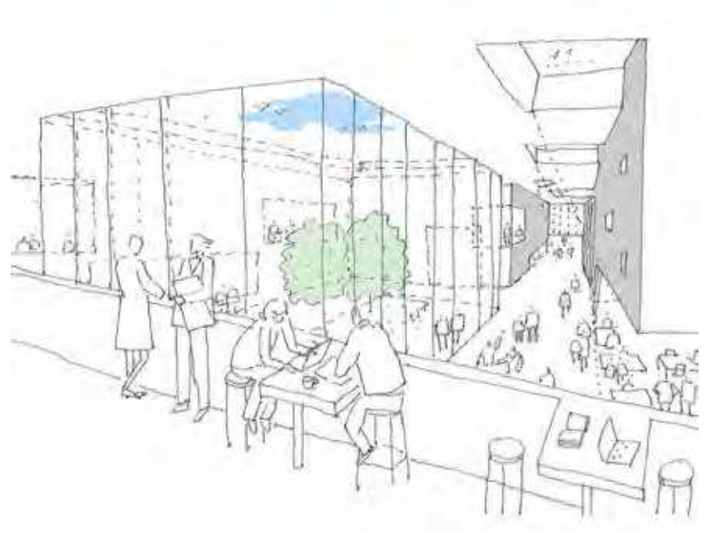
FORRES ACADEMY

MORAY COUNCIL

"WRAPPING A BUILDING AROUND YOUR COMMUNITY"



SSPS PHASE A & B REPORT | FEBRUARY 2024

FORRES ACADEMY

MORAY COUNCIL AND HUB NORTH SCOTLAND

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Executive Summary

This document has been prepared by jmarchitects in conjunction with Hub North Scotland Ltd., Currie and Brown, Goodson Associates, Rybka, Ryder Architecture and The Learning Crowd on behalf of Moray Council to summarise the Strategic Support Partnering Service (SSPS) Phase A and B work undertaken to date on the development of the vision for a new Forres Academy.

Over the course of the last four months the project team have worked closely with Moray Council, Forres Academy and the wider community to develop this vision which has built upon initial work undertaken as part of the pitch book authoring for the Scottish Future's Trust LEIP Phase 3 funding bid.

This document seeks to outline the SSPS Phase A and B work; visioning and strategy definition, existing information analysis, development of education briefing, lessons learnt analysis, desktop appraisal of site options, site option appraisals and recommendations as well as proposed development programme and cost plan.

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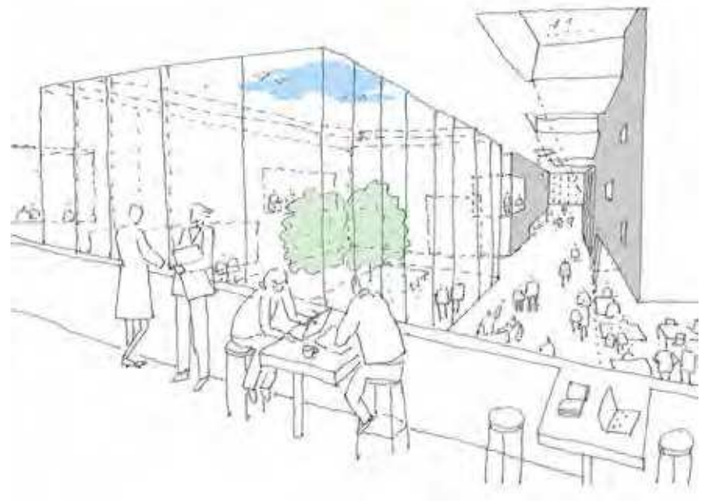
1.0 INTRODUCTION



1.1 The Need

The Strategic Fit

There is evidence that attainment and post-school destinations vary across Moray communities and in some areas are below average. Investment in the learning estate will respond to these issues and support the aspirations of the wider community. The Moray Council Learning Estate Strategy 2022-2032 aligns with the local priorities set out within the Local Outcome Improvement Plan (LOIP) and the Moray Council Corporate Plan. A future school will align with what is expected of infrastructure for the future and offer sustainability for both the asset and communities they serve; enabling multi-organisational working to ensure that public services are joined up and resources are used most effectively.

Existing Condition and Suitability

Following the criteria outlined by the Scottish Government's Condition Core Facts Survey, Forres Academy was assessed as overall Condition D – life-expired and/or at serious risk of imminent failure. There is a trend of increasing reactive maintenance spend on the existing asset and a rising sum of investment required to make much needed fabric improvement. Considerable sums have already been spent over the last few years and these have only maintained the low condition ratings and indeed not prevented further deterioration in condition.

The current Forres Academy, which originally opened in 1969, was designed for an earlier approach to educational provision and no longer reflects the needs of the community for the integration of education, skills and jobs that will support long-term resilience and sustainability.

The continued drain on resource to simply maintain the current Forres Academy at low condition and suitability standards in unsustainable.

RAAC

Following updated guidance regarding reinforced autoclaved aerated concrete (RAAC) from the UK Government in late 2022 Moray Council conducted desktop reviews of their whole building estate, including 54 schools. This progressed to a physical investigation in a number of buildings over the summer of 2023, which confirmed that there was RAAC present in the flat roof structure of Forres Academy.

1.2 The Response

In November 2022 Moray Council announced that Forres Academy was listed as its priority school to receive the Scottish Government Learning Estate Improvement Programme (LEIP) 3 funding. Consultation and engagement work was undertaken to prepare a ‘pitch book’ outlining the strategic case for funding for a new Forres Academy and the Scottish Government indicated that they would consider LEIP 3 funding bids with RAAC in mind.

Moray Council’s Education, Children’s and Leisure Services Committee decided on Tuesday 19th September 2023 to progress Forres Academy quicker by accelerating the Outline Business Case approval and to bring in external consultants (‘the project team’) to move the initial stages on to be as ready as possible when any funding announcement is made.

On 30th October 2023 the Scottish Government confirmed that the funding bid for a replacement Forres Academy had been successful.

Over the course of the last four months the project team have worked closely with Moray Council, Forres Academy and the wider community to develop a vision which has built upon the initial work undertaken as part of the pitch book authoring.

1.3 The Conversation

Design Charrettes

As part of the engagement programme for Forres Academy, two sets of design charrettes were held on 4th and 14th December 2023. Charrettes are a collaborative and hands-on way to engage with stakeholders who may not have decision-making influence over a project, but often have a wealth of knowledge, interest and enthusiasm as they represent the end users of the building and/or the wider community in which it is set.

Our charrettes were attended by three groups: staff from the existing school; pupils from the existing school; and community / elected members including parents and carers of current pupils. On the first day, each group was given an overview of the project context before completing exercises focusing on shared and large spaces, such as the grounds and approach to the school, sports facilities, dining, assembly and drama. Each group lasted approximately one hour.

The second charrette was attended by staff and pupils only, as it focused on core spaces such as classrooms, breakout space, circulation and flexible working spaces, which are not typically accessed by members of the public.

The methodology was consistent across each charrette. Attendees were split into small groups of around five to eight people, and a member of the client or design team sat with each group to facilitate discussion and take notes. The groups were presented with precedent images from existing schools, each page addressing a different type of space, and were invited to put coloured dots on the images to indicate their likes and dislikes. This was used as a prompt for further discussion to capture qualitative feedback on what could work in the new school, and what may not work so well.

It also gave the team an opportunity to ask why people held certain preferences – for example: personal preference / taste; concerns about safety, capacity, functionality, etc; or simply being presented with something new or different that may take time to get used to. This helps to assess the feedback in more depth and understand more about the aspirations and culture of the school.

Key themes included:

- Safe access routes to the school for pedestrians, reduced congestion from cars and buses, and supporting active travel where possible
- A well-defined entrance which clearly displays the name of the school, and has sufficient width to avoid bottlenecks at the start and end of the day
- Shelter, seating and activity space to make the most of the outdoors
- Larger spaces such as assembly, performance and dining should work hard and be multi purpose / flexible where possible. However, the design should ensure that flexibility, noise and adjacent circulation spaces do not distract from their function
- The school should be welcoming, light and bright, accessible and inclusive
- Sports provision should be a community asset, offering a range of sports and the ability to use facilities out of school hours
- Whilst pupils are not encouraged to loiter in the school during lunch and breaks, there is a desire for more social spaces and areas where both staff and pupils can relax or work in comfort
- Classrooms and breakout spaces should be as bright and spacious as possible, with good storage. There is a desire for robust furniture that will not easily break
- In spaces used for flexible working, breakout and socialising, attendees strongly favoured images showing different types of furniture which could support a variety of learning styles and types of work. This includes quiet / individual spaces or small booths through to larger spaces for collaborative work in bigger groups

A full report of the charrette findings, including key themes and feedback from each group on each space type, is included in Appendix A.

Partner Survey

In December 2023/ January 2024, a short online survey was sent to potential partners who may wish to use working space or community facilities in the school, to begin dialogue about what their requirements may be. To date, four responses have been received from Scottish Ambulance Service, NHS Grampian (x2) and Police Scotland. There has been a request for space from the latter two services, including dedicated space, drop-in desks, collaboration space, meeting rooms and a treatment room for the nurse when visiting. Other considerations include the ability to have confidential meetings / calls, secure storage and parking for operational vehicles. For partners, the benefits of shared facilities include being more visible and available to pupils and the community, and more joint working opportunities with other partners to improve service delivery overall.

1.4 The Brief

The Education Design Brief sets out the proposal for a new building for Forres Academy. The 'Learning Village' will provide high quality, flexible and future-proofed spaces for 1200 pupils and 40 ASN pupils in a non-denominational six year secondary school. The total proposed GIFA for the project is 14,520m2.

The term 'Learning Village' is used here to show that this is a new type of campus that is designed specifically to a set of agreed Moray Council principles that will maximise the use of the learning estate now and in the future.

The brief demonstrates how the project will deliver national and local priorities, in particular :

- National Policy including the Learning Estates Strategy and National Improvement Framework;
- Moray Council Learning Estate Strategy 2022-2032; and
- The Forres Academy Vision, Values and Aims.

The Education Design Brief has been developed closely with Moray Council and Forres Academy Senior Leaders and involved engagement with school stakeholders including staff, pupils, parents and community representatives. It takes account of their aspirations but is grounded in ensuring the project :

- Delivers the Scottish Futures Trust Space Standards and is within cost metrics for a project of this size;
- Sets clear Strategic Objectives and success measures that provide a framework for delivery and for monitoring impact;
- Takes account of the school context in terms of curriculum, ways of working, pastoral care and additional needs, partner services and community use. At the same time, it ensures flexibility and future-proofing to meet long term needs; and
- Has a set of overarching education design objectives that will translate into agreed adjacencies and an accommodation schedule that ensure clarity about the purpose and requirements of the spaces.

It also draws on Post Occupancy Evaluations of recent Moray Council education projects at Lossiemouth High School and Elgin High School and from visits to other new community schools.

The Education Design Brief and proposed Schedule of Accommodation can be found in Appendix B.

1.5 Lessons Learned

A “Lessons Learned” workshop was held on 25 October 2023 (Lossiemouth, Elgin High School + Linkwood Lessons Learned Summary Paper was referenced), and those attending the workshop talked about experiences learned from construction projects in general, and not just specific schools. From the workshop, a number of key points were raised and discussed which are summarised below:

- The requirement to do Site Investigation works at the earliest opportunity was discussed.
- It is important to get early FM involvement – the internal team from MC needs to be signed up to the project early on, in design stages as well as in construction.
- Pitched roofs would be preferable to flat roofs where possible/applicable albeit it is understood that it is not always the more cost-effective solution.
- Design to minimise damage caused by seagulls on flat roofs and in particular protecting exposed insulation on pipework or similar.
- Careful design is required whereby access to ceiling voids is required to make sure a robust solution is put in place, especially where regular maintenance inspections required, in corridors for instance.
- There is a preference not to have ceiling tiles in classrooms.
- Exposed trunking is probably the best solution for IT/electrical outlets within classrooms however vertical drops should be kept to a minimum.
- When designing lamps/lighting in atrium’s, consideration should be given as to how maintenance is to be carried out and where possible avoiding the use of scissor lifts.
- An important appointment pre contract is the Tier 1 Design Manager, and preferably someone with experienced in education projects should be appointed where possible.
- Any Value Engineering changes required should be fully broken down to allow evaluation/ scrutiny by the Cost Manager
- Any VE changes that are proposed should consider all long-term considerations for the participant particularly in terms of ongoing maintenance requirements.
- There is continued debate whether MVHR units in classrooms is a preferable solution opposed to centralised plant. Careful consideration is required as to the long-term maintenance requirements and not just initial capital costs, and full consideration of associated costs needs to be scrutinised including increasing building heights, increased GIFA for service risers etc. Participant/FM team need to be consulted also.
- FF&E coordination required to ensure account taken of items such as surface mounted pipe drops or surface mounted conduit etc. Consider use of independent FF&E consultant as part of design team.
- Window opening systems need to be carefully designed and also take account of potential furniture layouts that might affect access.
- Care is needed with RDD reviews as this needs to occur before Financial Close where possible.
- Clarity is required as to what elements of M&E are CDP and what is M&E consultant designed.
- A careful review of the benefits versus costs of “fibre to the room” is recommended.
- Early engagement with insurers “Zurich” is recommended to obtain clarity on the final specification of sprinkler heads within classrooms and what protection is required.
- Careful programming is needed at tender package reviews stage to ensure adequate time is allocated for fully assessing tender returns and reviewing alternative solutions.
- Market testing period in programme needs to be sufficient to allow Tier 1 risk allocation to be reduced if appropriate.
- Tier 1 supply chain needs to be thoroughly tested at Tier 1interview stage.
- ACR’s require thorough review including aspects including adjacencies for instance.
- Consideration should be given early on in the design process as to what public (community use) access required, and to which parts of the building to assist in design of access control, security strategy, lockdown strategy and CCTV monitoring.
- There does not seem to be a standard approach within Scottish schools as to the design/layout of WC’s; consideration should therefore be given to reviewing new schools that are constructed and in operation to see which layouts function best.
- Head Teacher involvement in school design is welcome and necessary however consideration should also be given to layouts generally on newly built schools to see what functions and layouts work well.
- Design and specification to mitigate wall scuffs (shoes/heels as well as bags), corner protection to be carried out pre contract, including anti-graffiti material specification.
- Colours for interior design is subjective, however participant should review other newly built schools for inspiration.
- Flexibility for future changes in partitions should be considered at design stage including potential for including mullions at strategic points within the frame.
- Car parking needs to take account of potential community use as well as day to day school use.

A number of the above points raised suggested that much could be learned from visiting newly built school projects. To this extent, jmarchitects were able to assist representatives from Moray Council on a number of site visits to new schools in the Central Belt giving the participant the opportunities to consider alternative design solutions to some of the points raised in the above. The following schools were visited on 20th and 21st November 2023:

- Jedburgh Intergenerational Campus
- Castlebrae Community Campus
- Wallyford Learning Campus

Elgin High School

Lossiemouth High School

1.6 Strategic Options

In additional to the new build design proposals contained within this SSPS Report, Moray Council also explored the following two options in relation to the existing Forres Academy building: 'do nothing' and 'refurbish and extend'.

'Do Nothing'

The Forres Academy building is assessed as overall Condition D – life-expired and/or serious risk of imminent failure. The current school was designed for an earlier approach to educational provision and no longer reflects the needs of the community for the integration of education, skills and jobs that will support long-term resilience and sustainability. There is a trend of increasing reactive maintenance spend on the existing building and a rising sum of investment required to make much needed fabric improvements.

Considerable sums have already been spent over the last few years and these have only maintained the low condition ratings and indeed not prevented further deterioration in condition. The continued drain on resources to simply maintain the current Forres Academy at low condition and suitability standards is unsustainable.

Refurbish and Extend

Moray Council commissioned a high-level appraisal of Forres Academy in 2023 to ascertain whether it would be practicable and cost effective to refurbish and extend the existing school building. As part of this exercise several key criteria were considered including: the existing condition of the school premises; LEIP 3 compliance; any challenges that a refurbishment scenario may present including functionality and quality issues; whole life carbon; and cost implications. Whilst a refurbishment scenario can meet a number of the LEIP 3 requirements, two issues present significant if not insurmountable challenges; the existing span between the structural floor slabs (which is significantly less than in modern education facilities) would pose a challenge with the mechanical ventilation required to meet LEIP 3 as well as the probable requirements to insulate under the existing ground floor slab.

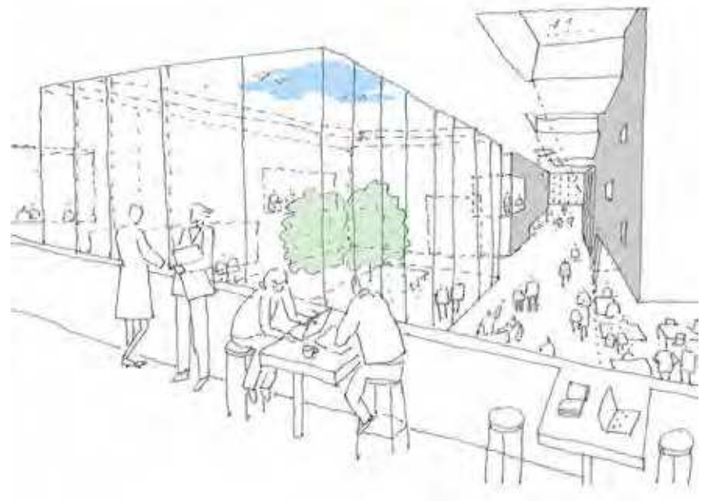
Based on benchmark data the construction cost to refurbish a school is generally around 90% of the cost of a new build however the additional costs pertaining to the Forres Academy project, such as temporary accommodation for decant, the extent of RAAC and concerns over fire engineering would mean that the cost for delivering a refurbished Forres Academy would be likely to exceed the cost for delivering a new build Forres Academy with the risk that the final building could be compromised in some aspects.

Conclusion

One of Moray Council's learning estate strategy aspiration and key drivers is that "All learners to be educated in high quality buildings (minimum level B for condition and suitability)" given the financial challenge of simply maintaining the existing building without ever being able to improve its condition it would not be acceptable to 'do nothing' at Forres Academy. When consideration is taken of a compromised design solution that may have to be accepted for a refurbished school in comparison to a new build without any cost benefit, it was concluded that a refurbishment solution would not offer good value for money to Moray Council and the end product would unlikely meet the aspirations of the local community. It was therefore decided that Moray Council would proceed with a new build solution for the replacement Forres Academy.

Existing Forres Academy

2.0 PLACE



2.1 Forres

The town of Forres is located within the council of Moray, approximately 26 miles east of the city Inverness.

The town is also geographically close to the towns Elgin, Nairn, and Burghead as well as Findhorn, Auldearn and Kinloss.

The first historical indication of the existence of the town may be that shown as Varis on a map. It is suspected that “Forres” may be derived from this or a combination from the Gaelic words “fo” (below) or “far” (where) and “ras” (underwood).

The town of Forres in its wider context with the surrounding towns and cities

2.1 Forres

Forres has a deep-rooted history dating back centuries, with its burgh charter granted in 1153. This historical backdrop is reflected in heritage assets like Sueno's Stone, an ancient Pictish monument.

While the town has historical ties to trade and industry, notably in textiles and brewing, its contemporary identity is shaped by the acclaimed whisky production.

The bustling High Street, with various elements of history and portrayed throughout, stands as the heart of the area and define Forres' connectivity and community.

In addition to its architectural and historical significance, Forres prioritises community and recreational facilities. The town hosts various sports amenities, with golf courses at its periphery, and community centres that foster social engagement.

Forres demonstrates a commitment to preserving its heritage, fostering community bonds, and offering recreational spaces that enhance the quality of life for its residents.

Overview of the town of Forres

2.2 A Place Specific Vision

It is important to provide a school which is both physically stitched into the fabric of Forres and reflects what is important to the town; a true community hub which is developed for, used by and owned by the people of Forres.

The school should allow young learners to become better learners, grow values, develop skills and enhance the community whilst also reinforcing the values of effort, respect and ambition. The school will facilitate high quality learning and teaching that leads to improved levels of attainment and achievement and creates an environment which enables the development of leadership skills at all levels.

The building should form a strong connection to its immediate external environment and that beyond its site boundaries to encourage community engagement, develop and enhance inclusive practice and improve partnerships and family learning.

2.3 Local Development Plan

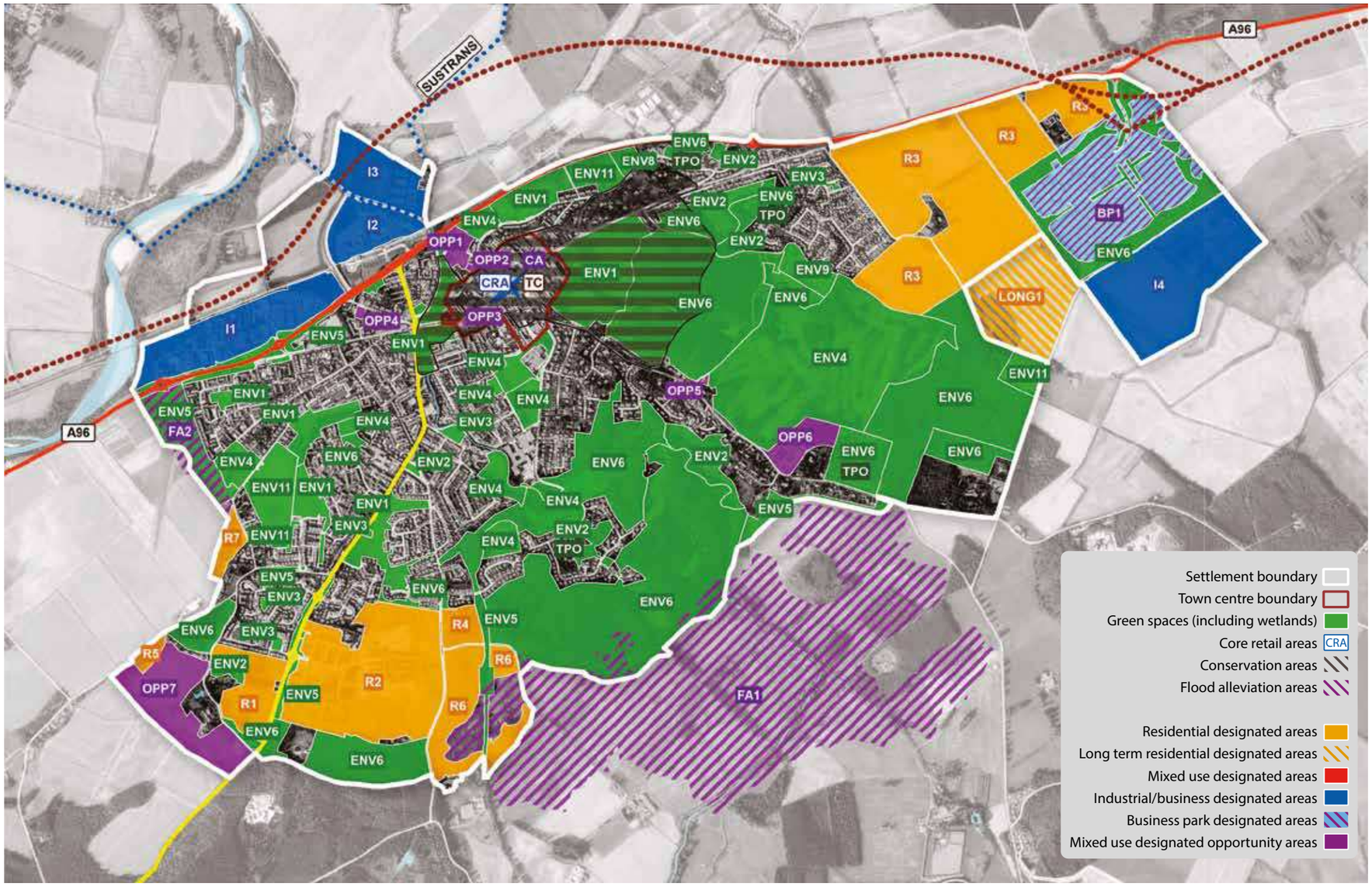
The policies for development of the area in and around Forres are covered by the Moray Local Development Plan 2020 and provides guidance on how the Council sees the area developing over the next 10 years.

The Local Development Plan (LDP) identifies that development proposals must reflect the traditional settlement character in terms of siting and design. It also states that design should enhance Forres' distinctive built heritage and the integrity of the Conservation Area.

The LDP notes the requirement of long term growth areas, including new neighbourhoods at Ferrylea, Lochyhill and Dallas Dhu which would aid in supporting and enhancing the vitality and viability of the town centre.

The LDP states the necessity for an additional 12ha of land for employment and support proposals for business development, which in turn would supplement the proposed new neighbourhoods.

The LDP also recognises the importance of protecting and enhancing the existing network of open and green spaces and to identify a network of new park and play areas within the development boundary of Forres.



Forres Local Development Plan Map, courtesy of Moray Council

2.4 Place Based Review

Place is a key pillar of public policy and investment in Scotland. A place-based approach is about joining up infrastructure, services and partnerships to better meet the needs of local communities; providing better opportunities and improving the impact of combined energy, resources and investment.

During SSPS Phases A and B, Moray Council and the Design Team commenced engagement with the existing school, stakeholders and the local community and partners in Forres. A 20 minute neighbourhood study was undertaken on the three site options; looking at both Council and partner assets.

The three sites have also been assessed against Moray Council's Strategic and SMART Objectives. A community event was held at the end of October to present and discuss the 20 minute neighbourhood analysis and strategic assessment outcomes. A survey has been issued to blue light services with responses received from Police Scotland, Scottish Ambulance Service and NHS; it is also proposed to re-issue the survey to a wider pool of partners.

As part of the wider North Schools Programme, Moray Council propose to work alongside Hub North Scotland and the other participants to further develop the Place Based Review.

The Place eight-stage process

2.5 The Existing Site

The existing Forres Academy site is split into two areas. The main site lies adjacent to Roysvale Park, is bisected by the Mosset Burn and occupied by the school buildings, Forres Swimming and Hydrotherapy Pool, car parks and other external hard and soft sports pitches. There is also a satellite site to the south, accessible by footpaths from the main site which contains additional grass playing fields.

School - Guidance

The School Premises (General Requirements and Standards) (Scotland) 1967 states:

The area of site for a 1121 pupil secondary school (current pupil capacity) shall not be less than 6.5 acres (2.63 hectares), excluding sports pitches, roads, pathways and areas not generally suitable for use as school grounds.

The area of pitches for a 1121 pupil secondary shall not be less than 9 acres (3.64 hectares).

Total required site area, according to The School Premises (General Requirements and Standards) (Scotland) 1967 is 15.5 acres (6.27 hectares).

School – Site

The existing Forres Academy site is approximately 7.96 hectares.

School - Footprint

The existing Forres Academy footprint is approximate 10,100sqm/ 1.01 hectares (not including the swimming or hydrotherapy pools).

Existing school site boundary and the wider settlement boundary

2.6 Potential Locations for a New Community Hub

Moray Council has engaged with Hub North Scotland and a Design Team to begin work on designs for a new Forres Academy.

One of the first steps was to decide where the new school should go. From a list of five possible sites, three have been short-listed as suitable locations for the new Forres Academy (Roysvale Park, Lochyhill and Grantown Road).

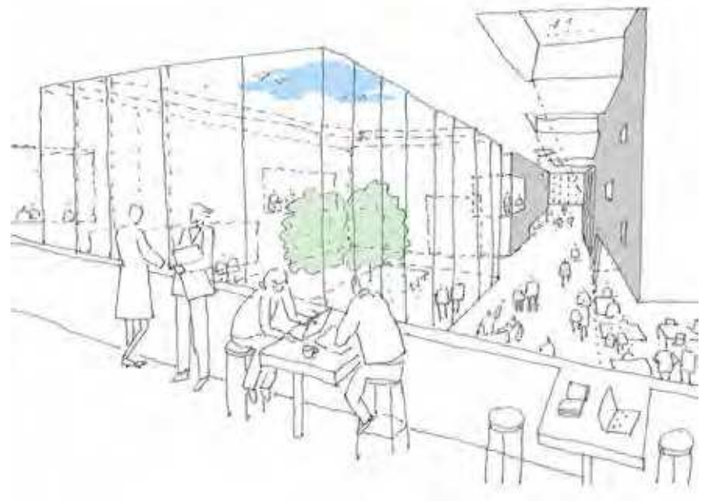
Following the creation of this short-list, a more detailed site analysis and appraisal has been carried out for the three potential locations. The design team has also been able to assess the various sites against the project's strategic objectives.

Potential locations to accommodate school

1	Roysvale Park & Existing Site	6.1 Ha
2	Lochyhill / Enterprise park	5.8 Ha
3	Grantown Road	5.9 Ha
	Forres Settlement Boundary	

Potential locations for new Academy

3.0 ROYSVALE PARK



3.1 Location Overview

Roysvale Park site within the context of Forres

3.2 Historical Analysis

Forres is one of the oldest of Scotland's royal burghs with the charter granted in 1153. In the 12th century, Forres, along with Inverness, Auldearn, Nairn and Elgin formed part of a defensive chain along the south coast of the Moray Firth.

Throughout the 15th and 16th centuries, Forres thrived as a market town, capitalizing on its strategic location and burgeoning trade networks.

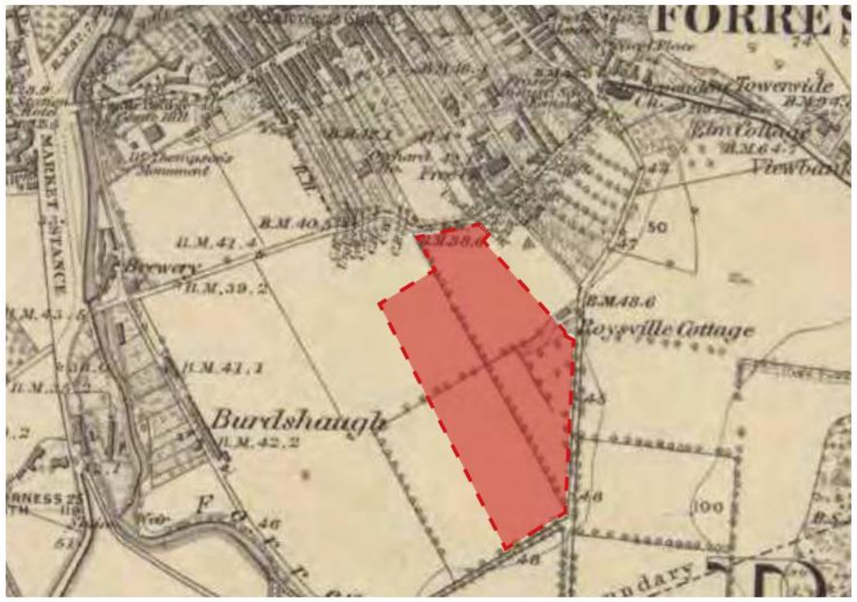
By the 18th and 19th century, the site still remained largely untouched. However the main town, particularly along the High Street, began to rapidly develop and became commercially and socially significant for the area.

During the late 19th century and mid-20th century, the towns growth continued, expanding away from the High Street and particularly along Burn of Mosset, with new roads and public footpaths appearing, allowing new housing and amenities to emerge.

Roysvale Park

There has been a primary school on the ground adjacent to the park since the mid 20th century and has been expanded several times to accommodate the requirements of modern education.

The park has remained largely untouched since transitioning into a public space in the 19th century.



c1870

c1930

c1970

c2023

3.3 Photographic Survey

View of the Roysvale Park site looking north

3.3 Photographic Survey

Aerial view of the Roysvale Park site

3.4 20 Minute Neighbourhood

Roysvale Park is located slightly to the south, whilst still remaining quite central, to the majority of the towns facilities.

Several community and amenity facilities are in close proximity to the site, such as the Forres Swimming Pool and Fitness Centre which adjoins to the existing school building. There are also several green spaces and public parks which are a 10-20 minute walk from the site.

Various food retailers are located along the town's High Street, as well as two supermarkets, Spar and Co-op, which are both, approximately 10 minute walks from Roysvale Park. A larger supermarket - Tesco - is along Nairn Road, which adjoins the High Street and is approximately a 16 minute walk.

The main public transport network for the town, the bus service, has several services and routes which are nearby to the site. The train station is to the north of the site and is a 17 minute walk.

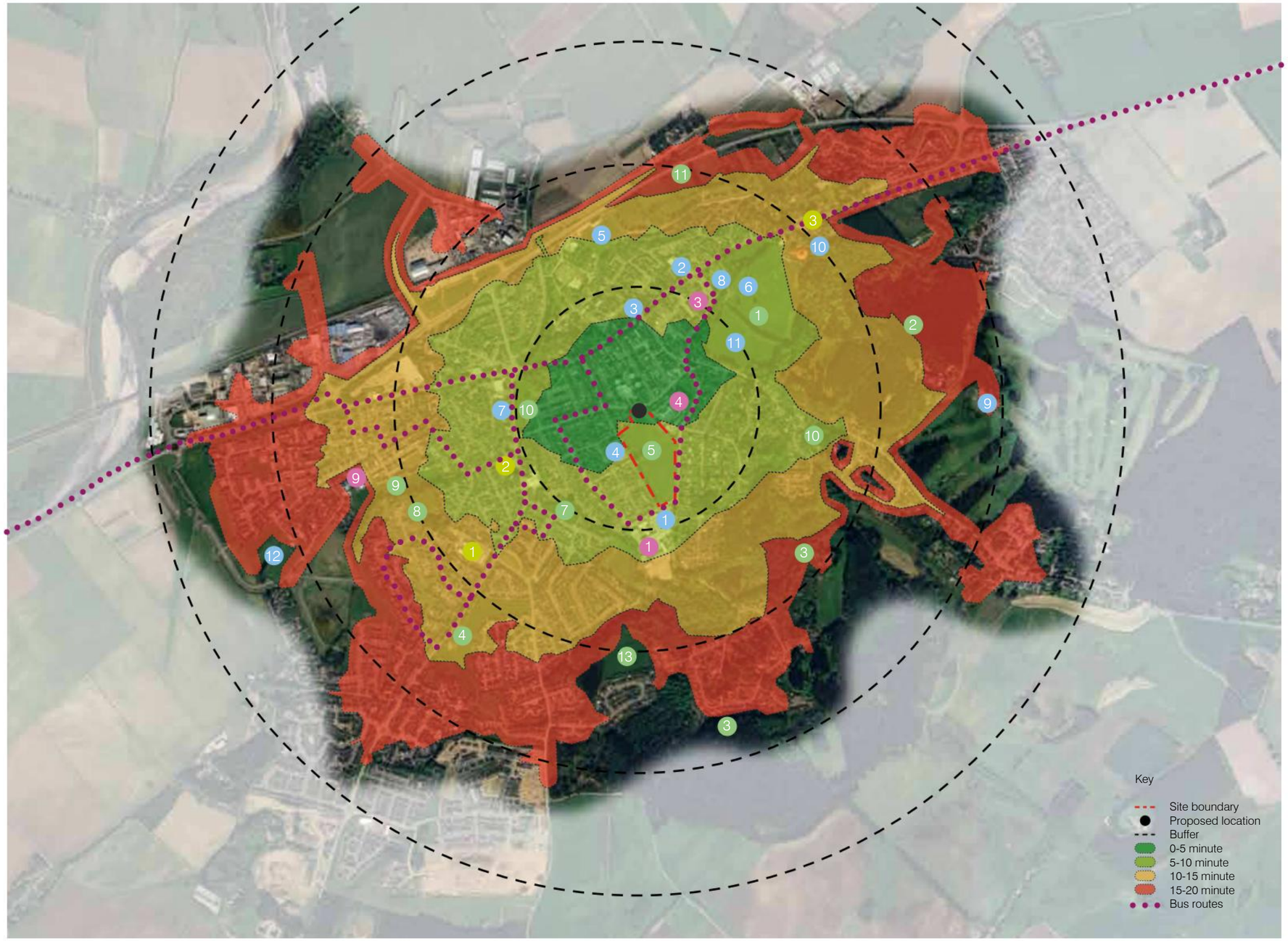
KEY

Parks & Green Spaces
- 1 Grant Park
- 2 Cluny Hill
- 3 Sanquhar Loch & Woodlands
- 4 Mannachie Park
- 5 Roysvale Park
- 7 Fleurs Park
- 8 Thornhill Playing Field
- 9 Pilmuir Playing Field
- 10 Mosset Burn Park
- 11 Bogton Road Park
- 13 Academy Playing Field

Community & Sports Facilities
- 1 Swimming Pool & Leisure Centre
- 2 Forres House Community Centre
- 3 Forres Town Hall
- 4 Forres Tennis Club
- 5 Forres Mechanics Football Club
- 6 Forres St. Lawrence Cricket Club
- 7 Forres Bowling Club
- 8 Grant Park Bowling Club
- 9 Forres Golf Club
- 10 Forres Squash & Fitness Club
- 11 Forres Area Soccer 7s
- 12 Forres Thistle Football Club

Schools
- 1 Forres Academy
- 3 Anderson's Primary School
- 4 Applegrove Primary School
- 9 Pilmuir Primary School

Healthcare & Emergency Services
- 1 Forres Health & Care Centre
- 2 Forres Community Fire Station
- 3 Forres Police Station



Map showing the public amenities in relation to Roysvale Park

3.5 Existing Utilities

Record drawings indicate that the proposed Roysvale Park site is clear of Electrical, Gas, Mains Water and Communications utilities infrastructure.

The utilities for the proposed new development would comprise of Electric, Mains Water and Communications Infrastructure. Records show that existing infrastructure for each of these services are located in close proximity to the site.

Utility capacities and the ability for local infrastructure to serve the site without significant network reinforcement will be confirmed as the design develops and applications are made. Notwithstanding that we believe the Roysvale Park site presents the option with least risk on the basis that the capacities associated with the existing school will be removed from the infrastructure locally and can be assigned to the proposed new school development.

The record drawings received will be verified through a Ground Penetrating Radar Survey (GPRS) during the next stage of the project should the site be selected as the preferred option.

With regard to drainage, the surrounding network is a fully combined system. A Pre Development Enquiry has been submitted to Scottish Water to establish if sufficient capacity exists to allow for both surface and foul water to be discharged to this network. In the event that there is insufficient capacity for the surface water, it should be noted that an offsite connection to the Burn of Mosset may be required.

Within the site boundary a 225mm drainage tail exists running north/south. It is understood that this redundant, however CCTV works will be required to confirm. Additionally, a below ground surface water storage trench exists to the boundary with Applegrove Primary School. This is identified on the constraints plans provided.

For further details and utility record drawings please refer to Appendix C.

3.6 Engineering Review

Earthworks and Site Levels

Existing Site Topography

The topographical survey was undertaken by Douglas Land Surveys Ltd in November 2023.

The data shows minimal level change throughout the site, there is a 3m level change from south to north, undulating between 14mAOD and 12mAOD.

Proposed Levels and Cut / Fill Strategy

In general, the existing topography is relatively flat, the site falls gently to the north, however, there is a slight valley in the levels through the centre of the field.

The FFL of the proposed school will require to be 600mm above the 1:1000 year flood level, which will need to be demonstrated through a detailed flood risk assessment. However, based on an initial assessment the building footprint and surrounding areas will need to increase in level by approximately between 400mm and 1.6m above existing topographical levels. At this stage it should be assumed that this will require to be built up with imported engineered fill.

Any water which is displaced by proposed development, up to the 1 in 200 year event, will need to be stored within the site boundary through a compensatory flood scheme. An area has been identified within Roysvale park, where levels will be shaped to ensure that flooding is controlled and no additional flooding outwith the site boundary occurs due to the development.

The current earthworks strategy allows for an approximate compensatory flood water volume of 5000 - 7000m^3. The area identified to act as compensatory storage is displayed by the blue hatch in Figure 1, however this will be further developed though detailed flood modelling.
It should be noted that this flooding will be a rare event, and will not prevent the day to day use of this space outwith these extreme weather events.

Furthermore, the current earthworks model highlights that 8000m3 engineering fill is required under the building footprint. However, there is a cut fill balance within the remainder of the site.

Retention and Levels

Due to the requirements for compensatory storage and raising the finished floor level of the school, areas for low level retention and banking will be required in the design.

Resolving this level difference can be accommodated in a number of ways, and through careful consideration of the layout and landscape design this can be included in such a way as to not act as a constraint.

Transportation/ Parking

Subject to agreement with the roads department, the proposed main entrance location is proposed to be located along Orchard Road.

Locating accessible parking at the front entrance makes sense from user access requirements, it does present difficulties in terms of managing the parking to prevent misuse of the spaces and will need to be considered carefully in the next stage of design.

To further understand the traffic and parking patterns in the local area, parking surveys will be required to inform any future planning application. Initial discussions regarding the scope of these have been undertaken with Moray Council.

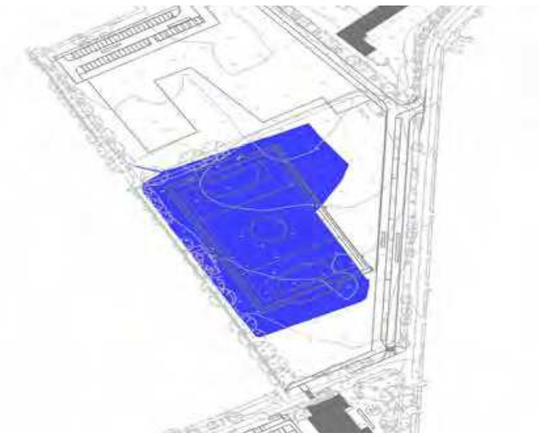


Figure 1. Proposed Area of Controlled Flooding During 1 in 200 year event

Figure 3. Moray Council Adoption Plan

Figure 2. Image from site walkover

3.6 Engineering Review

Geotechnical Review ans Site Investigation

During the feasibility stage we have carried out an initial desktop review of the prevailing ground conditions on the site, taking cognisance of both BGS records and historic site investigation information from the surrounding area. This was followed up by a detailed site investigation the site works for which were completed in November 2023.

Previous land use

A review of the 1830-1880 historic map shows that the site was previously used for agricultural purposes. No major structures were recorded within the site boundary prior to the construction of the school. See Figure 4.

The primary school – Applegrove Primary - within the site boundary was officially opened in the 1950s.

From previous land use, the assumption is that overall risk of contaminants is low, however, results from the SI report will clarify the presence of contaminants.

It is assumed the current primary school building envelope will contain asbestos contaminants. An asbestos register will be required to address this fully.

Geology

From the recent site investigation works, borehole information generally shows a sand and gravel strata below a layer of topsoil. See Figure 8.

The lithological description from the British Geological Survey is gravel, sand and silt which further corroborates the borehole information.

The Coal Authority GIS database identified that the site is not within an area coal mining reporting or where coal outcrops are present. Based upon this information, it is concluded that coal mining will not affect the proposed development.

Foundations

The ground conditions on-site should, mostly, allow for conventional solution using an allowable bearing pressure of 150kPa. Further confirmation of this value will be received within the full SI report.

However, the foundation solution will have to be investigated further to the north east of the site, within the pink hatch in Figure 9. The ground conditions between WS01 and CP01 will not support a shallow foundation solution and localised ground improvement may be required in this area.

Based on 2000kN maximum column load the allowable bearing pressure of 150kPa would lead to relatively large pads, furthermore, there is a looser stratum of silty sand (WS02-05) around 2.3-3.1mbgl which will need to be considered in the settlement calculations once the location and levels of the proposed foundation and loads are understood.

An additional point of note is the presence of a very localised poorer deposit at 2mbgl at WS12, see Figure 9. However, as this is out with the area of the current development proposals, this is not considered to be a constraint.

Figure 4. Extract from 1830-1880s historical map

Figure 5. Extract from 1900s historical map

Figure 6. 2004 Aerial view

Figure 7. 2023 Aerial view

3.6 Engineering Review

Groundwater

The preliminary boreholes show that the water table varies from 0.69-1.96mbgl. Instantaneous recharge is noted which indicates that standing water table is present. Further examinations are ongoing to log these levels.

Based on this, it is likely that the contractor will encounter ground water during foundation and drainage excavations, and an allowance for dewatering should be considered as part of any cost appraisal.

Radon

A review of UK Radon mapping has indicated that the site is within an area of 1% of homes are affected by Radon. Therefore, based upon this dataset and in accordance with BRE 211(2015), the minimum level of Radon Protection is required for any future development at the site.

Ground gas risk

A full ground gas risk assessment is being prepared as part of the detailed site investigation. For this site, the primary potential sources of ground gas is considered to be:

- Potential generation and migration of ground gas (primarily carbon dioxide (CO2) and methane (CH4) attributable to microbiological decomposition associated within organic rich soils and strata.

Further considerations to these potential sources also depend on the potential for significant volumes of ground gas to be generated in addition to the concentration of ground gases and the capacity for organic material degradation.

All natural soils contain a proportion of organic material and have a biome of micro organisms that will degrade and cycle organic material as part of the natural soil cycle, with CO2 and CH4 respired as by-products depending on the prevailing ground conditions.

However, based on the results received to date, limited ground gas has been encountered and the site is considered to be low risk (CS1).

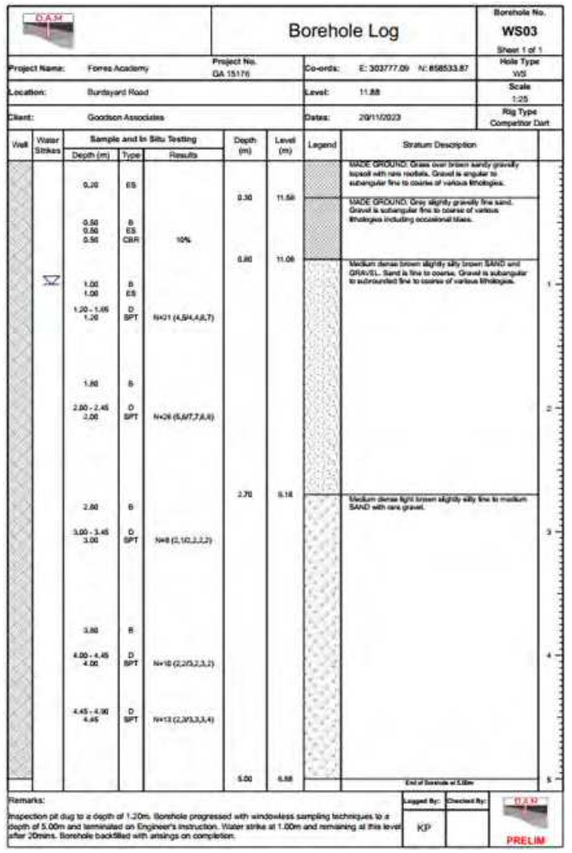


Figure 8. Example Borehole log

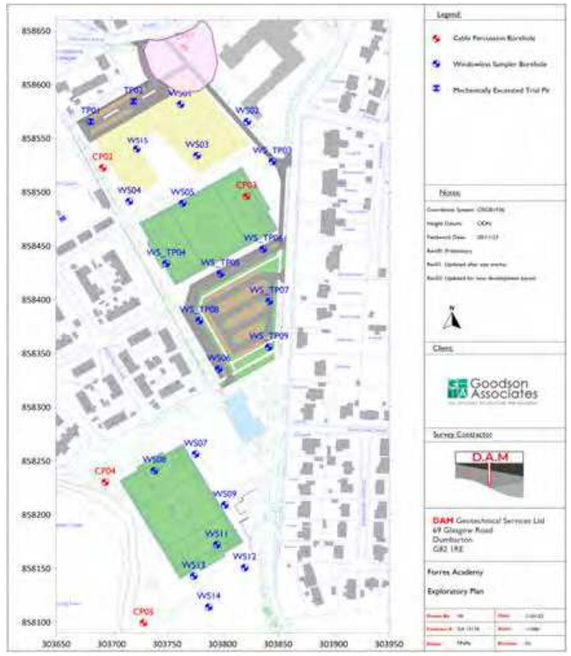


Figure 9.Exploratory plan with area of loose ground highlighted in a pink hatch

3.6 Engineering Review

SUDS Strategy

Surface Water Discharge

The existing surface water run-off is 17l/s, this was concluded using a 4.9ha area of greenfield.

The main impact of a development is to increase the proportion of impermeable surfaces (e.g., roofs and paved areas) within the site and without careful planning this can increase peak rate runoff. Sustainable Drainage Systems (SUDS) aim to mitigate this effect by emulating natural drainage systems and the provision of storage.

Treatment must be provided in accordance with the recommendations of The SUDS Manual (CIRIA Document C753), SEPA and other relevant guidance. To determine surface water treatment requirements, The SUDS Manual (CIRIA Document C753) initially requires identification of the various land use classifications involved in the development. Using Table 4.3 (Page63), the following classifications are considered relevant:

- Non-residential parking with infrequent change (e.g. schools, offices, < 300 traffic movements a day)
- Commercial/Industrial roofing: Inert materials

The guidance confirms that the various land use classifications identified require use of the Simple Index Approach. This involves a comparison between indices of likely pollution levels against SUDS performance capacities. To deliver adequate treatment, the selected SUDS components should have a total pollution mitigation that equals or exceeds the pollution hazard index. There are several options for treatment, however, the best choice will need to consider the site constraints and space available.

For this reason, it is anticipated that options such as SUDS basins and ponds will not be viable for this site due to their large land take.

As such, options such as porous paving, filter strips and linear swales which can be accommodated within the landscaping will be preferred. It is also assumed that to attenuate the additional storm water runoff from the development, a below ground storage tank will also be required.

The connection for the surface water is yet to be approved by Scottish Water. However, the preferred option is to connect to the combined sewer to the north of the site, although, combined sewer connections are not favoured by Scottish Water. In the instance that a combined connection is rejected, a surface water sewer will have to be installed along Orchard Road with an outfall into the Burn of Mosset, this option would involve installing an offsite sewer approximately 350m long in adopted land. See Figure 11.

Based on a 5l/s run off rate for the site, which is yet to be approved by Scottish Water, it is estimated approximately 1600m3 of storage will be required to store the 1:200 year storm with 37% climate change. This may vary depending on area of proposed hard standing and potentials for capturing the 1:200 year storm on site.

The primary method of attenuation will be provided by below ground attenuation tanks as it is anticipated that options such as SUDS basins and ponds will not be viable for this site due to their large land take. Depending on the final location and depth of the tanks, due to the high ground water further measures to reduce the buoyancy of these tanks may need to be considered in the detailed design.

Figure 10.Existing surface water and foul water (combined) system as displayed on Scottish Water maps.

Figure 11.Potential surface water sewer along Orchard Road

3.6 Engineering Review

Foul Water

A Pre-Development Enquiry has been submitted to Scottish Water to determine the effect of the proposed development on the local sewer network.

Flooding

Existing flooding occurs within the site boundary with both the 1 in 200 and 1 in 1000 year storm. A flood risk assessment completed by Moray Council in 2021 depicts the flood extents of both the Burn of Mosset and River Findhorn considering their flood prevention schemes. The flood extent from the 2021 flood risk assessment is corroborated by the SEPA flood maps. See Figures 12&13.

The 1 in 200 year storm flood risk assessment carried out during the works for the Findhorn flood prevention scheme display no flooding within the site. Therefore, the 1 in 200 year fluvial flooding occurs on the site due to flooding of the Burn of Mosset. See figure 14.

Further Flood risk assessments required in order to understand the flood risk within the site, however as noted in the previous sections, it is proposed that any flood water displaced by the development will be offset through an on site flood compensation scheme, subject to detailed design and approval by Moray Council Flood Team and SEPA.

Full reports can be found in Appendix D.

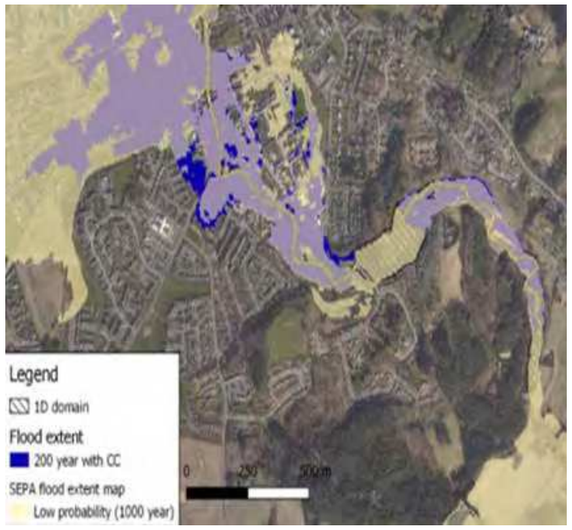


Figure 12. Flood risk Assessment showing both a 1 in 200+CC year flood and 1 in 1000 year flood map undertaken by Moray Council in 2021

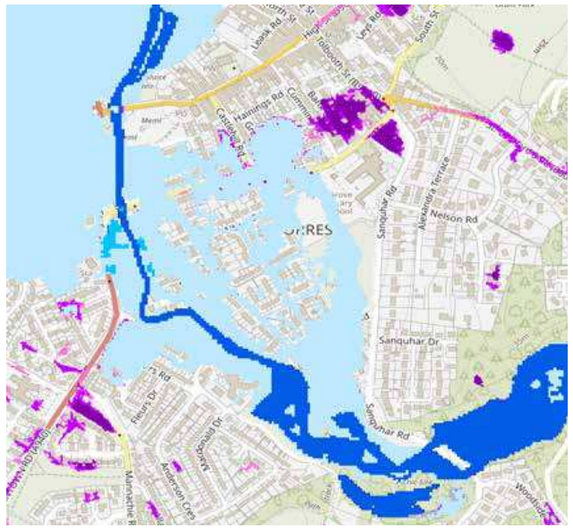


Figure 13. SEPA flood map

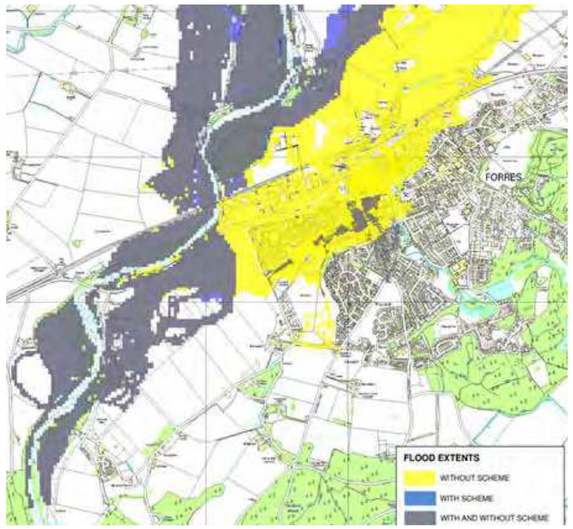


Figure 14. Flood risk Assessment 1 in 200 year flood map undertaken in 2008

3.7 Existing Land Use

Existing Site and Land Use

The site is currently formal parkland. To the northern boundary is the existing Applegrove Primary School. The playing fields associated with the school form part of the site and are currently unfenced and accessible by the public. Orchard Road runs east west to the north of the site and is currently used to access the existing Primary School and several public car parks. There is an area to the north of the primary school which currently public open space.

To the western boundary of the site there is an avenue of mature trees which run along Roysvale Place and in front of the Forres Tennis Club. There are a number of residential properties which overlook the site and screening is provided by the mature avenue of trees.

The southern part of the site which is existing park land know as Roysvale Park is bounded to the east by residential properties and Sanquhar Road. The existing Forres Academy lies to the south of Roysvale Park. The site consist of single storey buildings and parking areas as well as mature trees and vegetation.

View looking at the Roysvale Park site

3.8 Opportunities

Community Facility

The building shall be a facility for the whole community. Located to be as accessible and welcoming as possible. It shall also look to create links with existing community facilities within the area. As well as creating new links, there is also a potential to utilise and retain facilities from the existing school such as the swimming pool, parking areas and playing fields.

Intergeneration Learning

Opportunity for the building to link with the existing primary school (Applegrove Primary) and develop intergenerational learning opportunities. Furthermore, there is an additional opportunity create and develop and educational programme linked to the construction process.

Access

The approach and routes which pupils and other pedestrians shall take will be considered. There is an opportunity to give the approach and access at various positions, either on Orchard Road, Sanquhar Road or Roysvale Place.

Environment / Biodiversity

Opportunities to position the new building within a central position on the site to maximise the amount of sun it will get throughout the year. The existing mature trees provide a mature landscape setting and there is an opportunity to further enhance the biodiversity by introducing new native planting.

Public Transport Links

The new building should link with existing public transport and road infrastructure and minimise pedestrian travel distance, and time, from the existing town. This will promote active and sustainable travel as well as developing ‘safer routes’ to school initiative.

Site Opportunities

3.9 Constraints

Proposed Access

On the east edge of the site, there is an existing junction along Sanquhar Road which serves the houses behind. Any vehicular access/ egress points for the proposed school are to be a minimum of 25m from the existing junction opposite.

Existing Services

There are several existing services within the site boundary as well as existing attenuation tanks. The proposed building needs to consider the location of these services.

Privacy

The design and construction of the new school building must prioritise privacy considerations for neighbouring houses, especially given the dense urban setting. Strategic placement of windows, landscaping, and architectural features should be implemented to minimize visual intrusion.

Trees

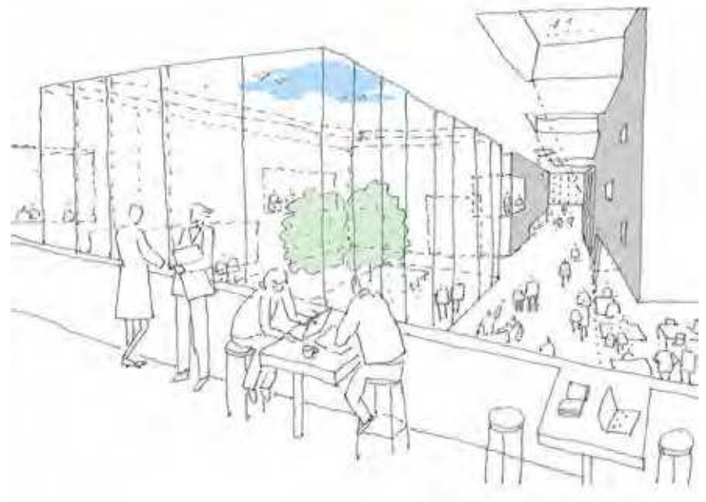
The site features multiple areas of mature trees, necessitating careful consideration during the design and construction of the new school building. Ensuring the preservation of these trees is crucial, with attention given to factors such as visibility and proximity to existing junctions as well as the potential for bat roosts and other protected species.

Right of Way

There are two 'rights of way' within the site boundary, one which bisects the site and one which sweeps around the boundary, both of which must be taken into account in the design of the new school. Communication with the council is imperative to ensure the proper integration of these easements into the proposed school layout.

Site Constraints

4.0 LOCHYHILL



4.1 Location Overview

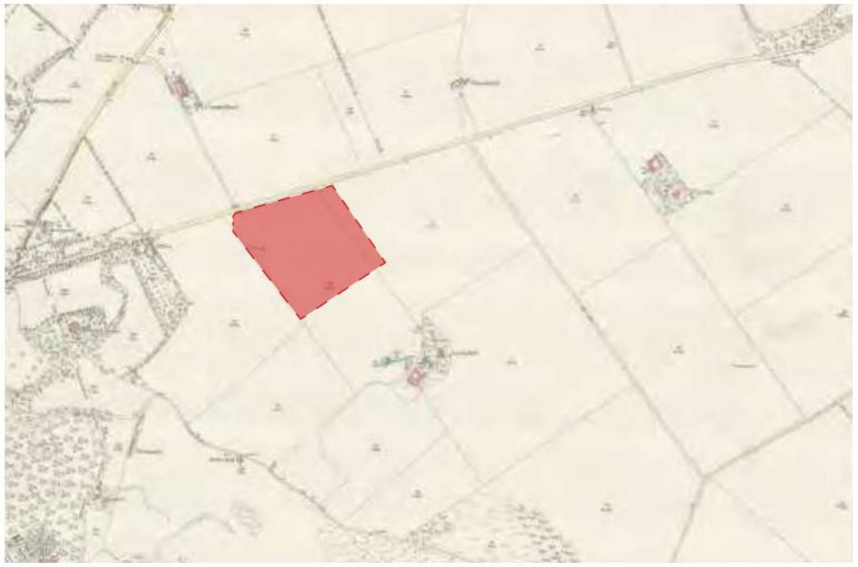
Lochyhill site within the context of Forres

4.2 Historical Analysis

The site at Lochyhill has been characterised by a rural setting with an agricultural farm on the adjacent land for the majority of its existence. The land to the west of Lochyhill underwent a gradual transformation into a residential community in the late 20th and early 21st centuries.

Emerging in the late 20th century to the east of the site, the Enterprise Park highlights Forres' dedication for economic growth and innovation. Crafted in response to the needs of contemporary industry, the park has a strategy to draw in businesses and develop employment opportunities within the town. Its architectural layout integrates contemporary industrial structures and facilities.

During this period, despite recent residential and enterprise park developments around the periphery of the site, the site itself has remained mostly untouched.



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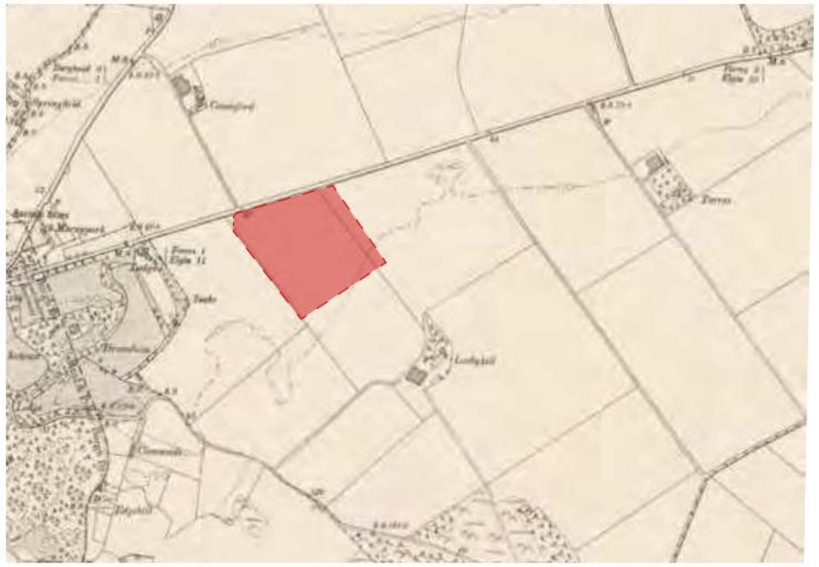

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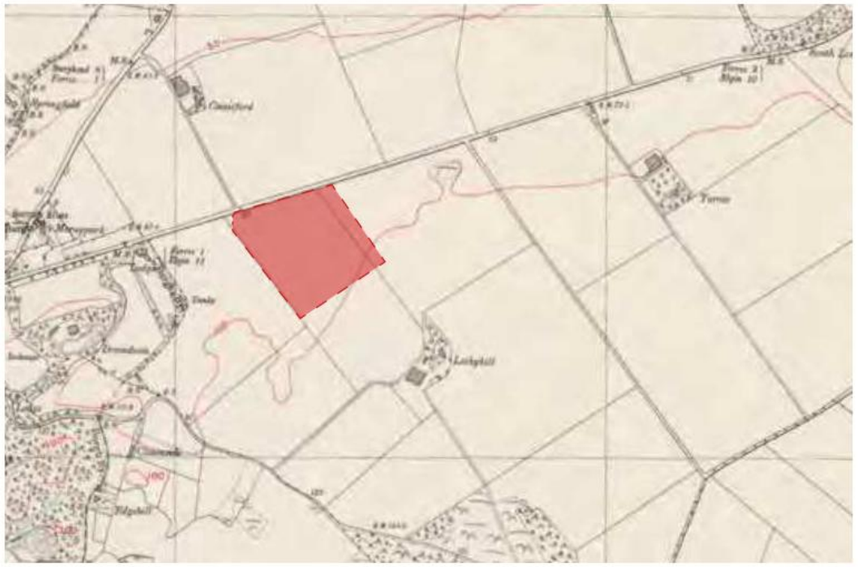


c1950

c2023

4.3 Photographic Survey

View of the Lochyhill site looking south

4.3 Photographic Survey

Aerial view of the Lochyhill site

4.4 20 Minute Neighbourhood

The Lochyhill site is on the outskirts of the town and is located east to the majority of Forres' facilities.

The Forres Enterprise Park, which is located east of the site, is a 15 minute walk and accommodates several small and medium sized businesses.

Several community and amenity facilities are located around the site, such as the Forres Golf Club and the Forres Squash and Fitness Club. There are also a couple of public green spaces and woodlands which are in excess of a 20 minute walk from the site.

The majority of the food retailers are located along the town's High Street and the closest supermarket, which is the Co-op, is approximately a 20 minute walk to the west of the site.

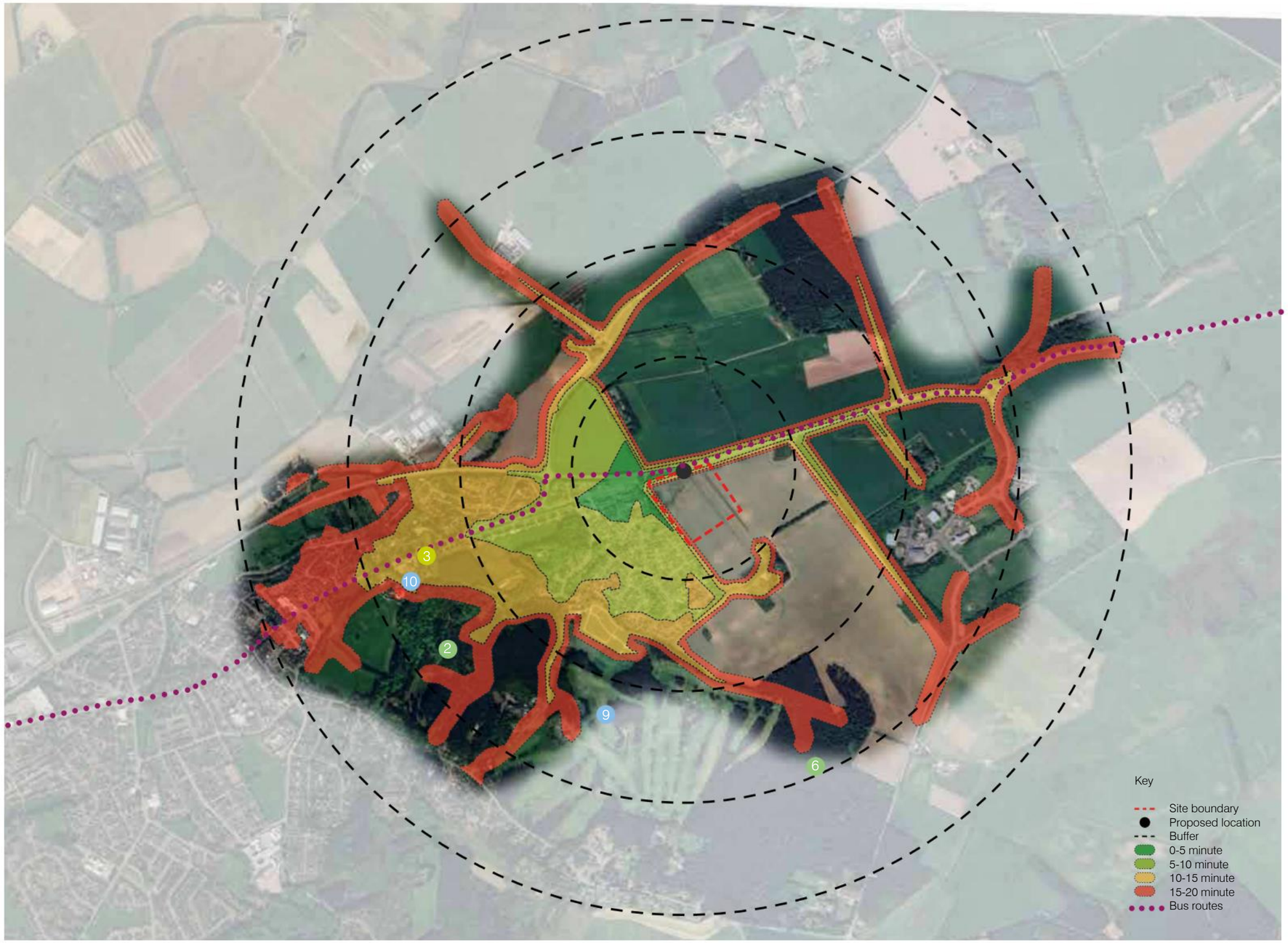
The main public transport network for the town, the bus service, has a service which runs along the A96, directly north of the site. The train station is to the west of the site and is a 30 minute walk.

KEY

Parks & Green Spaces
- 2 Cluny Hill
- 6 Muir, Newforres & Council Woods

Community & Sports Facilities
- 9 Forres Golf Club
- 10 Forres Squash & Fitness Club

Healthcare & Emergency Services
- 3 Forres Police Station



Map showing the public amenities in relation to Lochyhill.

4.5 Existing Utilities

Record drawings indicate the existence of Utility Infrastructure running across the wider development site in which the proposed school site sits. This comprises of Scottish Water Mains Water and overhead BT Lines that serve Lochyhill Cottages to the south of the development site. Initial proposals for siting the school site would result in the existing BT Infrastructure having to be diverted. The proposed school site is not affected by the existing Scottish Water infrastructure.

The utilities for the proposed new development would comprise of Electric, Mains Water and Communications Infrastructure. Records show that existing infrastructure for each of these services are located in close proximity to the site.

Utility capacities and the ability for local infrastructure to serve the site without significant network reinforcement will be confirmed as the design develops and applications are made. It should noted that the wider development plans will introduce further infrastructure capacity requirement and may impact on the network capacity review at the time of application for the school. Should Lochyhill's be identified as the preferred site we would encourage early engagement and co-ordination with the developer of the wider site and its infrastructure.

The record drawings received will be verified through a Ground Penetrating Radar Survey (GPRS) during the next stage of the project should the site be selected as the preferred option.

With regard to drainage, a public 225mm diameter vitrified clay foul water sewer runs through the site parallel with the A96. This sewer will require a 3m stand off to any proposed new buildings, unless otherwise agreed with Scottish Water. The closest surface Water Sewers are located within Drumduan Road to the west.

The capacity of the surrounding Scottish Water network will be confirmed through a Pre Development, however for surface water it is assumed that a connection would be made to the existing network at an Greenfield Equivalent rate. This will require a new adopted sewer to be constructed down Drumduan Road, approximately 200m long which would require a connection to an existing 600mm diameter concrete pipe.
For foul water it is assumed that any new connection will be formed to the existing sewer which passes through the site.

For further details and Utility record drawings please refer to Appendix C.

4.6 Engineering Review

Earthworks and Site Levels

Existing Site Topography

No topographical survey has been completed for the site.

The OS maps, seen in Figure 1, shows the south of the site sits at approximately 40mAOD at Lochyhill Farmhouse and falls north towards the A96 to approximately 25mAOD.

Proposed Levels and Cut / Fill Strategy

Earthworks will be required to form the new access road, parking and rear play areas.

At the appropriate time a high-level cut & fill exercise would be carried out using 3D Civils to minimise off-site disposal. However, as it is understood that any development is to be located adjacent to the A96, the overall level change in this area is unlikely to result in a significant cut/fill exercise to provide a development platform.

Ground Conditions - Previous Land Use

A review of the 1830-1880 historic map shows that the site was previously used for agricultural purposes. No major structures were recorded within the site boundary prior to the construction of the proposed school. See Figure 3.

From previous land use, the assumption is that overall risk of contaminants is low, however, results from the SI report will clarify the presence of contaminants.

Geology

An SI report was conducted for the site in 2008, 49no.trial pits and 4no.boreholes were carried out. These confirmed the following general strata:

- Dark brown sandy TOPSOIL (0.25-0.8m thick, average 0.4m)
- Loose to medium dense and dense fine to medium SAND with varying proportions of sub rounded to well-rounded gravel and cobbles, occasionally described as SAND & GRAVEL (proved to 7.0mbgl)

The distribution between loose and medium dense sand is highlighted in Figure 4. The light blue hatch displays trial holes with loose sand present to approximately 1.2-2mbgl, the green hatch highlights holes with loose sand present from approximately 0-1.2mbgl.

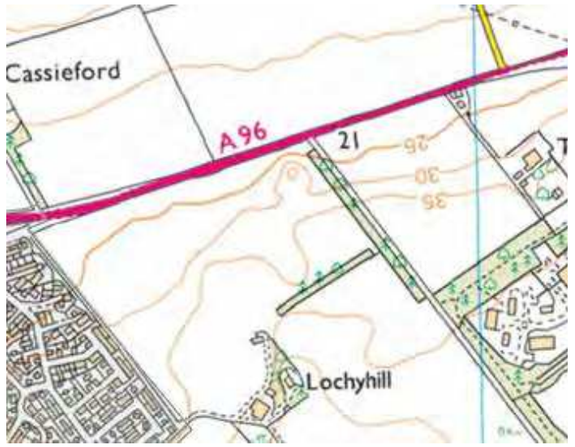


Figure 1. OS - Map Extract


Figure 2. Extract from 1830 - 1880s historical map


Figure 3. Aerial view 2022

Figure 4. The distribution between loose and medium dense sand. Blue hatch displays trial holes with loose sand present to approximately 1.2-2mbgl. Green hatch highlights holes with loose sand present from approximately 0-1.2mbgl.

4.6 Engineering Review

Earthworks and Site Levels

Nearby borehole information from the British Geological Survey archives shows sand and gravel layers above a sandstone bedrock throughout ground strata. The lithological description from the British Geological Survey details sand and gravel as superficial deposits and sandstone as the bedrock geology.

Further SI investigations will be required to supplement this information based on the detailed development proposals. Further testing will also be required to confirm there has been no change to any contamination levels on the site.

The Coal Authority GIS database identified that the site is not within an area coal mining reporting or where coal outcrops are present.

The site is within an area of 3-5% Radon potential. Therefore, Radon Protection is required.

Groundwater

Groundwater was recorded during the ground investigation in BH1 at 4.6mbgl and at 3.32mbgl and 3.26mbgl during subsequent monitoring visits on 08/04/2007 and 14/05/2007 respectively. Water strikes were recorded during excavation of trial pits 1 to 6 at the lowest point (NW corner) of the site at levels of 1.9 to 2.8mbgl. Based on this ground water may be encountered in deeper excavations.

Foundations

The interpretive report provided confirms that the medium dense granular soils will provide a suitable bearing stratum, with allowable bearing capacities of 100kN/m2, for standard strip foundations. In areas of loose sand, highlighted in blue in Figure 5, an allowance for additional trench fill should be allowed for so that adequate bearing strata can be reached. Further detailed SI investigations required in order to confirm this assessment.

SUDS Strategy

Surface Water Discharge

The connection for the surface water is yet to be approved by Scottish Water, and the area of hard standing is yet to be set, therefore, the outfall rate cannot determined. However, based on the assumption the school will have a similar layout to the proposals at Roysvale Park it is estimated approximately 1400m3 of storage will be required to store the 1:200 year storm with 37% climate change.

The primary method of attenuation will be provided by below ground attenuation tanks as it is anticipated that options such as SUDS basins and ponds will not be viable for this site due to their large land take.

Treatment will be provided by options such as porous paving, filter strips and linear swales which can be accommodated within the landscaping.

Foul Water

The capacity of the Scottish Water Network and treatment plant will need to be confirmed by Scottish Water through a Pre-Development Enquiry.

Flooding

Pluvial flooding observed on SEPA flood maps, however, this is not of concern as drainage design will take this into consideration.

No flood protection nearby, however, no risk of fluvial flooding from either Burn of Mosset or river Findhorn in accordance with the SEPA flood maps and the river Findhorn.

Full reports can be found in Appendix D.

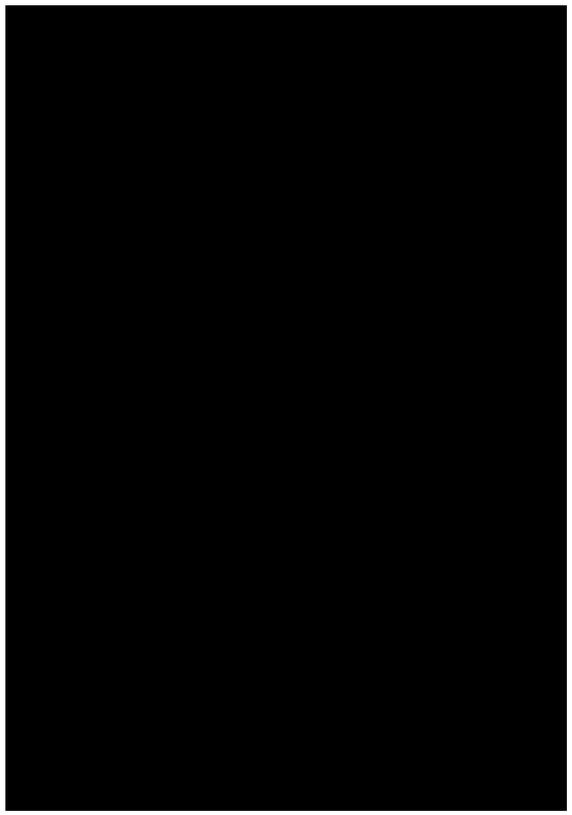


Figure 5. Borehole data from 2008 SI

Figure 6. SEPA flood maps showing pluvial flooding

4.7 Existing Land Use

Existing Site and Land Use

The site is located to the north east of Forres on the edge of the town It is best described as urban fringe. To the north of the site the A96 runs east to west. The site is currently a greenfield site - farmland and has a number of small farm buildings on the southern boundary. It is also allocated as R3 – Residential in the LDP.

To the east is the Forres Enterprise Park and a number of detached residential properties. The site boundary has a mature hedgerow and woodland planting.

To the west of the site is residential estate and Forres Golf Club. Drumduan Road could provide the main vehicular route into the school as it runs along the western boundary of the site.

The site rises up from the A96 and has a gently sloping profile. There several areas of mature planting within the site and views are dominated by a tree lined ridge. Views looking from the ridge to the north are of farmland and the A96 dominates the view.

View looking at the Lochyhill site

4.8 Opportunities

Daylight / Environment

Opportunities to position new building on the site to maximise the amount of sun it will get during the year. Due to the site being clear of existing buildings and trees, the new school can be orientated in optimal position to deliver a sustainable building in terms of energy consumption and environmental conditions

Public Transport Links

The new building should link with existing public transport infrastructure and minimise pedestrian travel distance, and time, from the existing town to promote active and sustainable travel. The location of this site as well as the close proximity of public transport links means there is opportunity for other services to move there in the future, additionally benefiting from the neighbouring Enterprise Park

Existing Buildings

As there is no existing school currently on this site, there is no requirement to decant pupils to another location whilst the construction work is ongoing thus meaning their education is not disturbed. Furthermore, as this site is clear and outside of a conservation area, the construction process will be relatively smooth and the contractors compound can placed at the site boundary with minimal impact on existing residential areas.

Green Space

As there is no existing trees and minimal ecological value, biodiversity enhancements will be easy to achieve. Additionally, there is an opportunity to develop a natural surface water management system using SuDs.

Site Opportunities

4.9 Constraints

Services

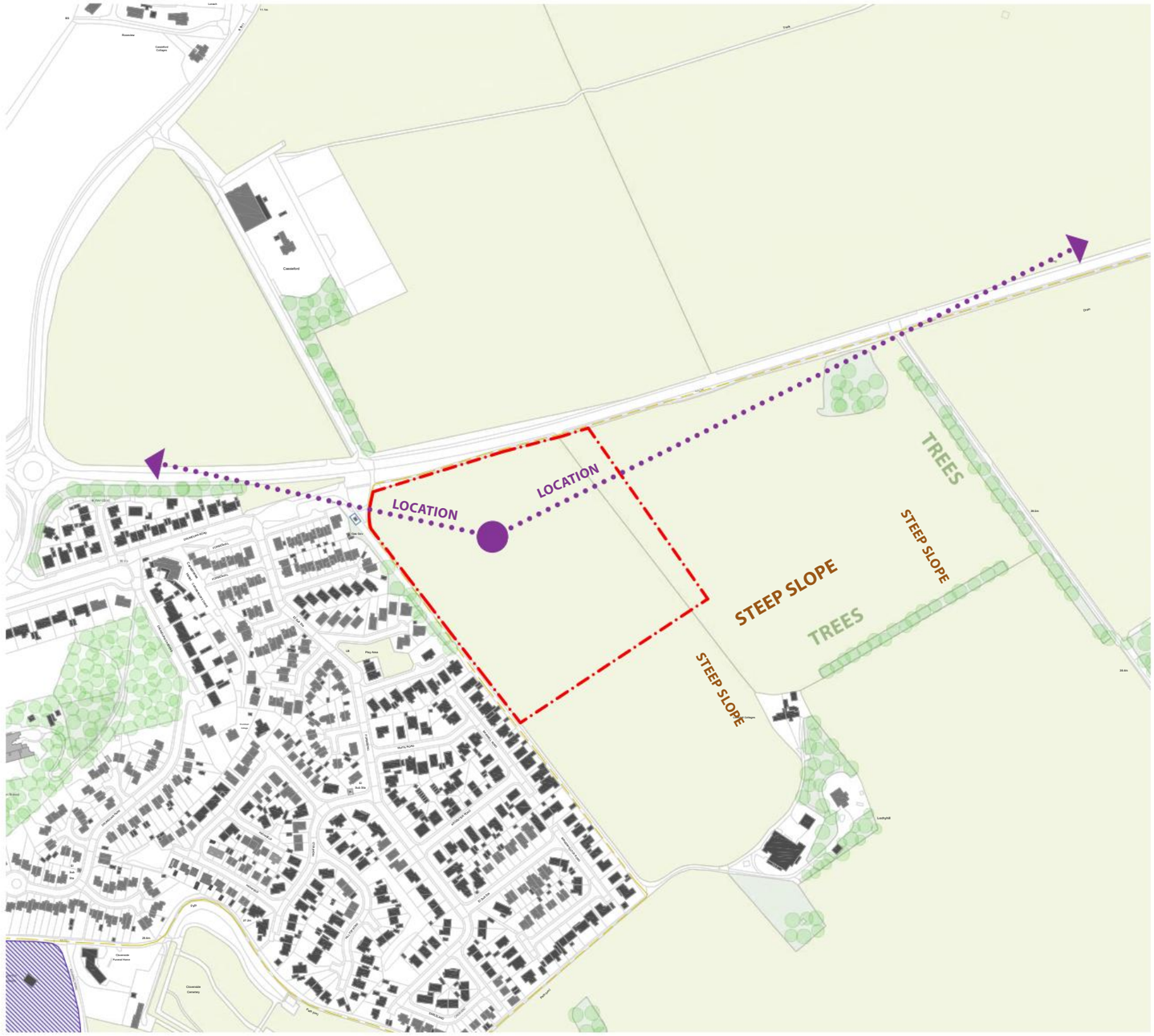
The existing mains water and BT Infrastructure run through the site. The existing water main cannot provide the preferred 125mm connection for the fire main. This means that a cost of provided upgraded infrastructure could be expensive. Furthermore, drainage runs east west through site easements which could impact on building location.

Location

As this location is on the edges of the town, a proposed school with amenities located a significant distance away poses challenges for accessibility and convenience. This situation can lead to increased transportation costs, longer commute times, and hinder the establishment of a cohesive school-community connection. Additionally, there is no existing primary school which hinders the possibility to develop 5-18 campus

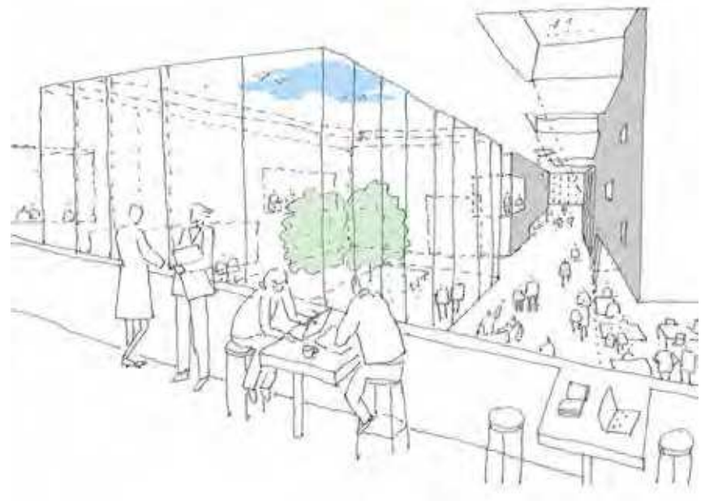
Archaeological Interest

There is evidence of archaeological interest within the site so further survey work will be required.



Site Constraints

5.0 GRANTOWN ROAD



5.1 Location Overview

Grantown Road site within the context of Forres

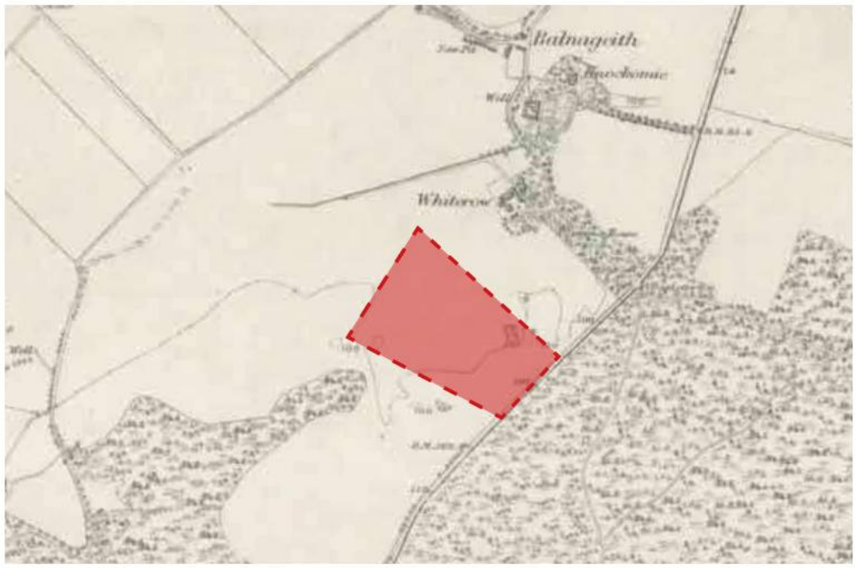
5.2 Historical Analysis

Located on the western edge of Forres, the Grantown Road site has long showcased a natural landscape featuring expansive green areas, farmlands with associated structures, and dense woodlands.

While much of the woodlands and green spaces endure, the area to the east of the Grantown Road site has recently undergone substantial residential development. This shift can be attributed, in part, to Forres' expansion and the heightened demand for housing in the 20th and 21st centuries.

Located just northeast of the site boundary, additional residential development is underway within the new Woodroffe Grange development, contributing to the town's evolving urban landscape.

Similar to the Lochyhill site, despite ongoing development surrounding its periphery, the site itself has largely remained untouched for a significant period.



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c1900

c1970

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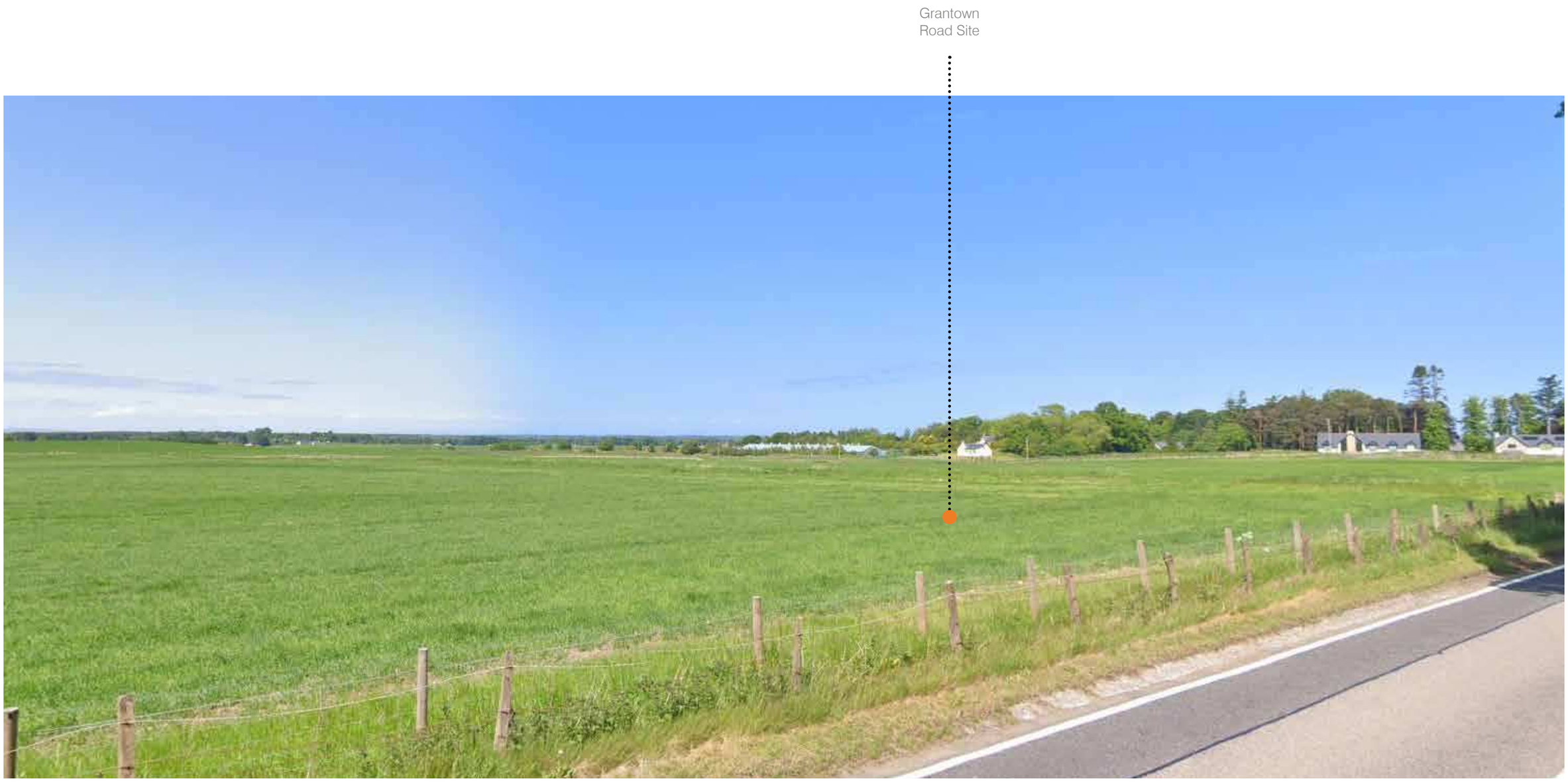
5.3 Photographic Survey



View of the Grantown Road site looking north

5.3 Photographic Survey

Aerial view of the Grantown Road site

5.4 20 Minute Neighbourhood

The Grantown Road site is on the outskirts of the town and is located south-west to the majority of Forres' facilities.

A large number of the food retailers are located along the town's High Street and the closest supermarket, which is the Co-op, is a 15 minute walk, on Grantown Road, to the north east of the site.

There are several public green spaces in the southwest of Forres but these are all located in excess of a 20 minute walk from the site. The Dava Way (a 23 mile trail across the ancient Celtic province of Morayshire) can be linked into via a 25 minute walk from the site.

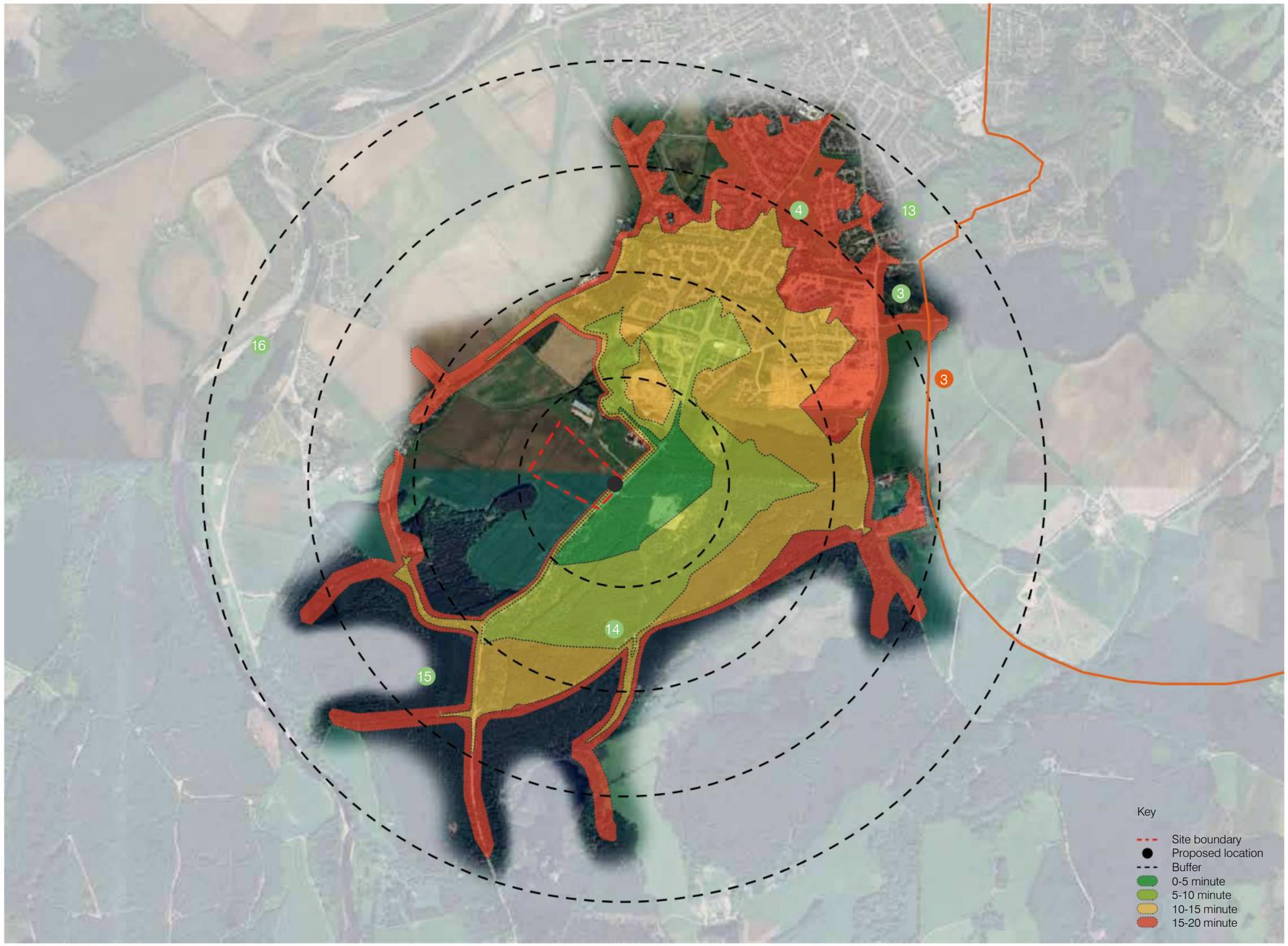
There is a new residential development which is currently under construction - Woodroffe Grange - which is a 5 minute walk from the site.

The train station is to the north east of the site and is approximately 40 minute walk.

KEY

Parks & Green Spaces
- 3 Sanquhar Loch & Woodlands
- 4 Mannachie Park
- 13 Academy Playing Field
- 14 Loch of Blairs & Woodland
- 15 Limekilns Wood
- 16 River Findhorn

Travel Routes
- 3 The Dava Way



Map showing the public amenities in relation to Grantown Road.

5.5 Existing Utilities

Record drawings indicate the existence of major Utility Infrastructure in close proximity of the site. There is a high-pressure gas main and overhead 11kV SSE Infrastructure near the eastern boundary.

The high-pressure gas main has been identified as a critical part of the national infrastructure. Diversion or alteration of this pipeline is not recommended and should the site be identified as the preferred option then working within the SGN constraints will be necessary. For this pipeline the construction of any buildings will not be permitted within 32 mtrs, other groundwork's could be undertaken up to 6mtrs either side of the pipeline. Initial indications are that these constraints will not have a significant effect on the proposed school development.

A risk assessment would be conducted against the overhead HV lines that sit on the eastern boundary and would be developed and assessed against the proposed setting-out arrangement within the site. Should an unacceptable risk be identified then an application will be made to re-route the HV Infrastructure underground.

The utilities for the proposed new development would comprise of Electric, Mains Water and Communications Infrastructure. Records show that existing infrastructure for each of these services are located in close proximity to the site.

Utility capacities and the ability for local infrastructure to serve the site without significant network reinforcement will be confirmed as the design develops and applications are made. With the site being located on the southern outskirts of Forres and from information contained within the record drawings there is a higher level of risk that utilities capacities will be available without further reinforcement.

The record drawings received will be verified through a Ground Penetrating Radar Survey (GPRS) during the next stage of the project should the site be selected as the preferred option.

With regard to drainage, there are no existing adopted sewers within the site boundary, and an Pre Development Enquiry will be required to confirm the location and capacity for any connection to the wider Scottish Water network. The closest foul sewer is located within the development north of the site at Woodroffe Grange. To form a foul connection to this network, a new adopted sewer approximately 500m long would be required to be constructed along Grantown Road.

No Surface water sewers are located in the vicinity, therefore it is assumed that any surface water will be discharged to the watercourse to the south of the site at an equivalent greenfield rate and subject to any required SEPA and 3rd party land consents.

For further details and Utility record drawings please refer to Appendix C.

5.6 Engineering Review

Earthworks and Site Levels

Existing Site Topography

No topographical survey has been completed for the site.

The OS maps, seen in Figure 1, shows the south of the site sits at approximately 35mAOD and falls north towards the river Findhorn to approximately 20mAOD.

Proposed Levels and Cut / Fill Strategy

As the development area is relatively flat, limited earthworks will be required to form the new access road, parking and rear play areas.

At the appropriate time a high-level cut & fill exercise would be carried out using 3D Civils to minimise off-site disposal.

Ground Conditions - Previous Land Use

A review of the 1830-1880 historic map shows that the site was previously used for agricultural purposes. No major structures were recorded within the site boundary prior to the construction of the proposed school. See Figure 2.

The development to the south of the site started construction in 2022, as can be seen in Figure 4.

From previous land use, the assumption is that overall risk of contaminants is low, however, results from the SI report will clarify the presence of contaminants.

Geology

There is no nearby borehole information from the British Geological Survey archives, however, the lithological description from the British Geological Survey depicts sandstone bedrock with gravel and sand superficial deposits. Finalised SI information will be required to determine site specific ground conditions.

The Coal Authority GIS database identified that the site is not within an area coal mining reporting or where coal outcrops are present.

The site is within an area of 1% Radon potential. Therefore, the minimum level of Radon Protection is required.

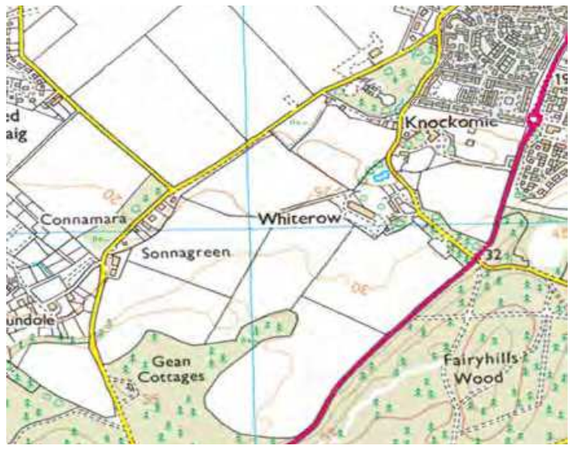


Figure 1. OS - Map Extract


Figure 2. Extract from 1830 - 1880s historical map


Figure 3. Aerial view 2003


Figure 4. Aerial view 2022

5.6 Engineering Review

SUDS Strategy

Surface Water Discharge

The connection for the surface water is yet to be approved by Scottish Water, it is assumed the outfall will be to the watercourse south of the site subjected to 3rd party land consent.

The area of hard standing is yet to be set, therefore, the outfall rate cannot be determined. However, based on the assumption the school will have a similar layout to the proposals at Roysvale Park it is estimated approximately 1400m3 of storage will be required to store the 1:200 year storm with 37% climate change, this is based on greenfield runoff rate being approved by Scottish Water.

The primary method of attenuation will be provided by below ground attenuation tanks as it is anticipated that options such as SUDS basins and ponds will not be viable for this site due to their large land take.

Treatment will be provided by options such as porous paving, filter strips and linear swales which can be accommodated within the landscaping.

Foul Water

The capacity of the Scottish Water Network and treatment plant will need to be confirmed by Scottish Water through a Pre-Development Enquiry.

A new development south of the site has the potential to provide a foul water connection, to be approved by Scottish Water. This will require a new adopted sewer to be constructed down Grantown Road, approximately 500m long.

Flooding

Pluvial flooding observed on SEPA flood maps, however, this is not of concern as drainage design will take this into consideration.

No flood protection nearby, however, no risk of fluvial flooding from either Burn of Mosset or river Findhorn in accordance with the SEPA flood maps and the Moray Council Flood Risk Assessment.

Full reports can be found in Appendix D.

Figure 4. SEPA flood maps showing pluvial flooding

5.7 Existing Land Use

Existing Site and Land Use

Greenfield located to the south of Forres town centre. The A940 runs along the south eastern boundary of the site and the site can be accessed from this road. To the east of the site there is a large belt of mature woodland. Housing is located to the north of the site and accessed from Ferry Road. There is also a belt of woodland planting which will provide screening to the properties locating along this side of the site. The site is relatively flat and feels open with long open views to the north west and views of mature woodland to the south.

View looking at the Grantown Road site

5.8 Opportunities

Daylight / Environment

Opportunities to position new building on the site to maximise the amount of sun it will get during the year. Due to the site being clear of existing buildings and trees, the new school can be orientated in optimal position to deliver a sustainable building in terms of energy consumption and environmental conditions

New Neighbourhood

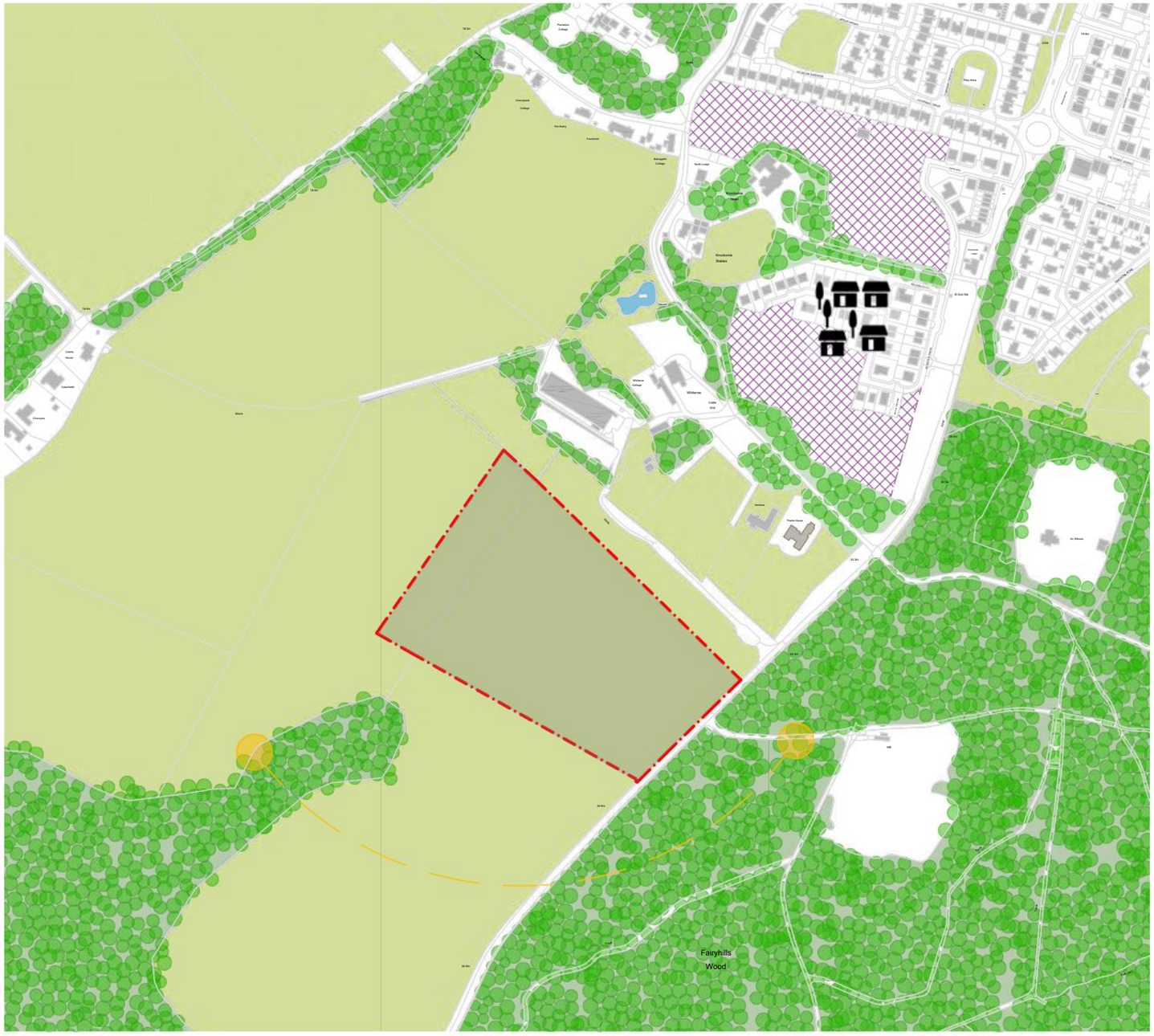
The new housing development in the vicinity is advantageous for the location of a potential new school, as it not only addresses the growing residential needs but also creates a vibrant community hub that promotes accessibility and engagement with educational resources.

Existing Buildings

As there is no existing school currently on this site, there is no requirement to decant pupils to another location whilst the construction work is ongoing thus meaning their education is not disturbed.
Furthermore, as this site is clear and outside of a conservation area, the construction process will be relatively smooth and the contractors compound can placed at the site boundary with minimal impact on existing residential areas.

Green Space

As there are no existing trees and minimal ecological value, biodiversity enhancements will be easy to achieve - aiding in creating plenty of outdoor spaces for education promoting a ‘nature based campus’.



Site Opportunities

5.9 Constraints

Public Transport

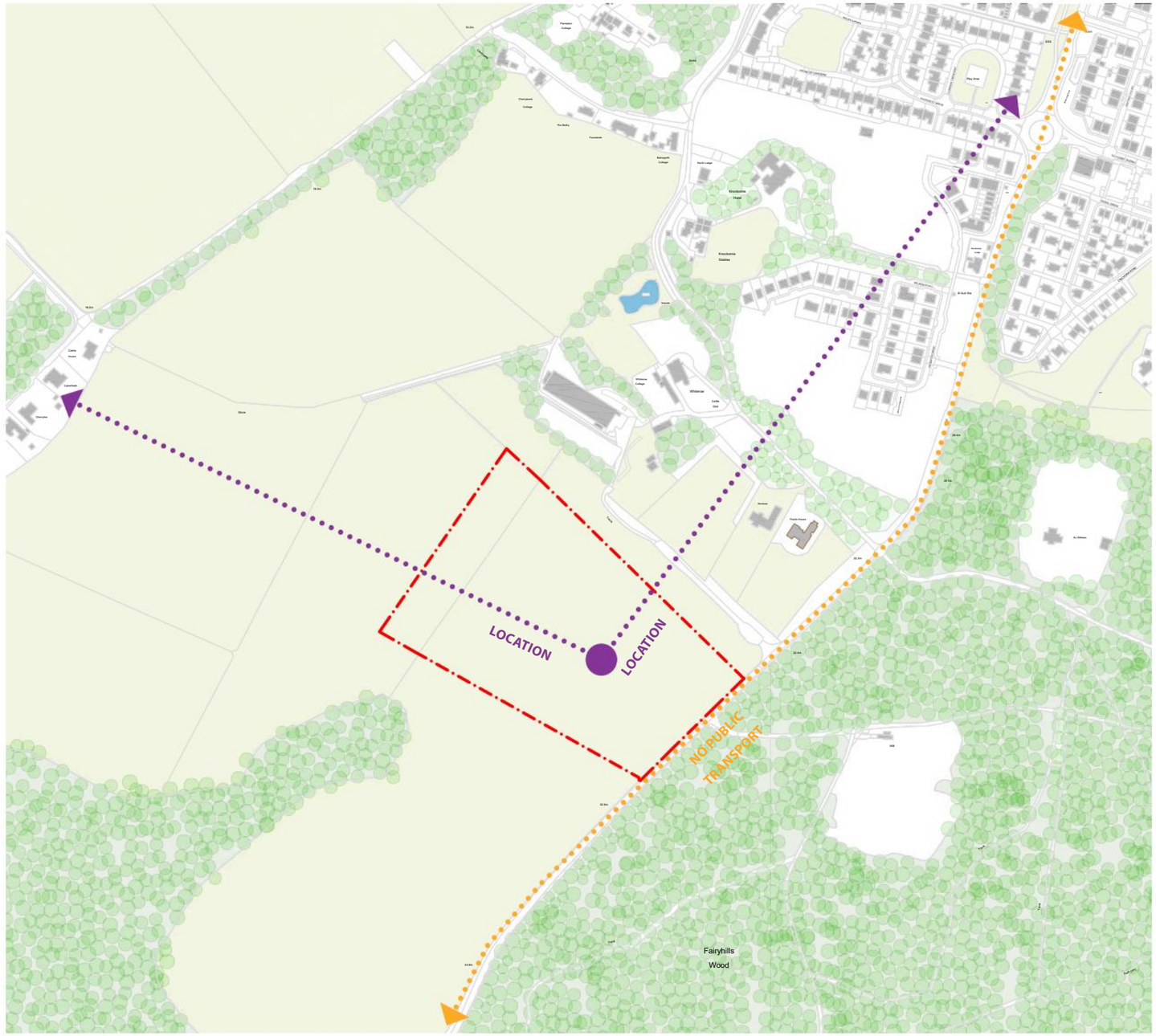
The absence of an existing public network route near this site for a possible school is disadvantageous, potentially hindering accessibility for students and limiting community engagement with the educational institution.

Unknown Services

There is no foul water connections on or within site boundary. A new offsite connection would be required along the A940 to the existing network on Webster Drive. Additionally, as there is no surface water sewers on site or in vicinity, surface water will need to be taken to ground or to existing drainage channels adjacent to Ferry Road.

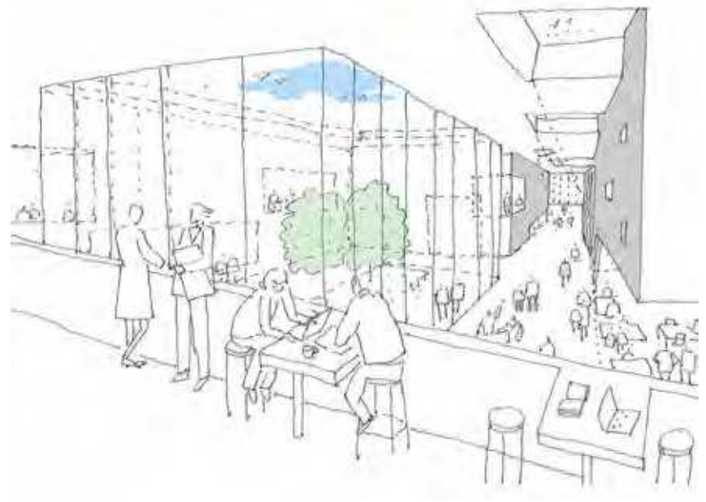
Location

As this location is on the edges of the town, a proposed school with amenities located a significant distance away poses challenges for accessibility and convenience. This situation can lead to increased transportation costs, longer commute times, and hinder the establishment of a cohesive school-community connection. Additionally, there is no existing primary school which hinders the possibility to develop 5-18 campus.



Site Constraints

6.0 Site Location Appraisal



6.1 Site Appraisal

At the end of October 2023, Moray Council held an engagement session at Forres Library to present and discuss site selection for a new Forres Academy. The consultation boards were also made available online and remained in the library for public viewing until the end of November, comments were welcomed from the community in person and via email. These boards assessed each site option against the project's Strategic and SMART objectives; a series of issues, goals and criteria that were developed by Moray Council as part of their strategic planning around future schools in Moray.

In December 2023, the Design Team and Moray Council undertook a wider technical appraisal of the three sites: scoring each of the sites against criteria such as planning considerations, flood risk and existing utilities as well as the previous 'place' based assessment.

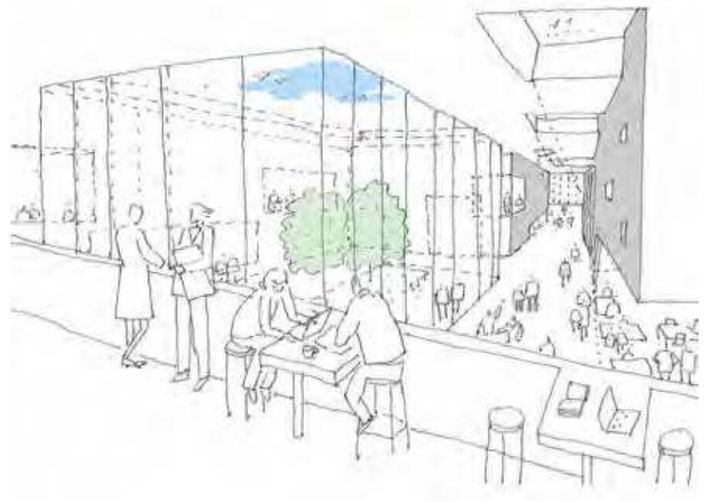
The scoring matrix and outcomes can be found in Appendix F.

Roysvale site

Lochyhill site

Grantown Road site

7.0 Forres Academy Current Site



7.1 Location Overview

Existing school site within the context of Forres

7.2 Historical Analysis

Forres is one of the oldest of Scotland's royal burghs with the charter granted in 1153. In the 12th century, Forres, along with Inverness, Auldearn, Nairn and Elgin formed part of a defensive chain along the south coast of the Moray Firth.

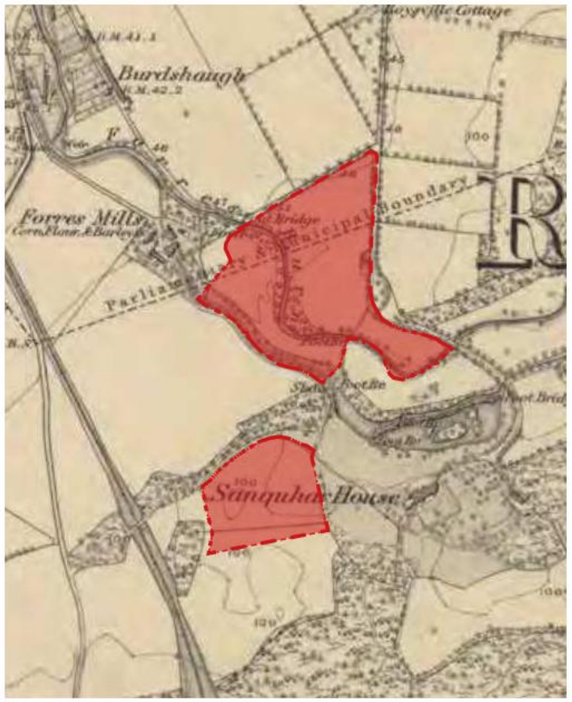
Throughout the 15th and 16th centuries, Forres thrived as a market town, capitalizing on its strategic location and burgeoning trade networks.

By the 18th and 19th century, the site still remained largely untouched. However the main town, particularly along the High Street, began to rapidly develop and became commercially and socially significant for the area.

During the late 19th century and mid-20th century, the towns growth continued, expanding away from the High Street and particularly along Burn of Mosset, with new roads and public footpaths appearing, allowing new housing and amenities to emerge.

Forres Academy - Existing School

The existing school was built in 1969 and has been expanded and updated several times to accommodate the requirements of modern education.



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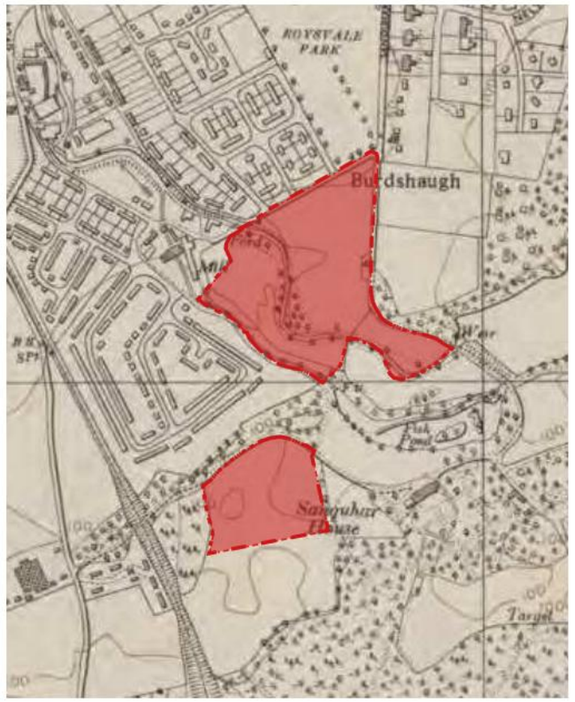

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7.3 Site Analysis

Existing Buildings

Within the site and adjoining the existing school is a community swimming pool building. This will stay open and functioning during the demolition of the existing school. Any future development will have to consider its relationship with the existing swimming pool building.

Multiple sites

The existing school is spread over 2 sites with 1 of the sites used as a playing field for sports activities. Additionally, the main site, which inhabits the school building, is split in half by the Burn of Mosset. The new school, on any of the potential sites, will be within a single boundary.

Restricted Development

There is an area within the eastern wing of the site which is out of bounds for future development as it has recently had an outdoor gym installed on it. Any future development will have to consider its relationship with the new gym.

Flooding

As per SEPA flood information, there are a several areas within the site and existing building which have a flood risk due to the location of the school in relation to the burn. See the Appendix for further detailed information.

RAAC

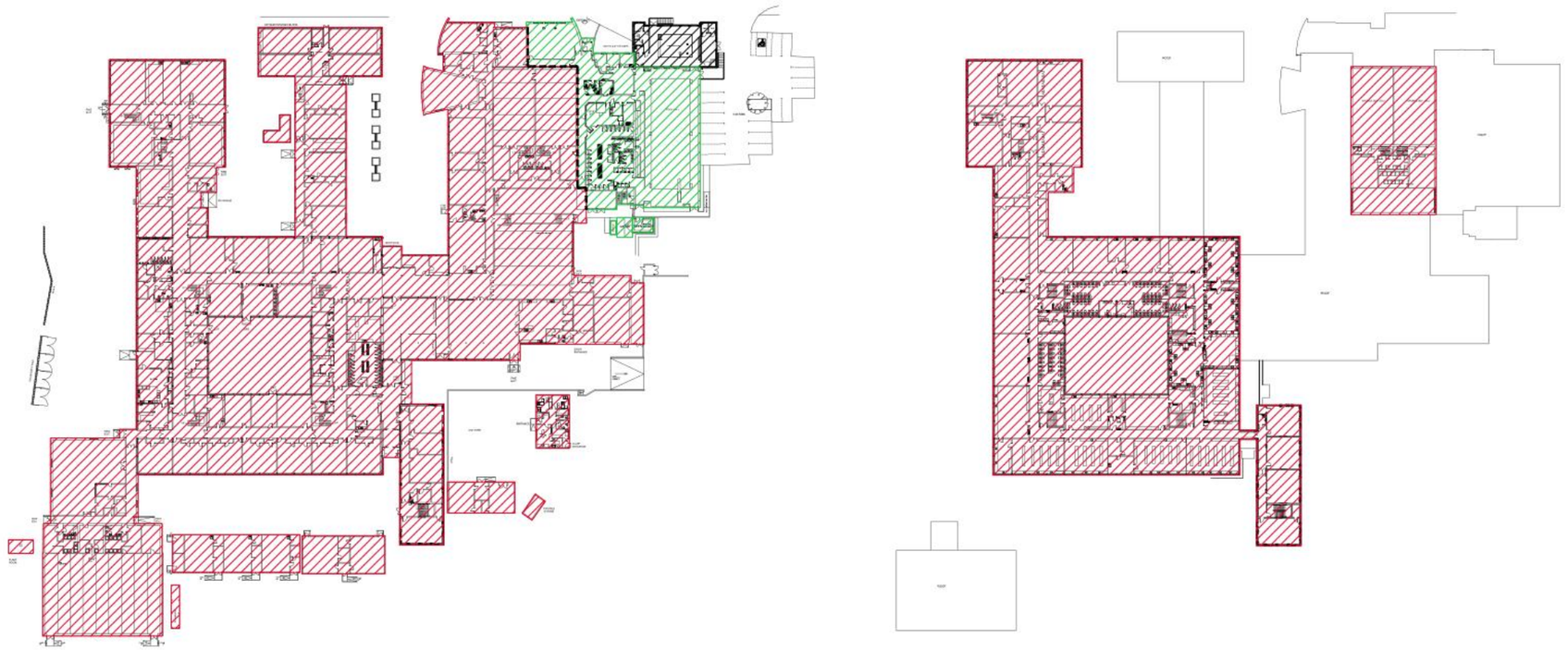
There are several areas within the school which have RAAC present and these areas are not accessible or usable by the staff or pupils. This has caused disruptive learning for the pupils and thus a new school is urgently required.

Existing site analysis

7.4 Existing Building

Given the aforementioned challenges with refurbishment and reuse referenced in Section 1.6, the recommendation has been made by Moray Council to demolish the majority of the existing Forres Academy. Demolition will be undertaken following the completion of the new school building to ensure continuity of education for the young learners.

The areas of the building which are an exception to this are the swimming pool, hydrotherapy pool and associated ancillary spaces. Following significant investment and refurbishment, completed in 2016, it is proposed that these buildings are retained and a new external wall constructed along the line of demolition. The swimming pool is currently rated as 'B' for Condition and therefore it is anticipated that there will be minimal refurbishment works required to these spaces.



Demolition plan of existing building

7.5 Existing Utilities

Utility Records received identify existing utilities infrastructure serving the school. In general, this information informs the ongoing development of isolations and disconnections during the demolition phase. In addition, it will aid the assessment of the scope of works associated with the option of retaining the swimming pool/ hydrotherapy pool.

SGN

Two incoming natural gas supplies have been identified. One to the west of the school that appears to be dedicated to equipment within the teaching block (i.e. science/ home economics/ art). The other supply enters at the east elevation and serves the schools main heating and hot water plant. At the time of the construction of the swimming pool it appears that a branch of this gas supply has been extended to the swimming pool to serve the heating and hot water plant (including pool heating).

SSE

Record information show a high voltage ring entering the site from Sanquhar Road to the east and terminating in a SSE substation within the school. Although not identified on the record drawings a further substation exists to the rear of the swimming pool and assumed as installed at the time the swimming pool was constructed.

BT

The BT service enters the site off Sanquhar Road to the east. A separate branch connection has been installed directly to the swimming pool building from an external joint box.

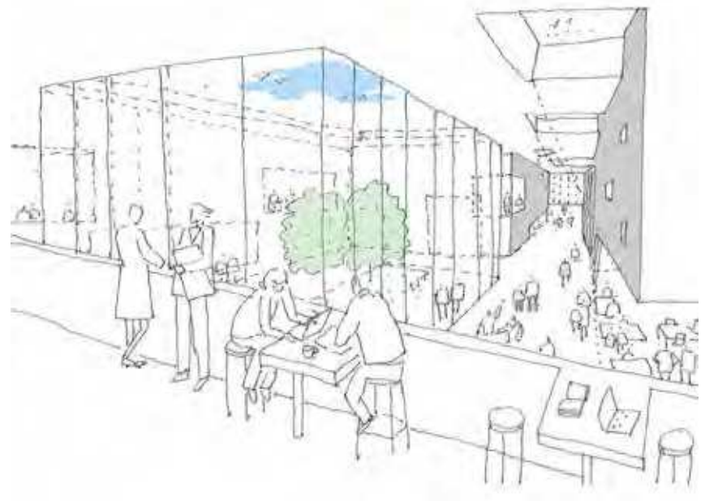
Scottish Water-Mains Water

It is not entirely clear from record drawings where the mains water supply enters the school. Anticipated as being from the north side of the site but will need tested through future surveys. The mains water supply for the swimming pool extends from the main school connection and appears to be run through the existing school to the Pool block.

Drainage

It is assumed that the existing foul and surface water drains from the existing building are assumed to connect directly to the combined sewers on w and Sanquhar Roads, (subject to CCTV survey). It is assumed that any connections for the existing pool building will be retained as part of the development.

8.0 New Proposal Site Layout Options



8.1 Roysvale Park - Long List Site Organisation Options

Option 1a

Pros:

New secondary school location offers opportunity to develop 5-18 community campus.

New secondary school building located away from Common Good Land.

Pedestrian priority campus created by minimising vehicles in close proximity to school building

Dedicated bus/ coach drop off location, avoids road congestion

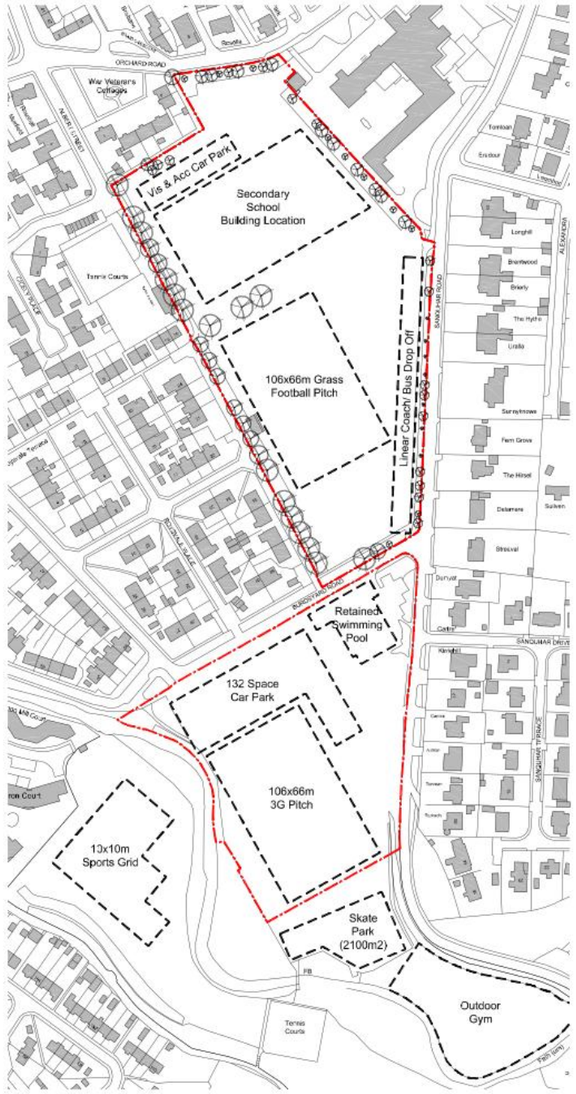
Dual functioning car park - serves both staff at school and swimming pool/ 3G pitch for community events.

Car park utilises existing access route.

Sports pavilion and grass pitch on Roysvale Park retained

Cons:

Car park and 3G pitch located on split site.



Option 1a

Option 1b

Pros:

New secondary school location offers opportunity to develop 5-18 community campus.

New secondary school building located away from Common Good Land.

Pedestrian priority campus created by minimising vehicles in close proximity to school building

Dedicated bus/ coach drop off location, avoids road congestion

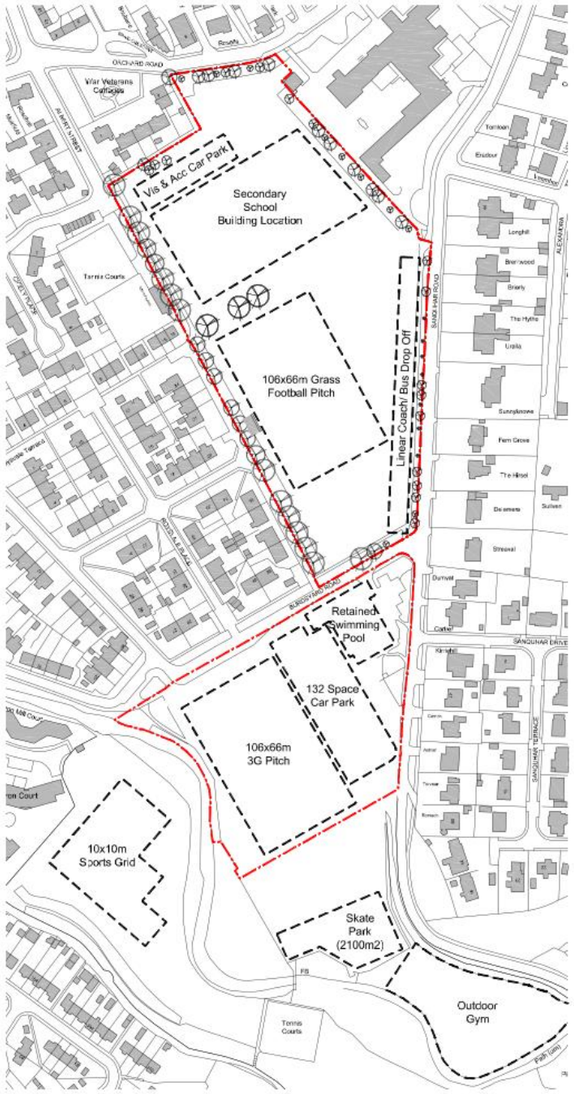
Dual functioning car park - serves both staff at school and swimming pool/ 3G pitch for community events.

Car park utilises existing access route.

Sports pavilion and grass pitch on Roysvale Park retained

Cons:

Car park and 3G pitch located on split site.



Option 1b

8.1 Roysvale Park - Long List Site Organisation Options

Option 1c

Pros:

New secondary school location offers opportunity to develop 5-18 community campus.

New secondary school building located away from Common Good Land.

Pedestrian priority campus created by minimising vehicles in close proximity to school building

Dedicated bus/ coach drop off location, avoids road congestion

Dual functioning car park - serves both staff at school and swimming pool/ 3G pitch for community events.

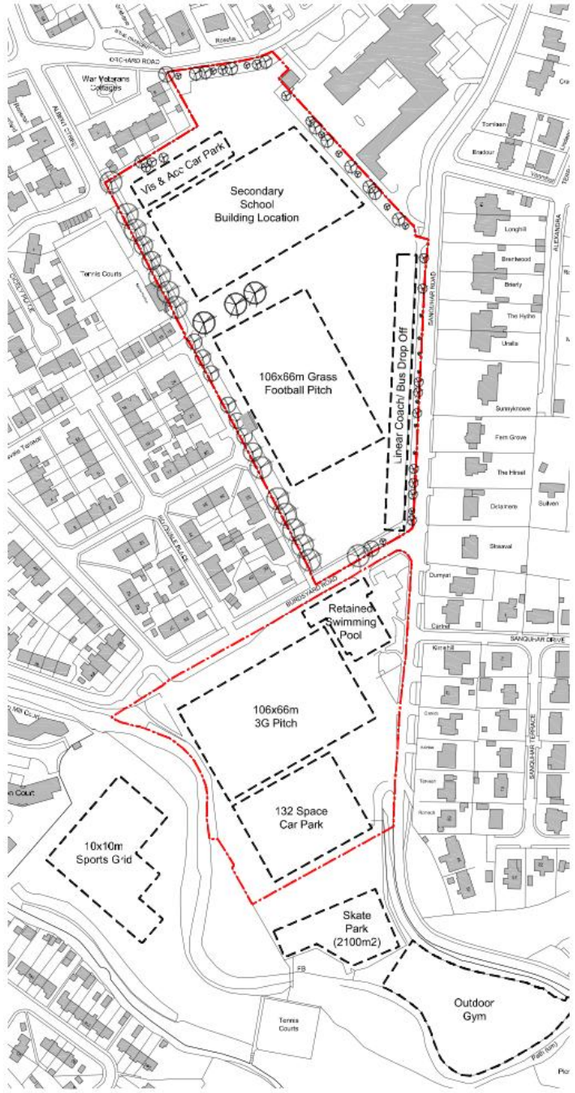
Car park utilises existing access route.

Sports pavilion and grass pitch on Roysvale Park retained

Cons:

Car park and 3G pitch located on split site.

3G pitch isolates car park from wider campus.



Option 1c

Option 2

Pros:

New secondary school location offers opportunity to develop 5-18 community campus.

New secondary school building located away from Common Good Land.

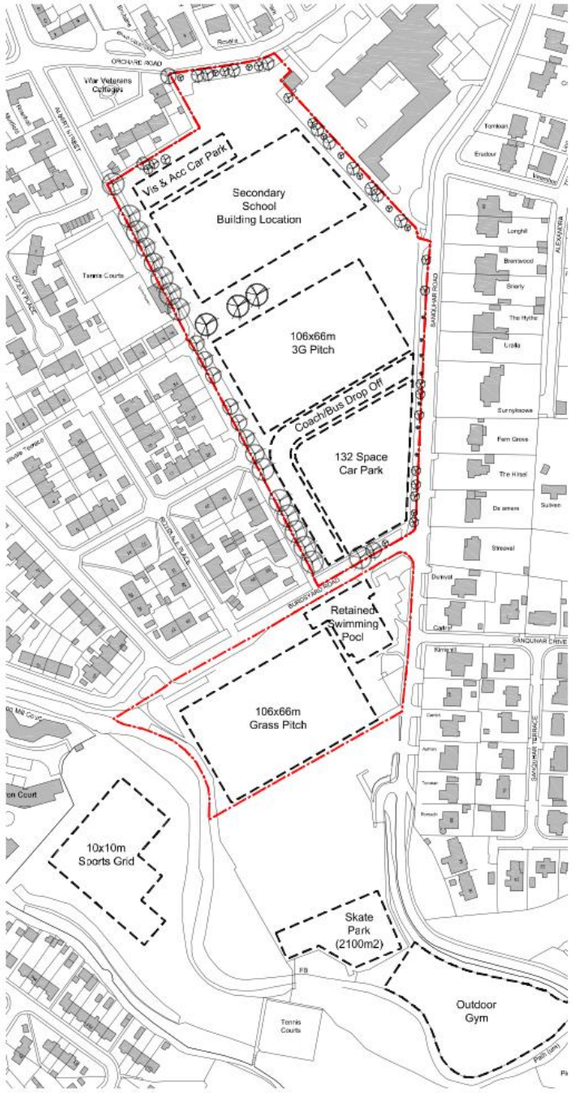
Dedicated bus/ coach drop off location, avoids road congestion

Car park in close proximity to school building.

Cons:

Car park and 3G pitch located on Common Good Land.

Loss of existing sports pavilion on Roysvale Park.



Option 2

8.1 Roysvale Park - Long List Site Organisation Options

Option 3

Pros:

New secondary school location (core teaching) offers opportunity to develop 5-18 community campus.

Co-location of sports facilities for education and community use.

Removing ‘larger volume spaces’ from core teaching allow the mass of the building to be reduced.

New secondary school building located away from Common Good Land.

Dedicated bus/ coach drop off location, avoids road congestion

Sports pavilion and grass pitch on Roysvale Park retained

Pedestrian priority campus created by minimising vehicles in close proximity to school building

Dual functioning car park - serves both staff at school and swimming pool/ 3G pitch for community events.

Car park utilises existing access route.

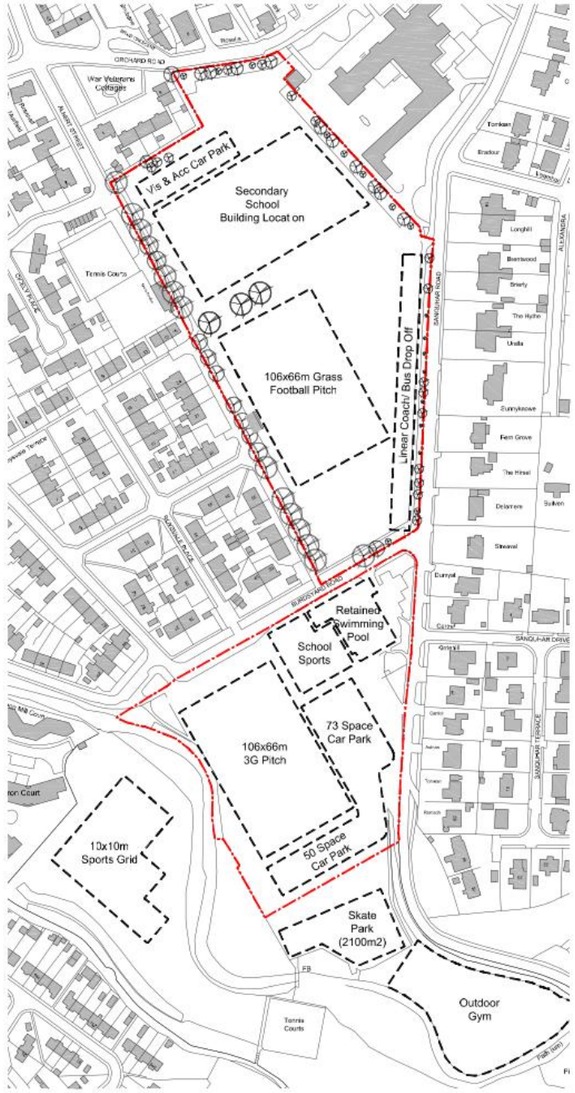
Cons:

Car park, 3G pitch and school indoor sports located on split site.

PE staff may feel isolated from wider school community.

Pupils required to walk to access to sports facilities, potentially impacting on amount of teaching time due to distance from main school building.

3G pitch and building isolates car park from wider campus.



Option 3

Option 4

Pros:

Proposed building location delivers good adjacencies to existing swimming pool and primary school.

Minimal disruption to Applegrove Primary School.

Dedicated bus/ coach drop off location, avoids road congestion

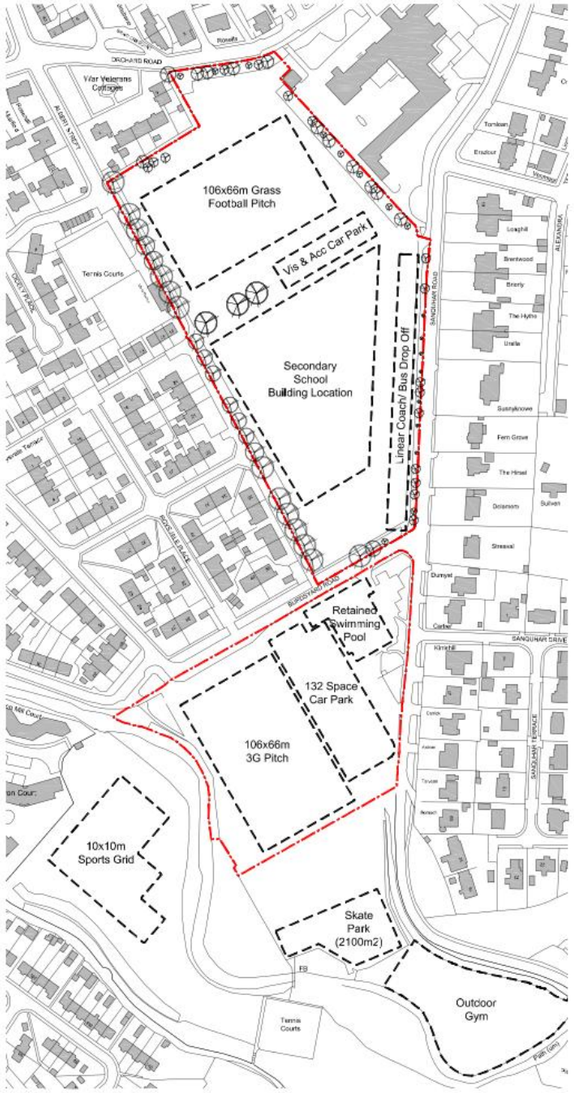
Car park in close proximity to school building.

Cons:

New secondary school located on Common Good Land.

Proposed building will be located further within the flood plain which may represent a challenge with respect to obtaining planning approval.

Loss of existing sports pavilion and grass pitch on Roysvale Park.



Option 4

8.2 Roysvale Park - Developed Site Organisation Option 1a

Development location for new secondary building (core teaching and sport facilities) with civic frontage onto Orchard Road.

Opportunity for 5-18 community and education campus to be developed with Applegrove Primary School.

Existing swimming pool, hydrotherapy pool and ancillary spaces (changing etc) retained.

Existing sports pavilion on Roysvale Park retained.

Proposed visitors and accessible car parking accessed from Orchard Road.

Proposed linear bus/ coach drop off layby running parallel to Sanquhar Road (access from Burdsyard Road, egress onto Sanquhar Rad).

Proposed school car park access and egress from existing opening on Sanquhar Road.

Existing grass football pitch and running track retained on Roysvale Park.

Proposed 3G 106x66m pitch located with close proximity to Forres Swimming Pool and proposed school car park.

8.3 Roysvale Park - Developed Site Organisation Option 1b

Development location for new secondary building (core teaching and sport facilities) with civic frontage onto Orchard Road.

Opportunity for 5-18 community and education campus to be developed with Applegrove Primary School.

Existing swimming pool, hydrotherapy pool and ancillary spaces (changing etc) retained.

Existing sports pavilion on Roysvale Park retained.

Proposed visitors and accessible car parking accessed from Orchard Road.

Proposed linear bus/ coach drop off layby running parallel to Sanquhar Road (access from Burdsyard Road, egress onto Sanquhar Rad).

Proposed school car park access and egress from existing opening on Sanquhar Road.

Existing grass football pitch and running track retained on Roysvale Park.

Proposed 3G 106x66m pitch located with close proximity to Forres Swimming Pool and proposed school car park.

8.4 Roysvale Park - Developed Site Organisation Option 3

Development location for new secondary building (core teaching) with civic frontage onto Orchard Road.

Opportunity for 5-18 community and education campus to be developed with Applegrove Primary School.

Existing swimming pool, hydrotherapy pool and ancillary spaces (changing etc) retained and enhanced with new indoor school sports accommodation construction on the existing school site, creating a education and community sports hub.

Existing sports pavilion on Roysvale Park retained.

Proposed visitors and accessible car parking accessed from Orchard Road.

Proposed linear bus/ coach drop off layby running parallel to Sanquhar Road (access from Burdsyard Road, egress onto Sanquhar Rad).

Proposed school car park access and egress from existing opening on Sanquhar Road.

Existing grass football pitch and running track retained on Roysvale Park.

Proposed 3G 106x66m pitch located with close proximity to Forres Swimming Pool, indoor sports facilities and proposed school car park.

8.5 Lochyhill / Enterprise Park - Developed Site Organisation Option

Development location for new secondary building (core teaching and sports facilities) with civic presence onto A96.

Existing swimming pool, hydrotherapy pool and ancillary spaces (changing etc) retained on Burdsyard Road.

Proposed vehicular access from Drumduan Road, including staff, visitor and accessible parking, bus/ coach drop off and service access.

New grass football pitch and running track and 3G pitch.

8.6 Grantown Road - Developed Site Organisation Option

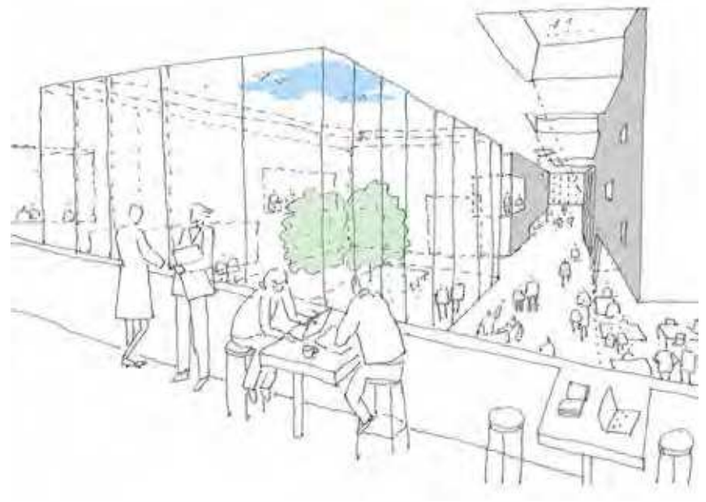
Development location for new secondary building (core teaching and sports facilities) with civic presence onto Grantown Road (A940).

Existing swimming pool, hydrotherapy pool and ancillary spaces (changing etc) retained on Burdsyard Road.

Proposed vehicular access from Grantown Road, including staff, visitor and accessible parking, bus/ coach drop off and service access.

New grass football pitch and running track and 3G pitch.

9.0 Mechanical and Electrical



9.1 Energy and Carbon Strategy

The LEIP programme performance energy and carbon criteria, we believe sets the benchmark for all new schools irrespective of whether they are funded through the LEIP programme or through other funding routes.

The energy consumption target for Forres Academy is recommended to meet the LEIP Band A consumption target of 67 to 83 kWh/sqm/p.a when assessed under the LEIP calculation methodology. It should be noted that the LEIP energy consumption targets will not correlate directly with the total in-use energy consumption. We would propose a supplementary target of no more than 100 kWh /sqm/p.a “at the meter” making a reasonable allowance for community use of the facility.

Arguably the most significant energy consumption reductions can be realised by reducing heating demand. Passive design solutions that involve careful consideration of orientation, massing, thermal bridging, air infiltration rates and building envelope thermal performance will play a major role in the ability to meet energy performance targets and will form the initial focus in developing design proposals to deliver against the energy targets.

A recent addition in the LEIP Phase 3 metric is the introduction of embodied carbon targets that did not exist in the prior two phases.

The targets promote a collaborative approach by Designers and Contractors to address key topics such as:

- Local Sourcing
- Minimising Waste
- Efficient fabrication
- Use of Recycled material
- Material Selection
- Design and construction for future ease of dismantling and disposal/ re-use.

For further details in the approach to energy and carbon reduction please refer to Appendix G.

9.2 Mechanical and Electrical Design Strategy

The design of MEP systems will focus on efficiency, maintainability and simplicity of user controls.

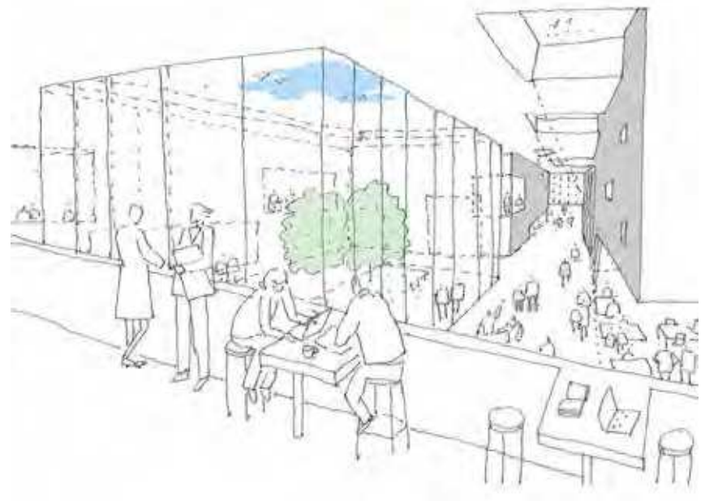
The MEP services design will, at every stage, focus on minimising system losses through efficient placement of plant and equipment and understanding the opportunities to limit energy consumption and carbon emissions for example, minimising hot water storage and ductwork/ pipework/ cable lengths to minimise system energy losses.

The strategic approach to the engineering services for the new facility shall be founded on the following principals:

- Carbon efficient primary energy sources and desire to reduce/ remove reliance on fossil fuels.
- Recognise potential users of the facility (Education & Community Use) and the inter-relationship, operability & systems efficiency for varying operational and occupancy profiles.
- Provide an internal environment which is comfortable, safe, healthy and compatible with the operations associated with the facility.
- Develop solutions that are compatible with the Clients Brief for the project, taking cognisance of any budgetary constraints.
- Develop engineering services solutions that are simple in concept and in-use, reliable and robust in operation.
- Design engineering services plant, plant rooms and distribution systems with a focus on system efficiencies and minimising distribution losses.
- Develop environmental control strategy for summer and winter with the aim of simplistic implementation and low reliance on technology.
- Design engineering services plant, plant rooms and distribution systems taking account of the requirement to provide safe access/provision for maintenance, repair and replacement.
- Develop energy consumption monitoring strategy for each of the uses and major loads associated with the facility.

Please refer to Appendix G for further detail and initial outline elemental specification of MEP Systems in response to the strategic approach outlined above.

10.0 Structural And Civil



10.1 Structural Strategy

Structural Loading

Vertical loads on structures are dictated by the relevant design codes and standards in accordance with building use and occupancy classes. Environmental loads acting on the structures, both vertically and laterally will be assessed using a site-specific methodology. Typical imposed load values are shown in Table 1.

	UDL (kN/m²)	Point Load (kN)
Roof (Maintenance access only/Snow)	0.6	0.6
Classrooms	3.0	3.0
Typical Floor	2.0	3.0
Corridor/ Stairs	3.0	4.5
Plant Rooms	7.5	4.5

Table 1

Material selection

Due to the varying types and sizes of structures, a suitability exercise should be carried out at an appropriate time to determine the best option for the development.

The below matrix gives a traffic light indication of the benefits of the main forms of construction to a project.

	Flexibility in Design	Future Flexibility	Services Optimisation	Co	MAE Fit	Construction Programme
Steel Frame	●	●	●		●	●
In-Situ Concrete	●	●	●		●	●
PT Concrete	●	●	●		●	●
Tradional Masonry	●	●	●		●	●
CLT/Timber	●	●	●		●	●

Table 2

Of course, individual building layout plays a huge factor in this exercise as certain typical structural elements lend themselves well to specific situations, e.g. steel is well suited for large span openings typically found in education projects such as games halls and central atrium's.

Architectural features will also play a role in the material selection so early engagement between design team members is beneficial for agreeing the aspirations for the project.

Foundation Design

Through Site Investigation works geotechnical ground conditions will be established to allow a suitable foundation type to be determined – see the below matrix indicating the suitability for foundations when proposed with respective superstructure materials

Geo-environmental testing is carried out as part of the on-site suite of ground investigations and will inform the design relating to gas membranes, water supply pipe specification and determination of and contamination sources within the ground.

	Piled	Shallow (Pad/Strip)	Raft
Steel Frame	●	●	●
Concrete Frame	●	●	●
Masonry	●	●	●
CLT/Timber	●	●	●

Table 3

MMC (Modern methods of construction)

While off-site manufacturing (OSM) of structural elements has been a part of modern construction for a long time, there are now opportunities to expand on these elements for the benefit of the entirety of the project.

Typical OSM elements include pre-cast concrete or roof trusses which historically provide a higher quality product, constructed to tighter tolerances than on-site manufacturing.

With appropriate lead-times accounted for in the programme, delivery of fully or partially erected structural elements can also present an on-site time saving.

Sustainability

Modern construction methods must also consider the environment, via both carbon offsetting and carbon footprint reduction. Reductions in footprint are the preferred method of minimising emissions and are achieved through consideration in terms of both embodied carbon as a result of manufacturing and also as a result of transport to site. Carbon offsetting is seen as the less preferred option and only used once all other practical measures are taken. The aspirational hierarchy for net zero structural design is shown in Figure 1.

Stability

Whether utilising a framed or a shear wall structural solution, a regular and vertically repetitive layout with allows for an efficient design of stability members.

Where stability members can positively transfer the horizontal loads from the floor and roof diaphragms into the foundations in a single vertical line, the need for transfer members can be avoided.

Repetitive structure also encourages development of details which can be specified across multiple areas, simplifying manufacturing/ construction and building confidence through usage.

Further site investigation information can be found under Appendix E.

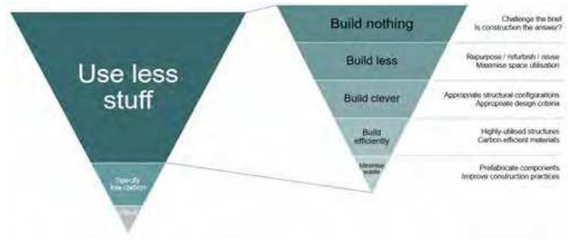


Figure 1. Aspirational hierarchy for net zero structural design

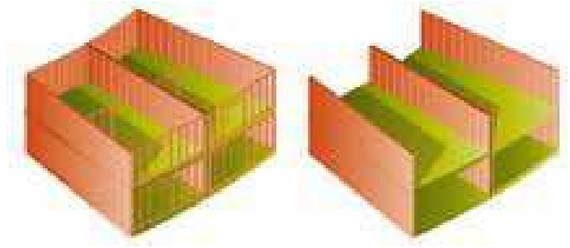


Figure 2. Shear wall structural solution

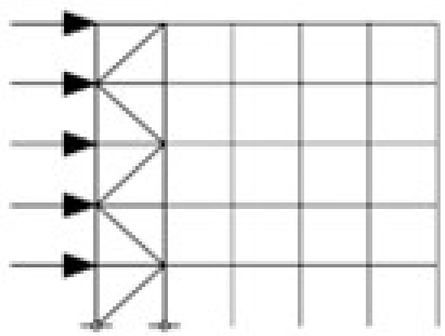


Figure 3. Shear wall structural solution

10.2 Civil Strategy

SUDS

The main impact of a development is increasing the proportion of impermeable surfaces (e.g., roofs and paved areas) within the site, without careful planning this can increase peak rate runoff. Sustainable Drainage Systems (SUDS) aim to mitigate this effect by emulating natural drainage systems and the provision of storage.

The greenfield runoff rate for Roysvale Park has been used to estimate the attenuation volume required for all three sites. Based on this greenfield run off rate, it is estimated approximately 1250m3 of storage will be required to store the 1:200 year storm with 37% climate change. However, this volume is correlated to total area of proposed hard standing, therefore, it is subject to change based on the architects layout. Furthermore, depending on the layout, there is a possibility of capturing the 1:200 year +37% C/C rainfall event on site which would reduce the total attenuation volume.

The primary method of attenuation will be provided by below ground attenuation tanks as it is anticipated that options such as SUDS basins and ponds will not be viable for this site due to their large land take.

Treatment

Treatment must be provided in accordance with the recommendations of The SUDS Manual (CIRIA Document C753), SEPA and other relevant guidance. To determine surface water treatment requirements, The SUDS Manual (CIRIA Document C753) initially requires identification of the various land use classifications involved in the development. Using Table 4.3 (Page 63), the following classifications are considered relevant for all three sites:

- Non-residential parking with infrequent change (e.g. schools, offices, < 300 traffic movements a day)
- Commercial/Industrial roofing: Inert materials

The guidance confirms that the various land use classifications identified require use of the Simple Index Approach. This involves a comparison between indices of likely pollution levels against SUDS performance capacities. To deliver adequate treatment, the selected SUDS components should have a total pollution mitigation that equals or exceeds the pollution hazard index. There are several options for treatment, however, the best choice will need to consider the site constraints and space available. For this reason, it is anticipated that options such as SUDS basins and ponds will not be viable for this site due to their large land take.

As such, options such as porous paving, filter strips and linear swales which can be accommodated within the landscaping will be preferred.

Connections

All surface water and foul connections require approval by Scottish water.
Scottish Water's preference for surface Water are as follows:

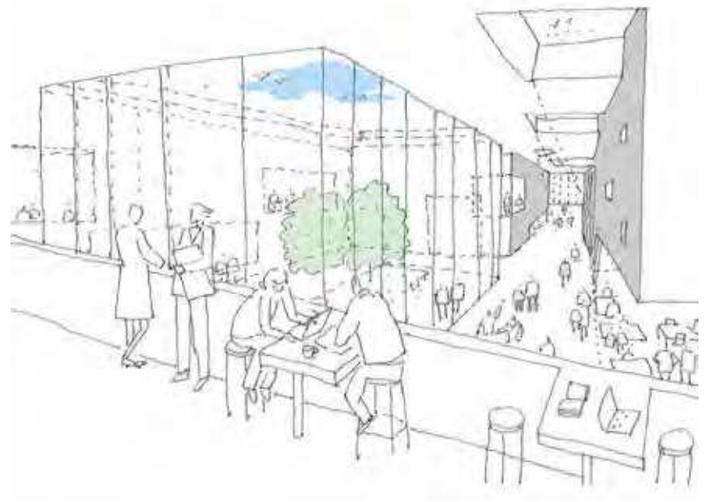
1. Re-use
2. Soak-away
3. Watercourse
4. Surface water sewer
5. Combined sewer

The sites in question for Forres use a variance of these options; Roysvale – Combined sewer, Lochyhill/ Enterprise – Surface water sewer and Grantown – watercourse. These connection methods may vary depending on Scottish Water approval.

Foul connections for all sites will be to either nearby combined sewers or foul water sewers. Scottish Water approval required prior to connection.

Further site investigation information can be found under Appendix E.

11.0 Programme



11.1 Programme Commentary

The programmes contained within Appendix H and the commentary below reflect the timescales required based on the Hub procurement model. Should an alternative procurement route to Hub be adopted it should be noted that this will result in a minimum 6 months extension required to procure and engage a new Design Team as well as potential financial impacts.

Should the decision be made to proceed with a Hub procurement model the new school at Forres is to be delivered as part of the LEIP 3 Northern Schools Programme managed by hub North Scotland Limited. This programme looks to provide a collaborative and aligned approach delivering:

- shared knowledge and resources,
- establishing replicable designs with associated cost savings,
- accelerating the understanding and application of the funding conditions,
- maximising economic and social benefits,
- monitoring and implementing lessons learned,
- alignment with the10 guiding principles of the National Learning Strategy, and
- supporting wider collaboration with other services and public partners.

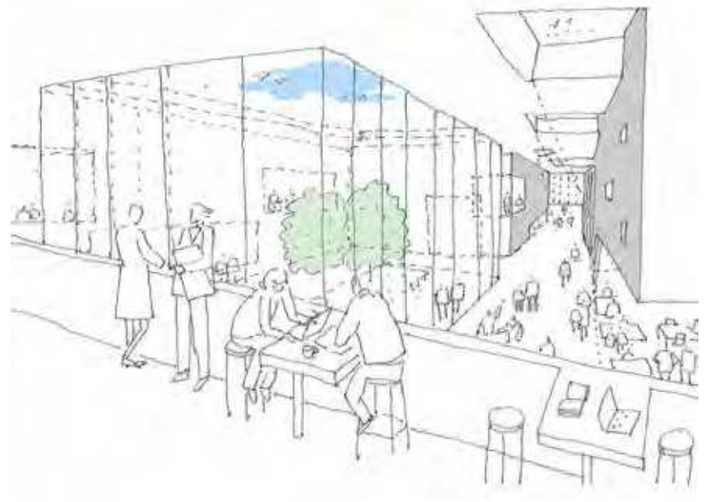
The programme aims to deliver:

- Capital cost benefits, by ensuring a steady and predictable work-stream for the local market, promoting supply chain development and enhance buying gains, delivering projects faster
- Operational cost benefits, by creating opportunities for co-location of facilities, reducing build and running costs leading to lower carbon emissions providing better places for businesses and communities to work and meet.
- Socio-economic benefits, by evidencing a steady pipeline of work in the region which would allow new employment opportunities to be created locally within the supply chain. With more confidence in workload, the supply chain could widen their apprenticeships to the local communities. Sustained employment in the region would result in growth to the local economy. In addition, the sharing and pooling of resources will also cause a ripple effect, allowing different ways of collaborative working to be embraced and benefits to be gained, such as knowledge sharing and upskilling
- Non-financial benefits, by reducing development time across projects with a consistent approach. Suites of standard firm of building contracts, specifications and technical documentation can be developed, reducing the production time-scales for creating bespoke information. The time savings will result in projects being delivered earlier compared to being developed in isolation. The time saving is in addition to the cost saving that would also be realised.

The LEIP 3 North Schools Programme Partners include:

- Aberdeen City Council
- Argyll and Bute Council
- Moray Council
- Orkney Islands Council
- Shetland Islands Council, along with
- Northern Alliance
- Scottish Futures Trust and
- Hub North Scotland Limited

12.0 Cost Appraisal



12.1 Cost Commentary

Currie and Brown have prepared high level Cost Models for the developed site options for Forres Academy. The costs for these options are as per Table 1.

The main differences between the various cost options are as follows, utilising Roysvale Park (Option 1a) as the base line for comparison purposes only:

- Roysvale Park (Option 1b) – smaller development site and reduced extent of access roads
- Roysvale Park (Option 3) – separate sports block from main school building constructed on footprint of existing school and associated extended programme.
- Lochyhill – roundabout on A96, increased allowance for safer routes to schools and land purchase
- Granton Road – trenchfill to foundations, off-site junction works at new school entrance, increased allowance for safer routes to schools and land purchase.

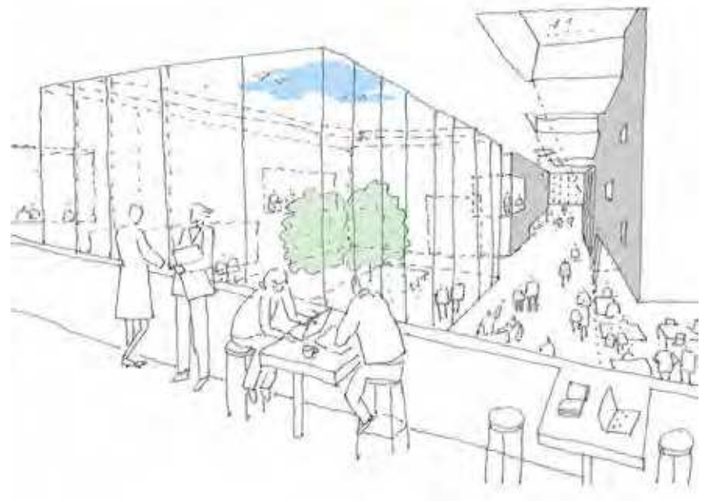
We would also highlight the following which forms the basis of the Cost Models:

- Building costs based on Currie & Brown benchmarking.
- Allowances included for refurbishment works at junction to retained swimming pool following demolition of existing school.
- External works surfacing etc based on approximate quantities based on Architects Landscape Layouts
- Allowances included for ground works ie cut and fill, trenchfill etc with requirement /extent to be confirmed once further Site Investigation undertaken.
- Allowance included for fencing, site furniture, external service connections including electrical sub-stations.
- Preliminaries based on amended hNSL pro-forma percentages to reflect extended programme and current market conditions.
- Contractor's margin, Design Team fees based on hNSL pro-forma percentages.
- Design development risk based on percentages reflective of current Scottish market.
- LEIP 2 and LEIP 3 targets based on SFT percentage uplifts.
- Inflation included to mid-construction based on BCIS indices and Currie & Brown's Construction Activity & Market Outlook. Due to the BCIS's heavy reliance on cost data for the other regions of the UK and also due to the delay / lag in BCIS receiving cost information, in our opinion Currie and Brown's inflation outlook is more reflective of the current Scottish Market.
- Construction duration / programme assumes 183 weeks (209 weeks for Roysvale – Option 3)
- Allowances included for Authority costs ie internal costs, legal costs / fees, IT active equipment, interactive boards / screens etc.
- Authority cost for optimism bias / Client contingency based on percentage.
- Authority costs include high level cost allowances for off-site works ie safer routes to schools, roundabouts, land purchase etc where applicable to each option.

[redacted]

Table 1 - Cost Models

13.0 Recommendations and Next Steps



13.1 Recommendations

To assist Moray Council in determining the most appropriate site for building the new school, the Design Team members including hub North Scotland Ltd, and a representative from Moray Council all participated in an “options appraisal” exercise looking at varied criteria pertaining to the three sites (Roysvale Park, Lochyhill and Grantown Road), all of which were scored jointly and collectively by the Design Team members; the outcome of the options appraisal was that Roysvale Park received the highest score.

Whilst there are risks associated with developing any of the three sites, it was noted however that only one of the sites (Roysvale Park) is under ownership of Moray Council, whereas both Lochyhill and Grantown Road would require the Council to formally acquire the land in question. The major risk with developing the Roysvale site, however, lies with the fact that a major part of the developable site is classed as “Common Good” and hence Moray Council would need to be confident that they, and their legal advisers, are able to remove said restrictions in a timeous manner during the design development phase of the project in time to allow the main Contractor to commence works on site in accordance with the project programme.

If Moray Council is confident that the Common Good constraint can be removed prior to commencement of construction on site (July 2025), then the recommendation would be that Roysvale Park would offer the best site solution for Moray Council to deliver the new school.

Aerial view of Roysvale Park

13.2 Next Steps

The following 'Next Steps' are based on the assumption that approval to proceed with Roysvale Park as the preferred site, under a Hub procurement route, is received.

Following the submission of this SSPS Report and approval to proceed, the development programme included in Appendix H proposes commencement of Hub Stage 1 (RIBA Stage 2) at the end of March 2024. This stage runs for a seven month period, concluding at the end of October. Hub Stage 2 will follow on sequentially, concluding at the end of July 2025.

Northern Schools Programme Approach

Forres Academy is to be delivered as part of the LEIP 3 Northern Schools Programme managed by hub North Scotland Limited. This programme looks to provide a collaborative and aligned approach and will follow the steps below:

1. Initial Goal Teams to be established with initial workshops to be set up w/c 8th Jan 2024
    1. Place
    2. Net Zero
    3. Inclusive Social Outcomes
    4. Technical Collaboration
    5. Procurement
2. Programme Wide Strategies. Supply Chain Members to confirm contributors
3. Phase 1 strategies and mini-programmes to be established

Common Good Land Review

It has been identified that part of the overall site at Roysvale Park has been designated as Common Good and as such presents additional risk to the project. The proposed location for the new secondary school building is on land to the north of the footpath that dissects the site, and is therefore not directly located on Common Good Land. However it is currently proposed to use the Common Good Land temporarily during construction as site setup and the contractor's compound and permanently as a drop off layby for buses and a grass sports pitch. The land designation may need to be reviewed as part of the project development.

Additional Surveys Required

To help support the Design Team's work and statutory approvals during Hub Stages 1 and 2, the following surveys may be required:

- Ground Penetrating Radar Survey
- CCTV Drainage Survey
- Parking Survey
- Transport Statement
- Tree Survey and Reports
- Ecology and Habitat
- Archaeological Desk Based Assessment
- Flood Risk Assessment
- Asbestos Survey (if not available, for current building)
- Intrusive Testing Tracing Surveys (existing building, by MEP subcontractor)

Stakeholder Engagement

The initial stakeholder engagement which has been undertaken during SSPS Phases A and B will be built upon and developed throughout Hub Stages 1 and 2.

Statutory (and other) Consultations

The Design Team have already engaged in some light touch discussions with the Planning and Roads and Transport departments and would look to further these discussions during Hub Stage 1.

As the Forres Academy project will be classed as a Major Development under The Town and Country Planning (Hierarchy of Developments) (Scotland) Regulations 2009, the formal Planning Application will be subject to a 12 week pre-application process.

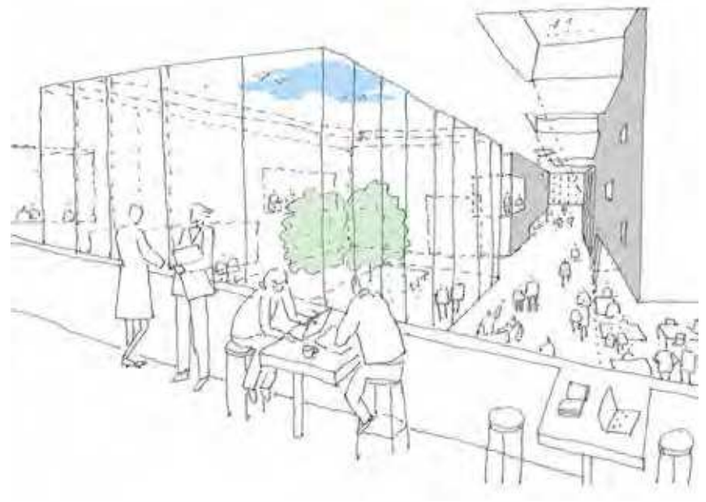
Following the submission of the Planning Application information will be prepared to enable an application for Building Warrant however, engagement with the Building Control Team will occur prior to this to introduce the project, team and agree the proposed Building Warrant stages.

The Design Team will also make contact with the Scottish Fire and Rescue Service to discuss the project with their Fire Safety Enforcement Officer and engage in details discussions which will assist with the Building Warrant process.

Should it be deemed a requirement by Moray Council, the Design Team can also meet with the Architectural Liaison Officer from Police Scotland to discuss Secured by Design.

As all of the proposed options for Roysvale Park in this report would be deemed a 'relevant proposal' (a proposal to relocate a school or part of a school) under the terms of the Schools (Consultation) (Scotland) Act 2010, Moray Council will commence engagement, during the next stage, with His Majesty's Inspectors of Education (HMIE) and prepare an Educational Benefits Statement to support the chosen proposal in line with the requirements set out in the Act.

14.0 Appendices



Appendix A - Consultation Summary

Appendix B - The Education Brief, Adjacencies & Schedule of Accommodation

Appendix C - Existing Utilities Report

Appendix D - High Level Site Constraints Report

Appendix E - Site Investigations Report

Appendix F - Site Appraisals Assessment

Appendix G - Energy and Carbon Strategy

Appendix H - Programme

Appendix J - Cost Appraisal

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