Proposed Stanley Community Hub, Perth Road, Stanley

For Stanley Development Trust

Preliminary Ecological Appraisal

Phase 1 Habitat, Protected Species Survey and Ecological Impact Assessment

Wednesday 31st May 2023

Author Emma O'Shea BSc, PG Dip Env Mgmt.

Ecological Consultant, Tay Ecology Ltd

Tay Ecology Ltd, Fairway, Golf Course Road, Pitlochry, PH16 5QU

Tel: 07747 883464; Email: info@tayecology.co.uk; Web: www.tayecology.co.uk

CONTENTS

EXECUTIVE SUMMARY

Tay Ecology was commissioned to undertake a preliminary ecological appraisal, phase 1 habitat and protected species survey and ecological impact assessment of the proposed Stanley Community Hub Site. Field surveys were carried out in April and May 2023 to assess habitat, and a range of species. The likelihood of specially protected, sensitive, or very, rare, species of birds and of any other protected or local biodiversity action plan species of flora and fauna was assessed. There are no local, national or international nature designations on the site. The River Tay Special Area of Conservation is located 300m to the south and there will be no impact to this. There is no ancient woodland or TPOs on the site. The site comprises the church hall, war memorial, disused tennis courts and area of amenity grassland to the south-west of the bowling green. There are a small number of broadleaved trees, mixed native hedging and leylandii hedging. The tennis courts have been naturalised by naturally regenerating predominantly broadleaved saplings of a variety of species. The trees and hedgerows have potential value to local wildlife such as nesting birds and hedgehogs. The amenity grassland is of low potential value to wildlife. There will be a loss of habitat at the tennis courts as the self-seeded trees will be cleared. However, there is capacity to enhance the site boundaries by planting native hedgerows; and creating a wildflower meadow and wildflower banks will benefit local biodiversity. It is essential that best practice working methods and pollution prevention and control measures are adhered to during construction to safeguard retained adjacent habitats.

The trees have negligible or low bat roost potential. Two non-breeding pipistrelle bat roosts were identified at the church hall and a bat licence will be required before work commences with mitigation in place. Common and Soprano pipistrelles were recorded foraging in the area; it is recommended that lighting complies with the Institute of Lighting Professional and Bat Conservation Trust Guidance; and adjacent habitats should not be impacted by increased artificial lighting. There is capacity to enhance the habitat for bats by installing bat boxes as part of works. There is potential for red squirrels to be found locally, although there is limited suitability on the site. It is anticipated that the proposed development will not have a significant negative impact on red squirrels, as it will not impact red squirrel mortality or breeding at a scale which would affect the viability of the population; and a dependable long-term food supply from a mixture of deciduous and coniferous trees will remain locally. There were no signs of badger, pine martens, otters or water voles and there will be negligible impact to these species. There is potential for reptiles on the site, although it is not anticipated that the proposed development would negatively impact reptiles for the long-term. There was no evidence of any other rare or protected species, though it is recommended that the site is checked for hedgehogs before any ground vegetation clearance takes place.

Common breeding birds were recorded, and there is cover, food, and nesting sites for a variety of species. All birds are protected, and it is an offence to intentionally or recklessly kill, injure or take a wild bird, or to take, damage or destroy its nest or eggs. It is recommended that where ground vegetation clearance is required that this is undertaken out-with the breeding bird season. However, if such work should be undertaken during the breeding season, then the habitat should be checked for active nests before work commences. If found, work in the vicinity of a nest should cease until young birds have fledged. Amber and red listed bird species of conservation concern have been recorded locally and the provision of nest boxes for a range of bird species is recommended. In conclusion it is not foreseen that the development will have a long-term negative impact to local wildlife and the recommendations will enhance biodiversity for the long-term.

1.0 INTRODUCTION

1.1 Brief from Client

Tay Ecology was commissioned to undertake a preliminary ecological appraisal, phase 1 habitat and protected species survey and ecological impact assessment of the proposed Stanley Community Hub Site adjacent to St Columba's Church in Stanley.

1.2 Site location

St Columba's Church Hall and the proposed site for the Community Hub is located to the rear of St Columba's Church and it is accessed from Perth Road, Stanley. The site grid reference is NO 10781 33021 at an altitude of 60m above sea level. Figure 1 Site Location.

Figure 1 Site Location

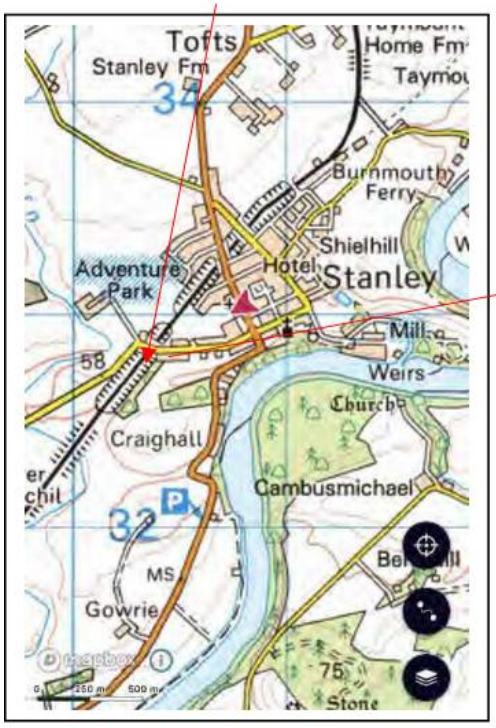


Figure 2 Aerial View

1.3 Site description

The existing site is located on land beside the bowling green and football pitches, in close proximity to Stanley Primary School and adjacent to St Columba's Scottish Episcopal Church in Stanley. The site comprises the church hall, the war memorial, disused tennis courts and an area of amenity grassland. Figure 2 Aerial View and Figure 3 Existing Topographical Site Plan

1.4 Proposed works

It is proposed to construct a purpose-built community hub which will include a community cafe, sports hall, changing rooms, games area and a multi-use games area. As part of works it is proposed to demolish the church hall and relocate the war memorial. A new car park will be created. Figure 4 Proposed Site Layout

Figure 3 Existing Topographical Site Plan

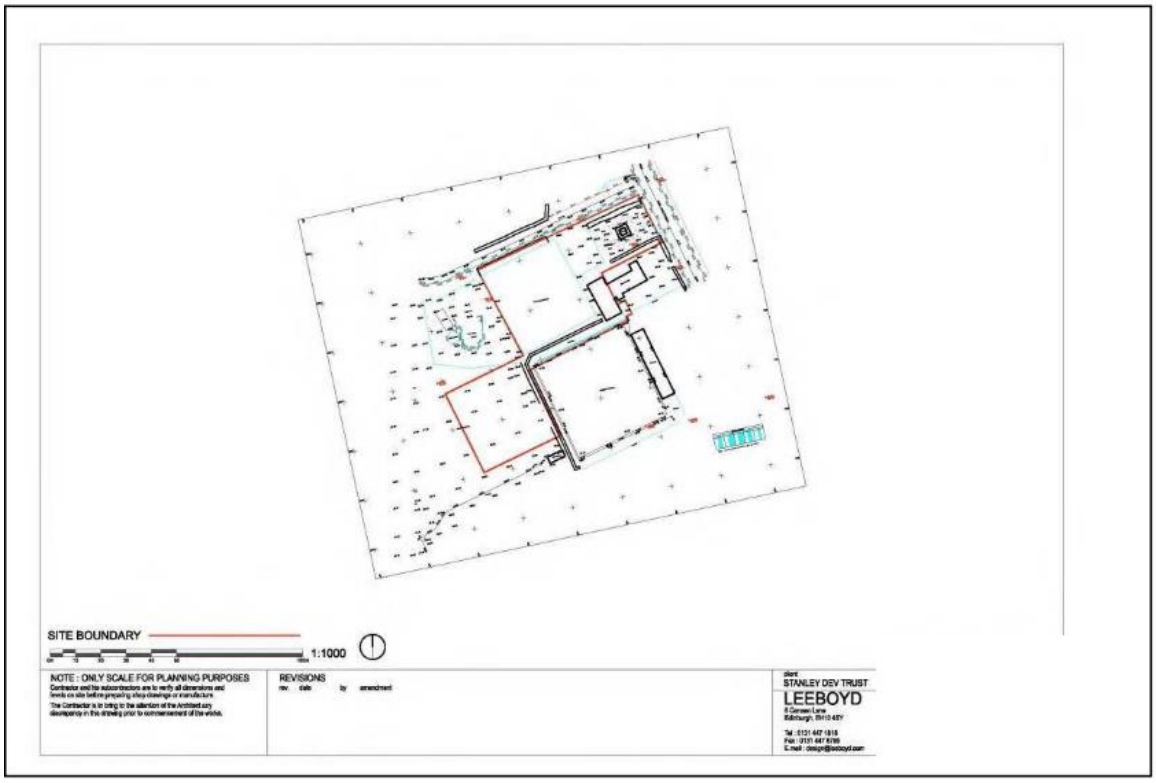
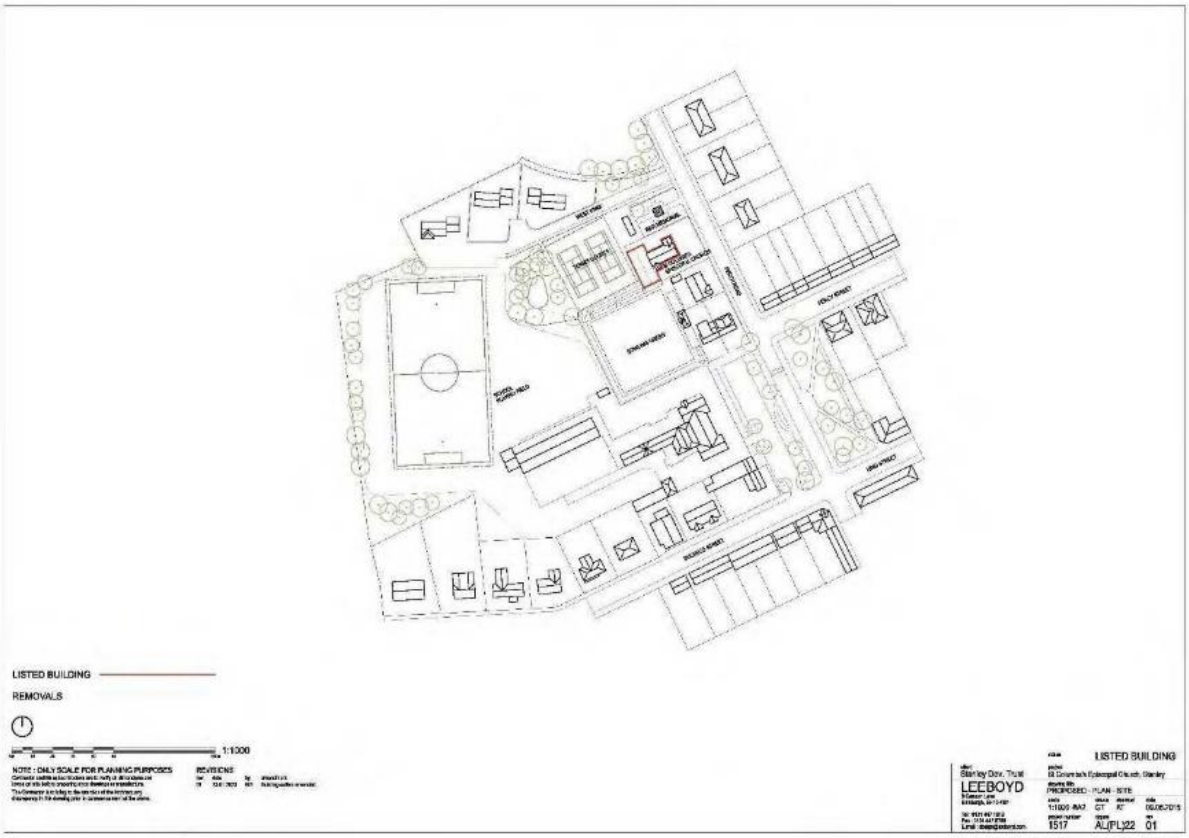


Figure 4 Proposed Site Layout



2. SURVEY AND SITE ASSESSMENT

2.1 Objectives

The site was surveyed by a visual ground survey, preliminary ecological appraisal, phase 1 habitat and protected species surveys undertaken. Field surveys were carried out to assess the existing habitat; potential of tree bat roosts and record bat activity; presence/absence of badgers and their setts; red squirrels and their dreys; and pine martens and their dens. The presence/absence of specially protected, sensitive, or very, rare, species of birds was assessed. The presence/absence of any other protected or local biodiversity action plan species of flora and fauna was surveyed for, and existing habitat assessed. The survey area included the proposed site and up to 250m in the surrounding area.

2.2 Methods

2.2.1 Existing Data Sources

Web-based sources of information were examined, principally the National Biodiversity Network (NBN) Gateway (http://data.nbn.org.uk/) where a radius of 5km from the centre of the proposed development was searched to provide suitable coverage of the area. Nature designation classifications were obtained from NatureScot Site Link (https://sitelink.nature.scot/home).

The UK Biodiversity Action Plan (https://jncc.gov.uk/our-work/uk-bap-priority-species/); Scottish Biodiversity List (https://www.nature.scot/scottish-biodiversity-list); Tayside Biodiversity Action Plan (https://www.taysidebiodiversity.co.uk//) were examined.

Other websites searched include Bat Conservation Trust (http://www.bats.org.uk/); Scottish Squirrel Survey (http://www.scottishsquirrelsurvey.co.uk/); and The British Trust for Ornithology (http://www.bto.org/). Positive records for species present in the survey area can be used to inform the assessment of biodiversity on the site but the lack of records clearly cannot be taken to imply that the species in question is absent.

2.2.2 Survey methodology

A site visit was carried out after receiving project information from Stanley Development Trust. A walk over survey was carried out and an overall habitat assessment was made.

2.2.2.1 The main habitats present were surveyed according to the methodology of the Joint Nature Conservation Committee's 'Phase 1 Habitat Survey' (JNCC, 2010). Classification was given to each area according to JNCC (2010). Ground vegetation was then surveyed for the presence of any other rare or protected species by walk-over surveys. Target notes describe the habitats found and any protected or otherwise notable wildlife and any suitable habitats for these species. Nomenclature for higher plants follows Stace (2019) and for mosses and liverworts British Bryological Society (2010). Species abundance is described using DAFOR scale (D – Dominant, A – Abundant, F – Frequent, O – Occasional, R – Rare, where rare refers to local abundance not national scarcity.

2.2.2.2 Bat roost potential was assessed for trees within/adjacent to the proposed site using methodology to identify the possible presence of bats, and potential for bat roosts from Collins, J (2016) 'Bat Surveys for Professional Ecologists: Good Practice Guidelines' Bat

Conservation Trust (3rd edition), Cowan, H (2004) 'Looking out for bats. They could be anywhere!' and NatureScot (2023a) 'Standing Advice for Planning Consultations: Bats'.

2.2.2.3 Evidence of badgers was surveyed for using information from Scottish Badgers (2023), 'Badger surveying' and 'Standing Advice for Planning Consultations: Badgers' (NatureScot, 2023b). The survey was based on the interpretation of field signs (footprints, foraging holes, latrines, and setts or potential setts) and assessment of suitable habitat rather than direct observation of the animals themselves.

2.2.2.4 The potential presence of red squirrels and red squirrel dreys was surveyed using the Forestry Commission Scotland (FCS, 2006a) 'FCS Guidance Note 33: Forest operations and Red squirrels', NatureScot (2023c) 'Standing Advice for Planning Consultations: red squirrels', and UK BAP Mammals:' Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation' (The Mammal Society, 2012, pp. 13-16). The survey was based on the interpretation of field signs (feeding signs and dreys) and assessment of habitat.

2.2.2.5 Evidence of pine marten presence was surveyed for using UK BAP Mammals: 'Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation' (The Mammal Society 2012, pp.71-76) and 'Standing Advice for Planning Consultations: Pine Marten' (NatureScot, 2023d). The survey was based on the interpretation of field signs (scats, footprints, and dens or potential dens) and assessment of suitable habitat rather than direct observation of the animals themselves.

2.2.2.6 An otter survey was carried out following the standard otter survey methodology as set out in the 'New Rivers and Wildlife Handbook' (Holmes, Ward and Jose, 2001) and NatureScot (2023e) 'Standing Advice for Planning Consultations: Otters'. The survey was based on the interpretation of any field signs (spraints, footprints, tracks, slides, couches and holts or potential holts) and assessment of suitable habitat rather than direct observation of the animals themselves.

2.2.2.7 Evidence of water vole was surveyed for using information from NatureScot (2023f) 'Water vole survey methods' and Standing Advice for Planning Consultations: Water vole'. The survey was based on the interpretation of field signs (burrows, runs, tracks, feeding stations, droppings, and latrines) and assessment of suitable habitat rather than direct observation of the animals themselves.

2.2.2.8 A reptile survey was carried out following guidelines adapted from Froglife (2013) and NatureScot (2023g) 'Standing Advice for Planning Consultations: reptiles'. The survey focused on searching for basking animals on banks, piles of wood and edges of woodland. An assessment of suitable habitat was made.

2.2.2.9 The site was surveyed for the presence of any other rare or protected species, guidelines from FCS (2007) FCS Guidance Note 34: Forest operations and European protected species in Scottish forests.

2.2.2.10 The presence of potential Schedule 1 birds was adapted from BTO (2023), 'Methodology and survey design for bird surveys' and NatureScot (2023h) 'Protected species: birds.'

2.2.3 Survey area

The survey area incorporated the proposed site for development and up to 250m in the surrounding area.

2.2.4 Timings, types, and weather conditions of field Surveys

The site was surveyed by walk-over, habitat and protected species surveys carried out in April and May 2023 by Tay Ecology. The main habitats present were surveyed according to the methodology of the Joint Nature Conservation Committee's Phase 1 Habitat Survey (JNCC 1993). Signs of the presence of protected species were sought and habitats were assessed for their potential to host protected species.

28/04/2023 8 degrees Celsius; wind speed 5mph; cloud cover 50%; no precipitation.
03/05/2023 9 degrees Celsius; wind speed 2mph; cloud cover 100%; no precipitation.
16/05/2023 14 degrees Celsius; wind speed 2mph; cloud cover 80%; no precipitation.
31/05/2023 12 degrees Celsius; wind speed 2mph; cloud cover 100%; no precipitation.

2.2.5 Limitations

Survey data is accurate when the surveys took place. The curtilage of private property was not entered. All surveys were carried out from areas of public access.

2.2.6 Personnel

Emma O'Shea, Ecological Consultant, Tay Ecology. Emma has worked in the environmental sector for nineteen years, during which time she has gained a wealth of experience and expertise. During the last nine years she has worked as an ecological consultant for Tay Ecology with lead responsibility for development projects requiring habitat, protected species, bird, tree surveys and species licensing. Emma has fourteen years of experience surveying breeding birds, is a qualified tree inspector with a background in tree regeneration monitoring and habitat surveys. She has a Postgraduate Diploma in Environmental Management from the Open University and is a member of the Arboricultural Association and Institute of Environmental Assessment and Management.

Gary Flynn, Ecologist, Tay Ecology. Gary has been employed in wildlife management and conservation in Aberdeenshire and Tayside for over 20 years. Gary trained with Tay Ecology during 2019 and his specialisms are habitat, bat, tree, and protected species surveys.

3.0 LEGISLATION AND POLICY GUIDANCE

3.1 Wildlife and Countryside Act, 1981, as amended (WCA)

The WCA sets out the protection offered to various species of plants, birds and animals in England and Wales. Bird species listed in Schedule 1, animal species listed in Schedule 5 and plant species listed in Schedule 8 of the WCA are protected. Under section 14(2) of the WCA it is an offence to "plant or otherwise cause to grow in the wild" any plant listed in Schedule 9, Part II of the Act. Japanese knotweed (Fallopia japonica) is a Schedule 9, Part III species. The WCA has since been strengthened and updated by subsequent UK and Scottish legislation (see below).

3.1.1 The Conservation (Natural Habitats &c.) Regulations 1994, as amended (Habitat Regulations)

The provisions of the Habitats Directive were transposed into UK law by the Habitat Regulations. Schedule 2 of the Habitat Regulations lists the European protected species of animals whilst Schedule 4 lists the European protected species of plants. Under the Habitat Regulations, it is illegal to deliberately capture, kill, disturb, or trade in the animals listed in Schedule 2, or pick, collect, cut, uproot, destroy, or trade in the plants listed in Schedule 4 without a licence granted by the appropriate authority. Licences can only be granted for certain purposes and if a set of conditions have been met.

3.2 Nature Conservation (Scotland) Act 2004

Deals with conserving biodiversity by introducing a duty on all public bodies to further the conservation of biodiversity and requires under Section 2(4) publication of a list of habitats and species for conservation action. Amends the 1981 Wildlife & Countryside Act in respect of protecting Sites of Special Scientific Interest, and similarly strengthens protection of certain birds, animals, and plants. Updates the 1992 Protection of Badgers Act.

The Conservation (Natural Habitats, &c.) Amendment (Scotland) Regulations 2004 Amends 1994/ Habitats Regulations to bring provision for protection of European 'Natura 2000' sites into line with the protection regime set out in the Nature Conservation (Scotland) Act 2004 and affords protection to European candidate sites. It gives further protection to European protected species, introducing a new offence of 'reckless disturbance' in respect of European sites and species.

The Conservation (Natural Habitats, &c.) Amendment (Scotland) Regulations 2007 significantly strengthened the regulations relating to European Protected Species of animals and enacting the requirement to assess developments plans (structure and local plans) with regard to effects on Natura 2000 (EC Directive) sites.

3.3 Wildlife Legislation

3.3.1 Bat

All bat species found in Scotland are classed as European protected species. They receive full protection under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). Bats and their roosts are legally protected, whether bats are occupying the roost or not. It is illegal to disturb a bat(s) in their roosts; damage or destroy a bat roosting place, even if there are no bats present at the time; and obstruct access to a bat roost. It is illegal to capture, injure or kill a bat or possess, advertise, sell, or exchange a bat dead or alive.

3.3.2 Badger

Both badgers and their setts are protected under the Protection of Badgers Act 1992 as amended by the Wildlife and Natural Environment (Scotland) Act 2011. Offences under the Act include: taking, injuring, or killing badgers; cruelty to badgers; interference with badger setts; selling and possession of live badgers and marking and ringing. Exceptions and licences can apply.

3.3.3 Red Squirrel

The red squirrel is protected under schedules 5 and 6 of the Wildlife and Countryside Act 1981, as amended by the Nature Conservation (Scotland) Act 2004. Under this legislation it is illegal to intentionally or recklessly kill, injure or capture a red squirrel; take or damage,

destroy, or obstruct access to any structure or place used for shelter or protection such as a drey; or to disturb any red squirrel while it is in a drey.

3.3.4 Pine Marten

Pine martens are protected under schedule 5 of the Wildlife and Countryside Act 1981, as amended by the Nature Conservation (Scotland) Act 2004. It is an offence to intentionally, or recklessly: kill, injure, or take a wild pine marten; damage, destroy or obstruct access to any structure or place which such an animal uses for shelter or protection (den); and to disturb such an animal when it is occupying a place for that purpose.

3.3.5 Otter

As a European protected species, the otter is fully protected under the Conservation (Natural Habitats, &c.) Regulations 1994 (as amended). It is illegal to deliberately or recklessly kill, injure or take (capture) an otter; deliberately or recklessly disturb or harass an otter; damage, destroy or obstruct access to a breeding site or resting place of an otter (ie. an otter shelter). Otter shelters are legally protected whether, or not an otter is present.

3.3.6 Water vole

The water vole receives partial protection under schedule 5 of the Wildlife and Countryside Act 1981, as amended by the Nature Conservation (Scotland) Act 2004. It is an offence to intentionally or recklessly: damage, destroy or obstruct access to any structure or place that water voles use for shelter or protection; disturb a water vole while it is using any such place of shelter or protection.

3.3.7 Breeding birds

The main legislation Wildlife and Countryside Act 1981, as amended by the Nature Conservation (Scotland) Act 2004 make it an offence to intentionally or recklessly kill, injure or take any wild bird, or take, damage, destroy, obstruct, or interfere with any wild birds' nest, whilst being built or in use, or their eggs or young.

4.0 RESULTS

4.1 Existing data search

4.1.1 Nature designations

There are no local, national or international nature designations on the site. The River Tay Special Area of Conservation is located 300m to the south. Figure 5 Nature Designations shows the locations.

The River Tay SAC is classified as a Designated Site for the following qualifying features:

- Atlantic salmon *Salmo salar*
- European otter *Lutra lutra*
- sea lamprey *Petromyzon marinus*
- river lamprey *Lampetra fluviatilis*
- brook lamprey *Lampetra planeri*
- Clear-water lakes or lochs with aquatic vegetation and poor to moderate nutrient levels.

The River Tay SAC is considered to be of International Value. It is also important for fresh-water pearl mussels *Margaritifera margaritifera.*

The Ancient Woodland Inventory (NatureScot, 2023i) indicates that there is no ancient woodland on or adjacent to the site. Perth and Kinross Council Tree Preservation Orders (TPO) (Perth and Kinross Council, 2023a) confirmed that there are no TPOs on the site. There is a TPO at Wildwood, Westwood directly opposite the war memorial. The Church, Church Hall and War Memorial are Listed Buildings.

Figure 5 Nature Designations

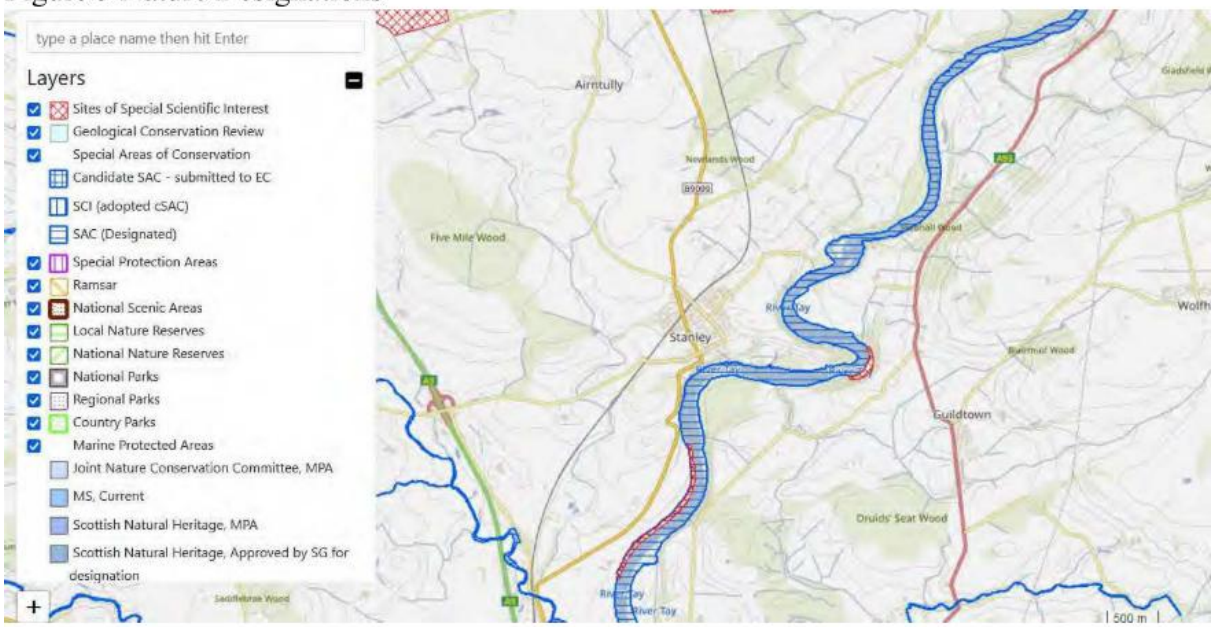
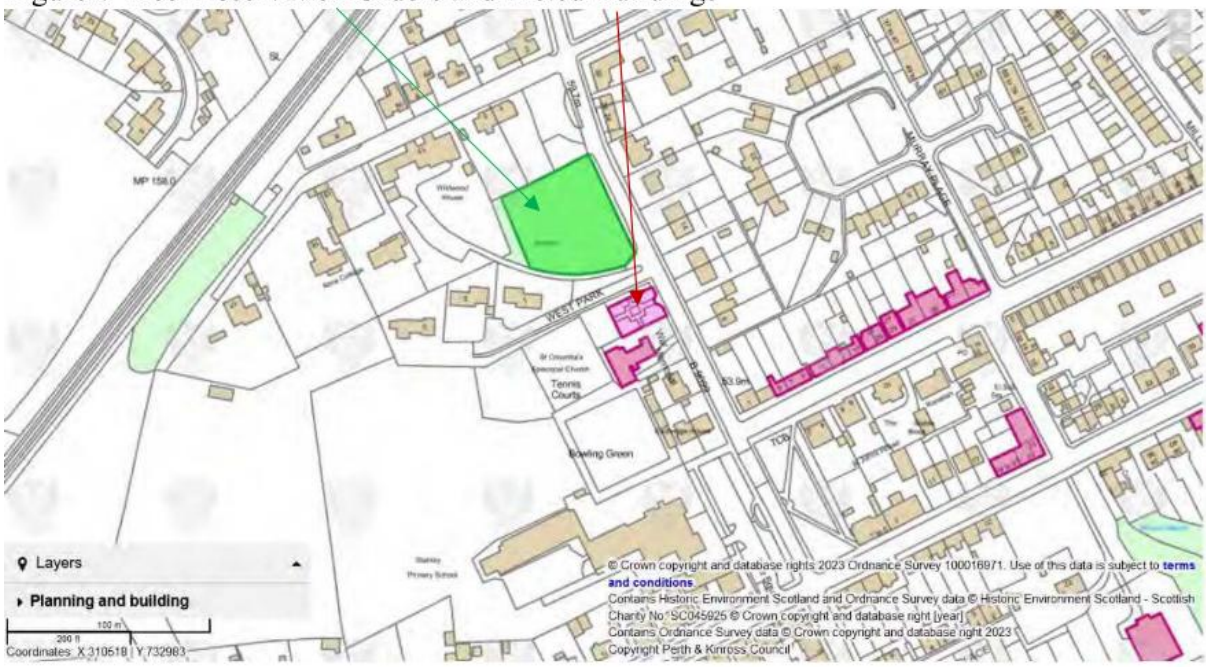


Figure 6 Tree Preservation Orders and Listed Buildings



4.1.2 Protected Species

The National Biodiversity Network confirmed presence of the following protected/vulnerable species within 5km radius: Beaver *Castor fiber* (2035); Hedgehog *Erinacaeus europaeus* (226); Wildcat *Felix sylvestris* (1); Otter *Lutra lutra* (54); Pine marten *Martes martes* (12); Badger *Meles meles* (3); Daubenton's bat *Myotis daubentonii*

(16); Natterer's bat *Myotis nattereri* (2); Common pipistrelle *Pipistrellus pipistrellus* (12); Soprano pipistrelle *Pipistrellus pygmaeus* (5); Brown Long-eared bat *Plecotus auritus* (2); and Red squirrel *Sciurus vulgaris* (640).

Within 2km beaver (774); hedgehog (38); otter (5); Daubenton's bat (10); Natterer's bat (2); Soprano pipistrelle (3); red squirrel (107) have been recorded. Within 1km there are beaver (166); hedgehog (24); Daubenton's bat (6); Natterer's bat (2); Soprano pipistrelle (2); red squirrel (58) have been recorded.

National Biodiversity Network confirmed presence of the following Schedule 1 and red list birds within 5km: Lesser redpoll *Acanthis cabaret* (17); Skylark *Alauda arvensis* (60); Kingfisher *Alecdo atthis* (54); Swift *Apus apus* (96); Scaup *Aythya marila* (1); Hawthorn *Coccothraustes coccothraustes* (6); Cuckoo *Cuculus canorus* (4); Merlin *Falco columbarius* (3); Peregrine *Falco peregrinus* (9); Brambling *Fringilla montifringilla* (119); Linnet *Linaria cannabina* (35); Twite *Linaria flavirostris* (4); Crossbill *Loxia curvirostra* (8); Curlew *Numenius arquata* (103); Whimbrel *Numenius phaeopus* (3); Wood warbler *Phylloscopus sibilatrix* (7); Whinchat *Saxicola rubetra* (34); Woodcock *Scolopax rusticola* (8); Capercaillie *Tetrao urogallus* (5); Redwing *Turdus iliacus* (76); Song thrush *Turdus philomelos* (437); Fieldfare *Turdus pilaris* (138); Mistle thrush *Turdus viscivorus* (70); Barn owl *Tyto alba* (45); Lapwing *Vanellus vanellus* (107) have been recorded.

Within 2km skylark (5); kingfisher (1); swift (22); linnet (2); crossbill (1); curlew (5); woodcock (1); starling (2); song thrush (147); mistle thrush (10); barn owl (8); lapwing (8) have been recorded. Within 1km there is skylark (1); kingfisher (1); swift (20); song thrush (144); mistle thrush (6); barn owl (3) recorded.

4.2 Habitat description

The proposed site for the community hub comprises the church hall, war memorial, disused tennis courts and area of amenity grassland to the south-west of the bowling green. The tennis courts comprise an area of naturally regenerating predominantly broadleaved trees including alder *Alnus glutinosa*, and silver birch *Betula pendula*.

4.2.1 Site Photographs

a. Church Hall North-East Elevation

b. Church Hall North-West and South-West

c. War Memorial and St Columba's Church

d. Native hedgerow north of war memorial

e. Silver birch, grassland, natural regeneration

f. Grassland area leading to tennis courts

g. Natural regeneration in tennis courts

h. Natural regeneration in tennis courts

4.2.2 Description of Habitats of potential value to wildlife

The Church Hall has potential to be of value to roosting bats. The naturally regenerating predominantly broadleaved trees in the disused tennis courts and hedgerows around the site have potential value to local wildlife such as nesting birds and hedgehogs. The amenity grassland is of low potential value to wildlife.

4.2.3 Amenity grassland

There are areas of amenity grassland around the war memorial, to the south-west of the war memorial and to the south-west of the bowling green. There is a limited range of grasses including dominant perennial rye grass *Lolium perenne*. There are some rhododendron shrubs in the garden.

4.2.4 Trees, Natural Regeneration and Hedgerows

There is a downy birch *Betula pubescens* in the grounds of the Church, and a mature silver birch *Betula pendula* and rowan *Sorbus acuparia* in close proximity to the War Memorial. There is a mixed native hedge along the northern edge of the site which includes sycamore *Acer pseudoplatanus*, beech *Fagus sylvatica*; ash *Fraxinus excelsior*; hazel *Corylus avellana*; and elder *Sambucus nigra*. To the west of this along West Park is a leylandii *Cuprocyparis x leylandii* hedge; there is also a leylandii hedge along the bowling green side of the site. The tennis courts have been naturalised by hundreds of self-seeded naturally regenerating saplings which are predominantly broadleaved trees including alder *Alnus glutinosa*; silver birch *Betula pendula*; downy birch *Betula pubescens*; hazel *Corylus avellana*; rowan *Sorbus acuparia*; common lime *Tilia x europea* with occasional larch *Larix decidua*; and Scots pine *Pinus sylvestris*.

4.3 Protected species

4.3.1 Bat Survey

4.3.1.1 Preliminary Tree Bat Roost Assessment

A general tree preliminary bat roost assessment was carried out to assess for the likelihood of the trees at the site to have bat roosts. The assessment indicated that the trees on the site have negligible or low bat roost potential. Negligible bat roost potential is 'negligible habitat features likely to be used by roosting bats' (Collins, 2016, p.35). These trees do not display any cracks, crevices, ivy cover, deadwood in canopy or stem or decay cavities or hollows in stem (Andrews & Gardner, 2016). No further surveys are required for trees with negligible bat roost potential (Collins, 2016, p.52). Low bat roost potential is 'a tree of sufficient size and age to contain potential roosting features (PRFs) but with none seen from the ground or features with only very, limited roosting potential' (Collins, 2016, p.35). No further surveys are required for trees with low bat roost potential (Collins, 2016, p.52). Where any tree is proposed to be felled a specific individual tree bat roost assessment should be carried out to confirm the bat roost potential.

4.3.1.2 Bat Activity Surveys

The Church Hall has moderate bat roost potential and two bat activity survey were carried out, two non-breeding pipistrelle bat roosts were identified at the hall, with a further four roosts identified at the Church. Common and Soprano pipistrelles were recorded foraging in the area. Full details of the bat surveys are in the bat, bird and protected species survey report for the Church Hall.

4.3.2 Badger survey

Badger activity and badger signs were surveyed for. The woodland to the north of the site provides favourable habitat for badgers. Badgers are known to be in the local area and there are 3 records within 5km.

Species recorded No badgers recorded.
Signs recorded No badger setts, latrines, footprints, paths, or hair were identified.

4.3.3 Red Squirrel Survey

Red squirrel activity and red squirrel signs were surveyed for. The woodland to the north of the site provides a favourable habitat for red squirrels. Red squirrels are known to be in the local area and there is a single red squirrel record within 100m and 39 records within 500m.

Species recorded No red squirrels recorded.
Signs recorded No dreys or feeding signs recorded within the site boundary or adjacent woodland.

4.3.4 Pine marten Survey

Pine marten activity and pine marten signs were surveyed for. The woodland to the north of the site provides a favourable habitat for pine marten, though the location within the village is a limiting factor. Pine martens are known to be in the local area and there are 12 records within 5km.

Species recorded No pine martens recorded.
Signs recorded No pine marten dens or scats recorded at the site or adjacent area.

4.3.5 Otter Survey

The River Tay provides a favourable habitat for otters, this is 300m from the site and was not included in the survey area. There is a lack of suitable habitat for otters away from the river.

Species recorded No otters recorded.
Signs recorded No holts, spraints, footprints, tracks, and slides, recorded.

4.3.6 Water vole survey

The River Tay provides a favourable habitat for water voles, this is 300m from the site and was not included in the survey area. There is a lack of suitable habitat for water voles away from the river.

Species recorded No water voles recorded.
Signs recorded No water vole signs i.e., burrows, runs, tracks, feeding stations, droppings, and latrines recorded.

4.3.7 Reptile survey

The grassland provides a favourable habitat for reptiles. Slow worm, adder and common lizard have been recorded within 5km.

Species recorded No reptiles recorded.
Signs recorded No reptile signs recorded.

4.3.8 Other protected and other species survey

Other species activity and signs were surveyed for on each of the survey. Species included amphibians, invertebrates, and small mammals.

Species recorded No other protected species were recorded.
Signs recorded No other protected species signs were recorded.

4.3.9 Schedule 1 and Bird Activity Survey

Schedule 1 and bird activity surveys were carried out. No specially protected, sensitive, or very, rare, species of bird was recorded at the site. Common bird species were identified either by visual sighting or by bird call. Bird activity was recorded primarily in the naturally regenerating trees and hedges. Species include blackbird, blue tit, chaffinch, coal tit, great tit, robin, treecreeper, woodpigeon, and wren. The trees and hedges provide cover, food, and nesting sites for a variety of birds. The woodland to the north is also favourable for birds.

Table 4.3 Bird Records

Common Name	***Latin Name***
Treecreeper	*Certhia familiaris*
Jackdaw	*Coloeus monedula*
Woodpigeon	*Columba palumbus*
Blue tit	*Cyanistes caeruleus*
Robin	*Erithacus rebecula*
Chaffinch	*Fringilla coelebs*
Great tit	*Parus major*
House sparrow	*Passer domesticus*
Coal tit	*Periparus ater*
Wren	*Troglodytes troglodytes*
Blackbird	*Turdus merula*

4.4 Summary

The proposed site for the community hub comprises the church hall, war memorial, disused tennis courts and area of amenity grassland to the south-west of the bowling green. There is a downy birch in the grounds of the Church, and a mature silver birch in close proximity to the War Memorial. There is a mixed hedge along the northern edge of the site which includes sycamore, beech, ash, hazel, and elder. To the west of this along West Park is a leylandii hedge; there is also a leylandii hedge along the bowling green side of the site. The tennis courts have been naturalised by hundreds of self-seeded naturally regenerating saplings including alder, silver birch, downy birch, hazel, rowan, larch, Scots pine, and common lime.

The trees have negligible or low bat roost potential and no further bat survey is required for the trees proposed to be felled. The Church Hall has moderate bat roost potential and two bat activity survey were carried out, two non-breeding pipistrelle bat roosts were identified at the hall, with a further four roosts identified at the Church. Common and Soprano pipistrelles were recorded foraging in the area. Full details of the bat surveys are in the bat, bird and protected species survey report for the Church Hall.

There was no evidence of red squirrels using the site, though there is potential for red squirrels to be in the woodland to the north. There were no signs of badgers, pine marten, otters or water voles in the survey area and it would not be expected that these species will be impacted by the proposed work. The grassland provides suitable habitat for reptiles. Bird activity was recorded amongst the naturally regenerating trees and hedgerows including a range of species blackbird, blue tit, coal tit, great tit, robin, treecreeper, and wren.

5.0 ASSESSMENT

5.1 Limitations

Survey data is accurate when the surveys took place. The curtilage of private property was not entered. All surveys were carried out from areas of public access.

5.2 Habitat

5.2.1 Designated Sites

There are no local, national or international nature designations on the site. The River Tay Special Area of Conservation is located 300m to the south. There will be no impact to the SAC from the proposed development and no further surveys are required with respect to designated sites. There is no ancient woodland or TPOs on the site. The trees under the TPO to the north of the site will not be directly impacted by the proposed works.

5.2.2 Habitats and Flora

The proposed site for the community hub comprises the church hall, war memorial, disused tennis courts and area of amenity grassland to the south-west of the bowling green. There is a downy birch in the grounds of the Church, and a silver birch and rowan adjacent to the War Memorial. There is a mixed hedge along the northern edge of the site which includes sycamore, beech, ash, hazel, and elder and leylandii hedges to the west. The tennis courts have been naturalised by hundreds of self-seeded naturally regenerating saplings including alder, silver birch, downy birch, hazel, larch, Scots pine, and common lime. The naturally regenerating trees and hedgerows around the site have potential value to local wildlife such as nesting birds and hedgehogs. The amenity grassland is of low potential value to wildlife.

There will be a loss of habitat at the tennis courts as the self-seeded trees will be cleared. However, there is capacity to enhance the site boundaries by planting native hedgerows such as hawthorn, blackthorn, field maple, alder, holly and hazel hedges. Creating a wildflower meadow and a wildflower bank would benefit local biodiversity in the area. For example, a general meadow mix would be suitable for sowing around the margins of the site with a hedgerow mix sown along hedgerow boundaries.

It is essential that best practice working methods and pollution prevention and control measures are adhered to during construction to safeguard retained adjacent habitats. All works with the potential to negatively impact (e.g. windblown dust, run-off, sediment, pollution) should be undertaken with due regard to the relevant SEPA Pollution Prevention Guideline (PPG) and/or Guidance for Pollution Prevention (GPP). These include:

GPP 2: Above ground oil storage tanks
PPG 6: Working at construction and demolition sites
GPP 21: Pollution incident response planning
GPP 22: Dealing with spills

5.3 Protected species

5.3.1 Bat surveys

A tree preliminary bat roost assessment was carried out to assess for the likelihood of the trees in the area to have bat roosts which indicated that the trees have negligible or low bat roost potential. The Church Hall has moderate bat roost potential and two bat activity survey were carried out, two non-breeding pipistrelle bat roosts were identified at the hall, with a further four roosts identified at the Church. A bat licence will be required before work commences

with appropriate compensation and mitigation in place. Common and Soprano pipistrelles were recorded foraging in the area. Full details of the bat surveys are in the bat, bird and protected species survey report for the Church Hall.

It is recommended that lighting complies with the Institute of Lighting Professional and Bat Conservation Trust Guidance (2018). There is capacity to enhance the habitat for bats by planting bat friendly shrubs such as honeysuckle; installing bat boxes on retained trees; and installing integrated or external wall bat boxes as part of works to increase the number of local roosting opportunities.

5.3.2 Badger surveys

There were no signs of badgers and it is not anticipated that there will be any negative impact to badgers.

5.3.3 Red squirrel surveys

The woodland to the north of the site provides favourable habitat for red squirrels. No red squirrels, dreys or feeding signs were recorded during the surveys, though red squirrels are known to be in the local area and there are multiple records. There is potential for red squirrel dreys to be located within 50m of the proposed development though no dreys were identified within adjacent trees during the surveys. As dreys can be built within a few days it is recommended that trees are surveyed for dreys before construction commences. Where work takes place during the breeding season (February to September) a 50m buffer is required around any breeding drey. Where work takes place during the non-breeding season (October to January) a 5m buffer is required around a drey tree. Where exclusion zones of the required distance are not possible a licence from Nature Scot is required.

It is anticipated that the proposed development will not have a significant negative impact on red squirrels, as it will not impact red squirrel mortality or breeding at a scale which would affect the viability of the population. The development will not fragment the red squirrel population and it will not lead to an increased risk of local extinction or increased mortality as a result of forced dispersal over unsuitable habitat or areas with no or limited cover because the woodland on and around the site will continue to remain favourable for red squirrels (Mammal Society, 2012, pp. 16-19). A dependable long-term food supply from a mixture of deciduous and coniferous trees will remain in the wider area.

5.3.4 Pine marten surveys

There were no signs of pine martens, and it is not anticipated that there will be any negative impact to pine martens.

5.3.5 Otter surveys

There is no suitable habitat on the site for otters and there will be negligible impact to otters.

5.3.6 Water vole surveys

There is no suitable habitat on the site for water voles and there will be negligible impact to water voles.

5.3.7 Reptile surveys

There is potential for reptiles on the site particularly in the woodland. It is not anticipated that the proposed development would negatively impact reptiles for the long-

term as the woodland habitat will be retained. A pre-construction survey is recommended to check for reptiles where any ground vegetation is to be removed.

5.3.8 Other protected and other species surveys

There was no evidence of any other rare or protected species such as amphibians, invertebrates, and small mammals. It is expected that a range of invertebrates use the site. There is potential for hedgehogs to utilise the vegetation cover on site, hedgehogs are classed as a vulnerable species; and it is recommended that the site is checked for hedgehogs before any ground vegetation clearance takes place.

5.3.9 Schedule 1 and breeding bird surveys

There were no Schedule 1 bird species recorded at the time of the surveys. Common breeding birds were recorded at the site and there is cover, food, and nesting sites for a variety of common birds. There is potential for migratory birds to utilise the area. All birds are protected, and it is an offence to intentionally or recklessly kill, injure or take a wild bird, or to take, damage or destroy its nest or eggs. It is recommended that where ground vegetation clearance is required that this is undertaken out-with the breeding bird season. However, if such work should be undertaken during the breeding season (March to August inclusive), then the habitat should be checked for active nests before work commences. If found, work in the vicinity of a nest should cease until young birds have fledged. Amber and red listed bird species of conservation concern have been recorded locally and the provision of nest boxes for a range of bird species is recommended as part of works.

5.4 Conclusion

Tay Ecology was commissioned to undertake a preliminary ecological appraisal, phase 1 habitat and protected species survey and ecological impact assessment of the proposed Stanley Community Hub Site. Field surveys were carried out in April and May 2023 to assess habitat, and a range of species. The likelihood of specially protected, sensitive, or very, rare, species of birds and of any other protected or local biodiversity action plan species of flora and fauna was assessed. There are no local, national or international nature designations on the site. The River Tay Special Area of Conservation is located 300m to the south and there will be no impact to this. There is no ancient woodland or TPOs on the site. The site comprises the church hall, war memorial, disused tennis courts and area of amenity grassland to the south-west of the bowling green. There are a small number of broadleaved trees, mixed native hedging and leylandii hedging. The tennis courts have been naturalised by naturally regenerating saplings. The trees and hedgerows have potential value to local wildlife such as nesting birds and hedgehogs. The amenity grassland is of low potential value to wildlife. There will be a loss of habitat at the tennis courts as the self-seeded trees will be cleared. However, there is capacity to enhance the site boundaries by planting native hedgerows; and creating a wildflower meadow and wildflower banks will benefit local biodiversity. It is essential that best practice working methods and pollution prevention and control measures are adhered to during construction to safeguard retained adjacent habitats.

The trees have negligible or low bat roost potential. Two non-breeding pipistrelle bat roosts were identified at the church hall and a bat licence will be required before work commences with mitigation in place. Common and Soprano pipistrelles were recorded foraging in the area; it is recommended that lighting complies with the Institute of Lighting Professional and Bat Conservation Trust Guidance; and adjacent habitats should not be impacted by increased

artificial lighting. There is capacity to enhance the habitat for bats by installing bat boxes as part of works. There is potential for red squirrels to be found locally, although there is limited suitability on the site. As dreys can be built within a few days it is recommended that trees are surveyed for dreys before construction commences. It is anticipated that the proposed development will not have a significant negative impact on red squirrels, as it will not impact red squirrel mortality or breeding at a scale which would affect the viability of the population; and a dependable long-term food supply from a mixture of deciduous and coniferous trees will remain locally. There were no signs of badger, pine martens, otters or water voles and there will be negligible impact to these species. There is potential for reptiles on the site, although it is not anticipated that the proposed development would negatively impact reptiles for the long-term. There was no evidence of any other rare or protected species, though it is recommended that the site is checked for hedgehogs before any ground vegetation clearance takes place.

Common breeding birds were recorded, and there is cover, food, and nesting sites for a variety of species. All birds are protected, and it is an offence to intentionally or recklessly kill, injure or take a wild bird, or to take, damage or destroy its nest or eggs. It is recommended that where ground vegetation clearance is required that this is undertaken out-with the breeding bird season. However, if such work should be undertaken during the breeding season, then the habitat should be checked for active nests before work commences. If found, work in the vicinity of a nest should cease until young birds have fledged. Amber and red listed bird species of conservation concern have been recorded locally and the provision of nest boxes for a range of bird species is recommended. In conclusion it is not foreseen that the development will have a long-term negative impact to local wildlife and the recommendations will enhance biodiversity for the long-term.

6.0 RECOMMENDATIONS and MITIGATION

To minimize impact to habitat it is recommended that:

6.1 Trees and hedgerows

• Opportunity to plant native trees as part of landscaping across the site to increase tree cover and habitat connectivity. Species such as field maple, alder, silver birch, downy birch, hazel, holly, wild cherry, bird cherry, sessile oak, rowan, and willow; and domestic fruit trees such as apple, plum and pear will benefit local biodiversity.
• Opportunity to plant native hedgerows along boundaries as part of landscaping across the site to replace lost naturally regenerating trees. Planting hedgerows such as a mixed hawthorn hedge which includes sections of blackthorn, field maple, holly and hazel of a local provenance will benefit local biodiversity.

6.2 Grassland and shrubs

• A general meadow mix would be suitable for sowing around the margins of the site such as Scotia seeds Mavisbank mix which contains 17 wildflower and 6 grass species. This includes yarrow, common knapweed, common mouse-ear, lady's bedstraw, cat's ear, meadow vetchling, ox-eye daisy, burnet saxifrage, ribwort plantain, cowslip, selfheal, meadow buttercup, yellow rattle, common sorrel, autumn hawkbit, devils-bit scabious, tufted vetch, common bent, meadow foxtail, sweet vernal grass, crested dog's tail, chewings fescue and smooth stalked meadow grass.

• A hedgerow meadow mix would be suitable for sowing along the bases of new hedgerows. For example, Scotia seeds hedgerow meadow mix which contains 18 wildflower and 5 grass species. This includes hedge mustard, giant bellflower, common knapweed, crossword, foxglove, herb bennet, wood cranesbill, St John's wort, field scabious, ox-eye daisy, primrose, yellow rattle, red campion, hedge woundwort, greater stictchwort, wood sage, upright hedge parsley, bush vetch, common bent, crested dog's tail, chewings fescue, wood meadow grass, smooth-stalked meadow grass.
• Plant wildlife friendly shrubs including honeysuckle and buddleia.

To minimise disturbance or damage to protected species prior to work starting on site it is recommended that:

6.3 Bats
• A bat licence will be required to be in place before work commences at the church hall due to the confirmed presence of two non-breeding pipistrelle bat roosts.
• Where site lighting is proposed it must comply with the Institute of Lighting Professional and Bat Conservation Trust Guidance (2018) and adjacent habitats should not be impacted by increased artificial lighting.
• Workers to be fully briefed regarding the possibility of bats on site, their legal status and that of their roosts.

6.4 Red squirrels
• Pre-construction survey for red squirrel dreys within 50m of site boundary when construction is proposed within red squirrel breeding season, between February to September inclusive. Out with this period a 5m protection zone applies for dreys.
• Workers to be fully briefed regarding the possibility of red squirrels on site, the legal status of the animal and their dreys. Any sightings of red squirrel or discovery of a drey should be reported immediately to the Site Manager and appropriate action taken.

6.5 Amphibians and Reptiles
• Checks for amphibians and reptiles should be made prior to operations.
• Where amphibians or reptiles are found, they should be carefully moved to a similar habitat in a safe location out-with the development footprint.
• Residue left on site from any felled invasive broadleaved trees should be heaped into piles within retained woodland to create a habitat resource for a variety of wildlife.

6.6 Small mammals
• Checks for small mammals such as hedgehogs should be made prior to operations.
• Workers to be fully briefed regarding the possibility of small mammals on the site, the legal status of the animal, their shelters, and resting places. Any sightings of small mammals such as hedgehogs should be reported immediately to the Site Manager and appropriate action taken.

6.7 Breeding birds
• Where trees are to be felled and/or ground vegetation cleared it is recommended that this is carried out prior to the start or after the end of the bird breeding season (September to end of February). Any tree or ground works during the bird breeding season (March to

August inclusive) will require a pre-operational survey by a suitably qualified ecologist. If no nests are present, trees should be felled/vegetation cleared as soon as possible following the survey.
• There is no NatureScot licence available to fell trees or clear ground containing active bird nests or ground nesting birds, felling must be delayed until chicks have fledged.

To increase biodiversity, in addition to native planting described above, it is recommended that:

6.8 Bat Boxes for Bats
• Provision of bat boxes by installing bat boxes on trees, woodcrete bat boxes are more durable. Group two to three bat boxes on a single large tree or on adjacent smaller trees with boxes facing different aspects, positioned three or more metres in height.
• Install integrated or external wall bat boxes on the south, west or east elevations of new structures. These boxes to be built into the walls and facade of a suitable building, with the advantage of offering a permanent space for bats with little maintenance and good thermal properties.

6.9 Nest boxes for birds
• Provide nest boxes for woodland birds on trees. Bird boxes to include a range of entrance hole sizes: 25 mm for blue and coal tits; 28 mm for great tits; 32 mm for house sparrows; 45 mm for starlings; a 100 mm high open front for robins; 140 mm high front panel for wrens; owl boxes for tawny and barn owls. Position of bird boxes 3-4m up a tree, utilise nearby trees for shade and tilt boxes slightly forward.
• Incorporate integrated or external wall bird boxes and nest cups into new structures including house sparrow and swift boxes. Boxes must be fitted either on a shady building aspect, or under an overhang to give protection from heat, but not over windows or near to vents, at least 2 metres above ground, with clear airspace for access. Position bird nest cups under eaves to attract house martins and swallows.

7.0 REFERENCES

Andrews, H & Gardener, M., 2016, *"Bat Tree Habitat Key – Database Report 2016"*. AEcol, Bridgwater [Online]. Available at http://battreehabitatkey.co.uk/ (accessed 31st May 2023)

British Bryological Society, 2010, *"Mosses and Liverworts of Britain and Ireland A Field Guide"* Mark Lawley (privately published)

British Trust for Ornithology, (BTO), 2023, *"Methodology and survey design for bird surveys"* [Online]. Available at https://www.bto.org/volunteer-surveys/bbs/research-conservation/methodology (accessed 31st May 2023)

Collins, J., 2016, *"Bat Conservation Trust, Bat Surveys for Professional Ecologists: Good Practice Guidelines"*, 3rd Edition (accessed 31st May 2023)

Forestry Commission Scotland, (FCS), 2006a, *"FCS Guidance Note 33: Forest operations and red squirrels: November 2006. Forest operations and red squirrels in Scottish forests – the law and good practice"* [Online]. Available at https://scotland.forestry.gov.uk/images/corporate/pdf/Guidancenote33Redsquirrel.pdf (accessed 31st May 2023)

Forestry Commission Scotland, (FCS), 2007, *"FCS Guidance Note 34: Forest operations and European protected species in Scottish forests - - implications of legal changes from February 2007"* [Online]. Available at https://scotland.forestry.gov.uk/images/corporate/pdf/Guidancenote34protectedspecies2.pdf (accessed 31st May 2023)

Froglife, 2013, *"Surveying for Reptiles"* [Online]. Available at https://www.froglife.org/wp-content/uploads/2013/06/Reptile-survey-booklet-3mm-bleed.pdf (accessed 31st May 2023)

Holmes, Ward and Jose, 2001, "*New Rivers and Wildlife Handbook"*, NRA/RSPB/RSNC

Institute of Lighting Professionals, 2018, *"Bats and Artificial Lighting in the UK Guidance Note 08/18"* [Online]. Available at https://www.bats.org.uk/our-work/buildings-planning-and-development/lighting (accessed 31st May 2023)

Joint Nature Conservation Committee, (JNCC), 2004, *"National Vegetation Classification: Field guide to woodland"* [Online]. Available at https://data.jncc.gov.uk/data/673dc337-e58f-4f6b-ac7b-717001983c2e/JNCC-NVC-FieldGuideWoodland-2004.pdf (accessed 31st May 2023)

Joint Nature Conservation Committee, (JNCC), 2010, *"Handbook for Phase 1 habitat survey. A technique for environmental audit"* [Online]. Available at http://jncc.defra.gov.uk/PDF/pub10_handbookforphase1habitatsurvey.pdf (accessed 31st May 2023)

Mammal Society, 2012, *"UK BAP Mammals Interim Guidance for Survey Methodologies, Impact Assessment and Mitigation"*, edited by Creswell W.J, Birks J. D.S, Dean M, Pacheco M, Trewhella W.J, Wells D and Wray S

NatureScot, 2023a, *"Standing Advice for Planning Consultations: Bats"* [Online]. Available at https://www.nature.scot/doc/standing-advice-planning-consultations-bats (accessed 31st May 2023)

NatureScot, 2023b, *"Standing Advice for Planning Consultations: Badgers"* [Online]. Available at https://www.nature.scot/doc/standing-advice-planning-consultations-badgers (accessed 31st May 2023)

NatureScot, 2023c, *"Standing Advice for Planning Consultations: Red squirrels"* [Online]. Available at https://www.nature.scot/doc/standing-advice-planning-consultations-red-squirrels (accessed 31st May 2023)

NatureScot, 2023d, *"Standing Advice for Planning Consultations: Pine Martens"* [Online]. Available at https://www.nature.scot/doc/standing-advice-planning-consultations-pine-martens (accessed 31st May 2023)

NatureScot, 2023e, *"Standing Advice for Planning Consultations: Otter"* [Online]. Available at https://www.nature.scot/doc/standing-advice-planning-consultations-otters (accessed 31st May 2023)

NatureScot, 2023f *"Standing Advice for Planning Consultations: Water Voles"* [Online]. Available at https://www.nature.scot/doc/standing-advice-planning-consultations-water-voles (accessed 31st May 2023)

NatureScot, 2023g *"Standing Advice for Planning Consultations: Reptiles (Adder, Slow Worm and Common Lizard"* [Online]. Available at https://www.nature.scot/doc/standing-advice-planning-consultations-reptiles-adder-slow-worm-common-lizard (accessed 31st May 2023)

NatureScot, 2023h, *"Protected Species: Birds"* [Online]. Available at https://www.nature.scot/professional-advice/safeguarding-protected-areas-and-species/protected-species/protected-species-z-guide/protected-species-birds (accessed 31st May 2023)

NatureScot, 2023i, *"Ancient Woodland Inventory"* [Online]. Available at https://gateway.snh.gov.uk/natural-spaces/dataset.jsp?dsid=AWI (accessed 31st May 2023)

Perth and Kinross Council, 2023a, *"Tree Preservation Orders"* [Online]. Available at https://www.pkc.gov.uk/article/15280/Trees-and-Woodlands (accessed 31st May 2023)

Perth and Kinross Council, 2023b, *"Local Development Plan"* [Online]. Available at https://www.pkc.gov.uk/article/15042/Adopted-Local-Development-Plan (accessed 31st May 2023)

Scottish Badgers, 2023, *"Badger Surveying"* [Online]. Available at https://scottishbadgers.org.uk/badger-surveying.asp (accessed 31st May 2023)

Scottish Government, 2023 *"Scotland's Environment Web"* [Online]. Available at https://map.environment.gov.scot/sewebmap/ (accessed 31st May 2023)

Scottish Squirrel Survey, 2023, *"Scottish Squirrel Survey"* [Online]. Available at http://www.scottishsquirrelsurvey.co.uk/ (accessed 31st May 2023)

Stace, C, 2019, *"New Flora of the British Isles 4th Edition"* C&M Floristics

Tayside Biodiversity Partnership, 2023, *"Tayside Biodiversity Action Plan"* [Online]. Available at https://www.taysidebiodiversity.co.uk/ (accessed 31st May 2023)

Turley

31 May 2023
Delivered by email

John Williamson
Perth and Kinross Council
Pullar House
35 Kinnoull Street
Perth
PH1 5GD

Ref: LEEH3005

Dear Mr Williamson,

STANLEY COMMUNITY SPORTS HUB (PLANNING APPLICATION REFERENCE 22/01959/FLL & LISTED BUILDING CONSENT REFERENCE 22/02244/LBC)

I am writing with reference to the planning and listed building consent applications for Stanley Community Sports Hub (References 22/01959/FLL & 22/02244/LBC), specifically with reference to comments made in relation to the proposed removal of the church hall to the rear of St Columba's Episcopal Church, and the effects of this upon the special interest of the listed building.

The documents submitted with the application (in particular the Design Statement) explain the background to the proposals. The vision for the project is to create a community sports hub providing a focus for community life, and to support learning, outreach, activity and sport from a single location at the centre of the town. The location for the proposed hub is situated at the centre of the village, and reuses the derelict village tennis courts. The location allows the hub to connect directly with a number of other community assets including the school, the school playing fields the bowling club, the town square, and St Columba's Episcopal Church.

Legislation and Policy Context – Listed Buildings

National policy (Policy 7b of NPF4) establishes the presumption against the demolition of listed buildings, in recognition that this would result in the loss of the special architectural or historic interest which provides the reason for designation. This accords with the statutory requirement to *"have special regard to the desirability of preserving the building"* as set out in Section 14(2) of the Planning (Listed Buildings and Conservation Areas (Scotland) Act 1997 ('the Act).

Demolition is clearly defined in national guidance as *"the total or substantial loss of a listed building"* (Page 4, Managing Change in the Historic Environment: Demolition of Listed Buildings, Historic Environment Scotland April 2019). The guidance document goes on to set out a series of considerations that should be taken into account where (total or substantial) demolition of a listed building is being explored. These stringent considerations, were developed mindful of the presumption against (total or substantial) demolition resulting in the total loss of special interest of a listed building as set out in Section 14 (2) of the Act. The decision to demolish a listed building is a last resort and the criteria set out

7-9 North St David Street
Edinburgh
EH2 1AW

T 0131 524 9442 turley.co.uk

therefore set a high bar against which proposals for (total or substantial) demolition of a listed building must be justified. Policy 7b of NPF4 reiterates these criteria, originally set out in the Managing Change demolitions guidance.

The Managing Change in the Historic Environment: Use and Adaptation of Listed Buildings guidance (Historic Environment Scotland 2019) sets out details of five approaches to secure the continued use or reuse of listed buildings. Whilst the application at Stanley is not for reuse of the listed building (the church), it does relate to redevelopment of its surroundings, which over time may encourage better use of the listed church building as part of the wider group of community assets in which it would be located. The Managing Change in the Historic Environment: Use and Adaptation of Listed Buildings guidance notes that one or more of the five approaches mentioned in the guidance may need to be adopted in a given situation. The options described are: Minimal intervention, Adaptation, Extension, Selective demolition and Enabling. The guidance provides the following definition of selective demolition:

> *"Selective demolition involves the removal, or demolition, of parts of a listed building in order to enable the significant parts of a listed building to be retained. Later extensions of little interest, or even less important component parts of the original building are likely to be the best options for removal"* (Page 13)

Application of Legislation, Policy and Guidance to Assessment of the Removal of the Church Hall

Section 2 of the Heritage Assessment submitted with the applications (Turley Heritage 2022) assesses the architectural and historic interest (significance) of the listed building. The assessment includes consideration of the contribution that the church hall makes to the special interest of the listed building. The assessment concludes that the church is of special interest as *"a good example of a late 19th century partly prefabricated church building designed for the Episcopal Church, which has undergone limited alterations, and remains in use as a church"*. The church hall is concluded to be *"of limited architectural interest, containing few architectural details and surviving in poor disused condition"*. As such it is concluded that the hall does not contribute to the special interest of the adjacent church.

The proposed development would involve the removal of the church hall to the rear of St Columba's Episcopal Church (a Category C listed building LB48626). This removal forms part of a wider proposal to allow the creation of a community sports hub which will provide a focus for community life at the centre of the town. The Church, which is the principal element of the listed building and the reason for its special architectural and historic interest meriting designation, would be retained.

The church hall's removal is therefore an example of selective demolition, involving the removal of part of a listed building, enabling its most significant parts to be retained. The consultation response (email sent Monday 27 March 23) agrees with this, noting that *"The proposed development is to the west of the category C listed St Columba's Episcopal Church, requiring its partial demolition"*.

The removal of the church hall should therefore correctly be considered against the criteria in the following legislation policy and guidance.

- The Listed Buildings and Conservation Areas (Scotland) Act 1997, and the associated guidance:
  - Interim Guidance on the Principles of Listed Building Consent (April 2019)
  - Managing Change in the Historic Environment: Use and Adaptation of Listed Buildings (April 2019)
- Policy 7c of NPF4
- Policy 27A of the Perth and Kinross Local Development Plan 2 (Adopted 29 November 2019)

The Managing Change Demolitions guidance is not applicable to these proposals, and it is not appropriate to consider the proposals against the stringent criteria set out therein, which are reiterated in policy 7b of NPF4.

Assessment of Effects on Special Interest of St Columba's Episcopal Church Resulting from Removal of the Church Hall

The Heritage Assessment submitted with the applications assesses the effects of the removal of the church hall upon the special interest of St Columba's Episcopal Church. The assessment concludes that the removal of the church hall would not harm the special interest of the listed building, and that there would be some enhancement to the special interest of the listed building resulting from returning it to its original simple plan form. The removal of the church hall is therefore considered to accord with the statutory duties as set out in Sections 14 (2) of the Act, and the Interim Guidance on the Principles of Listed Building Consent. The church building, which is the principal reason for the designation having been made, would be retained.

In the event that the Council consider that the removal of the church hall would have an adverse impact on the special interest of the listed building, paragraph 15 of the Interim Guidance on the Principles of Listed Building Consent would apply. This paragraph sets out criteria which the planning authority should take into account in reaching decisions, and notes that significant benefit for the wider community would justify a departure from the assumption against works that adversely effect the special interest of a listed building. The removal of the Church Hall is required as part of a wider proposal to allow the creation of a community sports hub which will provide a focus for community life at the centre of the town, resulting in wider community benefits. If the demolition is not permitted then the proposed development and associated wider community benefits could not be realised.

National Planning Framework 4 (NPF4) was adopted in February 2023, after submission of the planning application and associated documentation, including the Heritage Statement. Policy 7c of NPF4 reiterates the requirements of the Act and the associated HES guidance. As such, the removal of the church hall is considered to be in accordance with the requirements of NPF4 with regard to effects on the special interest of St Columba's Episcopal Church.

Policy 27A of Perth and Kinross Local Development Plan similarly reiterates the requirements of the Act and associated guidance, requiring that any proposed alterations to a listed building *"should not adversely affect its special architectural or historic interest"*. As such, the removal of the church hall is considered to be in accordance with Policy 27A of the Local Development Plan. The church building would be retained as part of the proposals, and its special interest, for which it was designated would remain.

Summary

We have set out above the legislative and policy context against which the proposals for the removal of the church hall to the rear of St Columba's Episcopal Church should be assessed. The church hall's removal is an example of selective demolition involving the removal of part of a listed building, enabling its most significant parts to be retained. The special architectural and historic interest and reason for the designation of the listed building would remain.

You may wish to seek separate legal advice on which policy (or parts thereof) and guidance are the most appropriate to apply in consideration of the planning and listed building applications. We would also be happy to have a meeting with you to discuss these matters in further detail.

Yours sincerely,

Catharine Kidd
Director, Heritage and Townscape

catharine.kidd@turley.co.uk

Arboricultural Impact Assessment

for

Stanley Development Trust

Proposed Development of a Community Centre on the Site of
The Old Tennis Courts and Memorial Garden, West Park, Stanley, PH1 4QU

by

Awen Tree Consultancy
Ecological & Horticultural Services

Ref: JB/2
Date: 26.04.23

Arboricultural
ASSOCIATION
Technician Member

Contents

Figures

Tables

Synopsis

The proposed development site is comprised of a Church and its grounds, a Memorial Garden, and a disused tennis court. It covers an area of approximately 1 acre. The impact on retained trees and ecosystem will be negligible once CEZ's are in place assuming reinstatement and hedge planting are also completed.

No trees or their parts were found to be hazardous. Three trees are scheduled for removal and replacement:

- Tree tagged 81 *Betula pendula* (Silver Birch). Remove to below ground. Replace post construction phase.
- Tree tagged 82 *Betula pubescens* (Downy Birch). Remove to below ground. Replace post construction phase.
- Tree tagged 89 *Alnus glutinosa* (Alder). Remove to below ground. Replace post construction phase.

Light pruning work is recommended for trees tagged 84, 86 and 88. Trees tagged 84 and 86 would benefit from a little weight reduction in their eastern aspect. Tree tagged 88 would benefit from weight reduction to its easternmost limb due to developing (early) shear cracks close to the trunk. These trees represent a low risk.

Other prominent notes:

- The tree tagged 84 shows kinking/buckling low down in the western aspect of its trunk (relatively early stage). Tree tagged 86 shows less significant signs of the same strain indicator. Tree 84 also shows signs of basal decay (to be monitored).
- Trees 83, 84, 86 & 88 have received relatively light damage from an axe.

Construction Exclusion Zone fencing should be installed as detailed in table 9.2.

The tree works schedule is shown in table 10.1 and the recommended re-inspection suggestions are noted in section 10. A glossary of terms can be found in appendix 1 and further information (which may be helpful) can be found in appendix 2. Individual tree survey details are found in the Tree Data Schedule, appendix 3.

The locations of the surveyed trees can be viewed here on Google Maps.

Additional 2023

Site was resurveyed 25.04.23. The previously surveyed trees are effectively unchanged in their condition and circumstances. Recommendations for pruning and tree care recommendations from the 2022 report JB/1 are renewed as previously stated.

Changes to the site are minimal. Tags have been removed, by someone, and there is some fresh damage to one of the trees. Appendix 4 presents an annotated visual record of the surveyed trees as tags are not working for this site.

The old tennis court is now overgrown with young prospect trees. These present a resource which could be taken advantage of. Due to the old surface of the court being close to the surface they will have shallow root plates (confirmed by investigation). In time this will become an issue. The hundreds of young trees represent a cash value of at least £1000. As such many of these trees could be saved and planted elsewhere. Some could be replanted on-site post construction as appropriate. Those that about 50cm from ground to apex should be transplanted, ideally in autumn when they are dormant. The most valuable plants are the young *Pinus sylvestris* (Scots Pine). Regardless of what occurs with this site these young plants need to be controlled as they will be far more expensive to deal with in years to come.

As far as woodland resources are concerned the trees are not particularly important (ecologically) considering their species and that compensatory or replacement planting is a good and realistic option in this case. A heavy standard tree would be a suitable replacement for each (tagged) tree that is removed. Oak is a good choice, as are novel Rowans (example). Assistance with replacement tree selection and sourcing is available.

There is the option of choosing a different surface for any paths that could run over root plates. A permeable surface could be installed, such as those manufactured by Infra Green.

Sections that are additional to the previous report, are found in section 6.5, 7.6, and sections 10.14 to 10.17. Appendix 4 is also additional.

1. Introductory Details

1.1 Assessors Authority – I am a fully qualified and insured Professional Tree Inspector, skilled in the practice of Visual Tree Assessment (VTA). I hold a 1st class honours degree in Horticulture with Plantsmanship (Plant Science), gained at The Royal Botanic Gardens Edinburgh and Glasgow University, and a P.G. Dip. (Merit) in Forestry (Ecology and Management) from Bangor University, Wales. I have current memberships with the Arboricultural Association (Technician Grade (Tech.Arb.A)), and the Institute of Chartered Foresters (Associate).

1.1.1 Ormungandr Melchizedek (Arboriculturalist, Ecologist, Horticulturalist). Awen Tree Consultancy, Horticultural and Ecological Services. www.awentreeconsultancy.org

1.2 Client Details: This report was re-commissioned by the Stanley Development Trust on 31.03.23 as more than a year had passed since the previous report. The client determined the information collection criteria as: Please provide an Arboricultural Impact Assessment that records significant trees on the property within the vicinity of the proposed development and provide arboricultural recommendations. Please also include details on how the root protection areas of these trees will be protected during construction and form an objective conclusion on the requirements of any tree and hedge reinstatement.

1.3 Site address: Proposed Development of a Community Centre on the Site of The Old Tennis Courts and Memorial Garden, West Park, Stanley, PH1 4QU. An aerial photograph of the location is shown in below in Figure 1.1.

1.4 Objectives and Scope

The objectives of this report are to:

- Identify and record significant trees on the property, within the vicinity of the proposed works.

- Assess the condition (vitality) and potential hazards (defect symptoms) via a Visual Tree Assessment adhering to best practice methodologies as laid out in BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations.
- Recommend a Stage 2 inspection, or any retention/removal works and/or future management options as necessary.

The scope of this report is to:

- Assess the risk of any hazards found to adjacent targets.
- Assess the impact of works on extant biological assets.
- To provide a clear written report to assist in the consideration of any liability implications and to aid future assessments should they occur.
- Produce a Method Statement detailing how trees shall be protected from the proposed construction activity.
- Provide arboricultural recommendations.

Figure 1.1: Aerial Photograph of the property location. Image: Google Earth, 2022.

1.5 “An Arboricultural Impact Assessment is also known as: Arboricultural Implications Survey, Arboricultural Implication Assessment, Arboricultural Impact Appraisal or Pre-Development Tree Assessment. The assessment must be carried out in accordance with the current British Standard 5837.” Ribble Valley Gov.uk, 2019.

2 Caveats and Limitations

- This report will remain valid for the duration of one year after the date of inspection.

- This report relates to tree conditions and the site assessment on the day the site was examined. The trees were not climbed, and no aerial inspection was undertaken.

- Healthy trees may fail in unpredictable weather such as high winds or heavy snowstorms. Even intact trees can fail in the normal course of events, without anyone or anything to blame. As such, a change of circumstances in relation to unusual weather conditions, including flooding, will abrogate the content of this report and Awen Tree Consultancy cannot be held liable for any such failures.

- Any change in soil levels or soil condition caused by abiotic factors not noted in this report that affect the overall health or failure of the tree will abrogate the content of this report and Awen Tree Consultancy cannot be held liable for any such failures.

- Any change in the surrounding land use affecting the health or failure of the tree will abrogate the content of this report and Awen Tree Consultancy cannot be held liable for any such failures.

- No invasive decay detection equipment was used to assess any possible rot or cavities within the tree itself.

- No wood or soil samples were taken for further analysis.

- The roots and any underground services were not inspected by anything other than a visual inspection.

- Any information or legal description given to the inspector is assumed to be accurate.

- No accountability is accepted by Awen Tree Consultancy for legal matters that may arise from this report, and the inspector shall not be involved in any court attendances or testimonies unless subsequent contractual agreements are made.

- This report remains valid as a whole, any alterations or deletions made will negate that validation.

- All measurements of the trees are close estimates. GPS locations have an error of 5m.

- Awen Tree Consultancy is not liable for any failure in relation to any act of Force Majeure.

- Any work recommended by this report and hence undertaken is the responsibility of the landowners.

- Due care and consideration should be given to wildlife (nesting birds or bats) where possible, particularly to protected species. Fines can be large!

- There is no way to credibly assess risk (with zero error) within a given period, apart from obvious emergency work, as we cannot see inside of trees or their parts. No risk assessment system is truly quantifiable for this reason. What can be done and is done is the reading of tree body language for signs of structural weakness and notable diseases which tend to lead to failure of whole or part. The Visual Tree Assessment (VTA) focuses on visible biomechanical issues and the presence of notable decay organisms. When a tree is noted to present a risk, it must be given a window for action even though the tree or its part may well remain for months or even years more than this window. This is so because we must err on the side of caution where people and property are concerned. To achieve this any observed risk of any significance must be given an advisory action period (6 weeks, 3 months etc) for mitigation works to be commence within, and so that these works can be prioritised in order of seriousness for efficiency and cost effectiveness.

3 Definition of Key Terms Relating to Root Areas

Some terms used within this report require clear understanding. These are defined below:

3.1 Root Protection Area (RPA)

This is the area of ground around a tree where the roots proliferate. Ground disturbance in this area must be avoided. RPAs are discussed in section 9.

3.2 Construction Exclusion Zone (CEZ)

These zones are created to protect roots and canopies from inadvertent damage by construction activity and are set up beyond all RPA's. They are usually fenced off by protective fencing throughout the entire construction phase. No works are permitted in these zones other than minor landscaping works (such as removal of hard surfaces and replacement with soft landscaping). Where practicable the entire Root Protection Area and the area beneath the tree canopy shall be treated as a Construction Exclusion Zone.

3.3 Restricted Activity Zone (RAZ)

It is not always practicable to create a CEZ over the entire RPA. This is because access may be required, or some works may be proposed within the RPA. In such circumstances a RAZ is created where limitations are placed on construction activity. Ground protection measures may be specified or the RAZ may be fenced off throughout part of the construction phase. A RAZ should be agreed with the council.

Further definitions can be found in the Glossary of Terms.

4 Methodology and Method Statement

4.1 Methodology

The stage 1 Visual Tree Assessment (VTA) carried out on these trees was done according to the best practice methodology as established by Claus Mattheck (Mattheck, et al., 2015), looking for defect symptoms and assessing vitality. Data was recorded in line with *BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations*. Collected data was entered on the sheet in the Tree Survey Schedule, appendix 3.

4.2 Method Statement

4.2.1 Tree protection measures specified within this report should be agreed with the local planning authority regarding planning consent.

4.2.2 The site manager must be familiar with all aspects of this report and shall liaise with the author of this report for clarification, or regarding any unforeseen issues where trees may be impacted upon.

4.2.3 All personnel working on the site shall be made aware of any sections appertaining to their work. This includes short term contractors and persons responsible for deliveries and the installation of services.

5 Site Location and Description

An Ordinance Survey (OS) map that shows highways and buildings on and around the site is shown in Figure 5.1. below.

OS Grid Ref: NO 10762 33033

The development site covers approximately 1 acre. It comprises of a war memorial garden and church grounds to the east, and scrubland, disused tennis courts and the eastern edge of a play park to the west.

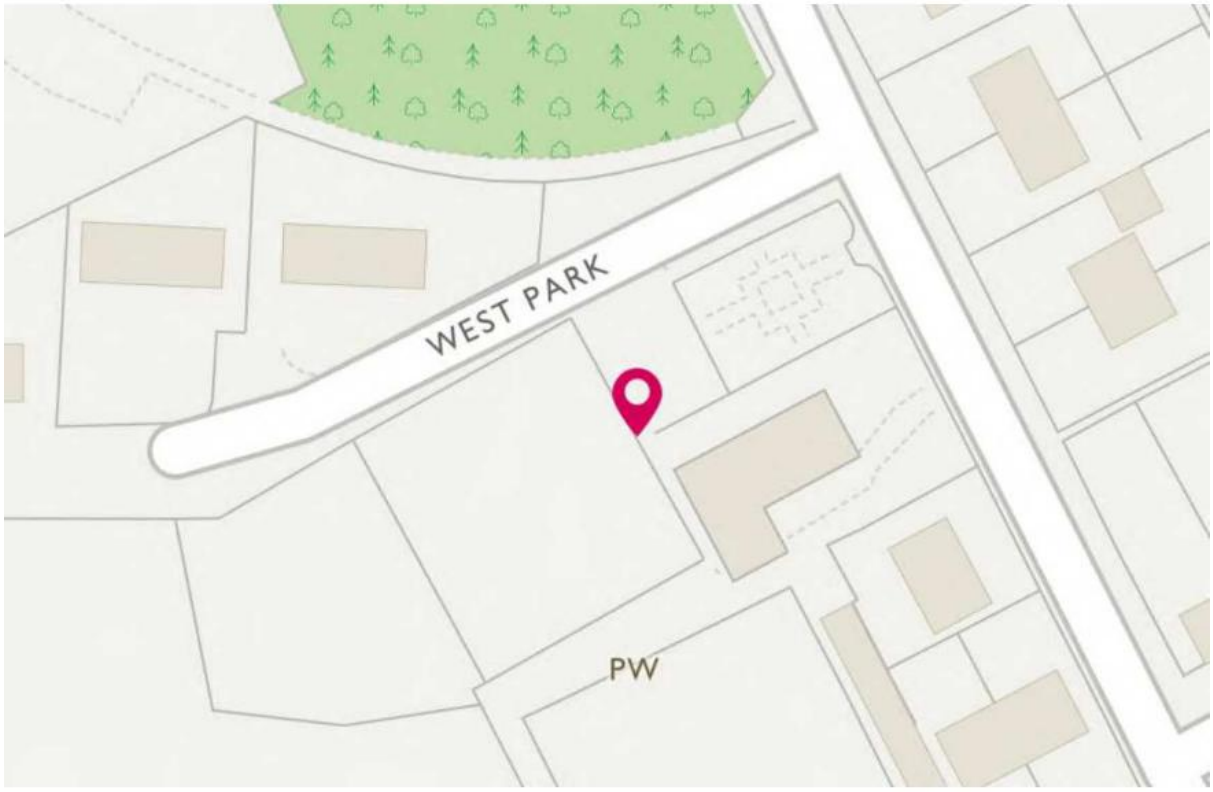


Figure 5.1: OS Map of the property. OSMAP, 2022.

5.1 General Observations

- No observable powerlines.
- Mature Leylandii hedges (wildlife habitat) run along the roadside and bowling green side of the site, mostly adjacent to the tennis courts.

- Tree damage by vandalism. Some were noted to have wounds in their bark that look like they were made with an axe or perhaps a large blade. This increases the requirement of good tree and hedge protection upon replanting post construction. New damage was recorded in 2023.

6 Tree Survey and Vegetation Overview

This section focuses the composition of the living assets, provides a visual guide to the priority of trees works and explains the protection status of any trees. The locations of the surveyed trees are shown in Figure 6.1 and can be viewed here on Google Maps. Trees marked Red are scheduled for removal as soon as is reasonably practicable. Orange indicates remedial action is required (deadwooding, removal when convenient, necessary pruning work, optional formative pruning etc) and Green indicates no action required in the foreseeable future. Those that are Purple are marked for removal and replacement. See table 10.1 for the work schedule.

As of 25.04.23 the tennis court is overgrown with hundreds of young trees.

Figure 6.1: Tree Location Map showing the surveyed trees. Google Maps 2021.

6.1 Tree Protection Status

According to Perth and Kinross Council heritage map, figure 6.2, there are no Tree Protection Orders or Landscape Designations on the site. However, there are listed buildings present.

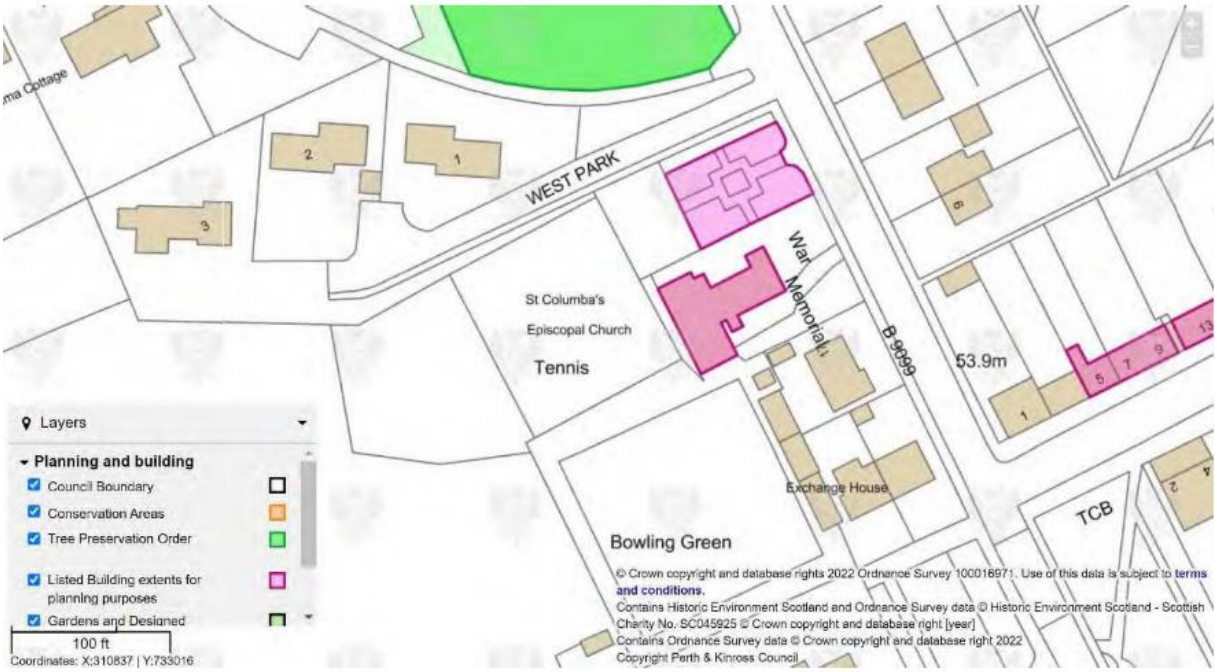


Figure 6.2: Site Designations. Perth and Kinross Council interactive map indicates that the site is not designated as a Conservation Area, nor are there any Tree Protection Orders on any trees. However, there the church and the memorial grounds are listed community assets. Source: https://www.pkc.gov.uk/heritagemap

6.2 Tree Protection – General Notes

Before undertaking works to trees protected by a tree preservation order, consent needs to be obtained from the local authority which will provide application forms and advice to potential applicants. The removal of hazardous dead wood is exempt.

Where the works on protected trees are proposed for reasons of safety or ill health, a report from a suitably qualified consultant arborist is required. Trees that are dead, dangerous, or dying are technically exempt from protection, though it would be prudent to give the local authority 5 days' notice of intention and take photographs before undertaking works without prior consent being granted. Fines of around £20,000 per tree exist for unauthorised works to protected trees.

Where trees are in a conservation area, works are not permitted without first giving the local authority 6 weeks' notice of intention. During this time the local authority may elect to create a tree preservation order or to inform the applicant that they have no objection to the proposed works. If the local authority does not respond within 6 weeks,

then the intended work may be undertaken. Where planning permission is granted, and tree works have been approved as part of the planning consent no further application is required in respect of protected trees and no further notice is required in respect of trees within any Conservation Area or Tree Protection Order.

6.3 Tree Species Present on Site

The table, 6.1, below contains general information about the tree species that were observed in the project area.

Table 6.1: Site Species Composition. General information and comments.

Species	Comments
Alnus glutinosa (Alder)	Pioneer tree. Very tolerant of waterlogged conditions. Native Scottish. Can grow to 30m tall with a crown diameter of 12m+. Tendency to multi-stem/co-dominance. Vigorous regrowth from stumps. Can also produce a lot of epicormic growth. Very hardy. Notable mutualism with bacteria that fixes nitrogen from the atmosphere. Often used to stabilise riverbanks and assist in flood control.
Betula pubescens (Downy Birch)	Medium small native pioneer tree. Very hardy. The branches of Downy Birch are not drooping, as is characteristic of the similar *Betula pendula* (Silver Birch) tree. Also, the twigs are hairy or downy unlike the Silver Birch. Very tolerant of wet ground. Can live for 120 years and reaches a height of about 20m. Often does not live beyond 80 years due to the common Birch Bracket fungus *Fomitopsis betulina.* Like other Birch species it also sometimes a host to the slow developing fungus *Inonotus obliquus* (Chaga).
Larix decidua (European Larch)	Non-native conifer, deciduous. Can reach 50m tall, usually with a single trunk supporting a pyramidal to columnar crown of thick, down swept branches. Was extensively planted by the Forestry Commission (Now called Forestry and Land Scotland) until it was recognised as a major vector of *Phytophthora sp./ssp.* (The Plant-Destroyer). Now it is being systematically removed from the landscape and will not be replanted. Resistant to most fungi and bacteria.
Tilia sp. *(Limes)*	A genus of about 30 species of trees or bushes, native throughout most of the temperate Northern Hemisphere. Not closely related to the tree that produces the lime fruit. The genus occurs in Europe and eastern North America, but the greatest species diversity is found in Asia. Most common in gardens and parks is *Tilia x europaea*, a hybrid (between *Tilia cordata* (small-leaved lime) and *Tilia platyphyllos* (large-leaved lime)) called Common lime or Common linden. This is a large deciduous tree which can reach 50m tall.
Pinus sylvestris (Scots Pine)	Native evergreen. Several mature trees. Straight single trunks indicate forestry tree stock, gnarly and misshapen ones tend to be of old Scottish genetics. Can live over 700 years. Oldest European trees can reach 40-50m with a trunk diameter up to 4.5 meters. Biggest in Scotland has a diameter of 1.6m.

6.4 Other Significant Vegetation Observed on Site

The following species were also observed under cursory inspection (in hedges):

- *Fagus sylvatica* (Beech). In hedges.
- *Fraxinus excelsior* (Ash). In hedges and as prospects/weeds in various places.
- *Sambucus nigra* (Elder). In hedges.
- *Ilex aquifolium* (European holly). In hedges.
- *Cuprocyparis x leylandii* (Extensive hedge) Ideally not to be reinstated.
- *Rhododendron* cultivars. In the memorial garden.

There are other hedging species there that are not on this list e.g. Ivy.

6.5 Re-survey Overview April 2023

The following points outline any changes to the site:

- The old tennis court has been colonised by hundreds of young trees.
- The previously surveyed trees are effectively unchanged in their condition and circumstances.
- ID tags have been removed from most of the trees. One remaining tag is bent like someone has been twisting it. Tags were not replaced as the locations of the trees is clear in this report (see appendix 4) and they would only be removed again.
- Previous pruning and tree care recommendations stand.

7 Impact Assessment and Survey Discussion

7.1 Overview of the Impact of the Development

The proposed construction of a community centre should have negligible impact on the retained tagged trees once Construction Exclusion Zones are in place. The installation of permeable paths would also sufficiently protect root existing systems. Failing this, the removal and suitable replacement of extant trees is a reasonable course of action. The Leylandii and mixed hedges along with the medium mass *Rhododendron* cultivars in the memorial garden will need to be removed to undertake the development efficiently. Replacement of their living mass is relatively easy, see section 10.

7.2 Impact on Retained Trees

The impact on the roots of the retained surveyed trees should be minimal/negligible once barriers are in place. Care is required thereafter moving soil in proximity to their CEZ's.

It is important that any landscaping operations, underground service routes or other ground works are carefully assessed and undertaken in a manner approved by the local authority and specified in a Method Statement specific to this task which details how trees will be protected.

Where possible, adequate space should be allowed between all retained trees and the proposed works, respecting the CEZ's, table 9.2. Consequently, the construction proposal should not result in an increased pressure to remove or prune any of the retained trees that have not been designated for removal.

7.3 Impact of General Construction Activity

Needs be that all the hedges and mature shrubs will have to be removed prior to the start of the construction phase. This represents the loss of two tagged Birch, two

untagged trees that were too small to be included in the survey and around 400 plants across the whole site, most of which comprise hedging that is either deciduous or coniferous.

Tree protection measures are specified throughout Section 9 to ensure that the impact of general construction activity shall be minimal. It is imperative that all site personnel, including temporary contractors, are made aware of the Arboricultural Method Statement and the restrictions which apply.

7.4 Impact on Underground Services and Drainage

Non-observable.

7.5 Notable Tree Issues

The tree tagged 84, figure 7.1, has lower trunk decay and the initial signs of buckling in its lower western aspect. This should be monitored by re-inspection every 1.5 years. The tree tagged 86 has a similar though lesser buckling issue. Both trees would benefit from minimal weight reduction on their eastern aspect that is not crown lifting. See section 10.

Figure 7.1: Tree 84. Early buckling signs to west aspect at 0.5m. Caused by a combination of lower trunk decay and the return sway (mass damping) of the tree once released from wind load.

The tree tagged 88 displays the development of shear cracks in its easternmost limb. Figure 7.2 shows a view from the north. This limb will not remain attached if weight is not reduced sooner rather than later at its extremities, and it may fail within a year or two if nothing is done. The option of removing the limb entirely is not an unreasonable choice as it may be cheaper (crown balancing would be required too). However, it would look better if the limb was reduced third as much of the balance would be retained.

Figure 7.2: Tree 88. Shear cracks that require monitoring if the limb weight is not reduced.

Some of the trees show wounding consistent with the use of an axe, figure 7.3, and again in the last year, appendix 4. Haphazard scarring of the bark and the depth of the wounds indicates that it was someone who did not know how to use one. The tree tagged 88 has received the most wounds. They are not particularly severe, but most are ingress points for decay organisms.

Figure 7.3: Trees 83, 84, 86 & 88. Vandalism with an axe.

7.6 The Tennis Court

The old tennis court has been colonised by hundreds of small *Betula sp,* (Birch), *Pinus sylvestris* (Scots pine), some *Larix decidua* (Larch) and *Sambucus nigra* (Elder), see appendix 4.

Most of these young trees will have shallow root plates due to the surface of the tennis court being just below the moss and debris. Due to this shallow root plate most will be effectively co-dependent with their neighbours and will develop into problem trees due to shallow root plates, if they do not penetrate the old surface.

8 Timing of Operations

Activity within the site should be phased according to the following schedule:

- **Phase 1:** Undertake all specified tree works, including plant removal and ground preparation.
- **Phase 2:** Install the tree protection (CEZ) fencing as instructed and prune roots or remove trees as required.
- **Phase 3:** Construction phase.
- **Phase 4:** Remove protective fencing and undertake any landscaping operations such as tree replacement.

9 Pre-Construction Phase

The location of any underground services needs to be agreed and approved by the local authority ideally taking into consideration any landscaping proposals within the CEZ's of any retained tree.

9.1 Tree Works

9.1.1 British Standards: All tree work shall be carried out to BS 3998 (2010). Wherever possible pruning cuts shall be made close (not flush) to the branch collar or a secondary growth point. Cuts should be made with sharp, clean tools. No wound sealants should be used.

9.1.2 Choosing an Arborist/Tree Surgeon

Almost anyone can use a chainsaw. Few know how to use a chainsaw safely, and a lower number than this know how to both use a chainsaw safely, benefit a given tree with appropriate remedial works and are up to date with protocols regarding dealing with plant pathogens such as *Phytophthora sp./ssp.* (The Plant-Destroyer), *Armillaria mellea* (Honey Fungus) or *Hymenoscyphus fraxineus* (Ash dieback). It is a good idea make sure your contractor is suitably qualified and insured. To this end it is wise to become familiar with the recommendations of the Arboricultural Association in regard to contracting an Arborist/Tree Surgeon: Choosing your Tree Surgeon. In the UK there are two recognised schemes certifying the competence of arborists through examination and regular re-assessment or Continuing Professional Development (CPD): The Arboricultural Association (AA) and the International Society of Arboriculture (ISA). It is recommended that your arborist is an approved contractor of one or both of these Non-Government Organisations. **N.B.** Not being a member of the AA or ISA does not mean an Arborist is not highly skilled and knowledgeable. It is just much harder for a non-expert customer to assess the arborists skill and knowledge prior to accepting a quote from them with confidence. See the Approved Contractor Directory.

9.2 Tree Protection Fencing

Fencing should be installed with an awareness of the RPA data in table 9.1 and according to the CEZ data in Table 9.2. A sturdy In-Ground System, or Back-Stay System, should be installed for each tree or area of trees. Two systems are specified below. Where possible it is recommended that the Back-Stay System is used as it minimises root damage. In the rare circumstance where fencing is unviable it is appropriate to wrap trunks with trunk padding.

9.3 The In-Ground System

This system involves driving scaffold poles into the ground, onto which are affixed horizontal scaffold poles and diagonal bracing struts. Weldmesh panels (or similar – e.g. fencing panels, or 18mm+ plywood boards) are secured to this scaffold framework using standard scaffold clips. The system is illustrated in the diagram to the right, Figure 9.1, and is based on BS5837 guidelines. This kind of system is robust enough to withstand occasional knocks by plant machinery. It does however have the potential to damage roots when the scaffold poles are driven into the ground.

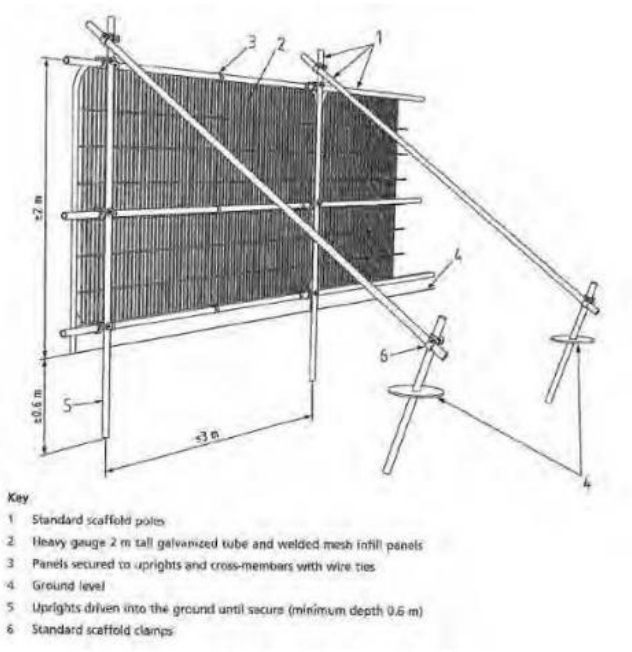


Figure 9.1: The traditional In-Ground System. Extract from BS 5837.

9.4 The Back-Stay System

This system, Figure 9.2, is robust and may be installed as an alternative to the In-Ground System. It is also more practical over hard surfaces. Within this system, each fencing panel (minimum height 2m) is attached to a diagonal back stay connected to an additional foot or tray with additional ballast. The total weight of the foot/tray plus

ballast should total not less than 32kg. The panel should be secured in the edge holes of the front foot and one foot per two panels should be further secured using ground pins. This system will withstand occasional knocks by machinery and is not easily relocated.

9.5 Protecting Roots with RPA's, RAZ's and CEZ's

Compaction and root disturbance / severance have a detrimental impact to the immune systems of trees and their ability to resist and compartmentalise damaged or diseased parts. Therefore, areas of protection are established. Any tree with a trunk diameter wider than 75mm is deserving of an RPA.

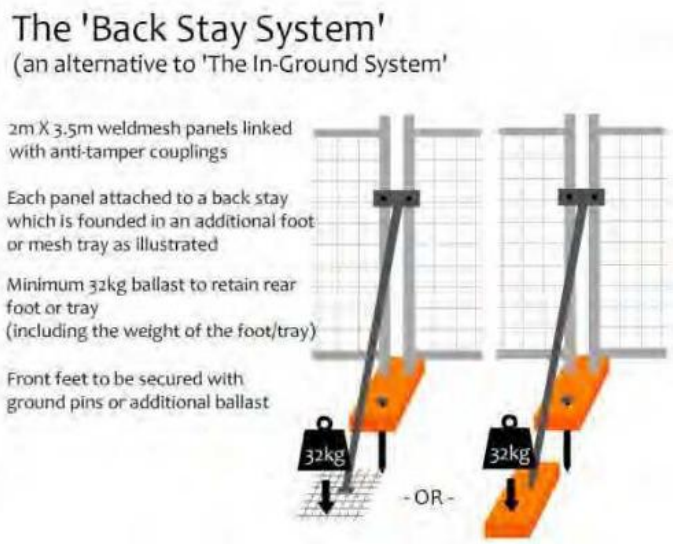


Figure 9.2: The Back Stay System. Image: Crown Consultants, 2015.

Root Protection Areas (RPA) are mandatory for all significant trees, tables 9.1, 9.2. Where activity is unavoidable a Restricted Activity Zone (RAZ) can be agreed. Compaction can be avoided to a reasonable degree with the addition of compressive material that is installed over the outer root plates, figure 9.3.

Healthy root space is a required for healthy trees. This is about 4 x the trunk diameter at 1.5 meters above ground in radius e.g. a tree with a trunk diameter of 1m would have about a 4m RPA extending from the trunks buttresses/root flair. The maximum RPA of any tree is a circle of approximately 707m2. This is equivalent to a circle with a radius of 15m or a square with approximately 26m sides (e.g a 150-year-old Giant Redwood). This area is not where roots stop. Generally, feeder roots extend outwards to around 1.5 x the height of a tree and mostly occupying the top meter of a given rooting environment. RPA's are non-negotiable.

The Construction Exclusion Zones (CEZ) extends out from the trunk to a radius that approximates a point just beyond the outermost edge of a given trees drip line (like an

umbrella). CEZ's should be established prior to any construction work, and this is where the fencing is installed. In the case of a copse a much larger CEZ area can be installed. CEZ's can be adjusted with the council's agreement and adapted to become a Restricted Activity Zone (RAZ) that is only accessed when there is no alternative.

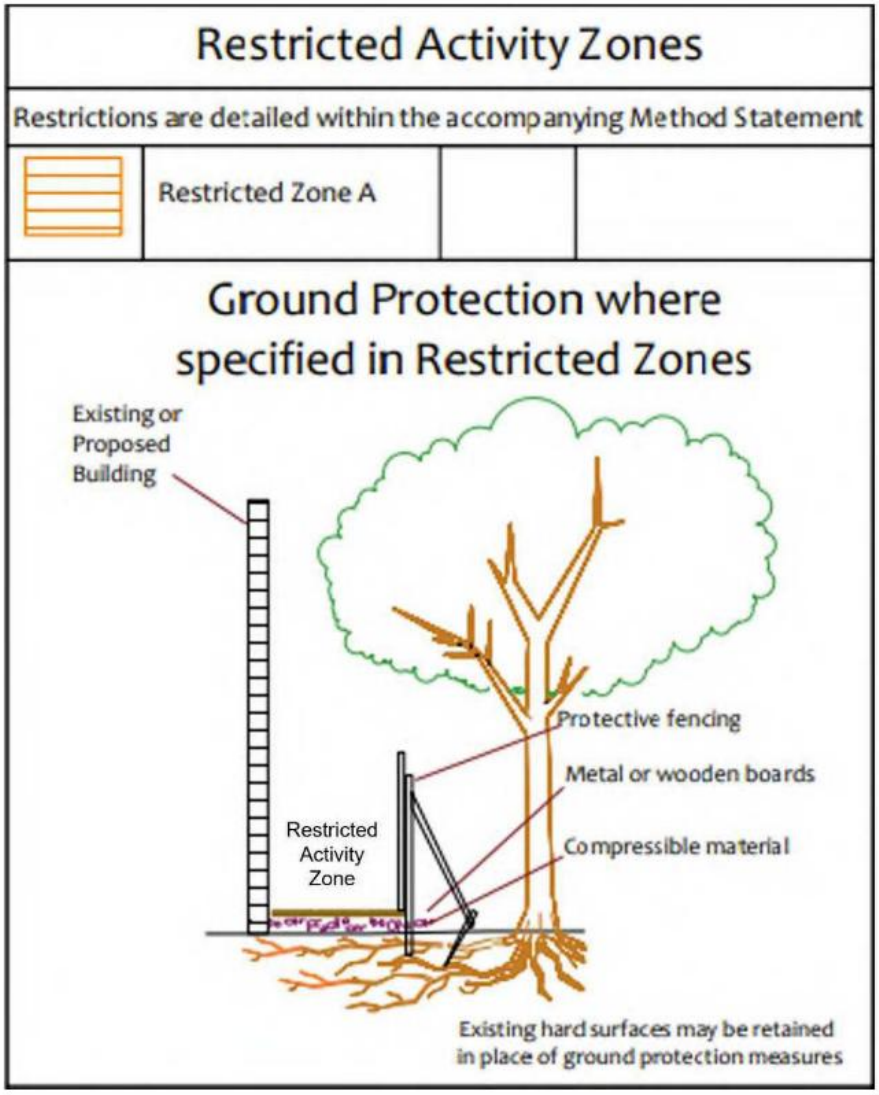


Figure 9.3: Restricted Activity Zone. Additional compressive material that is to be installed over the outer root plate, as a RAZ. This area should not be used as a thoroughfare. Image: LEEBOYD, 2023.

9.6 Construction Exclusion Zone (CEZ) areas

These zones should be protected by fencing throughout the entire construction phase. No works are permitted in these zones other than minor landscaping works (such as removal of hard surfaces and replacement with soft landscaping), unless the council agrees, and a Restricted Activity Zone is created. The outermost dripline defines the

CEZ. So, if a branch extends 8m out from the trunk then the CEZ is 8m in radius. The CEZ's of the surveyed trees is detailed in table 9.2 below.

Table 9.1: Root Protection Areas (RPA). RPA = 12 x Tree Diameter. The maximum RPA of any tree is a circle of approximately 707m^2. This is equivalent to a circle with a radius of 15m or a square with approximately 26m sides.

Tag No.	Species and GPS	Tree Diameter (mm)	RPA **radius** (distance from trunk) in meters
81	*Betula pendula* (Silver Birch)	205	n/a to be removed and replaced
82	*Betula pubescens* (Downy Birch)	385	n/a to be removed and replaced
83	*Tilia x europaea* (Lime)	445	4.5
84	*Alnus glutinosa* (Alder)	535	5.5
85	*Alnus glutinosa* (Alder)	375	4
86	*Alnus glutinosa* (Alder)	505	5
87	*Alnus glutinosa* (Alder)	565	5.5
88	*Tilia x europaea* (Lime)	545	5.5
89	*Alnus glutinosa* (Alder)	545	n/a to be removed and replaced

Table 9.2: Construction Exclusion Zone (CEZ). CEZ = distance from trunk to tip of outermost branch of the canopy, as a radius. This is where the barriers should be placed.

Tag No.	Species and GPS	CEZ meters radius
81	*Betula pendula* (Silver Birch)	n/a to be removed and replaced
82	*Betula pubescens* (Downy Birch) NO 10774 33045	n/a to be removed and replaced
83	*Tilia x europaea* (Lime) NO 10724 33023	6
84	*Alnus glutinosa* (Alder) NO 10724 33023	6
85	*Alnus glutinosa* (Alder) NO 10720 33020	4
86	*Alnus glutinosa* (Alder) NO 10724 33017	6
87	*Alnus glutinosa* (Alder) NO 10730 33014	6
88	*Tilia x europaea* (Lime) NO 10730 33008	8
89	*Alnus glutinosa* (Alder) NO 10739 32991	n/a to be removed and replaced

10 Recommendations

The following recommendations are made to care for the living assets on site and to reinstate lost climax vegetation. The tree works schedule is shown in table 10.1 below.

Table 10.1: Work Schedule. Proposed works prioritised between high priority (6 weeks or as soon as reasonably practicable (ASARP)) and lowest priority, 5 years. Red text indicates greater risk.			
Tree removal before construction phase.			
81	*Betula pendula* (Silver Birch)	Remove to below ground. Replace post construction phase.	Prior to works
82	*Betula pubescens* (Downy Birch)	Remove to below ground. Replace post construction phase.	Prior to works
98	*Alnus glutinosa (Alder)*	Remove to below ground. Replace post construction phase.	Prior to works
Work on the following trees to be completed at the council's convenience (latest post construction) or as specified below.			
84	*Alnus glutinosa* (Alder)	A little weight reduction on the east. Not crown lifting. Figure 10.1	
86	*Alnus glutinosa* (Alder)	A little weight reduction on the east. Not crown lifting. Figure 10.2	
88	*Tilia x europaea* (Lime)	Monitor shear, limb weight reduction by 1/3rd or remove limb – 1.5 years	

10.1 Major Tree works

Listed below are the trees marked for removal:

Retention Category A: It is not proposed to remove any Retention Category A trees.

Retention Category B: It is proposed to remove two Retention Category B trees.

- Trees tagged 81 and 82 are to be removed and replaced post construction.

Retention Category C: It is proposed to remove one Retention Category C trees.

- Tree tagged 89 is to be removed and replaced post construction.

Retention Category U: It is not proposed to remove any Retention Category U trees.

10.2 Construction Exclusion Zone (CEZ) detail

CEZ's should be installed as detailed in table 9.2. As stated earlier it is not always practicable to create a CEZ over an entire root area of a tree. This is because access may be required, or some works may be proposed within it. In such circumstances a Restricted Activity Zone (RAZ) is created where limitations are placed on construction activity. Ground protection measures may be specified or the RAZ may be fenced off throughout part of the construction phase. Should it be felt necessary to create a RAZ further consultation (with the council) is required.

10.3 Hazardous Materials

All hazardous materials (including cement and petrochemical products) are to be controlled (Controlling hazardous substances) in order to ensure there is no detrimental impact on trees or the local ecosystem.

10.4 Boundary Treatments

Any digging in proximity to the CEZ's of significant trees will be done with care, by hand, and any roots wider than 10mm which are severed shall be neatly pruned back with a hand saw. This will improve the probability of successful subsoil wound occlusion and reduce the likelihood of infection by decay organisms.

10.5 Replacement Planting

Two semi-heavy standard native trees should be planted to compensate for the loss of the two Birch trees. Oaks would be a good choice as they are very long lived and great for local biodiversity in urban areas (Keystone species).

Attention should be given to how big replacement trees become when they reach maturity. Each large tree should be planted at least 5 meters (preferably 10m) away from any infrastructure including underground services or any other large tree. Ideally, for these new trees to develop a balanced crown they also require open space. As a rule, optimal planting means giving each new potentially large tree a 10-meter radius

of light access. The easiest and cheapest choice is native trees (Birch, Oak, Alder, Pine, Birch, Willow). A selection of unusual and aesthetically pleasing trees can be found in: A Guide for Specifiers (Tree Species Selection for Green Infrastructure) Link. Further consultation on choice and planting (also location, protection, and method) is available.

10.6 Species Selection for Replacement Trees

The following are some suggestions of medium to large trees which can be planted on site as semi-heavy standards.

- *Acer campestre* (Field Maple). Deciduous. Medium.
- *Betula sp.* (Downy or Silver). Deciduous. Medium. Pioneer tree good for exposed locations.
- *Populus tremula* (Aspen). Deciduous. Medium. If it can be fitted in: A particularly important native keystone species largely missing from the Scottish landscape. Its drawback is that it will eventually start suckering (throwing up new root stems from its root plate as it forms a spreading clonal colony) so it is better in a non-garden area. Suckers are easily suppressed.
- *Quercus petraea* (Sessile Oak). Deciduous. Large. Keystone Species.
- *Salix alba* (The white willow). Deciduous. Large. Ideal for the boggy places.
- *Tilia x europaea* (Lime). Deciduous. Large. Will grow almost anywhere.
- *Taxus baccata* (Yew). Conifer. Medium. Dryer soil environment.
- *Ulmus glabra* (Wych Elm). Deciduous. Large. (Susceptible to Dutch elm disease, but worth planting to give the species the chance to continuing existing in the Scottish landscape).

10.7 Hedging Species Selection

It is recommended that approximately 400 whips of native trees should also be planted as mixed species hedging where appropriate after all other works are complete. The recommendation here is not to reinstate the Leylandii hedging and instead invest in local biodiversity enrichment.

The opportunity here is to create a species and genetics rich hedge environment that also forms a wind break. It would not be formal, like a solid beech, privet or yew hedge. It would be a wildlife asset that can be maintained at about 2m high. Each whip spaced 30cm apart in two staggered rows. Allow for 5 plants per linear metre. Double this if planners decide on a 2m wide hedge (excellent wildlife asset), which would be optimal. It is a reasonable choice, budget allowing, to over plant as it makes for a much thicker hedge. The minimal expected losses would be compensated for by the mass of neighbouring plants.

This small list of plants responds well to heavy pruning, are very hardy and will grow in almost any soil environment:

- *Acer campestre* (Field Maple) Deciduous. Small tree. Wind tolerant
- *Alnus glutinosa* (Alder) Deciduous. Small tree. Wind tolerant. Thrives in boggy environments and fixes nitrogen in the soil.
- *Crataegus monogyna* (Hawthorn) Deciduous. Small tree. Wind tolerant. Available in white, red or pink flowering varieties.
- *Prunus spinosa* (Blackthorn) Deciduous. Small tree. Wind tolerant.
- *Ribes sanguineum* (Flowering currant). Deciduous. Shrub. Fragrant leaves and a profusion of red to pink flowers depending on variety.

Oak, Willow and Lime can also be planted as hedging.

10.8 Timing of Planting

All trees should also be planted around late autumn or early spring, including hedge plants. This will minimise the mortality rate / transplant shock and the financial loss of plants not taking (needing to be replaced).

10.9 Planting methodology

The planting plan will require further consideration so as to ensure minimal future disturbance for these plants and also to ensure that they are in the right place in regard

to the new infrastructure i.e. buildings at a reasonable target range when they reach maturity and also not causing problems for pipes in their rhizosphere. It will also be necessary to protected them from herbivory. A good video on how to plant trees has been produced by Barcham's: Click Here, (ensure the ties are adjustable). This will provide a clear idea of what is involved. It may take two people an hour to plant one heavy standard tree. Employing specialists would be the best plan.

10.10 Protection of newly the newly planted trees

The whips will require vole guards, and perhaps protection from deer. The young trees will require checking every 3 months to ensure that the guards are not garrotting the trees. Those that are planted as hedging will need to be managed as hedges i.e. a pruning, management plan will need to be established.

10.11 Tree care

Post planting care will be necessary for the replacement trees. Their supports will require to be checked and loosened every quarter in order to ensure that they are not garrotted. Grass should not be planted directly under the trees to ensure that strimming damage does not occur at their developing buttresses in the future. These areas should be reserved for mulching. Mindfulness of general soil compaction is advised in proposed garden areas and also of minimising weight placed on the root plates of all trees.

10.12 Recommended Tree Growing Specialists

Provenance (where the plants come form) is an important consideration as ideally, they should be sources as locally as possible to the site where they will be planted. This means that they are acclimatised to the local climate. However, this is not always possible.

- **Burcham Tree Specialists.** UK best source of Semi-Heavy Standard Trees and Hedging, but based in Cambridgeshire: www.barcham.co.uk

- **ScotPlants Direct**. Based in Fife. Scottish provenance source of trees and hedging. www.scotplantsdirect.co.uk
- **Alba Trees** Based in East Lothian. Best Scottish provenance source of hedging species: www.albatrees.co.uk

10.13 Pruning

The trees tagged 84, figure 10.1, and 86, figure 10.2, would both benefit from some minimal weight reduction (balance) to their eastern aspects. The branches recommended for removal are shown in the figures. These works should be undertaken at the council's convenience (at convenience within 1.5 years). The premise being to reduce the dominance of eastward extending limbs and spreading the removal of these across the height of the tree.

Tree 88 has shear cracks developing in its easternmost limb, figure 7.2. Either reduce the weight of this limb by approximately 1/3rd or remove it within 1.5 years.

Nuanced pruning discretion should be with the contracted qualified arborist.

10.14 Tree Protection During Construction

The trees in the Big Park are Alder and Lime. Neither of these species is of particularly high value, as species or regarding their size or age due to how common they are. None of the trees have good form and as specimens of their species go their aesthetic is generally mediocre (88 and 89 are good, but 89 has significant bark loss). As far as woodland resources are concerned they are not particularly important considering that compensatory or replacement planting is a good and realistic option. These species are also amongst those that are the most resilient to damage. In this vein stumps will regenerate, so if any trees are designated for removal their stumps will need to be ground out as well.

Tree should be protected utilising the Back-Stay System, figure 9.2. Otherwise, these trees are not valuable enough, aesthetically, or ecologically, to expend precious council resources protecting them from damage to the nth degree. If a construction exclusion zone is impractical and a restricted activity zone is too then it's a case of opting for avoiding damage where possible, or moving forward with the intent of replacement planting to compensate for any damage or loss that was deemed unavoidable. A heavy standard tree would be suitable for each (tagged) tree removed.

Replacement planting could improve the site of the Community Centre with greater biodiversity and more visually pleasing specimens. However, they would be vulnerable to vandals.

10.15 A Permeable Path Surfacing

There is the option of choosing a different surface for any paths that are to run over root plates with a view to reducing tree stress and problems caused by compaction. Instead of impermeable materials a permeable surface could be installed such as those manufactured by Infra Green. "Infra Green offer plastic permeable paving systems to cover a wide range of applications, from simple footpaths and temporary car parking to fully engineered grass and gravel paving systems for heavy goods vehicle parking areas".

10.16 Root Care Protection Plan

As the site is not designated as a Conservation Area, nor are there any Tree Protection Orders, careful root pruning is a reasonable option where necessary as is planning to replace any of these trees which are unavoidably damaged significantly.

A root care protection plan is outlined as follows:

- Install compressive material, as detailed in figure 9.3, over outer root plates where foot fall is unavoidable (restricted activity zone).

- Root plates should not be used as storage areas and should be kept clear of equipment and materials.
- Where there is no option but to move heavy machinery over a root plate it should be done as few times as possible (Restricted Activity Zone (RAZ)).
- Soil decompaction is possible, post-construction period, with an air-spade but this is greatly disturbing for root systems, and it destroys soil crumb structure.
- Carefully work around a root system, and air-spade can be used for this on low power. Otherwise manually (no power tools or machinery) expose the roots without damaging them and install any new infrastructure around them. This requires care i.e. not working quickly. Wounds to be kept to a minimum.
- Where a root obstructs work or is fully in the way, prune the root neatly (not applicable to structural roots). This is like the pruning back of branches but can affect tree stability. Large structural roots should not be damaged.
- Where considerable damage (loss or damage to one quarter of a tree's root area or to structural roots) cannot be avoided, removal replacement the tree post-construction is appropriate. This is an acceptable and reasonable choice and is probably the most cost effective.
    - If the Alder numbered 84 has its root system within the proposed construction area, then it could be reasonably designated for removal and replacement as it has some developing basal decay and signs of early buckling. Neither of these issues are recoverable though they could be remedied long term by crown weight reduction in due course, figure 10.1. Removal and replacement would be inexpensive compared to the time potentially invested in pruning and the protection of its root system.
- Keep in mind that wounds should be as small as possible. All wounds are open invitations to decay organisms. The soil is full of fungi that eat exposed wood.

10.17 The Young Trees in the Old Tennis Court

The area of the old tennis court is effectively a tree nursery. Due to the old surface of the court being just below present surface of debris (leafmould and moss) most will have shallow root plates. This was confirmed by the lifting of a few random saplings which had next to no purchase on the ground below. In time this will become an issue.

If left, most will achieve heights of well over 16 meters and become increasingly vulnerable to wind as they grow. Shallow root plates do not lead to stable trees.

The hundreds of young trees represent a cash value of at least £1000. As such many of these trees could be saved (potted up temporarily) and planted elsewhere with some replanted on-site post construction as appropriate. Those that are under 50cm from ground to apex should transplanted, ideally in autumn when they are dormant. The most valuable plants are the young *Pinus sylvestris* (Scots Pine).

10.18 Tree Re-inspection

If the tree tagged 84 is retained, then it would benefit from re-inspection every 1.5 years regarding the signs of buckling and its basal decay. All other trees should be inspected every five years. Sooner if there has been a significant storm.

Figure 10.1: Tree 84. Recommended minimal pruning cuts to reduce weight loading to east without crown lifting.

Figure 10.2: Tree 86. Recommended minimal pruning cuts to reduce weight loading to east without crown lifting.

References/Bibliography

Barrell, J., 2014. Summer Branch Drop: time for a rethink? [www document] Link Institute of Chartered Foresters, Accessed 24.04.21.

Forest Research, 2020. Ash dieback (*Hymenoscyphus fraxineus*). [www document] Link. Accessed 18.9.20

Gilman, F.E, 2012. An Illustrated Guide to Pruning, 3rd Ed. Delmar Cengage Learning.

Lonsdale, D., 2016. Principles of Tree Hazard Assessment and Management. No. 7. Research for Amenity Trees. Forestry Commission.

Mattheck, C., Bethge, K. and Weber, K., 2015. The Body Language of Trees – A Handbook for Failure Analysis. Karlsruhe Institute of Technology.

Sterken, P., 2005. A Guide for Tree-stability Analysis, 1st Print Edition. [www document] Link. Research Gate.

Strouts, R.G., and Winter T.G., 2015. Diagnosis of ill-health in trees. No.2 . Research for Amenity Trees. Forestry Commission.

Woodland Trust, 2021. Ash Dieback. [www document] Link, Woodland Trust. Accessed 21.05.21.

Appendix 1: Glossary of Terms

Aerial inspection: An inspection of the tree by means of gaining access to the upper crown by ropes or elevated platform

Arborist: A professional in the practice of Arboriculture

Arboriculture: The study, cultivation and management of trees.

Bacterial Canker (*Pseudomonas syringae*): An airborne bacterial plant pathogen that typically infects *Prunus* (Cherry) species. It causes sunken areas of dead bark and small holes in leaves, called 'shothole'. It kills the living layer of the tree (cambium) and starves the tree. Kills the trees it infects.

Bracing: A process used by arborists to provide additional structural support to a valuable tree. It can involve adding metal and/or rubber cables between a trees major limb to help prevent possible damage or failure. Might include metal pins inserted laterally though the limbs. Trees develop a dependency to bracing so the support can never be removed. Will require adjustment over the coming years.

Branch forks: Where two branches "fork" off in different directions. Also called 'Crotches'.

Branch Union: Where a branch meets the trunk.

Brown rot: A fungal disease in woody plants

Bulges: A type of body language exhibited by a tree under regular excessive load. The remaining sound wood is squashed by the weight of the tree and protrudes outwards. A symptom of creeping compression failure. Occurs when there is significant heart rot and minimal sound wood.

Cavities: An internal opening usually surrounded compensation growth, where a tree has concentrated growth to negate the effects of a particular wound or damage.

Co-dominant (Co-dom.): Two or more, generally upright, stems of roughly equal size and vigour competing with each other for dominance. Where these arise from a common union the structural integrity of that union should be assessed.

Compression: A force exerted on one side of a leaning tree, in the example of compression it would be the underside of branches or a lean.

Conservation Area: A tract of land awarded protected status

Construction Exclusion Zone (CEZ): These zones are created to protect roots and canopies from inadvertent damage by construction activity and are set up beyond all

RPA's. They are usually fenced off by protective fencing throughout the entire construction phase. No works are permitted in these zones other than minor landscaping works (such as removal of hard surfaces and replacement with soft landscaping). Where practicable the entire Root Protection Area and the area beneath the tree canopy shall be treated as a Construction Exclusion Zone.

Cross-sectional flattening: Failure mechanism of hollow tree trunks. Occurs in trees (think scaffolding pole) which buckle under load. A cardboard tube will demonstrate this principle well. Hold it upright, squeeze it in the middle and apply downward force to the top.

Crown Reduction: The removal of excess weight in a top-heavy tree, ideally in a gradual manner (progressive reduction e.g facilitating retrenchment). Usually required to mitigate risk in a valuable tree with extensive basal decay. Lowers centre of gravity and wind loading. Trees will require a pruning maintenance plan to manage to the new growth that develops at the new apex points.

Dead wood/Deadwooding: Branches that remain on the tree albeit dead i.e. without functioning cambium. The removal of potentially hazardous dead limbs (good practice). Total removal is not necessary. Deadwood in a standing tree is an important ecological asset. Best practice finds a balance between making a tree safe and retaining as much deadwood as possible (aesthetic choices aside).

Decay detection equipment: Equipment or techniques such as a fractometer or PiCUS tomograph that can detect and decay on the inside of a tree decay pattern The pattern shown and identified by certain types of pathogens causing decay.

Etiolated: Long thin stem/trunk. Light seeking. Poor height to width ratio possible slenderness hazard. Term usually applied to trunks. See Phototrophic.

Epicormic growth: Vitaly important for older trees that are starting to retrench (loose the crown). Allows the tree to develop low down branches. See Retrenchment. Usually many shoots growing from the trunk often with a different foliage colour to the crown. Shoots growing from dormant buds possibly activated by: age, damage to the tree, changes in light levels, sudden environmental change, thinning, crown dieback, decay, heavy pruning, root death, cold, changes in the water table or other stressors.

Failure: Most failures (trunk or branch) are initiated by wind loading, others occur due to static loading from snow or ice, or from developing a phototrophic/etiolated (light seeking/elongated) unsustainable form. Often there is also decay present.

Failure Potential: The chance of a failure happening.

Fluting: Protuberant vertical ribs of wood, common to genera such as *Betula* (Birch), *Robinia* (Locust), *Ficus* (Fig) and *Metasequoia* (Dawn Redwood). Flutes become more pronounced with tree age.

Force Majeure: Unforeseeable circumstances e.g. weather events.

Fungal decay bracket: A type of fungal fruiting body that looks like a bracket. Many fruit bodies do not present like this.

Gummosis: Leaking sap is typically a symptom of a larger problem, such as pathogen infections like Bacterial Canker, see above.

Halo Thinning: The removal of younger competing trees from the immediate area surrounding a selected premium quality tree so that it can receive the light and space needed to thrive. Common technique in forestry.

Hazard Rating System: The ISA's (International Society of Arboriculture) recognised system for rating trees and their hazards.

Heartwood: The inner most wood of the tree.

Inosculation: A natural phenomenon in which trunks, branches or roots of two trees grow together. It is biologically similar to grafting and such trees are referred to in forestry as gemels, from the Latin word meaning "a pair". Co-dominant trees can display similar limb wrapping/girdling when the dominant stems are so close together that the tree, over time, puts down new rings around both stems.

Lion-Tailing: The poor practice of removing all or most of the secondary and tertiary branches from primary or scaffold limbs leaving most of the foliage at the tips of the branches. Leads to increased branch breakout.

Keystone Species: A Keystone Species is an organism which has a unique and vital role in any given ecosystem. The input of these organisms to their respective ecosystems is greater than most other organisms of their kind.

Local planning authority: The LPA is empowered by law to exercise planning functions for a particular area.

Monolith: A tree reduced to its main stem with minimal or no branches. Good ecological practice as an alternative to removing a tree to ground level. Often not aesthetically pleasing.

Natural flare: A normal flare or taper at the base of the tree where it meets the roots

Occlusion rib: A form of body language to describe a strip or crack in a tree that has sealed itself with callous wood.

Pathogen: An often-virulent disease, virus or organism that can cause harm e.g. *Phytophthora sp./ssp.* (The Plant-Destroyer), *Armillaria mellea* (Honey Fungus), *Hymenoscyphus fraxineus* (Ash dieback).

Phototrophic: Light seeking. Long slender trunks or over long branches that are approaching appoint where loading is unsustainable and branch breakout or stem snap will probably occur. Term usually applied to branches. See Etiolated.

PiCUS: An fairly non-invasive piece of decay detection equipment that uses sonar.

Progressive reduction: Staged pruning work to reduce system shock but aiming to facilitate retrenchment in a less-radical manner to outright retrenchment pruning. Step 1: mitigate risk, no more than 15% of crown mass removed from main loading limbs only. Step 2: The following autumn or spring, formative pruning and crown cleaning. Step 3: further reduction of upper mass as necessary. All favouring lower limbs and epicormic growth.

Pruning wound: A wound on the tree caused by previous pruning.

Restricted Activity Zone (RAZ): It is not always practicable to create a CEZ over the entire RPA. This is because access may be required, or some works may be proposed within the RPA. In such circumstances a RAZ is created where limitations are placed on construction activity. Ground protection measures may be specified or the RAZ may be fenced off throughout part of the construction phase.

Retrenchment: The natural process of old or ancient trees as they lower their centre of gravity by large limb loss.

Retrenchment Pruning: An aggressive reduction that removes a large volume of the upper crown but retaining much of the main trunk and largest scaffold limbs. Lowers centre of gravity. Can greatly reduce the risk of root plate or trunk failure in old or ancient trees that are top heavy. It can also send a tree into rapid decline due to loss of photosynthetic area.

Root decay/rot: The main cause of rot is poorly drained or overwatered soil. Soggy conditions prevent root respiration (gas exchange and nutrient uptake) and impede the plant from absorbing what it requires to live (unless it has aerenchyma cells, which facilitate plants breathing under water). As the oxygen-starved roots die and decay, the rot often spreads, even if the drainage problems have been dealt with. Weakened roots are more susceptible to soil fungus, which eat the plant matter (decay). Notorious fungus include but are not limited to: *Armillaria mellea* (Honey Fungus) and *Phaeolus schweinitzii* (Dyers Mazegill).

Root protrusions: Roots that protrude out from the ground surface.

Root Protection Area (RPA): This is a theoretical area of ground around a tree where the roots are likely to proliferate. Ground disturbance in this area should be minimised in order to avoid significant impact on tree health. For single stem trees the RPA is a standard 12 times the diameter of the trunk. This is equivalent to a circle with a radius of 15m or a square with approximately 26m sides.

Root System: Water and nutrient gathering part of the tree doubling as structural support for the above ground mass. For most trees it extends to around 1 meter below the surface (excluding tap roots) and to about 1.5 times the height of the tree in all directions if not restricted.

Sabre/Sabreing/Sabre Trunk: The reaction wood of a leaning tree will often push or pull the tree upright after a root plate shifting wind event, correcting its direction of growth. Referred to as sabre trees as they look like sabres.

Scaffold Stems: Main branches supporting most of the crown (not the trunk).

Scaffold Structure: Main branch area.

Slime Flux: Black with a sickeningly sweet smell. It is caused by many species of bacteria, such as yeast and other microorganisms. These different microorganisms infect the sap, consuming it as food and depleting the oxygen in the heartwood. The wood then turns a darker colour than the rest of the wood. This discoloration is called “wetwood”. Once these anaerobic (oxygen-less) conditions are created in the wetwood the bacteria start to ferment the sap, producing methane gas (foul odour) and increase the acidity (pH) in the tree. The resulting pressure forces the fermented sap, now called “slime flux”, out of the tree in an ooze which can congeal on the surface of the trunk. The infected oozing sap can kill other plants that are growing around the base of the infected tree.

Soft rot: A type of fungal or bacterial disease in plants that leads to a loss of capacity of the organism to hold itself upright. Damage tends to be gradual (not in the case of cinder fungus).

Sound Wood: Fully functional in both load bearing (tension or compression) and water and nutrient distribution (xylem and phloem). No or minimal decay. A tree can be hollow like a scaffolding pole and still have enough sound wood to have a lower failure risk than a much younger tree with no decay. This is due to older trees being naturally over engineered. Perhaps as much as 4.5 times their normal wind loading range. Trees like Oaks and Yews generally only fail to decay organisms over very long

time periods and are usually able to adapt with reaction wood to developing rot pockets into great age.

Shear Crack: Trees have tension and compression aspects. Sometimes due to wind loading there is excessive strain put on a trunk and the tension wood and compression aspects can vertically slide against one another, initially forming a crack. Shear cracks can lead to spectacular tree failure, very dramatically referred to as a shear bomb due to how loud the failure can be. Link. Shear is also common in the torsion fibres of wind twisted trees. See Torsion.

Target: Any infrastructure a tree or a part of a tree could fall on in any direction to 1.5 times its height. Includes pedestrian areas, roads, pavements, and anything else created by or used by humans.

Tension: A force exerted on one side of a leaning tree or the topside of branches.

Thinning: Increasing light and air penetration into a crown by pruning selected branches. Often done to reduce loading stress on long limbs that are not overly phototrophic.

Topography: The arrangement of the natural and artificial physical features of an area.

Torsion (twist): The way in which the helical grain of the tree grows. It can be twisted or untwisted due to wind (rarely catastrophically). Can lead to shear events when wind load changes and the tree untwists.

Tree Preservation Order: A TPO is made by the Local Planning Authority in order to protect specific tress in a particular area from deliberate damage and destruction

Tree evaluation form: A form used to assist in the inspection of trees created by the International Society of Arboriculturalists.

Visual Tree Assessment: The current best practice method of evaluating structural defects and stability in trees devised by Claus Mattheck (Mattheck, et al., 2015).

Widowmaker: The term "widowmaker" is a morbid reminder for people working of living near woodland to avoid situations that can both cause death or serious injury. The short definition of the term can be translated into the phrase: any loose overhead debris such as limbs or treetops that may fall at any time. Widowmakers are extremely dangerous and present a continual hazard.

Windthrow: Trees uprooted or broken by wind forces.

Zone of potential failure: The area in which the tree or any part of it can cause damage to surrounding structures.

Appendix 2: Further Information

Building Near Trees – General

National Joint Utilities Group publication # 10 (1995), Guidelines for the Planning, Installation and Maintenance of Utility Services in Proximity to Trees. Downloadable here.

NHBC Standards Chapter 4.2., Trees and Buildings.

Horticulture LINK project 212. (University of Cambridge, 2004), Controlling Water Use of Trees to Alleviate Subsidence Risk. Downloadable here.

Tree Planting and aftercare

See www.trees.org.uk/leaflets.php# for downloadable leaflets on selecting a garden tree, planting, aftercare and veteran tree management.

British Standards

- BS 5837: 2012. Trees in Relation to Design, Demolition and Construction – Recommendations.
- Bs 3998: 2010. Recommendations for Tree Work.
- BS 3936: 1992. Nursery Stock. Part 1: Specification for Trees and Shrubs.
- BS 3936: 1992. Nursery Stock. Part 10: Specification for Groundcover Plants.
- BS 4043: 1989. Transplanting Root-balled Trees.
- BS 8004: 1986. Foundations.
- BS 8103: 1995. Structural design of Low-Rise Buildings.
- BS 8206: 1992. Lighting for Buildings.
- BS 3882: 2007. Topsoil.
- BS 4428: 1989. General Landscaping Operations (excluding hard surfaces).

Permission to do Works to Protected Trees / Tree Law

- Forestry Commission (Edinburgh, 2003), Tree Felling – Getting Permission. Country Services Division - Forestry Commission.
- Downloadable at www.forestry.gov.uk/website/pdf.nsf/pdf/wgsfell.pdf/$FILE/wgsfell.pdf
- Transport and the Regions (Department of the Environment, 2000), Tree Preservation Orders, A Guide to the Law and Good Practice. Downloadable at: www.communities.gov.uk/publications/planningandbuilding/tposguide
- C. Mynors, The Law of Trees, Forests and Hedgerows (Sweet and Maxwell, London, 2002)
- Communities and Local Government website with numerous downloadable documents, from: www.communities.gov.uk/planningandbuilding/planning/treeshighhedges/

Lighting Levels

- P.J. Littlefair, B.R.E. 209: Site layout planning for daylight and sunlight A guide to good practice. B.R.E. Bookshop, London.
- British Standards Institution. Code of practice for day lighting. British Standard BS 8206: Part 2 (1992).
- Chartered Institution of Building Services Engineers. Applications manual: Window Design (London, 1987).
- NBA Tectonics. A study of passive solar housing estate layout. ETSU Report S-1126. Harwell, Energy Technology Support Unit (1988).
- I.P. Duncan; D. Hawkes, Passive solar design in non-domestic buildings. ETSU Report S-1110. Harwell, Energy Technology.
- P. J. Littlefair, Measuring Daylight, BRE Information Paper 23/93 f3.50. (Advises on measuring daylight under the real sky or an artificial sky, allowing for the changing nature of sky light).

High Hedges

Communities and Local Government website with numerous downloadable documents, from:
www.communities.gov.uk/planningandbuilding/planning/treeshighhedges/

Tree Specific Websites

www.trees.org.uk Arboricultural Association & Tree Pruning Guide

www.treeterms.co.uk A-Z of tree terms: A companion to British arboriculture.

www.rfs.co.uk Royal Forestry Society of England, Wales and N. Ireland

www.treehelp.Info The Tree Advice Trust

www.woodland-trust.org.uk The Woodland Trust

www.treecouncil.org.uk The Tree Council

www.conifers.org Gymnosperm Database (Conifers)

www.perthandkinrosstreewardens.co.uk Perthshire & Kinross Tree Warden Network

www.dendrology.org International Dendrology Society (Tree & Shrub List)

www.brc.ac.uk/plantatlas Online Atlas of the British and Irish flora

www.conservationhandbooks.com/woodlands/national-vegetation-classification
National Vegetation Classification

Appendix 3: Tree Survey Schedule

Explanation of Terms

Tag no.	Identification number / accession number of tree as shown on tag and plan.
Species	Latin name of species.
Dia.	Trunk diameter in millimetres measured at 1.5m. Multi-stemmed trees measured above root flare.
Ht.	Estimated height of tree in metres.
Crown spread	Radial crown spread in metres measured to the four cardinal compass points N, E, S and W.
Ht. Crown Clearance	Height in metres of crown clearance above adjacent ground.
Age Class	Age class category (Young, Semi-mature, Early mature, Mature, Over-Mature, Late mature).
Cond. Cat.	Overall condition category (Good, Fair, Poor, or Dead).
Notes	General comments on tree health, condition and form, highlighting any defects or areas of concern.
Life Exp.	Life expectancy, estimated in years. Based on tree species, condition and location. Less than 10 years, 10 to 20 years, 20-40 years, greater than 40years.
BS 5837 Cat.	BS 5837 Retention category (**A, B, C or U** – see explanation overleaf.
Recommended Action	Recommended remedial action/arboricultural work. arboricultural work necessary for reasons of safety and sound management. All to BS 3998:2010 Tree work. Recommendations.
Priority	Priority for action stated as period of time within which any work is recommended in order to mitigate or remove risk e.g. within 6 weeks, 3 months, 6 months, etc.
Hazard Rating	High, Moderate or Low.
Bio Rating	Biodiversity value - High, Moderate or Low.

Age Class Category

The approximate age class of each tree is assessed according to the five generally accepted categories (Young, Semi-mature, Early-mature, Mature, Latemature). This assesses the physiological age of the tree, and takes into account the species concerned (some species live longer than others), as well as its physiological condition in relation to its growing environment. It provides a broad assessment of the stage of the tree in its anticipated natural life cycle for any given site and set of circumstances.

Condition Category

An overall assessment of the physiological condition of each tree is provided under the four headings of Good, Fair, Poor, or Dead. This takes into account aspects such as the presence or absence of decay, dieback, vigour and structural defects, as well as shape and form and potential life expectancy. For example, a tree of superior shape and form and in good health with no obvious defects would be classed as 'Good', whereas a tree of poor form with significant structural defects and decay, and which is of low vigour and in decline, would be classed as 'Poor'.

Retention Category

All trees within the site have been ascribed a Retention Category. In line with the recommendations contained within BS 5837:2012, this takes account of the health, condition and future life expectancy of the tree, as well as its amenity and landscape value and suitability for retention within any proposed development. The retention category for each tree is shown in the Tree Survey Schedule and the criteria as set out in BS 5837:2012 are provided below.

A – High category: trees whose retention is most desirable.

B – Moderate category; trees where retention is desirable.

C – Low category; trees which could be retained.

U – Unsuitable for retention; trees which should be removed.

Hazard Rating

This provides a simple three category assessment (High, Moderate or Low) of the potential hazard that a tree might present, given its situation. This is based on an assessment of the following factors.

- Size of the tree
- The age of the tree.
- The species of tree.

- Tree location and the nature and presence of targets.
- Tree condition and the presence of any defects which might give rise to failure.

For example, a very large, mature beech tree with structural defects standing immediately adjacent to a children's play area has a high hazard rating as compared to a small, newly planted oak on a remote area of grass.

Biodiversity rating

This attempts to assess the relative value of trees as wildlife habitat, and their likely contribution to the ecological value of the wider area. It is a subjective three category assessment (High, Moderate or Low) based on the following factors.

- Size and age of tree – large and old trees have a greater biomass and potential habitat value than small, young trees.
- Tree species – native tree species tend to have greater biodiversity value.
- Tree characteristics – tree features, such as deadwood or cavities, which may provide specific habitats.

For example, a large, old oak tree with deadwood and cavities will have a high biodiversity rating, as compared to a small, recently planted sycamore.

Recommended Action

Recommendations are made, where appropriate, on appropriate remedial action as regards tree surgery or felling works. These are specified where there is a risk to public safety or tree health and are consistent with sound arboricultural practice. All recommendations are consistent and in line with British Standard (BS) 3998:2010 'Tree Work - Recommendations'.

Root Protection Areas (RPA)

For single stem trees the RPA is a standard area 12 times the diameter of the trunk. So, if the trunk is 1 meter in diameter the radius of the RPA, from the base of the trunk, is 4 meters! This is approximately equivalent to 1 foot beyond the crown drip line in a circle around the base of the tree. Multi –stem trees are somewhat more complicated. The maximum RPA of any tree is a circle of approximately 707m^2. This is equivalent to a circle with a radius of 15m or a square with approximately 26m sides.

The above data is summarised from: BS 5837:2012 Trees in relation to design, demolition and construction – Recommendations.

BS 5837:2012 Category Grading

Categories for tree quality assessment, based on guidance given in British Standard BS 5837: 2012 'Trees in Relation to Design, Demolition and Construction – Recommendations'.

Trees unsuitable for retention (see Note)

Category and definition	Criteria – Subcategories
Category U Those in such a condition that they cannot realistically be retained as living trees in the context of the current land use for longer than 10 years.	Trees that have a serious, irremediable, structural defect, such that their early loss is expected due to collapse, including those that will become unviable after removal of other category U trees (e.g. where, for whatever reason, the loss of companion shelter cannot be mitigated by pruning). Trees that are dead or are showing signs of significant, immediate, and irreversible overall decline. Trees infected with pathogens of significance to the health and/or safety of other trees nearby, or very low quality trees suppressing adjacent trees of better quality. *NOTE Category U trees can have existing or potential conservation value which it might be desirable to preserve.*

Trees to be considered for retention

Category and definition	Criteria – Subcategories		
Category A High quality and value with an estimated life expectancy of at least 40 years.	Particularly good example of their species, especially if rare or unusual; or those that are essential components of formal or semi-formal arboricultural feature.	Trees, groups or woodlands of particular visual importance as arboricultural and/or landscape features.	Trees, groups or woodlands of significant conservation, historical, commemorative or other value.
Category B Moderate quality and value with an estimated life expectancy of at least 20 years.	Trees that might be in category A, but are downgraded because of impaired condition (e.g. presence of significant though remediable defects, including unsympathetic past management or storm damage), such that they are unlikely to be suitable for retention for beyond 40 years; or trees lacking the special quality necessary to merit the category A designation.	Trees present in numbers, usually growing as groups or woodlands, such that they attract a higher collective rating than they might as individuals; or trees occurring as collectives but situated so as to make little visual contribution to the wider locality.	Trees with material conservation or other cultural value.
Category C Low quality and value with an estimated life expectancy of at least 10 years, or young trees with a diameter <150mm.	Unremarkable trees of very limited merit or such impaired condition that they do not qualify in higher categories.	Trees present in groups or woodlands, but without this conferring on them significantly greater landscape value, and/or trees offering low landscape benefit.	Trees with no material conservation or other cultural value.

Targets (T):

A: Church Garden
B: Pavement & Road
C: Lamp Post
D: Memorial Garden
E: West Park Road and Pavement
F: Scrub area Adj. to Mem. Gdn.
G: Play Park
H: Tennis Court
I: School Grounds

Common Observations (CO):

1: No observable significant defects of note.
2: No observable fungal fruit bodies of note (does not mean that decay fungi are absent).
3: Damage to trunk by axe

Tag No.	Species and GPS	Dia. (mm)	Hgt. (m)	Crown Spread (m)				Cr Cl (m)	Age Class	Cond Cat	Notes	Life Exp.	BS 5837 Cat.	Recommended Action	Priority	Haz. Rating	Bio Rating
				N	E	S	W										
81	*Betula pendula* (Silver Birch) NO 10793 33039	205	10	3	3	3	3	0.5	Early Mature	Good	Healthy but leaning towards the road. Base slightly occluded by foliage. Next to low value 5m tall *Chamaecyparis* cultivar. Both trees will need to be removed and then replaced post construction period. As will all of the hedge area, perhaps total 100 hedge plants adj to memorial garden and the front of the church yard (beech, holly, ash, elder). Hedge 1m x 1.5m. **T:** A, B, C. **CO:** 1, 2.	>20	B	None	n/a	Low	Mod
82	*Betula pubescens* (Downy Birch) NO 10774 33045	385	18	3	3	3	3	2	Mature	Good	Co-dominant at 5m. Leaning somewhat SE. Prevailing wind is clearly from the west. Mature Rhododendron cultivars (one perhaps *R. ponticum*) in memorial garden. Leylandii hedge running adjacent to the tennis court area, approximately mature 100 hedge plants. All plants will need to be removed and then replaced post construction period. Small sorbus by the gate is still less than 75m dbh. small multi-stem elm, small alder patch. All prospects borderline <75mm dbh x 6 stems. **T:** D, E, F. **CO:** 1, 2.	>20	B	None	n/a	Low	Mod

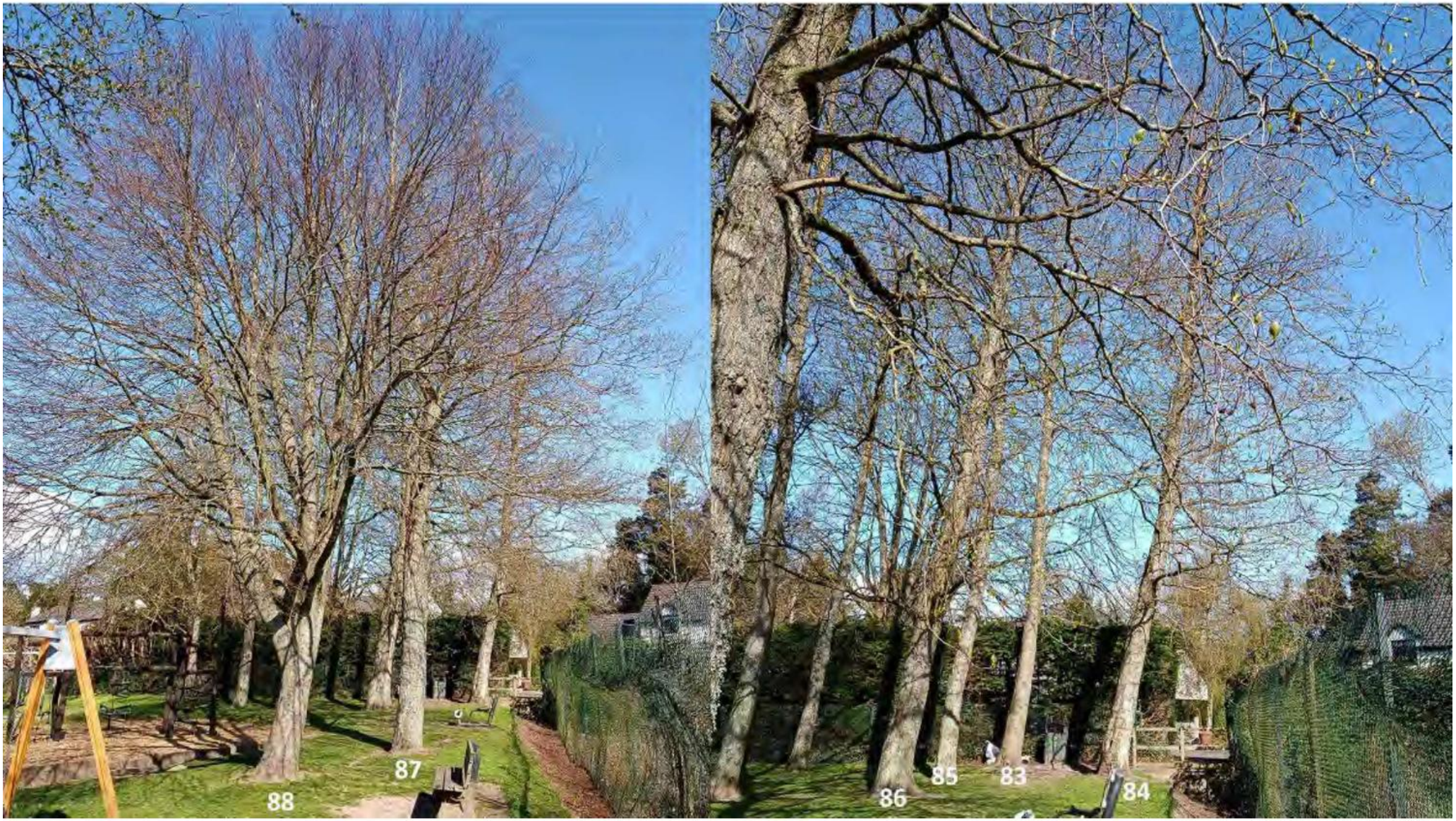
Tag No.	Species and GPS	Dia. (mm)	Hgt. (m)	Crown Spread (m)				Cr Cl (m)	Age Class	Cond Cat	Notes	Life Exp.	BS 5837 Cat.	Recommended Action	Priority	Haz. Rating	Bio Rating
				N	E	S	W										
83	*Tilia x europaea* (Lime) NO 10724 33023	445	18	6	4	3	5	4	Mature	Good	Crown dominant to north, imbalanced. Damage to trunk by axe or blade., like a few other trees. Root sapwood exposed to north. Adjacent to continuation of leylandii hedge. **T:** E, G, H. **CO:** 2, 3	>20	B	None	n/a	Low	Mod
84	*Alnus glutinosa* (Alder) NO 10724 33023	535	22	5	6	4	2	4	Mature	Good	Leaning eastward somewhat. Crown also dominant to east. Sapwood exposed at 0.5m South with healthy reaction wood. Hollowing tree, rising butt rot. Some bark loss indicating close to surface decay. Kinking/buckling early stage, west at 0.5m. Presents as structurally sound. No significant changes 26.04.23. **T:** E, G, H. **CO:** 1, 2, 3.	>20	B	A little crown weight reduction (balance) to the east. Not crown lifting. Monitor Buckling	At convenience within 1.5 years	Low	Mod
85	*Alnus glutinosa* (Alder) NO 10720 33020	375	18	3	3	3	4	4	Mature	Good	Leaning a little eastward. Sapwood exposed, impact damage wound, 0.5m east. **T:** E, G, H. **CO:** 1, 2	>20	B	None	n/a	Low	Mod
86	*Alnus glutinosa* (Alder) NO 10724 33017	505	18	4	2	5	6	3	Mature	Good	Initial signs of tension aspect buckling, like tree 84. **T:** E, G, H. **CO:** 1, 2, 3	>20	B	A little crown weight reduction (balance) to the east. Not crown lifting.	At convenience within 1.5 years	Low	Mod
87	*Alnus glutinosa* (Alder) NO 10730 33014	565	18	5	6	3	4	4	Mature	Good	Some lower branches removed. Fairly balanced crown. Lawnmower damage to surface roots. **T:** G, H, I. **CO:** 1, 2.	>20	B	None	n/a	Low	Mod
88	*Tilia x europaea* (Lime) NO 10730 33008	545	18	4	5	7	8	3	Mature	Good	Complex multi-stem crown. Signs of shear developing on the most easterly co-dominant limb, visible from the north. Multiple bark wounds old and new. **T:** G, H, I. **CO:** 1, 2, 3.	>20	N	Monitor shear. Limb weight reduction or remove limb	1.5 years	Low	Mod

Tag No.	Species and GPS	Dia. (mm)	Hgt. (m)	Crown Spread (m)				Cr Cl (m)	Age Class	Cond Cat	Notes	Life Exp.	BS 5837 Cat.	Recommended Action	Priority	Haz. Rating	Bio Rating
				N	E	S	W										
89	*Alnus glutinosa* (Alder) NO 10739 32991	545	13	5	5	6	4	3	Mature	Fair	Squat tree. Fairly balanced crown. Many wounds exposing sapwood, N & E. Some minimal sapwood exposed buttress West, South, and East. **T:** G, H, I. **CO:** 1, 2.	>20	C	None	n/a	Low	Mod

Appendix 4: Annotated Photographs


82
Borderline >75mm dbh. Poor form, multi-stem.
Multiple young trees with <75mm dbh. Not significant, yet, though they will be soon.

The old tennis court has been colonised by hundreds of small *Betula sp,* (Birch), *Pinus sylvestris* (Scots pine), some *Larix decidua* (Larch) and *Sambucus nigra* (Elder). They have shallow root plates due to the tennis court surface being just below the surface. These trees could be collected and potted up for replanting nearby or else. At least £1000 worth of trees here (garden centre pricing).


88
87
86
85
83
84


87
88
89


85 on 13.01.22
It appears that there is probably a teenager with a hand axe that likes to hit trees. The damage (right) was not there a year ago (left), though other trees were similarly wounded then.
85 on 25.04.23

HARLEY HADDOW

Saint Columba's Episcopal Church Hall – Stanley

Structural Condition Report - *DRAFT*

May 2023

Contact
124-125 Princes St
Edinburgh, EH2 4AD
enquiries@harleyhaddow.com

Document Revision Control

Revisions	Date	Reason for Issue	By	Approved
DRAFT	19/05/2023	Issued for Information	ED	CT

Contents

Appendices

1.0 Introduction

Harley Haddow have been appointed by Stanley Development Trust to conduct a visual inspection and follow up structural survey report on the condition of the adjoining hall to the Saint Columba's Episcopal Church in Stanley. This report contains our findings and recommendations on the form and condition of the existing church hall and has been produced to provide additional context with the planning application and listed building consent to redevelop the site around Saint Columba's Episcopal Church into a new community sports hub.

This report is based on a site visit that was conducted on 2nd May 2023, key photos from this visit are included in the Appendix for reference, and our knowledge and experience in construction of buildings of this age and type. No testing of physical intrusive investigation works have been carried out at this stage.

There are four main aspects to review and comment on when assessing a structure of this age and type:

A. Basic structural quality: the robustness of the original structure and its overall pattern are the most significant factors in the long term performance.

B. Subsequent alterations: even if the structure was well formed originally, there can be serious problems unseen from ill thought out later alterations.

C. Decay and fire damage: the condition of the materials, particularly the timbers, is important. Damp or water ingress can rapidly cause timber structures to deteriorate and fail with significant implications for the life and performance of the structure as a whole.

D. Foundations: even the most robust and well-conceived superstructure can be damaged by difficulties in the ground. Often problematic for some structures is the seasonal change in moisture content of certain clays from tree root activity or drainage failures.

A broad assessment of these key aspects is given in the report to follow.

This report is for the sole use of Stanley Development Trust for whom the report is undertaken and cannot be relied upon by third parties for any use whatsoever without the express authority of Harley Haddow.

Figure 1: External Photo of the Episcopal Church with the Hall in the Background

2.0 Site Overview

The site for the whole redevelopment is located on the western side of Perth Road which runs north to south through Stanley. The site is bounded to the north by West Park, the east by the St Columba's Episcopal Church, the south by the bowling club and green and the west by school playing fields. A detailed plan outlining the site boundary is shown in figure 2 below.

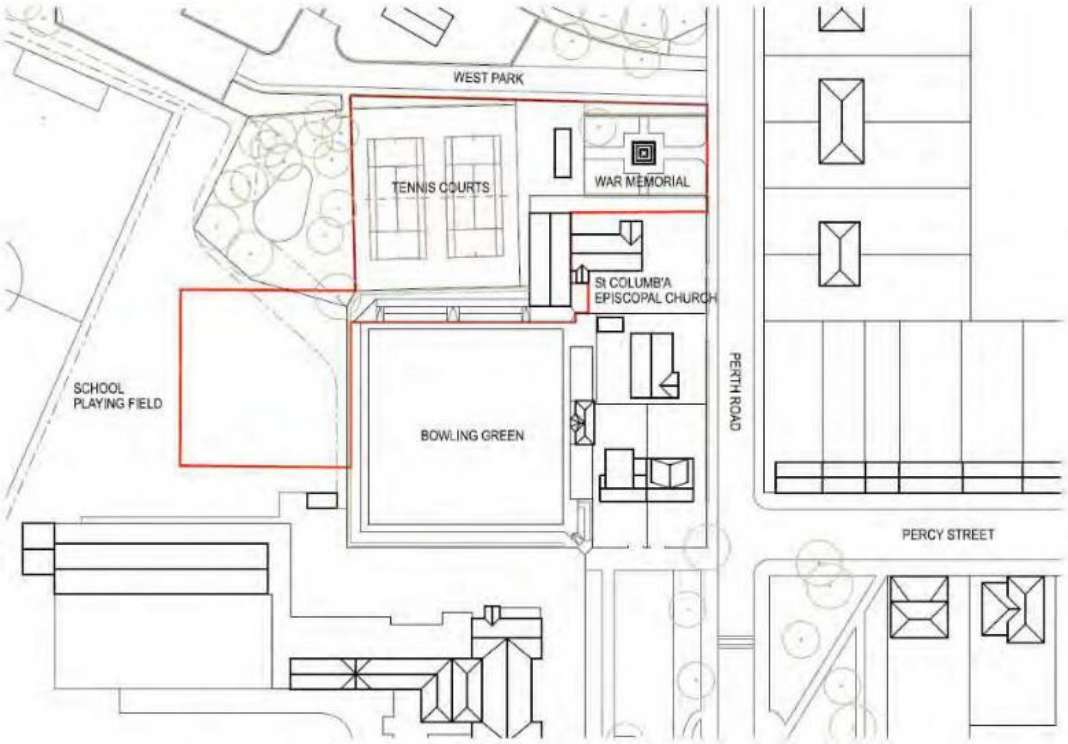


Figure 2: Site Plan Showing the Area Proposed to be Re-developed

Whilst the whole redevelopment site is shown above, this report is confined to the Hall that is adjacent to St Columba's Episcopal Church.

3.0 Site Geology

Whilst no geotechnical surveys have been completed, an initial review of the British Geological Survey records has shown that a historic borehole has been completed to the southeast of the site adjacent to the River Tay. An extract of this borehole log is shown below for reference.

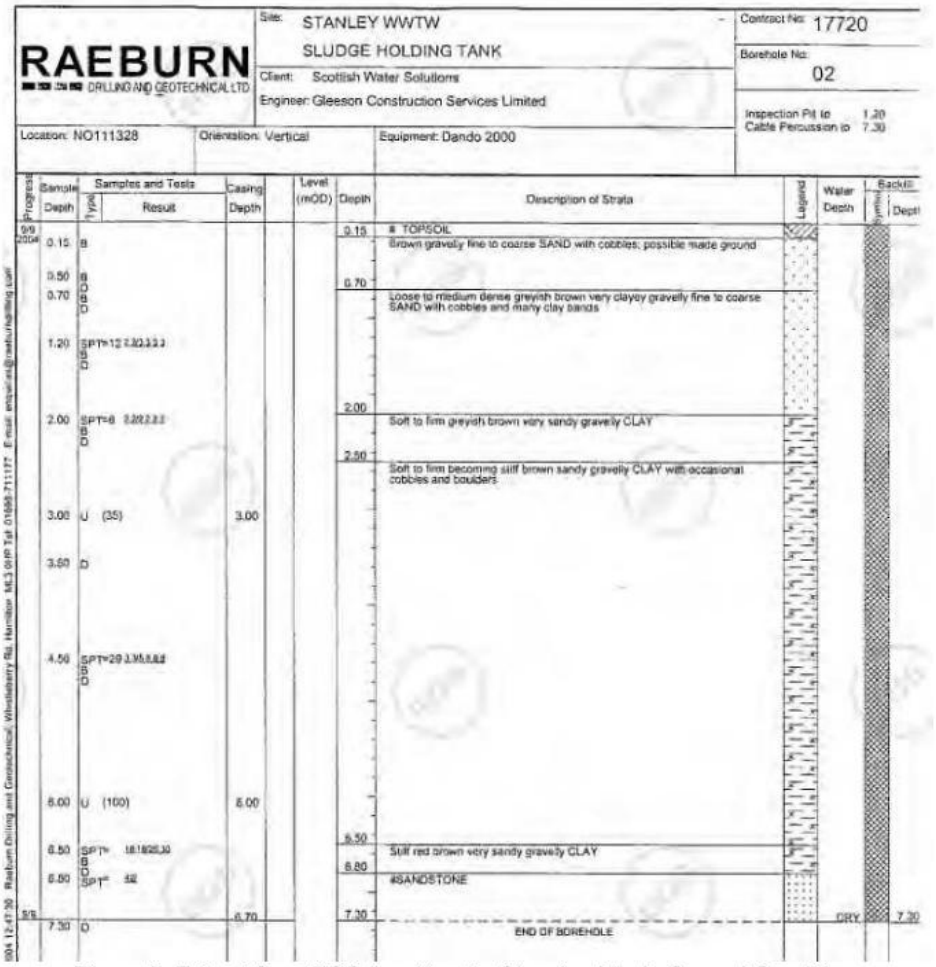


Figure 3: Extract from BGS Log Nearby Showing Likely Ground Conditions

Based on the above borehole and the proximity to the site, it is likely that the site is overlain by shallow made ground/topsoil, followed by river terrace deposits overlying clay to a depth of around 7m-8m before hitting the underlying sandstone.

4.0 Form and Condition of Existing Structure

The church hall roof structure is formed with a series of traditional A-framed timber trusses which support roof rafters and sarking boards, finished with slates. The roof is then supported by traditional external loadbearing masonry walls with stone facing which are assumed to have shallow strip footings. The floor structures comprises a suspended timber floor with timber floorboards supported on timber floor joists.

Figure 4: Site Photo Showing General Form of the Church Hall

The existing suspended timber floor has clearly failed in some areas and is extremely flexible throughout. It is likely that there is insufficient ventilation to the existing floor void and this has led to prolonged periods of high moisture content in the timbers, fungal infestation and decay.

As can be seen from figure 4, there is visible splaying of the roof A-frames out from the tie element and it appears that the A-frames are under designed for their current span and loading arrangement, or else have experienced decay similar to the floor joists and are starting to show signs of distress.

There are inverted v shaped cracks over a number of the window/door openings in the external walls, which are tell tale signs of failed/overstressed lintels/arched brickwork as shown in figure 5.

Finally, there are fairly large V-shaped cracks which have formed to each side of the window openings in the masonry walls. These cracks indicate that the external walls have differentially settled due to the increased loading caused by the window openings. This settlement has caused some unloading of certain areas of the masonry and lateral movements to occur around the windows meaning that the bricks have slid laterally as well as forming cracks vertically. It is possible that the nearby foliage has caused subsidence locally also as there are some small trees nearby and the underlying ground is expected to contain shrinkable clays. It is likely that the movement to the walls could be the trigger for the splaying of the roof and the two effects are compounding the movements seen.

Figure 5: Example of Inverted V Shaped Cracks over Windows

Figure 6: Example of Cracking from Excessive Settlement in External Walls

5.0 Recommendations

As the existing suspended timber floor has failed in some areas, it is recommended that this is fully removed and replaced like for like with fresh timbers or a ground bearing RC slab. If it is proposed to progress with a like for like replacement, the ventilation of the suspended floor needs to be ensured to prevent further moisture build up and decay. If a ground bearing RC slab is proposed, then geotechnical advice should be sought in order to confirm that the bearing capacity of the underlying ground is sufficient.

The roof trusses have visibly splayed and so we would recommend a detailed assessment of the capacity of these elements is undertaken to confirm that they are sufficient for the current loading arrangement. Access to the roof trusses will need to be provided so that connections and section sizes can be confirmed, as well as being able to provide a better visual assessment of the condition of the timber elements.

As there is clear evidence that a number of the existing lintels/brick arches have failed, these should be replaced, and the brickwork repointed to suit to ensure that the full extent of the masonry wall is adequately supported.

A trial pit should be conducted to confirm the existing depth of the foundations to the external masonry walls. Following this, assuming that our assumption that the foundations are shallow is confirmed, we would recommend that the existing foundations are underpinned throughout down to natural bearing strata. Geotechnical advice should be sought in order to confirm that the bearing capacity of the underlying ground is sufficient. Further to this the foundations should be laid to a depth that will prevent vegetation causing subsidence to the walls due to desiccation of the underlying clay.

Where large cracks have formed in the external walls due to differential settlement/subsidence these should be made good and infilled with mortar so ensure the integrity of the masonry walls. Where there are areas with significant lateral movement, these should be demolished and rebuilt true.

Finally, the existing gutters have vegetation growing in some areas and it is recommended that the gutters are cleaned to prevent any further moisture ingress to the roof that could cause further damage and decay.

6.0 Conclusion

Overall the building is of poor condition for its age and type. There are some significant cracks to the external masonry, which appears to have been caused by excessive settlement to the building likely caused by insufficient foundations to areas of higher load around the window and door openings. There is also significant lateral movement to the walls where the cracks have occurred which appears to have been caused by the roof spaying below the tie beams to the roof trusses. The suspended timber floor has also failed and is in need of replacement.

It should be noted that, it is the nature of existing buildings that they contain defects some of which are hidden or may not be obvious. Therefore, it is not possible to fully check and appraise every element of the existing structure, meaning some defects may remain hidden on top of those noted in this report.

Looking at each key criteria for appraising the building stated in the introduction, our conclusions are as follows.

A. Basic Structural Quality: The original building is of average and basic structural quality, considering its age and type. It is unlikely that the building would have been anticipated to have stood for as long as it has, and it is likely well past its initial design life. The lateral movements to the external walls and the splaying of the roof trusses suggests that the structure may well have been under designed for the loading that it has experienced.

B. Subsequent alterations: As the building is of basic construction, no alterations of note appear to have been made.

C. Decay and Fire Damage: It appears that the building has suffered from poor maintenance in recent years. There is some vegetation in the gutters that needs removal to help prevent water ingress and the existing suspended timber floor appears to have decayed and failed in places. It is likely that there is insufficient ventilation to the existing floor void and this has led to prolonged periods of high moisture content in the timbers, fungal infestation and decay.

D. Foundations: There are clear signs of excessive settlement to areas of increased loading on the foundations adjacent to the window and door openings in the walls. It is likely that the building is founded on relatively shallow foundations and the shallow ground was not capable of supporting the vertical loads without settling excessively and causing cracking. It is also possible that nearby vegetation will have caused localised seasonal variations in the moisture content of the shallow soil and caused further subsidence as the worst cracking has occurred where there is a nearby small tree growing.

Overall, the structure is of poor quality and requires some extensive remedial works in order to extend it's useful life. The Suspended timber floor would need to be replaced with adequate ventilation, the existing masonry walls underpinned to provide suitable bearing for the foundations and to avoid seasonal effects, the walls repointed and partially rebuilt to address the movements and cracking that has occurred, and the roof would need to be fully assessed and likely strengthened to prevent lateral splaying.

Appendix A
Site Photographs


1907

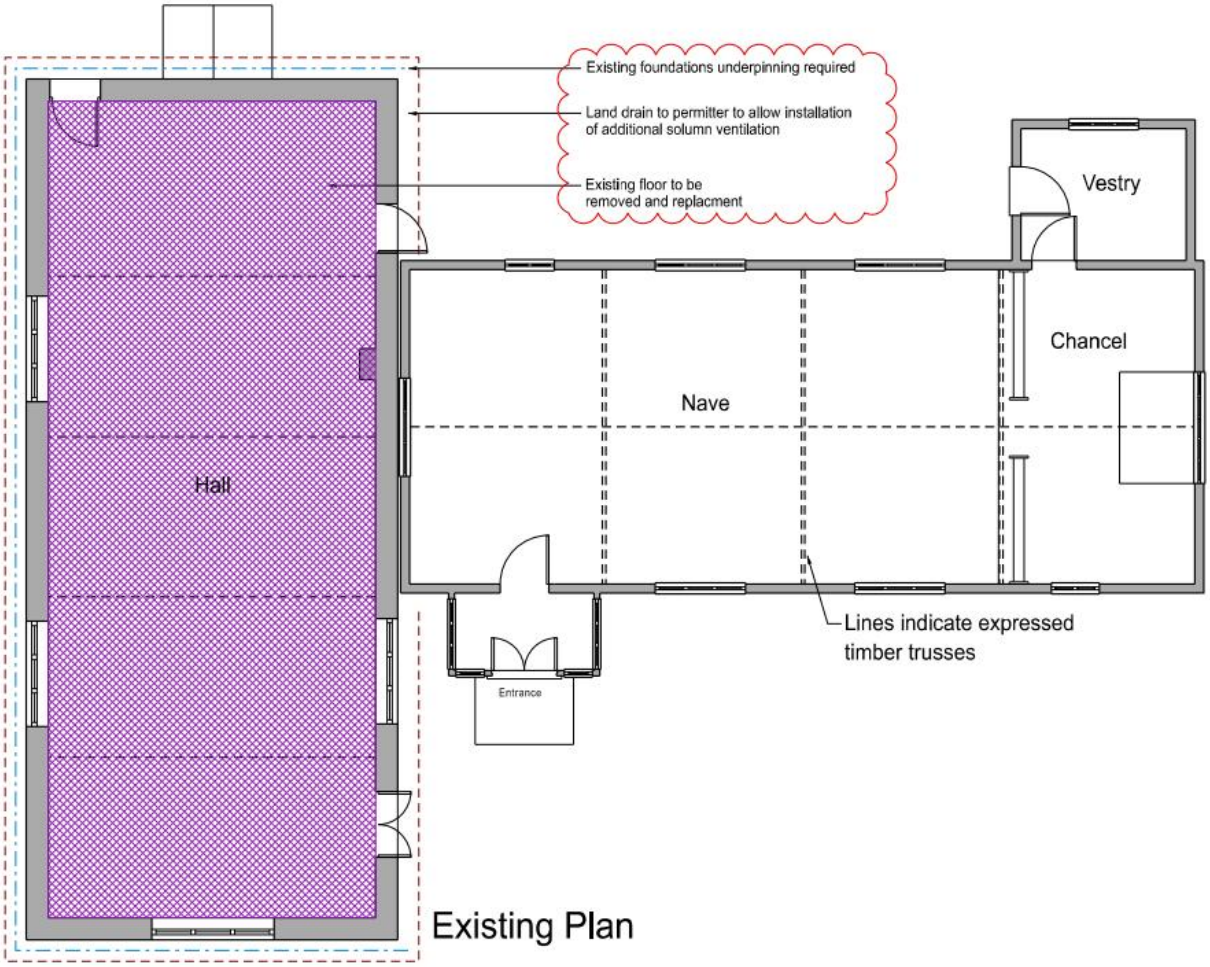
HARLEY HADDOW

The Multi-disciplinary Engineering Consultancy

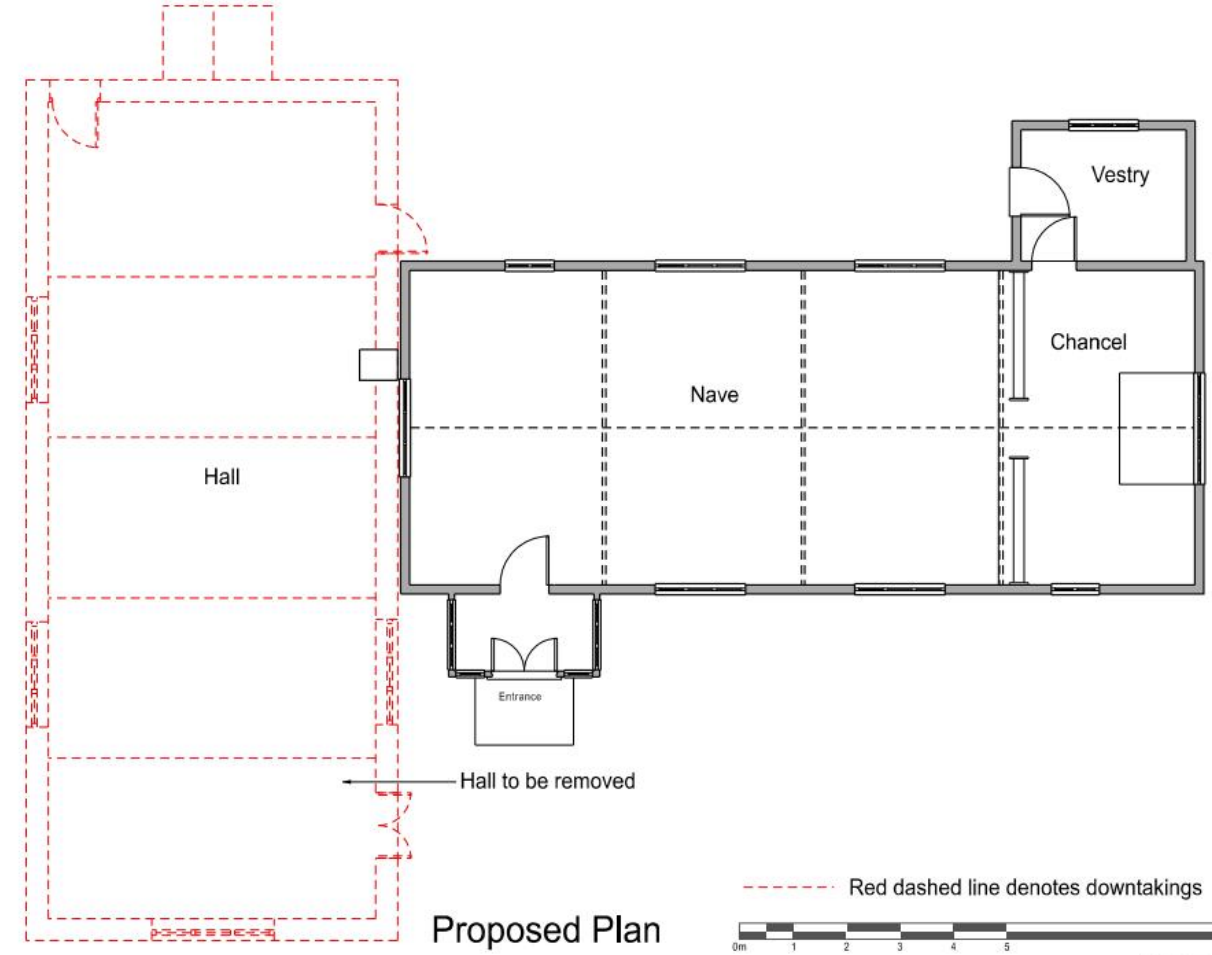
—

Edinburgh | London | Glasgow

Contact
124-125 Princes St
Edinburgh, EH2 4AD
enquiries@harleyhaddow.com



Existing Plan



Proposed Plan

Red dashed line denotes downtakings

1:100

status

LISTED BUILDING

NOTE : ONLY SCALE FOR PLANNING PURPOSES

Contractor and his subcontractors are to verify all dimensions and levels on site before preparing shop drawings or manufacture.

The Contractor is to bring to the attention of the Architect any discrepancy in this drawing prior to commencement of the works.

REVISIONS

rev.	date	by	amendment
P01	22.05.2023	KM	Comments from Structural report noted

client
Stanley Dev. Trust

LEEBOYD
6 Canaan Lane
Edinburgh, EH10 4SY

Tel : 0131 447 1818
Fax : 0131 447 8799
E.mail : design@leeboyd.com

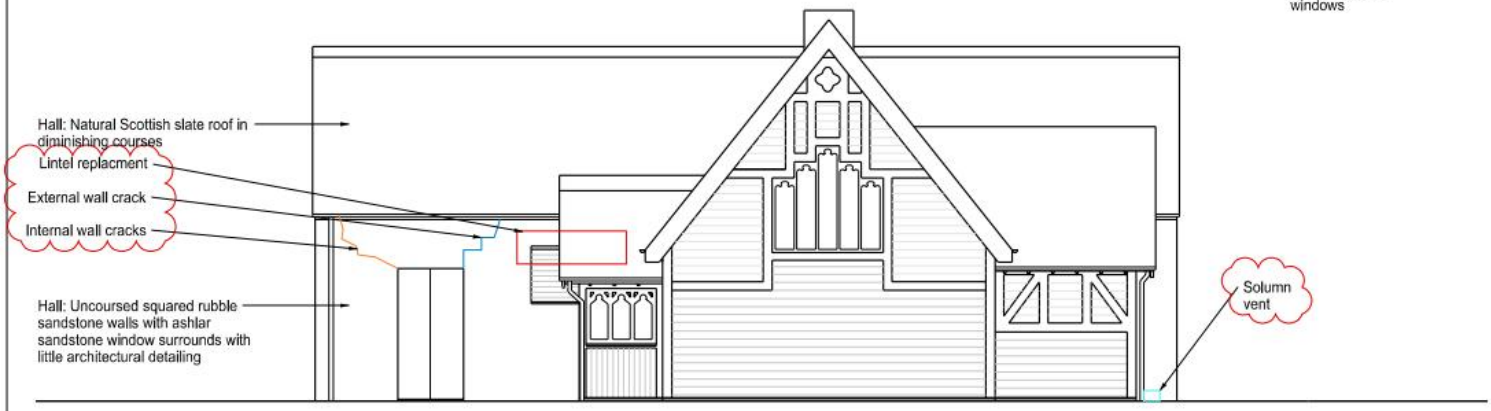
project
St Columba's Episcopal Church, Stanley

drawing title
Existing and Proposed Plans

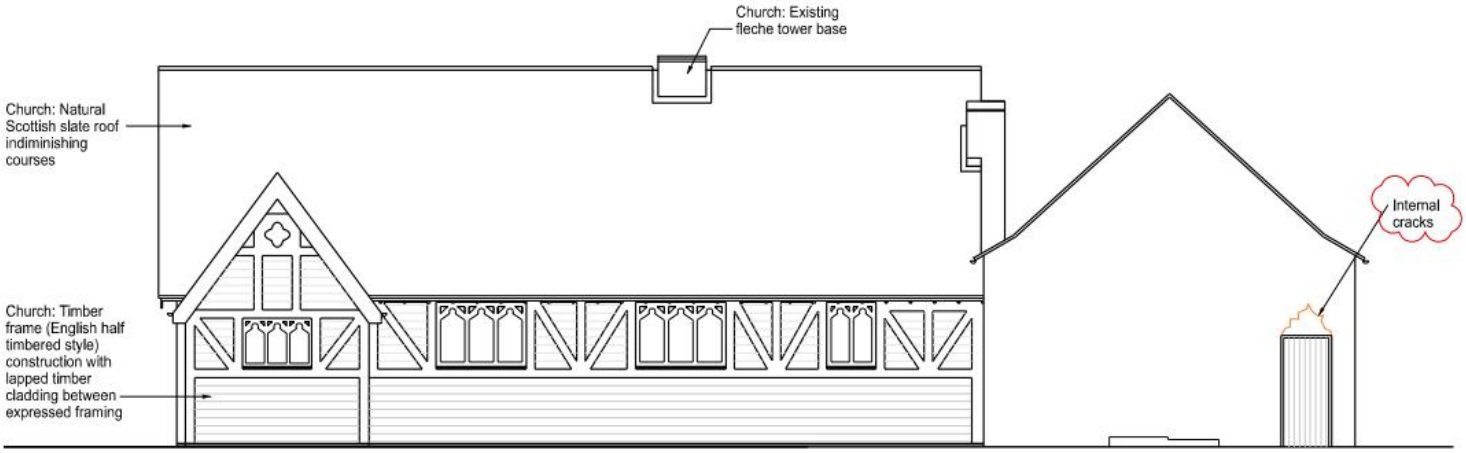
scale		drawn	checked	date
1:100	@A3	FL	AT	Dec 2022

project number	drg no	rev
1517	AL(PL)23	P01

Existing South East Elevation - Entrance to Church



Existing North East Elevation - Entrance to Hall



Existing North West Elevation

Existing South West Elevation

1:100

0m 1 2 3 4 5 10m

status

LISTED BUILDING

NOTE : ONLY SCALE FOR PLANNING PURPOSES

Contractor and his subcontractors are to verify all dimensions and levels on site before preparing shop drawings or manufacture.

The Contractor is to bring to the attention of the Architect any discrepancy in this drawing prior to commencement of the works.

REVISIONS

rev.	date	by	amendment
P01	22/05/2023	KM	Comments from Structural report noted

LEEBOYD
6 Canaan Lane
Edinburgh, EH10 4SY

Tel : 0131 447 1818
Fax : 0131 447 8799
E.mail : design@leeboyd.com

client: Stanley Dev. Trust

project: St Columba's Episcopal Church, Stanley

drawing title: Existing Elevations

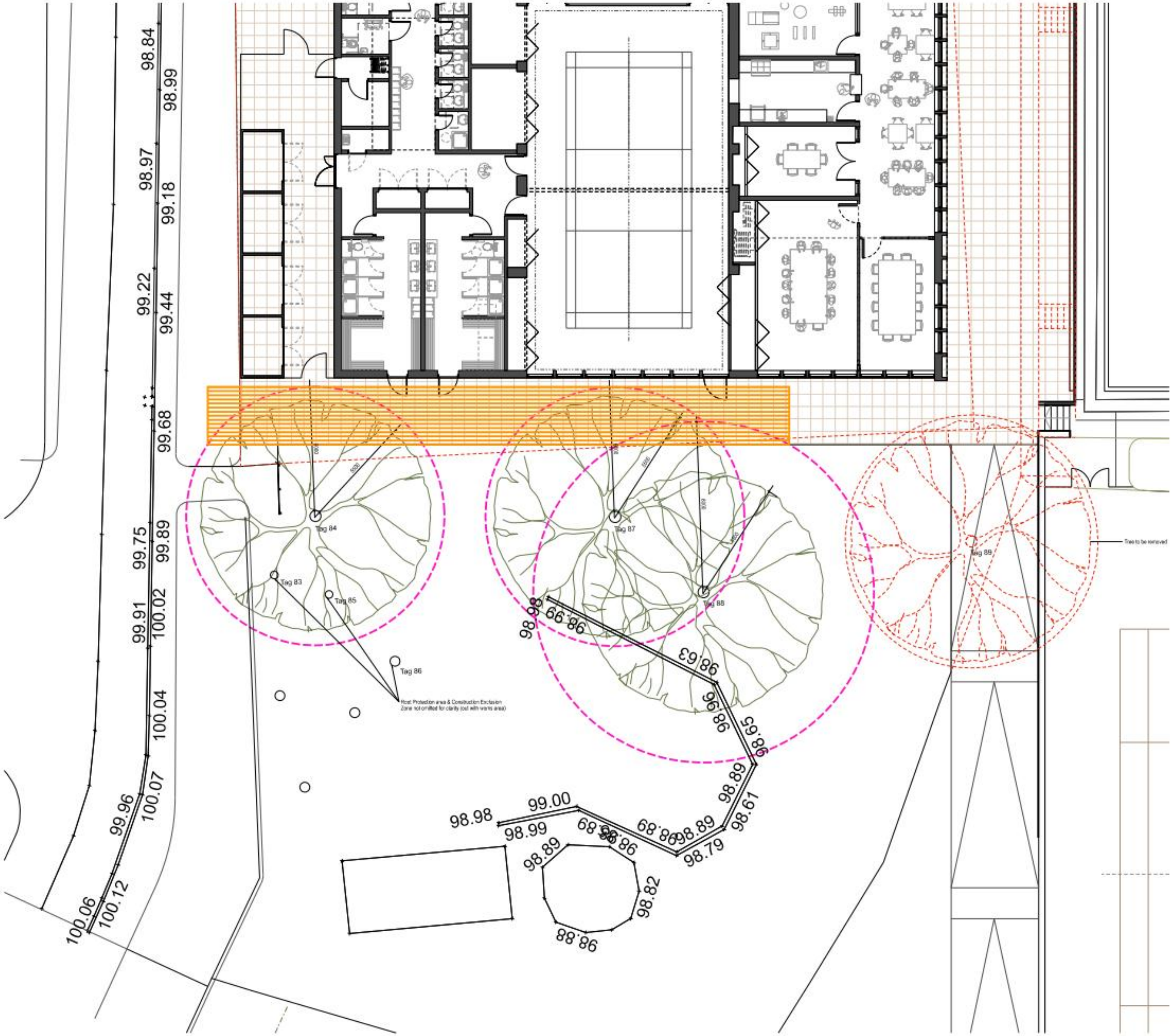
scale	drawn	checked	date
1:100 @A3	FL	AT	Dec 2022

project number	drg no	rev
1517	AL(PL)24	P01

Tag No	Species and GPS	Tree Diameter (mm)	RPA **radius** (distance from trunk) in meters
81	[illegible] (Silver Birch) NO [illegible]	205	n/a to be removed and replaced
82	[illegible] (Downy Birch) NO [illegible]	385	n/a to be removed and replaced
83	*Tilia x* [illegible] (Lime) NO [illegible]	445	4.5
84	*Alnus glutinosa* (Alder) NO [illegible]	535	5.5
85	*Alnus glutinosa* (Alder) NO [illegible]	375	4
86	*Alnus glutinosa* (Alder) NO [illegible]	505	5
87	*Alnus glutinosa* (Alder) NO [illegible]	565	5.5
88	*Tilia x* [illegible] (Lime) NO 10730 33008	545	5.5
89	*Alnus glutinosa* (Alder) NO 10739 32991	545	5.5

Table 8.2: Construction Exclusion Zone (CEZ). CEZ = distance from trunk to tip of outermost branch of the canopy as a radius. This is where the barriers should be placed.

Tag No	Species and GPS	CEZ meters radius
81	*Betula pendula* (Silver Birch) NO [illegible]	n/a to be removed and replaced
82	*Betula pubescens* (Downy Birch) NO [illegible]	n/a to be removed and replaced
83	*Tilia x europaea* (Lime) NO [illegible]	6
84	*Alnus glutinosa* (Alder) NO [illegible]	6
85	*Alnus glutinosa* (Alder) NO [illegible]	4
86	*Alnus glutinosa* (Alder) NO [illegible]	6
87	*Alnus glutinosa* (Alder) NO 10730 33014	6
88	*Tilia x europaea* (Lime) NO 10730 33008	8
89	*Alnus glutinosa* (Alder) NO 10739 32991	6



LEGEND

Root Potrection Area (RPA)

Construction Exclusion Zone (CEZ)

Removals

Restricted Activity Zone

TREE PROTECTION PLAN

Drawing to be read in conjenction with The Old Tennis Courts and Memorial Garden, West Park, Stanley, PH1 4QU prepared by Awen Tree Consultancy Ecological & Horticultural Services

N

1:100 @ A1

NOTE : ONLY SCALE FOR PLANNING PURPOSES

Contractor and his subcontractors are to verify all dimensions and levels on site before preparing shop drawings or manufacture.

The Contractor is to bring to the attention of the Architect any discrepancy in this drawing prior to commencement of the works.

REVISIONS

rev. date by amendment

ELEVATION FROM PERTH ROAD - EASTERN ELEVATION

ELEVATION FROM PERTH ROAD WITH FORGROUND OMITTED FOR CLARITY - EASTERN ELEVATION

1:100

NOTE : ONLY SCALE FOR PLANNING PURPOSES

Contractor and his subcontractors are to verify all dimensions and levels on site before preparing shop drawings or manufacture.

The Contractor is to bring to the attention of the Architect any discrepancy in this drawing prior to commencement of the works.

REVISIONS

rev.	date	by	amendment
A	31.07.2023	KM	Proposal amended to retain War Memorial

status PLANNING

client: STANLEY DEV. TRUST

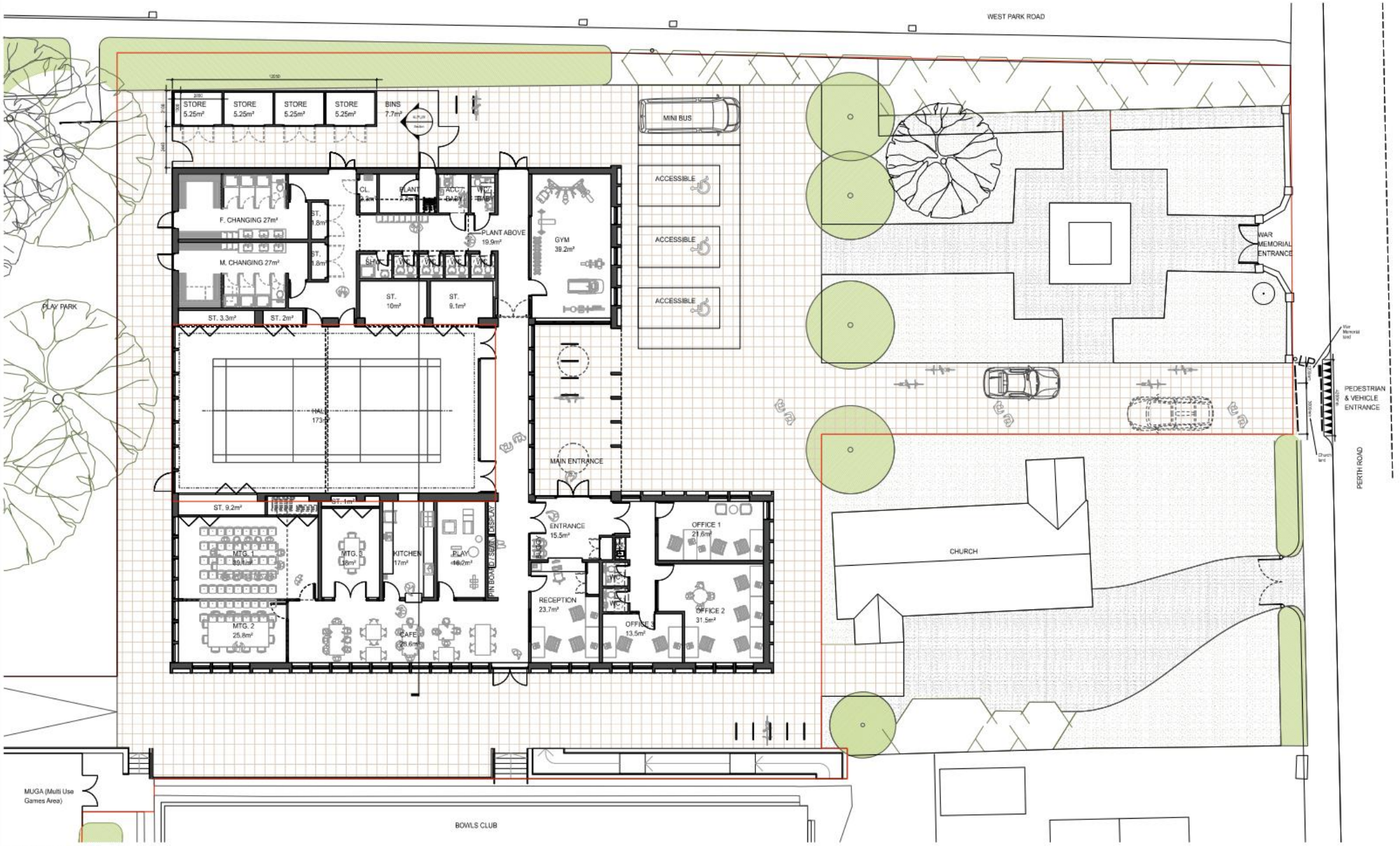
project: STANLEY COMMUNITY SPORTS CENTRE

LEEBOYD
6 Canaan Lane
Edinburgh, EH10 4SY
Tel : 0131 447 1818
Fax : 0131 447 8799
E.mail : design@leeboyd.com

drawing title: PROPOSED ELEVATIONS

scale	drawn	checked	date
1:100@a1	KM	AT	24.09.2018

project number	dwg no	rev
1517	AL(PL)06	A



PROPOSED FLOOR PLAN

1:100

NOTE : ONLY SCALE FOR PLANNING PURPOSES

Contractor and his subcontractors are to verify all dimensions and levels on site before preparing shop drawings or manufacture.

The Contractor is to bring to the attention of the Architect any discrepancy in the drawing prior to commencement of the works.

REVISIONS

rev.	date	by	amendment
A	16-23-2021	FL	Upcoded Carparking
B	31.07.2023	KM	Layout updated to revise War Memorial

status PLANNING

client STANLEY DEV. TRUST

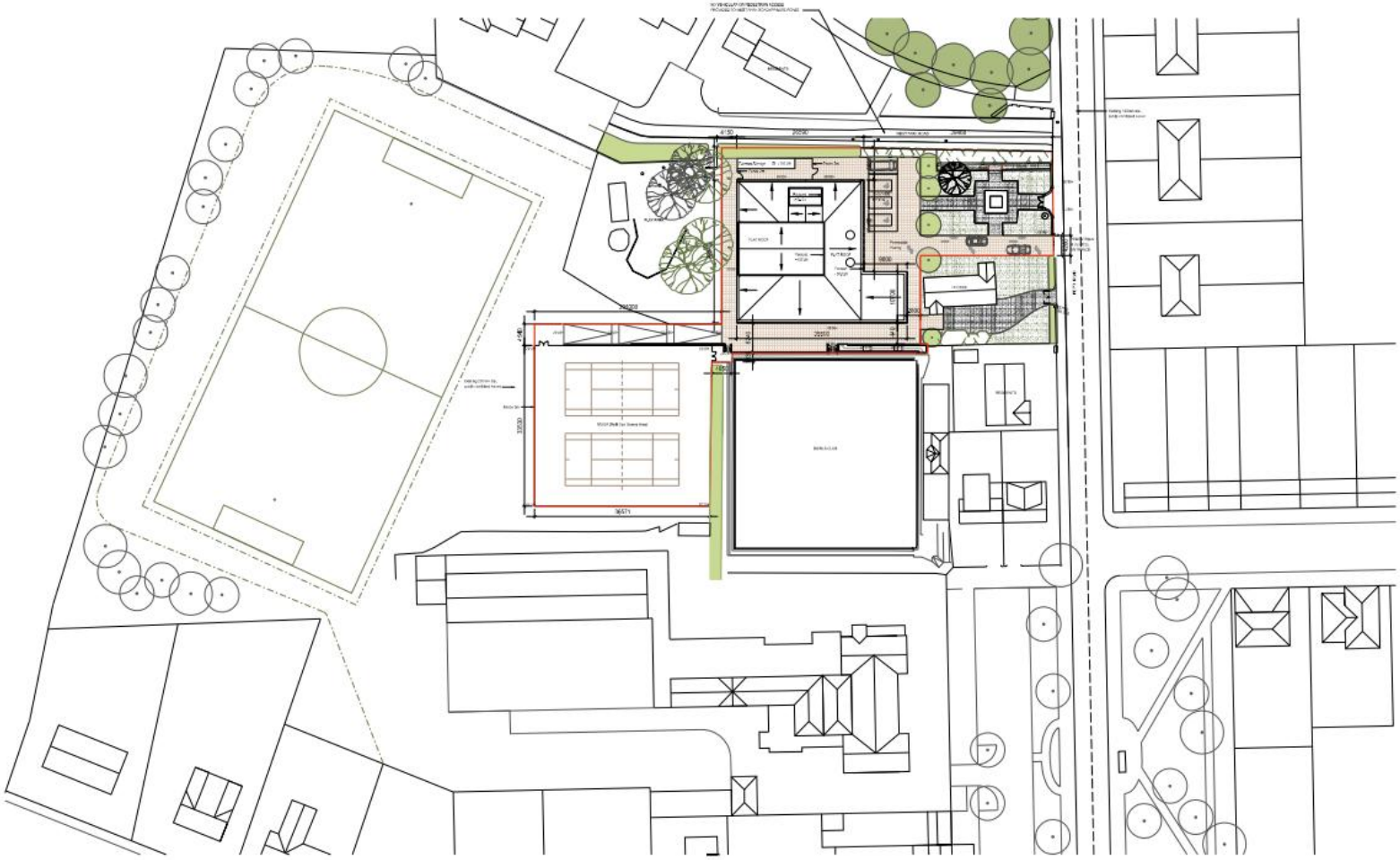
project STANLEY COMMUNITY SPORTS CENTRE

LEEBOYD
6 Canaan Lane
Edinburgh, EH10 4SY
Tel : 0131 447 1818
Fax : 0131 447 8799
E.mail : design@leeboyd.com

drawing title PROPOSED FLOOR PLAN

scale	drawn	checked	date
1:100@a	A1 KM	AT	24.09.2018

project number	dwg no	rev
1517	AL(PL)05	B



PROPOSED SITE PLAN

SITE BOUNDARY

1:500

NOTE : ONLY SCALE FOR PLANNING PURPOSES

Contractor and his subcontractors are to verify all dimensions and levels on site before preparing shop drawings or manufacture.

The Contractor is to bring to the attention of the Architect any discrepancy in the drawing prior to commencement of the works.

REVISIONS

rev.	date	by	amendment
A	16-03-2021	KM	Updated Carparking
B	31-07-2023	KM	Updated Carparking

status PLANNING

client STANLEY DEV. TRUST

project STANLEY COMMUNITY SPORTS CENTRE

drawing title PROPOSED SITE PLAN

LEEBOYD
6 Canaan Lane
Edinburgh, EH10 4SY
Tel : 0131 447 1818
Fax : 0131 447 8799
E.mail : designs@leeboyd.com

scale	drawn	checked	date
1:500@a	A1 KM	AT	24.09.2018

project number	dwg no	rev
1517	AL(PL)04	B

STREET VISUAL

status PLANNING

NOTE : ONLY SCALE FOR PLANNING PURPOSES

Contractor and his subcontractors are to verify all dimensions and levels on site before preparing shop drawings or manufacture.

The Contractor is to bring to the attention of the Architect any discrepancy in this drawing prior to commencement of the works.

REVISIONS

rev.	date	by	amendment

client
STANLEY DEV TRUST

LEEBOYD
6 Canaan Lane
Edinburgh, EH10 4SY

Tel : 0131 447 1818
Fax : 0131 447 8799
E.mail : design@leeboyd.com

project
STANLEY COMMUNITY SPORTS CENTRE

drawing title
PROPOSED STREET VISUAL

scale	drawn	checked	date
1:100 @A3	KM	AT	24.09.2018

project number	drg no	rev
1517	AL(PL)10	Rev A

LEEBOYD

THE STANLEY COMMUNITY SPORTS HUB

Full Planning Application: Design Statement for Proposals

For: Stanley Development Trust

October 2022

Revised July 2023

CONTENTS:

D3 – Options Appraisal Report by Community Enterprise

D4 – Chronology of Community Engagement by SDT

D5 – Structural and Condition Reports:

- Quinquennial Condition Report for St Columba's Episcopal Church by Hardies: February 2016
- Structural Condition Report of St Columba's Episcopal Church Hall by Harley Haddow: May 2023

D6 – Community Action Plan by SDT

D7 – Report on Community Masterplan Consultation by SDT

D8 – Appendix omitted

D9 – Analysis of Stanley Sports Hub Survey by Community Enterprise

D10 – Energy Strategy: Route to Compliance document by Harley Haddow: including Plant/Machinery, noise and odour mitigation strategy and Lighting Strategy

D11 – Drainage Strategy Report and Plans by Harley Haddow (Mechanical and Electrical Engineers)

D12 – Arboricultural Impact Assessment by Awen Tree Consultancy (updated 26 April 2023)

D13 – Bat, Bird and Protected Species Survey Report by Tay Ecology Ltd

D14 –Protected Species Survey and Ecological Impact Assessment by Tay Ecology Ltd

D15 – Letter requesting the removal of Developer Contribution from Stanley Development Trust

D16 – Letter requesting reduction of the Planning Application fee from Stanley Development Trust

A: CONTEXT

A1 – Background

Stanley is a village 8 miles north of Perth situated close to the River Tay with a population of around 1800. Stanley is an active community with many local, social, voluntary, and interest groups; sports clubs, including a bowling club, tennis club and a youth football team; and a well-established Development Trust. Stanley Development Trust has a strong record of securing funding and developing and delivering successful community-led projects.

In 2009 Stanley Development Trust (SDT) commissioned a community visioning exercise, an output of which was the Stanley Community Action Plan1. The Plan identified a lack of facilities as one of the key priorities for action. Stanley Sports Survey 2013 showed that a lack of suitable local facilities was a major barrier to people participating in exercise. The current situation is that the Bowling Club premises are in a poor state of repair. The Tennis Club and courts are no longer. The local football pitch is unusable as a base for Stanley Socca youth football team with topsoil and drainage issues and the team has no access to changing facilities or toilets.

In 2015 SDT commissioned a Feasibility Study from a team of consultants led by Community Enterprise to investigate the possibilities for a new Community and Sports Hub in the village. The exercise was funded by a Social Investment Scotland, Robertson Trust and Legacy 2014 XX Commonwealth Games, Scotland. The study has made a clear case for a new community hub and produced design options for the building on the proposed site in the centre of the village.

The detailed study involved consultation with local community groups, sports clubs, organisations and individuals, Perth and Kinross Council, and included a public event in June 2015. The findings of the study were presented to the community on 19th February 2017 at an open meeting in Stanley Village Hall. The presentation covered the background to the project, main findings from the feasibility study, an outline design, and the next steps. The overwhelming feedback from the event was that the community backs the project. The community is pleased to see local groups and clubs working together to improve community facilities in the village. There is clear support for a purpose-built hub that would accommodate the current and future community and sports needs of a growing village.

In 2018 SDT commissioned architects Lee Boyd to develop the findings of the study further and to seek planning permission as an important stage in the progression of the Stanley, Community Sports Hub

Refer to Appendix D3 for the Options Appraisal Report by Community Enterprise.

Refer to Appendix D4 for a chronological list of consultation carried out by SDT and their consultants, providing evidence of community wide engagement.

Refer to Appendix D6 for Community Action Plan

A2 – Site

The location for the proposed hub sits at the heart of the village, off the main thoroughfare (Perth Road) and is anchored on the site of the derelict tennis courts in a position that allows it to directly connect with the school and playing fields, the bowling club Village Square and St Columba's Episcopal church - all community assets that strengthen the aspiration for the hub as a primary destination in Stanley.

The building itself is intended to sit behind the church, bounded by the bowling green which it can address, the children's play park to the rear and war memorial in the foreground. It is the intention to landscape all the grounds adjacent to the hub, including the church and incorporating the war memorial, within a common design and material language so that the new community realm links these key civic structures and provides better access and visibility. In addition, the site is very close to the Village Square where there is free parking and access to other local amenities such as shops and hotels.

Stanley is a small community and no one within the main village boundary would have a walk longer than 8-10 minutes to arrive at the hub.

The derelict tennis courts owned by the Trust will be demolished to accommodate the new building and replaced with a new Multi Use Games Area (MUGA) behind the bowling green on the school playing grounds. This facility will be shared with the school.

When combining the resources of the existing sport pitches, playing fields and bowling green with the proposed MUGA, the new hub has the potential to offer a wide range of outside sporting activities which it can manage and then support with changing facilities/toilets (not currently provided for visiting teams).

To the North of the site is a private road accessing 3No private dwellings. These dwellings will not be directly impacted by the proposed buildings but matters such as light and noise pollution from the hub would be mitigated to appropriate standards (Ref Appendix D10)

At the rear of the site to the west is a council maintained play park. This existing facility for younger children will remain alongside the new hub, close to its café and toilets. This reinforces the idea that the proposed facility is for everyone in the community.

The topography of the site is such that there is almost no elevation from the street to the building. This is good for accessibility and avoids the need for ramps or steps in and out of the building. The site slopes up into the play park to the rear and then down into the playing fields. The MUGA will be set lower than the hub. The site also slopes down to the bowling green. The two will be linked with new steps, a ramp and viewing terrace.

Considering the relationship of the hub position to the church, bowling green, play park and private road and the essential organizational requirements of this community building dictating its shape and form, there is deemed no other location within the immediate vicinity to locate the building.

As noted, the Trust own the core area of the development site. It is at the centre of the village, provides good barrier free accessibility and has widespread support within the community as the best location for their hub. Other locations were considered in very early consultation but were quickly ruled out. Lee Boyd carried out a feasibility study in 2015 to consider options for locating a community building on this site only. The Trust did not consider then and do not now, that there is a

viable and suitable site elsewhere in the village that provides the same level of accessibility, interconnection of key civic and sporting facilities and centralised focus to the village. This latter issue of focus is important to the community as there lacks a central social space for interaction at an informal level, such as a café in the village.

A3 – Project Vision

The vision for the project is simple and is primarily concerned with the health and well being of the citizens of Stanley and surrounding hinterlands. The idea of the hub is to provide a focus for community life, support learning, outreach, activity and sport from a single destination. The location of the hub allows the building to provide facilities that are bolstered by the adjacent amenities, primarily the bowling club, the school, and its playing fields, play park and the church. The hub's ambition is to provide a critical mass of space, opportunity and welcome for the town.

In recent years the Village Hall committee has combined forces with SDT. It recognizes that their current hall accommodation is failing and in need of significant investment to bring it up to expectations. It fully supports the combined emphasis of the hub to promote community interaction and activity. The spatial arrangement of the proposal has been developed with consideration to these different community needs.

Key points:

- Improve the health and wellbeing of local people by providing easy to access, friendly, inclusive and good quality facilities for community interaction and activity.
- Improve community cohesion through provision of a shared communal hub and social space that includes commercial kitchen and scope for a community café space
- Develop the economic potential of Stanley and create opportunities for volunteering and ideally local jobs (particularly through social enterprise)
- Provide opportunities for skills development through coaching and training
- Run the Hub along social enterprise principles to ensure the ongoing financial viability of the facility
- Provide a barrier-free design to allow participation and access by all
- Reduce the need for people to travel by car to access such facilities and address other identified barriers to participation
- Enhance the appearance and use of the heart of the village

B: PROJECT JUSTIFICATION:

B1 – Justification

The justification for the construction of a Community Sports Hub in Stanley is set out in the Options Appraisal document produced by Community Enterprise. Supported by its market research, community consultation and other modes of analysis, a focus for community life in Stanley is deemed long overdue.

As part of the comprehensive consultation process undertaken by Community Enterprise in the village, their Options Appraisal Report outlines the following local challenges:

- Geographic isolation- particularly for those without personal vehicular transport.
- Exclusivity: clubs operating in isolation with poor uptake and not pooling their resources with other clubs and organisations.
- Lack of youth provision: no youth club locally or soft play area for toddlers (the nearest one is in Bankfoot, where the public transport links are very limited or require a connecting service), the local play park is concealed from the public road.
- Lack of a focal point to facilitate community interaction, a café for example.
- Limitations of existing venues: lack of a good commercial catering kitchen and storage space for community assets such as marquees and trestles for fairs. Venues don't provide the multi-functionality needed.
- Heavy vehicular dependency and not enough focus on healthy lifestyles and walking. This also means people are not interacting socially.
- Poor network of paths and cycle routes.

The report goes on to demonstrate that a multipurpose and flexible Community Sports Hub in Stanley will deliver 13 of the 15 outcomes of the Perth & Kinross Single Outcome Agreement (SOA). The SOA is a document that sets out the key local outcomes that the Community Planning Partnership is committed to achieving for the people and communities of Perth & Kinross. The outcomes include employment and training opportunities for local people, direct engagement with opportunities for health and wellbeing, increased social interaction, a safe and sustainable place for future generations and a reduction in inequality.

It is stated in the report that Perth & Kinross has the third highest population increase projection over the next 25 years with a growth of 24%. This is reflected in Stanley with the expectation of a significant increase in the local population from the construction of up to 280 new houses within 10 years. The local authority confirmed to Community Enterprise their concern about the lack of facilities to support this growing population.

Refer to Appendix D2 for supporting statements from Stanley Development Trust.
Refer to Appendix D3 for Options Appraisal Report by Community Enterprise.
Refer to Appendix D9 for Analysis of Stanley Sport Hub Survey by Community Enterprise

B2 – Consultation

The Trust has consulted their community over the last 12 years on the various implications of developing a community and sports hub on their land (Ref Appendix 4 – Chronology of Community Engagement by SDT).

Church: The Trust and the Episcopal Church have a clear understanding that as the project progresses, they will continue to work together positively. The church understands that there will be potential long term benefits to their building and their congregation from proximity to the new community hub and that they have an opportunity to be part of a collective of civic spaces and structures. The concept is that the church will be revitalized with the removal of its incongruous hall and united with the hub, the war memorial, and the bowling club by a common language of landscaping. The resulting design will remove the current visual barriers (hedges, fences, and trees) between the individual plots and create a single, more welcoming, civic entity.

School: The Trust has an ongoing dialogue with the local primary school, The Friends of Stanley Primary School, and the PKC Education Department. Through discussions there is clearly mutual benefit in building a community and sports hub where proposed. The Trust and school can share use

of the MUGA and playing fields and the hub can provide valuable support facilities such as changing and toilets. The Hub can also provide overspill internal activity space for the school when needed with a wide range of well supported spaces.

Planning and Development, PKC: During the process of evaluation the proposals were formally passed to Perth & Kinross Council as part of a Pre Application Appraisal in September 2019.

The Planning Officer provided a comprehensive list of comments and advice on how the eventual application should be tackled in November 2019.

Unfortunately, due to the Covid Pandemic, the final submission wasn't made until late 2022.

The significant advice from the planning officer was to consider the impact on the setting of the two listed structures, the church, and the memorial. The team employed Turley to provide a Heritage Assessment who has subsequently addressed further considerations since the formal application has been assessed.

It should be noted that in the pre application submission the memorial was retained in situ. Due to issues with the potential use of West Park for access it was decided by the Trust to move the memorial to the village square, freeing up the foreground to the hub for more parking and drop off with access via Perth Road. Due to the timing of these decisions, this matter was not consulted prior to issue of the formal application. The current proposal, revised on the basis of more recent advice from the planning officer, now returns the memorial to its current location, but with a reduction in parking numbers. This layout will form part of the final determination.

Concern was raised at the choice of site, but as explained in this document, the site is deemed ideal for the location of a community hub that helps to unite those assets already in the vicinity and is at the recognized centre of the village. The Trust owns the significant portion of the proposed site area and has widespread support within the community, including the church and the school to use this land for the proposed hub.

Advice was also given that we would need to consider light and noise in relation to residential neighbours and that we should consider the impact on trees and ecology. The Trust has commissioned consultants to address all these concerns, although it is recognized that because of timing, the ecological assessments have been provided post submission and the tree survey has been updated because its validity was out of date.

Refer to Appendix D4 for Chronology of Community Engagement by SDT.

B3 – The Brief

The requirement of the Stanley Community Sports Hub is to provide one building over a single storey on a designated site in the village that provides a variety of flexible, accessible, and comfortable spaces to support community life.

The building is to be of a simple design, providing a civic presence at the heart of the village that is open and welcoming. The accommodation is to meet contemporary expectation for public facilities

and be capable through the range and arrangement of spaces, of providing for all manner of community interaction and activity. This means that at any one time there can be sporting activity taking place alongside social activity.

The building is to open to all members of the community, becoming a destination for existing and new clubs, associations and groups. This includes the adjacent bowling club, football team, former tennis club and the current activities taking place in the town hall.

The key components of the brief are:

1 – Multipurpose Hall (subdivisible)
2 – Community Café (with soft play)
3 – Multipurpose meeting rooms x3 (subdivisible)
4 – Gymnasium
5 – Changing facilities
6 – Administration/office base
7 – Catering kitchen
8 – Lettable office accommodation
9 – Ancillary space: toilets, storage, plant
10 - MUGA

B4 – Design

Context

The site for the proposed Stanley Community Sports Hub is on the land formerly occupied by the village tennis courts and club. This is a flat area of relatively open ground, bounded by a play park to the rear and west, the bowling green to the south, a private road to the north and the Episcopal church and war memorial to the west. Both the memorial and the church are category C Listed.

Additional to the context is a private road on the North boundary providing access to 3No private 2 storey houses on individual plots, dating from latter decades of 20th Century. Between the site and these houses are mature, high conifer hedges on the boundary of the site and boundaries of the properties.

Adjacent to the church is another single storey house facing the main street. Across the road are more domestic properties, some of which are former council houses.

As noted, the church and the war memorial are both category C Listed. Whilst they have a degree of individual character, neither provide a strong or appropriate guide to the language of the proposed building. The church is copy book design in timber frame and cladding with steeply pitched slate roofs from the end of the 19th Century. The church is diminutive in scale by comparison to most Victorian stone churches and is an attractive example of its rural typology.

Stanley War Memorial: The memorial is an impressive stone edifice with a 3-stage plinth and pedestrian soldier. The C Listing includes the boundary walls, gate piers, gates, and railings. The

memorial is set into a symmetrical cruciform landscape of grass and gravel paths with hedged flanking boundaries.

It is now the intention, having explored alternative options to retain the memorial insitu, but to slightly alter the setting out of the landscaping to provide space for a shared route to accessible parking in front of the proposed hub. The axial geometry and symmetry of the cruciform landscaping pattern would be retained by adjusting the edging of paths and lawns. The hedge boundary between the church and the memorial would be removed to open the landscaping and make these listed structures connected and more visually accessible. The gates and boundary features noted in the listing would only require the adjustment of one outer pillar to comply with the revised layout. These pillars are rendered masonry and therefore relatively simple to relocate, repair and make good (it is likely that all the posts would be repaired and re-rendered).

To the rear of the memorial ground, the tree and large shrubs are retained, but the palisade fence, border, and wild shrubbery beyond would be removed to open the landscape towards the proposed hub in the same way as along the shared access route to the side.

St Columba's Episcopal Church: The church has a stone hall to the rear. This was added a few years after the church was built, but the material and detailing are different. This hall is in a poor state of repair, with visible structural problems (ref to Appendix D5 for condition survey) and not used by the church other than for storage. On the basis that the church supports the hub project and will share the accommodation provided, this hall will be demolished, and the church restored to its original shape and appearance, including reinstatement of the gable elevation currently covered by the hall (the demolition of this ancillary hall is covered by a separate Listed Building Consent). The church has already acknowledged that its proximity to the proposed modern shared public facilities is a benefit to its congregation and in turn the church viewed through a different lens, is a benefit to the new civic realm.

The justification for the removal of the church hall is covered in Appendix D1 by Turley and supported by the findings of the recent Structural Condition Report by Harley Haddow. The church hall has not been used for decades and is currently a glory hole for storage. It is estimated by the design team that to bring it back into a state where it is structurally sound and practical and comfortable to use, it would cost between £310 and £385k+VAT. This is simply not affordable for the church, nor the Trust and when modern facilities are being proposed that can be shared by the church and the school, there is little appetite to try and hold onto this hall. Turley has recommended that removing the hall is selective demolition of a listed building, enabling the most significant parts to be retained. Therefore, the special architectural and historic interest and reason for the designation of the listed building would remain. It is the view of the Trust, the design team, and the Church that it would in fact flourish when restored as part of a new civic realm in Stanley.

The context is therefore varied with no urban pattern uniting the disparate and individual structures that sit around the proposed site. Although Stanley as a village was planned on a grid arrangement to provide supporting accommodation for the cotton mill, the terraced nature of the buildings along the grid lines does not extend to the site. The proposed building therefore sits against the backdrop of the countryside, accepting the expanse of playfields in the same light, and with the exception of the church is not read in relationship to a strongly influential language.

The proposed new building is not specifically influenced by context but sits into an existing space between the buildings, playpark and features mentioned, bringing their functions into the realm of the new community resource, united but a common landscaping language.

Refer to Appendix D1 for Heritage Assessment by Turley (relating to policies HE2 and 27A, NPF4:7b and 7c)
Refer to Appendix D5 for Structural and Condition Surveys

Building Form

The size of the proposed building is principally dictated by the scale of the spaces required from the brief and the need to provide accommodation that is appropriate to public use. The building is not domestic and circulation, ceiling heights and ancillary space are related to the needs of a public building and how that building is appropriately serviced to current environmental standards.
That said, the building has been set out and modelled to recognize the potential visual impact it might have in a context already discussed as being eclectic and without clear influence. The layout of the building has been arranged so that the largest space, the main hall is in the middle of the plan. The hall height is dictated by the need for sporting activity (badminton) and is effectively over 2 storeys. This hall only presents itself to the perimeter of the building (and therefore with an impact on an elevation) to the rear, where the building faces the play park and existing mature trees. The remainder of the building is single storey and at a consistent height, dictated by appropriate ceiling heights and structure/service zones. This has been set at the minimum it can be given the use of the building and its servicing requirements.

The proposed layout responds to the context in the sense that the plan sits neatly into the site identified and responds separately to the situation it finds in each case. The hall is axial about the landscaped approach from the main street passing between the church and memorial and controls a generous easterly facing covered entry with views right through the building (through the hall) to the play park and trees. On the south side, the building controls a terrace overlooking the bowling green providing required viewing and user relationship. The café shares this terrace. On the west side, the building faces the play park and trees. The changing rooms exit from this elevation away from the main public circulation and users can move unhindered to the MUGA or playing fields. To the North the building faces a high hedge dividing the site from the private road and private houses. There is no public interface with this side of the building which only provides servicing access.

To further minimize visual impact, all the roofs are flat. There are no volumes expanding the visual massing of the building from pitched roofs.

The overall form is therefore very orthogonal, reflecting the orthogonal layout of the plan and the need for simple flexible public space.

Design Language

The design language responds to the orthogonal nature of the plan and massing and is essentially controlled by a rhythm of standardized vertical fins that split up the primary rectangular elevations. Between these fins are solid panels, openings or glass depending on what is behind.

The language is particular to the new building and does not attempt to mimic the traditional detailing of the adjacent church. The two buildings are of a different scale and typology and signify through their respective design languages, their purpose, period of construction and individuality.

The vertical fins are formed in masonry/concrete and provide the visual control of the two primary elevations, that being the entrance elevation and elevation with café, offices and meeting rooms that face the bowling green. These fins will be the same size regardless of location and will rise to a horizontal architrave to these two elevations expressed in the same material, providing a frame to the vertical members.

The solid infill panels will be split into two textures with a grooved surface up to a controlling opening height for doors and windows and a smooth panel above. This controlling line corresponds to the eaves line of the church, although this is not intended as a deliberate relationship.

The two secondary elevations facing the play park and the hedge and private road, do not have the articulation of vertical fins and architrave, however the rhythm is maintained by the vertical jointing of the panels splitting up the elevations. These are the same panels used on the front elevations.

The main hall rises above the parapet of the remainder of the building and is expressed with opaque glazing down the two long sides and a reflective metal paneling on the two short ends. The short ends are intended to be visually different from everything else and provide the visual signature to the building. The metal paneling is on the diagonal to contrast with the otherwise strict orthogonal regime of the main elevations. The diagonal pattern is a very long arm reference to the diagonal exposed timber framing of the church.

Relationship to Church and Memorial

The proposed new building does not attempt to mimic the language of the church and is a distinct modern design that should be recognizable in years to come as 21st century. It sits behind the church and memorial and inevitably creates a new backdrop to these listed structures. Heritage Consultants, Turley discuss this in their Heritage Assessment, Appendix D1 examining the proposals against the relevant legislation, nation and local policy and guidance. Turley recognize that the designation to the church and memorial statutorily protects the building from development which may cause harm to their special and historic interest. They conclude however that whilst the proposed development would change the surroundings of St Columba's Church and the memorial, it would not have a substantive effect upon the ability to experience, understand or appreciate the elements of these structure's settings which contribute to their significance and special interest. They go on to say that the location of the church and memorial would remain readily understandable in the context of the wider village and their position within their own grounds and the ability to understand their architectural design and features would be unaffected. It is regarded that the removal of the church hall would enhance this position with respect to the appreciation of the original church building. (Pending update to Heritage Assessment by Turley)

Refer to Appendix D1 for Heritage Assessment by Turley (relating to policies HE2 and 27A, NPF4:7b and 7c)

C: PROJECT DETAIL

C1 – Materials:

Samples of building material finishes can be made available to the planning department when finalised for approval. The intended materials are as follows;

Ground Floor External Walls:

Eastern (front) and southern elevations. Pre-cast, sandblasted concrete fins supporting matching continuous architrave. In-fill panels of through-coloured facade cladding. Colour matched to carry the architectural language of the precast fins and architrave.

Western and northern elevations. Fin, architrave and in-fill pattern repeated in panels of through-coloured facade cladding. Colour matched to carry the architectural language of the precast fins and architrave.

Upper Level External Walls.

Norther and southern elevations. Flat interlocked diamond shaped tiled metal facade panels.

Eastern and western elevations. Vertically running linear annealed glass profile channel units.

Glazing:

Powder coated, thermally broken aluminium window system. Colour matched to wall panels.

Doors:

Powder coated, thermally broken aluminium window system. Colour matched to wall panels.

Roof:

Fully adhered single ply membrane. Colour to be confirmed. Concealed roof outlets and rainwater pipes.

Hard landscaping:

A mixture of concrete paving, setts and resin bound aggregate will be used to delineate paths, terraces, and transitions. The language of these in terms of function and setting out will extend around the edges of the church and the war memorial. All hard landscaping will be designed as permeable.

C2 – Landscape:

The quality of the landscaping proposal is vital to the outcome of the project as it will become the glue that binds the church, memorial, and the new hub together into a unified single civic realm.

The proposed private access route from Perth Road to the hub is primarily for pedestrians and cyclists but is a shared surface so that visitors with disabilities can park in front of the hub. This is a statutory requirement of public buildings. It is intended that the accessible parking spaces indicated at the front of the building are for designated use only, or as space for dropping of visiting sports teams. The design of this route will require careful consideration of surfaces, edges, and measures to ensure safe passage of all those that use it.

The landscaping of the church and war memorial will essentially remain the same in principle but as discussed elsewhere, boundary fences and hedges will come down, and a new single language of design and material will bind these together with the new hub. Pathways, borders, edging and

planting will be adjusted to support that language, but the cruciform layout of the memorial and the relaxed edges between lawn and hard standing of the church will be maintained.

The wider backdrop to the site is natural with mature trees, grassy playing fields and distant views of trees on the boundary of the village with the countryside. This will be reflected in the nature of the planting scheme which will maintain the rural setting of the new civic realm. The lawns around the church and memorial will be retained helping to maintain their clarity and new borders will be planted with low level perennials and shrubs, native to the area.

There is an opportunity to plant new trees between the proposed building and the church and memorial. These would not be intended to hide the new hub as it needs to be visible from the main road, but to soften the background view from the street past the church and memorial. These trees could be pruned so that they provide a visual interruption above 2-3m but maintain clear views of the building below the canopy. This device would allow the landscape to be read as continuous but also helps define the notional boundaries between the existing buildings and new.

The final scheme of landscaping, including the choice of materials, furniture, lighting, and planting will be developed at a later date and could be agreed under condition of any planning approval as appropriate before works commence.

Parking is proposed in this landscape zone in front of the hub in a single run of 3 accessible spaces and a drop off space for a mini bus. To retain the war memorial in its present location and because no vehicular access is permitted from West Park (adjacent private road) the only parking immediately in front of the building is accessible. There is no controlled parking in Stanley, everyone can walk to the proposed hub within 8-10 minutes and there are free parking spaces in the village square, approximately 80m from the entrance to the hub.

The existing bowls club, playing field and proposed MUGA are at a lower level than the building. These will be accessed from a generous terrace on the long side of the building where the café can spill out and from which spectators can view the bowling rink. Access from the terrace to the MUGA and the bowling rink will be accessible with ramps and steps conforming to the same language of landscaping as elsewhere.

Covered externals stores for both equipment and bins are located within a secure enclosure at the north-western corner of the site. This ancillary area is protected from view and secured by fencing and gates that extend the rhythm of paneling on the proposed building.

To the rear of the proposed building is a play park surrounded by mature trees. The Trust has commissioned a study of these trees in relation to their condition and the impact of the proposals.

Refer to Appendix D12 for Arboricultural Impact Assessment (relating to policies PM1A/LDP and B(1)/LDP2)

C3 – Transport:

1. Public Transport

Stagecoach run a bus service that stops in Stanley, frequency of service varies between week and weekend and is dependent on time of day. The bus stop is within 120 meters of the site entrance.

2. Parking

The arrangement of features on the site does not allow for any general parking in front or alongside the building. It is important to uphold the setting of the war memorial without erosion of the balance and symmetry of its setting and no vehicular access is permitted from the private road to the north of the site.

There are, however, spaces for 3 accessible parking bays and a space for a minibus to park for drop off purposes. These are accessed via a shared private route from the Perth Road with space for permitted vehicles to turn in front of the building.

The rationale for this is simple in that planning policy (NPF4 – Policy12) now encourages where practical for public buildings to be accessed without reliance on cars. Policy 12e notes that development proposals which are ambitious, in terms of low/no car parking will be supported where there are sustainable transport modes and where there are not barriers to access for disabled people.

It has been noted before that in Stanley, a population of 1500 persons can walk to the proposed building from anywhere within the main boundary of the village within 8-10 minutes. From consultations held in 2015, over 60% of the those asked said they already travelled within Stanley by foot or bicycle. The Trust aim to improve this and will increase the extent of their Cycling and Active Travel Plan to incorporate strategies to get visitors to the hub and back without using cars. This obviously is focused on pedestrian and bike access, but could include sharing vehicles, minibus pickups and better connection with existing public transport.

Where travel by car is unavoidable, there is no controlled parking in Stanley and there are always free parking spaces in the streets that surround the proposed site. In addition, there are 11 free parking spaces in the village square, approximately 80m from the front of the proposed building. These spaces and those in the nearby streets should provide enough parking to cover those unavoidable car journeys and to satisfy demand during inclement weather or an event that attracts external participants.

3. Cycles

The provision for cycle spaces will comply with the guidance outlined in the Cycling by Design 2010 (Revision 1, June 2011), as referred to by the National Roads Development Guide. To meet the requirement of the worst case scenario (provision for sports centres), 3 spaces for staff and 18 for visitors will be provided. Cycles will be secured using Sheffield stands.

8 spaces are located beneath the canopy at the entrance to the hub, a further 10 on the main terrace overlooking the bowling rink and 4 for staff outside the enclosure for ancillary facilities.

All of these spaces will be either overlooked from within the building or covered by CCTV.

Refer to Appendix D2 for Cycling and Active Travel Statement

Pedestrian Access

As noted in C2, a new pedestrian access is proposed to be formed from Perth Road between the church and the war memorial. This access will be shared with bikes and vehicles with permitted

access such as 'Blue Badge Holders' and minibuses dropping off sports teams. This route will be carefully designed to provide priority to pedestrians with measures to control the movement and speed of vehicles and bicycles.

C4 – Facility Operation:

1. Opening Times

Refer to Appendix D2.

2. Refuse and Waste Management

The bins are to be stored within the secure enclosure located in the north-west corner of the site. Their collection will from Perth Road with a management plan in place to facilitate their relocation as required.

3. Deliveries

The Trust will enforce a management strategy plan for deliveries out with opening hours, with permitted use of the drop off area at the front of the building. For larger events requiring larger vehicles, the Trust will arrange for an external drop-off from the Perth Road.

Refer to Appendix D2 for Facilities Management Statement and Opening Times

4. Plant, Machinery, Drainage and External Lighting

Consulting engineers, Harley Haddow has set out initial design parameters related to the protection of local amenity and the layout of drainage.

Noise: relating to Policies EP8/LDP and 54/LDP2, PM1A and B/LDP and 1/LDP2

Sustainable Urban Drainage: relating to Policies EP3C/LDP and 51B/LDP2

Waste Water Drainage: relating to Policies EP3B/LDP and 51B/LDP2

Lighting: relating to Polices EP5/LDP and 53/LDP2

Refer to Appendix D10 for Noise and Odour Mitigation Strategy from Harley Haddow

Refer to Appendix D11 for Drainage Strategy by Harley Haddow.

Refer to Appendix D10 for Lighting Strategy Plan by Harley Haddow.

Stanley Community Sports Hub, Stanley, Perthshire

Heritage Assessment

August 2023

Turley
Heritage

Contents

Hannah Tweedie
hannah.tweedie@turley.co.uk

Client
Stanley Development Trust (Perth)

Our reference
LEEH3005

August 2023

1. Introduction

1.1 This (revised) Heritage Assessment report has been prepared by Turley (Heritage, Townscape and Landscape) on behalf of Stanley Development Trust in support of applications for planning permission and listed building consent for the redevelopment of an area to the west of Perth Road, Stanley ('the Site') (**Figure 1.1**). The applications (as revised in July 2023) propose the removal of the church hall to the rear of St Columba's Episcopal Church, and the erection of the Stanley Community Sports Hub which will comprise a single multi-use building, an outside multi-use games area (MUGA), and an associated pedestrian and vehicular access from Perth Road and small area of accessible car parking, along with associated adjustments to the landscaping in proximity to the war memorial ('the Proposed Development'). The Design and Access Statement (Lee Boyd Architects 2023) and proposals drawings provide a full description of the proposals.

Site Location and Description

1.2 The Site is located on the western side of Perth Road, Stanley, and comprises an irregular plan area of land which is bounded to the east by Perth Road, St Columba's Episcopal Church, and the Bowling Green, to the north by the private road known as West Park, and to the south by the grounds of Stanley Primary School, and to the west by the school playing field. Part of the north of the Site is currently occupied by a derelict area of tennis courts.

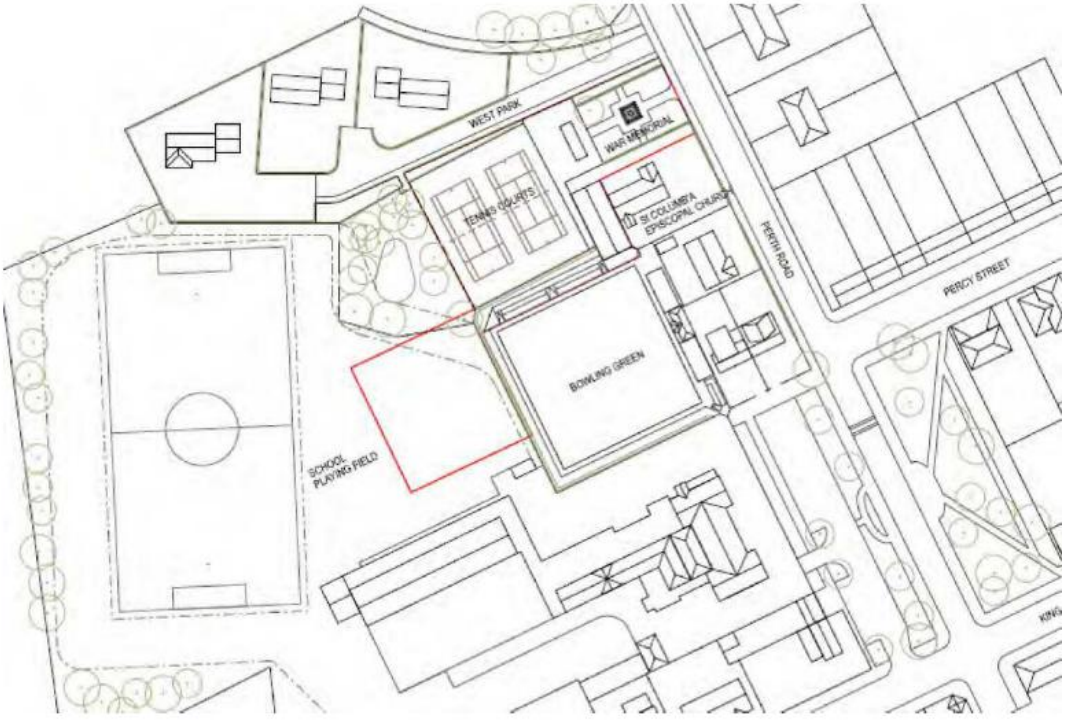


Figure 1.1: Site Plan. The location of St Columba's Episcopal Church and the Stanley War Memorial are also marked.

Heritage Context

1.3 The Site is situated adjacent to two Category C listed buildings. **Figure 1.1** shows the location of the Site, and of the two proximate listed buildings.

1.4 Listed buildings are designated as buildings of special historic or architectural interest under the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 (the Act). Section 1 (4) of the Act provides further definition to the meaning of the extent of a 'listed building' as:

"a building which is for the time being included in a list compiled or approved by the Secretary of State under this section; and, for the purposes of this Act, the following shall be treated as part of the building –

(a) any object or structure fixed to the building, and

(b) any object or structure within the curtilage of the building which, though not fixed to the building, forms part of the land and has done so since before 1st July 1948"

1.5 Section 14 (2) of the Act requires that in considering whether to grant listed building consent for any works, the planning authority or the Secretary of State, as the case may be, shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses. The same requirements are provided in Section 59 (1) of the Act when considering whether to grant planning permission for development which affects a listed building or its setting.

1.6 St Columba's Episcopal Church, situated to the immediate south and east of the Site is designated as a Category C Listed Building (LB48626). The building, dating from 1898, comprises a rectangular plan timber church, built in English half-timbered style. A later church hall dating from 1907 is attached to the rear of the church and is therefore part of the listing. The Proposed Development involves the removal of the church hall; listed building consent (LBC) will be required for these works.

1.7 Stanley War Memorial including boundary walls, gatepiers, gates and railings, Perth Road, Stanley is also designated as a Category C Listed Building (LB48627)[1]. The memorial dates from 1924 and comprises a 3-stage plinth topped by a statue of a kilted soldier leaning against a rock. The designation also covers the boundary walls, gatepiers, gates and railings associated with the war memorial. The war memorial is located within the north-eastern corner of the Site. The application proposes the retention of the war memorial, but with some slight adjustments to the immediate landscaped surroundings to provide space for a shared route to accessible parking in front of the proposed hub building. Minor adjustment of the layout of the paths, lawns and hedges would allow the symmetrical, cruciform landscaping associated with the war memorial to be retained along with the new shared route. The southernmost pier in the boundary wall would be taken down and rebuilt in a new location slightly further

[1] http://portal.historicenvironment.scot/designation/LB48627

to the north in order to accommodate the new shared route. Listed building consent (LBC) will be required for this work to the pier in the boundary wall.

Purpose and Structure of the Report

1.8 This assessment considers the Proposed Development against the relevant legislation, national and local policy and guidance to aid decision making in determining the planning and LBC applications, and in relation to the heritage matters referred to above. Specifically, the assessment considers:

- the likely effects upon the special interest of St Columba's Episcopal Church (Category C listed building) resulting from the removal of the adjacent church hall building and the changes to its setting resulting from the Proposed Development, and

- the likely effects upon the special interest of Stanley War Memorial (Category C listed building) as a result of the work to relocate the southernmost pier in the boundary wall, and the changes to its setting resulting from the Proposed Development.

1.9 This Heritage Assessment has been prepared following desk-based research, consideration of the proposed development, and a site visit carried out on 12 March 2020.

1.10 The report contains the following sections:

- Section 2 sets out the historic context of the Site, describing the historic development of the area including the Site, concluding with a description of its current baseline condition.

- Section 3 identifies the heritage assets of relevance to the applications, and describes their significance, including consideration of the contribution of setting, and of the Site, to their significance.

- Section 4 provides an assessment of the impact of the Proposed Development upon heritage assets.

- Section 5 provides a summary of the conclusions and recommendations of the assessment.

1.11 A full summary of relevant legislation, planning policy and guidance is provided in **Appendix 1**.

2. Historic Context

2.1 Stanley was named after Lady Amelia Stanley, daughter of James Stanley, 7th Earl of Derby. During the 17th century this area around the village formed part of the Atholl estate near Inchbervis Castle. In 1659, the castle was renamed Stanley House to commemorate the marriage of Lady Stanley to John Murray, 1st Marquess of Atholl. The village was constructed in the 18th century, taking the name of Stanley after the nearby former castle, following the erection of a cotton mill on the River Tay by John Murray, the 4th Duke of Atholl. Richard Arkwright, notable inventor of cotton-spinning machinery, was convinced by local M.P., George Dempster, to supervise a new mill in Stanley which opened in 1787. After one decade, the mill employed over 350 people. The village of Stanley was built to house the workers of the mill. Work on the village began in 1784. The village expanded into the 19th century, with approximately 2,000 people living here by 1831, of which half were employed at the mill. A railway station was opened at the north of the village in 1848, which was later remodelled into a junction station, positioned on a branch line to Forfar that intersected from the Highland Main Line.

2.2 In the 1860s (**Figure 2.1**), the Site consisted of an undeveloped area of land on the west side of Perth Road and south-east of Alma Cottage. Detached cottages set in gardens are shown adjacent to the north on the 1863-1864 OS Map (**Figure 2.1**), backed by the railway line. Duke Square the central square within the village is shown to the south, with rows of terraced housing on the eastern side of Perth Road, along roads named Percy Street and King Street.

Figure 2.1: OS Map Extract, Perth and Clackmannanshire LXXIV.13 (Combined) Survey date: 1863 to 1864. Publication date: 1898 ©NLS. The approximate location of the site is marked in red.

2.3 The 1899-1901 OS Map (**Figure 2.2**) shows the newly built St Columba's Episcopal Church (Category C listed), as well as a new school building to the south outside the Site at the western end of Duke Square; the school building replaced some earlier cottages or dwelling houses. Aside from the church, the Site remains empty of development at this time. Some limited expansion of the village, further to the west along Duchess Street, is also shown on the plan.

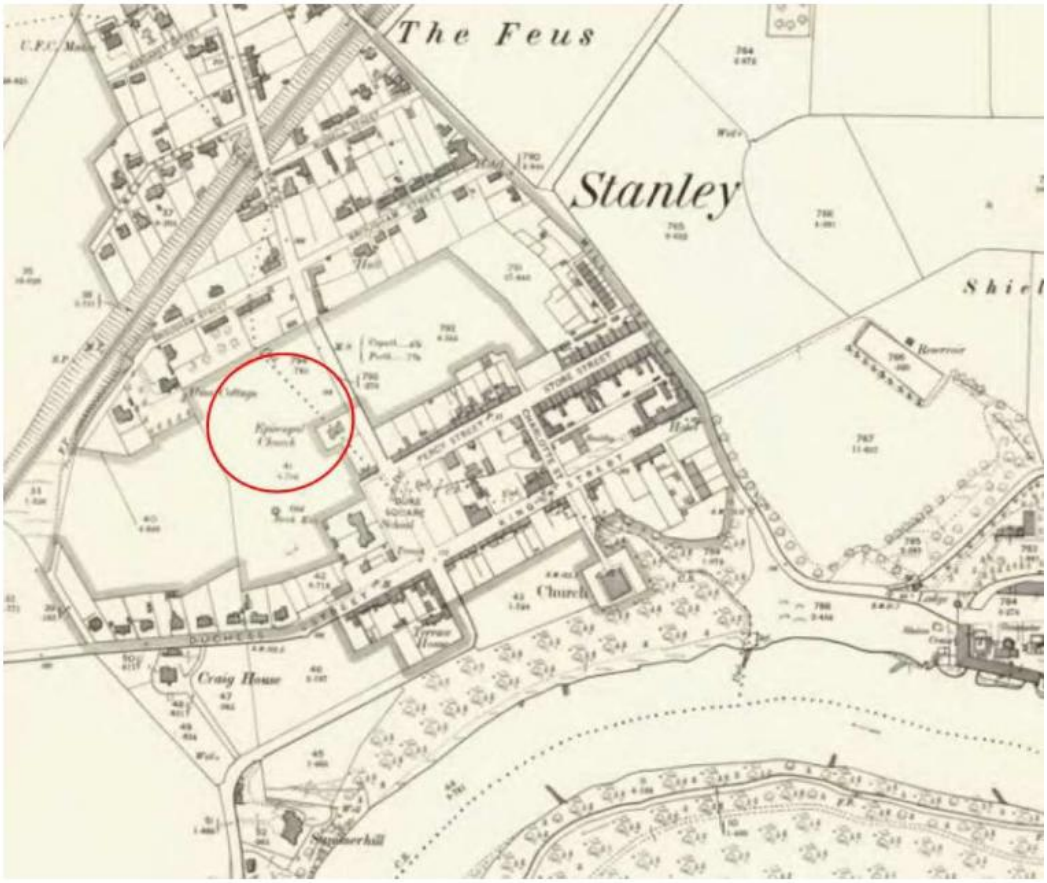


Figure 2.2: OS Map extract, Perth and Clackmannanshire LXXIV.13 Revised: 1899, Published: 1901 ©NLS. The approximate location of the Site is marked in red.

2.4 In the early 20th century, new houses were built on formerly empty land on the east side of Perth Road opposite the Site (**Figure 2.3**). A church hall was built attached to the west elevation of St Columba's Episcopal Church in 1907, its date of erection included on a date stone. The Stanley War Memorial (Category C listed) was erected in 1924 just to the north of the Church, set within a small garden with railings and enclosed by boundary hedges and fencing.

Figure 2.3: OS Map extract, NO13SW - A Surveyed / Revised: Pre-1930 to 1958, Published: 1959. The approximate location of the site is marked in red.

2.5 Since the 1950s, the village has undergone further expansion, particularly towards the railway to the south-west and River Tay to the south. In the vicinity of the Site changes have included the creation of the bowling green (to the immediate west of the Site), and the erection of tennis courts (now derelict) within the north-western part of the Site. A new private road, known as West Park, has been established to the north of the Site and three late 20th century detached houses within large plots enclosed by mature vegetation and trees, are situated on the northern side of the road. Modern single storey housing has also been added to the immediate south of the Church, on the western side of Perth Road.

Figure 2.4: Google Earth Imagery, 2018. The Site boundary is marked in red

3. Heritage Assets

Listed Buildings

3.1 Development of the Site including removal of the church hall, and alteration of the surroundings of the War Memorial to provide access, has the potential to affect the special interest of St Columba's Episcopal Church (LB48626) and Stanley War Memorial including boundary walls, gatepiers, gates and railings, Perth Road, Stanley (LB48627) the significance of these listed buildings is assessed below.

St Columba's Episcopal Church (Category C listed Building, LB48626)

Figure 3.1: St Columba's Episcopal Church viewed from Perth Road. The entrance to the Church Hall and part of its roof can be seen beyond the Church at the left-hand side of the image. This addition disrupts the intended simple appearance of the building.

Architectural and Historic Interest

3.2 St Columba's Episcopal Church was built in 1898 by Speirs & Company, a Glasgow-based firm providing partly prefabricated timber framed buildings, notable for their work with the Scottish Episcopal Church at this time[2]. The timber church is of architectural interest by virtue of its design, consisting of a four-bay nave with a steeply-pitched roof arranged in an English half-timbered style. Its simple form contributes to its special interest. The church features cusped timber-mullioned windows shaped in various decorative patterns and weatherboarding covering lower

[2] http://www.scottisharchitects.org.uk/architect_full.php?id=203716

sections. The original 1898 design is well-preserved, evidencing traditional religious use patterns associated with the Scottish Episcopal Church.

3.3 The interior of the church includes original detailing including an impressive open-timbered roof and traditional fittings (**Figure 3.2**), but is known to have undergone some changes, including the installation of a new organ in the 1960s. A fleche tower to the church roof has been lost at an uncertain date in the past, but its base remains in position (**Figure 3.5**). The building is of special architectural interest as a good example of a late 19th century partly prefabricated church building designed for the Episcopal Church, which has undergone limited alteration and which remains in use for its original purpose.

3.4 A church hall of plain rubble stone construction is attached to the west side (rear) of the church building. This was a later addition, built in 1907, as marked by a date stone (**Figure 3.3**). The church hall fell into disuse before 1970 and now exists in a disused state.

3.5 The church was built to accommodate the rising number of mill workers living in Stanley by the late-19th century, many of whom came from England. Mandatory church attendance on Sundays was a requirement of their employment, and this accelerated demands for a new church that could serve their denomination. This connection between the establishment of the church and the history of the village as whole means it is of some local social historical interest.

Figure 3.2: Interior of St Columba's Church

Contribution of Church Hall to Special Interest of the Listed Building

3.6 The church hall, attached to the rear of St Columba's Episcopal Church, was built in 1907 and is therefore part of the listing.

3.7 The church hall is a simple building of plain rubble construction, with little architectural detailing (**Figures 3.3 – 3.5**), and is not mentioned in the listing description prepared by HES in 2002. The hall was built at a later date from the church. The church hall is architecturally distinct in both its style and building materials (**Figure 3.5**). No original fittings of interest are preserved within its interior (**Figure 3.4**). The addition of the church hall disrupts the intended simple form and appearance of the church building.

3.8 The church hall is of limited architectural interest, containing few architectural details and surviving in poor disused condition. As such it is concluded that the hall does not contribute to the special interest of the adjacent church, which is of special interest as a good example of a late 19th century partly prefabricated church building designed for the Episcopal Church, which has undergone limited alterations, and remains in use as a church.

Figure 3.3: Church hall south-east entrance with 1907 date stone lintel

Figure 3.4: Church hall interior, currently disused

Figure 3.5: North elevations of St Columba's Episcopal Church (left) and church hall (right) showing the contrast in building materials, style and level of architectural detailing. The base for the now missing fleche on the church roof can be clearly seen in this image.

Setting

3.9 St Columba's Episcopal Church is located close to the centre of the village of Stanley, just to the north of the centre of the village, which is focussed around The Square. The church sits within an enclosed plot surrounded by hedges on its north and east sides

and fencing to the south and is set back from Perth Road. A cast iron gate on the eastern boundary, facing Perth Road, aligns with the main entrance to the church.

3.10 The church was intentionally positioned in close proximity to the village centre, so that it could serve the growing population of the village (rapidly expanding with new employees for Stanley Mill). The design of the partially pre-fabricated church building was not specifically designed for this location, or in relation to any other buildings within the immediate context or wider village. The church, which is set back from Perth Road, has limited prominence within the village. The fleche tower, now lost, would originally have given the church building a greater prominence within the village centre.

3.11 Since the construction of the church, its setting has been changed by a series of changes including:

- Construction of the church hall in 1907
- Construction of the war memorial and enclosing garden to the immediate north of the church in 1924
- Construction of additional modern housing to the south of the church building, and to the east of the church on the opposite side of Perth Road.
- Creation of private road known as West Park to the north of the war memorial. Three detached houses have also been built on the northern side of this road but are visually separated from the church building.
- Construction of an area of tennis courts to the west of the war memorial and associated plot. These tennis courts are now in derelict condition.

3.12 As discussed above, the church hall, added at the rear of the church building makes little contribution to the architectural and historic interest of the listed church building, and is built using different materials and in simpler style with few architectural details. In views from Perth Road, the hall seen beyond the church, disrupts views of the church and has a slight negative effect upon the ability to appreciate the original design, plan form and architectural detailing of the church building, and disrupting its intended simple appearance.

3.13 The war memorial, situated to the immediate north of the church, within a separate enclosed area of grounds forms a localised group of community buildings in combination with the church (**Figure 3.6**). The listing entry for the war memorial notes that a large donation for the construction of the war memorial was made by the congregation of St Columba's Episcopal Church, as well as contributions from other members of the local community, and as such there is some historical connection between the two buildings. The war memorial, which is set back from the road, can only meaningfully be seen in combination with the church building when approaching from the north along Perth Road, or from locations in immediate proximity to the church.

Figure 3.6: View from Perth Road, looking south-east and showing the spatial relationship between St Columba's Episcopal Church and the war memorial, which are situated within adjacent, but separate plots. Modern single storey residential buildings are visible beyond the church detracting from its intended local prominence.

3.14 Modern residential buildings to the south of the church are of single storey height and situated closer to Perth Road than the church building, which is set back from the road. This arrangement means that when approaching from the south the church is largely screened from view until locations in immediate proximity. When approaching from the north, these buildings are seen directly beyond the church building detracting from its intended local prominence (**Figure 3.6**).

3.15 When approaching from the north, a thick group of trees north of West Park obscure views of the church, again meaning that the church is largely screened from view until reaching locations in close proximity. This means that the best locations to appreciate St Columba's Episcopal Church include locations within the plot associated with the church, within the adjacent plot containing the war memorial, and from locations immediately adjacent on Perth Road.

3.16 An area of derelict tennis courts to the rear (west) of the church have a low-level negative effect upon the setting of the church, primarily due to their disused derelict condition.

3.17 Overall, it is concluded that the key elements of the setting of the church which contribute to its special interest are its location within its own grounds, and its

situation within the wider village and community of Stanley. The war memorial and its enclosing garden, situated to the immediate north of the plot within which the church is located, are seen in combination for a short distance when approaching from the north along Perth Road, and provides a sense of this area being a central location within the community.

Stanley War Memorial including boundary walls, gatepiers, gates and railings, Perth Road, Stanley (Category C listed building LB48627)

Figure 1: **The Stanley War Memorial, situated centrally within a small square plan area of enclosed grounds, with simple symmetrical layout.**

Figure 2: The Stanley War Memorial, as seen from Perth Road, and showing the low boundary wall, topped with railings, and the small area of symmetrically arranged grounds within which the memorial is located.

Architectural and Historic Interest

3.18 Stanley War Memorial, constructed in 1924, is an example of a local community war memorial, erected by the local community who raised funds for its construction. Such memorials can be found in villages, towns and cities across Scotland. Initially built to commemorate those members of the community who died serving in the First World War, the Stanley War Memorial had an additional plaque added to commemorate those who died serving during the Second World War, and continues to form the focus for the village's Remembrance Sunday commemorations. The memorial is of historic interest to the village community, providing a connection to the significant historic events of the two World Wars. This is the primary reason for the War Memorial being of special interest.

3.19 The designer of the war memorial and the stone mason responsible for the statue of the kilted soldier which sits atop the memorial are unknown. There is no evidence to suggest that there have been any notable changes to the memorial since its original construction, other than the addition of a further plaque following the Second World War. The war memorial is of some local architectural interest, incorporating a well-executed statue of a kilted soldier. The concrete harled boundary wall and gatepiers, and the associated railings are of simple design and little architectural interest. They make only a limited contribution to the significance of the war memorial as associated elements which are not known to have been subject to change since their construction.

Setting

3.20 The War Memorial is situated centrally within a small square-plan area of grounds to the north of St Columba's Episcopal Church, at a location close to the centre of the

village of Stanley. The surrounding area of grounds has a simple symmetrical layout with gravel footpaths, mown grass and two small bushes and a tree at its western end. This immediate setting provides simple but formal immediate surroundings for the memorial, and means that the monument has some localised prominence when seen from nearby locations on Perth Road, in particular when approaching from the north.

3.21 The war memorial, which is set back from the road, is seen in combination with St Columba's Church when approaching from the north along Perth Road and from a small number of locations in the immediate vicinity. The position for the war memorial appears to have been chosen simply to accommodate it at a location in proximity to the village, in order to serve the local community; No specific connection between the adjacent church building and war memorial exists other than due to the fact that they are both local community buildings. It is understood that the congregation of St Columba's Episcopal Church were among those who made donations to fund the erection of the war memorial[3].

3.22 The element of the setting of the War Memorial which contributes the most to its special interest is its location in relation to the surrounding village of Stanley. The monument commemorates soldiers from the village who died during the First and Second World Wars, and it is this associative connection with the village community which contributes most to the special interest of the listed building. The simple surrounding grounds, including the boundary wall, gatepiers and railings make some limited contribution to the setting of the monument providing an immediate open area of simple, formal surroundings.

[3] https://portal.historicenvironment.scot/designation/LB48627

4. Assessment of Impacts

4.1 The following heritage impact assessment considers the impact of the development on the significance and special interest of St Columba's Episcopal Church and Stanley War Memorial including boundary walls, gatepiers, gates and railings in accordance and with reference to legislation, national and local policy and guidance. These are referred to below, with further details and description of the relevant legislative and policy context provided in Appendix 1. The relevant legislation, national and local planning policy and guidance referred to below and in Appendix 1 are:

- Planning (Listed Building and Conservation Areas) (Scotland) Act 1997
- National Planning Framework 4 (NPF4), Policy 7 Historic Assets and Places (2023)
-
- Historic Environment Policy for Scotland (HEPS) (2019) and
  - Interim Guidance on the Principles of Listed Building Consent (2019)
- Historic Environment Scotland. Managing Change Guidance
  - Setting (2016)
- Perth and Kinross Local Development Plan 2 (Adopted November 2019)

Description of Development

4.2 The Proposed Development comprises the construction of the Stanley Community Sports Hub which will comprise a single multi-use building, an outside multi-use games area (MUGA), and an associated shared pedestrian and vehicular access to an area of accessible parking. The 1907 church hall which adjoins the rear of the Category C Listed Building of St Columba's Episcopal Church (LB48626) would be removed as part of the Proposed Development. The landscaping in proximity to the Stanley War Memorial would be adjusted to accommodate the shared access.

4.3 The Proposed Development is described in detail in the Design and Access Statement, plans and elevations which accompany the applications for planning and listed building consent. The following documents as prepared by Lee Boyd Architects have been referred to in the preparation of this assessment:

- Stanley Community Sports Hub. Design Statement (Lee Boyd Architects 2023)
- 1517-AL(PL)01-Location-Plan, (no revision number)
- 1517-AL(PL)02-Existing-Plan-Site, (no revision number)
- 1517-AL(PL)03-Removals, (no revision number)
- 1517-AL(PL)04-Proposed-Site-Plan, Revision B

- 1517-AL(PL)05-Proposed-Floor-Plan, Revision B
- 1517-AL(PL)06-Proposed-Front-Elevation, Revision A
- 1517-AL(PL)07-Proposed-Elevation, (no revision number)
- 1517-AL(PL)08-Proposed-Rear Elevation, (no revision number)
- 1517-AL(PL)09-Proposed-Section, (no revision number)

1517-AL(PL)10-Proposed Visual, Revision A
Assessment of Impacts

4.4 The Interim Guidance on the Principles of Listed Building Consent states that:

"Knowing what is important about a building is central to an understanding of how to protect its special interest. Applications should demonstrate that in arriving at a strategy for intervention, the importance of the building has been clearly understood and those features which contribute to its special interest have been identified." (Para 10)

4.5 The guidance provides advice on situations where listed building consent should be granted, this includes:

- Where the application proposes to enhance or protect the special interest of a building (para 13)
- Where the application for alteration or adaptation seeks to sustain or enhance the beneficial use of a building and does not adversely affect its special interest (para 14).

4.6 Where applications for listed building consent will be detrimental to special interest there are four main criteria against which the application will be determined. These include the relative importance of the listed building, the scale and impact of proposals on the special interest, and whether there are other options which would allow ongoing use of the listed building with less impact on its special interest. The policy also states that a significant benefit for the wider community would justify a departure from the assumption against works that adversely affect the special interest of a listed building. (para 15) The assessment below therefore considers the level and types of impact upon the the listed buildings of St Columba's Episcopal Church and Stanley War Memorial including boundary walls, gatepiers, gates and railings to help inform decision making.

Assessment of Impacts on St Columba's Episcopal Church

Removal of Church Hall to Immediate Rear of St Columba's Episcopal Church

4.7 The Proposed Development requires the removal of the church hall attached to the rear of the Category C listed St Columba's Episcopal Church which forms part of the listing.

4.8 Paragraph 13 of the Interim Guidance on the Principles of Listed Building Consent[4]states that applications for LBC should be granted where the application proposes to enhance or protect the special interest of a listed building.

4.9 As discussed above (Paras 3.6- 3.8), the church hall, which is disused and in a poor state of repair, is of limited architectural interest and does not contribute towards the special architectural interest of the listed church which is of special interest as a good example of a late 19th century partly prefabricated church building designed for the Episcopal Church, which has undergone limited alteration and remains in use as a church building. The church hall disrupts the intended simple form and appearance of the church, and its removal would return the church building to its original form and appearance. As such, the removal of the church hall would enhance the significance of the listed building or its special interest.

Construction of the New Community Sports Hub

4.10 The Site is located immediately adjacent to the Category C Listed Building of St Columba's Episcopal Church, with development components to the west, north-west and north of the building, as shown in **Figure 4.1**.

Figure 4.1: Extract from the Proposed Site Plan (Lee Boyd Architects, 2023) showing the location of the components of the Proposed Development in relation to St Columba's Episcopal Church.

4.11 The main element of the Proposed Development, the building for the Stanley Community Sports Hub, would be positioned to the rear of the church (to its west and

[4] Historic Environment Scotland (2019) *Interim Guidance on the Principles of Listed Building Consent*

north-west). The derelict tennis courts to the north-west of the church building and the church hall to the rear of the church would be removed to allow the construction of the new building.

4.12 The proposed building would be primarily of single storey height, with a central two storey hall element. The building of lightweight contemporary design would be comprised of a series of regularly spaced vertical masonry/concrete elements with intervening panels, a combination of glass panels and smooth or grooved panels of a cement fibre. The upper storey of the central hall element of the proposed building, which rises above the parapet of the remainder of the building, will have opaque glazing to its northern and southern elevations and reflective metal panelling to its eastern and western elevations. The building has been designed with flat roofs to minimise its visual impact and mindful of its position in relation to the listed church building.

4.13 To the north of the church building adjustments would be made to the planting to allow creation of a shared vehicular and pedestrian route to accessible parking in front of the hub building. The hedge boundary to the immediate north of the church would be removed, and a single pier (the southernmost) in the war memorial boundary wall would be relocated slightly further to the north, in order to create space for the shared route. The edging of paths and lawns associated with the war memorial (to the north of the church) would be adjusted so that the symmetrical cruciform landscape layout in relation to the memorial remains. The tree and large shrubs at the western edge of the grounds would be retained but some of the lower wild shrubbery and the palisade fence would be removed. The trees would provide a verdant backdrop to the war memorial and would partially screen views of the new hub building, particularly during summer months when vegetation is thicker.

4.14 The Proposed Development would also add a new multi-use games area (MUGA) further to the south-west of the church, to the west of the existing bowling green. The MUGA would not be visible in the same views as the church and would have no effect upon its setting.

Figure 4.2: Existing view of St Columba's Episcopal Church from Perth Road, looking west.

Figure 4.3: Elevation from Perth Road, showing the Proposed Development in relation to the Category C listed building of St Columba's Episcopal Church, visible at the left hand of the image, and the war memorial, visible at the right hand of the image (Lee Boyd Architects, 2023)

4.15 As discussed above (Paragraphs 3.9 – 3.17) St Columba's Episcopal Church was positioned primarily for pragmatic reasons in an available central location within the village of Stanley to serve the growing population of the village in the late 19th century. The Proposed Development would have no effect upon the ability to experience,

understand and appreciate this relationship, which is expressed by the building's situation close to the centre of the village and on the western side of Perth Road which forms the key route through the village.

4.16 The greatest degree of change would be experienced when viewing the church from Perth Road, in particular when looking west across Perth Road directly towards the church. **Figure 4.2** shows the existing view in this direction, and **Figure 4.3** shows the elevation of the Proposed Development, in combination with St Columba's Church from a similar location. The building of the Proposed Development would be seen beyond the church, with the southern part of the building occupying a similar location as the church hall but being of lesser height due to its flat roofed design. The new building would be readily distinguishable from the listed church building due to its modern lightweight design and use of different materials, and its addition would have no meaningful effect upon the ability to understand and appreciate the features of the building which mean that it is of architectural interest.

4.17 It will remain possible to view the war memorial in combination with the church building, when approaching from the north along Perth Road forming a localised group of community buildings. The sense of the church being part of a central location within the community would remain with the addition of the new building.

4.18 Overall, it is concluded that the Proposed Development, whilst changing the surroundings of St Columba's Church, would not have a substantive effect upon the ability to experience, understand or appreciate those elements of the building's setting which contribute to its significance and special interest. The location of the church in relation to the wider village would remain readily understandable, and its position within its own grounds and in proximity to the war memorial would be unaffected. The removal of the adjoining (later) church hall will return the church, to its original simple form and appearance enhancing the ability to understand its simple architectural design and features.

Assessment of Impacts on Stanley War Memorial including boundary walls, gatepiers, gates and railings

4.19 The Proposed Development would retain the Stanley War Memorial including its boundary walls, gatepiers, gates and railings *in situ.* In order to accommodate a shared vehicular and pedestrian route to accessible parking in front of the proposed hub building, the southernmost pier in the war memorial boundary wall would be relocated slightly further to the north in order to create space for the shared route. Changes to some of the planting and landscaping in proximity to the war memorial would also be made, including the removal of the hedge boundary between the church and war memorial, and the removal of lower wild shrubbery and palisade fence to the rear (west) of the war memorial. The overall design intention of the landscaping associated with the war memorial would be respected, the edging of paths and lawns associated with the memorial would be adjusted so that the symmetrical cruciform landscape layout would remain, and trees and larger shrubs to the rear (west) of the memorial would be retained, meaning that a verdant backdrop to the memorial would remain. These changes would allow the shared access to be created whilst the immediate setting of the war memorial within its simple symmetrically arranged area of grounds would be maintained.

4.20 The building of the Proposed Development would be situated to the west of the war memorial and would be seen beyond it in views from Perth Road. This would alter the backdrop of views to the war memorial from Perth Road from a backdrop of vegetation and open sky to one of built form and vegetation. Figure 4.3 shows the elevation of the Proposed Development in combination with the war memorial. In this view, the building of the Proposed Development would be partially screened from view by trees and planting associated with the war memorial. Its modern lightweight design and use of different materials means that it would be readily understood as an addition to the area, of more modern date than either the war memorial or the adjacent listed church building. In views from Perth Road looking west to the war memorial there would be a slight adverse effect on the setting of the war memorial, as the backdrop against which it is seen would be altered.

4.21 The war memorial, which is set back from the road, is seen in combination with St Columba's Church when approaching from the north along Perth Road and from a small number of locations in the immediate vicinity. It will remain possible to view the war memorial in combination with the church building, when approaching from the north along Perth Road, and the sense of this being a localised group of community buildings would be retained and enhanced by the additional community uses in the vicinity resulting from the Proposed Development.

4.22 The Proposed Development has been designed to allow the War Memorial to be retained in its original location. The location of the War Memorial in relation to the surrounding village of Stanley, which is the element of the memorial's setting which contributes most to its special interest, would not be affected by the Proposed Development. The simple, formal immediate surroundings of the war memorial would also be retained, including retention of the boundary walls, gatepiers, gates and railings, with only a minor adjustment to a single pier to allow creation of the shared access route.

4.23 Overall it is concluded that the Proposed Development, whilst causing some change within the wider surroundings of the War Memorial, would not have a substantive effect upon the ability to experience, understand or appreciate those elements of the memorial's setting which contribute to its significance and special interest. The location of the memorial in relation to the wider village would remain readily understandable, as would its position within its small area of simple formal grounds. The position of the war memorial adjacent to St Columba's Episcopal Church would also remain understandable.

Summary of Impacts

4.24 The assessment presented above has considered the effects of the Proposed Development upon the special interest of the Category C Listed Buildings of St Columba's Episcopal Church, and Stanley War Memorial including boundary walls, gatepiers, gates and railings in accordance with relevant legislation, policy and guidance as set out in detail in Appendix 1. The Proposed Development would not harm the significance or setting of the Category C listed church, and the removal of the adjoining (later) church hall will return the church building to its original simple form and appearance, enhancing the listed building's special architectural and historic interest. The Proposed Development would alter the backdrop against which the war

memorial is seen in views looking west from Perth Road, causing a slight adverse effect. Overall, the Proposed Development would not harm the significance or setting of the Category C listed war memorial, which will remain in its original location, within an immediate open area of simple formal surroundings, with a boundary wall, gatepiers, gate and railings to Perth Road.

5. Conclusions

5.1 This Heritage Assessment report has been prepared by Turley (Heritage, Townscape and Landscape) on behalf of Stanley Development Trust. The report has been prepared to accompany applications for Planning and Listed Building Consent (LBC) for redevelopment of an area to the west of Perth Road, Stanley. The Proposed Development would involve the removal of the church hall to the rear of St Columba's Episcopal Church, and the erection of the Stanley Community Sports Hub which will comprise a single multi-use building, an outside multi-use games area (MUGA), and an associated pedestrian and vehicular access from Perth Road and small area of accessible car parking, along with associated adjustments to the landscaping in proximity to the war memorial which would remain in situ.

5.2 The Heritage Assessment examines the Proposed Development against the relevant legislation, national and local policy and guidance to aid decision making in determining the planning and listed building consent applications.

5.3 St Columba's Episcopal Church situated to the immediate south and east of the Site is designated as a Category C Listed Building (LB48626)[5]. The building, dating from 1898, comprises a rectangular plan timber church, built in English half-timbered style. To the immediate rear of the church is a later church hall dating from 1907.

5.4 Stanley War Memorial including boundary walls, gatepiers, gates and railings is situated within the north-eastern part of the Site and is designated as a Category C Listed Building (LB48627). The memorial dates from 1924 and comprises a 3-stage plinth topped by a statue of a kilted soldier leaning against a rock. The designation also covers the boundary walls, gatepiers, gates and railings associated with the war memorial.

5.5 Designation as a listed building seeks to protect these buildings from development which may cause harm to their special historic or architectural interest.

5.6 The Proposed Development would be situated adjacent to the west, north-west and north of the listed church. The church hall attached to the rear (west) of the church, and forming part of the listed building, would be removed as part of the proposals, and LBC would be required for its removal. The assessment as presented above has concluded that the church hall, which is disused and in a poor state of repair, is of limited architectural interest and does not contribute to the special interest of the listed church building as a good example of a late 19th century partly prefabricated church building designed for the Episcopal Church, which has undergone limited alteration and remains in use as a church building. As such, the assessment concludes that the removal of the church hall would not harm the significance of the listed building or its special interest, and some enhancement to the special interest of the listed building would result from returning it to its original simple plan form.

5.7 The assessment also considers the effects of the Proposed Development upon the special interest of the listed building through changes in its setting. The assessment

[5] http://portal.historicenvironment.scot/designation/LB48626

concludes that, whilst the Proposed Development would change the surroundings of St Columba's Church, it would not have a substantive effect upon the ability to experience, understand or appreciate those elements of the building's setting which contribute to its significance and special interest. The location of the church in relation to the wider village would remain readily understandable, and its position within its own grounds and in proximity to the war memorial, and the ability to understand its architectural design and features would be unaffected.

5.8 The assessment also considers the effects of the Proposed Development on the special interest of the War Memorial. The Proposed Development has been designed to allow the War Memorial to be retained in its original location. The only change required to the listed building is the relocation of the southernmost pier in the war memorial boundary wall slightly further to the north in order to create space for the shared vehicular and pedestrian route to the accessible parking infront of the proposed hub building. The assessment concludes that there would be a slight adverse effect on the setting of the War Memorial as the Proposed Development would alter the backdrop against which it is seen in views looking west from Perth Road. Overall, it concludes that whilst the Proposed Development would cause some change within the wider surroundings of the War Memorial, it would not have a substantive effect upon the ability to experience, understand or appreciate the location of the memorial in relation to the wider village and to St Columba's Episcopal Church. The war memorial would remain in its original location, within an immediate open area of simple formal surroundings, with a boundary wall, gatepiers, gate and railings to Perth Road.

5.9 The design process has been informed by an understanding of the significance of the two adjacent listed buildings. A series of options have been appraised to consider the best location for the Proposed Development, and a number of options for how to treat the listed buildings have been considered. During the design process steps have been taken to minimise and mitigate effects on the significance of the listed buildings.

5.10 In the event that the Council consider that the Proposed Development would have significant adverse effects on the special interest of either of the listed buildings, paragraph 15 of the Interim Guidance on the Principles of Listed Building Consent would apply. This paragraph sets out criteria which the planning authority should take into account in reaching decisions, and notes that significant benefit for the wider community would justify a departure from the assumption against works that have a significant adverse effect on the special interest of a listed building. The Proposed Development will create a community sports hub which will provide a focus for community life at the centre of the town, resulting in wider community benefits.

5.11 The Proposed Development is therefore considered to accord with the statutory duties of local planning authorities as set out in Sections 14 (2) and 59 (1) of the Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997, and is considered to be in accordance with Policy 7 of NPF4, the Interim Guidance on the Principles of Listed Building Consent, HEPS and Policy 27A of the Perth and Kinross Local Development Plan 2.

Appendix 1: Relevant Legislation, Planning Policy and Guidance

The following legislation, planning policy and guidance are relevant to this Site:

- Town and Country Planning (Scotland) Act 1997 (1997 Planning Scotland Act)
- Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997 (1997 Act)
- National Planning Framework 4 (NPF4) (2023)
- Historic Environment Policy for Scotland (HEPS)
  - Interim Guidance on the Principles of Listed Building Consent (2019)
- Historic Environment Scotland, Designation Policy and Selection Guidance (2019)
- Historic Environment Scotland, Managing Change Guidance (MCG)
  - Use and Adaptation of Listed Buildings (2019)
  - Setting (2016)
- Perth and Kinross Local Development Plan 2 (Adopted November 2019)

Primary Legislation

The Planning (Listed Buildings and Conservation Areas) (Scotland) Act 1997
The Planning (Listed Buildings and Conservation Area) (Scotland) Act 1997 ('the Act') is the primary legislation relating to the built heritage in Scotland.

The Act requires Scottish Ministers (function now carried out by Historic Environment Scotland (HES)) to compile and maintain a list of buildings considered to be of special historic or architectural interest. These buildings are known as listed buildings. Section 1 (4) (a) of the Act states that any object or structure fixed to the building and any object or structure within the curtilage of the building which, though not fixed to the building, forms part of the land and has done so since before 1st July 1948 shall for the purposes of this act, be treated as part of the building.

Under the provisions of the Act any works that will affect a listed buildings' special interest, such as alteration, extension or demolition, must be authorised by the planning authority, a process known as listed building consent (LBC). Section 14(2) of the Act requires that in considering whether to grant listed building consent for any works, the planning authority or the Secretary of State, as the case may be, shall have special regard to the desirability of preserving the building or its setting or any features of special architectural or historic interest which it possesses.

The same requirements are provided in Section 59 (1) of the Act when considering whether to grant planning permission for development which affects a listed building or its setting.

National Planning Policy

National Planning Framework 4 (NPF4) (February 2023)
The National Planning Framework 4 establishes the national planning requirements for Scotland.. The framework sets out the Scottish Government's national planning policy requirements encouraging sustainable development. Policy 7 relates to Heritage Assets and Places. The overarching aim of the policy is:

> *"To protect and enhance historic environment assets and places, and to enable positive change as a catalyst for the regeneration of places."*

The policy outcomes are described as:

- *"The historic environment is valued, protected, and enhanced, supporting the transition to net zero and ensuring assets are resilient to current and future impacts of climate change.*
- *Redundant or neglected historic buildings are brought back into sustainable and productive uses.*
- *Recognise the social, environmental and economic value of the historic environment, to our economy and cultural identity."*

The following elements of Policy 7 are of relevance in relation to the proposed development

> *"a) Development proposals with a potentially significant impact on historic assets or places will be accompanied by an assessment which is based on an understanding of the cultural significance of the historic asset and/or place. The assessment should identify the likely visual or physical impact of any proposals for change, including cumulative effects and provide a sound basis for managing the impacts of change. Proposals should also be informed by national policy and guidance on managing change in the historic environment, and information held within Historic Environment Records.*
>
> *c) Development proposals for the reuse, alteration or extension of a listed building will only be supported where they will preserve its character, special architectural or historic interest and setting. Development proposals affecting the setting of a listed building should preserve its character, and its special architectural or historic interest."*

Historic Environment Policy for Scotland (HEPS) (April 2019, adopted May 2019)
The Historic Environment Policy for Scotland (HEPS) establishes the national policy with regards to the care of the historic environment. It establishes an approach, principles and policies at a national level to guide decision making with regards to the historic environment in the Scottish planning system. The HEPS is underpinned by a number of supporting guidance documents, including Managing Change Guidance and Interim Guidance.

HEPS sets out in policies underpinned by core principles for understanding the historic environment and managing change.

HEP 1 states that Decisions affecting any part of the historic environment should be informed by an inclusive understanding of its breadth and cultural significance.

The policies and principles relating to managing change, relevant to development proposals and how they affect the historic environment and its cultural significance are set out in HEP 2, HEP 3 and HEP 4. The core principles on managing change recognise that:

- some change is inevitable and can be necessary for places to thrive.
- good decisions make sure that nothing is lost without first considering its value first and exploring options for avoiding its loss, and,
- to manage change in a sustainable way the cultural significance of a place and its elements within it have to be understood

The HEPS establishes that if a place has cultural significance then this is a material consideration in the planning system (page 15). It also sets out principles for making decisions about impact, including avoiding negative impacts where possible, minimising impacts which cannot be avoided, minimising interventions and ensuring that changes made to a site or place are proportionate to its cultural significance.

The most relevant policy in HEP relating to the Proposed Development is HEPS 4, this relates to specific assets, including listed buildings:

HEP 4- Changes to specific assets and their contexts should be managed in a way that protects the historic environment. Opportunities for enhancement should be identified where appropriate

The policy continues to advise on circumstances where detrimental impacts are unavoidable.

If detrimental impact on the historic environment is unavoidable, it should be minimised. Steps should be taken to demonstrate that alternatives have been explored, and mitigation measures should be put in place.

Historic Environment Scotland Guidance

The HEPS is underpinned by a series of guidance documents relating to works that affect listed buildings. Those relevant to the proposed development include:

- Interim Guidance on the Principles of Listed Building Consent (Historic Environment Scotland April 2019a)
- Managing Change in the Historic Environment: Use and Adaptation of Listed Buildings (Historic Environment Scotland, April 2019c)
- Managing Change in the Historic Environment: Setting (Historic Environment Scotland, 2016a)

The **Interim Guidance on the Principles of Listed Building Consent** is the most relevant to decision making related to this Site. This guidance sets out the guiding principles that HES recommends are applied in implementing the requirements of national planning policy and in relation to the statutory duties of the Planning (Listed Building and Conservation Areas) (Scotland) Act 1997. The interim guidance is extracted from the former Historic Environment Scotland Policy Statement (HESPS) (Historic Environment Scotland, June 2016).The guidance states that:

> *"Knowing what is important about a building is central to an understanding of how to protect its special interest. Applications should demonstrate that in arriving at a strategy for intervention, the importance of the building has been clearly understood and those features which contribute to its special interest have been identified."* (Para 10)

The guidance provides advice on situations where applications for listed building consent should be granted; this includes proposals:

- Where the application proposes to enhance or protect the special interest of a building (para 13)
- Where the application for alteration or adaptation seeks to sustain or enhance the beneficial use of a building and does not adversely affect its special interest (para 14).

Where applications for listed building consent will be detrimental to special interest there are four main criteria against which the application will be determined. These include the relative importance of the listed building, the scale and impact of proposals on the special interest, and whether there are other options which would allow ongoing use of the listed building with less impact on its special interest. The policy also states that a significant benefit for the wider community would justify a departure from the assumption against works that adversely affect the special interest of a listed building. (para 15).

Managing Change in the Historic Environment: Setting (2016)

Setting is defined in Historic Environment Scotland's Managing Change in the Historic Environment: Setting guidance as "the way the surroundings of a historic asset or place contribute to how it is understood, appreciated an experienced". The guidance states that "the setting of a historic asset comprises both of our present understanding and appreciation of its current surroundings and what (if anything) survives of its historic surroundings combined with subsequent historic changes". Where development is proposed within the setting of historic assets, the guidance recommends a three stage approach to assessment:

- Identify the historic assets which might be affected by the Proposed Development;
- Define and analyse the setting by establishing how the surroundings contribute to the ways in which the historic asset or place is understood, appreciated and experienced; and,
- Evaluate the potential impact of the proposed changes on setting and the extent to which any negative impacts can be mitigated.

Local Planning Policy

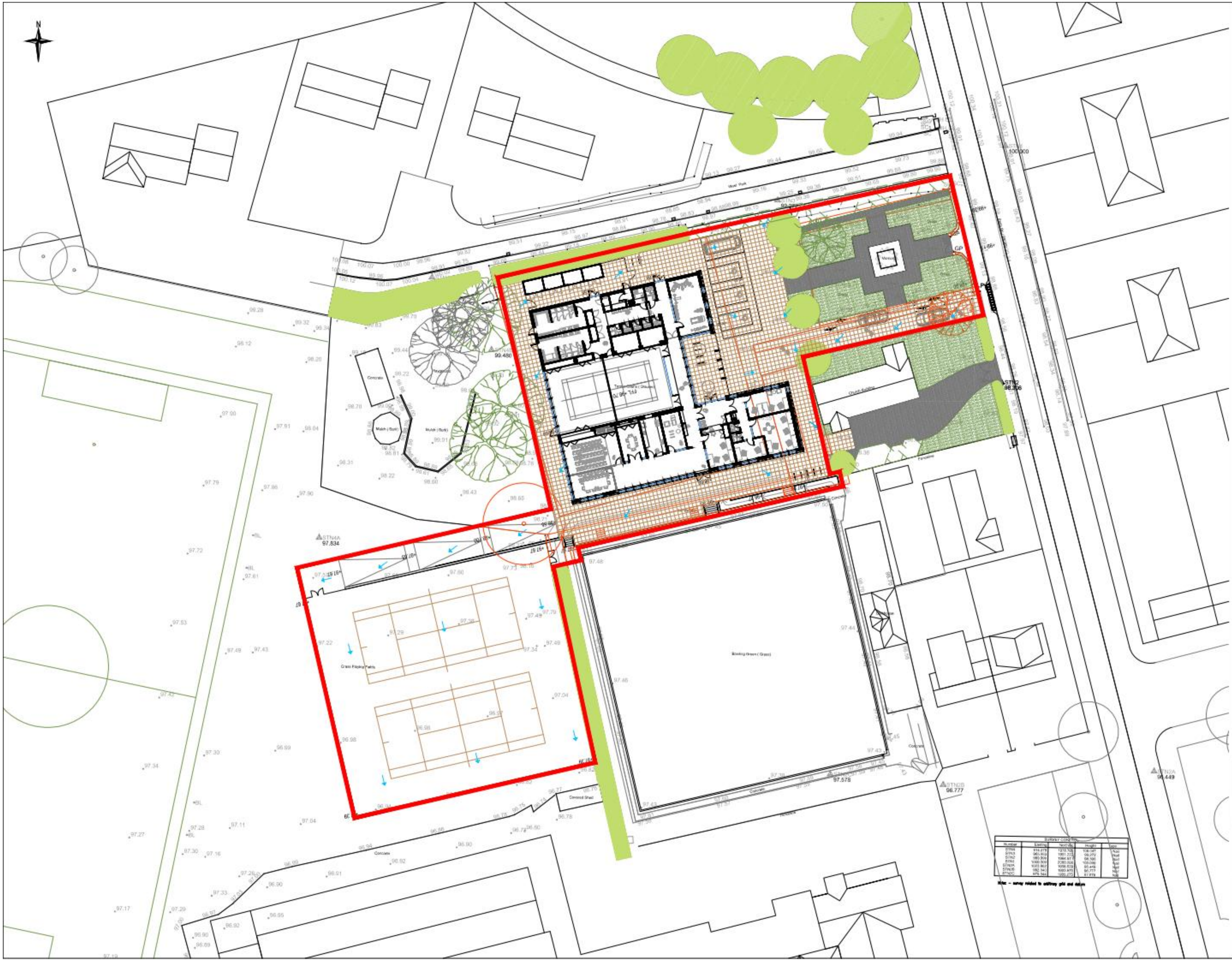
Perth and Kinross Local Development Plan 2, Adopted November 2019
Policy 27A: Listed Buildings states that there is a presumption in favour of the retention and sympathetic restoration, correct maintenance and sensitive management of listed buildings to enable them to remain in active use, and any proposed alterations or adaptations to help sustain or enhance a building's beneficial use should not adversely affect its special architectural or historic interest.

> *"The layout, design, materials, scale, siting and use of any development which will affect a listed building or its setting should be appropriate to the building's character, appearance and setting."*

Turley Office
7-9 North St David Street
Edinburgh
EH2 1AW

T 0131 524 9442

Turley
Heritage



NOTES:

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT AND ENGINEER DRAWINGS & SPECIFICATION NOTES.

HARLEY HADDOW DRAWINGS ARE FOR STRUCTURAL INFORMATION. FOR ALL SETTING OUT DIMENSIONS AND DETAILS REFER TO ARCHITECTS DRAWINGS.

KEY:

- SITE BOUDARY
- EXISTING SURFACE WATER FLOW PATH

REV	DESCRIPTION	BY	ENG	DATE
B	LAYOUT AND FLOW PATHS UPDATED	RM	BL	28.09.23
A	LAYOUT AND FLOW PATHS UPDATED	BL	BL	28.10.22

Project Status:

APPROVAL

HARLEY HADDOW
The Multi-disciplinary Engineering Consultancy
124-125 Princes Street
Edinburgh, EH2 4AD
T 44 (0) 131 229 3331
E edin@harleyhaddow.com
Edinburgh | London | Glasgow
harleyhaddow.com

Project: 307690

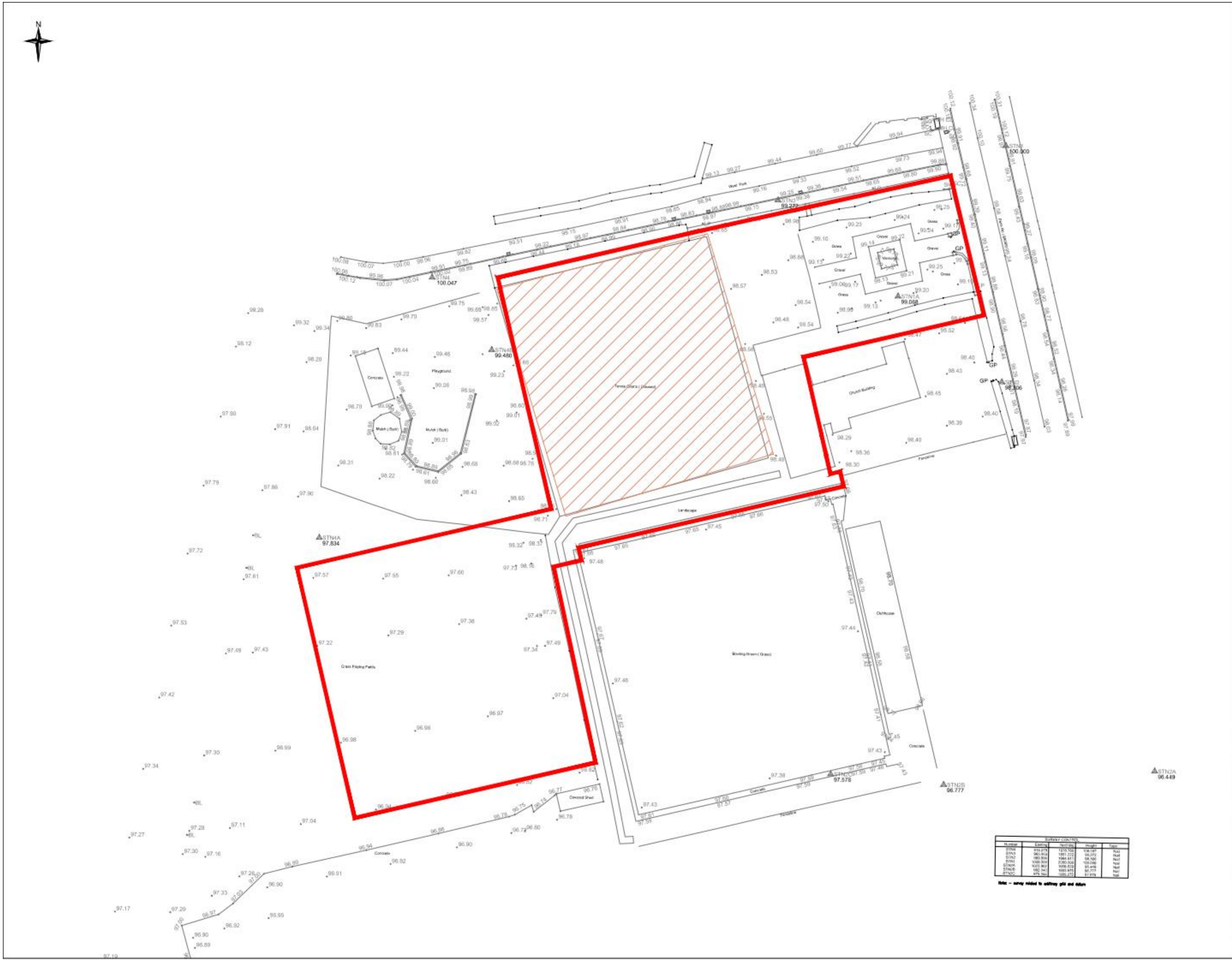
STANLEY COMMUNITY SPORTS HUB, PERTH

Drawing Title:

POST DEVELOPMENT SURFACE WATER FLOW PATHS

Scale at A1:	Date:	Technician:	Engineer:
1:250	JULY 2021	AL	BL

Drawing No.	Revision
307690-HAH-XX-00-DR-C-00201	B



NOTES:

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT AND ENGINEER DRAWINGS & SPECIFICATION NOTES.

HARLEY HADDOW DRAWINGS ARE FOR STRUCTURAL INFORMATION. FOR ALL SETTING OUT DIMENSIONS AND DETAILS REFER TO ARCHITECTS DRAWINGS.

KEY:

- SITE BOUDARY
- IMPERMEABLE AREA

REV	DESCRIPTION	BY	ENG	DATE

Project Status:

APPROVAL

The Multi-disciplinary Engineering Consultancy

124-125 Princes Street
Edinburgh, EH2 4AD
T 44 (0) 131 229 3031

E edin@harleyhaddow.com
Edinburgh | London | Glasgow
harleyhaddow.com

Project: 307690

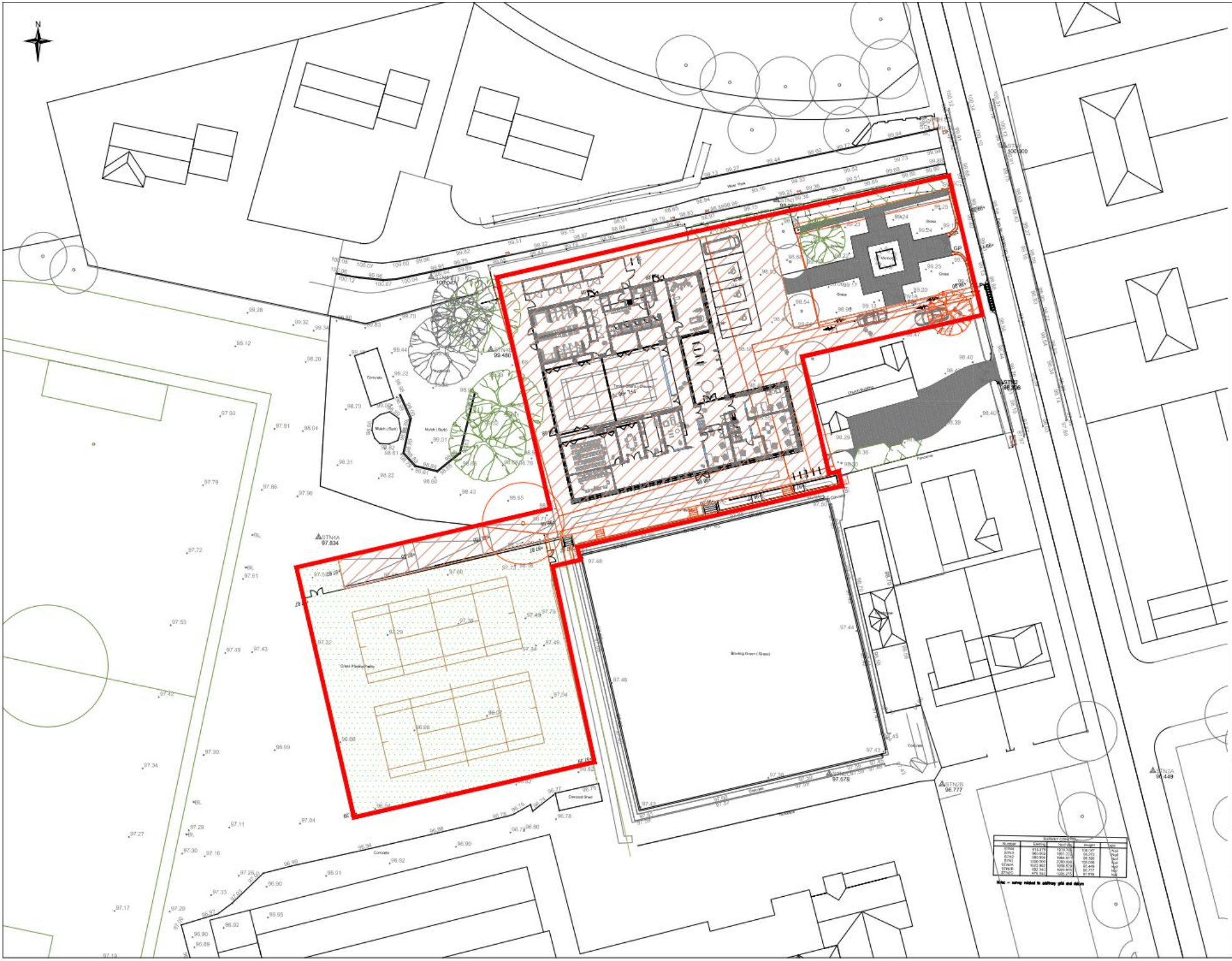
STANLEY COMMUNITY SPORTS HUB

Drawing Title:

EXISTING IMPERMEABLE AREAS

Scale at A1:	Date:	Technician:	Engineer:
1:250	July 2021	B.Laird	B.Laird

Drawing No.	Revision
307690-C-003	-



NOTES:

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT AND ENGINEER DRAWINGS & SPECIFICATION NOTES.

HARLEY HADDOW DRAWINGS ARE FOR STRUCTURAL INFORMATION. FOR ALL SETTING OUT DIMENSIONS AND DETAILS REFER TO ARCHITECTS DRAWINGS.

KEY:

- SITE BOUDARY
- IMPERMEABLE AREA

REV	DESCRIPTION	BY	CHK	DATE
B	LAYOUT AND IMP. AREA UPDATED	RH	IB	28.09.23
A	LAYOUT AND IMP. AREA UPDATED	EL	IB	28.10.22

Project Status:

APPROVAL

HARLEY HADDOW

The Multi-disciplinary Engineering Consultancy

124-126 Princes Street
Edinburgh, EH2 4AD
T 44 (0) 131 228 3331
E edin@harleyhaddow.com
Edinburgh | London | Glasgow
harleyhaddow.com

Project: 307690

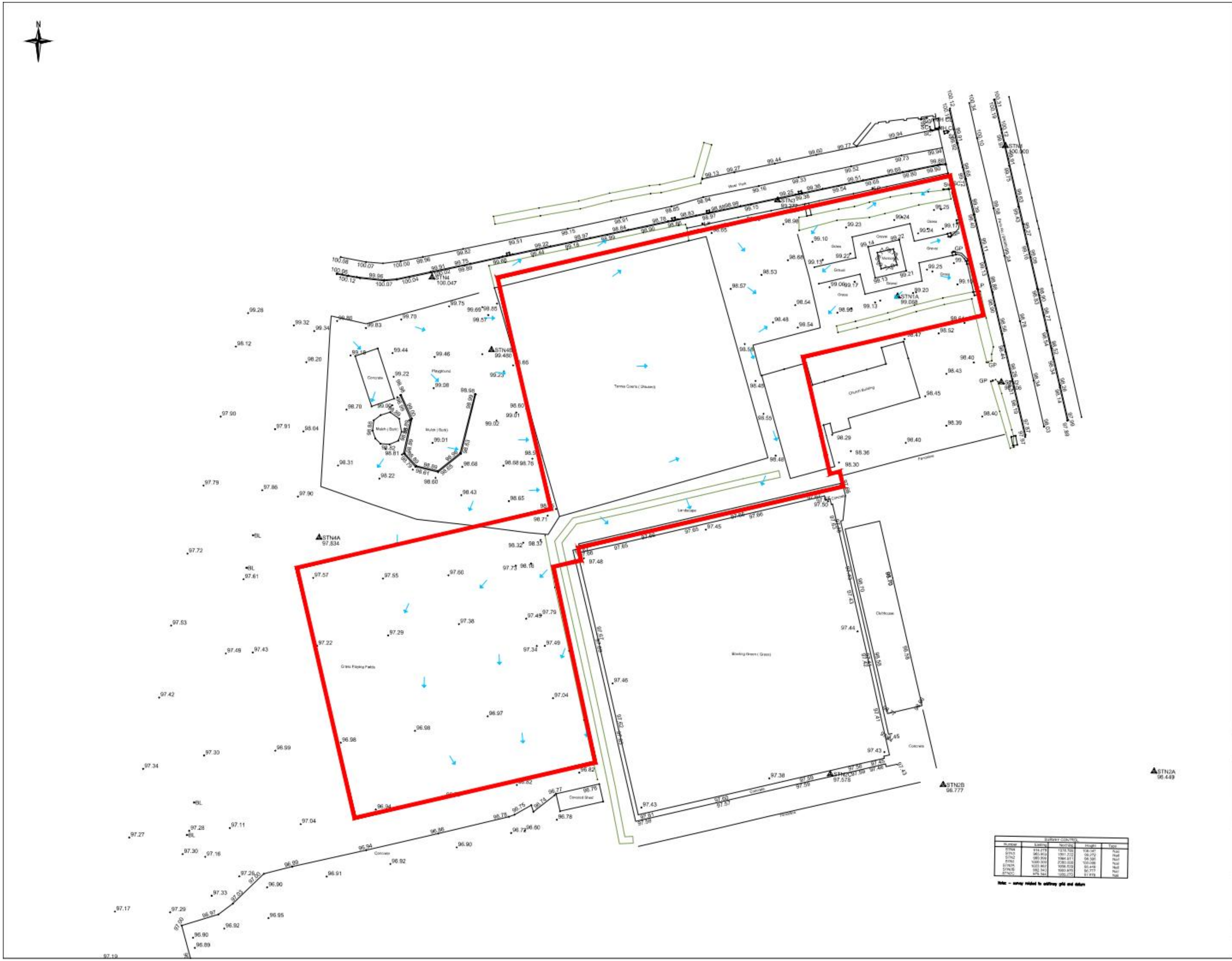
STANLEY COMMUNITY SPORTS HUB

Drawing Title:

PROPOSED IMPERMEABLE AREAS

Scale at A1:	Date:	Technician:	Engineer:
1:250	July 2021	B.Laird	B.Laird

Drawing No.	Revision
307690-C-004	B



SURVEY CONTROL				
Number	Easting	Northing	Height	Type
STN4	914.279	1278.708	100.047	Nail
STN3	985.803	1991.222	99.272	Nail
STN2	989.999	1984.811	98.395	Nail
STN1	1000.000	2000.000	100.000	Nail
STN2A	1023.867	1998.529	96.449	Nail
STN2B	992.340	1980.875	96.777	Nail
STN2C	979.344	1986.275	97.578	Nail

Note: – survey related to arbitrary grid and datum

NOTES:

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT AND ENGINEER DRAWINGS & SPECIFICATION NOTES.

HARLEY HADDOW DRAWINGS ARE FOR STRUCTURAL INFORMATION. FOR ALL SETTING OUT DIMENSIONS AND DETAILS REFER TO ARCHITECTS DRAWINGS.

KEY:

SITE BOUDARY

EXISTING SURFACE WATER FLOW PATH

REV	DESCRIPTION	BY	ENG	DATE

Project Status:

APPROVAL

The Multi-disciplinary Engineering Consultancy
124-125 Princes Street
Edinburgh, EH2 4AD
T 44 (0) 131 229 3331
E edin@harleyhaddow.com
Edinburgh | London | Glasgow
harleyhaddow.com

Project: 307690

STANLEY COMMUNITY SPORTS HUB, PERTH

Drawing Title:

PRE DEVELOPMENT SURFACE WATER FLOW PATHS

Scale at A1:	Date:	Technician:	Engineer:
1:250	JULY 2021	AL	BL
Drawing No.			Revision
307690-HAH-XX-00-DR-C-00200			-

Stanley Community Sports Hub, Perth

Surface Water Management Plan

July 2021

Contact
124-125 Princes St
Edinburgh, EH2 4AD
enquiries@harleyhaddow.com

Document Revisions

Revision	Date	Reason for Issue	By	Approved
01	20.07.21	First Issue	AL	BL
02	14.09.22	Updated Following porosity tests	BL	BL
03	28.10.22	Layout updated	BL	BL
04	02.10.23	Layout updated	RW	BL

Contents

1.0 Introduction

Harley Haddow Consulting Engineers were appointed to act as civil engineers for the proposed Stanley Community Sports Hub located off Perth Road, Stanley, Perth.

This report will outline the drainage requirements of the extension and amendments design proposal and the drainage strategies that are to be employed with review of any potential flood risk issues in the local area.

The proposed new build is located in brownfield land and is bounded to the North by West Park access road and East by Perth Road, to the West is an existing Park and to the South a Church.

Utilities information is available at the time of writing this report, there is local existing public combined sewer networks in proximity to the site. Existing surface water drainage discharge from site is understood to outfall to the local Scottish Water combined sewer network, there is currently no foul drainage contribution associated with the site which is currently outdoor tennis courts and a monument area.

2.0 Flood Risk Assessment

Review of SEPA flood maps indicate there are no current risks from coastal, river water flooding in close proximity to the site location.

The flood map does indicate risk of surface water flooding in the South-West corner of the site this is currently a green area and is in proximity of the newly proposed external tennis courts. It is currently believed that surface water flooding is ponding due to localized topography external to the site boundary. Proposed levels should be design to mitigate low point and reduce surface water ponding where possible.

We have found no additional evidence of any recent or historical reporting of flooding via any other means for the area in question.

3.0 Drainage Strategy

3.1 Foul Drainage

The proposals for the foul drainage is proposed to drain by gravity via a new plot foul water line with new connection to the local sewer running through the South area of the site where new tennis courts are proposed. The proposed development will generate a peak foul discharge of 0.67 litres per second as shown in the calculations in Appendix A.

The peak foul flows from the existing site have been calculated as 0.0l/s as the existing external tennis courts and monument area offer no foul water contribution.

All foul drainage runs are anticipated to be constructed 150mm diameter UPVC pipework with pea gravel surround. All access / manhole construction is anticipated to be of UPVC or precast concrete construction.

3.2 Surface Water Drainage

Surface water drainage options review;

- Rainwater Harvesting – Some rainwater harvesting has been included within the proposals to offset roof runoff.
- Soakaway – Infiltration tests have been carried out, however the results failed with no reduction in water level within the test area. The Infiltration Test Results letter, locations and photographs are included within Appendix A.
- Discharge to Watercourse – The nearest watercourse appears to be the River Tay located approximately 0.4km South of the plot however, given the built-up area and tree embankment between the site and River Tay this is not considered reasonably practical to drain to for such a small development.
- Surface Water Sewer – Scottish Water asset plans indicate there is no surface water sewer in proximity to the local area, therefor discharge to a surface water sewer is not possible.
- Combined Sewer - The proposal is to capture the roof surface water is via conventional guttering and rainwater downpipes. Rainwater harvesting is expected to be utilised based on the additional hardstanding area of the new extension on site to reduce the volume of discharge to the local public sewer via some on site storage for re-usable surface water. Porous paving and surface drains are proposed to collect the surface water drainage from the proposed building, access and parking. The proposed MUGA pitches are proposed to discharge directly to the ground mimicking the existing water pathway, therefore excluded from the discharge calculations. The surface water discharges to the combined drainage networks would be restricted to a peak flow rate of 10.7 l/s with storage inclusion for up to 200 year storm events plus 40% for climate change. Agreement to discharge to the combined sewers will be sought from Scottish Water.

Surface water contribution calculations can be found in Appendix A

In line with current design requirements and best practice, Sustainable Urban Drainage Systems (SuDS) will be introduced into the surface water system. The introduction of SuDS via soakaway, on-site storage and flow control units will improve the quality of discharge and control discharge quantities.

The surface water system is proposed to run separately from the foul system for their entirety up until a combined chamber prior to discharge point drainage network on site.

4.0 SUDS Strategy

SuDS are a sequence of management practices and control structures designed to drain surface water in a more sustainable fashion than "conventional" techniques. The requirement for SuDS to account for the quantity and quality of surface water is an intrinsic part of the planning process and all new developments.

The SuDS proposal for this site involve conveying the surface water run-off from roofs to the proposed outfall via down pipes and gravity surface water drainage, routed via a rainwater harvesting tank. Overflows form the rainwater harvesting tank and flows from other hardstanding areas the pass through permeable paving construction.

SuDS proposals for this development have been designed in accordance with the SuDS Manual C753, utilising the Simple Index approach. Pollution Hazard characteristic has been identified as Low for other roofs (typically commercial / industrial roofs) using Table 26.2 within the SUDS Manual, with pollution indices as shown below.

Land Use	TSS (Total Suspended Solids)	Metals	Hydrocarbons
Other roofs (typically commercial/ industrial roofs).	0.3	0.2	0.05

Suitable SuDS measures have therefore been chosen utilising the mitigation indices noted within table 26.3. The SuDS measures proposed for the development is permeable paving, with mitigation indices as shown below.

Type of SUDS Component	TTS (Total Suspended Solids)	Metals	Hydrocarbons
Permeable Pavement	0.7	0.6	0.7

Maintenance of SUDS systems should be carried out in accordance with manufacturer's guidelines and the SUDS Manual C753. A proposed SUDS maintenance strategy has been proposed within Appendix C for each of the elements of the design and should be implemented by the client through a suitable maintenance contact or factoring agreement.

5.0 Conclusions

This reports drawings and calculations contained within the appendices confirm that the design strategy as noted below;

- Detailed levels and drainage designs should remove all lows points subject to surface water ponding where possible and provide adequate surface drainage to remove any potential risk of surface water ponding.
- The proposed surface water discharge is designed to reduce contributing flow rate from an estimated 12.66l/s to 10.7 l/s.
- Attenuation of surface water flows up to the 1 in 200 year storm event with a 40% allowance for climate change without resulting in exceedance of the system.
- SUDS provision in the form of a rainwater harvesting and permeable paving will provide the necessary surface water treatment prior to discharge from the development.

Appendix A
Drainage Calculations

SURFACE WATER CALCULATIONS

	The site is currently brownfield, therefore there is pre-development discharge. Assume 40mm/h intensity rainfall Existing Site Area = 0.241Ha = 2410m2 Site Hard Standing = 0.114Ha = 1140m2 40 x 1140 / 3600 (60mins/60secs) = 12.66 l/s Pre-Development Discharge =	12.66 l/s
	• Post Development Surface Water Discharge Surface Water Flow = greenfield runoff at 4.5 l/s/Ha Site Area = 0.379 Ha 4.5 * 0.379 = 1.706 l/s *Therefore,* (RESTRICTED BY A MINIMUM 75mm FLOW CONTROL DEVICE AS PER SEWERS FOR SCOTLAND GUIDANCE Total Surface Water Flow =	10.7 l/sec
	Post Development Pre-Attenuated Surface Water Discharge Assume 40mm/h intensity rainfall Site Area = 0.379 Ha = 3790m2 Proposed Site Hard Standing = 0.227Ha = 2270m2 40 x 2270 / 3600 (60mins/60secs) = 25.2 l/s Total Surface Water Discharge =	25.2 l/sec
	There is also potential for Rainwater Harvesting to be incorporated with the extension to provide a reduction in volume contribution to the local combined sewer by re-using rain water for toilet flushing. Annual yearly rainfall for the Stanley area = 812mm Existing annual discharge volume = 1140 x 0.812 = 925.68m3 per annum. Proposed hardstanding roof area = 879m2 Proposed maximum surface water discharge volume = 2270 x 0.812 =1843 m3 per annum. Proposed roof area for Rainwater Harvesting collection = 879m2 Annual storage volume from contributing roof area = 879 x 0.812 =714 m3 Adjusted surface water discharge volume = 1843 – 714 =1129 m3 per annum It is noted that there is therefore a very slight increase in annual discharge volume of 204m3, or 22%.	

NORMAN A MACLEOD

MRICS MCABE
18 Walnut Grove
Blairgowrie
PH10 6TH
Tel: 07884177328
E mail: namacleod@aol.com

Date: 11/08/2022

Mr J Brown
Stanley Community Project

Dear James,

Stanley Community Project
Percolation test

Further to my inspection of the 2No test pits and ground conditions on 10th August 2022, I have concluded that the porosity of the ground for basic rainwater soakaways is not feasible due to the high clay content encountered in the subsoil.

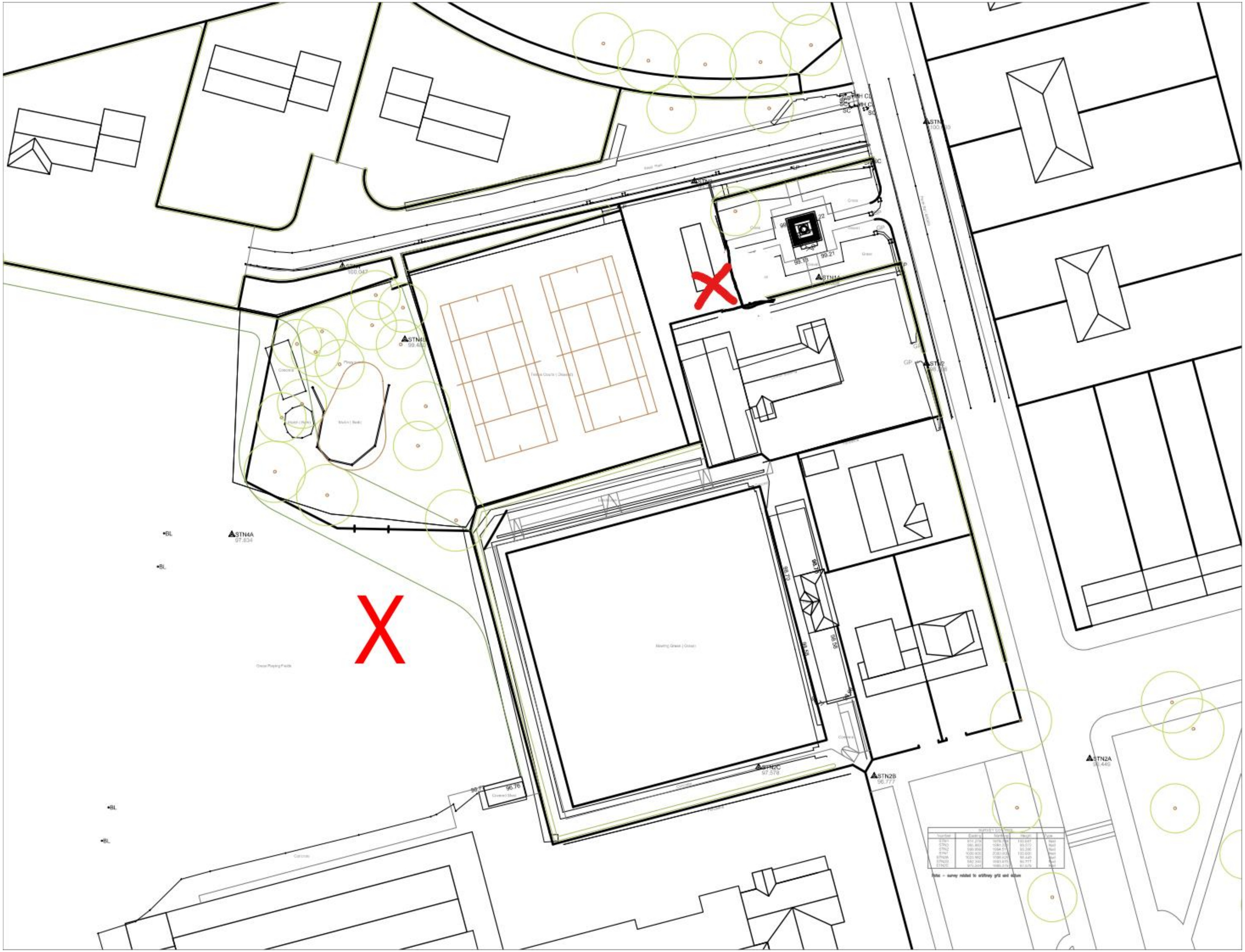
I would, therefore, recommend that you discuss the proposals with a drainage specialist who can offer alternative solutions.

I've enclosed the location plan of the test pits as well as some photos.

If I can be of any further assistance please do not hesitate to get in touch.

Yours sincerely,

Norman



STN4A
97.834
BL
BL
BL
BL
STN2A
STN2B
96.777
STN2C
97.578
99.16
99.21
GP
STN1A

PHOTOS OF TRIAL PITS

Summary of Results for 30 year Return Period

Half Drain Time : 61 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	97.856	0.156	0.0	4.0	4.0	18.8	O K
30 min Summer	97.902	0.202	0.0	4.8	4.8	24.4	O K
60 min Summer	97.934	0.234	0.0	5.2	5.2	28.3	O K
120 min Summer	97.943	0.243	0.0	5.3	5.3	29.3	O K
180 min Summer	97.940	0.240	0.0	5.3	5.3	29.0	O K
240 min Summer	97.933	0.233	0.0	5.2	5.2	28.1	O K
360 min Summer	97.915	0.215	0.0	5.0	5.0	26.0	O K
480 min Summer	97.898	0.198	0.0	4.7	4.7	23.9	O K
600 min Summer	97.883	0.183	0.0	4.5	4.5	22.1	O K
720 min Summer	97.870	0.170	0.0	4.3	4.3	20.5	O K
960 min Summer	97.849	0.149	0.0	3.9	3.9	18.0	O K
1440 min Summer	97.821	0.121	0.0	3.4	3.4	14.6	O K
2160 min Summer	97.800	0.100	0.0	2.8	2.8	12.1	O K
2880 min Summer	97.789	0.089	0.0	2.4	2.4	10.7	O K
4320 min Summer	97.775	0.075	0.0	1.8	1.8	9.1	O K
5760 min Summer	97.767	0.067	0.0	1.5	1.5	8.1	O K
7200 min Summer	97.761	0.061	0.0	1.3	1.3	7.4	O K
8640 min Summer	97.756	0.056	0.0	1.1	1.1	6.8	O K
10080 min Summer	97.752	0.052	0.0	1.0	1.0	6.3	O K
15 min Winter	97.877	0.177	0.0	4.4	4.4	21.4	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	69.414	0.0	20.4	17
30 min Summer	47.007	0.0	28.5	31
60 min Summer	30.154	0.0	37.5	50
120 min Summer	17.971	0.0	45.2	82
180 min Summer	13.255	0.0	50.2	116
240 min Summer	10.679	0.0	54.0	150
360 min Summer	7.883	0.0	60.0	216
480 min Summer	6.368	0.0	64.7	280
600 min Summer	5.403	0.0	68.7	342
720 min Summer	4.729	0.0	72.2	404
960 min Summer	3.840	0.0	78.2	522
1440 min Summer	2.874	0.0	87.6	764
2160 min Summer	2.157	0.0	98.7	1120
2880 min Summer	1.760	0.0	107.1	1472
4320 min Summer	1.319	0.0	119.5	2204
5760 min Summer	1.076	0.0	129.4	2936
7200 min Summer	0.919	0.0	137.4	3672
8640 min Summer	0.809	0.0	144.1	4408
10080 min Summer	0.727	0.0	150.1	5136
15 min Winter	69.414	0.0	23.2	17

Summary of Results for 30 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	97.930	0.230	0.0	5.2	5.2	27.8	O K
60 min Winter	97.965	0.265	0.0	5.6	5.6	32.0	O K
120 min Winter	97.969	0.269	0.0	5.6	5.6	32.4	O K
180 min Winter	97.958	0.258	0.0	5.5	5.5	31.2	O K
240 min Winter	97.945	0.245	0.0	5.3	5.3	29.5	O K
360 min Winter	97.916	0.216	0.0	5.0	5.0	26.0	O K
480 min Winter	97.891	0.191	0.0	4.6	4.6	23.0	O K
600 min Winter	97.870	0.170	0.0	4.3	4.3	20.5	O K
720 min Winter	97.853	0.153	0.0	4.0	4.0	18.4	O K
960 min Winter	97.827	0.127	0.0	3.5	3.5	15.4	O K
1440 min Winter	97.801	0.101	0.0	2.9	2.9	12.2	O K
2160 min Winter	97.784	0.084	0.0	2.2	2.2	10.2	O K
2880 min Winter	97.774	0.074	0.0	1.8	1.8	9.0	O K
4320 min Winter	97.763	0.063	0.0	1.4	1.4	7.5	O K
5760 min Winter	97.755	0.055	0.0	1.1	1.1	6.6	O K
7200 min Winter	97.749	0.049	0.0	0.9	0.9	5.9	O K
8640 min Winter	97.745	0.045	0.0	0.8	0.8	5.4	O K
10080 min Winter	97.742	0.042	0.0	0.7	0.7	5.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	47.007	0.0	32.3	31
60 min Winter	30.154	0.0	42.3	52
120 min Winter	17.971	0.0	50.9	88
180 min Winter	13.255	0.0	56.5	126
240 min Winter	10.679	0.0	60.8	162
360 min Winter	7.883	0.0	67.5	228
480 min Winter	6.368	0.0	72.8	294
600 min Winter	5.403	0.0	77.3	356
720 min Winter	4.729	0.0	81.2	418
960 min Winter	3.840	0.0	87.9	538
1440 min Winter	2.874	0.0	98.6	764
2160 min Winter	2.157	0.0	111.1	1124
2880 min Winter	1.760	0.0	120.5	1496
4320 min Winter	1.319	0.0	134.6	2204
5760 min Winter	1.076	0.0	145.9	2936
7200 min Winter	0.919	0.0	155.0	3672
8640 min Winter	0.809	0.0	162.8	4408
10080 min Winter	0.727	0.0	169.6	5136

Rainfall Details

Rainfall Model	FEH
Return Period (years)	30
FEH Rainfall Version	2013
Site Location	GB 312450 723300 NO 12450 23300
Data Type	Catchment
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.177

Time (mins) From:	To:	Area (ha)
0	4	0.177

Model Details

Storage is Online Cover Level (m) 98.900

Complex Structure

Cellular Storage

Invert Level (m) 97.700 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	127.0	0.0	0.401	0.0	0.0
0.400	127.0	0.0			

Porous Car Park

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	8.0
Membrane Percolation (mm/hr)	1000	Length (m)	56.2
Max Percolation (l/s)	124.9	Slope (1:X)	1000.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	98.100	Membrane Depth (m)	120

Orifice Outflow Control

Diameter (m) 0.075 Discharge Coefficient 0.600 Invert Level (m) 97.700

Summary of Results for 100 year Return Period

Half Drain Time : 69 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	97.910	0.210	0.0	4.9	4.9	25.3	O K
30 min Summer	97.975	0.275	0.0	5.7	5.7	33.2	O K
60 min Summer	98.017	0.317	0.0	6.2	6.2	38.3	O K
120 min Summer	98.020	0.320	0.0	6.2	6.2	38.6	O K
180 min Summer	98.013	0.313	0.0	6.2	6.2	37.7	O K
240 min Summer	98.002	0.302	0.0	6.0	6.0	36.4	O K
360 min Summer	97.977	0.277	0.0	5.7	5.7	33.5	O K
480 min Summer	97.955	0.255	0.0	5.5	5.5	30.8	O K
600 min Summer	97.935	0.235	0.0	5.2	5.2	28.4	O K
720 min Summer	97.919	0.219	0.0	5.0	5.0	26.4	O K
960 min Summer	97.891	0.191	0.0	4.6	4.6	23.1	O K
1440 min Summer	97.853	0.153	0.0	4.0	4.0	18.5	O K
2160 min Summer	97.821	0.121	0.0	3.4	3.4	14.6	O K
2880 min Summer	97.804	0.104	0.0	3.0	3.0	12.5	O K
4320 min Summer	97.787	0.087	0.0	2.3	2.3	10.5	O K
5760 min Summer	97.777	0.077	0.0	1.9	1.9	9.2	O K
7200 min Summer	97.770	0.070	0.0	1.6	1.6	8.4	O K
8640 min Summer	97.764	0.064	0.0	1.4	1.4	7.8	O K
10080 min Summer	97.760	0.060	0.0	1.3	1.3	7.3	O K
15 min Winter	97.938	0.238	0.0	5.3	5.3	28.7	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	90.800	0.0	27.5	17
30 min Summer	62.000	0.0	38.5	31
60 min Summer	39.600	0.0	50.1	52
120 min Summer	23.050	0.0	58.6	84
180 min Summer	16.809	0.0	64.3	118
240 min Summer	13.450	0.0	68.7	152
360 min Summer	9.850	0.0	75.7	218
480 min Summer	7.934	0.0	81.3	282
600 min Summer	6.724	0.0	86.2	346
720 min Summer	5.883	0.0	90.6	408
960 min Summer	4.776	0.0	98.0	530
1440 min Summer	3.575	0.0	110.0	766
2160 min Summer	2.685	0.0	124.0	1124
2880 min Summer	2.192	0.0	134.6	1472
4320 min Summer	1.641	0.0	150.3	2204
5760 min Summer	1.335	0.0	162.5	2936
7200 min Summer	1.137	0.0	172.0	3672
8640 min Summer	0.997	0.0	180.0	4400
10080 min Summer	0.892	0.0	187.0	5136
15 min Winter	90.800	0.0	31.1	17

Summary of Results for 100 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	98.013	0.313	0.0	6.2	6.2	37.7	O K
60 min Winter	98.060	0.360	0.0	6.7	6.7	43.5	O K
120 min Winter	98.056	0.356	0.0	6.6	6.6	43.0	O K
180 min Winter	98.040	0.340	0.0	6.5	6.5	41.0	O K
240 min Winter	98.021	0.321	0.0	6.2	6.2	38.7	O K
360 min Winter	97.982	0.282	0.0	5.8	5.8	34.0	O K
480 min Winter	97.950	0.250	0.0	5.4	5.4	30.1	O K
600 min Winter	97.923	0.223	0.0	5.1	5.1	26.8	O K
720 min Winter	97.900	0.200	0.0	4.7	4.7	24.1	O K
960 min Winter	97.866	0.166	0.0	4.2	4.2	20.0	O K
1440 min Winter	97.824	0.124	0.0	3.4	3.4	14.9	O K
2160 min Winter	97.798	0.098	0.0	2.7	2.7	11.8	O K
2880 min Winter	97.786	0.086	0.0	2.2	2.2	10.3	O K
4320 min Winter	97.771	0.071	0.0	1.7	1.7	8.6	O K
5760 min Winter	97.763	0.063	0.0	1.4	1.4	7.6	O K
7200 min Winter	97.757	0.057	0.0	1.2	1.2	6.9	O K
8640 min Winter	97.752	0.052	0.0	1.0	1.0	6.2	O K
10080 min Winter	97.748	0.048	0.0	0.9	0.9	5.8	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	62.000	0.0	43.4	31
60 min Winter	39.600	0.0	56.4	56
120 min Winter	23.050	0.0	66.0	90
180 min Winter	16.809	0.0	72.4	128
240 min Winter	13.450	0.0	77.3	164
360 min Winter	9.850	0.0	85.1	232
480 min Winter	7.934	0.0	91.5	298
600 min Winter	6.724	0.0	96.9	362
720 min Winter	5.883	0.0	101.8	426
960 min Winter	4.776	0.0	110.2	548
1440 min Winter	3.575	0.0	123.6	780
2160 min Winter	2.685	0.0	139.4	1124
2880 min Winter	2.192	0.0	151.3	1472
4320 min Winter	1.641	0.0	169.1	2208
5760 min Winter	1.335	0.0	182.9	2936
7200 min Winter	1.137	0.0	193.7	3656
8640 min Winter	0.997	0.0	202.9	4408
10080 min Winter	0.892	0.0	210.9	5128

Rainfall Details

Rainfall Model	FEH
Return Period (years)	100
FEH Rainfall Version	2013
Site Location	GB 312450 723300 NO 12450 23300
Data Type	Catchment
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.177

Time (mins) From:	To:	Area (ha)
0	4	0.177

Model Details

Storage is Online Cover Level (m) 98.900

Complex Structure

Cellular Storage

Invert Level (m) 97.700 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	127.0	0.0	0.401	0.0	0.0
0.400	127.0	0.0			

Porous Car Park

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	8.0
Membrane Percolation (mm/hr)	1000	Length (m)	56.2
Max Percolation (l/s)	124.9	Slope (1:X)	1000.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	98.100	Membrane Depth (m)	120

Orifice Outflow Control

Diameter (m) 0.075 Discharge Coefficient 0.600 Invert Level (m) 97.700

Summary of Results for 200 year Return Period

Half Drain Time : 73 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control Σ (l/s)	Max Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	97.945	0.245	0.0	5.3	5.3	29.5	O K
30 min Summer	98.022	0.322	0.0	6.3	6.3	38.8	O K
60 min Summer	98.070	0.370	0.0	6.8	6.8	44.7	O K
120 min Summer	98.069	0.369	0.0	6.8	6.8	44.6	O K
180 min Summer	98.060	0.360	0.0	6.7	6.7	43.5	O K
240 min Summer	98.048	0.348	0.0	6.5	6.5	42.0	O K
360 min Summer	98.021	0.321	0.0	6.2	6.2	38.7	O K
480 min Summer	97.995	0.295	0.0	6.0	6.0	35.6	O K
600 min Summer	97.973	0.273	0.0	5.7	5.7	32.9	O K
720 min Summer	97.953	0.253	0.0	5.5	5.5	30.6	O K
960 min Summer	97.922	0.222	0.0	5.0	5.0	26.8	O K
1440 min Summer	97.878	0.178	0.0	4.4	4.4	21.5	O K
2160 min Summer	97.838	0.138	0.0	3.7	3.7	16.7	O K
2880 min Summer	97.815	0.115	0.0	3.3	3.3	13.9	O K
4320 min Summer	97.794	0.094	0.0	2.6	2.6	11.4	O K
5760 min Summer	97.782	0.082	0.0	2.1	2.1	10.0	O K
7200 min Summer	97.775	0.075	0.0	1.8	1.8	9.0	O K
8640 min Summer	97.769	0.069	0.0	1.6	1.6	8.3	O K
10080 min Summer	97.764	0.064	0.0	1.4	1.4	7.8	O K
15 min Winter	97.977	0.277	0.0	5.7	5.7	33.5	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	104.461	0.0	32.0	17
30 min Summer	71.439	0.0	44.7	31
60 min Summer	45.509	0.0	57.9	54
120 min Summer	26.257	0.0	67.2	84
180 min Summer	19.092	0.0	73.4	120
240 min Summer	15.260	0.0	78.4	154
360 min Summer	11.176	0.0	86.2	220
480 min Summer	8.992	0.0	92.6	284
600 min Summer	7.614	0.0	98.0	348
720 min Summer	6.658	0.0	102.9	412
960 min Summer	5.407	0.0	111.4	532
1440 min Summer	4.051	0.0	125.1	778
2160 min Summer	3.039	0.0	140.8	1128
2880 min Summer	2.475	0.0	152.6	1476
4320 min Summer	1.846	0.0	169.8	2204
5760 min Summer	1.497	0.0	183.1	2936
7200 min Summer	1.272	0.0	193.6	3672
8640 min Summer	1.114	0.0	202.4	4400
10080 min Summer	0.996	0.0	210.1	5136
15 min Winter	104.461	0.0	36.2	17

Summary of Results for 200 year Return Period

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control Σ (l/s)	Max Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	98.065	0.365	0.0	6.7	6.7	44.1	O K
60 min Winter	98.145	0.445	0.0	7.5	7.5	50.7	O K
120 min Winter	98.134	0.434	0.0	7.4	7.4	49.7	O K
180 min Winter	98.094	0.394	0.0	7.0	7.0	47.5	O K
240 min Winter	98.072	0.372	0.0	6.8	6.8	44.9	O K
360 min Winter	98.029	0.329	0.0	6.3	6.3	39.7	O K
480 min Winter	97.992	0.292	0.0	5.9	5.9	35.2	O K
600 min Winter	97.961	0.261	0.0	5.5	5.5	31.5	O K
720 min Winter	97.935	0.235	0.0	5.2	5.2	28.3	O K
960 min Winter	97.895	0.195	0.0	4.7	4.7	23.5	O K
1440 min Winter	97.844	0.144	0.0	3.8	3.8	17.4	O K
2160 min Winter	97.807	0.107	0.0	3.1	3.1	12.9	O K
2880 min Winter	97.793	0.093	0.0	2.5	2.5	11.2	O K
4320 min Winter	97.777	0.077	0.0	1.9	1.9	9.3	O K
5760 min Winter	97.768	0.068	0.0	1.5	1.5	8.2	O K
7200 min Winter	97.762	0.062	0.0	1.3	1.3	7.4	O K
8640 min Winter	97.756	0.056	0.0	1.1	1.1	6.8	O K
10080 min Winter	97.752	0.052	0.0	1.0	1.0	6.2	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	71.439	0.0	50.4	31
60 min Winter	45.509	0.0	65.2	58
120 min Winter	26.257	0.0	75.5	90
180 min Winter	19.092	0.0	82.5	128
240 min Winter	15.260	0.0	88.1	166
360 min Winter	11.176	0.0	96.9	234
480 min Winter	8.992	0.0	104.0	302
600 min Winter	7.614	0.0	110.2	366
720 min Winter	6.658	0.0	115.6	428
960 min Winter	5.407	0.0	125.2	550
1440 min Winter	4.051	0.0	140.6	792
2160 min Winter	3.039	0.0	158.3	1124
2880 min Winter	2.475	0.0	171.5	1488
4320 min Winter	1.846	0.0	191.0	2208
5760 min Winter	1.497	0.0	206.0	2936
7200 min Winter	1.272	0.0	217.9	3656
8640 min Winter	1.114	0.0	228.0	4408
10080 min Winter	0.996	0.0	236.8	5144

Rainfall Details

Rainfall Model	FEH
Return Period (years)	200
FEH Rainfall Version	2013
Site Location	GB 312450 723300 NO 12450 23300
Data Type	Catchment
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+0

Time Area Diagram

Total Area (ha) 0.177

Time (mins) From:	To:	Area (ha)
0	4	0.177

Model Details

Storage is Online Cover Level (m) 98.900

Complex Structure

Cellular Storage

Invert Level (m) 97.700 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	127.0	0.0	0.401	0.0	0.0
0.400	127.0	0.0			

Porous Car Park

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	8.0
Membrane Percolation (mm/hr)	1000	Length (m)	56.2
Max Percolation (l/s)	124.9	Slope (1:X)	1000.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	98.100	Membrane Depth (m)	120

Orifice Outflow Control

Diameter (m) 0.075 Discharge Coefficient 0.600 Invert Level (m) 97.700

Summary of Results for 200 year Return Period (+40%)

Half Drain Time : 89 minutes.

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Σ Max Outflow (l/s)	Max Volume (m³)	Status
15 min Summer	98.053	0.353	0.0	6.6	6.6	42.5	O K
30 min Summer	98.184	0.484	0.0	7.8	7.8	55.9	O K
60 min Summer	98.250	0.550	0.0	8.4	8.4	64.7	O K
120 min Summer	98.249	0.549	0.0	8.4	8.4	64.5	O K
180 min Summer	98.238	0.538	0.0	8.3	8.3	63.2	O K
240 min Summer	98.224	0.524	0.0	8.2	8.2	61.3	O K
360 min Summer	98.192	0.492	0.0	7.9	7.9	57.0	O K
480 min Summer	98.162	0.462	0.0	7.7	7.7	52.9	O K
600 min Summer	98.130	0.430	0.0	7.4	7.4	49.4	O K
720 min Summer	98.084	0.384	0.0	6.9	6.9	46.3	O K
960 min Summer	98.039	0.339	0.0	6.4	6.4	41.0	O K
1440 min Summer	97.974	0.274	0.0	5.7	5.7	33.1	O K
2160 min Summer	97.912	0.212	0.0	4.9	4.9	25.6	O K
2880 min Summer	97.872	0.172	0.0	4.3	4.3	20.7	O K
4320 min Summer	97.826	0.126	0.0	3.5	3.5	15.1	O K
5760 min Summer	97.804	0.104	0.0	3.0	3.0	12.5	O K
7200 min Summer	97.793	0.093	0.0	2.5	2.5	11.2	O K
8640 min Summer	97.785	0.085	0.0	2.2	2.2	10.3	O K
10080 min Summer	97.779	0.079	0.0	2.0	2.0	9.6	O K
15 min Winter	98.098	0.398	0.0	7.1	7.1	48.1	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
15 min Summer	146.245	0.0	45.9	18
30 min Summer	100.014	0.0	63.7	32
60 min Summer	63.713	0.0	82.1	58
120 min Summer	36.760	0.0	95.0	88
180 min Summer	26.728	0.0	103.8	122
240 min Summer	21.364	0.0	110.8	156
360 min Summer	15.646	0.0	121.8	224
480 min Summer	12.588	0.0	130.8	290
600 min Summer	10.659	0.0	138.5	354
720 min Summer	9.321	0.0	145.3	418
960 min Summer	7.570	0.0	157.4	542
1440 min Summer	5.671	0.0	176.7	792
2160 min Summer	4.254	0.0	198.9	1148
2880 min Summer	3.465	0.0	215.7	1500
4320 min Summer	2.584	0.0	240.3	2208
5760 min Summer	2.096	0.0	259.4	2936
7200 min Summer	1.781	0.0	274.6	3672
8640 min Summer	1.559	0.0	287.6	4400
10080 min Summer	1.394	0.0	298.9	5136
15 min Winter	146.245	0.0	51.7	17

Summary of Results for 200 year Return Period (+40%)

Storm Event	Max Level (m)	Max Depth (m)	Max Infiltration (l/s)	Max Control (l/s)	Max Σ Outflow (l/s)	Max Volume (m³)	Status
30 min Winter	98.240	0.540	0.0	8.3	8.3	63.4	O K
60 min Winter	98.318	0.618	0.0	8.9	8.9	73.9	O K
120 min Winter	98.309	0.609	0.0	8.9	8.9	72.7	O K
180 min Winter	98.289	0.589	0.0	8.7	8.7	70.0	O K
240 min Winter	98.264	0.564	0.0	8.5	8.5	66.7	O K
360 min Winter	98.214	0.514	0.0	8.1	8.1	59.8	O K
480 min Winter	98.168	0.468	0.0	7.7	7.7	53.7	O K
600 min Winter	98.120	0.420	0.0	7.3	7.3	48.8	O K
720 min Winter	98.068	0.368	0.0	6.7	6.7	44.3	O K
960 min Winter	98.008	0.308	0.0	6.1	6.1	37.2	O K
1440 min Winter	97.929	0.229	0.0	5.1	5.1	27.6	O K
2160 min Winter	97.862	0.162	0.0	4.1	4.1	19.5	O K
2880 min Winter	97.826	0.126	0.0	3.5	3.5	15.1	O K
4320 min Winter	97.796	0.096	0.0	2.7	2.7	11.6	O K
5760 min Winter	97.784	0.084	0.0	2.2	2.2	10.1	O K
7200 min Winter	97.776	0.076	0.0	1.9	1.9	9.1	O K
8640 min Winter	97.770	0.070	0.0	1.6	1.6	8.4	O K
10080 min Winter	97.765	0.065	0.0	1.5	1.5	7.8	O K

Storm Event	Rain (mm/hr)	Flooded Volume (m³)	Discharge Volume (m³)	Time-Peak (mins)
30 min Winter	100.014	0.0	71.7	31
60 min Winter	63.713	0.0	92.2	58
120 min Winter	36.760	0.0	106.8	94
180 min Winter	26.728	0.0	116.6	132
240 min Winter	21.364	0.0	124.4	168
360 min Winter	15.646	0.0	136.8	240
480 min Winter	12.588	0.0	146.8	306
600 min Winter	10.659	0.0	155.4	374
720 min Winter	9.321	0.0	163.1	440
960 min Winter	7.570	0.0	176.7	566
1440 min Winter	5.671	0.0	198.4	808
2160 min Winter	4.254	0.0	223.3	1168
2880 min Winter	3.465	0.0	242.2	1504
4320 min Winter	2.584	0.0	270.0	2204
5760 min Winter	2.096	0.0	291.4	2936
7200 min Winter	1.781	0.0	308.7	3672
8640 min Winter	1.559	0.0	323.3	4376
10080 min Winter	1.394	0.0	336.2	5120

Rainfall Details

Rainfall Model	FEH
Return Period (years)	200
FEH Rainfall Version	2013
Site Location	GB 312450 723300 NO 12450 23300
Data Type	Catchment
Summer Storms	Yes
Winter Storms	Yes
Cv (Summer)	0.750
Cv (Winter)	0.840
Shortest Storm (mins)	15
Longest Storm (mins)	10080
Climate Change %	+40

Time Area Diagram

Total Area (ha) 0.177

Time (mins) From:	To:	Area (ha)
0	4	0.177

Model Details

Storage is Online Cover Level (m) 98.900

Complex Structure

Cellular Storage

Invert Level (m) 97.700 Safety Factor 2.0
Infiltration Coefficient Base (m/hr) 0.00000 Porosity 0.95
Infiltration Coefficient Side (m/hr) 0.00000

Depth (m)	Area (m²)	Inf. Area (m²)	Depth (m)	Area (m²)	Inf. Area (m²)
0.000	127.0	0.0	0.401	0.0	0.0
0.400	127.0	0.0			

Porous Car Park

Infiltration Coefficient Base (m/hr)	0.00000	Width (m)	8.0
Membrane Percolation (mm/hr)	1000	Length (m)	56.2
Max Percolation (l/s)	124.9	Slope (1:X)	1000.0
Safety Factor	2.0	Depression Storage (mm)	5
Porosity	0.30	Evaporation (mm/day)	3
Invert Level (m)	98.100	Membrane Depth (m)	120

Orifice Outflow Control

Diameter (m) 0.075 Discharge Coefficient 0.600 Invert Level (m) 97.700

Foul Water Calculations

The site is currently a brownfield, but there is no pre-development foul discharge.

- Pre Development Discharge

The site is brownfield with a monument site and external tennis courts however there is no current foul contribution to the local combined sewer

Average Foul Flow =	0.0 l/sec
Peak Foul Flow =	0.0 l/sec

- Post Development Discharge

The proposed new sports hub will contribute new foul water contribution to the local public combined sewer network.

Referring to flows and loads 4 sports venues have a discharge of 40 litres per person per day.
Occupancy capacity of the development is noted as 200.

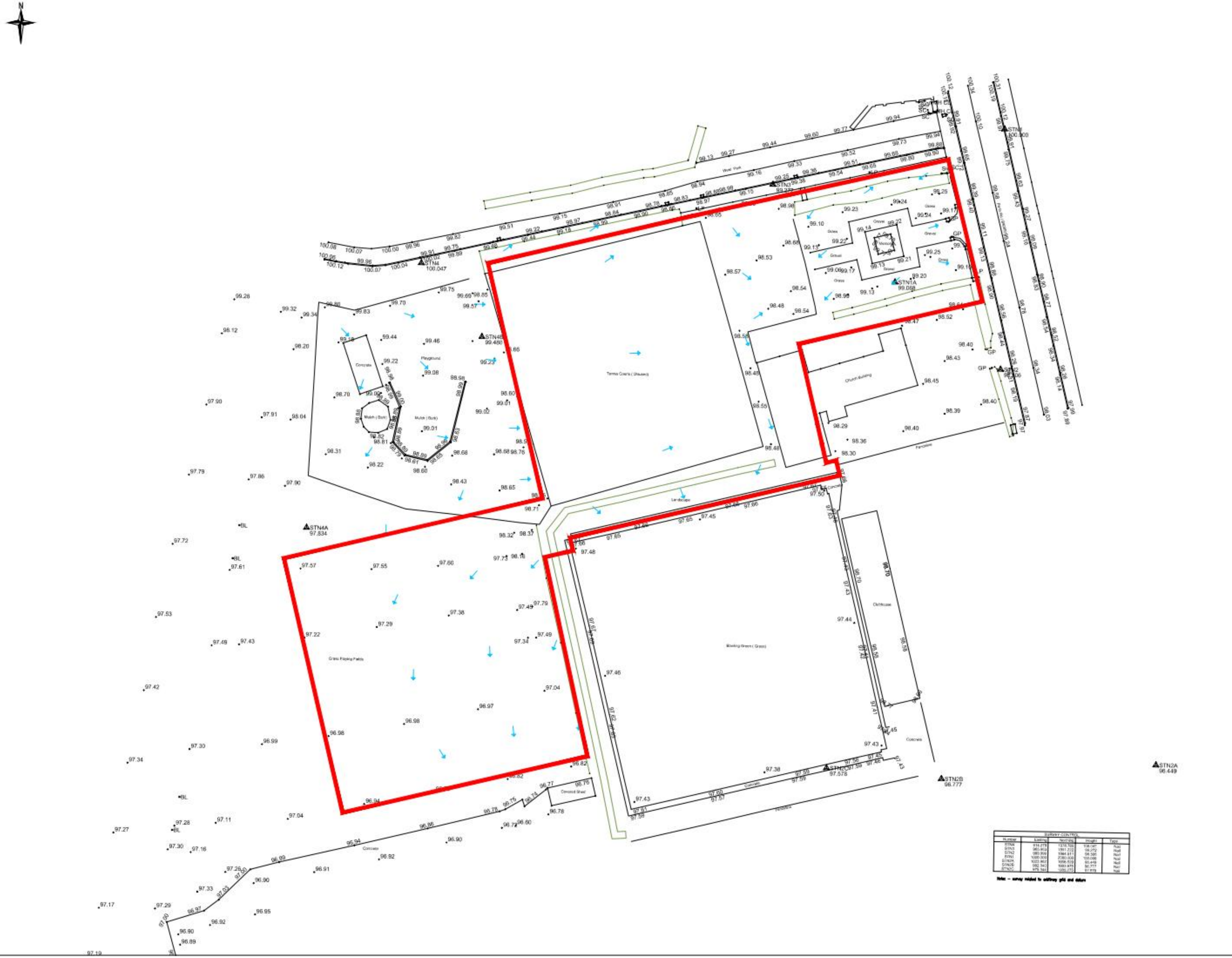
Therefore the average flow is calculated as:
40 x 200 = 8000 litres per day = 0.09 l/s

Average Foul Flow =	0.09 l/sec

Peak foul discharge
Peak flow is based on 60% of daily flow over a 2 hour period, therefore:
(8000 x 0.6) / (2x60x60) = 0.67 litres per second

Peak Foul Flow =	0.67 l/sec

Appendix B
Drawings



NOTES:

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT AND ENGINEER DRAWINGS & SPECIFICATION NOTES.

HARLEY HADDOW DRAWINGS ARE FOR STRUCTURAL INFORMATION. FOR ALL SETTING OUT DIMENSIONS AND DETAILS REFER TO ARCHITECTS DRAWINGS.

KEY:

SITE BOUDARY

EXISTING SURFACE WATER FLOW PATH

REV	DESCRIPTION	BY	ENG	DATE

Project Status:

APPROVAL

The Multi-disciplinary Engineering Consultancy

124-125 Princes Street
Edinburgh, EH2 4AD
T 44 (0) 131 229 3331

E edin@harleyhaddow.com
Edinburgh | London | Glasgow
harleyhaddow.com

Project: 307690

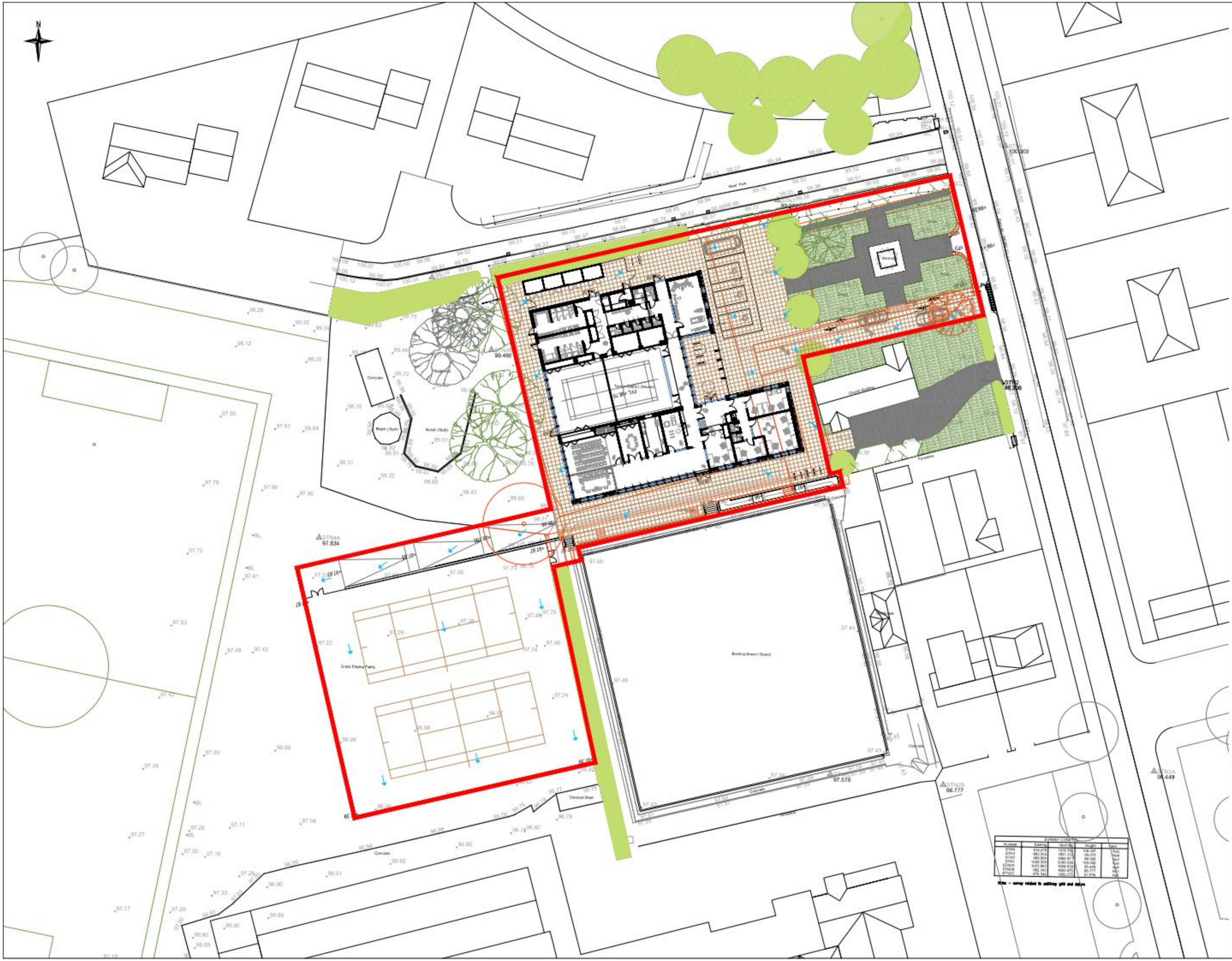
STANLEY COMMUNITY SPORTS HUB, PERTH

Drawing Title:

PRE DEVELOPMENT SURFACE WATER FLOW PATHS

Scale at A1:	Date:	Technician:	Engineer:
1:250	JULY 2021	AL	BL

Drawing No.	Revision
307690-HAH-XX-00-DR-C-00200	-



NOTES:

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT AND ENGINEER DRAWINGS & SPECIFICATION NOTES.

HARLEY HADDOW DRAWINGS ARE FOR STRUCTURAL INFORMATION. FOR ALL SETTING OUT DIMENSIONS AND DETAILS REFER TO ARCHITECTS DRAWINGS.

KEY:

- SITE BOUDARY
- EXISTING SURFACE WATER FLOW PATH

REV	DESCRIPTION	BY	ENG	DATE
B	LAYOUT AND FLOW PATHS UPDATED	RW	BL	28.09.23
A	LAYOUT AND FLOW PATHS UPDATED	BL	BL	28.10.22

Project Status:

APPROVAL

The Multi-disciplinary Engineering Consultancy

124-125 Princes Street
Edinburgh, EH2 4AD
T 44 (0) 131 229 3331
E edin@harleyhaddow.com
Edinburgh | London | Glasgow
harleyhaddow.com

Project: 307690

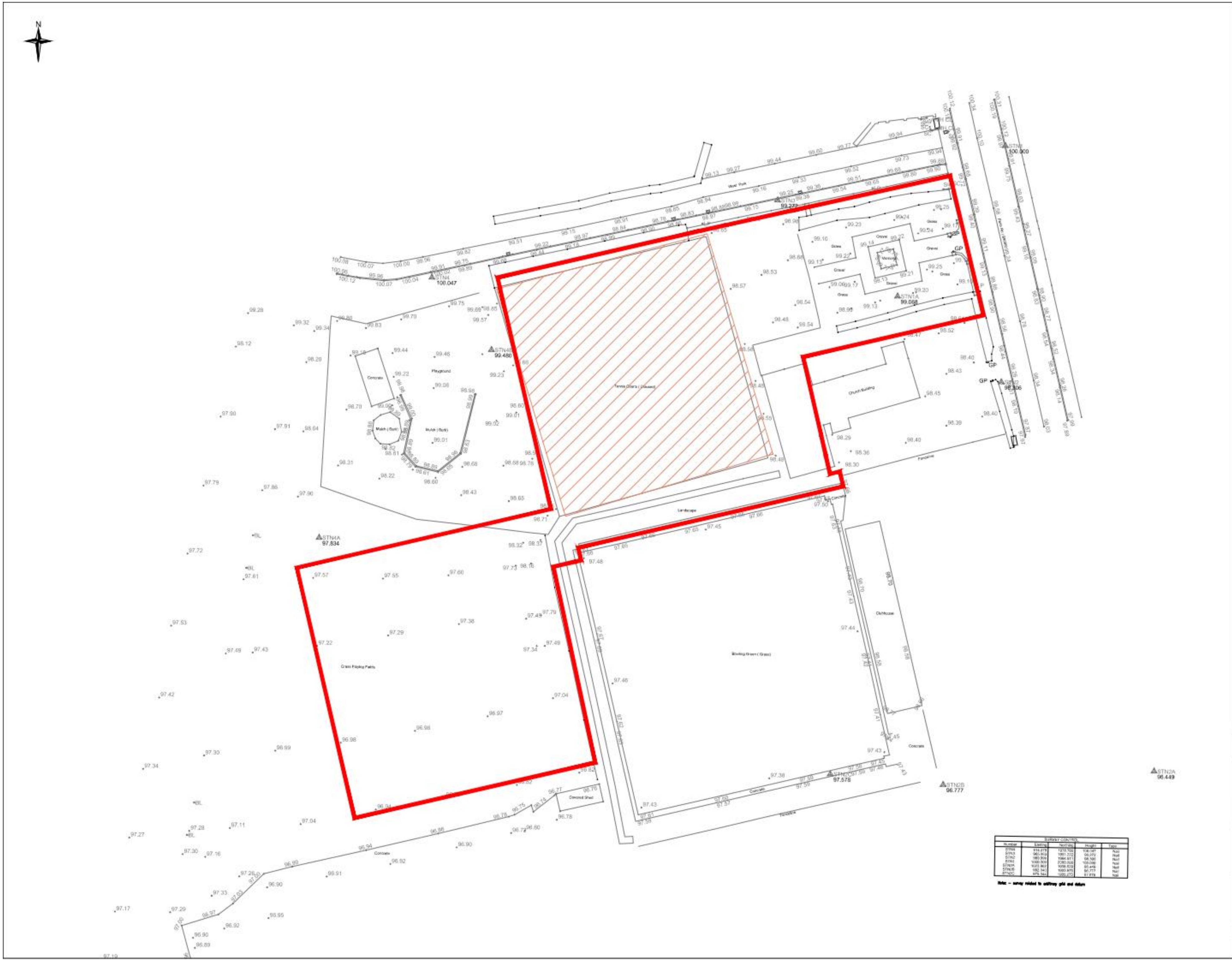
STANLEY COMMUNITY SPORTS HUB, PERTH

Drawing Title:

POST DEVELOPMENT SURFACE WATER FLOW PATHS

Scale at A1:	Date:	Technician:	Engineer:
1:250	JULY 2021	AL	BL

Drawing No.	Revision
307690-HAH-XX-00-DR-C-00201	B



SURVEY CONTROL				
Number	Easting	Northing	Height	Type
STN4	914.279	1215.706	100.047	Nail
STN3	965.862	1091.272	99.272	Nail
STN2	980.909	1084.811	98.306	Nail
STN1	1000.000	1080.000	100.000	Nail
STN2A	1023.862	1006.519	96.449	Nail
STN2B	992.340	1003.875	96.777	Nail
STN2C	979.344	1005.275	97.578	Nail

Note: - survey related to arbitrary grid and datum

NOTES:

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT AND ENGINEER DRAWINGS & SPECIFICATION NOTES.

HARLEY HADDOW DRAWINGS ARE FOR STRUCTURAL INFORMATION. FOR ALL SETTING OUT DIMENSIONS AND DETAILS REFER TO ARCHITECTS DRAWINGS.

KEY:

- SITE BOUDARY
- IMPERMEABLE AREA

REV	DESCRIPTION	BY	ENG	DATE

Project Status:

APPROVAL

HARLEY HADDOW
The Multi-disciplinary Engineering Consultancy
124-125 Princes Street
Edinburgh, EH2 4AD
T 44 (0) 131 229 3331
E edin@harleyhaddow.com
Edinburgh | London | Glasgow
harleyhaddow.com

Project: 307690

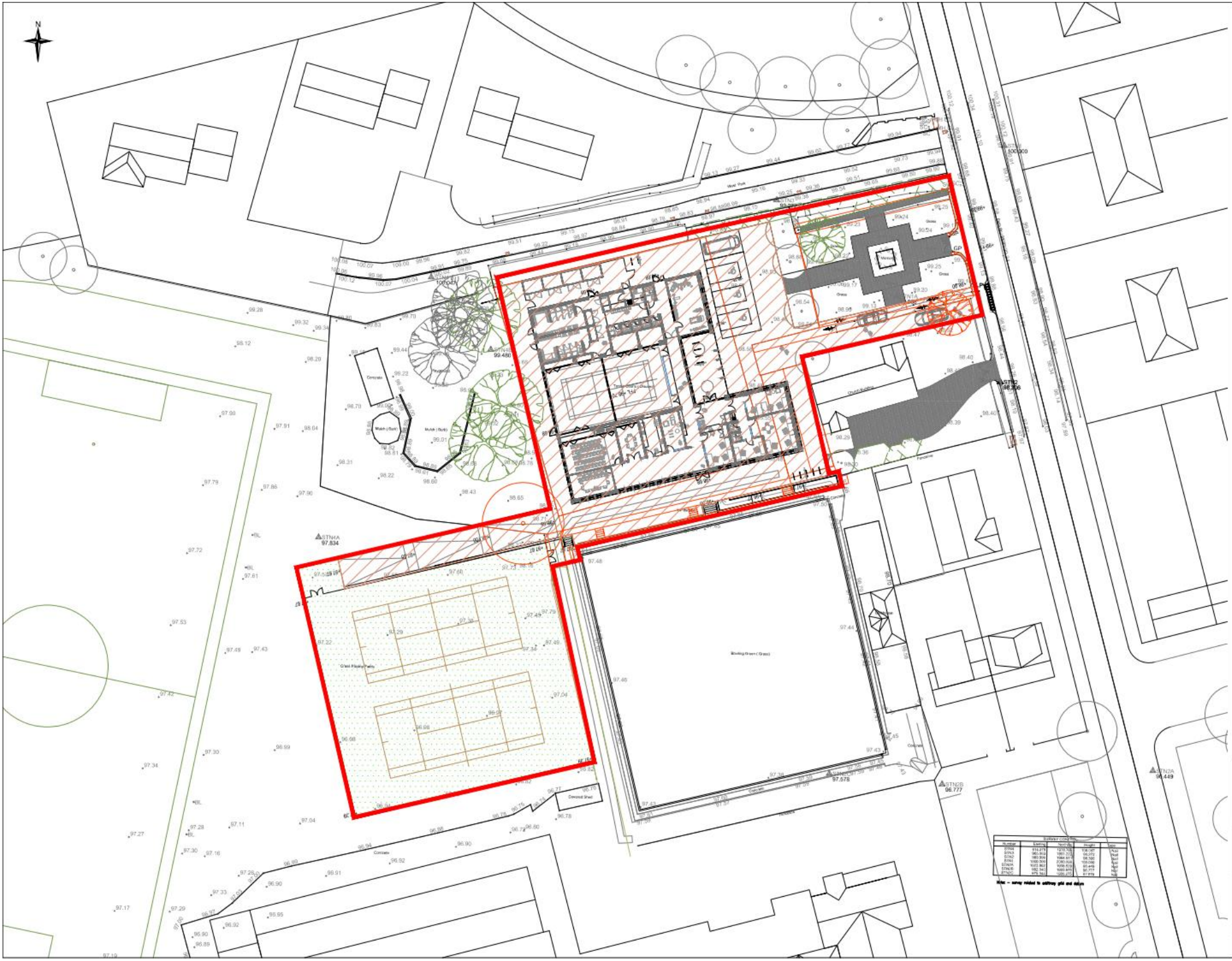
STANLEY COMMUNITY SPORTS HUB

Drawing Title:

EXISTING IMPERMEABLE AREAS

Scale at A1:	Date:	Technician:	Engineer:
1:250	July 2021	B.Laird	B.Laird

Drawing No.	Revision
307690-C-003	-



NOTES:

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT AND ENGINEER DRAWINGS & SPECIFICATION NOTES.

HARLEY HADDOW DRAWINGS ARE FOR STRUCTURAL INFORMATION. FOR ALL SETTING OUT DIMENSIONS AND DETAILS REFER TO ARCHITECTS DRAWINGS.

KEY:

- SITE BOUDARY
- IMPERMEABLE AREA

REV	DESCRIPTION	BY	CHK	DATE
B	LAYOUT AND IMP. AREA UPDATED	RH	IB	28.09.23
A	LAYOUT AND IMP. AREA UPDATED	EL	IB	28.10.22

Project Status:

APPROVAL

HARLEY HADDOW

The Multi-disciplinary Engineering Consultancy

124-126 Princes Street
Edinburgh, EH2 4AD
T 44 (0) 131 228 3331
E edin@harleyhaddow.com
Edinburgh | London | Glasgow
harleyhaddow.com

Project: 307690

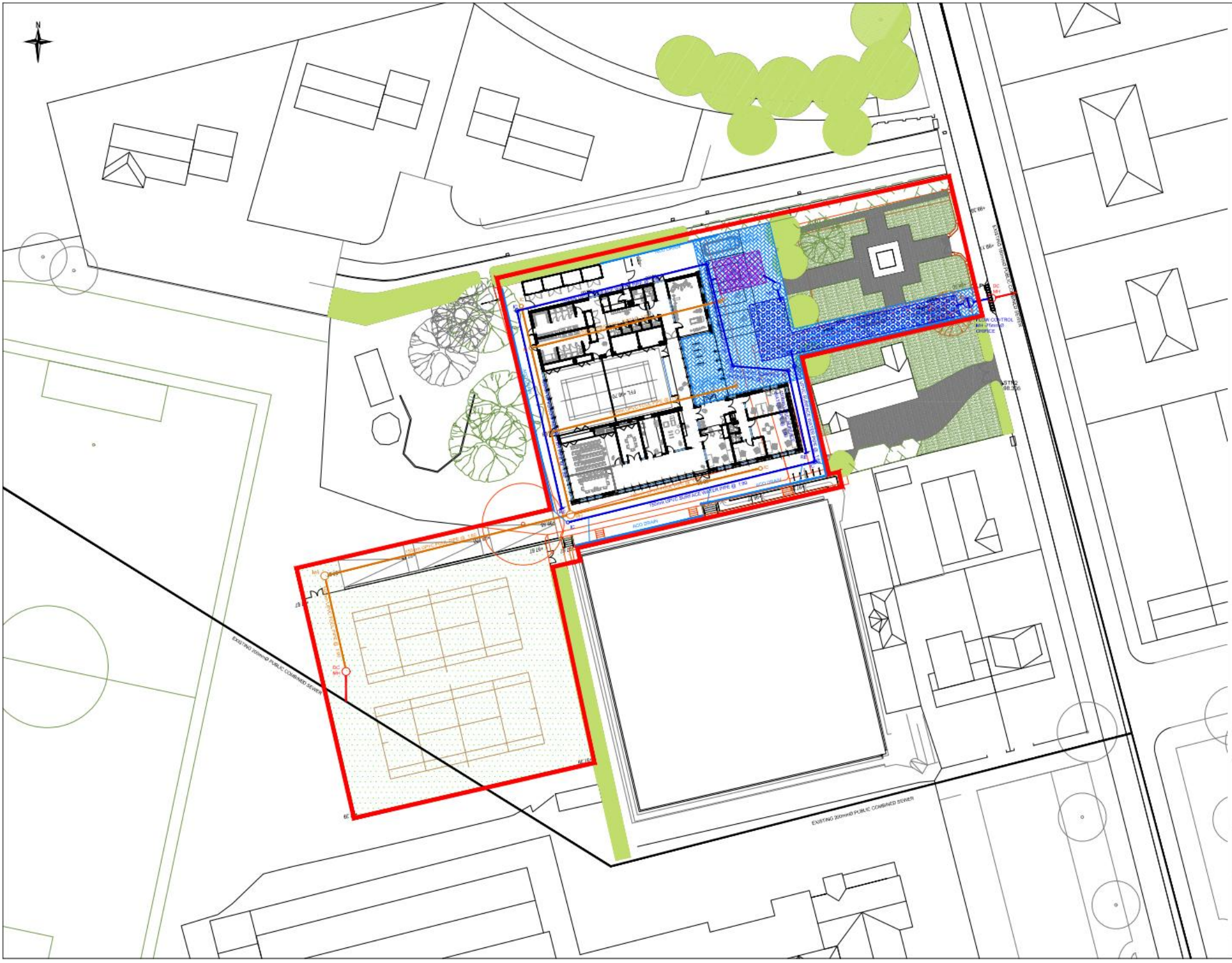
STANLEY COMMUNITY SPORTS HUB

Drawing Title:

PROPOSED IMPERMEABLE AREAS

Scale at A1:	Date:	Technician:	Engineer:
1:250	July 2021	B.Laird	B.Laird

Drawing No.	Revision
307690-C-004	B



NOTES:

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT AND ENGINEER DRAWINGS & SPECIFICATION NOTES.

HARLEY HADDOW DRAWINGS ARE FOR STRUCTURAL INFORMATION FOR ALL SETTING OUT DIMENSIONS AND DETAILS REFER TO ARCHITECTS DRAWINGS.

KEY:

- SITE BOUNDARY
- EXISTING SEWER - PUBLIC
- PROPOSED FOUL DRAINAGE - PRIVATE
- PROPOSED SURFACE WATER DRAINAGE - PRIVATE
- PROPOSED COMBINED DRAIN - ADOPTABLE
- PROPOSED FOUL MANHOLE - PRIVATE
- PROPOSED SURFACE WATER MANHOLE - PRIVATE
- PROPOSED COMBINED MANHOLE - ADOPTABLE
- PROPOSED INSPECTION CHAMBER - PRIVATE
- PROPOSED CELLULAR STORAGE - PRIVATE
- PROPOSED PERMEABLE PAVING BLOCK - PRIVATE
- PROPOSED RAINWATER HARVESTING TANK LOCATION - PRIVATE
- PROPOSED AGG DRAIN

REV	DESCRIPTION	BY	CHK	DATE
C	LAYOUT AND DRAINAGE UPDATED	RW	BL	26.09.22
B	LAYOUT AND DRAINAGE UPDATED	BL	BL	28.10.22
A	LAYOUT AND DRAINAGE UPDATED	BL	BL	14.09.22

Project Status:

APPROVAL

HARLEY HADDOW

The Multi-disciplinary Engineering Consultancy

124-126 Princes Street
Edinburgh, EH2 4AD
T 44 (0) 131 228 3331
E edin@harleyhaddow.com
Edinburgh | London | Glasgow
harleyhaddow.com

Project: 307690

STANLEY COMMUNITY SPORTS HUB, PERTH

Drawing Title:

PROPOSED DRAINAGE PLAN

Scale at A1:	Date:	Technician:	Engineer:
1:250	JULY 2021	AL	BL

Drawing No.: 307690-HAH-XX-00-DR-C-00202

Revision: C

Appendix C
SUDS Maintenance Schedule

Flow Control Chamber

Maintenance schedule	Required action	Frequency
Regular maintenance	Remove sediment and/or debris from vortex filter trap or catch pit.	Monthly for 3 months, then three-monthly
Remedial actions	Repair or replace damaged items	As required
Monitoring	Inspect flow control device for signs of damage or wear.	Annually

Permeable Paving

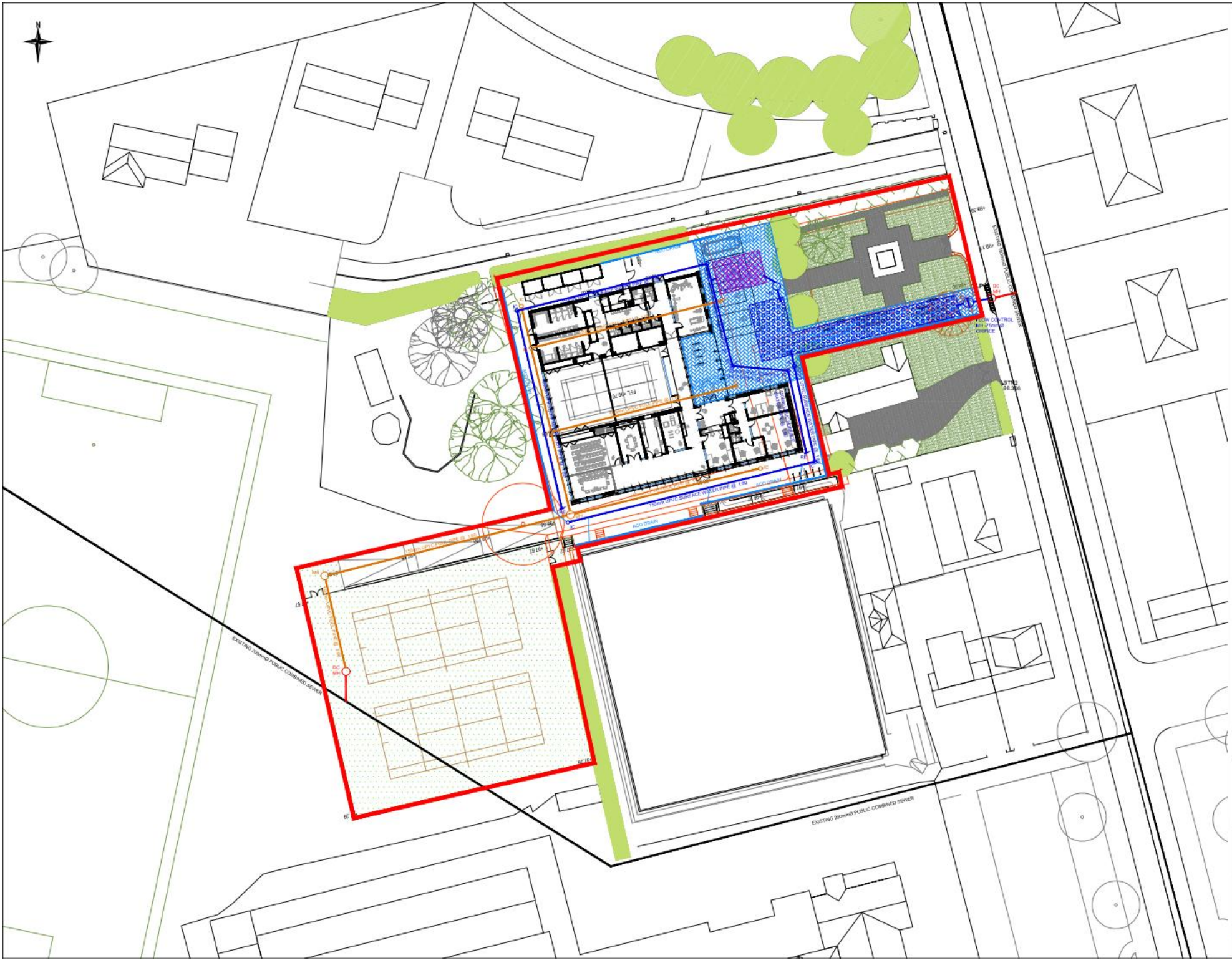
Maintenance schedule	Required action	Frequency
Regular maintenance	Inspection for clogging, litter, weeds and ponding.	Monthly (48 hours after heavy rainfall to identify areas of ponding)
Remedial actions	Vacuum Sweeping* – Vacuum cleaned using commercially available sweeping machines.	As required End of winter (April) Mid-Summer (July/August) After autumn leaf fall (November)
Monitoring	Inspect for signs of clogging.	Monthly

The above should be used as a guide only

With “good housekeeping”, the SUDS features should continue to function effectively with little maintenance.

HARLEY
HADDOW

Contact
124-125 Princes St
Edinburgh, EH2 4AD
enquiries@harleyhaddow.com



NOTES:

THIS DRAWING TO BE READ IN CONJUNCTION WITH ALL RELEVANT ARCHITECT AND ENGINEER DRAWINGS & SPECIFICATION NOTES.

HARLEY HADDOW DRAWINGS ARE FOR STRUCTURAL INFORMATION FOR ALL SETTING OUT DIMENSIONS AND DETAILS REFER TO ARCHITECTS DRAWINGS.

KEY:

- SITE BOUNDARY
- EXISTING SEWER - PUBLIC
- PROPOSED FOUL DRAINAGE - PRIVATE
- PROPOSED SURFACE WATER DRAINAGE - PRIVATE
- PROPOSED COMBINED DRAIN - ADOPTABLE
- PROPOSED FOUL MANHOLE - PRIVATE
- PROPOSED SURFACE WATER MANHOLE - PRIVATE
- PROPOSED COMBINED MANHOLE - ADOPTABLE
- PROPOSED INSPECTION CHAMBER - PRIVATE
- PROPOSED CELLULAR STORAGE - PRIVATE
- PROPOSED PERMEABLE PAVING BLOCK - PRIVATE
- PROPOSED RAINWATER HARVESTING TANK LOCATION - PRIVATE
- PROPOSED AGG DRAIN

REV	DESCRIPTION	BY	CHK	DATE
C	LAYOUT AND DRAINAGE UPDATED	RW	BL	26.09.22
B	LAYOUT AND DRAINAGE UPDATED	BL	BL	28.10.22
A	LAYOUT AND DRAINAGE UPDATED	BL	BL	14.09.22

Project Status:

APPROVAL

HARLEY HADDOW

The Multi-disciplinary Engineering Consultancy

124-126 Princes Street
Edinburgh, EH2 4AD
T 44 (0) 131 228 3331
E edin@harleyhaddow.com
Edinburgh | London | Glasgow
harleyhaddow.com

Project: 307690

STANLEY COMMUNITY SPORTS HUB, PERTH

Drawing Title:

PROPOSED DRAINAGE PLAN

Scale at A1:	Date:	Technician:	Engineer:
1:250	JULY 2021	AL	BL

Drawing No.: 307690-HAH-XX-00-DR-C-00202

Revision: C

ELEVATION FROM PARK - WESTERN ELEVATION

1:100

NOTE : ONLY SCALE FOR PLANNING PURPOSES

Contractor and his subcontractors are to verify all dimensions and levels on site before preparing shop drawings or manufacture.

The Contractor is to bring to the attention of the Architect any discrepancy in the drawing prior to commencement of the works.

REVISIONS

rev	date	by	amendment
A	Sept 2023	KM	Background landscaping amended

status PLANNING

client
STANLEY DEV. TRUST

project
STANLEY COMMUNITY SPORTS CENTRE

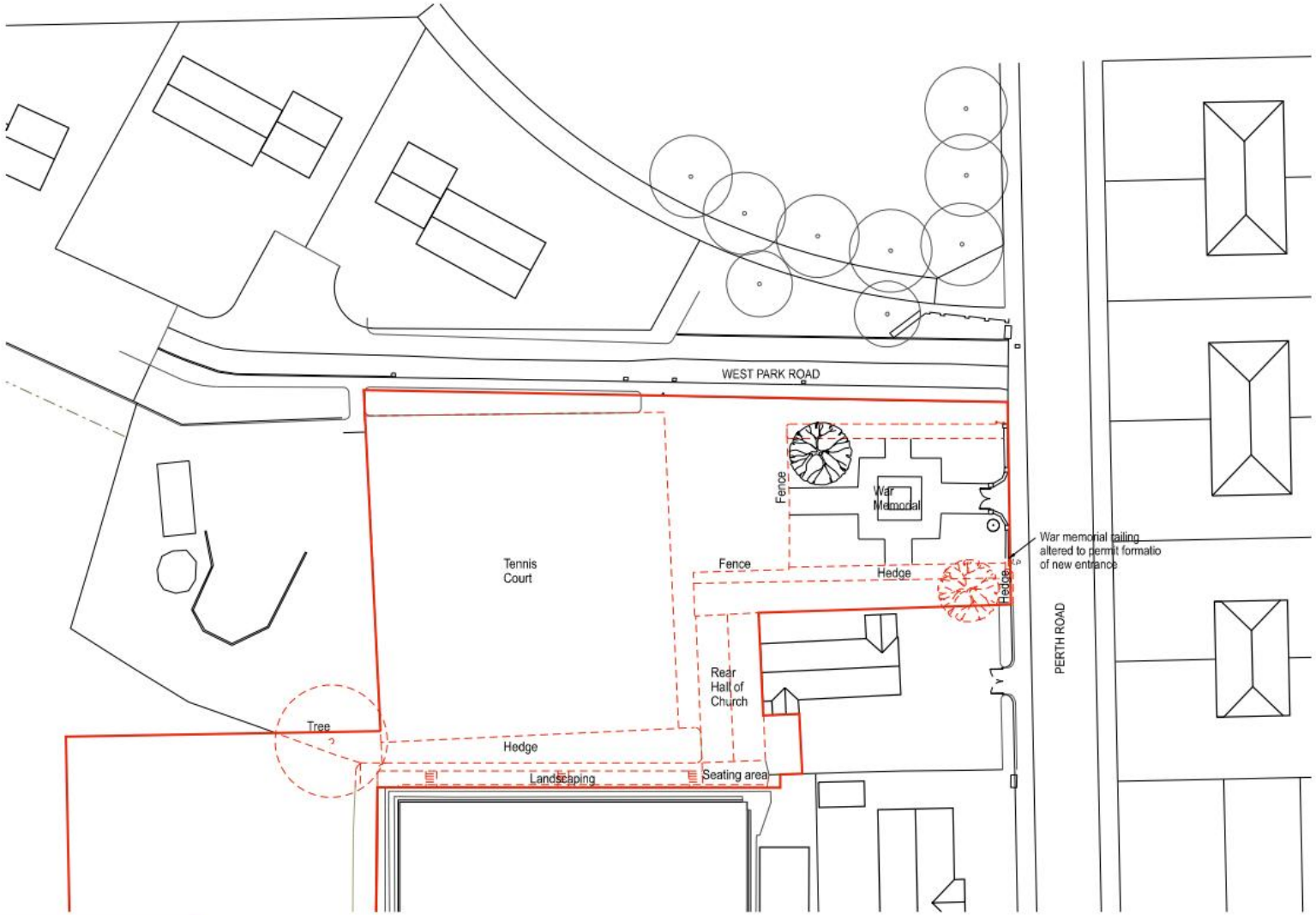
drawing title
PROPOSED ELEVATIONS

LEEBOYD
6 Canaan Lane
Edinburgh, EH10 4SY

Tel : 0131 447 1818
Fax : 0131 447 8799
E.mail : design@leeboyd.com

scale	drawn	checked	date
1:100@ A1	KM	AT	24.09.2018

project number	dwg no	rev
1517	AL(PL)08	A



SITE BOUNDARY

REMOVALS

0m 10 2 30 50m 1:500

NOTE : ONLY SCALE FOR PLANNING PURPOSES

Contractor and his subcontractors are to verify all dimensions and levels on site before preparing shop drawings or manufacture.

The Contractor is to bring to the attention of the Architect any discrepancy in this drawing prior to commencement of the works.

REVISIONS

rev.	date	by	amendment
A	17.08.2023	KM	War Memorial site altered
B	21.09.2023	KM	Note added to clarify that war memorial railings are to be altered

LEEBOYD
6 Canaan Lane
Edinburgh, EH10 4SY
Tel : 0131 447 1818
Fax : 0131 447 8799
E.mail : design@leeboyd.com

status PLANNING

client STANLEY DEV TRUST

project STANLEY COMMUNITY SPORTS CENTRE

drawing title Removals

scale	drawn	checked	date
1@500 @A3	KM	AT	07.10.2019

project number	drg no	rev
1517	AL(PL)03	B

ELEVATION FROM WEST PARK ROAD - NORTHERN ELEVATION

ELEVATION FROM BOWLING GREEN - SOUTHERN ELEVATION

1:100

NOTE : ONLY SCALE FOR PLANNING PURPOSES

Contractor and his subcontractors are to verify all dimensions and levels on site before preparing shop drawings or manufacture.

The Contractor is to bring to the attention of the Architect any discrepancy in this drawing prior to commencement of the works.

REVISIONS

rev.	date	by	amendment
A	Sept 2023	KM	War Memorial retained

status PLANNING

client STANLEY DEV. TRUST	project STANLEY COMMUNITY SPORTS CENTRE

LEEBOYD
6 Canaan Lane
Edinburgh, EH10 4SY

Tel : 0131 447 1818
Fax : 0131 447 8799
E.mail : design@leeboyd.com

drawing title PROPOSED ELEVATIONS

scale	drawn	checked	date
1:100 @ A1	KM	AT	24.09.2018

project number	drg no	rev
1517	AL(PL)07	A

Dimensions are not to be scaled from this drawing