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Tipperary County Council

Tipperary County Council

Templemore Infilling Works

Construction Environmental Management Plan (CEMP)



Templemore Infilling Works

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TABLE OF CONTENTS

1.0	INTRODUCTION	1
1.1	Purpose of this Construction Environmental Management Plan (CEMP)	1
1.2	Scope of CEMP	1
1.3	Implementation of the CEMP	1
2.0	SITE LOCATION AND ACCESS	1
3.0	PROPOSED CONSTRUCTION WORKS	3
3.1	Summary of main works.....	5
3.1.1	<i>Drainage Header Pipe</i>	5
3.1.2	<i>Infilling Works</i>	5
3.1.3	<i>Surface Finishes</i>	5
3.2	Preliminary Schedule of Works	6
3.2.1	<i>Site Establishment and Set Up</i>	6
3.2.2	<i>Enabling Works</i>	6
3.2.3	<i>Site clearance and demolition</i>	6
3.2.4	<i>Bulk Earthworks and Construction of Drainage Header Pipeline</i>	6
3.2.5	<i>Infilling of Old Channel</i>	7
3.2.6	<i>External works and landscaping</i>	7
3.3	Construction Compound and Storage Areas	7
3.4	Oil and Fuel Storage	7
3.5	Site Access and Site Security	7
4.0	PRE-CONSTRUCTION SURVEYS.....	8
5.0	CONTROL OF THE CONSTRUCTION PROCESS.....	9
5.1	Roles and Responsibilities	9
5.2	Incidents	10
5.3	Environmental Complaints	10
6.0	ENVIRONMENTAL CONTROL MEASURES.....	11
6.1	Cultural Heritage	11
6.2	Noise and Vibration.....	12
6.3	Air Quality & Climate.....	13
6.3.1	<i>Climate</i>	14
6.4	Surface Water and Hydrogeology	14
6.4.1	<i>Concrete Handling</i>	14
6.5	Land, Soils and Geology	15
6.6	Biodiversity.....	15
6.6.1	<i>Biosecurity</i>	22
6.7	Waste Management.....	22
6.8	Traffic and Transport.....	22



TABLE OF FIGURES

FIGURE 2-1 PROPOSED SITE ACCESS (1 OF 2).....	2
FIGURE 2-2 PROPOSED SITE ACCESS (2 OF 2).....	3
FIGURE 3-1 SURFACE FINISH – SECONDARY PEDESTRIAN AREAS	5

APPENDICES

APPENDIX A PROPOSED SITE LOCATION (DRAWING 11007-2000)	
APPENDIX B PROPOSED LANDSCAPE WORKS (DRAWINGS 11007-2036 TO 2039)	



1.0 INTRODUCTION

TOBIN Consulting Engineers (TOBIN) have been appointed by Tipperary County Council to prepare a Construction Environmental Management Plan (CEMP) for works associated with the infilling of a diverted stretch (approximately 805m in length) of the River Mall channel in the town of Templemore, Co. Tipperary. This old channel no longer acts as a functioning watercourse due to diversionary works carried out by the Office of Public Works (OPW) in September 2021. The proposed site location is presented in Appendix A.

1.1 Purpose of this Construction Environmental Management Plan (CEMP)

This CEMP provides a synopsis of the construction works proposed for this development. The purpose of this document is to communicate the key environmental obligations that apply to all contractors, their sub-contractors and employees while carrying out any form of construction activity as part of the proposed development.

1.2 Scope of CEMP

This CEMP defines the approach to environmental management at the site during the construction phase and details the project specific environmental measures that are to be implemented and the procedures to be followed for the scope of the constructions works. Compliance with the CEMP, the procedures, work practices and controls will be mandatory and must be adhered to by all site personnel and contractors employed during the construction phase.

1.3 Implementation of the CEMP

This CEMP will be updated where appropriate by the Main Contractor, pre and during construction works. Key to the implementation of this CEMP is the delegation of responsibility for the CEMP to the Environmental Manager/Safety, Health, Environment and Quality (SHEQ) Officer, or other suitably qualified appointed person on behalf of the Main Contractor, who will regularly liaise with and update Tipperary County Council on all environmental issues relating to the project during the construction phase. As part of the appointment of a Main Contractor and agreement of contracts, Tipperary County Council will determine the lines of communication for environmental compliance with the local authority and relevant stakeholders.

In terms of overall environmental responsibility, everyone on-site is responsible for ensuring that their actions constitute good environmental practice and will be provided with site specific information to ensure compliance as part of the site induction. All site personnel are charged with following good practice and encouraged to provide feedback and suggestions for improvements. All site personnel are also required to ensure compliance with the requirements of this CEMP and subsequent revisions thereof.

2.0 SITE LOCATION AND ACCESS

The majority of the old channel to be infilled runs through the centre of Templemore Town and is largely confined within stone walls. Access to the southern section of the old channel is primarily via The Mall road on the southern side of O'Dwyer's Bridge and to the Blackcastle Road north of the bridge (see Figures 2-1 and 2-2 and Appendix B).

North of O'Dwyer's Bridge, access to the old channel is off Blackcastle Road. Works in this area may require a lane closure to facilitate access and adequate working room.

Works south of O'Dwyer's Bridge will proceed predominately from the roadside on The Mall by off-loading materials from the roadside to plant and excavators located in the old channel.

South of Small's Bridge, access will be via agricultural lands in the ownership of Tipperary County Council (see Figure 2-2).

Due to the nature of the works, a high number of heavy plant vehicular traffic movements shall be required to transport and place the new drainage pipework, and large volume of infilling material into the old channel.

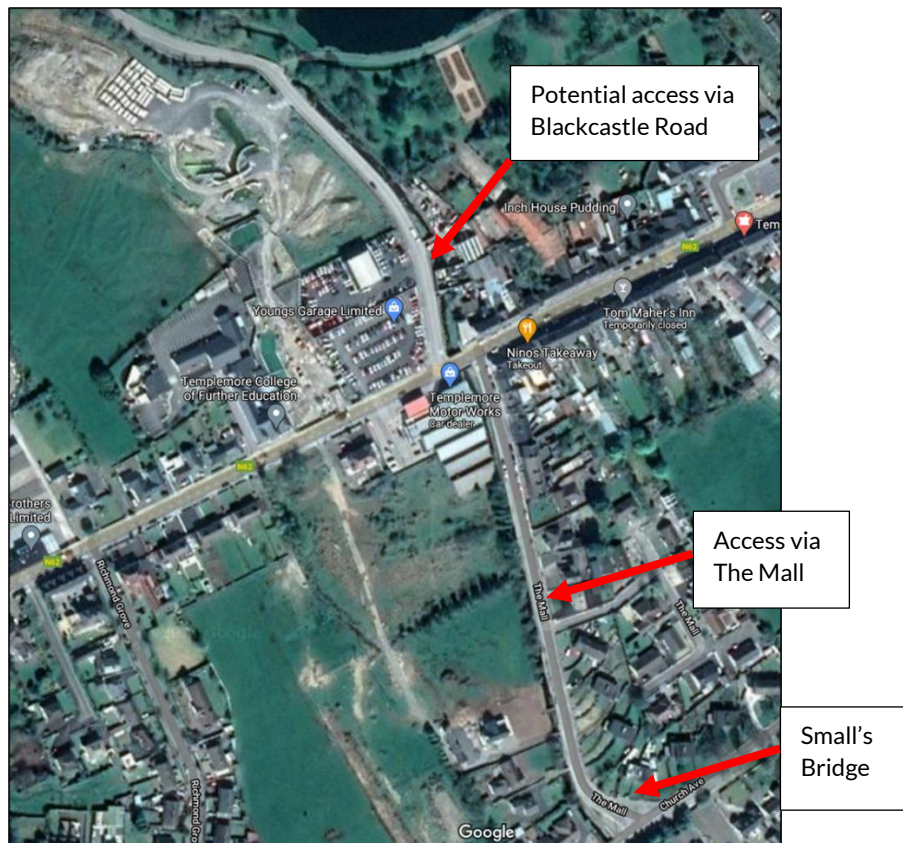


Figure 2-1 Proposed Site Access (1 of 2)

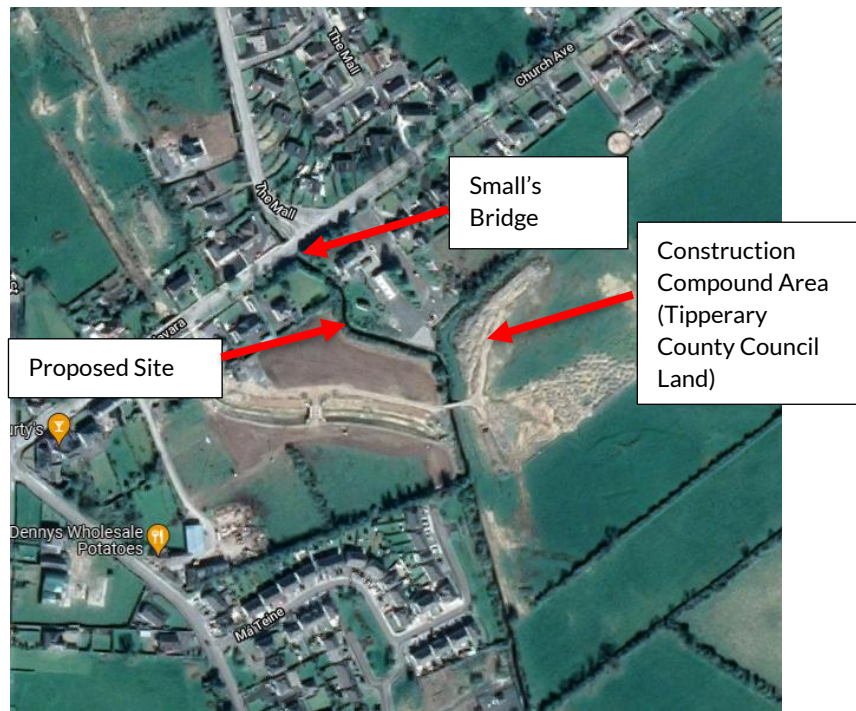


Figure 2-2 Proposed Site Access (2 of 2)

3.0 PROPOSED CONSTRUCTION WORKS

A stretch (approximately 805m) of diverted channel is present in Templemore, County Tipperary. If this old channel was to remain undeveloped, there would be potential health and safety, pollution, and anti-social behaviour risks present.

In 2017 Tipperary County Council completed a survey and confirmed there are 26 surface water outfalls and drains that flow into this old channel area from both the east and west banks.

Tipperary County Council are proposing to collect these existing surface water outfalls with a 900 mm Ogee drainage header pipe to be constructed within the old channel. Following the installation of the pipe, the old channel will be infilled.

The proposed site layout and landscape works are presented in Appendix B.

It is proposed that construction works will be undertaken between the hours of 08:00 and 18:00 from Monday to Friday and 08:00 and 14:00 on Saturdays. No construction works will be carried out on Sundays or Bank Holidays, without the specific agreement of Tipperary County Council. Workings hours will be confirmed by Tipperary County Council. Construction works will be coordinated to ensure construction traffic will have limited impact on the surrounding road network and to have minimum impact on peak morning and evening traffic periods.

The Proposed Development will consist of the following works:

- i. The construction of a 900mm drainage header pipe in the existing redundant channel section of the River Mall and manholes.
- ii. Provision for the connection of 26 existing surface water outfalls, currently discharging to the redundant channel section of the River Mall, to the 900mm drainage header pipe along with all accommodation works.

- iii. The infilling of the redundant channel section, including pipe surround of the 900mm drainage header pipe, to match existing ground elevations surrounding the river channel.
- iv. Provision of a footpath and grass area over the infilled river from Templemore Town Park pedestrian entrance to a point 100m south in the direction of the N62, behind an existing stone wall / parapet.
- v. Provision of approximately 100m of new footway adjacent to the Blackcastle Road to the junction of the N62 (at Young's garage), with a footway width by 1.8m which and reduced carriageway width.
- vi. Removal of existing parapet wall to create an AC hardstanding area adjacent to Youngs garage.
- vii. The demolition of approximately 50m of existing stone wall and bridge parapet north of the N62 to allow for the construction of a new proposed footway to match existing from O'Dwyer Bridge.
- viii. Provision of improvement works north of O'Dwyer bridge for approximately 40m to include increasing corner radius, installation of aggregate bollards and hard landscaping area.
- ix. Widening of approximately 30m of the carriageway crossing, by means of removing the existing parapet wall on the north side and realigning the parapet wall on the southern side of O'Dwyer bridge along the N62, whilst maintaining the existing lane configurations.
- x. The demolition of approximately 15m of existing stone wall and bridge parapet south of the N62 to allow for improvement works to include a new footway, increased corner radius and increase sight lines between The Mall Road and the N62.
- xi. Construction of approximately 70m AC hard standing area over the existing channel south of the N62 and maintenance of the existing stone wall / parapet.
- xii. The demolition of sections of existing stone walls to allow for the construction of a new proposed footpath from O'Dwyer Bridge to the Templemore Town Park.
- xiii. Construction of a proposed stone wall separating the property boundaries and the proposed footpath, along with associated streetscape works at O'Dwyer Bridge.
- xiv. Landscape works to match existing surrounding environment at the Templemore town park.
- xv. Construction of proposed hardstand/pavement over existing channel at Youngs Garage and Templemore Motor Works.
- xvi. Demolition of existing bridge structures at residential accesses where existing channel is to be infilled.
- xvii. Landscape works to match existing surrounding environment from Templemore Motor Works, in a southerly direction, to the outfall to the existing River Mall.
- xviii. Construction of discharge headwalls.
- xix. Construct new agricultural entrance approximately 180m south of O'Dwyer's bridge on the western side of the Mall Road.

The proposed works are scheduled to last for approximately 24 weeks (including time for environmental pre construction surveys and time for materials procurement).

3.1 Summary of main works

3.1.1 Drainage Header Pipe

A drainage header pipe will be placed within the old section of channel and will collect flows from the outfall pipes and drains along the old channel. This drainage header pipe will then connect into an existing bypass interceptor in Talavera before flows are discharged to the realigned River Mall.

3.1.2 Infilling Works

Where possible, local materials will be used as infill for the old channel.

Placing and compacting of the material shall be as per the Transport Infrastructure Ireland (TII) Publications of Standards for Drainage Design and Construction. Suitability of this material for reuse as infill shall be assessed prior to its use. Classification of the material as non-hazardous inert spoil for reuse shall be required to avoid any requirement for a waste transfer or waste discharge license.

3.1.3 Surface Finishes

Primary Pedestrian Areas: A concrete footpath is proposed to match the existing from O'Dwyer's Bridge to Templemore Town Park.

Secondary Pedestrian Areas/Streetscape: It is proposed to use "Tobermore Fusion" or similar type precast concrete granite aggregate slabs in sizes 600x400x80mm and 400x400x80mm in silver grey and mid grey colour aggregate at the streetscape area at O'Dwyer's Bridge.



Figure 3-1 Surface Finish – Secondary Pedestrian areas

Vehicular Trafficked Areas: The areas located at Youngs Garage and at Templemore Motor Works have the potential for future vehicular trafficking and as such will have a macadam finish.

Green Areas: The areas located adjacent to Templemore Town Park and within existing residential properties to the south of O'Dwyer's Bridge will have a topsoil surface seeded with grass.

3.2 Preliminary Schedule of Works

The schedule of works described below is an outline of the construction activities which will be required to deliver the proposed works. The schedule is a high-level summary and should not be viewed as an exhaustive list of construction activities. The Main Contractor will be required to submit a detailed construction programme as part of their tender proposal.

- Site establishment and set-up;
- Enabling works;
- Site clearance and demolition;
- Bulk earthworks and construction of drainage header pipeline;
- Infilling of old channel; and
- External works and landscaping.

3.2.1 Site Establishment and Set Up

Adequate hoarding or fencing will be erected to establish a secure site boundary in agreement with the Tipperary County Council. The hoarding or fencing will be maintained and kept clean for the duration of the works.

A temporary construction compound and material storage area will be established on lands in Tipperary County Council's ownership in Talavera. The Town Park car park along Blackcastle Road may also be used as a construction compound for the storage of materials or machinery or staff parking.

3.2.2 Enabling Works

Enabling works such as the establishment of site access points and the diversion of live services (if required) will be carried out prior to the commencement of the main construction works. Temporary service connections for the site compound will be installed via existing permanent services in the vicinity of the site. Any necessary signage will be erected at site entrances.

3.2.3 Site clearance and demolition

The old channel will be prepared for the laying of the pipe. This will include vegetation removal and trimming of overhanging trees. These vegetation works will be undertaken in consultation with an Ecologist. The channel bed will also need prepared for the placement of the pipe. This may involve some rock breaking. Some stone walls will also be demolished. Any material which cannot be used on site will be exported to a suitable waste handling facility where it will be disposed of responsibly.

3.2.4 Bulk Earthworks and Construction of Drainage Header Pipeline

Unsuitable material will be excavated to formation level through an exercise of local excavation and filling as required by the design. Any unsuitable material will be exported to a suitable waste handling facility where it will be disposed of responsibly.

Sub-base material for under pipelines will be installed and compacted during this project stage.

The drainage header pipe will be laid on the sub-base material. Existing surface water discharge pipelines will be connected to the drainage header pipe as encountered.

3.2.5 Infilling of Old Channel

Pipe surround material will be placed as required by the design. Outside of the pipe, surround material will be used for infilling the old channel.

Placing and compacting of the excavated material, or imported material, shall be as per the TII Publications of Standards for Drainage Design and Construction. Suitability of this material for reuse as infill shall be assessed prior to its use.

3.2.6 External works and landscaping

Works undertaken externally to the old channel will be included within the fenced off area and will form part of the construction site. Landscaping works will be completed as detailed in Appendix B.

3.3 Construction Compound and Storage Areas

The construction compound will house a site office and welfare facilities for construction workers. Necessary Covid-19 prevention measures (such as hand wash stations, sign in areas, etc) will also be included, as required.

Portaloos will be provided in the compound and a dedicated toilet block may be installed at a later date and connected to the existing foul drainage network. Electrical and potable water supply will be provided via temporary connections to the existing services located near the site, in agreement with the service providers. Car parking for construction workers and visitors will be located within the construction compound. Waste facilities will be located within the site compound as necessary. Containers and skips intended for construction waste will be located close to works areas, as required. Incoming construction materials will be offloaded and stored within a materials compound.

3.4 Oil and Fuel Storage

Where possible, refuelling of vehicles and equipment will not be carried out on site to minimise the potential for spills or leaks to occur. However, some fuel, lubricants and hydraulic fluids may need to be stored on site during construction works for equipment such as excavators and generators.

Fuelling and lubrication of equipment will be carried out in the designated area of the site construction compound which is at least 50m from any watercourse/ drainage ditch. Fuels and oils stored within the construction compound will be contained within a bunded structure with capacity for 110% of the storage capacity of the largest container/tank. Standard spill kits and drip trays will be put in place during any refuelling to collect any potential spills or overfills.

3.5 Site Access and Site Security

Signage will be erected on all approaches to the site to notify motorists of the construction works ahead. Signage at the construction compound site entrance will be provided to ensure members of the public do not enter the area mistakenly.

The site will be secured using temporary fencing or hoarding at all times to ensure that the ongoing works are separated from the public. Netting will be erected on any fencing used, where required, to prevent debris and dust release from the site and provide screening of the

construction and demolition works. A secure lockable gate will be erected at the site entrance and visitors to the site will be directed to the site office. The site management team will carry out regular inspections and maintenance of the security fencing/hoarding while also ensuring areas are kept clean.

Deliveries of materials, plant or machinery to site will be restricted to the working hours identified above. Deliveries will be scheduled as “just-in-time” to ensure the arrival and departure of vehicles will have minimal interference with local residents and other road users. Just-in-time deliveries will also reduce the quantity of materials stockpiled within the site.

The Main Contractor will be responsible for ensuring the site compound and site as a whole are adequately secured at all times. The contractor will be required to:

- Operate a Site Induction Process for all staff;
- Ensure all staff hold a current “Safe Pass” card and have appropriate Personal Protective Equipment (PPE) at all times;
- Install adequate site hoarding to the site boundary; and
- Maintain security at all times.

4.0 PRE-CONSTRUCTION SURVEYS

Topographical surveys have been carried out for the site and are available to the Main Contractor.

The Main Contractor will be required to carry out pre-construction condition photo survey of the site which will include all perimeter boundaries, footways, existing carriageways on approach to the site. Any damage caused to existing boundaries or elements to be retained will be rectified in accordance with relevant standards. Prior to any excavation or groundworks, the Main Contractor is required to perform “dial-before-you-dig” assessments of the site and where necessary, commission ground penetrating radar surveys to identify buried services.

The Main Contractor is to liaise with service providers to manage any buried services identified prior to works being undertaken in the vicinity of the buried service.

Prior to vegetation removal and trimming, an ecological survey will be undertaken to confirm if any bird nests are present. The bird nesting season runs from the 1st of March to the 31st of August inclusive. Consultation will be undertaken with the NPWS if any bird nests are present and if necessary, a derogation licence sought under Regulation 54 of the EC (Birds and Natural Habitats) Regulations 2011 – 2021.

Prior to the removal of parapets and infilling of the channel the vegetation in the vicinity of both Small’s Bridge and O’Dwyer’s Bridge should be cleared and a full photographic and written description of the two bridges should be prepared by an Archaeologist, including examination of the vault and abutments beneath the bridge and any projecting sills on either side of the river channel beneath the bridges. This investigation should include a determination as to whether there are any surviving elements of an earlier bridge within the present bridge structures.

All ground disturbances associated with the proposed development are to be monitored by a suitably qualified archaeologist. If any features of archaeological potential are discovered during the course of the works further archaeological mitigation may be required, such as preservation in-situ or by record. Any further mitigation will require approval from the National Monuments Service of the DoHLGH.

The construction works will see several bridges been infilled underneath with concrete foam. Prior to any construction works commencing, and during an appropriate survey period, a bat survey (exact methodology to be determined by an Ecologist) will be undertaken by an Ecologist to confirm if any bat roosts are present. If any bat roosts are present, consultation will be undertaken with the National Parks and Wildlife Service (NPWS) and a derogation licence sought, if necessary, under Regulation 54 of the EC (Birds and Natural Habitats) Regulations 2011 – 2021.

A preconstruction otter survey should be undertaken by an Ecologist of the old channel immediately prior to works commencing to ensure no holts or resting places have been created. Otters can occasionally be found some distance from a watercourse as they search for food such as frogs. Natal holts may also be sited some distance from their normal areas of activity and are often well hidden. If any otter holts or resting places are present, consultation will be undertaken with the NPWS and a derogation licence sought, if necessary.

Prior to any vegetation removal / trimming a flora invasive species survey will be undertaken of the old channel by an Ecologist to confirm that no invasive species listed on the Third Schedule: Part 1 Plant list are present. No such species have been identified in the area to date, but should such a species be found, an invasive species control and management plan will be developed by the Main Contractor for approval by Tipperary County Council before implementation.

5.0 CONTROL OF THE CONSTRUCTION PROCESS

5.1 Roles and Responsibilities

Tipperary County Council will have overall responsibility for the organisation and execution of all related environmental activities as appropriate, in accordance with regulatory and project requirements. They (and the Main Contractor appointed by Tipperary County Council) will be responsible for delivering the CEMP.

The principal duties and responsibilities of the Main Contractor in relation to the implementation of the CEMP will include:

- Provision of Construction Method Statements for approval by Tipperary County Council;
- Overall responsibility for the construction works and implementation of the CEMP;
- Resource allocation including appointment of a Site Manager;
- Participation in the regular review of the CEMP for suitability, adequateness, and effectiveness; and
- Set the focus of environmental policy, objectives, and targets for the site staff.

The principal duties and responsibilities of the Site Manager in relation to the CEMP will include:

- Implementing the CEMP, monitoring the performance of subcontractors and maintaining records to demonstrate compliance with and implementation of any Construction Method Statements;
- Ensuring all site staff receive an induction prior to starting work on-site and are provided with the relevant information concerning environmental sensitivities and protection measures;
- Review of all risk assessment method statements and ensuring an appropriate programme of toolbox talks are developed and effectively communicated;
- Ensuring pre-construction surveys and inspections are undertaken as required;

- Ensuring that all relevant permits and consents are in place in advance of works commencing and that their requirements are adhered to; and
- Dealing with all queries and complaints from the public. The Site Manager will be responsible for responding to each of these. The Site Manager will also be responsible for maintaining a register of complaints together with details of follow up actions which have been undertaken.

5.2 Incidents

All safety or environmental incidents associated with the project will be reported and investigated in line with the Emergency Response Plan. Typically, the following procedures will be followed in the event of an incident:

- Works will stop immediately where safe to do so;
- The Environmental Manger will be contacted;
- The size of the incident will be assessed and determined if it can be controlled by site staff or if emergency services are required to attend;
- The appropriate enforcing authority will be contacted;
- The Environmental Manger will investigate after the incident;
- The findings will be sent to the appropriate authority; and
- An action plan will be prepared to set out any modifications to working practices required to prevent a recurrence.

5.3 Environmental Complaints

The Site Manager will develop and implement an appropriate complaints procedure and maintain a register detailing information on any complaints received and follow up actions taken. If the grievance cannot be adequately addressed by the Site Manager, the complaint/concern will be escalated to an appropriate contact within Tipperary County Council.

The following measures will be implemented to deal with complaints:

- Clearly display a notice board at the site entrances so that the public know whom to contact if they have a complaint or comment;
- Personnel on site, including sub-contractors are required to perform their duties in accordance with this CEMP, and in such a way as to minimise the risk of complaints from third parties;
- All complaints received regarding the construction works will be recorded and categorised (e.g., noise, property damage, traffic, dust, etc.) within a central Site Complaints Log. This complaints log will include the following key details:
 - Name, address and contact details of the complainant (with the complainant's permission);
 - Brief outline of the complaint;
 - Date of Complaint;
 - Name of person receiving complaint details; and
 - Agreed timeline for response to complaint.
- All complaints will be communicated to the Site Manager and Tipperary County Council immediately;
- The Site Manager will notify the Environmental Manager regarding any environmental complaints received and incidents that occur on site;
- All complaints will be followed up and resolved; and

- The complainant, Tipperary County Council and other stakeholders will be kept informed of the progress on resolving the complaint.

6.0 ENVIRONMENTAL CONTROL MEASURES

As part of the development of this CEMP, a series of environmental controls have been prepared to ensure appropriate environmental management of specific aspects of the proposed works. The environmental controls have been prepared in accordance with best practice measures and knowledge of the existing environment.

Construction of the proposed development will be carried out in line with best practice guidance in all areas of potential environmental impact and specific guidance documents are identified within the following sections. Across the full project duration, the Contractor will utilise the general guidelines set out in the CIRA C741 publication *Environmental Good Practice on Site (4th Edition)*¹.

This CEMP document will be developed by the Main Contractor upon appointment and continuously reviewed and updated throughout the construction works to ensure it takes account of all necessary environmental management requirements. The Main Contractor will include within the CEMP an updated and refined construction phase programme of works that will set out specific timings and requirements including pre-construction environmental surveys and any ongoing monitoring.

6.1 Cultural Heritage

IAC Archaeology completed an archaeological survey, including a metal detection survey (under Licence Ref: 22R0025) of the proposed works area. The results of the assessment, and the associated field inspection, have confirmed that there are no known sites of archaeological significance along the route of the proposed pipe or infilling works.

IAC Archaeology also completed an architectural survey of O'Dwyers Bridge and Small's Bridge. O'Dwyers Bridge and Small's Bridge under which the pipe will be placed and infilled, are not included in the record of protected structures in Volume 4 of the Tipperary County Development Plan 2022-2028. However, both bridges are included as protected structures in the Templemore and Environs Development Plan 2012-2018 which has been extended until a new area plan is developed.

The Templemore and Environs Development Plan 2012-2018 also defines an architectural conservation area (ACA) along Main Street and Patrick Street and the western boundary of this ACA includes O'Dwyer Bridge. Small Bridge is not within an architectural conservation area.

The two bridges are not included in the www.buildingsofireland.ie website of the National Inventory of Architectural Heritage (NIAH). However, this website does not include those structures that were deemed to be only of local interest.

As noted in Section 4, prior to the removal of parapets and infilling of the channel the vegetation in the vicinity of both Small's Bridge and O'Dwyer's Bridge should be cleared and a full photographic and written description of the two bridges should be prepared by an Archaeologist, including examination of the vault and abutments beneath the bridge and any projecting sills on either side of the river channel beneath the bridges. This investigation should

¹ CIRA *Environmental Good Practice on Site (4th Edition)* (C741) (2015)

include a determination as to whether there are any surviving elements of an earlier bridge within the present bridge structures.

Also, all ground disturbances associated with the proposed development are to be monitored by a suitably qualified archaeologist. If any features of archaeological potential are discovered during the course of the works further archaeological mitigation may be required, such as preservation in-situ or by record. Any further mitigation will require approval from the National Monuments Service of the DoHLGH.

The Main Contractor will be responsible for communicating a schedule of excavation and ground disturbance to the appointed Archaeologist in a timely manner, such that monitoring may be coordinated with development works.

If archaeological features or potential archaeological features are found during the course of any excavation works, site personnel are required to stop work immediately and contact the Site Manager and Archaeologist for instruction. The Archaeologist has the authority to immediately stop works in the area. All instructions/advice provided by the appointed Archaeologist must be adhered to.

In accordance with the requirements of the National Monuments Service, satisfactory arrangements will be provided for the recording and removal of any archaeological material, which may be considered appropriate to remove, in consultation with the relevant authorities.

6.2 Noise and Vibration

The Contractor will be required to have regard to BS 5228-1:2009+A1:2014 *Code of practice for noise and vibration control on construction and open sites*², which sets out detailed guidance on the control of noise and vibration from construction activities.

The following general measures for control of noise from construction works will be implemented:

- Construction working hours are limited to those set out in Section 3 to avoid noise or vibration generation during unsociable hours;
- Duration of works which create high levels of noise or vibration will be limited and staggered to prevent constant annoyance;
- Communication channels will be established between Tipperary County Council/Main Contractor and local residents to inform of upcoming works which may generate higher than normal construction noise or vibration and provide a means for local residents to register complaints with regard to noise and vibration;
- The National Roads Authority's (NRA) 'Guidelines for the Treatment of Noise and Vibration in National Road Scheme' document recommends limits for vibration (see Table 2, page 14³) which have been derived through consideration of the various international standards. The proposed construction works on site will adhere to these vibration limits; and

² British Standards Institute (BSI), *BS 5228-1:2009+A1:2014 Code of Practice for noise and vibration control on construction and open sites* (2008)

³[https://www.tii.ie/technical-services/environment/planning/Guidelines for the Treatment of Noise and Vibration in National Road Schemes.pdf](https://www.tii.ie/technical-services/environment/planning/Guidelines%20for%20the%20Treatment%20of%20Noise%20and%20Vibration%20in%20National%20Road%20Schemes.pdf)

- The Site Manager will address complaints relating to noise and vibration in a timely manner.

In addition to the above, the Main Contractor will be required to select plant and equipment with a low inherent potential for generation of noise and/or vibration in lieu of noisier alternatives. Where possible, contractors will use noise dampers or other attenuation methods for particularly noisy operations. If selected for use on site, compressors will be attenuated models, fitted with properly lined and sealed acoustic covers which will be kept closed whenever the machines are in use and all ancillary pneumatic tools shall be fitted with suitable silencers. Any noisy plant, such as generators or pumps, which may be required to operate outside of the typical working hours (for safety lighting etc.), will be surrounded by an acoustic enclosure or portable screen. Regular maintenance of plant and equipment will be carried out to ensure that the equipment is operated efficiently and generating minimal noise emissions. Plant or equipment which is not in use will be shut down while not required.

6.3 Air Quality & Climate

The potential for dust to be emitted depends on the type of construction activity being carried out in conjunction with environmental factors including levels of rainfall, wind speeds and wind direction. The potential for impact from dust depends on the distance to potentially sensitive locations and whether the wind can carry the dust to these locations. The majority of any dust produced will be deposited close to the potential source.

The Contractor will have due regard to relevant guidance such as *The Control of Dust and Emissions during Construction and Demolition* published by the Greater London Authority (GLA) in 2014 and *Guidelines for the Treatment of Air Quality During the Planning and Construction of National Road Schemes* published by the NRA (now TII) in 2011.

During the construction phase, dust or air pollutants generated from the proposed development will typically arise from:

- Movement of construction vehicles;
- Transportation of construction materials to and within the site;
- Stockpiling of incoming material for infill works;
- Excavation, movement, and placement of stockpiles; and
- Wind generated dust from stockpiles, exposed unconsolidated soils and roads.

In order to minimise emission of pollutants from plant and equipment, the following measures will be implemented during the construction works:

- Regular maintenance of plant and equipment will be carried out to ensure that the equipment is operated efficiently and generating minimal air emissions; and
- Plant or equipment will not be left running unnecessarily and low emission fuels will be used.

The greatest potential impact on air quality during the construction stage will be from dust emissions associated with the construction works. The proactive control of fugitive dust, rather than an inefficient attempt to control dust once released will ensure the prevention of significant emissions.

In order to ensure mitigation of the effects of dust nuisance, a series of measures will be implemented. Public roads shall be regularly inspected for cleanliness on a daily basis and cleaned using a street sweeper, as necessary. Material handling systems and site stockpiling of

materials shall be designed and laid out to minimise exposure to wind. Water misting or sprays shall be used as required if particularly dusty activities are necessary during dry or windy periods.

At all times, the procedures put in place shall be strictly monitored and assessed by the Site Manager on behalf of the Main Contractor. In the event of dust nuisance occurring outside the site boundary, appropriate procedures shall be implemented to rectify the problem.

All dust and air quality complaints shall be recorded, and causes identified, along with the measures taken to reduce emissions.

6.3.1 Climate

There is the potential for a number of embodied greenhouse gases (GHGs) and GHG emissions during the construction phase of the development. A high number of heavy plant vehicular traffic movements shall be required to transport, place the new drainage pipe, and infill material. Construction plant, generators etc., may give rise to CO₂ and N₂O emissions. The Institute of Air Quality Management (IAQM) document *Guidance on the Assessment of Dust from Demolition and Construction* (2014) states that site traffic and plant is unlikely to make a significant impact on climate.

To minimise climate impacts associated with delivery of construction materials to the site, the Main Contractor will source local materials as close to the site location as possible and to use local builder's providers where possible. In some cases, it will not be possible to locally source building materials due to the technical nature of parts and equipment required.

6.4 Surface Water and Hydrogeology

The following best practice measures will be implemented:

- Where possible, local materials will be used for infilling the old channel as part of the works proposed by Tipperary County Council. This will limit the need for stockpiling as they can be delivered when required. The stockpiling of materials will be minimised on-site and will be situated where surface water percolates freely into groundwater and at least 50m from any watercourse;
- Fuel and oil handling as well as refuelling of plant and equipment will be carried out in accordance with the measures described in Section 3.4;
- Wastewater generation from the welfare facilities will be discharged to an enclosed tank and removed off-site for treatment as required; and
- On completion of the works, all apparatus, plant, tools, offices, sheds, surplus materials, waste, and temporary erections or works of any kind will be removed from the site.

6.4.1 Concrete Handling

Precast concrete products, which will be manufactured off-site, will be used where possible. Foam concrete is to be used under the bridges on site. In the event of in-situ concrete pouring required on-site, the following measures will be followed.

Only ready-mixed concrete will be used, with all concrete being delivered from local batching plants in sealed concrete delivery trucks. The use of ready-mixed concrete deliveries will eliminate any potential environmental risks of on-site batching.

Measures to prevent contamination from concrete pouring on-site will include:

- Using weather forecasting to assist in planning concrete pours and avoiding pours where prolonged periods of heavy rain is forecast; and
- Ensuring that excavations are sufficiently dewatered before concreting begins and that dewatering continues while concrete sets.

6.5 Land, Soils and Geology

The management of geological materials is an important component of controlling dust, as well as sediment and erosion control. The proposed works shall include for some clearing and preparation of the old riverbed channel, in order to lay the selected pipe bedding, surround, drainage pipe and associated manholes and fittings. Some of this material may be unsuitable for re-use and shall have to be disposed off-site. Stones and boulders encountered along the old channel will also remain as infill. Placed soils will be sealed and levelled using the back of an excavator bucket to prevent erosion. Minimal disturbance or movement of materials will be prioritised during all construction works.

Placing and compacting of the excavated material, or imported material, shall be as per the TII Publications of Standards for Drainage Design and Construction. Suitability of this material for reuse as infill shall be assessed prior to its use. Classification of the material as non-hazardous inert spoil for reuse shall be required to avoid any requirement for a waste transfer or waste discharge license.

The handling, storage and re-use of previously excavated soil, subsoil and rock material will be carried out to minimise potential negative impacts on the existing land and soils. Excavated material will not be stored in excessive mounds on the site. Any topsoil landscape areas will be seeded with grass immediately to promote stability and reduce soil erosion.

6.6 Biodiversity

The ecological preconstruction surveys detailed in Section 4 will be completed prior to any works commencing on site. Bat survey methodologies and time frames selected by an Ecologist should consider the *Bat Mitigation Guidelines for Ireland*⁴. Otter surveys should consider the *Guidelines for the treatment of otters prior to the construction of national road schemes*⁵.

A qualified Ecological Clerk of Works (ECoW) will ensure that all ecological preconstruction surveys and CEMP mitigation measures will be adhered to and are having the desired effect. The ECoW role will include the following activities:

- Supervision of construction works and ensuring compliance with legislation and the project CEMP;
- Identification of any bird nest sites within the works area;
- Carrying out preconstruction bat survey of the bridges to be infilled;
- Identification of any otter holts or resting places;
- Checking the site for any invasive flora species included on the Third Schedule: Part 1 Plant list;

⁴ Kelleher, C. & Marnell, F. (2006) Bat Mitigation Guidelines for Ireland. Irish Wildlife Manuals, No. 25. National Parks and Wildlife Service, Department of Environment, Heritage and Local Government, Dublin, Ireland

⁵ Guidelines for the treatment of otters prior to the construction of national road schemes, National Roads Authority (NRA).

- Provision of advice regarding the avoidance and minimisation of potential disturbance to wildlife;
- Applying to the NPWS for any necessary derogation licences;
- Liaison with NPWS and other prescribed authorities, when required; and
- Monitoring that the construction mitigation measures detailed below are undertaken in accordance with the Natura Impact Statement (NIS) mitigation measures.

All site contractors will be briefed regarding the biodiversity value of the surrounding landscape, including adjacent wetland habitats and its sensitivities, particularly the designated species that occur in proximity of the proposed development. The briefing should also raise awareness to environmentally damaging actions conducted during the Construction Phase and that such matters often arise accidentally through lack of awareness, rather than as a result of an intentional action.

An ECoW will monitor and prevent construction works causing impacts to any designated site Qualifying Interest (QI) or a Special Conservation Interest (SCI), or impacts affecting water quality (e.g., contamination and siltation).

The Main Contractor will ensure that all personnel working on site are trained in pollution incident control response. A regular review of weather forecasts for heavy rainfall (i.e., if there is a yellow weather warning in place or 5mm in a 1-hour period) is required and the Main Contractor will be required to prepare a contingency plan for before and after such events.

Moreover, for the prevention of effects on European sites, specific mitigation measures are proposed in Table 6-1.

Table 6-1 Specific Mitigation measures for the Prevention of Adverse Significant Effects on European Sites During the Construction Phase of the proposed development

Mitigated Effect	Construction Phase Element	Mitigation Measure	Rationale
Disturbance of mobile QI	Machinery operation	<ul style="list-style-type: none"> Control at Source Noise Barrier 	<ul style="list-style-type: none"> Vehicles and machinery will be switched off when not in use and not let idling. Following NRA (2004) guidelines, the simplest noise mitigation measure is the creation of a barrier. Construction site hoarding of a minimum of 2.5m in height, with a mass per unit of surface area greater than 7kg/m² will be used to provide sound insulation;
	Light	<ul style="list-style-type: none"> Works timing & lighting 	<ul style="list-style-type: none"> All construction works will be carried out during daylight hours and artificial lighting will not be allowed to spill into areas beyond the proposed development site boundary – i.e., into the Templemore_Demesne river and riparian habitats.
Spread of IAPS	Infilling works	<ul style="list-style-type: none"> Prevention of importing IAPS into the proposed development site 	<ul style="list-style-type: none"> If soil is imported to the site for landscaping, infilling or embankments, the contractor shall gain documentation from suppliers that it is free from invasive species.
Siltation	Demolition/Excavation	<ul style="list-style-type: none"> Overburden storage 	<ul style="list-style-type: none"> For the temporary storage of excavated and/or demolition material, site preparation should take place during dry season wherever possible. Construction should stop during heavy rains; No permanent storage of excavated and/or demolition material will be permitted within 20m of the Templemore_Demesne river; Sloping ground and areas with wet ground conditions will be avoided; The excavated and/or demolition material storage area will be located on flat vegetated ground, as the existing vegetation will act as an effective buffer against any sediment in runoff from the storage area;

Mitigated Effect	Construction Phase Element	Mitigation Measure	Rationale
			<ul style="list-style-type: none"> • Stockpiling of materials at appropriate heights / batters to prevent potential instability; • A reduced stockpile height of 2m will apply to any top soil / soil forming materials to prevent possible degradation of soil structure; • The temporary excavated and/or demolition material will be piled at a 2:1 slope ratio, with the smaller slope gradient facing the watercourse. The shallow gradient should be not greater than 20°; • The temporary excavated and/or demolition material will be placed behind the access road. The gravel access road is a minimum 10cm in height from ground level, this will act as a bund for surface water runoff; • Rock boulders will be placed at the base of the temporary stockpile to give stability and prevent collapse. These will act as rock anchors; • The stockpile deposition area will be enclosed within erosion control fencing (silt curtain) prior to works being undertaken; so as to intercept and minimise the potential direct runoff from the works area to the adjacent watercourses; • A silt curtain will be placed at the base of the stockpile between the rock boulders and the access road, this will allow surface water runoff to collect at the base of the access road and act as a bund; • A silt curtain will be placed on the opposite side of the access road, approximately 15m from the watercourse to prevent surface water runoff directly entering the watercourse; • A silt curtain will be placed along the drain ditch (minimum distance of 10m), located northwest of the temporary stockpile site; • A buffer zone will remain between the silt curtain and the watercourse (river and drainage ditch) with riparian vegetation left intact for its protection to a minimum distance of 20m: • Surface water filtered through the silt curtains be intercepted by the riparian vegetation before entering the watercourses; • The temporary excavated and/or demolition material will be delivered by lorries to the stockpile area via the access road;

Mitigated Effect	Construction Phase Element	Mitigation Measure	Rationale
			<ul style="list-style-type: none"> • A periodic inspection will be carried out to verify and inspect the effectiveness and integrity of the silt curtains; • A periodic inspection will be carried out to verify and inspect the integrity of the stockpile to ensure no erosion is taking place; • All temporary excavated and/or demolition material storages areas will be regularly checked/monitored to ensure no drainage issues of surface water quality impacts are occurring; • Once the stockpile has been completed the area should be cordoned off with secure fencing to prevent any disturbance or contamination by other construction activities; and • Silt curtains cannot be removed until the temporary excavated and/or demolition material has been fully removed from its storage area and used as part of the infill works.
	Infilling works	<ul style="list-style-type: none"> • Natural revegetation 	<ul style="list-style-type: none"> • The infilled area will be seeded in compliance with European Union (Good Agricultural Practice for Protection of Waters) Regulations 2017 (S.I. 605/2017), with the exception of the use of fertilisers – no fertilisers shall be used; • In all cases disturbed ground will be allowed to naturally re-vegetate.
Contamination	Construction compound and refuelling	<ul style="list-style-type: none"> • Distance to Templemore_Demesne river 	<ul style="list-style-type: none"> • If the construction phase of the proposed development requires a construction compound, its boundary will be separated from the Templemore_Demesne river by a minimum of 50m.
		<ul style="list-style-type: none"> • Designated refuelling station location 	<ul style="list-style-type: none"> • A designated refuelling location within the construction compound of the proposed development site will be clearly demarked from its surrounding; • The designated refuelling location will be selected on a level area, separated by a minimum of 10m from any minor water feature (e.g., drainage ditch), in addition to the protective distance to the Templemore_Demesne river above; • Refuelling of machinery during the construction phase will only be carried out on site at the designated refuelling location.

Mitigated Effect	Construction Phase Element	Mitigation Measure	Rationale
		<ul style="list-style-type: none"> Fuel/hydrocarbon storage 	<ul style="list-style-type: none"> Fuels, lubricants, and hydraulic fluids for equipment used on the site, as well as any solvents, oils, and paints will be carefully handled to avoid spillage, properly secured against unauthorised access or vandalism, and provided with spill containment according to codes of practice; Any diesel, fuel, or hydraulic fluids to be kept on site will be stored in bunded storage tanks located within the site compound; The bund area will have a volume of at least 110 % of the volume of the materials stored.
		<ul style="list-style-type: none"> Management of refuelling operation 	<ul style="list-style-type: none"> Only trained and competent operatives will be authorised to operate the bowser/refuelling; Drip trays and fuel absorbent mats will be used during all refuelling operations.
		<ul style="list-style-type: none"> Accidental hydrocarbon spillages 	<ul style="list-style-type: none"> Emergency drip trays and spill kits will be kept available on site, to ensure that any spills from vehicles/machinery are contained and removed off site; Any spillage of fuels, lubricants or hydraulic oils will be immediately contained, and the contaminated soil removed from the site and disposed of at an appropriately licensed facility. Licences, permits and permissions will be required for this activity.
	Concrete/cement	<ul style="list-style-type: none"> Exclusion of concrete batching 	<ul style="list-style-type: none"> There will be no concrete batching onsite.
		<ul style="list-style-type: none"> Concrete wash-out 	<ul style="list-style-type: none"> Where concrete will be delivered on site, only the chute will need to be cleaned, using the smallest volume of water practicable; A designated, bunded area for this effect will be created within the construction compound. This designated area will be placed at least 20m from any water feature (e.g., drain); The concrete wash water will be collected and disposed of to a licenced waste facility.

Mitigated Effect	Construction Phase Element	Mitigation Measure	Rationale
		<ul style="list-style-type: none"> • Timing 	<ul style="list-style-type: none"> • No concrete will be poured during a rainfall event.
	Landscaping	<ul style="list-style-type: none"> • Restriction on the use of fertilisers, herbicides, and pesticides 	<ul style="list-style-type: none"> • During any of the construction phase works and activities for the proposed development (e.g., landscaping works), the application of fertilisers (chemical and/or biological), herbicides and/or pesticides will not be allowed.

6.6.1 Biosecurity

Following the precautionary principle, the following measures to reduce the risk of the introduction and spread of alien species will be followed during the construction works:

- Prior to arrival on site, the Contractor's vehicles and equipment will be thoroughly cleaned. High-pressure steam cleaning, with water >60 degrees C, is recommended for vehicles and equipment, where reasonably feasible. In cases where it is not possible to steam clean the equipment, a normal power hose will be used. After cleaning, the equipment will be visually inspected to ensure that all adherent material and debris has been removed; and
- All equipment (including footwear) that has come into contact with water or soils will be visually inspected for evidence of attached plant or animal material, or adherent mud or debris. This will be done before entering and leaving the site. Any attached or adherent material will be removed before entering or leaving the site of operation.

6.7 Waste Management

All waste generated from the proposed development will be managed in accordance with the provisions of the *Waste Management Act* as amended and associated Regulations.

Minor excavations of subsoils and rock within the channel may be required and these materials will be reused within the infilling works insofar as possible. Any excess material which cannot be reused in infilling works will be transferred off-site to a licensed waste facility.

Skips and bins of appropriate sizes will be stored in the construction compound and used to maximise source segregation of waste materials at the site. This will include food and packaging waste from welfare facilities. Appropriate control of food waste in the compound will minimise the potential for pests and rodents to visit the area.

The Main Contractor will encourage all project teams to minimise waste generation and to maximise the segregation of waste at source. Material wastage will be avoided by delivering only the required quantities of material to site and utilising off-site manufacturing of concrete materials and other infrastructure as much as possible. The Main Contractor will establish 'just-in-time' deliveries to avoid excess material storage at the site which can lead to waste generation. Delivery drivers will be encouraged to remove any excess packaging from materials delivered to site. Opportunities for material reuse across the site will be sought by the Main Contractor.

Any contaminated materials used for spill clean-up and equipment maintenance works will be separately stored in a suitable container for collection by an authorised hazardous waste contractor.

6.8 Traffic and Transport

The Main Contractor, in liaison with Tipperary County Council, will prepare a Traffic Management Plan for the proposed development. The works along the linear route will take place in sections. Access to properties and businesses will be maintained throughout the construction period.

For works south of O'Dwyer's Bridge, access is from the roadside on The Mall, by off-loading materials from the roadside to plant and excavators located in the old channel. This would require at least one lane closure to accommodate the works, but ideally a full road closure would be granted given the size of plant, number of vehicle movements and adequate safe working distances. The selection of plant to be utilised for the works may off-set this, e.g., zero-swing excavators, grab loader trucks to allow parallel off loading and removal.

North of O'Dwyer's Bridge the only feasible access to the old channel is off Blackcastle Road, as access from the Town Park side would cause disturbance and is heavily wooded with mature hardwoods. Works in this area would require at least a one lane closure to facilitate access and adequate working room. A full road closure may not be feasible due to the arterial route the road provides.

All construction traffic will adhere to the road rules and signage will be erected along the road during the construction works to notify other road users and members of the public of the ongoing works and of the construction site entrance locations. Signage and detailed provisions for site access locations will be discussed and agreed in advance with Tipperary County Council and the Main Contractor. These will be detailed in the Traffic Management Plan.

Parking and waiting in heavier construction vehicles will be kept to the minimum time required and no vehicles will be permitted to park along the main local roads. Site access will be established such that there will be no queuing of construction vehicles on the main road. If required, an appropriately trained traffic controller will direct construction traffic into and out of the site, particularly in respect of large deliveries or high frequency of vehicle movements over a period of time.

A number of key measures that will be taken to minimise disruption from construction traffic are:

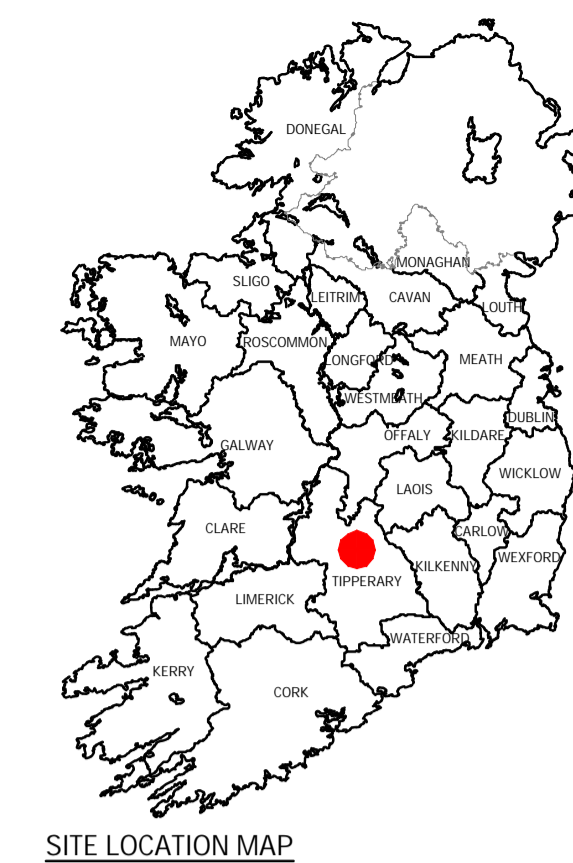
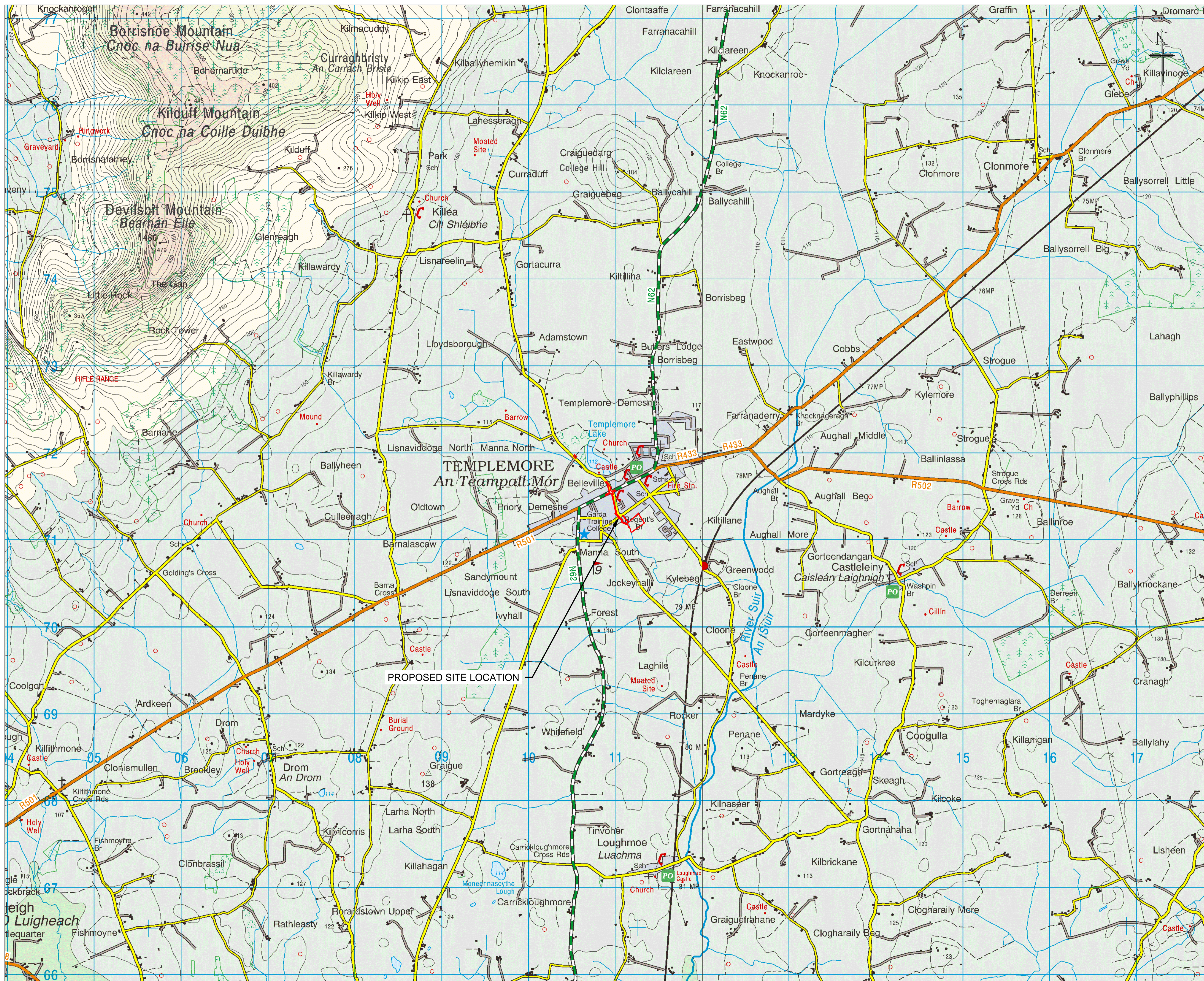
- Parking will not be permitted along the side of any public road;
- HGV deliveries shall avoid passing schools at opening and closing times, where it is reasonably practicable; and
- Trained traffic management personnel will be employed to advise on and direct traffic flows in the public road network, where required.

Continuous monitoring by the Site Manager will be required to ensure that the Traffic Management Plan proposed does not result in unnecessary delays to traffic using the surrounding road network. This will be done by visual inspection of traffic queues during peak times and then an adjustment of the plan, if required.

Appendix A

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Proposed Site Location (Drawing 11007-2000)



LEGEND
 PROPOSED SITE LOCATION

- NOTES**
1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING
 2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
 3. ENGINEER TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
 4. ALL LEVELS SHOWN RELATE TO ORDNAVANCE SURVEY DATUM AT MALIN HEAD, THE GEOGRAPHIC COORDINATE SYSTEM IS TO IRISH TRANSVERSE MERCATOR (ITM)

Rev.	Date	Description	By	Chkd.
D08	NOV 23	Planning Application	M.C.	P.C.
D07	AUG 23	DRAFT	M.C.	P.C.
D06	JUN 23	DRAFT	M.C.	P.C.

Client
 Comhairle Contae Thiobraid Árann
 Tipperary County Council

Project
 Templemore Infill Works

Title
 Proposed Site Location
 OS MAP -DISCOVERY SERIES
 SERIES 59

Scale: 1:20000

Prepared by:	Checked	Date
M.C.	P.C.	NOV 23
Project Director	B.DOWNES	
Drawing Status	Planning Application	

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Appendix B

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Proposed Landscape Works (Drawings 11007-2036 to 2039)



LEGEND

- PROPOSED RED LINE BOUNDARY
- PROPOSED FOOTPATH
- PROPOSED TOPSOIL / GRASS
- PROPOSED HARDSTAND / AC PAVEMENT
- PROPOSED STONE WALL
- EXISTING STONE WALL
- EXISTING WALL TO BE DEMOLISHED
- PROPOSED GULLY CONNECTED TO PROPOSED HEADER PIPE

- NOTES**
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 5. EXISTING BRIDGE STRUCTURES MAY CONTAIN UTILITY SERVICES WHICH WILL REQUIRE DIVERSION PRIOR TO DEMOLITION OF EXISTING STRUCTURES

Rev.	Date	Description	By	Chkd.
D08	April' 23	Planning Application	M.C.	P.C.
D07	AUG' 23	DRAFT	M.C.	P.C.
D06	JUN' 23	DRAFT	M.C.	P.C.

Client



Project

Templemore Infill Works

Title

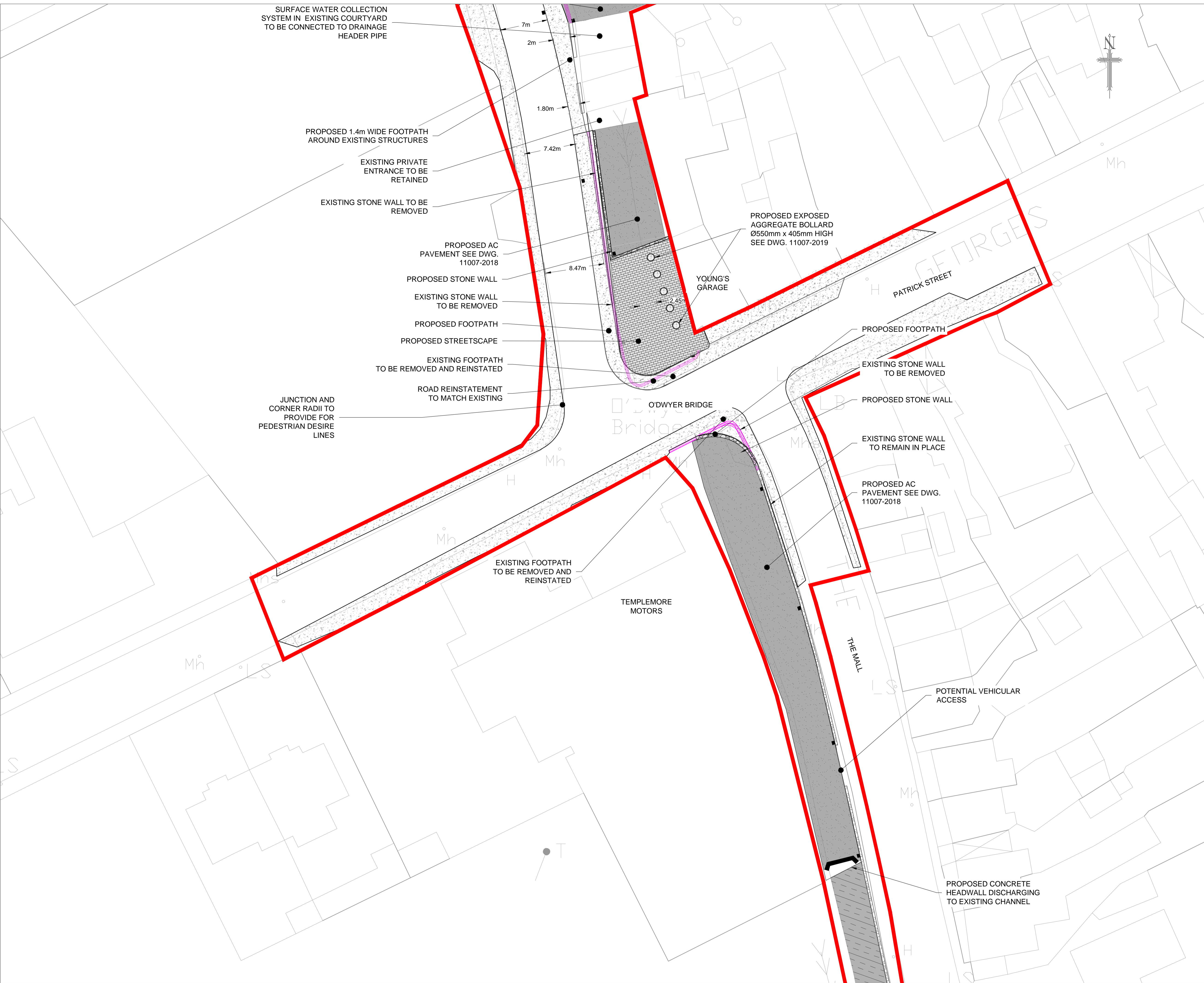
**Proposed Landscape Works
(Sheet 1 of 4)**

Scale **1:250**

Prepared by: M.C.	Checked P.C.	Date AUG' 23
Project Director B.DOWNES		
Drawing Status Planning Application		

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SURFACE WATER COLLECTION SYSTEM IN EXISTING COURTYARD TO BE CONNECTED TO DRAINAGE HEADER PIPE

PROPOSED 1.4m WIDE FOOTPATH AROUND EXISTING STRUCTURES

EXISTING PRIVATE ENTRANCE TO BE RETAINED

EXISTING STONE WALL TO BE REMOVED

PROPOSED AC PAVEMENT SEE DWG. 11007-2018

PROPOSED STONE WALL

EXISTING STONE WALL TO BE REMOVED

PROPOSED FOOTPATH

PROPOSED STREETSCAPE

EXISTING FOOTPATH TO BE REMOVED AND REINSTATED

ROAD REINSTATEMENT TO MATCH EXISTING

JUNCTION AND CORNER RADII TO PROVIDE FOR PEDESTRIAN DESIRE LINES

EXISTING FOOTPATH TO BE REMOVED AND REINSTATED

TEMPLEMORE MOTORS

O'DWYER BRIDGE

YOUNG'S GARAGE

PROPOSED EXPOSED AGGREGATE BOLLARD Ø550mm x 405mm HIGH SEE DWG. 11007-2019

PROPOSED FOOTPATH

EXISTING STONE WALL TO BE REMOVED

PROPOSED STONE WALL

EXISTING STONE WALL TO REMAIN IN PLACE

PROPOSED AC PAVEMENT SEE DWG. 11007-2018

POTENTIAL VEHICULAR ACCESS

PROPOSED CONCRETE HEADWALL DISCHARGING TO EXISTING CHANNEL

- LEGEND**
- PROPOSED RED LINE BOUNDARY
 - PROPOSED TOPSOIL / GRASS
 - PROPOSED HARDSTAND / AC PAVEMENT
 - PROPOSED FOOTPATH
 - PROPOSED STONE WALL
 - EXISTING STONE WALL
 - PROPOSED STREETSCAPE
 - EXISTING WALL TO BE DEMOLISHED
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D08	April 23	Planning Application	M.C.	P.C.
D07	AUG 23	DRAFT	M.C.	P.C.
D06	OCT 22	DRAFT	JOF	BM

Client

Project

Templemore Infill Works

Title

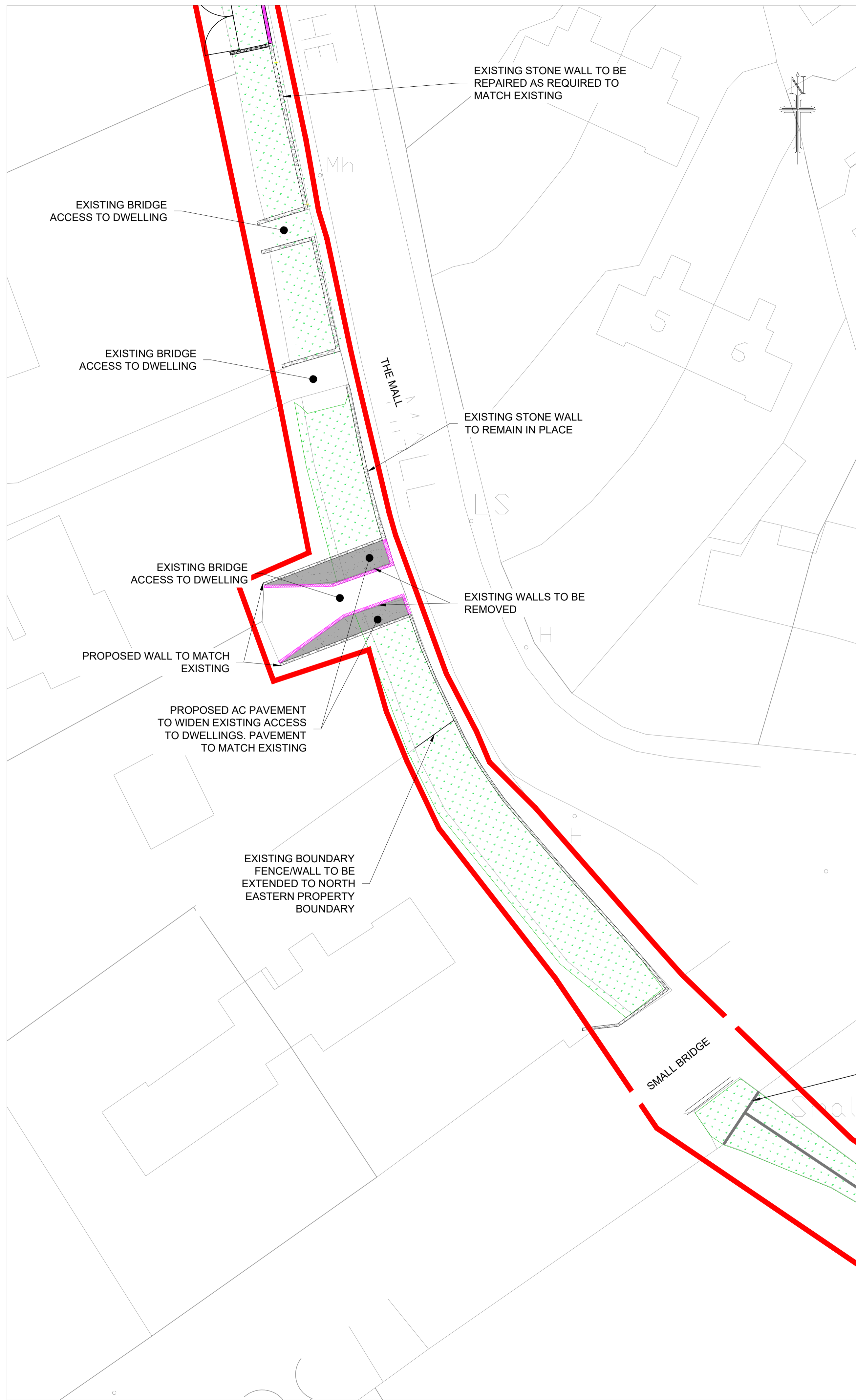
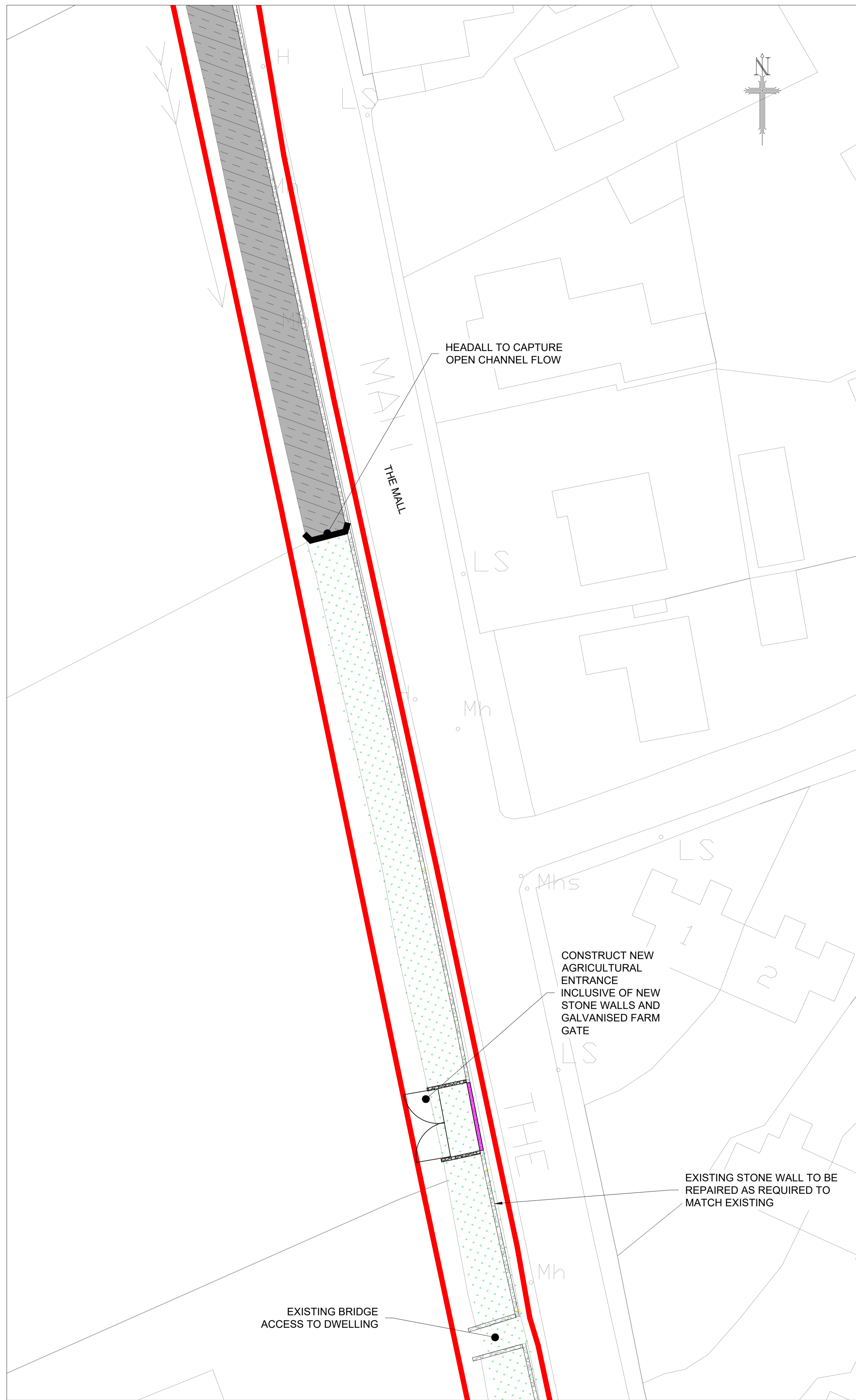
Proposed Landscape Works (Sheet 2 of 4)

Scale: 1:250

Prepared by:	Checked:	Date:
JOF	P.C.	AUG 23
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Drawing Status:	Planning Application	

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- LEGEND**
- PROPOSED RED LINE BOUNDARY
 - PROPOSED TOPSOIL / GRASS
 - PROPOSED HARDSTAND / AC PAVEMENT
 - PROPOSED FOOTPATH
 - PROPOSED STONE WALL
 - EXISTING STONE WALL
 - EXISTING WALL TO BE DEMOLISHED
 - EXISTING CHANNEL TO REMAIN

- NOTES**
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D06	JUN' 23	DRAFT	M.C.	P.C.

Client



Project

Templemore Infill Works

Title

**Proposed Landscape Works
(Sheet 3 of 4)**

Scale **1:250**

Prepared by:	Checked	Date
M.C.	P.C.	AUG' 23
Project Director B.DOWNES		
Drawing Status	Planning	Application

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LEGEND

- PROPOSED RED LINE BOUNDARY
- PROPOSED CONCRETE BLOCK WALL
- PROPOSED TOPSOIL / GRASS

- NOTES**
1. FIGURED DIMENSIONS ONLY TO BE TAKEN FROM THIS DRAWING
 2. ALL DRAWINGS TO BE CHECKED BY THE CONTRACTOR ON SITE
 3. ENGINEER TO BE INFORMED BY THE CONTRACTOR OF ANY DISCREPANCIES BEFORE ANY WORK COMMENCES
 4. ALL LEVELS SHOWN RELATE TO ORDNANCE SURVEY DATUM AT MALIN HEAD, THE GEOGRAPHIC COORDINATE SYSTEM IS TO IRISH TRANSVERSE MERCATOR (ITM)

Rev.	Date	Description	By	Chkd.
D08	April '23	Planning Application	M.C.	P.C.
D07	AUG' 23	DRAFT	M.C.	P.C.
D06	JUN' 23	DRAFT	M.C.	P.C.

Client



Project

Templemore Infill Works

Title

Proposed Landscape Works
(Sheet 4 of 4)

Scale	1:250	
Prepared by:	Checked	Date
M.C.	P.C.	AUG' 23
Project Director	B.DOWNES	
Drawing Status	Planning Application	

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Drawing No. 11007-2039	D08

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