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Architects Report & Design Statement for the Proposed Fire Station, at Loughrea, Co Galway.





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1. A short summary of the project brief:

The project brief is to design and construct a new Fire Station at Athenry Rd, Loughrea, Co Galway and associated siteworks at Loughrea, Co. Galway.

The building accommodation brief from the client is as follows, with the design team's initial area estimate. This overall area estimate was subsequently reduced to make sure that the budget could be met.

Appliance bay for 2 no. Class B water tenders and 1 no. 4x4 jeep or a third-Class B water tender or similar 14x11m	154m ²
Storage area	4
Equipment storage	4
Water rescue PPE storage / racks and bench seating	7
Wildland PPE storage / racks	4
Spare PPE lockers	4
Main Entrance Hall	6
Watch Room	10
Muster Bay	20
Crying/Laundry facilities	10
Sanitary/Ablutions	12
Refreshment Facilities	20
Lecture Room	30
Breathing Apparatus room	5
Compressor Room	5
Workshop & Storage facilities	13
Office facilities	12
Accessible wc	4.75
ESB Meter Room	10
Plant Room	
circulation	65
Total m²	399.75

Drill yard
Drill tower
Forecourt, Apron & Car parking
Refuse area



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2. A brief review of the site factors and constraints:

The overall site is 0.45 Hectares.

The greenfield site is located on the North Western side of the town and is on the Athenry Road. St Lawrence's Fields housing estate is to the rear of the site, the five-storey Loughrea House Hotel is across the Athenry Road to the North. The adjoining buildings are single and two-storey houses to the east, west and south of the site. There is an existing pedestrian route to the St Lawrence's Fields housing running along the west side of the site.

Google map of site





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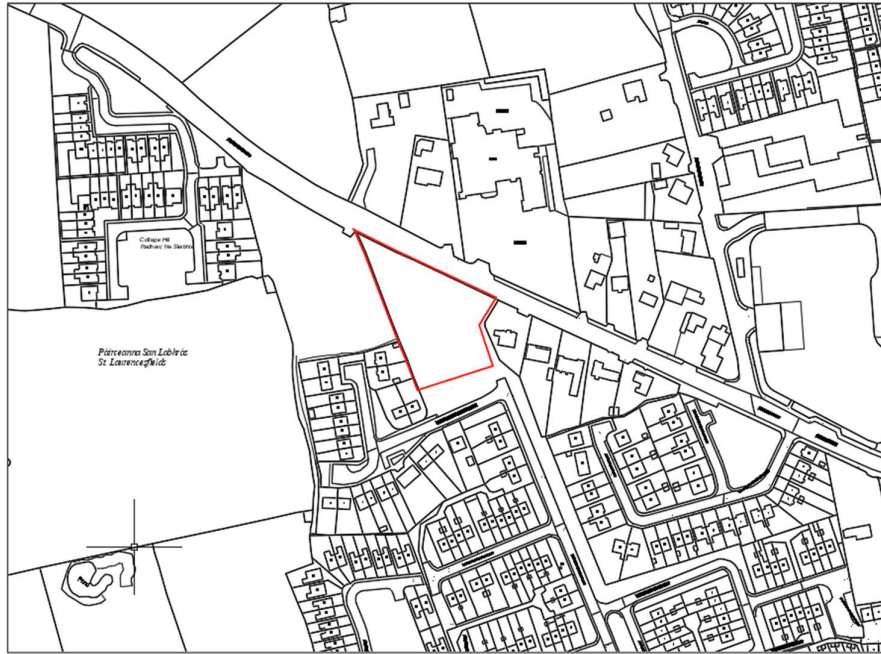
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OS Map



3. Short summary of consultations with the Statutory Authorities

Roads and Engineering

The SC Engineers have had consultations with Galway County Council Roads and Transportation on the 22/08/22 and there were no issues raised with the proposal.

The design discussions included, access on to the Athenry road, Sight lines, access and turning area within the site. Tobin Consulting Engineers used the TII DN-GEO 03060 visibility splays instead of the DMURS requirement for the 50kph speed limit due to the straightness of the road.



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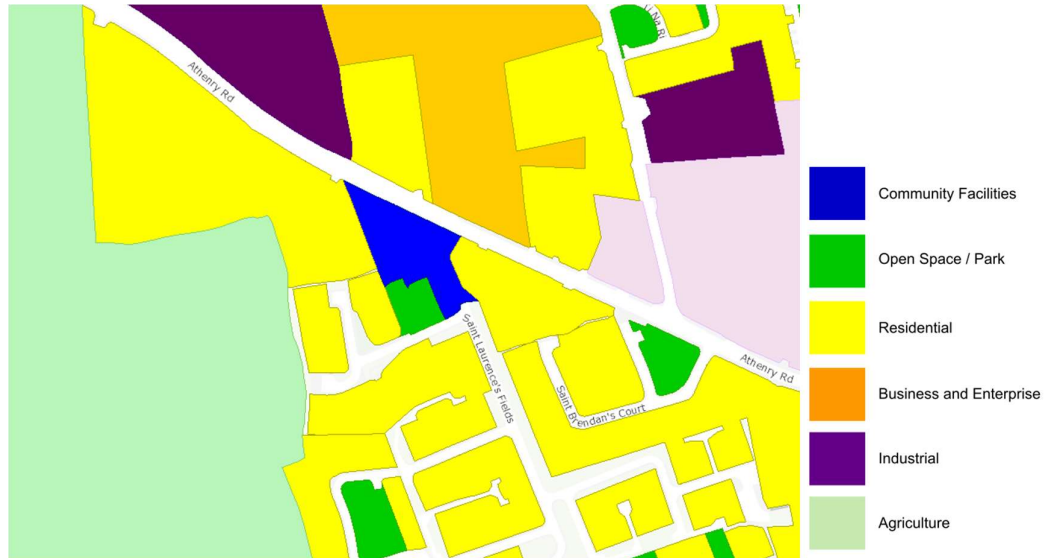
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Site Zoning



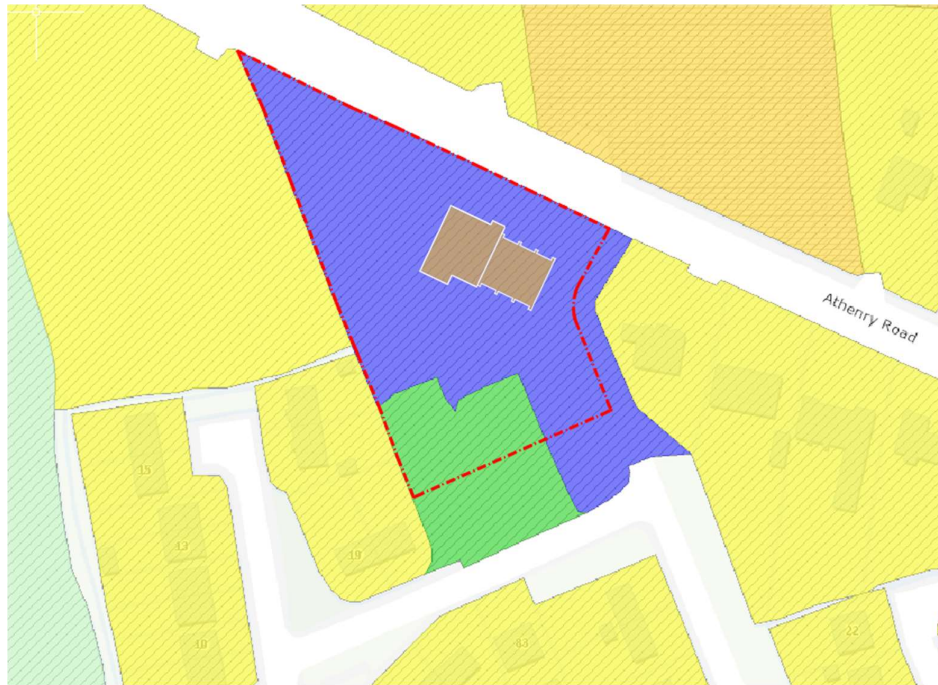
Community Facilities

Objective LU6 – Community Facilities (CF) (from Loughrea LAP 2012-2022)

“Promote the development of community facilities on suitable lands with a high level of access to the local community, including educational, community, civic, public, institutional, recreational, cultural and other complementary uses, as appropriate.”

Open Space / Park

“Would cater for zones where the intention is to retain areas as undeveloped and for mainly passive open space related activities. The open space/park areas could of course contain active play facilities such as children’s play areas but these would be only a smaller component (say under 30%) of the overall area involved. Judgement calls may be required if the active component exceeds say 30% as to whether the zone falls within this category or the Active open space category (G4).”



There is a section of our site zoned 'Open space/park' and it is intended that this will be part of the site for the Fire Station. (See overlap between the red line and the green area) There is a zone of public open space remaining outside the site on the south side, which links in with the pedestrian link on the east side of the site. We hope that this is satisfactory as there will be sufficient open space remaining in the area to the south, to compensate for the open space within the Fire Station site.

4. Summary of Hazards and Risks, and measures to eliminate, mitigate and control such risks

Ecology:

An appropriate assessment screening report and an Ecology Reports were carried out by Planning Consultancy Services and there are no issues that would affect the project progressing to planning and construction stage.

The AA screening concluded that *"no significant effects are expected on the qualifying interests or conservation objectives of the surrounding Natura 2000 sites, as a result of the proposed development in question, alone or in combination with the other plans and projects in the area. This report is therefore issued as a 'Finding of No Significant Effects' (FONSE) statement, in accordance with the EU Commission's methodological guidance (EC, 2001)"*

The Environmental Impact Assessment preliminary examination report by Planning Consultancy Services confirms that:

"The project is not of a class of development in Schedule 5, Parts 1 and 2. Accordingly it does not require mandatory EIA. In addition, having reviewed the nature, size and location of the proposed development, it can be concluded in this Preliminary Examination that there is no real likelihood of significant effects on



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the environment arising from the proposed development. In these circumstances, neither a Schedule 7A EIA Screening Determination nor an Environmental Impact Assessment Report is required in this case.”

The ecological impact assessment report by Planning Consultancy Galway concluded:

“Following consideration of the residual effects (post mitigation) it is noted that the proposed development will not result in any significant effects on any of the flora and fauna of the existing environment. No effects on receptors of Internationally, Nationally, County or Local value.

There are no Annexed habitats on site, no rare or protected Flora on site and no signs of mammals. There are no Third Schedule Invasive species on the site. Overall, the application site shows Low Local Ecological value and is not sensitive in this respect.

Provided that the proposed development, is constructed and operated in accordance with the design, best practice and mitigation that is described within this application, significant effects on ecology are not anticipated at any geographical scale.

Invasive Species:

Connacht Weed Control carried out an invasive species report and determined that there was no Japanese Knotweed on the site. Montbretia was identified on site, and CWC recommended that should be treated with herbicide three weeks prior to site clearance works.

Flood risk:

Flood Risk Consulting carried out an impact assessment and concluded that there was no risk of flooding with the site.

“Based on this available mapping, it is concluded that the proposed site is located within Flood Zone C and a Justification Test was not deemed necessary for the proposed development. Therefore, it is concluded that predicted flood risk from the examined public body data sets does not prohibit development at the proposed site.”

Heritage & Archaeology: Archer Heritage has carried out a heritage and archaeology Report on the site and have recommended topsoil stripping for the development be monitored by a suitably qualified archaeologist.

“There is low potential for the survival of buried archaeological remains at this site.”



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5. Overview of Proposed Design:

The proposed design of the new fire station is 379.7m² and is located on the east side of the site to facilitate good sightlines for the fire appliances exiting the building.

Both single storey and two storey options were considered in the design. The decision was made to progress with the single storey option, for both cost and other functional reasons. Most of the accommodation is required to have a direct link with the appliance bay and so there was a limited amount of accommodation that could be located at an upper level. The final design is single storey.

The building is single storey and the large appliance bay is a steel mono pitched steel structure with lightweight metal composite or fibre cement cladding. The adjoining support areas are cavity blockwork construction, with a central section finished in red brick at the entrance. This raised area is an elevated section marking the entrance and this will accommodate storage if water tanks at high level. The watch room is adjacent to the entrance as well as one office space, to control access to the building. The muster room is behind this and opens directly into the appliance bay and changing areas at the rear. The balance of the accommodation is a canteen area looking to the south and east and a lecture room looking east.

The external treatment of the building uses some materials that are common in the area and will link the development on the site to the context overall. There is red brick proposed at the central watch room projection at the entrance to the building and the roadside boundary is a random rubble limestone stone wall.





There is a large asphalt hard standing at the rear, to accommodate appliance turning and training. This area is fenced off from the rest of the site with 2m steel palisade fencing. The site boundaries to the site perimeter are 1.2m timber post and rail fence to the west, 2m high blunt top fence to existing adjacent pedestrian access to Lawrence's Fields estate to the south, with the roadside boundary a stone wall 0.7m high. (Local limestone with a concrete capping).



At the rear of the fire station there is a training tower. This is a steel framed structure fixed to a concrete base, similar to the one in the photo,

with a 3.1m x 4.2m footprint, one drill face to front of tower, Internal ladders and safety barriers with self-closing gates, Anti-slip sills, drop in barriers Ladders stops, Yellow visual strips, Dummy hoist, rope & pulley Safety mesh to 3 sides, and Anti-vandal mesh and lockable door,

6. Climate Change

Over half the energy consumption worldwide is attributable to that used in buildings, the resulting CO₂ release adding significantly to climate change. The Energy Performance of Buildings Directive aims to address this issue requiring that post-2020, all buildings should be near zero energy buildings (nZEB). The fire station proposed in this development will be A energy rated and nZEB compliant. Further climate friendly features include:

- Designed to optimise the orientation and aspect to maximise solar gain
- Reduce heat loss through openings with efficient window specification
- Air-tight construction, reduced thermal-bridging, high levels of insulation
- Ventilation requirements will be met via 'demand control ventilation'
- Departure from fossil-fuel dependent heating system
- Specification of a high efficiency air source heat pump providing space heating and hot water needs
- Measures for reduction in water consumption, e.g., low-flow cisterns
- significantly reduced operating costs of the building.



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- Construction phase will require a 'Construction & Demolition Waste Management Plan', stipulating maximum reduction, reuse and recycling of all materials
- The site location will afford opportunity for more sustainable modes of transport
- Landscaped site to promote biodiversity
- New public street lighting will be energy efficient LED lighting
- Galway County Council habitually utilise an energy supplier that is committed to the development of renewable and sustainable energy sources

This approach will foster a reduction in energy consumption, a reduction in carbon footprint, and a corresponding reduction in factors contributing to climate change.

We consider that the design for this fire station is appropriate for the site and we look forward to receiving a grant of permission so that the project can proceed to the next stage,

Brian Fahy Barch

Date 26/08/22