An Bord Pleanála

Inspector's Report

PL17.246141

DEVELOPMENT:-	152 Residential Units (revised to 150 by way of additional information), childcare facility, 304 car parking spaces and 18 car parking spaces for crèche facility at Newtownmoyaghy, Kilcock, County Meath.

PLANNING APPLICATION

Planning Authority:	Meath County Council
Planning Authority Reg. No:	15/0205
Applicant:	McGarrell-Reilly Homes
Application Type:	Permission
Planning Authority Decision:	Grant

APPEAL

Appellant:	Pádraig McEvoy
Types of Appeal:	3rd Party -v- Grant
Observers:	(i) Alan and Katie Lavin (ii) Kilcock and District Community Council (iii) Charles and Sarah Angel
Date of Site Inspection:	27th April, 2016.

INSPECTOR: **Paul Caprani**

1.0 INTRODUCTION

PL17.246141 relates to a third party appeal against the decision of Meath County Council to issue notification to grant planning permission for the construction of a residential development comprising of 152 residential units (reduced to 150 units) and associated parking together with a childcare facility and associated car parking in the townland of Newtownmoyaghy, Kilcock, County Meath. The grounds of appeal express concerns that the proposed development will give rise to flooding issues and that the Flood Risk Assessment carried out in respect of the proposed development was flawed. A number of observations are also submitted supporting the grounds of appeal. The current application was accompanied by an EIS and an NIS.

The Board should note that there is an associated file PL17.246143 which relates to a residential development on an adjoining site. Meath County Council have refused planning permission for the adjoining development. This decision was subject to a first party appeal. It may be appropriate for the Board to determine both applications in conjunction.

2.0 SITE LOCATION AND DESCRIPTION.

The appeal site (and the adjoining site Reg. Ref. PL17.246143) is located on the eastern environs of the village of Kilcock. Kilcock is a commuter town located in close proximity to the N4 National Primary Road/M4 Motorway approximately 30 kilometres west of Dublin. Kilcock town centre is located within the administrative boundary of Kildare. However the subject site is located on the Meath side of the town. The application therefore was made to and determined by Meath County Council.

The subject site is rectangular in shape. The southern boundary of the site runs along the Rye Water River which runs eastwards through the centre of Kilcock town. The R148, the Royal Canal and the Dublin Maynooth rail line all run in an east-west direction adjacent to and to the south of the Rye Water River. The site has a stated area of 7.72 hectares, comprises of a large flat field which is currently under grass. Lands surrounding the site are likewise in agricultural use. There are a number of ditches and streams within

the site and surrounding the site. A pronounced ditch runs along the northern boundary of the site. This is referred to in the documentation contained on file as the 'upper ditch'. The Bride Stream flows in a south-east direction further to the east and north of the site.

There are a number of commercial buildings fronting onto the R148 on lands further west of the site. A single dwellinghouse fronts onto the R148 approximately 100 metres east of the site. Lands to the south of the railway line are not developed with the exception of a row of one-off houses on the southern side of the railway line opposite the eastern boundary of the site. While the site is located approximately 600 metres in the centre of Kilcock the site and the lands surrounding the immediate site are rural in nature as Kilcock to date has mainly developed between the Royal Canal and the M4 further south and also in a north-westerly direction along Church Street, mainly within the administrative boundary of Kildare. The morphology of the town has been dictated by frequent flooding issues associated with the lands in question.

The proposed distributor road which runs along the northern and eastern boundary of the site when built are to link up with R125 which runs northwards towards Dunshaughlin to the west of the site. The R125 will link the existing town of Kilkock with the subject site. The R125 crosses the Rye Water River over the Meath Bridge to the immediate north of Kilcock. The Bridge forms part of the administrative boundary between Meath and Kildare.

The Rye River which runs along the southern boundary of the site forms part of a Natura 2000 site approximately 5.5 km further to the east, the Rye Water Valley/Carton SAC (Site Code: 001398).

3.0 PROPOSED DEVELOPMENT

Planning permission is sought for the construction of 152 (later reduced to 150) new residential dwellings on the subject site. The development forms part of an overall Masterplan associated with lands to the north-east of Kilcock. This Masterplan was required to be prepared in association with any development proposals with the lands in question. This was a stipulation of the local area settlement strategy for Kilkock and the Masterplan was prepared by the landowners of the lands in question.

As part of this Masterplan it is proposed to provide a new distributor road which runs along the north and eastern boundary of the subject site. This distributor route as well as other infrastructural works were the subject of series of planning applications for such works and granted by the Board in January 2013, (see planning history below).

Two access roads will serve the proposed development and will be taken off the new distributor road running along the northern and eastern perimeter of the site. The main access serving the housing development will be taken off the south-western spur of a new proposed roundabout located at the north-eastern corner of the subject site. A separate link to/from the estate will be provided further south along the eastern leg of the distributor road. These routes will serve an array of internal roads which will serve the individual dwellings within the scheme.

The southern portion of the development adjacent to the River Rye and R148 will comprise of Class 1 public open space amounting to just over 0.6 hectares. The public open space will incorporate the entire width of the site and will extend 70 metres in depth from the southern boundary of the site. Smaller areas of Class 2 public open space are located centrally within the site and at the site entrance adjacent to the roundabout. A larger area of Class 1 public open space is located along the western boundary of the site and this public open space is to form part of a larger area of public open space associated with the adjoining proposed residential development to the immediate west.

The proposal involves a mixture of detached houses, (26) semi-detached houses (104) and terraced houses (20). The various house types are distributed throughout the layout and the main house types are summarised below:

- House Type A (including A1 and A2) comprise of 5 bedroomed detached dwellings ranging in size from 168 to 226 square metres.
-
- House Type B – 5 bedroomed detached house with a gross floor area of 151 square metres.

- House Type C – 4 bedroomed semi-detached house.

- House Type D and D1 which comprise of 3 and 4 bedroomed houses in the form of detached, semi-detached and terraced dwellings.

- House Type E semi-detached 3 bedroomed dwellings with a gross floor area of 111 square metres.

- House Type F – 3 bedroomed semi-detached, detached and terraced dwellings with a gross floor area of 112 square metres.

- House Type F1 – 3 bedroomed terraced houses with a gross floor area of 116 square metres.

- House Type G – 4 bedroomed semi-detached dwellings.

- House Type N – 2 bedroomed semi-detached and terraced dwellings with a gross floor area of 86 square metres.

- House Type O – 4 bedroomed detached dwellings with 127.5 square metres.

In addition it is also proposed to incorporate a crèche at the north-western end of the layout. The crèche facility has a total floor area of 337 square metres together with private open space of 109 square metres. 80 off-street dedicated car parking spaces are also proposed to serve the crèche.

The EIS indicates that enabling infrastructure works have commenced on foot of agreed compliance details submitted and this involves the phased construction of a distributor road, water and wastewater infrastructure works serving the proposed development. The infrastructure works also involve the partial realignment of the Rye Water River and the re-profiling of river banks as part of the flood protection measures together with the provision of on-line flood storage. A Flood Risk Assessment Management Plan (FRAMS) was also prepared in respect of the lands in question. This FRAMS report was vetted by both planning authorities and the OPW. The enabling infrastructure works fall outside the scope of the current application and have been previously subject to EIA (see planning history).

4.0 PLANNING AUTHORITY'S DECISION

4.1 Information Submitted with the Application

The planning application was lodged on 4th March, 2015. The application was accompanied by:

- A detailed Masterplan as it relates to the entire lands designated as Phase 1 Residential Development in the current Settlement Plan for Kilcock contained in Volume 5 of the Meath County Development Plan.
- An audit of existing social and community facilities in Kilcock. This includes references to education facilities, community facilities, healthcare facilities and sports and recreation facilities.
- A report outlining landscape specifications for general works, site preparation works and landscaping works associated with the proposed development.
- A separate landscape report relating to the subject site and the adjacent housing development (PL17.246143).
- A planning report which sets out the statutory planning context and the planning considerations in respect of the proposed development.
- A traffic and transportation assessment.
- An infrastructure design report.
- An EIS including a non-technical summary.
- A Natural Impact Statement.

4.2 Planning Authority's Initial Assessment

4.2.1 External Reports

A report from **NRA** states that the authority will rely on Meath County Council to abide by official policy in relation to development on/affecting national roads as outlined in the Spatial Planning and National Road Guidelines for Planning Authorities.

A report from the **Inland Fisheries Department** recommends that a number of contingencies be put in place during the construction phase to prevent habitat loss and to preserve and enhance biological diversity. Should development proceed, it is stated that best practice should be implemented at all times in relation to any activities which could impact on surface water.

The submission from **Irish Water** stated that there is no objection subject to conditions.

A submission from **Kildare County Council** makes specific observations in relation to water services, heritage, appropriate assessment and roads.

A report from the **Department of Arts, Heritage and the Gaeltacht** states that an archaeological monitoring condition should be attached in the case where planning permission is granted.

4.2.2 Departmental Reports

A report from the **Public Lighting Department** stated that further information is required in relation to necessary public lighting to serve the development.

A report from the **Senior Executive Engineer** requires that all works are to be carried out in accordance with the approved Flood Risk Assessment Management Plan (FRAMS). Comments are also made in relation to surface water remedial or mitigation measures required to ensure that no pollution of watercourses take place.

A report from the **Principal Environmental Health Officer** requests additional information in respect of the crèche facility on site.

A report from the **Road Design Office** recommended that a Traffic Impact Assessment assess the impact of the proposed development on junctions in the wider area - particularly Kilcock Town Centre. It is further stated that the application should not be permitted to commence until the roundabout on the R148 and the distributor road as far as the first access has been completed. Further clarity is required in relation to the phasing of construction, pedestrian access, access to the crèche and the labelling of internal roads for ease of identification.

A report from the **Water Services Department** states that there is no objection to the proposed development however further information should be required in relation to water and wastewater and surface water drainage.

4.3.3 Third Party Observations to the Planning Authority

A number of letters of objection were submitted some of which specifically related to flooding. Others considered the proposed development to be premature and could give rise to traffic, ecological and other adverse impacts.

4.4 Planning Report and Further Information Request

The Planner's Report details the planning history associated with the site and also sets out national and local planning policy as it relates to the site. In particular reference is made to the Meath County Development Plan, the Kildare County Development Plan, the Kilcock Local Area Plan 2009-2015 and the Draft Kilcock Local Area Plan 2015-2021. Reference is made to the various reports contained on file including local internal reports and external reports received from prescribed bodies and other third parties.

The report goes on to assess the proposed development in terms of:

- Appropriate Assessment.
- Principle of Development.
- Development Management Objectives including Design Layout and Amenity Issues.
- Access and Parking.
- Compliance with Part V of the Act.
- Flooding and
- EIA Assessment.

It concludes that having regard to the zoning of the site and the various policy statements contained in the statutory plan which relate to the subject site that the principle of development is accepted. It is noted however that there are a number of aspects of the scheme which should not comply with other policies and objectives contained in the Development Plan and thus additional information is required.

In total additional information was requested under 17 separate headings. These headings related to:

- Traffic and Transport.
- Further details and alterations in respect of the proposed crèche facility including a proposal for a revised location for the crèche facility in a more centrally located area within the scheme.

- Further details in relation to surface water drainage particularly in relation to the SUDS design.
- Further details/clarifications in relation to the NIS submitted.
- Further detail with regard to compliance with the written statement for the Kilcock Environs Area contained in Volume 5 of the Meath County Development Plan and the extent to which the proposal complies with individual objectives set out in this plan.
- Further details in respect of private open space standards for some of the houses within the scheme.
- Further details in relation to boundary treatments.
- The applicant is requested to consider proposals for a greater variety of unit type as required in the Development Plan.
- Further details which address matters in respect of providing a sense of place and identity within the scheme. Concerns are expressed that the uniform nature of house designs across the site would not facilitate the provision of 'Character Areas' as set out in the Written Statement with a sense of distinct identity.
- Further details in respect of open space design.
- A revision to Chapter 4 of the EIS (flora and fauna) detailing where existing habitat features such as hedgerows have been incorporated into the proposed design.
- The landscape and visual assessment carried out in the EIS should be predicated on a full design scheme.
- Further clarification in relation to Table 12.5 of the EIS.
- The applicant is requested to submit a site specific flood risk assessment for the application site.

- The applicant is requested to address the contents of the third party submissions in respect of the proposed development.
- Finally the applicant is requested to publish new notices on foot of the changes required.

4.4 Further Information Submission

Further information was submitted on 2nd October, 2015. The information submitted is briefly summarised below.

New drawings are submitted indicating details of bus bays, cycle paths, pedestrian access points and a road labelling system (see PL-399-03-A). It is further stated that a Design Manual for Urban Streets (DMURS) has also been applied to this development and a mobility management plan is presented on Masterplan Drawing 395-

04-A (the Board will note that the drawing number in respect of same is labelled 072116-9330).

In terms of the proposed crèche facility, contact has been made with the environmental health officer and revised details are submitted with indicates the crèche is capable of accommodating 48 children and 8 members of staff. Final operational requirements and details will be the subject of discussions with the selected crèche operator. All final design and layout measures could be conditioned by the Planning Authority. With regard to the siting of the proposed crèche it is suggested that the existing location is within 400 metres (5 minute walking distance) of all residential development in the vicinity. While the crèche is located in Phase 3 of the development, it can be developed at an earlier stage should the need arise.

Further details in relation to surface water drainage is enclosed in a separate response prepared by DBFL Consulting Engineers.

In terms of Natura Impact Statement a separate submission (Item No. 5 of submission) was submitted by Roger Goodwillie. It sets out in more detail the potential impacts of the development and the mitigation measures which will be employed to address any potential impacts. An additional section on potential cumulative impacts is also contained in the submission.

With regard to the various objectives in the written statement for the Kilcock Environs contained in Volume 5 of the Meath County Development Plan, a revised Masterplan is submitted. The Masterplan has been amended to include the following:

- The reservation of a 1.6 hectare school site within Character Area 1.
- The release of residential units in a phased manner over the lifetime of the 10 year permission. Some alterations have also been made to the orientation and design of the houses within the scheme. The number of houses as a result of the changes have been reduced from 152 to 150.

With regard to house type details of the demographic profile of the area is submitted. It is stated that Kilcock is popular for young growing families and therefore the most appropriate forms of housing to be provided on the subject site comprise of a mix of predominantly 3 and 4 bedroomed houses. The overall density of the development equates to approximately 28 units per hectare.

The shortfall in private open space provision for some of the dwellings have been addressed.

Proposed boundary treatments are shown on drawings PL-399-24 and 25.

Details as to how the overall design approach creates an appropriate sense of place is set out in the response.

The scheme has been reconfigured to create and improve opportunities for passive surveillance through overlooking of open spaces and additional windows have been added to living rooms and bedrooms on the elevation to increase the level of passive overlooking.

Chapters 4 and Chapters 9 of the EIS's have been redrafted to reflect the Council's concerns in relation to same. Likewise Table 12.5 of the EIS has been amended.

A site specific Flood Risk Report prepared by DBFL Consulting Engineers provides a detailed and comprehensive response to concerns regarding flood risk.

Finally the response sets out responses to the various issues raised by third party observations in respect of the proposed development.

4.5.1 Further Assessment by Planning Authority

External Reports

A report from **Transport Infrastructure Ireland** (TII) states that the Authority's position remains the same as letter of 18th March, 2015.

A report from **Irish Water** states that if planning permission is granted for the proposed development a number of conditions set out should be included.

A report from **Inland Fisheries** Ireland states that there are no additional comments to make.

The **HSE** submission reviewed issues primarily relating to public health/environmental health concern namely human beings, air quality and climate, water and hydrogeology and noise and vibration. Having considered the documentation submitted the HSE has no comments to make on the application.

4.5.2 Departmental Reports

A report from the **Water Services Department** states that the further information dealing with surface water drainage is, in the main, acceptable. It goes on to state that the proposal for using a detention basin for the storage of all design year events is not acceptable. The applicant shall, prior to commencement submit for approval a revised design which shall allow for above ground storage for the 1 in 100 year flood event only. Underground storage shall be provided for the volume that equates to the 1 in 30 year flood event for the entire site. The type, size, specification and location of storage devices shall be agreed with Meath County Council.

A report from the **Road Design Office** states that the FI submitted is satisfactory and there is no objection to the proposed development subject to the phasing of the road in tandem with phasing of the development.

A report from the **Senior Executive Engineer, Environment (Flooding)** notes that a site specific flood risk assessment was submitted by way of further information. It is stated that there is no objection subject to conditions including that all flood protection measures as identified in the FRAM be completed in their entirety prior to the occupation of any dwelling. A 10 metre wide maintenance strip be provided to any drainage channels within the proposed development site. In the event of a substantial rise in water levels in the Rye Water River, a non-return flap valve is to be installed on the surface water outlet pipe on the southern end of the proposed development to ensure that water in the river does not enter the development via the pipe network.

A report from the **Heritage Officer** states that there is no objection subject to conditions including the requirement that a suitably

qualified Project Archaeologist should be appointed to monitor and ensure that all mitigation measures relating to the protection of flora and fauna on site are carried out in accordance with best practice.

4.5.2 Third Party Observations

A detailed observation on behalf of Councillor Pádraig McEvoy was made by CS Pringle Consulting Engineers and raises objections to the proposed development again on flooding grounds. Further submissions were made by other observers highlighting concerns particularly in relation to flooding and traffic.

4.6 Final Planning Report and Planning Authority's Decision

The planner's report concluded that the proposed development is situated on lands which are zoned for residential development and have been indicated for release during the lifetime of the Development Plan. It is also noted that planning permission has previously been granted for infrastructural works to facilitate the development of the lands in question. While there are a number of issues outstanding on foot of the additional information request, it is considered that these can be resolved by way of condition. It is therefore recommended that the proposed development be granted.

In its decision dated 14th January, 2016 Meath County Council granted planning permission for the proposed development subject to 47 conditions.

5. PLANNING HISTORY

There are a number of files attached which are relevant to the current application and appeal before the Board. These decisions were all made concurrently by the Board and are summarised below:

PL09.238818: Planning permission was sought in Branganstown, Kilcock, County Kildare from Kildare County Council for a 10 year permission to include the partial realignment of the R148 over a 0.2 kilometre stretch to provide for a roundabout junction and to facilitate access to zoned lands to the north in County Meath. The works also incorporated a partial realignment of the Rye River to a

position north of its current alignment with the re-profiling of existing river banks as part of flood protection measures. It is also proposed to incorporate flood mitigation measures in accordance with the approved FRAMS prepared by Kildare County Council, Meath County Council and the OPW. The application was accompanied by an EIS.

The decision of Kildare County Council to grant planning permission was the subject of a number of third party appeals. Concerns were raised particularly in relation to flooding in the objections. An Bord Pleanála upheld the grant of planning permission subject to revised conditions. In its Order the Board noted the Inspector's concerns in relation to the acceptability of flood management measures. However it considered that subject to revisions, the Board formed the view that the flood management measures proposed were appropriate and sustainable and it was noted that neither the OPW or the either Local Authority, who are part of the Steering Group in relation to the FRAMS did not object to the approach being followed, therefore the Board granted planning permission subject to 18 conditions on 15th January, 2013.

PL17.238370 – This application likewise related to a 10 year planning permission for the development of infrastructural works in the townland of Newtownmoyaghy, Kilcock, County Meath. The development consisted of the completion of a roundabout junction on the Maynooth – Kilcock Regional Road together with the provision of distributor roads with integrated cycling tracks and associated infrastructural works including the partial realignment of the Rye Water River and the re-profiling of existing river banks as part of flood protection measures and the provision of on-line flood storage.

Again the Board in deciding not to accept the Inspector's recommendation to refuse permission considered that the flood management measures proposed were appropriate and sustainable and it was considered that the approach adopted to the management of flood risk was considered to be sympathetic to the natural flooding patterns of the area while not increasing the risk of flooding elsewhere. The Board considered that the proposed development was broadly in agreement with the principles of the Flood Risk Guidelines. The Board granted planning permission for the proposed infrastructure works subject to 18 conditions on the 15th January, 2013.

PL17. 239375: Planning permission was sought for infrastructural works in the townland of Newtownmoyaghy. These works sought the provision of delivery of a distributor road for the associated services including new signal controlled junction and flood mitigation measures which are included as objectives in the Kilcock Environs Local Area Plan. The proposal also includes all ancillary site development works including surface water drainage, foul water drainage, water supply and utilities infrastructure within the proposed distributor road. The development also included associated flood mitigation works including the realignment and re-profile of the existing drainage channels across the subject lands (referred to as "the Upper Ditch") and the provision of new engineered flood storage channel and flood storage area to the north of the proposed distributor road as part of flood protection measures. The proposal also provides for the partial re-profiling of lands to a site level of 64.9 and 65.4 metres AOD. The proposed development will take place on lands c.11.4 hectares by an area bounded by the R125 to the west, the River Rye to the south and adjacent lands to the east and north in the townland of Newtownmoyaghy. The application was accompanied by an EIS. The Board upheld the decision of Meath County Council and granted planning permission for the proposed development. In determining the application the Board did not accept the Inspector's recommendation to refuse permission on the grounds that the proposal did not accord with the Flood Risk Management Guidelines for Planning Authorities. The Board in coming to an alternative conclusion cited similar reasons to those referred to in the previous two applications above.

PL17.240405: A 10 year planning permission was sought for infrastructure works comprising on the proposed section of distributor road which comprises of 7.3 metre wide carriageway with integrated cycleways, footpaths and landscaping together with all ancillary site development works including surface water drainage, foul water drainage, water supply and utilities infrastructure together with associated flood mitigation works including the provision of a new engineered flood relief channel and flood storage area together with partial re-profiling of lands with the excavated material to a site level of 65.55 metres and 66.05 metres AOD. These works are to take place on lands approximately 11 hectares in size bounded by the R125 to the east, the River Rye Water to the south and west and adjacent lands to the south and north in the townlands of

Knocknatulla and Dolanstown, Kilcock. Again an EIS was submitted with the above application. The decision of Meath County Council to issue notification to grant planning permission was again subject of third party appeals primarily raising the issue of flooding. The Board upheld the decision of the Planning Authority and granted planning permission for the proposed development. Again in deciding not to accept the Inspector's recommendation to refuse planning permission on the grounds of non-compliance with the Flood Risk Management Guidelines for Planning Authorities, the Board relied on reasons similar to those referred to in the previous decisions referred to above.

All the above decisions were dated 15th January, 2013.

6. GROUNDS OF APPEAL

The decision of Meath County Council to issue notification to grant planning permission was the subject of a third party appeal by Councillor Pádraig McEvoy. The Appeal comprises of a written statement and a separate CD which contains large amounts of technical data in the form of excel spreadsheets and supporting reports.

Specifically the appeal relates to the application for development of parts of the lands for which infrastructure works were granted in January, 2013 by An Bord Pleanála under Reg. Ref. PL17.238370. It is noted that the Board's Inspector recommended refusal based on multiple misgivings in regard to flood risk including non-adherence to requirements of the Flood Risk Guidelines. However it is contended that no record of the Board's reasoning and how it overturned the Inspector's recommendation is set out.

It is stated that since the Board ruled on infrastructure appeals, two new pieces of research in relation to the hydrology of the area have come on stream, the most important of which are (i) the Eastern CFRAMS Study which is now in draft form and (ii) the Flood Studies Update (FSU). The grounds of appeal specifically are set out below.

It is argued that the size of the Balfeaghan Stream catchment on which the original FRAMS report is based is incorrect. It is suggested that the catchment is 6.45 kilometres in size as opposed to 2.95 kilometres as indicated by RPS in the FRAMS Report. The

resulting extra volume of water flowing into the heart of the development is not attenuated by the Balfeaghan Bridge (where the Rye River crosses under the Summerhill Road) and this has not been accounted for within the hydraulic model.

The Eastern CFRAMS calculates the flow at St. Anne‘s Bridge gauging station as being 56.6 m^3 /s versus the CFRAMS Report calculation of 31.1 m^3 /s per the 100 year flow. The Eastern CFRAMS predicts a flow that is 1.52 times that of the FRAMS flow.

It is argued that the developments proposed are not being provided with the storage capacity promised in S.5.4.1 of the FRAMS. It is argued that there is a very significant shortfall between the requested storage from the developers and the promised storage contained in 5.4.1 of the FRAMS document. It is suggested that a storage capacity of 87,200 cubic metres should be provided whereas only 50,400 cubic metres or 57.8% is being provided. As a result “level for level” storage is not being provided as required in the Flood Risk Guidelines.

It is argued that there are basic problems with the hydraulic model produced in the FRAMS report which will have implications for the storage co-efficient of each of the sub-catchments downstream.

There are problems for the build-up of flows along the Bride Stream into the ‘upper ditch’ storage area and this will have serious implications for any land or houses located within the vicinity of the upper ditch confluence with the Bride Stream and again with the Bride Stream confluence and the Rye Water River.

The Flood Studies Update (FSU) show the Balfeaghan catchment area as being 7.13 square kilometres. This Flood Studies Update shows that the catchment area is considerably larger than that estimated in the FRAMS Report.

The grounds of appeal go on to outline anomalies in the flood hydraulic modelling undertaken. It is argued that the anomalies referred to could compromise on storage for the town of Maynooth.

It is argued that the Board made its previous determinations based on its acceptance on face value of misleading and erroneous statements made by the authors of the FRAMS Report. The appeal, it is argued, provides clear evidence in the form of spreadsheets

(see CD submitted with the grounds of appeal which provides detailed hydraulic modelling information mainly in the form of excel spreadsheets but also in the form of supporting documentation and reports) that show if the levels given in Appendix C of the FRAMS Report are correct, then the level of storage said to be provided by the developers is not provided for at all. The level for level storage has not been provided in accordance with the requirements of the Flood Risk Guidelines.

It is suggested that having 7 flow controllers in a series, attempting to replicate 'out of bank storage' is an inappropriately over engineered solution. This shortfall has adverse implications for those downstream in the urban centre of Maynooth.

7. APPEAL RESPONSES

7.1 Applicants Response to the Grounds of Appeal

A short response was received on behalf of the applicants by Declan Brassil. It notes that the issues raised in the appeal are exclusively related to the FRAMS Report prepared by RPS under the Steering Group chaired by the OPW and including Meath and Kildare County Councils which provided the basis of the Board granting planning permission for the infrastructure and flood management works on the appeal site and adjoining lands. It is stated that the current application has also been the subject of a site specific flood risk assessment which confirm that the proposed finish floor levels are appropriate to protect the proposed development. It states that there is nothing raised in the grounds of appeal or the Draft Eastern CFRAMS which would result in a change in the conclusions set out in the FRAMS Report on which the infrastructure and flood management permissions are grounded.

The proposed development forms the next phase of plan-led delivery of houses in Kilcock. The proposed development is facilitated by and is consistent with the 10 year permission for infrastructure works granted by Meath and Kildare County Councils. The Board in its previous decisions have already determined that it clearly supports and endorses the planned and coherent development of lands in accordance with national, regional and local policy.

Attached to the grounds of appeal in Appendix 1 is a response by RPS specifically in relation to the flooding issues raised. It states that RPS were commissioned by the Office of Public Works to carry out the Eastern Catchment Flood Risk Assessment Management Study. The flows developed for the Kilcock FRAM Study have been reviewed by the hydrological team on the Eastern CFRAMS Study and the variance between the design flows in the two studies are set out.

The statistical methods employed are based on, relating catchment characteristics to long term flood flow data from hydrometric gauging stations across Ireland and Britain (where appropriate). Where hydrometric gauge data exists for the study catchment in question, this is generally preferred where there is sufficient length of record and sufficient accuracy in the peak flow values captured at the station. In the case of Kilcock flow gauge data is available within the catchment for a short period only (post 2001). This length of record is not considered to have sufficient statistical confidence for the estimation of peak design flood flows up to the target return period of 100 years.

Furthermore there is also a high level of all certainty for the Lyreen and Rye Water River recorded flood flow values. The EPA gauges for both stations along the Lyreen (which runs through the Maynooth and it situated downstream of the site) and Rye Water River have high uncertainty in their ratings. Neither gauge is considered to have confidence in the rating at the level of medium annual maximum flood flow equivalent to an event within the expected probability of occurrence of 50% in any given year. The observed medium annual maximum flood flows are well above what would be expected based on statistical estimates derived from catchment characteristics. Both the Kilcock FRAM and the Eastern CFRAMS Study utilised hydrological modelling in order to try and simulate historic flood flows and extended duration flows at the gauges by using the much longer rainfall records. A comparison shows that both studies estimated similar answers for this exercise with approximately 5% different between the simulated medium annual maximum flood flow values from both studies. It must be noted however that the uncertainty in the gauge (observed) record affects the accuracy of these methods as gauge data must be used to calibrate the hydrological modelling.

Both studies arrived at a wide range of estimates based on various methodologies. In both studies the values arrived at from the gauging station within the catchment were highest. The estimates arrived from the recommended statistical methods were lowest and the estimates from the hydraulic modelling were in between the observed and statistical estimates. The statistical estimate from the Kilcock FRAM Study was significantly higher than the statistical estimate from the Eastern CFRAM Study. The Eastern CFRAM Study used a hydrological modelling based design flows which were considered a bridge between the low SFU statistical methods and the high observed gauge value. It is considered that this is a conservative approach owing to the large discrepancy between the gauged value and the much lower flood studies report. The Kilcock FRAM Study concluded that the model based flows were overly conservative and reverted to the statistical flood studies report flows which are closer to the gauge values than the Eastern CFRAM Study. When analysed thoroughly it is RPS's opinion that the analysis undertaken within the two studies is essentially in good agreement. Both studies considered a similar wide range of hydrological analysis techniques for developing design flows within the catchment but had made a different decision on which methodology the final design flows should be based. Given that the observed flows differ from statistical estimates by up to 160% in the study catchment, the variance between the design flows in each of the two studies of 22% to 47% is not considered unusual. A review of the flood mapping produced for the Kilcock area in the FRAM Report and the draft Eastern CFRAM Study Flood Mapping shows the flood extents predicted for the 1% annual exceedance probability event in both studies are comparable. The Eastern CFRAM method for developing design flows is considered to be a more conservative approach but does not discredit the previous approach undertaken in the FRAM Study. RPS are therefore satisfied that there is nothing which would warrant a change in its conclusions in the original FRAM Study.

7.2 Meath County Council's Response to the Grounds of Appeal

The Planning Authority would respectfully refer An Bord Pleanála to the Planner's Report dated 18th September, 2015 and 1st October, 2014 and other technical reports received on the application. The

Planning Authority would also refer to the planning history of the site and the adjoining land during which the issue of flood risk was considered.

8. OBSERVATIONS

The following observations were submitted to the Board in respect of the proposed development.

8.1 Observation from Kilcock and District Community Council

This observation reiterates concerns raised in the grounds of appeal that the Board ignored the Inspector's recommendation in respect of previous applications for infrastructural work and that it ignored the Inspector's concerns in relation to flood risk. It is stated that the River Lyreen along with the Rye Water River has a history of flooding in the Kilcock area. This was evidenced in each of the storms to hit the country over the previous winter (2015-16). The Board are therefore requested to require a detailed hydrological survey to be carried out in respect of the Kilcock Environs.

Concerns are also expressed that this application and the adjoining application (PL17.246143) have failed to provide for the reservation of a school site. There is an underprovision of educational services in the vicinity of the site.

Also attached to this observation are the original grounds of objection submitted to Meath County Council.

Concerns were expressed in relation to the following issues:

- Roads infrastructure and access onto the R125 and R148.
- The capacity of Meath Bridge at Kilcock.
- Other traffic issues.
- Flora, fauna and habitat.
- Flooding.
- Conditions associated with the existing permission.
- Access to services provided by Kildare County Council.
- Open space provision.
- Health and safety considerations.
- The appropriateness of granting 10 year planning permission.

8.2 Observation from Alan and Katie Lavin

Concerns were expressed that the site is located within a flood basin and this area experienced recent flooding in January, 2014. Photographs are attached indicating the extent of flooding. It is stated that further storms in 2015 also gave rise to significant flooding.

8.3 Observation from Charles and Sarah Angel

This observation supports the issues raised in the grounds of appeal and highlights the previous Board's Inspector's misgivings in relation to applications for infrastructural works relating to the site. It is stated that the observers are farmers and that the farm will become unviable due to ever increasing flooding as a result of the inability of the Rye Water River to accommodate with the greatly increased volumes of water from the various developments upstream. The farming lands are inundated with water on a regular basis requiring the farmer to move all livestock, hay and straw from sheds in the middle of winter. Furthermore the river bank between Bride Stream and the busy road is in a very dangerous condition. In some case the river bank has fallen into the river. This posed a traffic safety problem for cars in the vicinity.

9.0 PLANNING POLICY CONTEXT

9.1 Regional Planning Guidelines for the Greater Dublin Area 2010-2022

The subject site is located on the periphery of the designated Metropolitan Area. Kilcock is designated as a 'moderate sustainable growth town'. Such towns are envisaged as having an interacting and supporting role to their adjacent higher order town in hinterland areas or as part of the city within the metropolitan area. It is critical that in the future moderate growth towns in the hinterland area develops in a self- sufficient manner in the longer term and that continuous basis for growth is that they do not become dormitory towns. Key sites and facilities should be identified that they are fully serviceable and available for encouragement of economic investment opportunities. Servicing and phasing of housing lands in these towns should aim to ensure that housing growth levels are

sustainable, in that they are clearly linked to levels of natural increase or economic expansion within the town and do not create significant increases in long distance commuting patterns particularly for those served only by bus. For moderate sustainable growth towns within the metropolitan area, they will continue to have a strong role as commuter locations within the fabric of continued consolidation of the metropolitan area. Growth in these towns need to ensure that expansion is based on and related to the capacity of high quality public transport connections and the capacity of social infrastructure. Emphasis should be placed on encouraging good local connections to adjoining suburbs and towns and employment locations within the metropolitan area through bus corridors and good cycling and pedestrian connections.

9.2 Meath County Development Plan 2013 – 2019

Chapter 2 of the Development Plan sets out the core strategy. In relation to settlement hierarchy, Kilcock is again designated as a 'moderate sustainable growth town'.

Variation No. 2 of the County Development Plan, May 2014 has introduced land use zoning objectives which seek to control the release of residential employment lands for various urban centres across the country.

The policies and objectives including land use zoning objectives set out in the Kilcock Settlement Plan and Volume 5 of the County Development Plan replace the objectives contained in the Kilcock and Environs LAP. The Kilcock Environs written statement is contained on page 188 of Volume 5 of the Development Plan. In terms of household allocation (Core Strategy) 398 residential units are to be developed within the town of Kilcock.

In terms of strategic flood risk assessment it is stated that the strategic flood risk assessment carried out as part of the County Development Plan 2013 – 2019 states that further examination in line with the Planning System and Flood Risk Management Guidelines for Planning Authorities may be required. This is taking place and flood zones A and B have been identified.
The landuse framework for the environs seeks to ensure that lands are developed in an environmentally sustainable manner and in a planned co-ordinated integrated fashion. The lands which have been identified for residential land use arise following the

application of the sequential approach from Kilcock Town Centre outwards. It was considered that the other sites which are previously identified for residential development in the 2009 Local Area Plan were less favourable on the basis of their identified flood risk, peripheral location relative to the town centre and/or being landlocked. Lands which had a residential zoning under the previous plan which were deemed to be at flood risk have been identified as F1 open space in the land use zoning objective.

In terms of residential development two sites have been included in Phase 1 to accommodate household allocation. The first of these adjoins the R125 to the west and extends eastwards. This site should include the provision for a primary school of 1.6 hectares, a neighbourhood centre and can accommodate a maximum of 250 residential units. Any planning application for development of these lands should include a site layout plan showing the proposed layout for the entire site as illustrated in the land use zoning objectives maps.

The second site in Phase 1 adjoins Site 1 to the east. It can accommodate a maximum of 150 residential units. Any planning application for development on these lands should include a site layout plan showing the proposed layout for the entire site as illustrated in the zoning maps. It should allow for connectivity particularly for pedestrians and cyclists between Character Area 1 and Character Area 2.

Strategic policies include SP 3 to operate an order of priority for the release of residential lands in compliance with the requirements of CS Objective 6 of the County Development Plan as follows:

(i) The lands identified with an A2 new residential land use zoning objective corresponds with the requirements of Table 2.4 Housing Allocation and Zoned Land Requirements in Volume 1 of this County Development Plan and are available for residential development within the life of this Development Plan.

(ii) The lands identified as A2 new residential land use zoning objective but qualify as residential Phase 2 (post 2019) are not available for residential development within the life of this Plan.

Other relevant policies include:

FR POL 1 – To manage flood risk and developing Kilcock in line with Policies WS 29 to WS 36 inclusive in Volume 1 of the Development Plan.

FR POL 2 – The Eastern CFRAM Flood Mapping and Management Plan when complete and available will provide additional clarity to flood mapping and risk management measures than was available to inform the land use zoning objectives presented for Kilcock. The Eastern CFRAM Flood Mapping and Management Plan shall be consulted when available in conjunction with the written statement/Volume 1 of the County Development Plan.

FR POL 3 – Any planning application which seeks planning permission to undertake development within areas identified is A2 new residential, E2 general enterprise and employment and G1 community infrastructure land use zoning objectives shall be accompanied by an appropriately detailed flood risk assessment. The flood risk assessment shall clearly assess flood risks management measures and demonstrate compliance with the "Planning System and Flood Fisk Management Guidelines for Planning Authorities" (November 2009). In particular buildings should be sited at an appropriate finished floor level which should be above the 1 in 100 year flood level with an allowance for free board and climate change.

FR POL 4 – A Flood Risk Assessment and Management Study (FRAMS) has been carried out for this area. All development within an extant planning permission within the Kilcock Environs Development Boundary Area shall be required to comply with the guidance and recommendations of the FRAMS which predated the preparation of the strategic flood risk assessment and management study for Kilcock.

Policies in relation to residential development are as follows:

To ensure that residential development within Kilcock Environs is carried out in tandem with the development of robust impermeable connections between the environs, Kilcock Town and public transport routes and further strategic transport corridors.

In terms of zoning provisions the subject site is zoned 'RD Objective 2'. The site in question is also designated Character Area 2.

Section 7.1.2 of the written statements sets out details of the character areas. It is noted that there are several character areas denoted within the lands identified primarily for residential uses whereby a distinct layout and architectural style in each character area is required. In order to achieve this, a design statement and rationale for each area shall be approved and pre-application stage with Meath County Council. It is envisaged that the architectural expression should distinguish the various buildings through design. The indicative standards and provisions for Character Area 2 are set out as follows:

Building Height – predominantly 2 to 4 storey.
Layout – strong urban edge with uniform building lines (subject to occasional punctuation, fronting onto orbital road and the R148 Maynooth Road/Rye Water River).
Architectural priority sites - at selected locations along the spinal road. Parkland walkway linking the riverside linear park. Pedestrian and vehicle linkages to the R148 Maynooth Road and town pocket park provision.
Existing power supply lines relocated underground.
Retain and enhance view in a westerly direction along southern part of character area.
Land use – residential, educational, community and local commercial uses.
House type – mix of apartments, townhouses, detached and semi-detached dwellings.

9.2 Flood Risk Management Guidelines for Planning Authorities (DoEHLG) 2009

These guidelines provide a rigorous assessment of flood risk at all levels to provide a consistency of approach throughout Ireland. The outline mechanisms for the incorporation of flood risk identification assessment and management into the planning process. They emphasise the need to take a precautionary approach to flood risk.

The guidelines direct that a sequential approach should be adopted to spatial planning which aims to avoid flood risk where possible. The guidelines seek to provide less vulnerable land uses where

avoidance is not possible and mitigate and manage the potential risk where avoidance and substitution are not possible. Development should not be permitted in areas of flood risk particularly floodplains and coastal areas subject to flooding except where there are no suitable alternative sites available in areas at lower risk. A precautionary approach should also be applied to flood risk management to reflect on certainties in flooding data sets and risk assessment techniques and the ability to protect the future climate, the performance of existing flood defences and the extent of further coastal erosion.

9.4 The FRAMS Report

This report was prepared by RPS in conjunction with the OPW and Meath County Council and Kildare County Council in 2009. It is stated that the report was prepared on foot of an Bord Pleanála refusal for infrastructural works on lands in Kilcock. The study assessed the existing and future fluvial flooding risks and examines the options to manage flood waters in a manner that reduces the risk of flooding both to existing development including Kilcock Town Centre and the future proposed development which includes approximately 190 acres of land in the administrative area of County Meath. The primary objective of the study was to:

- Establish existing flood levels and the extent of flooding for the River Rye Water and the tributaries in the Kilcock area.

- Provide a critical source of information to be considered during the design of infrastructure within the area.

- Develop a mitigation strategy that can be implemented to offset the existing and potential flood impacts.

- Produce flood mitigation proposals which would ensure that future planned development can take place in a sustainable manner which will satisfy the requirements set out in the Flood Risk Management Guidelines.

- Determine minimum floor levels for proposed developments.

- Address reported inadequacies of previous flooding reports carried out in Kilcock.

- A detailed topographical survey was commissioned for the study which include detailed cross-sectional surveys along the River Rye Water from approximately 1.2 kilometres upstream of the Balfeaghan Stream to approximately 1.5 kilometres downstream of the local area plan boundary. Ledar airborne laser scanning technology was utilised to provide the required digital terrain model data in this study for 5.2 square kilometres of area which encompass the topographic survey extents. The historical flooding locations were identified and are listed. A number of flood risk mitigation measures were examined including:

Scenario 1 – do nothing
Scenario 2 – remote attenuation
Scenario 3 – online flood water storage. This latter scenario involved the re-profiling of banks of the River Rye Water from upstream of Balfeaghan Bridge to downstream of the future development areas to provide compensatory flood water storage. A flood protection.A flood protection wall or embankment would be provided to protect the existing urban development affected by flooding.

Scenario 4 included off-line flood water storage. This flood management solution was the recommended option and involved maintaining existing predicted flood levels, flood storage volumes and pass forward flows for a range of storm return periods. The flood management proposal would involve the construction of a flood water storage units off-line from the River Rye Water. It is proposed that an overflow channel be constructed starting downstream of Bealfaghan Bridge and connecting to the upper ditch upstream of Meath Bridge which would collect water via overflows from the River Rye during high flow events. The channel is designed to provide flood storage in each development area to the equivalent of the sum of flood volume in the same area for 100 year design period plus a 20% climate change allowance. The storage will be achieved by throttling the overflow channel at regular intervals forcing water to back up behind them.

The solution indicated in Figure 5.2 of the report and the specific conditions used to develop it as outlined in Section 5 of the report has been accepted as a satisfactory solution by the steering group. It is stated that the solution allows partial development of lands as it matches existing flow conditions and development of the lands can

be carried incrementally without prejudice to flooding of adjoining or neighbourhood lands.

A flood risk assessment shall be included with each planning application for the development lands. Each flood risk assessment shall be compliant with the requirements of this FRAMS including flood management conditions as set out in Section 5 of the report.

10.4 The Eastern CFRAMS Study

The Eastern CFRAMS Study is an on-going study. Partial details of the Eastern CFRAMS Study can be found in the OPW website. There is a specific hydraulics report HA09 which relates to the Kilcock area and outlines the flood regime characteristics of the lands adjacent to the Rye Water River to the immediate east of Kilcock.

11.0 PLANNING ASSESSMENT

11.1 Introduction

The Board will note from the report on the attached files that there is an extensive planning history associated with the subject site and its surroundings. It appears from the decisions made by An Bord Pleanála in respect of the previous applications for infrastructural works, that the Board have accepted the principle of developing the subject lands in question. Furthermore both the Development Plan (as per the written statement contained in Volume 5 of the Plan) seeks to provide just less than 400 houses in the Kilcock area and the fact that the site in question is zoned for phase 1 residential development, pre 2019 supports development at the subject lands. In the short term it is also reasonable to conclude that the development of the subject site for residential purposes is also acceptable in principle subject to qualitative safeguards in relation to design, layout and amenity. I further note that the applicant has, as part of the documentation submitted with the application, formulated an overall masterplan for the subject site and its surrounding area. My comments in relation to the Masterplan are more firmly articulated in my assessment under Reg.Ref. 246143.

Furthermore I note that the grounds of appeal solely raise concerns in respect of the issue of flooding and in particular the adequacy of

the flood risk assessment in respect of the lands in question. Having regard to the acceptability of the development in principle and the sole issue raised in the grounds of appeal, I consider that the Board in this instance could restrict its deliberations to this issue alone.

11.2 Flooding Issues

The grounds of appeal raise the following issues in respect of flooding.

- There is no record as to why the Board overturned the Inspector's recommendation to refuse planning permission in the case of the previously applications for infrastructural work.

- The technical advisers for the first party provided erroneous and misleading information to the Board in respect of flood risk assessment.

- More recently published Eastern CFRAMS by the OPW provides significant evidence to suggest that the earlier FRAMS report prepared in 2009 was flawed as it was based on inaccurate information.

- The impact of the proposal on the urban centre of Maynooth in terms of flooding could be significant.

- There is a massive shortage in storage requirements on site to ensure that flooding does not occur.

- The FRAMS report does not adhere to the Flood Risk Guidelines and is not a fit document for purpose to inform the safe development of dwellings within the floodplain adjacent to the village of Kilcock.

11.2.1 Overruling the Inspector's Recommendation in respect of previous applications on site

The grounds of appeal argue that the Board, in making its decision in respect of Reg. Ref. PL17.238370 and PL09.238818, did not justify its reasons for departing from the inspector's recommendation to refuse planning permission on grounds relating to flood risk assessment.

I consider that the Board when issuing decisions in respect of the infrastructure works granted under the above applications clearly indicated the reasons why it decided to grant planning permission making specific reference to policies contained in the Regional Planning Guidelines for the Greater Dublin Area, the policies contained in the then Kilcock Environs Local Area Plan and the Board also made reference to the guidance set out in the Flood Risk Management Guidelines for Planning Authorities. The Board clearly indicated that all the above documents contained policies which supported development on the lands in question. Reference was also made in the Board's decision to the availability of service lands which would enable a "coherent planned approach to the growth of the settlement" of Kilcock.

The Board also concluded that the proposed infrastructure would "*represent an appropriate response to the management of flood patterns of the Rye Water River and its catchment, by employing a low level of engineering intervention and utilising the existing flood storage capacity of the lands without increasing the risk of flooding on adjacent lands*". The Board in making its decision also carried out an Environmental Impact Assessment and Appropriate Assessment of the overall scheme.

Furthermore in the decision order issued by the Board explicitly stated the following in relation to flooding, "*In deciding not to accept the inspector's recommendation to refuse planning permission on the grounds of non-compliance with the planning system and Flood Risk Management Guidelines for Planning Authorities the Board considers that the approach adopted to the management of flood risk was considered to be sympathetic to the natural flooding patterns of the area while not increasing the risk of flooding elsewhere, and taking all the above into account, the Board considered that the proposed development was broadly in agreement with the principles of the Flood Risk Guidelines*".

The Decision Order also noted that the Planning Inspector also expressed concerns in relation to the acceptability of the flood management measures proposed giving the conflicting positions adopted by the technical advisers to the first and third parties. However the Board noted "*that the detailed design of certain flow management structures was revised in the course of the appeal as a result of the third party criticisms. Detailed submissions were*

submitted by parties in relation to flood modelling and catchment characteristics. Having considered the submission from the parties, the Board formed the view that the flood management measures proposed were appropriate and sustainable. It was noted that a steering group that oversaw the development of these measures comprised of representatives of local authorities and the Office of Public Works and the latter body did not object to the approach being followed subject to it being properly implemented".

The Board further considered that "*the requirement for complete and orderly implementation of the flood management measures across the various land holdings could be suitably managed by means of condition (requiring full implementation of flood management measures prior to the occupation of any development on the lands) as could the requirements in relation to the validation of detailed design in the scheme. It is not considered necessary to seek further technical advice in relation to flooding matters or to conduct any further cross circulation of submissions*".

While the grounds of appeal in this instance may not necessarily agree with the conclusions set out in the Board's decision there can be no doubt in my mind that the Board adequately and explicitly set out the reasons why it departed from the inspector's recommendation to refuse planning permission on grounds relating to flooding and flood risk management. I am therefore satisfied that the Board articulated its reasoning in a comprehensive and detailed manner as to why it overruled the inspector in relation to the previous application for infrastructure works on the site in question.

11.2.2. Flooding Assessment

The grounds of appeal argue that the FRAMS Report produced by RPS in consultation with the Local Authorities and the OPW in 2009 is based on erroneous information. The appeal suggests that more up-to-date information contained in the Eastern CFRAMS Study and the Flood Studies Update (FSU) suggest that the size of the Balfeaghan Stream catchment is much greater than that suggested in the FRAMS. The FRAMS Report suggested a catchment area of 2.95 square kilometres. Research undertaken by the appellant suggests that the size of the catchment area is 6.45 sq. km., whereas the Flood Studies Update (FSU) provides evidence that the area is even greater at 7.13 sq. km. The assertion that the catchment area is greater than two times the size of that suggested

in the FRAMS Report would have significant implications in terms of calculating recharge and run-off characteristics which would have consequential flood risk implications. The applicant in the response to the grounds of appeal does not specifically address the issue of the size of the Balfeaghan catchment area. I consider that further clarification should be sought on this issue prior to determining the application.

The grounds of appeal also argues that the Eastern CFRAMS calculates the flow at St. Anne's Bridge gauging station as being 56.6 cubic metres per second as opposed to the FRAMS Report which calculates the 100 year flow at the same bridge as being 37.1 cubic metres per second. St. Anne's Bridge is located downstream of Kilcock and north of Maynooth. The differences in the 100 year flow in this instance appear to be significant - almost 20 cubic metres per second. If the figures contained in the grounds of appeal are correct this again would have obvious implications for flood risk particularly upstream of St. Anne's Bridge.

I can find no reference to the above figures in either the Eastern CFRAMS Study (HA09 Hydraulics Report for Kilcock Area) nor can I find such a reference in the FRAMS Study. Again the applicant in his response to the grounds of appeal does not specifically address the stated anomalies in calculation of flows for St. Anne's Bridge. It is apparent however that if there are discrepancies in the figures presented this could have very significant implications for flooding on surrounding lands. The Board will note that the Eastern CFRAMS Study has been partially published in draft form and is available on the OPW website. The information contained in the CFAMS Report is more up-to-date than the original FRAMS Report. Furthermore the Eastern CFRAMS Study, which can rely on more up-to-date data and data over longer period than the original FRAMS study carried out in respect of the lands in question. The applicant in the response to the grounds of appeal acknowledges that flow gauge data for Kilcock is only available within the catchment for a very short period (since 2002). The response further acknowledges that "*the length of the record is not considered to have sufficient statistical confidence for the estimation of peak design flood flows up to the target return period of 100 years*".

If it is the case that the FRAMS Report is based on inaccurate data, the Board should exercise a precautionary approach in issuing a decision or seek further information or independent expert analysis.

The grounds of appeal also argue that the storage promised in Section 5.4.1 of the FRAMS Report is not being provided on site. Section 5.4.1 of the FRAMS Report seeks a flood management solution which would involve the construction of flood water storage units off-line for the River Rye Water. It is proposed that an overflow channel be constructed, starting downstream of the Balfeaghan Bridge and connecting with the "upper – ditch" upstream of the Meath Bridge which would collect water via overflows from the Rye Water during high flood events. The grounds of appeal suggest that only 58% of the storage required will be made available. It is estimated that 87,200 cubic metres would be required for sufficient storage during flood events whereas only 50,400 cubic metres will be made available. It is further suggested that the shortfall for the entire Kilcock area will be in the region of 74.3%. The grounds of appeal therefore suggest that "level for level storage" is not being provided in accordance with the Flood Risk Guidelines. I would refer the Board to the various figures contained in the excel sheets attached to the grounds of appeal (see CD submitted with the grounds of appeal) which set out details regarding same. It is contended that the computation models contained in the excel spreadsheet clearly illustrate using LiDAR data, that the figures contained in Appendix C of the original FRAMS Report is flawed. Again the applicant in the response to the grounds of appeal does not specifically address this issue. Having regard to the technical nature of the arguments put forward I would recommend that the Board seek specialist technical expert advice in order to assess the veracity of these assertions made in the grounds of appeal.

Likewise the grounds of appeal go on to assert that the hydraulic model produced in the FRAMS Report if flawed and that the methodologies employed are significantly different than those employed in the Eastern CFRAM model. The grounds of appeal go on to outline in greater technical detail the perceived shortcomings and anomalies in the modelling exercises undertaken in the FRAMS Report. The response that the applicant notes that RPS was commissioned by the OPW to carry out the Eastern Catchment Flood Risk Assessment and Management Study. However the response submitted does not specifically address the issues in respect of the anomalies raised in the grounds of appeal other than merely stating that "*the analysis undertaken within the two is essentially in good agreement and that RPS is satisfied that nothing*

presented in the grounds of appeal will change the conclusions in the 2009 Kilcock Study".

The Board will note that the grounds of appeal in this instance are of a very technical nature. Although not fully understanding much of the technical information contained in the grounds of appeal and particularly the appendices attached and the excel spreadsheets, I consider that information has been presented in the appeal which may cast doubt in respect of many of the assumptions included in the hydraulic modelling undertaken in the original FRAMS Report prepared in 2009. Furthermore it appears from the information contained on file, that more up-to-date information based on longer term data is available and much of this data is contained in the recently published draft Eastern CFRAMS Report. It appears that much of this recent data is at variance with some of the information which form the basis of the FRAMS Report 2009. In fact the variance in data is acknowledged by the applicant in the response to the grounds of appeal although the applicant maintains that the variance between the two studies (of between 22 to 47%) is not considered unusual.

Having assessed the information on file, I consider that there is a basis for requiring a full evaluation of the flood risk assessment in respect of the works to be undertaken on site. I am satisfied that the appellants have in this instance made a cogent case for re-evaluation of the FRAMS Report based on more recent and more comprehensive data being made available.

I note that FR POL 2 of the development plan states that "*The Eastern CFRAM flood mapping and management plan when complete and available will provide additional clarity to flood mapping and risk management measures than was available to inform the land use zoning objectives presented for Kilcock. The Eastern CFRAM flood mapping and management plan shall be consulted when available in conjunction with this Written Statement / Volume I of the County Development Plan."* I may be prudent for the Board to seek further clarity on the differences in the data and the assumptions which formed the basis of both reports prior to the determination of the appeal.

Flood risk and flooding events are becoming ever more frequent and extensive and severe in their nature. Much of this is attributed to climate change. I consider that a precautionary approach should

be exercised by the Board in this instance and a re-evaluation of the flood risk, based on independent expert advice should be undertaken by the Board prior to determining the application and appeal before it.

I consider that three options are available for the Board in this instance:

Firstly refuse planning permission for the proposed development on the grounds that the Board is not satisfied in this instance that, based on the information contained in the grounds of appeal, the proposed development will not give rise to or exacerbate flooding in the Kilcock/Maynooth area and would therefore be contrary to the Planning System and Flood Risk Management – Guidelines for Planning Authorities (November 2009) and would therefore be contrary to the proper planning and sustainable development of the area.

Secondly the Board could consider in engaging the services of a suitably qualified expert to independently assess the information on file and make a recommendation to the Board to grant or refuse planning permission based on this independent expert evaluation.

Thirdly the Board could request the applicant to produce a new and more up-to-date flood risk assessment management report based on more up-to-date data available and subsequently seek independent expert advice as to whether or not to grant planning permission for the proposed development.

11.3 Environmental Impact Assessment

I am of the opinion that the EIS submitted with the planning application is comprehensive and complies with the statutory requirements set out in Article 94 and Schedule 6 of the Planning and Development Regulations (as amended) and also has been prepared generally in accordance with the EPA Guidelines as they relate to environmental impact assessment. The EIS has in my opinion identified, described and assessed the key likely significant environmental impacts relating to the proposed development and these are assessed in more detail below.

The proposed housing development is adequately described as is the receiving environment which the proposed development is to take place.

In terms of potential impacts on human beings, the EIS details population trends in the local area, sets out the population structure and the economic activity as well as the existing social and community facilities in Kilcock. The potential impacts of the proposed development are described as increased economic activity and employment during the construction phase and the increase in population of Kilcock during the operational phase. The proposed development will also result in the loss of potential agricultural employment with the reduction in agricultural lands. The social impacts arising from the increase in population is set out in the EIS. Residual impacts will, according to the document, be negligible with mitigation measures being employed particularly during the construction phase. The EIS in my view has correctly identified the potential socio-economic impact which could arise from the proposed housing development and I would agree with the conclusion that residual impacts would be slight with the incorporation of appropriate mitigation measures particularly during the construction phase.

In terms of flora and fauna, the EIS adequately describes the baseline environment in terms of habitats, vegetation, watercourses and existing flora and fauna on site. The EIS concludes that the existing agricultural lands are of low ecological value. The main potential impacts arising from the proposal include site clearance and its replacement with artificial covering, the addition of people and traffic on the subject lands together with additional lighting and artificial landscaping. Mitigation measures are set out in Section 4.6 of the EIS and provided that such mitigation measures are effective there will be no impact on watercourses and the negative impact on flora and fauna are deemed to be localised which will not result in the overall devaluation of natural heritage. These are reasonable conclusions in my view.

In terms of soils and geology the existing receiving environment is described in the document. The potential impact arising from the proposal involves removal of soils during the construction phase. No impact on soils is envisaged during the operational phase and no impact on geology is envisaged as a result of the proposal. The majority of excavated topsoil will be disposed of off-site or retained

for future landscaping works where possible. The impact on soil is deemed to be short term and moderate. I consider the EIS has correctly identified, described and assessed the potential impact of the proposed development on soils and geology and the conclusions in relation to same are deemed to be acceptable.

In terms of water and hydrology, the EIS describes the receiving environment. It notes that the development will lead to an increase in surface water run-off on the subject lands. However groundwater recharge will be facilitated in design of a stormwater management plan for the subject lands. Details of the surface water drainage are set out and detention basins will be provided to store flows from 1 in 100 year storm on site. Details of the proposed foul drainage and water supply are also set out. The potential impacts during the construction phase are identified as being increased siltation levels which could pollute receiving surface waters. During the operational phase the main risk identified is flooding. However it is stated that if the approved mitigation works identified in the FRAMS Report are implemented, the risk of flooding will be attenuated. Potential impacts in terms of hydrogeology, foul sewage, surface water drainage and water supply are also set out. Section 6.6 of the EIS sets out the various remedial and reductive measures which will be employed to ensure that residual risks will be minimised. While I consider that the potential adverse risks particularly in relation to flooding have been identified described and assessed in the EIS, notwithstanding the conclusions contained therein, I would consider particularly in light of the issues and data raised in the grounds of appeal, that the Board should consider requesting further information in relation to potential flood risk arising from the proposed development.

In terms of air quality and climate, the EIS sets out details of the existing environment and provides details in relation to meteorological data for the region. Reference is also made to the limits set out in the Air Quality Standards Regulations 2011. The main impacts are identified as arising from fugitive dust during the construction phase. Increased emissions as a result of higher traffic generation is identified as being the main adverse impact during the operational phase. The EIS sets out a number of construction phase mitigation measures and operational phase mitigation measures in order to reduce the residual impact. The potential cumulative impact arising from the development of adjoining lands are also referred to in the EIS. Again I consider that the EIS has correctly and

adequately identified, described and assessed the potential adverse impacts which could arise in terms of air quality as a result of the proposed development. The residual impacts are deemed to be acceptable.

In terms of noise and vibration, the EIS sets out and describes the existing baseline noise environment at three noise sensitive locations in the vicinity of the site. The average evening time noise survey ranges from 47 dB(A) to 54 dB(A). The potential impacts of the proposed development during the construction phase are identified correctly as being noise arising from construction activity and construction plant and equipment on site. It is noted however that this noise will be restricted to daylight hours and will be temporary in duration. The main noise impact identified during the operational phase are increased traffic and general increased noise levels as a result of human activity. The EIS sets out remedial and mitigation measures for both the construction and operational phase. It is concluded with the incorporation of mitigation measures, noise levels during the construction phase would not be expected to exceed the noise criteria set out in Table 8.3 of the EIS.

In terms of the operational phase the overall noise climate would be expected to remain very similar to the present situation, as currently, the predominant source of noise is passing traffic. No vibration impacts associated with the development are identified. The EIS also assesses the proposal in the context of cumulative impacts for existing and proposed development in the area. Again it is concluded that there will be no measureable impact on the noise climate of the area. I consider the EIS has adequately identified and described and assessed the potential noise impacts. I also consider the conclusions reached in respect of noise and vibration to be reasonable.

In terms of landscape and visual impacts, the EIS describes the existing landscape character and statutory landscaping planning context referring to statutory development plans in relation to any landscape policies contained therein. The potential impacts during the construction phase are identified as being general construction activity. The visual impact during the operational phase while being permanent would be mitigated by the fact that there is a large expanse of open space along the southern side of the development which will reduce impacts from views along the R148, canal and railway line. Mitigation measures to reduce the visual impact are set

out for the design phase, the construction phase and the operational phase. The impacts on the landscape character from various vantage points in the vicinity are set out in detail in the EIS. I consider the EIS has identified, described and assessed the potential impacts arising from the proposed development and I will agree with the conclusions that the residual impacts arising from the development in the context of the mitigation measures proposed are acceptable.

In terms of material assets the EIS identified assets of human origin namely infrastructure and utilities serving the development and also identified assets of natural origin mainly the implementation of a comprehensive landscape plan. The EIS sets out the potential impact of the proposed development on the various utilities and infrastructure in the receiving environment including transport, natural gas, electricity, telecoms and municipal waste. No significant residual impact is anticipated during the construction phase. During the operational phase it is acknowledged that the proposed development will have an impact on utility supplies. However the impact is deemed to be acceptable. It is also considered that the proposed development will have a net beneficial impact in terms of direct provision of flood relief measures for Kilcock. The EIS has adequately identified, described and assessed the potential impacts on material assets and I would agree with the conclusion that the residual impacts are likely to be insignificant.

In terms of archaeology and cultural heritage the EIS sets out a detailed desk study of its site and its surroundings in terms of history and archaeology. It is noted that there are no recorded monuments within the area of the proposed development. There are however a number of monuments in the general area none of which will be directly impacted upon by the proposed works. The EIS concludes that there will be no impact on Recorded Monuments, Protected Structures or the Royal Canal. There is potential to impact on subsurface remains but this is identified in the document as being low or moderate. The residual impact therefore is deemed to be low. I consider that the archaeological and cultural heritage impacts have been identified, described and assessed and I would agree with the conclusions set out in the EIS that the likely impacts are deemed to be insignificant.

The final chapter of the EIS identifies potential interactions and inter-relationships in terms of human beings, ecology, soil and

water, traffic, air climate and the landscape. It is concluded that the proposed development will not result in any significant synergistic or cumulative adverse impacts on the environment.

The EIS has also adequately in my view considered the issue of alternatives in assessing the development (see Section 1.8 of the EIS). The alternatives considered mainly related to alternative design and layouts in the context of all the lands included in the Masterplan.

The residual effects identified under the various sections of the EIS are acceptable in my view and are unlikely to have a significant impact on the receiving environment. However I would reiterate that the Board may consider it appropriate to seek additional information in relation to potential flooding effects on foot of the issues highlighted in the grounds of appeal. The proposed development either by itself or cumulatively with other developments in the vicinity would not in my opinion have a significant impact on the receiving environment. In summary therefore having regard to the contents of the EIS and the various other submissions by the applicant in relation to the application I am satisfied that there is sufficient information in respect of this application to carry out a full environmental impact assessment and would agree with the conclusions therein that the proposed development would not have a significant adverse impact on the receiving environment subject to the implementation of the various mitigation measures proposed.

12.0 Appropriate Assessment

An Appropriate Assessment Screening Report and a Natura Impact Statement was submitted with the application. The NIS in my opinion has correctly identified as a result of the screening exercise that there is one candidate SAC (the Rye Water Valley/Carton cSAC Site Code: 1398) which could be significantly affected by the proposed development. This designated Natura 2000 site is located between 5 and 6 kilometres directly downstream of the subject site. The subject site is hydrologically connected and upstream of the designated Natura 2000 site, at the southern boundary of the site is contiguous to the Rye Water River.

The importance of the Natura 2000 site lies with the presence of a number of rare plant and animal species and a rare habitat, - the mineral petrifying spring which gives rise to calcareous marsh. This

is an important habitat for small snails - *Vertigo angustior and Vertigo Moulinsiana.* The NIS notes though not specifically listed as qualifying interests, the site also contains freshwater crayfish, salmon, brook/river lamprey and otter all of which are included in Annex II of the Habitats Directive. The qualifying interests associated with the SAC are as follows:

- *Petrifying springs with tufa formation.*
- *Vertigo angustior (narrow mouthed Whorl Snail) and*
- *Vertigo moulinsiana (Desmoulin's Whorl Snail).*

The conservation objective is to maintain or restore the favourable conservation condition of Annex I Habitats and/or Annex II Species for which the SAC has been selected.

The main adverse potential impacts which could possibly arise on the latter two species could result from pollution episodes or increase siltation/sedimentation in the Rye Water River as a result of construction works and earth movement works associated with the housing development.

Both the EIS and NIS have referred to the fact that mitigation has been built into flood control and infrastructural developments which already have the benefit of a grant of planning permission. Surface water on site during the construction works will be directed to on-site settlement ponds where silt removal will be facilitated prior to discharge into adjacent surface water surrounding the site at a controlled rate. Periodic testing of the surface water discharge will also be undertaken. All oils, solvents and paints used during the construction will be stored in temporary bunded areas and in designated areas with an impervious surface. Surface water attenuation and retention will be included as part of the main surface water drainage system.

The incorporation of the above mitigation measures should ensure that no material increases in sediment and pollutants will occur downstream of the subject site. The separation distance between the site and the designated Natura 2000 site will also act as an effective mitigation measure to ensure that any potential pollutants would be appropriate diluted and dispersed over a 5 to 6 kilometre stretch of river bed. This would have the benefit of ensuring that any potential pollution episode would be sufficiently diluted so as to

ensure that it would have a negligible impact in pollution terms of qualifying interests downstream.

Likewise during the operational phase SUDS technology will be employed throughout the site so as appropriate attenuation will take place prior to any discharge to receiving waters including the River Rye Water. The Natura Impact Statement concludes that with the implementation of the mitigation measures that there would be no changes in the Rye Water River which would lead to any significant impacts which could adversely affect the integrity of the qualifying interests associated with the Natura 2000 site downstream.

Having regard to the mitigation measures to be employed on site and these are set out in detail in Chapter 6 of the EIS, I am satisfied that the conclusions reached in the NIS are reasonable and I would concur that the proposed development will not adversely affect the favourable conservation status of either the petrifying springs with tufa formation or the two species of snail for which the Natura 2000 site has been designated.

Subject to the employment of the mitigation measures set out which will act as a robust and comprehensive defence against any potential pollution episodes, I am satisfied that the proposed development will not have any adverse impact on the Annex I Habitat nor the Annex II Species for which the Natura 2000 Site has been designated in terms impacting on the population dynamics of the species, the natural range of species nor will it provide a threat to the maintenance of the snail population within a designated site on a long-term basis. . The proposed development therefore will not impact on the conservation objectives of the designated Natura 2000 site. Based on my own assessment it is my opinion that the conclusions reached in the NIS are appropriate and reasonable.

I consider it reasonable to conclude on the basis of the information on file, which I consider adequate in order to carry out a State 2 Appropriate Assessment, that the proposed development, individually or in combination with other plans and projects would not adversely affect the integrity of the European Site Code No. 001398 or any other European site in view of the site's conservation objectives.

12.0 CONCLUSIONS AND RECOMMENDATIONS

Arising from my assessment above I consider that, having regard to the technical nature of the grounds of appeal, and the fact that the applicant in his response to the grounds of appeal has not specifically addressed the issues raised in the grounds of appeal that the Board in this instance should either:

(a) Refuse planning permission for the proposed development on the grounds that based on the information contained on file the Board is not satisfied that the proposed development will not give rise to or exacerbate flooding in the Kilcock/Maynooth area and as such would be contrary to the provisions of the Planning System and Flood Risk Management Guidelines for Planning Authorities issued by the Department of Environment, Heritage and Local Government in November, 2009 and would therefore be contrary to the proper planning and sustainable development of the area.

(b) Alternatively the Board could engage the services of a suitably qualified expert to independently assess the information contained on file and in particular critically evaluate the assertion made in the grounds of appeal that the hydrodynamic modelling undertaken as part of the original FRAMS Report is flawed. The independent expert could on foot of this analysis make a recommendation to the Board as to whether or not to grant or refuse planning permission.

(c) Thirdly the Board could request the applicant to produce a new and more up-to-date Flood Risk Analysis Management Report based on more up-to-date data prior to determining the planning application.

Appropriate Assessment Screening

The Board noted that the proposed development is not directly connected with or necessary to the management of a European Site. In completing the screening for Appropriate Assessment, the Board had regard to the nature, scale and location of the proposed development, the Appropriate Assessment screening statement and the Natura 2000 Impact Statement, the documentation including submissions on file, and the Inspector's assessment.

The Board accepted and adopted the assessment carried out by the Inspector and the conclusion in the Inspector's report in respect of the identification of the European sites which could potentially be affected, and the identification and assessment of the potential likely significant effects of the proposed development, either individually or in combination with other plans or projects, on these European sites in view of the sites' conservation objectives. The Board was satisfied that the proposed development, either individually or in combination with other plans or projects, would not be likely to have a significant effect on the following European Sites: Rye Water Valley/Carton Special Area of Conservation (Site Code 001398), or any other European site, in view of the conservation objectives of these sites.

Environmental Impact Assessment

The Board completed an Environmental Impact Assessment of the proposed development, taking into account:

(a) the nature, scale, extent and location of the proposed development;
(b) the Environmental Impact Statement submitted with the application;
(c) the documents on file including the submissions from the planning authority and from the observers lodged in the course of the application; and
(d) the Planning Inspector's report.

The Board considered that the Environmental Impact Statement identifies and describes adequately the direct and indirect effects of the proposed development on the environment. The Board completed an Environmental Impact Assessment in relation to the subject development, by itself and in combination with other development in the vicinity (including the associated development PL17.246143), and concluded that the proposed development would not be likely to have significant effects on the environment. In doing so, the Board adopted the report of the Inspector.

_____

Paul Caprani,
Senior Planning Inspector.
17th May, 2016.
sg