

5. Engineering and Topography

The engineering constraints are shown on Figures 3 to 5 (Drawings 00229/016 to 00229/018).

5.1 Road Network

The northern study area has a well developed road system ranging from National Primary and Secondary roads to a network of local roads. The National Primary N9, Dublin to Waterford route runs from Kilcullen to Paulstown with the N10 providing a connection to Kilkenny. The National Secondary N78 runs from Kilcullen via Athy and Castlecomer to join the N77 five kilometres north of Kilkenny. The National secondary N80 crosses the northern study area in a north west-south easterly direction connecting Carlow with Portlaoise.

Regional roads serving the northern study area include:

| | |
|-------------|---------------------------------|
| R415 | Kildare to Crookstown |
| R417 | Monasterevin to Carlow via Athy |
| R418 | Athy to Tullow via Castledermot |
| R426 | Castlecomer to Portlaoise |
| R428 | Portlaoise to Athy |
| R429 | Ballickmoyler to Maganey |
| R430 | Abbeyleix to Carlow |
| R431 | N78 to R430 |
| R747 | Ballitore to Baltinglass |
| R725 | Carlow to Tullow |
| R726 | Carlow to Rathvilly |
| R705 & R724 | N9 to Muinebheag |

5.2 Railways

A single railway line serves the northern study area. This runs from Kildare to Kilkenny via Athy, Carlow and Muinebheag. Between Kildare and Muinebheag the railway line runs generally north/south and between Muinebheag and Kilkenny runs east/west.

5.3 Canals

The Barrow line of the Grand Canal runs south from Robertstown to Athy and joins the River Barrow south of the town. The Barrow was a significant commercial canalised waterway up to the 1960's, with important river ports at Athy, Carlow, Graignamanagh and New Ross. Barges carried consignments of malting barley to Dublin as raw material for the Guinness Brewery, with the resultant stout transported back downstream in its finished state. Later beet-filled barges supplied Ireland's first sugar factory

at Carlow. In recent times the river has experienced rejuvenation with a number of pleasure cruise operators locating along its banks and an increase in recreational use.

5.4 Electricity Supply Network

The Dunstown to Moneypoint 400kv line crosses the northern study area north of Athy.

The following 110kv lines cross the northern study area:

- Carlow to Portlaoise line
- Kells to Kilkenny line
- Great Island to Kilkenny line, and Ballyragget to Kilkenny line.

5.5 Gas Supply Network

The main Kinsale to Dublin transmission pipeline traverses the northern study area generally following a line parallel to the N9 crossing from west of the N9 to east of the N9 south of Moone. There are four pipelines branching off to serve Athy, Carlow, Kilkenny and Ballyragget.

5.6 Physical Features

The northern study area is predominantly in the Rivers Barrow and Nore catchments. The topography is relatively flat in the north but rises to a height of over 330 metres on the Castlecomer plateau west of Carlow. The eastern edge of the northern study area is bounded by higher ground rising towards the Wicklow mountains to the east.