

KELLS DEVELOPMENT PLAN 2013 - 2019



Appendix G Kells Business Park Framework Plan

Adopted 7th October 2013



Ceanannas comhairle baile
kells town council



comhairle chontae na mí
meath county council

Kells Business Park Framework Plan 2013

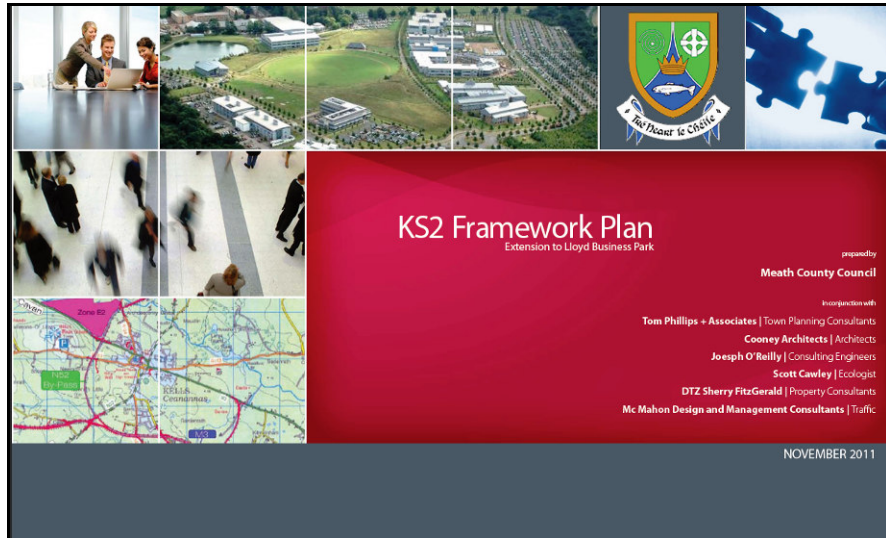


Table of Contents

1	Introduction	1
1.1	KS2 Framework Plan	1
1.2	Executive Summary.....	2
2	Site Location & Context.....	2
2.1	Topography	3
2.2	Local Features	4
3	Proposed Land Use Zoning Objectives	4
3.1	Permitted Uses	5
3.2	Open for Consideration Uses.....	5
3.3	Broad Quantum of Development Available	6
4	Broad Design Concepts.....	7
4.1	Design Hierarchy.....	7
4.2	Building Heights.....	8
4.3	Outline Masterplan Indicative 'Block Plan' Layout	8
5	Traffic & Transportation	11
5.1	Traffic Assignment & Distribution	13
5.2	Overall Traffic Pattern	15
5.3	Traffic Impact	16
5.4	Public Transportation	16
5.5	Pedestrian & Cyclists – Linkages	17
5.6	Mobility Management Plans	17
6	Drainage Infrastructure	17
6.1	Foul Drainage	18
6.2	Surface Water Disposal	19
6.3	Water Supply	20
7	Communications, Telecommunications / Broadband.....	21
8	Development Standards & Design Guide	21
8.1	Site Coverage and Plot Ratio.....	21
8.2	Building Heights.....	22
8.3	Layout and Design Concepts.....	22
8.4	Design Themes	22

1 Introduction

1.1 KS2 Framework Plan



The *Kells Town Development Plan 2007-2013* designated the existing Business Park and lands between the new N52 Bypass and the Business Park as E2 land use zoning objective which sought to:

"To provide for light industrial and industrial office type employment in a high quality campus environment subject to the requirements of approved framework plans and the provision of necessary physical infrastructure".

The lands were also subject to a Specific Objective KS2 of the *Kells Development Plan 2007-2013*, whereby it is identified that there is a need

for the preparation of a Framework Plan for the proper planning and sustainable development of the area to which the Objective applies.

The Planning Authority considers Framework Plans as an effective means of guiding new development, whilst providing essential social infrastructure services in a phased and sustainable manner.

A Framework Plan was prepared in November 2011 and was subsequently accepted by the Planning Authority as satisfying the requirement of the objective in the Kells Development Plan.

The Framework Plan provides an advisory and 'non-statutory' planning document by which the Local Planning Authority will determine subsequent planning applications. It is noted that no planning applications have since been lodged since the Framework Plan was agreed.

The Planning Authorities have reconsidered some of the lands which were previously zoned for E2 land use zoning objective in the preparation of the current draft Development Plan. This has been outlined in detail in Chapter 3 of the draft Development Plan.

This guidance document extracts the principal design rationale from the existing KS2 Framework Plan as still being applicable to the remaining lands.

The purpose of this Framework Plan is to build upon the strengths of the existing Kells Business Park as an attractive location for employment uses allied to its now much improved accessibility and to extend the Business Park in a logical and orderly manner.

Key issues which arise in connection with the production of the Framework Plan are:

- issues surrounding appropriate infrastructure - the vehicular access points to the zoned lands and water services infrastructure, such as waste water and surface water disposal;
- Additionally high design standards are required having regard to the prominence of the lands on a key approach to the town, and;
- allowing for a mix and blend of appropriate employment generating uses namely light industrial, office, warehousing and a flexible scale of users allowing for small starter/incubator units and up to a scale capable of allowing main headquarters buildings or warehousing units.

1.2 Executive Summary

Facilitating Employment Growth

The extension to the Kells Business Park provides an opportunity for a sustainable urban extension to the primary employment zoned lands in Kells. The Framework Plan provides the necessary guidance for the development of the subject lands as required by the Kells Town Development Plan and to ensure the logical, orderly and phased development of the Framework Plan Lands of some 25 hectares.

Employment Mix at the Confluence of Strategic Transport Corridors

The lands are eminently developable and have the added advantage of an enhanced transport infrastructure since the opening of the extended M3 link and the associated N52 Bypass.

Kells is at the confluence of a strategic 'radial' and 'linking' corridor as defined in the National Spatial Strategy and is identified in the Regional Planning Guidelines for the Greater Dublin Area as part of the 'Navan Dynamic Economic Cluster' and as a 'Secondary Economic Growth Town'. The Framework Plan lands are eminently suitable for a range of employment based uses with the advantage of access to the nation's strategic transport corridors.

Providing a Structured and Phased Development

The extensive land area requires a planned approach to ensure that the lands are not developed in a piecemeal fashion.

Supporting infrastructure, namely vehicular access, water services, pedestrian and open space corridors, are provided for to ensure that the pattern of development will not compromise the planned approach to the development of the Framework Plan lands.

The form, design and layout of development, whilst providing design flexibility and architectural expression, targets basic design principles to ensure an organised, well structured and attractive campus-style approach to development incorporating such items as;

- establishing strong building lines whilst providing streetscape,
- incorporating a landscaping plan and open space hierarchy.

The phasing of the Framework Plan lands is important to ensure that appropriate infrastructure is in place to serve the relevant phase of development. The phasing of the lands ensures that development is logical and centred around the delivered infrastructure, primarily radiating from the 2 no. nodal access points (1 new and 1 existing access points).

2 Site Location & Context

The Framework Plan lands measure some 24 hectares in extent and are located approximately 1.2 kilometres from the western extremity of the designated town centre. The extent of the lands is identified on the aerial photograph in Figure 1 overleaf. They are located principally between the existing developed Kells Business Park to the west and close to the N52 to the east.

The lands are bounded by the R147 Cavan Road (former N3) and as such are extremely accessible by the existing and recently improved road network and, in particular, the new M3/N52 Interchange.

Figure 1 : Extent of Framework Plan Lands



The Framework Plan lands fall to the north west of Kells Town Centre and are adjacent the existing Kells Business Park, which provides an existing significant employment base for the town and its hinterland. The existing Business Park benefits from an access from the R147 Cavan Road (former N3). The lands are generally open in nature and are currently in agricultural use but provide for a natural extension for employment uses, which will bring the employment focus of the lands closer to the town whilst allowing for the consolidation of the town's development envelop.

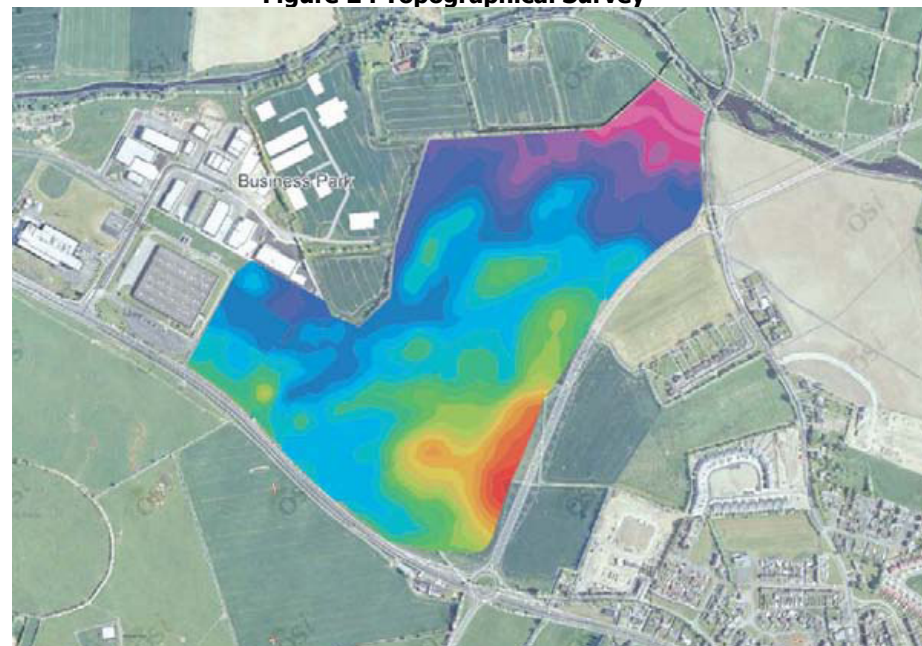
The lands are the subject to the following land use zoning objective in the draft *Kells Development Plan 2013 – 2019*

E2 General Enterprise & Employment Objective -*To provide for the creation of enterprise and facilitate opportunities for employment through industrial, manufacturing, distribution, warehousing and other general employment / enterprise uses in a good quality physical environment.*

2.1 Topography

A full topographical survey of the original KS2 Framework lands was undertaken. The lands are undulating, with the field patterns irregular in shape and divided by a series of hedgerows.

Figure 2 : Topographical Survey



Source: KS2 Framework Plan

2.2 Local Features

A number of existing hedgerows have been identified on the site and represented in the following graphic. Where possible, it will be a priority to ensure that these features will be incorporated within the Framework Plan and any future development proposals.

Where it is not possible to retain hedgerows, new connections will be established through the provisions of semi-mature planting as part of the landscape design strategy.

Figure 3 : Identification of Dominant Hedgerow Features



Source: KS2 Framework Plan

3 Proposed Land Use Zoning Objectives

The subject lands falling within the Framework Plan area are exclusively zoned for a range of employment based uses referred to under the E2 General Enterprise & Employment land use zoning objective as contained within the draft *Kells Town Development Plan 2013 – 2019* and are described as follows:

E2 General Enterprise & Employment

Objective -To provide for the creation of enterprise and facilitate opportunities for employment through industrial, manufacturing, distribution, warehousing and other general employment / enterprise uses in a good quality physical environment.

Chapter 2 (Strategic Context & Core Strategy of the draft Kells Development Plan) provides guidance for the nature and range of uses which will normally be permitted and those which are open for consideration on such lands.

These lands constitute an important land bank for employment use in Kells which must be protected. The development of E2 zoned lands seek to provide for the creation and production of enterprise and facilitate opportunities for industrial, manufacturing, distribution, warehousing and other general employment / enterprise uses in a good quality physical environment.

It is noted that no office type use shall be permitted on E2 zoned lands where the primary use of the office (or service) are provided principally to visiting members of the public e.g. solicitors, accountants, etc. This seeks to protect the primacy of the town centre for such uses.

Chapter 2 also notes that Kells is included in Category 1 – Primary and Secondary Economic Centres as identified in the draft Meath County

Development Plan 2013-2019. In such centres, E2 zones provides for industrial and related uses subject to the provision of necessary physical infrastructure. They allow the full range of industrial processes to take place within a well designed and attractive setting.

3.1 Permitted Uses

Agri – Business, Bring Banks, Builder’s Providers, Car Park (incl. Park and Ride), CHP / Waste to Energy Facilities, Domestic Fuel Depot, Energy Installation, Enterprise & Business Start Ups, Enterprise / Training Centre, Factory Shop, Furniture Showroom (only where product displayed is manufactured on site), Go Kart Track, Industry – General, Industry – Light, Heavy Vehicle Park, Logistics, Mart / Co-op, Motor Repair / Servicing, Plant & Tool Hire, Recycling Facility (Civic & Amenity), Science & Technology Based Enterprise, Telecommunication Structures, Transport Depot, Warehousing, Water Services / Public Services.

3.2 Open for Consideration Uses

Abattoir, Car Dismantler / Scrap Yard, Childcare Facility, Construction & Demolition Waste Recycling Facility, Garden Centre, Motor Sales, Offices 100 – 1,000 sq. m., Petrol Station, Restaurant / Café, Veterinary Surgery, Waste Recycling / Transfer / Sorting Centre, Wholesale Warehousing / Cash and Carry.

The Framework Plan objectives thus provide for a mix of land uses complementary to the existing Business Park as follows:

- Industrial,
- Light industrial,
- Warehousing,
- Office type development,
- SME’s, and
- Start-up employment activity.

The considered land uses for the Framework Plan area will follow the broad range of employment based uses as proposed by the draft *Kells Development Plan 2013 – 2019* maximising the range of uses thus offering a wide variety of employment based uses to match the skills base of the local population.

It is not envisaged that large offices (in excess of 1,000 sq. m.) would be accommodated at Kells Business Park but rather in town centre / edge of town centre sites to maximise the synergies between such development and retail / hospitality sectors in the town and maximise potential for integrated land use and transportation. Proposals for such large scale offices will be considered on their individual merits and preference would be afforded to such developments locating within walking distance of the public transport corridor (R147).

The location of the KS2 lands adjacent, and proximate to the M3/N52 interchange, provides opportunities for employment uses, which will benefit from good accessibility to the national primary and secondary road network. Principal uses, which require good and preferential road access, will be logistical, storage and warehousing based uses. Whilst such a location could be favoured by such end users, they do not provide favourable or optimum employment densities, being considered to employ an average 1 person per 50 – 100 sq. m.. For this reason, a mix and range of uses will be sought to be provided throughout the Framework Plan area to ensure the opportunity to maximise employment generation and range of activities.

Industrial and light industrial uses will present manufacturing opportunities, such as electrical engineering, pharmaceuticals industry, etc; and the land’s location away from principal residential areas will also allow heavier or manufacturing type uses providing skilled and semi-skilled jobs for the resident and hinterland population. Light industrial uses and operations are categorised as uses appropriate for locating proximate residences as they do not affect residential amenities. They can be located

appropriately within the site to form buffers to other uses or more sensitive existing developments.

The subject lands, serviced by a number of road network links of a primary and secondary nature also offer opportunities for new types of high technology uses or uses related to renewable energy and green industry development.

The existing Kells Business Park provides a range of light industrial and office based uses, wholesale and distribution warehousing, car based uses and complementary service uses such as a children's play facility. The Framework Plan lands provide an opportunity to extend and expand the existing Business Park with a similar range of uses, whilst also permitting the full range of uses permitted in principle under the E2 land use zoning objective. The external image to the Business Park on the principal road frontages in part determines the type and range of uses and their locations.

3.3 Broad Quantum of Development Available

The Framework Plan is based on principles of sustainable development whilst providing for a well designed and plan led approach to the extension of the existing Kells Business Park.

The Business Park will be designed to a high architectural design standard in an attractive campus-style layout. This type of layout lends itself to attracting future development and investment.

The Business Park should develop in a logical and orderly form in a sequential manner and focussed on the preferred access nodes and radiating from same to meet, connect and to provide a coherent planned format.

The quantum of development achievable on the subject lands will need to be considered flexibly but is dependent on, and determined by, the types

of uses permissible on the lands. For example, if the lands were to reflect a dominant element of storage and distribution warehousing type uses, the quantum of development achievable would be much less than office based uses which could extend over 2 or even 3 storeys in suitable locations and thus have a higher plot ratio. The quantum of development will therefore be reflective of the combination of site coverage and plot ratio.

Plot Ratio

Plot ratio is the relationship between the site area and the total floor area of the buildings erected on it. Its purpose is to prevent the adverse effects of both overdevelopment and under-development on the amenity and layout of buildings to achieve desirable massing and height of buildings, and to balance the capacity of the site.

As plot ratios are used to protect amenity, higher plot ratios will only be permitted where high standards of design and appropriate building mixes are achieved. Plot ratio is determined by the following equation:

Gross floor area of building / Site Area = Plot Ratio

Other factors that will be applied alongside plot ratio in order to give a more qualitative definition to the built form include building height, public open space provision, etc.

It is considered that a general acceptable plot ratio would within the Framework Plan lands would be in the following order:

- Industrial / Manufacturing 0.5
- Warehousing / Logistical 0.5
- Office 0.8 – 1.2 (depending on whether 2 or 3 storey)

Site Coverage

Site coverage is expressed as a percentage, determined by dividing the Ground Floor Area by the Gross Site Area taken from behind the building line. The purpose of site coverage control is to prevent over development, to avoid overshadowing and to protect rights to light of adjoining properties.

Ground Floor Area/ Gross Site Area x 100 = Site Coverage

It is considered that the general acceptable site coverage within the Framework Plan lands would be in the following order:

- Industrial / Manufacturing 40%
- Warehousing / Logistical 40%
- Office 40%

4 Broad Design Concepts

The extended Business Park will represent an opportunity to expand on the town's employment based economy through the natural extension of the existing Kells Business Park. This Business Park benefits from a much enhanced road access located on the Bus Éireann route from Cavan to Dublin (route 109 / 109A) with improved pedestrian and cycle access proposed linking the Business Park into the town.

The extension of the Business Park and consolidation of employment-based developments will enhance opportunities for shared car journey and travel patterns by locating the employment uses in an urban fringe location but with convenient access to Kells and the adjoining population centres.

The increased availability of employment land will ensure that Kells has the opportunity to better support its resident population by presenting zoned and serviced urban lands to ensure employment opportunities for its existing commuter dependent population.

4.1 Design Hierarchy

The proposed extension is intended to have a strong design philosophy to present a legible Business Park, which will enable visitors and users alike to orientate themselves easily.

A design hierarchy of gateway locations represented by the key access nodes will form entrances into the Business Park, which will be linked allowing full permeability, addressed by legible boulevard/street patterns.

The Framework Plan has identified visually prominent parts of the site that provides an opportunity for increased height profiles or gateway buildings with well articulated facades. Well designed and visually prominent buildings at such locations will provide local reference points and provide an identity as an arrival point along the bypass and as a key entrance to the town, thus contributing positively to the external image of Kells.

There will be a preference for the location of the bulk of car parking and service areas behind the main building line when presented to the main carriageway. The close proximity of elevations to the carriageway will create a streetscape and ensure that parking forecourts and servicing areas, whilst acceptable to the front of buildings, should not be allowed to dominate and undermine the visual quality of developments.

The incorporation of quality boundary treatments inclusive of landscaping and attractive wall/railing finishes will enhance the quality of development and provide consistency in the treatment of long road frontages. The Framework Plan presents a suitable palette for the development of single sites and to ensure consistency of approach and a recognisable identity.

Complementary uses will be acknowledged as important within new buildings in accordance with the uses specified as *permissible* or *open for consideration* uses under the draft *Kells Development Plan 2013-2019*. Complementary uses such as a small convenience store/shop perhaps as part of a café/restaurant and childcare facilities will generate shared trips

and synergy between different parts of the Business Park area. Combined with a common approach to architectural treatment, building line position and boundary treatment, complementary uses will foster a sense of identity and coherence to the built form across the area. Such conditions will add to the attractiveness of the area as a commercial destination.

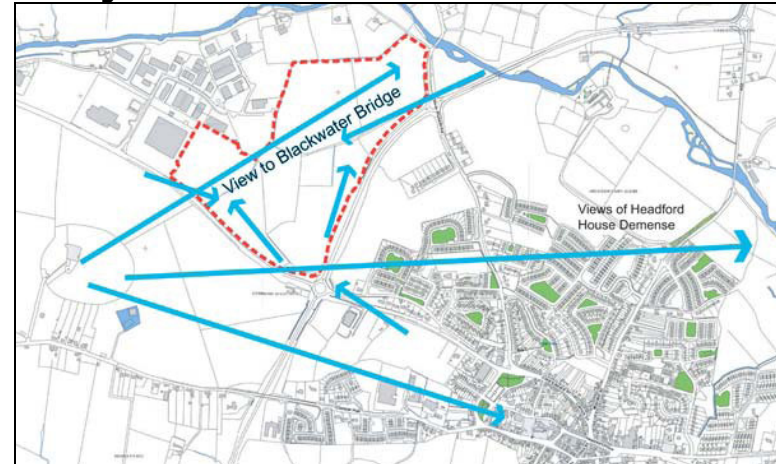
4.2 Building Heights

In general building heights will be of two storey height but with opportunities on key access and nodal points and perimeter fringe and key road frontage locations to the surrounding road network (i.e. R147 Cavan Road) to attain heights of potentially 3 storeys in height.

4.3 Outline Masterplan Indicative 'Block Plan' Layout

The proposed form and layout of the Framework Plan Lands has evolved from the consideration of a constraints and opportunities analysis including; access and permeability requirements, topographical survey, landscape and ecological corridors, open space requirements and the logical phased development of the subject lands. The Planning Authority had regard to these relevant layers in firstly determining and informing the extent of lands to be retained within the land use zoning objective and secondly the layout of the Framework Plan itself.

Figure 4 : Identification of Views within Framework Plan lands



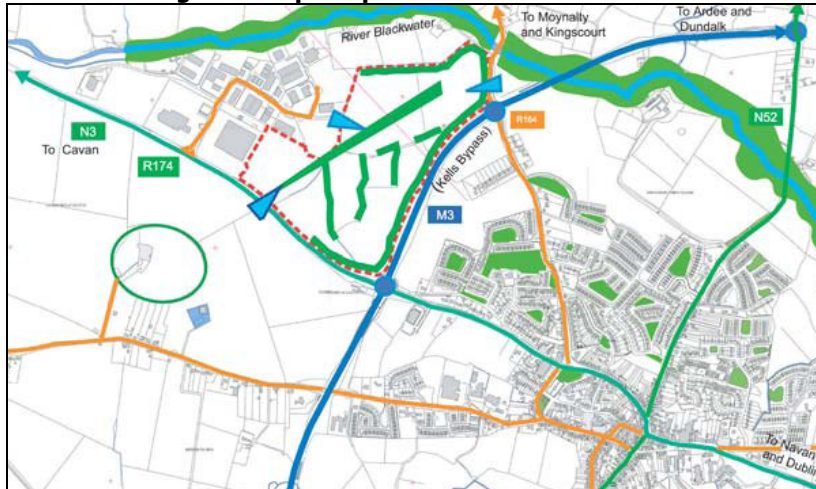
Source: KS2 Framework Plan

Figure 5 : Identification of Amenity Points / Views



Source: KS2 Framework Plan

Figure 6 : Open Space in Context



Source: KS2 Framework Plan

The road access points have been determined by a new access point onto the R147 and by extending the existing access points internally within the existing Kells Business Park.

The Framework Plan provides for a hierarchy of linked open spaces orientated and supported around the existing vegetation to be retained (where possible and practicable) and the suggested network of pedestrian, cycle and vehicular access. Such areas also provide wildlife refuge biodiversity corridors as promoted in the Green Infrastructure Strategy and infrastructure for the sustainable urban drainage schemes to be provided. All applications lodged on these lands should be accompanied by a landscape plan with proposals to protect and enhance the sites biodiversity.

The indicative block layout plan (refer Figure 7) does not purport to identify a quantum of floor space but rather a general organisation of building blocks relative to the road layout and open space. The main area of open space is identified at a relative high point internally within the site and falls towards the impressive River Blackwater valley and views towards Mabses Bridge. Individual planning applications shall be accompanied by a design statement which shall demonstrate general consistency within this Framework Plan. A design statement shall be prepared for each area of the Framework Plan and it has been determined that these areas shall coincide with land ownership as these are the most likely land parcels to be brought forward to the development management process. The design statement shall also determine appropriate building lines relative to the road network ensuring, where possible, that car parking (other than for visitors or customers) is provided to the rear of the main building line. It is not considered necessary for this Framework Plan to be prescriptive in this regard. The design statement shall also contain a landscaping plan with proposals to protect and enhance the sites biodiversity.

It is not intended that the Framework Plan be overly prescriptive with regard to individual styles and design of the buildings proposed on the lands. The Planning Authority would point to the Ashbourne Business Park on the Ballybin Road as an exemplar of best practice in this regard whereby there is a coherent and consistent building style, form and finish which is more aesthetically pleasing than each building presenting an individual appearance and finish. A similar design approach will be encouraged in the expansion to Kells Business Park.

The indicative block layout plan indicates that buildings of different scale can be accompanied side by side within an overall campus environment. The end users, whilst providing a range of uses but predominantly a combination of manufacturing, distribution and warehousing, light industrial and office use at appropriate locations within the site. The extension to the existing Business Park also provides the opportunity to

Figure 7 : Framework Plan Indicative Layout



provide for a themed “Business Park” established to attract users involved in the development of sustainability and renewable energies which may have a large footprint requirement arising from the storage of raw materials.

The design and layout will promote the use of sustainable designed themes such as sustainable urban drainage, rainwater harvesting, the promotion of alternative modes of travel such as walking and cycling within and to the Business Park. It will be incumbent on all future uses to promote the use of renewable energy and lifetime design criteria designing in, for example, solar panning, micro turbine technology, etc.

Heat and power sources for the Business Park could be innovatively obtained from bio-energy or combined heat or power sources. Alternative energy installations and business related to same will be encouraged and permitted in principle within the Business Park.

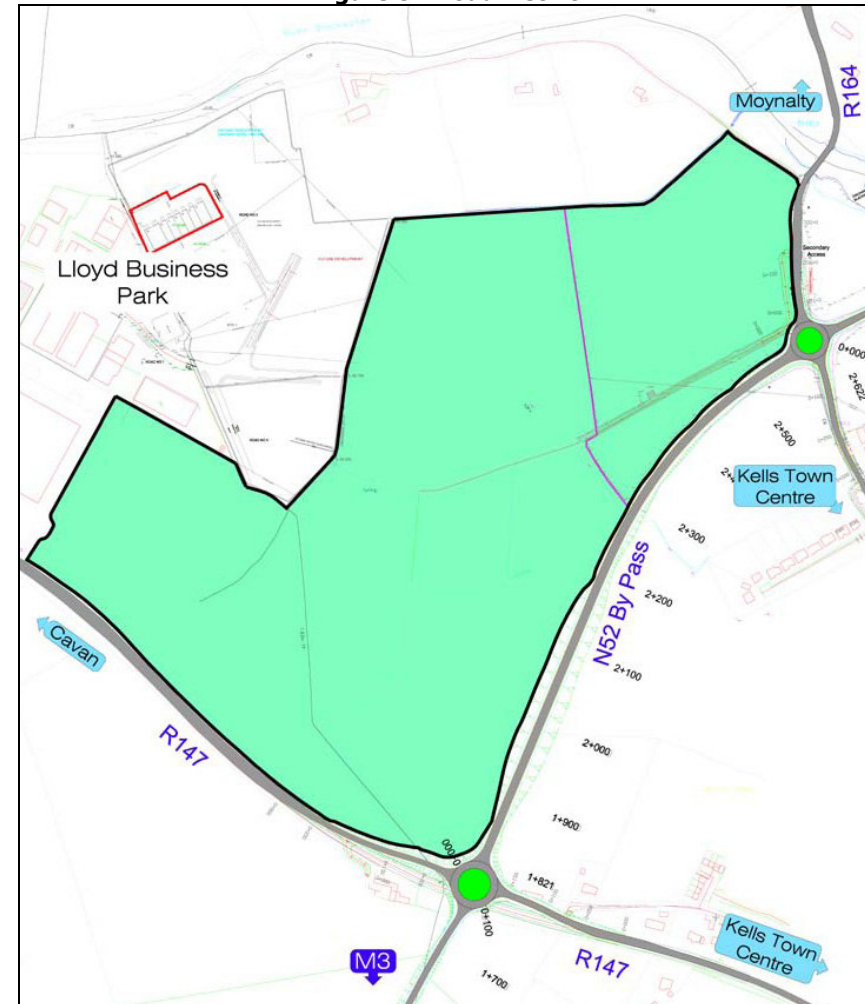
5 Traffic & Transportation

The necessary and required access points will provide a high level of accessibility, satisfactory distribution of traffic on the approach roads, shortest travel distances and an effective travel framework for motor vehicles, public transport and pedestrian and cycle movements.

In effect, there is available capacity on the local and area-wide road infrastructure and there is no reason why the development of the lands could not proceed from a traffic infrastructure perspective.

The proposal area is situated northwest of Kells Town Centre and has road frontage onto the Cavan Road (R147 – the former N3) to the south and west. The local road network is shown in Figure 8. The N52 Bypass in conjunction with the M3 Motorway development is now completed and fully operational as of July 2010.

Figure 8 : Road Network



Source: KS2 Framework Plan

The traffic flows will be within the envelope of the EIS for the M3 Motorway at both area-wide and local levels.

In the proposed Access scenario, the access points would be off:

- (i) The R 147 (formerly the N3)
- (ii) The existing access point for the Kells Business Park area (with internal road connection to the new development area at 2 locations).

In October 2006, a traffic count at the existing entrance to the Kells Business Park provided base traffic data and this has been expanded to provide traffic data for the full development of that Business Park as shown in Table 1.

Table 1 : Kells Business Park 2006 Survey & Predicted Peak Hour Traffic Volumes.

Kells Business Park	Trips AM Peak Hour		Trips PM Peak Hour	
	Arrivals	Departures	Arrivals	Departures
2006 Survey Data	241	59	96	257
	482	118	192	514

In the case of the additional 24 hectares, site coverage has been adopted and this results in an additional gross floor area of approximately 115,200 sq. m. A split of land area on the basis of 40:40:20 has been assumed between manufacturing / light industrial, warehousing / distribution and office use. The site coverage for each use is taken at 40% and the plot ratio for the first two categories is 0.4 whilst for the latter is 0.8. To ensure that a worst case scenario is depicted, no allowance has been

made for open space or for area devoted to roads, footpaths, cycle paths, etc. other than a slight reduction in plot ratio (0.4 rather than 0.5 for manufacturing / light industrial and warehousing / distribution and assuming that office buildings will not be greater than 2 stories in height).

Peak hour trip generation rates have been taken from TRICS (Trip Rate Information Computer System) and the relevant volumes are as follows:

Table 2 : 25 hectare Development – Peak Hour Trip Generation Values

Kells Business Park	Floor Area M ²	Morning		Evening	
		In	Out	In	Out
Warehousing & Distribution	38,400	53.7	15.4	11.5	65.3
Manufacturing / Light Industrial	38,400	107.4	26.57	23.02	134.27
Office	38,400	703.8	80.33	99.45	562.28
Totals	115,200	864.9	122.3	133.97	761.85

Combining the sets of data gives the following Table 3

Table 3 : Predicted Two Way Traffic Volumes for AM & PM peak hours

	Trips AM Peak Hour		Trips PM Peak Hour	
	Arrivals	Departures	Arrivals	Departures
Kells Business Park	482	118	192	514
24 ha. park	865	122	134	762
Total	1,347	240	326	1,276
Total Two Way Traffic	1,587		1,602	

Table 4 : Distribution of all Generated Traffic

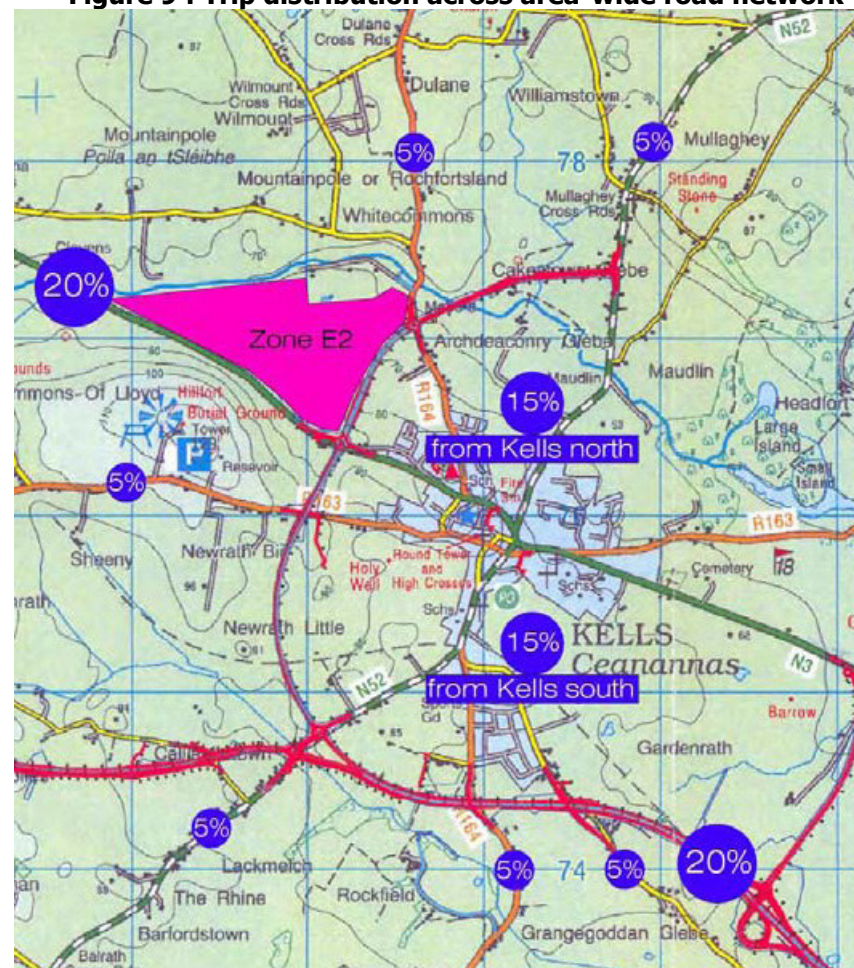
		Traffic Volumes	
		AM Peak	PM Peak
	%		
Cavan Road	20%	317	320
Moynalty Road	5%	79	80
Ardee Road	5%	79	80
Oldcastle Road	5%	79	80
Delvin Road	5%	79	80
Athboy Road	5%	79	80
Bohermeen Road	5%	79	80
Navan (N3-M3)	20%	317	320
Kells (north)	15%	238	240
Kells (south)	15%	238	240
Total	100%	1,584	1,600

The peak traffic volumes are Evening Peak Hour although only marginally higher than Morning Peak Hour with the directional split reversed.

5.1 Traffic Assignment & Distribution

At present, traffic generated by Kells Business Park splits 80 / 20 at the access point on the R147 (former N3) with 80% on the Kells approach and 20% on the Cavan approach. It is assumed that the 20% on the Cavan approach will remain and it is envisaged that the 80% will be distributed on the Kells Road network in the values shown in Figure 9.

Figure 9 : Trip distribution across area-wide road network



Source: KS2 Framework Plan

An assignment of the total generated traffic results in a balanced and equitably distributed traffic loading in the 2-Access scenario as shown in Figures 10 and 11 for the AM and PM peak hours respectively. It presents the best fit solution with no undue loading on either individual access point and with an effective distribution of traffic throughout the road network in Kells.

Figure 10 : Assignment of Generated Traffic to the Road Network - AM Peak Hour

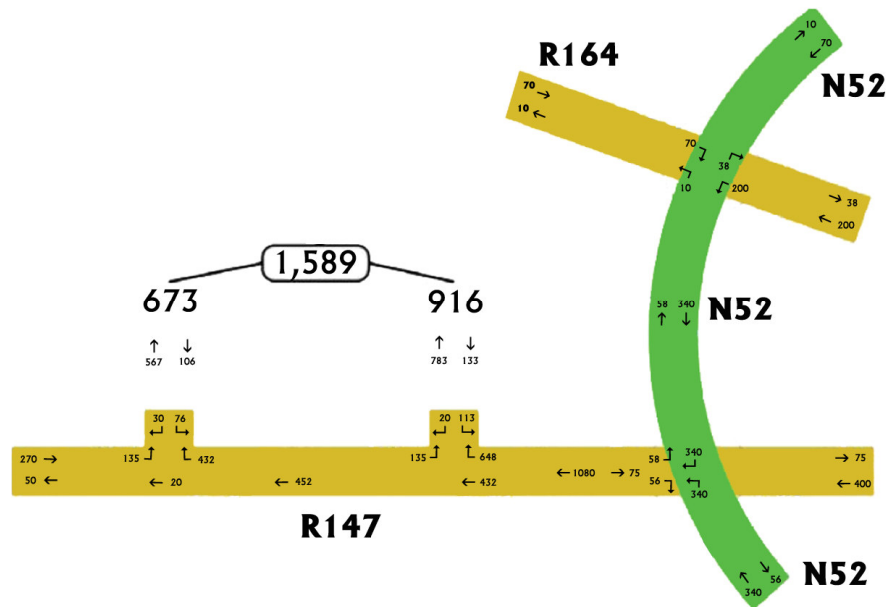
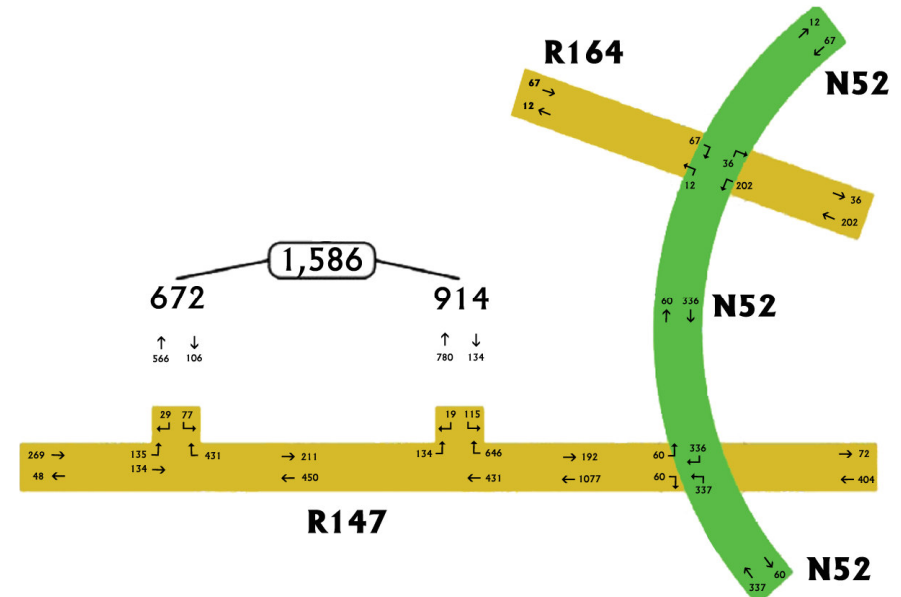


Figure 11 : Assignment of Generated Traffic to the Road Network - PM Peak Hour



It is accepted that the provision of the Moynalty Road access (as included in KS2 Framework Plan) or the provision of an access onto the N52 would be preferable to the proposed arrangements whereby the sole access points are onto the R147. Nonetheless, the volume of traffic proposed onto the R147 and the roundabout of the R147 / N52 bypass is less than that projected in the original KS2 Framework Plan due to the reduction in the overall land area from 40 hectares to 25 hectares. The proposed access points will provide a high level of accessibility, satisfactory distribution of traffic on the approach roads, shortest travel distances and an effective travel framework.

5.2 Overall Traffic Pattern

The Environmental Impact Statement for the M3 predicts that the AADT (Average Annual Daily Traffic) on the R147 (the former N3) will be 3,700 vehicles / day in 2024.

A recent traffic survey on the N52 at Kells indicates that traffic volumes have decreased by 12% in the interim. Economic indicators suggest that growth may not return immediately and may not reach previous growth levels for some years. In those circumstances, and taking an average reduction of 14% on the predicted levels for 2024, the AADT would be;

R147 3,200 AADT

Existing data indicates that the Peak Hour / AADT ratio ranges from 8% to 10% on the R147. It is proposed to adopt a figure of 9% and this gives Peak Hour flows of 288 vehicles / hour on the R147.

The distribution of Peak Hour flows on the then N 3 (now R147) prior to the opening of the M3;

Morning Peak Hour N3 43% / 57% (Northbound / Southbound)

The corresponding data for the Evening Peak Hour was;

N3 (now R147) 60% / 40% (Northbound / Southbound)

In general terms, a directional split of 40 / 60 and 60 / 40 (for morning and evening peak hours respectively) provides a reasonable basis for assessment with the flows towards Kells being highest in the morning and the flows outwards being highest in the evening.

Combining this data gives the following base traffic pattern for 2024.

Figure 12: Overall Traffic Flows - AM Peak Hour

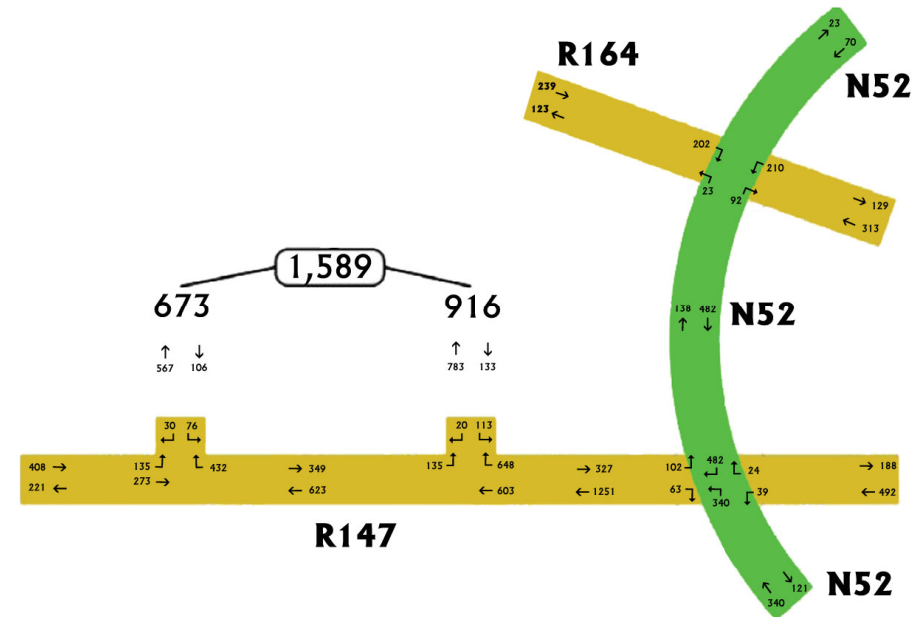
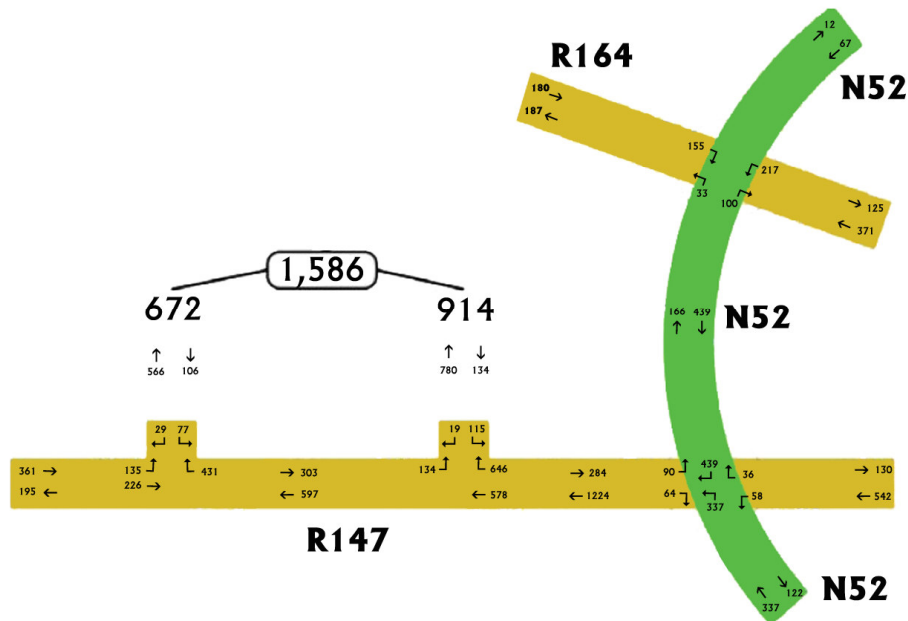


Figure 13 : Overall Traffic Flows - PM Peak Hour



5.3 Traffic Impact

The overall development of the Framework Plan area is a substantial undertaking and the traffic flows which will be generated are significant. However, the proposal to have 2 access points proximate to the N52 bypass and with excellent access to the M3 provides a basis for effective distribution of traffic. In addition, the opening of the M3 has had the effect of catering for the arterial traffic which previously used the N3 with the effect that the R147 (the former N3) is available to accommodate the traffic which will be generated by the proposed development

Key points relating to traffic flows include;

1. The generated traffic flows on the section of the N52 are predicted not to be significant in terms of impact or capacity. It is to be noted that Figures 12 and 13 do not incorporate base traffic on the By-Pass as its volume is not yet properly established. However, it is known that AADT on the N52 at both the north and south of Kells is of the order of 3,500 to 3,800 AADT. The flows will be less than those predicted in the EIS for the M3.
2. Traffic flows on the relatively short section of the R147 (formerly the N3) are predicted to be 1,441 and 1,377 vehicles / hour at AM and PM peak hours respectively. These compare with previous levels of 979 and 1,095 vehicles / hour in 2006. These levels would be expected to have been higher in the years prior to the opening of the M3 in July 2010. The traffic flows are within the capacity of the road and of the roundabout on the R147 / N52 by-pass.
3. Traffic flows on the section between the two access points on the R147 (formerly the N3) are predicted to be 935 and 958 vehicles / hour in the AM and PM peaks respectively. These flows are effectively the same as those which pertained on the former N3 in 2006 and are comfortably within the capacity of the road.

5.4 Public Transportation

At the present time, there is a regular bus service on the R147 (former N3). The buses stop directly across from the existing access (northbound) and on the left turn lane (southbound). This is not entirely satisfactory as employees have to make their way on foot from the R147 to their place of work.

The proposed development has 2 access points onto the R147 with an integrated internal road system in the overall Business Park. This

arrangement provides a facility for buses to enter the Business Park at either of the access points and to leave via the other thereby availing of the internal road system to set down and pick up passengers in an efficient and user-friendly manner. The dual access / integrated internal road system will facilitate public service buses from all directions and will also facilitate the use of private or shuttle buses directly to the town centre or via a road circuit in Kells.

5.5 Pedestrian & Cyclists – Linkages

As in the case of public transport, the dual access points will facilitate pedestrians and cyclists. The Planning Authority will seek to develop additional access points for cyclists from the Moynalty Road and Cavan Road in order to provide the most direct route from home to place of work with the shortest travel distance. Footpaths & cycle ways will be provided throughout the lands. These will follow desire lines, where possible. Footpaths will be overlooked by buildings and lighting will be provided for safety and security.

The net effect will be a pedestrian infrastructure with the minimum conflicts and an optimum environment for pedestrian use.

The situation is the same for cyclists in that they will have a choice of travel routes between, primarily, north Kells / south Kells and individual units in the Business Park. This will provide for the most direct route, shortest travel distance and optimum convenience for cyclists.

The opening of the M3 Motorway has had the effect of substantially reducing traffic flows on the Cavan Road approach to Kells. In addition, the former N3 is now re-classified and is a Regional Route (R147) with a corresponding reduced speed limit of 80kph. This establishes a situation where a cycle way could be provided in the landscaping buffer along the Cavan Road extending from Fr. McCullen Park, crossing the N52 By-Pass, and linking with both access points on the R147. This would be expected

to generate greater cycle use and would have the effect of reducing traffic volumes.

5.6 Mobility Management Plans

Mobility planning by business and institutions that have high numbers of employees is a way of promoting sustainable means of travel, reducing traffic congestion in urban areas and making more efficient use of land by reducing the need for car parking.

Mobility management plans will be required to accompany planning applications for significant new development or redevelopment of existing premises. Permission for high employment businesses will be conditional on the capacity to implement a sustainable mobility management plan.

Mobility management plans must address;

- The need to provide adequate, affordable and sustainable means of access for employees, visitors and others (e.g. students);
- The need to promote and support alternative means of transport to the private car, i.e. public transport, cycling, walking;
- The need to minimise the impact of traffic and parking generated by the business or institution in the surrounding areas, and ;
- The need to manage on-site parking.

It is the policy of Meath County Council to require major developments and existing large employers to promote alternative modes of transport for workers as part of their mobility plans.

6 Drainage Infrastructure

All of the proposed development within the Framework Plan lands will require a water supply, wastewater disposal and surface water disposal. It is estimated that approximately 115,200 sq m of development can be

achieved on the 25 hectare Framework Plan lands. For strategic planning purposes, the population equivalent is calculated based on the DoELHG recommendation of 10 m³/day/hectare. This translated to a population equivalent of 50 PE / Hectare, and a total of 1,250PE for the Framework Plan lands.

6.1 Foul Drainage

Existing Foul Drainage Network

There are two existing foul sewer networks in the areas surrounding the Framework Plan lands.

There is a 225mm public foul sewer that terminates adjacent to the Blackwater Heights housing estate which appears to be in good operating condition. It is located approximately 800 meters to the east of the proposed Framework Plan lands. This public sewer ultimately discharges to the Kells Waste Water Treatment Plant located off the R163 Headfort Road to the east of Kells town.

There is an existing foul sewer network serving Kells (Lloyd) Business Park located directly adjacent to the western boundary of the Framework Plan lands. This public sewer ultimately discharges to the Lloyd Waste Water Treatment Plant located in the Kells (Lloyd) Business Park.

Kells Waste Water Treatment Plant

The Kells Sewerage Scheme will include extensive rehabilitation/upgrade of the foul sewer network to eliminate a high proportion of the infiltration/storm water present and an extension of the existing WWTW to a currently undetermined capacity. The Kells Sewerage Scheme is included in the current Water Services Investment Programme 2010 - 2012 as a Scheme to Advance through Planning.

Lloyd Wastewater Treatment Plant

The wastewater treatment plant in the Kells Business Park, which is adjacent to the western boundary of the Framework Plan lands, has a design capacity of 400 PE.

As per *Meath County Council* Wastewater Discharge License application to the EPA in December 2009, the loading on the plant was 32PE. The estimated (existing + pending + projected) maximum loading on the plant in 2017 will be in the order of 132 PE. This would leave available capacity of approximately 268 PE which could be utilised to facilitate the development of lands in this area, including part of the Framework Plan lands.

As per *Meath County Council* Wastewater Discharge License application to the EPA, it is intended to connect the Kells Business Park to the Kells Sewerage Scheme, when it is upgraded, and to decommission the Lloyd WWTW. The wastewater from the Kells Business Park will then be pumped to the upgraded Kells Sewer Network.

Proposed Connections

It is proposed to connect the initial phases of development to the existing Lloyd WWTW which, at present has some additional spare capacity

Future phases of the development could, subject to an agreed phasing programme, be connected to the upgraded Kells Wastewater Treatment plant, once the new Kells Sewerage Scheme is completed and operational.

Should the new Kells Sewerage Scheme not be realised as anticipated, a proposal to upgrade the existing Lloyd Wastewater Treatment Plant will be considered subject to compliance with the EU Habitats Directive.

Internal Network

Based on a final discharge point on the existing foul sewer network at Kells Business Park and the general topography of the Framework Plan

lands, a foul sewer pumping station will be required. The pumping station will be designed to the requirements of *Meath County Council* Environment and Water Services Department and the Kells Area Office. 24 Hours emergency storage will be provided in the event of pump / power failure.

The internal foul sewer network will flow by gravity to the proposed pumping station and be designed in accordance with IS EN 752 "*Drain and Sewer Systems Outside Building*" and BS 8301 and its recommendations. Pipe Capacities are based on a hydraulic roughness of 0.6 as defined by Colebrooke-White equation for slimed condition i.e. the build up of microbiological slime. The choice of gradients will be determined by the recommendations of BS 8301 C.L 7.4.4.4 and IS EN 752 and followed throughout the design of the foul drainage.

Flows from canteens, etc. will be passed through internal grease traps prior to combining with the flows from other facilities.

6.2 Surface Water Disposal

The present land use of the site is agricultural, and surface-water runs are to the adjacent River Blackwater. Subsoils are relatively permeable. Annual rainfall in the region is approximately 900mm. (The maximum rainfall return statistics for Kells Town, as supplied by Met Éireann.)

Surface Types

A number of different surfaces will be present on the developed site. Some areas at the periphery will remain grassed or be landscaped and will thus be similar to the present situation. The immediate access to the site (from the public road) will be surfaced in asphalt, the car parking aisles will be surfaced in bitmac and the service yard area in concrete, all of these surfaces being impermeable. Car parking bays will have a porous-pavior surface. Hard-surfaces areas will be bounded by kerbs, where appropriate.

Surface Water Management

As part of the Greater Dublin Strategic Drainage Study (GSDSDS), a regional policy has been prepared that facilitates the provision of sustainable stormwater drainage infrastructure across the Greater Dublin Area (Dublin City Council, March 2005). This policy recommends that SuDS be implemented on all new developments, wherever practical. The policy for greenfield sites (i.e. natural undeveloped sites) is that greenfield runoff rate defined as the annual maximum flood rate should not be exceeded for rainstorm events of 1 in 30 year return period.

SuDS Implementation

The main elements of the SuDs design are "*Quantity*", "*Quality*" and "*Amenity*". "*Quantity*" refers to the quantity of surface water generated by the development and the discharge to local watercourses / public surface water network and must be restricted to the pre-development greenfield run-off rate. This can be achieved by storage of surface water. The two main type of storage used in a SuDS design are Interception Storage and Treatment Storage.

Interception storage includes soakaways, permeable paving, infiltration trenches and rainwater harvesting. Treatment storage includes attenuation / retention ponds.

Water Quantity

It is proposed to implement both interception storage and treatment storage in the surface water management design for the development.

Infiltration tests in accordance with BRE 365 were undertaken at the site, and the ground is deemed to be suitable for surface water infiltration methods / interception storage. An individual design will be carried out for each site within the Framework Plan lands at planning permission stage.

Attenuation / Retention ponds shall be proposed within the development on individual sites. A main attenuation / retention pond shall also be provided to the west of the Framework Plan lands.

Water Harvesting will be implemented where roof run-off will be collected and stored for use as a grey water supply. This grey water will be used for toilet flushing and horticultural / landscaping maintenance etc. This will reduce surface water run-off and also decrease overall water demand.

The effect of the proposed system will be to reduce the magnitude of run-off to that of the present site i.e. the calculated greenfield run-off rate. The system will be designed for a 100-year rainfall event.

Water Quality

Passage of surface-water through the voids of granular sub-base (for infiltration purposes) is also an efficient method for the removal of any drips or minor spillages of fuel and oil from vehicles. The organics are broken down by bacteria that colonise the granular material, and the installation of a petrol/oil interceptor in the drainage system is thus not required. In addition to the break-down of organic materials, heavy metals are removed from the surface-water to a significant degree. A petrol/oil interceptor will be installed on all non filtration surface water networks and at the final discharge point.

The attenuation / retention ponds will provide an amenity for the development occupants and also local wildlife.

Final Discharge from Site

The surface-water from the site will discharge the River Blackwater that runs northeast of the site. The final discharge will come from the main attenuation / retention pond and the outflow will be fitted with a flow control device to restrict the outflow to the greenfield run-off rate as described above.

6.3 Water Supply

The site will be served by a public watermain nearby on the R164 Moynalty Road. A closed loop will be installed from the end of the feed at the R164. The 100mm gravity main will be looped to meet the 150mm diameter main on the R164 (Moynalty Road). Each unit's supply will branch off from this closed 100mm diameter loop. In the event that this supply cannot be secured due to land ownership issues or other, an alternative solution will be considered or the Planning Authority will seek to secure the necessary wayleave to facilitate same.

Kells is supplied with water from the Kells/Oldcastle Water Supply Scheme (WSS). The Kells/Oldcastle WSS at present does not have the capacity for the entire KS2 lands.

At present *Meath County Council* are working on water saving measures through water conservation leak detection and repair measures being carried out in the Kells/Oldcastle WSS. These savings are resulting in a limited amount of additional water supply capacity being made available. Furthermore, approximately 1,000m of cast iron watermains in Kells are programmed for replacement as part of the Watermains Rehabilitation. The replacement of these cast iron mains and associated leak service connections will result in further water savings.

It is envisaged that the above measures would be in place to supply an initial phase of development. The scale of the initial phase is to be agreed with *Meath County Council* Environment and Water Services Directorate at planning permission stage to ensure that an adequate supply is available for the initial phase of the development

Subsequent phases will be subject to agreement with *Meath County Council* Environment and Water Services Directorate. The feasibility of providing additional water on the KS2 lands will be explored through hydrogeological investigations and 14 days pump tests, if required.

Water Harvesting will be implemented where roof run-off will be collected and stored for use as a grey water supply. This grey water will be used for toilet flushing and horticultural / landscaping maintenance etc. This will reduce surface water run-off and also decrease overall water demand.

A Water Management and Conservation Plan will be prepared in accordance with the *Meath County Council* guidelines at planning permission stage.

7 Communications, Telecommunications / Broadband

Access to, and provision of, telecommunications and broadband connections are integral to the promotion of Framework Plan lands for employment generating activities and to ensure that the area remains competitive in this respect. The lands are currently serviced by the roll out of Broadband to the Metropolitan Area Networks (MAN) which currently services the town and the Kells Business Park.

It is critical that as Kells seeks to identify itself as a Secondary Economic Centre in accordance with regional objectives that it should look to market itself as a centre for creativity, innovation and enterprise. To achieve this objective, it is essential that broadband speeds and costs are competitive with international and especially European alternatives. For Kells to meet its full potential, steps must be taken to bring about improvements to the current broadband offering. In so far as possible, planning should facilitate future-proofing of the Town's telecommunication infrastructure; and improve the availability of advanced service offerings. Facilitation of the installation of more modern fibre access lines as part of new developments is an important part of this process.

8 Development Standards & Design Guide

This Section details various design parameters and development management standards to be adhered to. These are consistent with the Development Management Standards as contained within the draft Meath County Development Plan 2013 – 2019 and the draft Kells Town Development Plan 2013 – 2019 respectively.

- Site coverage/plot ratio.
- Layout and design concepts.
- Building heights.
- Design themes.
- Parking/turning/site circulation.
- Mobility Management Plans.
- Back of house and front of house activities.
- Building lines.

The Framework Plan area proposes design themes in respect of layout and design but not to such a degree as to restrict flexibility of design and allow for innovative design.

8.1 Site Coverage and Plot Ratio

The maximum site coverage as expressed in the Kells Town Development Plan at 40% is considered overly restrictive for a planned Business Park. Whilst it may be appropriate on a site by site basis for greenfield lands a more appropriate and sustainable site coverage for a 'planned' Business Park should be considered as the better use of 'zoned lands'. In this regard an indicative and non-prescriptive site coverage of 50% is suggested.

Plot ratios in the non-developable floor areas of the total site area will be allowed on a range of between 0.5:1 and 1.2:1. Such plot ratios are not intended in themselves to be overly restrictive and will allow for well

designed development of merit to be considered. Where development proposals may conflict with such plot ratios, 'quality' will be considered against quantity.

8.2 Building Heights

Various building heights will be considered across the Framework Plan Area and where two storey height/ scale developments will be considered generally acceptable, other heights will be considered where it can be demonstrated that they are appropriate and present a good external image to the Business Park.

8.3 Layout and Design Concepts

Back of house activities - It is intended that the development of the Framework Plan lands will respect the concept of providing a coherent streetscape and individual proposals shall indicate servicing and principal parking areas to the rear of developments.

8.4 Design Themes

An opportunity arises to present a coherent design scheme especially in relation to the road/footpath, landscaping etc. and a uniform design for boundary fences and building lines is essential.

Individual building design will not be onerously controlled allowing innovative design. The layout within the Business Park will address issues of building line, car parking and servicing requirements. It will be required that these occur predominantly to the rear. The provision of an open space and landscaping network will be important to add coherence and unity in design to the Plan area.