

## 14. **SCHEDULE OF MITIGATION**

### 14.1 **Introduction**

This section of the Environmental Impact Assessment Report (EIAR) provides a schedule of mitigation measures which are taken from all previous chapters of the EIAR. It is provided in an easily viewed table (Table 14.1). Further detail and background information is provided in the relevant EIAR Section

Table 14-1 Proposed Mitigation Measures

| Ref. No.                      | Reference Heading                  | Location                          | Mitigation Measure   |
|-------------------------------|------------------------------------|-----------------------------------|--|
| <b>Pre-Commencement Phase</b> |                                    |                                   |  |
| MM1                           | Surveys                            | EIAR Section 12                   | Prior to works, the area where excavations are planned will be surveyed and all existing services will be identified.  |
| MM2                           | Liaison with relevant authorities  | EIAR Section 12                   | Liaison will be had with the relevant sections of the Local Authority, and other relevant bodies (ESB, Eir, Gas Networks Ireland, etc.) including all the relevant area engineers to ensure all services are identified.   |
| MM3                           | Excavation permits                 | EIAR Section 12                   | Excavation permits will be completed, and all plant operators and general operatives will be inducted and informed as to the location of any services.   |
| MM4                           | Compliance with construction codes | EIAR Section 12                   | The contractor must comply with and standard construction codes of practice in relation to working around electricity, gas, water, sewage and telecommunications networks.   |
| MM6                           | Traffic Management Plan            | EIAR Section 12<br>CEMP Section 9 | A Traffic Management Plan (TMP) will be issued to Galway City Council for approval prior to works commencing on site. The approved TMP and any revisions thereof will be set up and implemented on site. All necessary signage will be erected in the weeks prior to any works commencing along and on adjacent roads to the proposed development giving advance warning to traffic, pedestrians / members of the public |
| MM9                           | Silt Fencing                       | EIAR Section 7                    | Prior to the commencement of earthwork silt fencing will be placed down-gradient of the construction areas where drains or drainage pathways are present.  |
| <b>Construction Phase</b>     |                                    |                                   |  |

| Construction Management |                              |                |   |
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| MM10                    | Operating hours              | EIAR Section 4 | Construction operations will in general be confined to the period Monday-Friday 0700-1900 h, and Saturday 08:00-17:00 h.  |
| MM11                    | Health and Safety            | EIAR Section 4 | <ul style="list-style-type: none"> <li>➤ A site-specific Health and Safety Plan will be in place for the proposed facility. All site staff will be made aware of and adhere to the company Health and Safety Plan.</li> <li>➤ Operate a Site Induction Process for all site staff,</li> <li>➤ Ensure all site staff will have current 'Safe Pass' cards,</li> <li>➤ Install adequate site hoarding to the site boundary,</li> <li>➤ Maintain Site Security staff at all times,</li> <li>➤ Install access security in the form of turn-styles and gates for staff,</li> <li>➤ Separate public pedestrian access from construction vehicular access,</li> <li>➤ Only appropriately qualified and trained personnel will be permitted to operate machinery onsite.</li> <li>➤ Appropriate barriers and signage will be used.</li> <li>➤ The proposed development site will not be accessible to members of the public.</li> <li>➤ The site will also be secure to prevent the risk of trespass through signage and provision of barriers.</li> </ul> |
| MM12                    | Road Cleaning and Wheel Wash | EIAR Section 3 | The Contractor will make provision for the cleaning by road sweeper etc. of all access routes to and from the site during the course of the works as required. It is intended that cleaning will be undertaken as required. A wheel wash facility will be provided on site to clean site traffic leaving the site. Waste water generated at this washing facility will be suitably treated on site and all settled silts disposed offsite to licensed landfill. All road sweeping vehicles will be emptied off site at a suitably licensed facility as per our construction stage environmental waste management document.  |
| MM13                    | Wastewater Management        | EIAR Section 3 | Portable toilets will be provided for the working on the construction site. Wastewater arising on-site from these toilets is stored in a sealed tank located within the portable toilets, and these will be emptied periodically (as required) by permitted waste contractors and transported to municipal wastewater treatment plants for treatment..  |
| MM14                    | Water Supply                 | EIAR Section 3 | Water will be supplied on site by water tankers for general use. Potable water will be provided in the form of bottled water for staff use.   |

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| MM15                                  | Site Signage   | EIAR Section 4                    | Temporary warning signs and Hoarding will be provided along the site frontage to protect pedestrians using the footpaths.   |
| MM16                                  | Other Services | EIAR Section 12                   | The contractor must comply with and standard construction codes of practice in relation to working around electricity, gas, water, sewage and telecommunications networks.  |
| <b>Drainage Design and Management</b> |                |                                   |   |
| MM17                                  | Hydrocarbons   | EIAR Section 6,<br>CEMP Section 8 | <ul style="list-style-type: none"> <li>➤ All plant and machinery will be serviced before being mobilised to site;</li> <li>➤ No plant maintenance will be completed on site, any broken down plant will be removed from site to be fixed;</li> <li>➤ Refuelling will be completed in a controlled manner using drip trays at all times;</li> <li>➤ Mobile bowsers, tanks and drums will be stored in secure, impermeable storage areas away from open water;</li> <li>➤ Fuel containers will be stored within a secondary containment system, e.g. bunds for static tanks or a drip tray for mobile stores;</li> <li>➤ Containers and bunding for storage of hydrocarbons and other chemicals will have a holding capacity of 110% of the volume to be stored;</li> <li>➤ Ancillary equipment such as hoses and pipes will be contained within the bund;</li> <li>➤ Taps, nozzles or valves will be fitted with a lock system;</li> <li>➤ Fuel and chemical stores including tanks and drums will be regularly inspected for leaks and signs of damage;</li> <li>➤ Drip-trays will be used for fixed or mobile plant such as pumps and generators in order to retain oil leaks and spills;</li> <li>➤ Only designated trained operators will be authorised to refuel plant on site;</li> <li>➤ Procedures and contingency plans will be set up to deal with emergency accidents or spills; and,</li> <li>➤ An emergency spill kit with oil boom, absorbers <i>etc.</i> will be kept on-site for use in the event of an accidental spill. A specific team of staff will be trained in the use of spill containment.</li> <li>➤ Highest standards of site management will be maintained and utmost care and vigilance followed to prevent accidental contamination or unnecessary disturbance to the site and surrounding environment during construction. A named person will be given the task of overseeing the pollution prevention measures agreed for the site to ensure that they are operating safely and effectively.</li> </ul> |



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| MM19 | Concrete Deliveries and Management | EIAR Section 7 | No batching of wet-cement products will occur on site. Ready-mixed supply of wet concrete products will be used and where possible   |
| MM20 | Concrete Deliveries and Management | EIAR Section 7 | No washing out of any plant used in concrete transport or concreting operations will be allowed on-site  |
| MM21 | Concrete Deliveries and Management | EIAR Section 7 | Where concrete is delivered on site, only the chute need be cleaned, using the smallest volume of water possible. No discharge of cement contaminated waters to the construction phase drainage system or directly to any artificial drain or watercourse will be allowed. Chute cleaning water is to be directed into a dedicated lined washout area. This lined area will be removed from site once the construction phase is complete;  |
| MM22 | Concrete Deliveries and Management | EIAR Section 7 | Weather forecasting will be used to plan dry days for pouring concrete. Ensure pour site is free of standing water and plastic covers will be ready in case of sudden rainfall event   |
| MM23 | Silt Fences                        | EIAR Section 7 | Silt fences will be placed up-gradient of all drains where construction is proposed. Silt fences are effective at removing heavy settleable solids. This will act to prevent entry to watercourses of sand and gravel sized sediment, released from excavation of mineral sub-soils of glacial and glacio-fluvial origin, and entrained in surface water runoff.   |
| MM24 | Surface Water                      | EIAR Section 7 | <ul style="list-style-type: none"> <li>➤ Collection and treatment of surface water within the site will be completed using perimeter swales at low points around the construction areas, and if required water will be pumped from the swales into sediment bags prior to overland discharge allowing water to percolate naturally to ground or disperse by diffuse flow into local drainage ditches;</li> <li>➤ Discharge onto ground will be via a silt bag which will filter any remaining sediment from the pumped water. The entire discharge area from silt bags will be enclosed by a perimeter of double silt fencing;</li> <li>➤ Any proposed discharge area will avoid potential surface water ponding areas, and will only be located where suitable subsoils are present;</li> <li>➤ No pumped construction water will be discharged directly into any local watercourse;</li> </ul> |

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| MM26                              | Silt Bags          | EIAR Section 7                   | Silt bags will be used where small to medium volumes of water need to be pumped from excavations or swales. As water is pumped through the bag, most of the sediment is retained by the geotextile fabric allowing filtered water to pass through. Silt bags will be used with natural vegetation filters.   |
| <b>Peat, Subsoils and Bedrock</b> |                    |                                  |  |
| MM28                              | Excess material    | EIAR Section 6                   | Construction of service trenching, pumping station and surface water attenuation features will generate excess material. All excess material will be sent to an authorised soil and stone or waste recovery facility   |
| <b>Flora and Fauna</b>            |                    |                                  |  |
| MM29                              | Replanting         | EIAR Section 5                   | A landscape plan has been developed for the site. The planting schedule will include the native trees Scots pine ( <i>Pinus sylvestris</i> ), oak ( <i>Quercus robur</i> ), silver birch ( <i>Betula pendula</i> ), strawberry tree ( <i>Arbutus unedo</i> ) and wild cherry ( <i>Prunus avium</i> ). Specimen semi mature tree planting along the site boundary will include oak ( <i>Quercus robur</i> ) and silver birch ( <i>Betula pendula</i> ). Planting within the amenity areas will include the following pollinator friendly species as recommended in the Pollinator friendly planting code (All Ireland Pollinator Plan 2015-2020) – <i>Allium</i> sp., <i>Lavandula angustifolia</i> (English lavender), <i>Rosmarinus officinalis</i> (Rosemary), <i>Salvia</i> sp., <i>Mahonia</i> sp. Such measures will maintain the local biodiversity in the area. |
|                                   | Birds              | EIAR Section 5                   | Vegetation clearance will be undertaken in line with the provisions of the Wildlife Acts (As Amended), 1976-2017.  |
|                                   | Bats               | EIAR Section 5                   | The proposed landscape plan will maintain foraging and commuting habitat for bats.   |
| <b>Noise</b>                      |                    |                                  |  |
| MM32                              | Construction Noise | EIAR Section 8<br>CEMP Section 6 | <ul style="list-style-type: none"> <li>➤ Plant and machinery with low inherent potential for generation of noise and/or vibration will be selected. All construction plant and equipment to be used onsite will be modern equipment and will comply with the European Communities (Construction Plant and Equipment) (Permissible Noise Levels) Regulations.</li> <li>➤ Site compounds should be located away from noise sensitive boundaries within the site constraints. The use lifting bulky items, dropping and loading of materials within these areas should be restricted to normal working hours.</li> </ul>  |

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|                         |                  |  | <ul style="list-style-type: none"> <li>➤ For mobile plant items such as cranes, dump trucks, excavators and loaders, maintaining enclosure panels closed during operation can reduce noise levels over normal operation.</li> <li>➤ Mobile plant should be switched off when not in use and not left idling.</li> <li>➤ For percussive tools such as pneumatic breakers, a number of noise control measures include fitting muffler or sound reducing equipment to the breaker ‘tool’ and ensure any leaks in the air lines are sealed. Erect localised screens around breaker or drill bit when in operation in close proximity to noise sensitive boundaries.</li> <li>➤ For concrete mixers, control measures will be employed during cleaning to ensure no impulsive hammering is undertaken at the mixer drum.</li> <li>➤ For all materials handling drop heights will be minimized. Drop chutes and dump trucks will be lined with resilient materials.</li> <li>➤ Compressors, generators and pumps will be surrounded by acoustic lagging or enclosed within acoustic enclosures providing air ventilation.</li> <li>➤ All items of plant should be subject to regular maintenance. Such maintenance can prevent unnecessary increases in plant noise and can serve to prolong the effectiveness of noise control measures.</li> <li>➤ Site will be screened with standard construction site hoarding (2.4m in height) with a mass per unit of surface area greater than 7 kg/m<sup>2</sup> to provide adequate sound insulation.</li> <li>➤ A designated noise liaison officer will be appointed to site during construction works. Any noise complaints will be logged and followed up in a prompt fashion by the liaison officer. In addition, prior to particularly noisy construction activity, e.g. piling, the liaison officer will inform the nearest noise sensitive locations of the time and expected duration of the noisy works.</li> </ul> |
| <b>Air Quality/Dust</b> |                  |  |  |
| MM33                    | Air Quality      | EIAR Section 4, 8.                     | <ul style="list-style-type: none"> <li>➤ All construction vehicles and plant will be maintained in good operational order while onsite, thereby minimising any emissions that arise.</li> <li>➤ Mobile plant should be switched off when not in use and not left idling.</li> </ul>  |
| MM34                    | Dust Suppression | EIAR Section 3, 4, 8<br>CEMP Section 5 | <ul style="list-style-type: none"> <li>➤ Material handling systems and site stockpiling of materials will be designed and laid out to minimise exposure to wind. Water misting or sprays will be used as required if particularly dusty activities are necessary during dry or windy periods. Material stockpiles containing fine or dusty elements shall be covered with tarpaulins. Aggregates will be transported to and from the site in covered trucks.</li> </ul>  |

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|                |                      |                                       | <ul style="list-style-type: none"> <li>➤ If dust levels become an issue, then all dust generating activities on site will cease until such time as weather conditions improve (e.g. wind levels drop or rain falls) or mitigation measures such as damping down of the ground are completed.</li> <li>➤ Site road ways will be maintained in a stoned hard core condition not allowing soil to accumulate which when dry can create dust.</li> <li>➤ Wheel wash equipment will be set up at the site exit gate for all construction vehicles to pass through prior to leaving the site thus ensuring that no dirt etc. is transported outside the site onto the roadways.</li> <li>➤ Plant and equipment that have the potential to create volumes of dust will have appropriate attachments to allow water source to dampen dust to not allow it to get airborne.</li> <li>➤ By the use of barriers such as debris netting on scaffolding around the building to block dust escaping where the building is within 10m of the site boundary where residential properties exist.</li> <li>➤ Where drilling or pavement cutting, grinding or similar types of stone finishing operations are taking place, measures to control dust emissions will be used to prevent unnecessary dust emissions by the erection of wind breaks or barriers.</li> <li>➤ All concrete cutting equipment shall be fitted with a water dampening system. During peak vehicle movements, where there is a likelihood of dirt on construction vehicles exiting the site, a dedicated road sweeper will be put in place until these works are completed.</li> <li>➤ Deploy Road Sweeper as required on External Roads.</li> </ul> |
| <b>Traffic</b> |                      |                                       |   |
| MM35           | Construction Traffic | EIAR Section 12<br><br>CEMP Section 9 | <ul style="list-style-type: none"> <li>➤ On-site employees will generally arrive before 07:00, thus avoiding the morning peak hour traffic.</li> <li>➤ Construction traffic will not be permitted to park on the public roads or within the general area outside the main site. Restricted parking facilities will be provided by the contractor.</li> <li>➤ Due to proximity of site to Gaelscoil Mhic Amhlaigh school the construction traffic adjacent to school will be limited to the outside of the school hours. Additionally, a temporary pedestrian/cycle routes will be required at the proposed site access locations to fully segregate construction traffic from pedestrian traffic. Site marshal will be provided especially during morning and afternoon school drop-off/pick-up times.</li> <li>➤ Construction vehicle movements and their impact will be minimised through;               <ul style="list-style-type: none"> <li>○ Consolidation of delivery loads to / from the site and management of large deliveries on site to occur outside of peak periods;</li> </ul> </li> </ul>  |



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|--------------------------|----------|--------------------|---|
|                          |          |                    | <ul style="list-style-type: none"> <li>○ Use of precast / prefabricated materials where possible;</li> <li>○ Adequate storage space on site to be provided where possible;</li> <li>○ The design of the works has involved an element of minimising the quantity of material to be removed from site by way of cut and fill balance;</li> <li>○ Scheduling of movements to outside peak traffic times and school pickup / drop-off times</li> </ul>   |
| <b>Operational Phase</b> |          |                    |   |
| MM38                     | Drainage | EIAR Section 3     | <p>All run-off from roofs and areas of hardstanding will be conveyed to the surface water drainage network at ground floor level. Sustainable urban drainage system (SUDS) elements will be incorporated in to the design and will include the following:</p> <ol style="list-style-type: none"> <li>1. Porous asphalt paving on part of civic plaza within Site 1 to provide treatment, storage and reduce run-off rates.</li> <li>2. Green podium with landscaped areas and raised planters to reduce run-off rates and total impermeable area.</li> <li>3. Two off-line attenuation storage systems for the attenuation of flood water up to the 100 year storm event + 10% allowance for climate change.</li> <li>4. A Class 1 Bypass Separators to be provided on the outfall from each network.</li> </ol> <p>The incorporation of the above SUDS elements will provide a sustainable manner in which to disperse surface water from the site and provide treatment of run-off and subsequent improvement of discharge quality. Site run-off will be attenuated to predevelopment levels.</p> |
| MM39                     | Traffic  | EIS/EIAR Section 4 | <ul style="list-style-type: none"> <li>➤ Provision of Link Road realignment and upgrade to L5000 in advance of N6 GCRR works</li> <li>➤ Upgrade to L5000 including widening and provision of two-way cycle lanes and footpaths.</li> <li>➤ Provision of new traffic signals at the junction between the Link Road and L5000</li> <li>➤ Provision of suitable road markings and road traffic signs in accordance with the Traffic Signs Manual.</li> <li>➤ Provision of a lay-by type bus stop on Link Road</li> </ul>   |

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|  |  |  | <ul style="list-style-type: none"> <li>➤ Improvement to pedestrian permeability and connectivity in the area by provision of additional pedestrian links through the development.</li> <li>➤ Provision of the residential parking ratio of 0.8 per apartment keeping in line with the National and EU policies to reduce car ownership and carbon footprint</li> <li>➤ Provision of cycle parking facilities, sheltered and secure</li> <li>➤ Provision of e-charging parking places</li> <li>➤ Provision of car club facility</li> <li>➤ Provision of Mobility Management Plan for employees and residents.</li> </ul> |
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