



IPAG

Irish Pavement Asset Group

Pavement Asset Management

Guidance

Section 8:

New Roads and

Taking in Charge

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Description	This section recommends methods that should be adopted to ensure that roads constructed by contractors (on behalf of the road authority) or developers meet appropriate standards for 'taking in charge'. It provides guidance on what inspections should take place, what checks should be made to confirm that materials & construction depths meet the relevant specifications and what records & data that contractors / developers should be required to hand-over prior to 'taking in charge'.

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8 New Roads and Taking in Charge

This section recommends methods that should be adopted to ensure that roads constructed by contractors (on behalf of the road authority) or developers meet appropriate standards for 'taking in charge'. It provides guidance on what inspections should take place, what checks should be made to confirm that materials & construction depths meet the relevant specifications and what records & data that contractors / developers should be required to hand-over prior to 'taking in charge'.

8.1 Taking in Charge Procedures

Road networks grow as new roads are constructed, either by developers or contractors. After completion, the roads and other assets may be taken in charge by the road authority under the procedures set out in Section 11 of the Roads Act 1993 and in accordance Section 180 of the Planning and Development Act 2000 (as amended by the Water Services Act 2007 and the Planning and Development (Amendment) Act 2010). The authority then assumes responsibility for the assets. This process creates new pavement and other assets that need to be added to the asset register, the road authority's roads schedule, incorporated into the road / pavement management system, managed and accounted for. Requests to have the development taken in charge must be submitted in writing to the local authority.

It is essential that the process of taking in charge ensures that the new assets are in an appropriate condition for the road authority to take over and meet the relevant technical standards. The authority needs to be sure that it is not taking on an unreasonable maintenance liability. This means ensuring that relevant specifications have been adhered to and that the assets are in an appropriate condition, prior to the road authority taking it in charge. In order to ensure that this process takes place, road authorities should publish their taking in charge procedures and standards, which at a minimum, should cover the items in the sections below.

Every local authority has a duty to ensure that roads and other assets, are completed to a certain standard, irrespective of whether the development is to be taken in charge or not. Developments which have a bond condition in their planning permission, and for which a bond has not been put in place, should be referred to the enforcement section of the local authority's planning department. Notwithstanding whether the planning department fails to take enforcement, a residents' plebiscite (requesting to have their estate taken in charge) may still occur and could be successful. Hence, it is imperative that relevant standards are met.

Recommendation: Road authorities should publish taking in charge procedures and standards.

Recommendation: At planning stage, road authorities should supply minimum engineering requirements, so that designers and ultimately contractors can adhere to authority's guidelines, thus making the taking in charge process easier.

8.2 Construction Standards

Taking in charge procedures should reference, or include, relevant construction standards, being the standards that the road authority requires a road to meet, before it can be considered for taking in charge. The construction standards should specify the standards of design, construction and materials required to enable a road to be taken in charge by the road authority, including requirements such as the materials that are acceptable, relevant construction details, depths of materials, acceptable construction tolerances, etc. The contents of these standards are beyond the scope of this guidance, however engineering requirements of site development works should be met.

It is desirable that differences in standards between road authorities are minimised so that developers and contractors do not have to meet a wide range of standards, depending on where they are working in the country.

Recommendation: Road authorities should publish the technical standards required for a road to be considered for taking in charge, in terms of layout and construction.

8.3 Inspections

Where resources for inspections listed within the inspection regime would not (in the current economic climate) be available within some local authorities, an independent engineer could be commissioned, or conditioned as part of the planning process, to carry out inspections.

The submission of pre-construction drawings should be a requirement for each local authority in the planning, development and taking in charge process.

It is recommended that inspections are carried out at the following times:

Table 8.1: New Roads Constructed Through Housing and Other Developments

Inspection	Regime
Prior to commencement of works.	Joint inspection prior to works.
Exposed formation / sub-grade to roadways, footways.	Each local authority should specify frequency (i.e. per road or minimum area).
Completion of sub-base (and capping layer where required) to roadways and footways.	As above.
Each length of drainage – all surface water and underground drainage, manholes, gullies and connections prior to the placing of concrete surrounds and any backfilling to trenches.	Local authorities should specify what lengths of drainage are required.
Each length of kerbing or back edging, prior to construction of adjacent roadways and footways.	
Laying of base, prior to overlay with binder course.	Each local authority should specify frequency (i.e. per road or minimum area).
Laying of binder course, prior to overlay with surface course.	As above.
Laying of surface course, upon completion.	As above.
Landscaping, prior to taking in charge.	After completion, immediately prior to taking in charge.
Public lighting and signs – each operation concerning public lighting and signs means laying of ducts & cables, column & sign erection and electrical equipment.	Should also be inspected, but are beyond the scope of this guidance.

It is recommended that, as part of the taking in charge procedures, a suitable system of inspections be developed for each of the stages shown above, to record the results of the inspections and to make those records available. This should not absolve a developer of the need to meet all the relevant requirements of the road authority's taking in charge procedures and specifications.

Table 8.2: New Roads Constructed for the Road Authority

Inspection	Regime
During construction	As specified in construction contract
Hand-over	Joint inspection with contract supervision team / representative
At the end of the construction contract maintenance period, prior to taking in charge	Joint inspection with contract supervision team / representative

For construction projects, such as new bypasses and other new roads, the inspection regime should be specified in the construction contract and should be sufficient to ensure that the new road meets the required specifications.

It is recommended that at formal hand-over and at the end of the maintenance period an inspection takes place for any new road. This inspection will visually inspect the road for any apparent defects, and agree what actions may be required before the road is taken in charge. The inspection should be scheduled prior to the contract being finalised, such that any defects that are the responsibility of the construction contractor can be rectified by the contractor prior to certification of completion.

Recommendation: Based upon Tables 8.1 and 8.2, road authorities should specify a regime of inspections that are to take place prior to, during and after construction.

8.4 Records

The taking in charge procedure and specifications, should require the developer or contractor to provide as-constructed records of the road offered up for taking in charge. The records should include, as a minimum, the following:

Records During Construction

Records should be kept during construction, for all inspections undertaken and the observations and tests made during such inspections. In addition, test data for samples of materials should be recorded.

Safety File

The safety file as required by health and safety legislation must be provided.

As-Constructed Drawings

The developer or contractor should be required to supply the road authority with as-constructed drawings. The format of the as-constructed drawings should be specified by the authority. It is expected that this format will be geo-referenced CAD / GIS, or similar approved, in hard / soft copy as required by the local authority. The details required to be shown on the drawings should be specified and should include as a minimum the layout and position of:

- Roadways; showing the extent of pavement including type of materials, thicknesses and mix design for bituminous pavements and details of joints, mix design and reinforcement for concrete pavements.
- Footways / footpaths; showing the extent of pavement, including type & depth of materials.
- Road gullies; location and type.
- Sewers / drainage (foul and surface water); with diameters, position of manholes, invert levels, bedding and backfill material details.
- Surface water discharge points; including details of oil interceptors or other pollution traps.
- Balancing ponds; and other drainage features.
- Water mains with diameters recorded and valve positions marked (including hydrants).
- Services or service ducts crossing or along roadways.
- Public lights; location, type, details of circuits, etc.
- Earthworks; profiles of new & existing levels, annotated with basic information on soil types.
- Open space and landscaped areas; measured area and details of planting.
- Other assets; as required by the local authority.

It is recommended that as-constructed drawings be subdivided into underground services such as sewers, water mains, etc. and overground features such as roads, footpaths, open spaces, etc. The as-constructed drawings should provide sufficient data to enable the roads to be mapped onto the road authority's systems and represented graphically via a GIS system.

As-constructed drawings must be geo-referenced (geo-coded) and aligned with the Ordnance Survey Ireland vector mapping co-ordinate system, noting whether it is Irish Grid or Irish Transverse Mercator (ITM). Where possible, pre-construction and during construction photographs should also be submitted.

Legal Documentation

Details of any wayleaves, land / property titles for public areas, etc.

Recommendation: Road authorities should require the submission of as-constructed drawings in a format that will allow details of the new roads to be geo-referenced and added to the road authority's CAD / GIS system(s).

As-Constructed Road Inventory Data

In addition to as-constructed drawings, the developer or contractor should be required to provide inventory data.

- (a) The developer or contractor should be required to create a record of the new roads in network format, to comply with the requirements of Section 2: Network Referencing.

Recommendation: Road authorities should require the creation of the base network for the new road in a format consistent with the network referencing section of this guidance (Section 2: Network Referencing).

- (b) For each road segment created, the developer or contractor should be required to submit the following data:

Table 8.3: Roadway – data required for each road segment

Road name
Start of roadway segment (Easting)
Start of roadway segment (Northing)
End of roadway segment (Easting)
End of roadway segment (Northing)
Length (m)
Average width (m)
Area (m ²)
Surface material type
Depth of surface material
Date of laying surface material
Surface material specification
Pavement base layer material type
Depth of pavement base layer material
Date of laying pavement base layer material
Base layer material specification
Pavement sub-base material
Depth of pavement sub-base material
Date of laying pavement sub-base material
Sub-base layer material specification

Table 8.4: Footways – data required for each length of footway

Road name
Start of footway length (Easting)
Start of footway length (Northing)
End of footway length (Easting)
End of footway length (Northing)
Side of road
Off-set from centre of roadway
Length (m)
Width (m)
Area (m ²)
Material type
Depth of material
Date of laying material
Age of footway
Material specification

8.5 Material Samples

Sampling and testing of mixtures and materials shall be carried out in full compliance with the appropriate standards, e.g. *Design Manual for Roads and Bridges (DMRB) (NRA)* and *Specification for Road Works (NRA)*. Testing and samples shall be provided as frequently as the road authority's procedures require. The sampling and testing regime is required so that the authority can be satisfied that the mixtures and materials comply with the appropriate specification. Results of all testing associated with the road construction, shall be available whenever required for the authority to inspect. It is recommended that the developer or contractor is required to undertake material sampling and testing.

Recommendation: Road authorities should define their own minimum material sample regimes.

Developers and contractors should have an obligation to retain records of material and other tests and to make such records available for the road authority's inspection upon request. The procedures should allow for core samples to be taken, where the material and testing results do not provide the road authority with sufficient confidence that the construction has been undertaken fully to the required standards.

The road authority should have the ability to obtain material samples during construction that they can have tested independently, to confirm compliance with specifications; to access the records kept by the developer or contractor; and to audit their processes.

8.6 Core Samples

The road authority should reserve the right to instruct the developer or contractor, to drill cores (up to 200mm diameter) through the roadway construction to determine the layer thickness, materials used, construction type and standard of installation. These tests shall be undertaken at the expense of the developer or contractor. Alternatively, the developer or contractor may be required to excavate and reinstate trial trenches at their own expense in the presence of the road authority's representative. Where layers are not correct in thickness or material, the procedures should clearly state that the road will not be taken in charge until the works have been corrected. The cost of such testing and coring shall be met in full by the developer or contractor.