is in-line with the EPA policy of minimisation and re-use and provides a beneficial use for matter that would otherwise act as a pollutant.
- The works will be designed to modern standards in respect of air treatment and no discernable odours are expected to be detectable beyond the works boundary during normal operation. Mitigation measures to reduce noise and light levels will ensure that the plant will not impact on the nearest residence or other businesses in the locality.

- The landscaping and other measures proposed will minimise the visual impact of the works on the local environment which is essentially industrial in character.

- Any disruption of the habitat during the construction phase will be temporary in nature and all affected species are expected to become quickly re-established. Additionally the adjoining lands provide a similar habitat.

- Increased traffic to and from the completed works is expected to be confined to operations staff (c. 2 No.) , tankers conveying unthickened sludges to the works (approx. 5 No. per day), and sealed sludge cake skips to Wexford (approx. 5 No. per week). This will have a minimal impact on the surrounding roads network.

13.02 INTER-ACTIONS

The statement has demonstrated that the wastewater treatment works will have a positive impact on the environment and will substantially enhance the attractiveness of the New Ross area for tourism as well as commercial and industrial development. In these terms the interactions of the impacts of the proposal combine to produce a greatly enhanced aquatic environment with positive knock-on effects for the New Ross area generally.

Some intensification of traffic in the area during the construction stage is unavoidable as is a short term deterioration in the visual impact of the site. These impacts will however be confined to the construction period.

The mitigation measures identified for potentially negative impacts following construction such as odour and noise individually confine these impacts to within accepted limits. When considered together, there are no foreseeable circumstances in which the mitigated impacts can combine to produce a cumulative impact of any greater significance.

13.03 RECOMMENDATIONS

The provision of a sewage treatment works at New Ross will improve the estuarine environment of the Barrow and enhance the amenity value of the harbour and the town. It will also be beneficial to the future development of the town's industry and infrastructure.

Extensive mitigation measures will be provided at the site at Marsmeadows in order to minimize any potential negative impacts. It is therefore recommended that the proposed sewage treatment works be located there.

In summary, it is recommended that:

- Wexford County Council proceed with their proposal to provide a wastewater treatment works as outlined in this document;
- this treatment works be sited at the Marshmeadows site;
- the pumping station and associated mains/sewers be constructed to convey wastewater to the works;
- the measures as outlined in this document be provided for the mitigation of any negative impacts on the environment resulting from this development.

14.00 PHOTOGRAPHS

INDEX OF PHOTOGRAPHS

1) View of Camplie Road looking North toward entrance to proposed WWTW
2) View of proposed Marshmeadows site from the Campile Road
3) Alternative view of Marshmeadows site from Campile Road
4) Campile Road looking North along line of proposed rising main
5) View of river front from elevated ground above Campile Road
6) View of river front from the River View housing estate
7) View south along Wexford Road along route of proposed rising main
8) View north along Wexford Road along route of proposed rising main
9) Possible Location for Quay Pumping Station.
10) Quay front view – line of proposed interceptor sewer.
11) Quay front view – line of proposed interceptor sewer.
12) View of quay front North of O'Hanrahan Bridge
13) View from centre of O'Hanrahan Bridge looking downstream (south)

The location of the photographs and the direction in which the photographs were taken are shown at Figure 14.1.