

HISTORIC ENVIRONMENT SCOTLAND SITES - PERMANENT SURVEY MARKERS

GENERAL SPECIFICATION

The following types of permanent survey markers are to be used on Historic Scotland sites in accordance with this specification.

Marker types used will be determined by their location. Approximate locations and type indicated and specified elsewhere on this drawing.

The exact locations of each marker will be confirmed on site once sight lines have been determined during the survey process. These locations will be recorded as part of the survey.

Marker Types:
a) Barnes 'Feno' 350 mm long 19 mm dia. hot dipped galvanised steel pin permanent survey marker (PGM) with 90 x 90 x 65 mm orange polyroc resin head and 3 no. deployable steel anchor wires.

Markers to be set into ground in 125 x125 x 125 mm pockets. Pockets to be hand dug in required locations - turf plug cut in one piece and retained for re-use over marker head on survey completion.

Prior to insertion of Feno markers proposed location to be tested for possible solid objects below. 400 mm long (minimum) x 4 mm dia survey arrows to be pushed into the proposed location without removing turf to test for solid objects below ground. If no resistance encountered the required pocket can be formed and Feno inserted to full depth. If resistance encountered, marker to be repositioned following previous procedure.

Markers driven into ground in pre-dug pockets using proprietary supplied tools, underside of resin head finishing flush with pocket base. Depending on PGM location and availability of adjacent features to aid in future relocation, MCU to either concrete in the head of the Marker, build small retaining face around Marker position and place a PCC square 250mm x 250mm over this, top of slab flush with adjacent turf, or MCU to concrete in the head of the marker and place a natural slate square over this (25mm Ø stainless steel washer to be epoxy resined onto outer face of slate to aid in future relocation of PGM), turf thinned to required depth and placed over to conceal location

Feno markers will be located in discreet locations around sites and avoid areas where there is obvious conflict with archaeology.

b) Survey Point Nail; 50 mm long galvanised steel; 8.8 mm maximum tapering shank, as supplied by York Survey Supply, or equal and approved. Nails to be inserted into pre-drilled holes, (drill bit size - 9 mm) and set in epoxy resin. Underside of nail head to sit flush with fabric surface.

c) Brass Flat Survey Marker - 38 mm dia head; 50 x 8 mm shank; flat topped head and chamfered edges, Code - 209534, as supplied by York Survey Supply, or equal and approved. Marker to be inserted into pre-drilled holes, (drill bit size - 9 mm) and set in epoxy resin. Underside of head to sit flush with fabric surface. Survey point hole to be punched in centre of top surface prior to resin setting.

d) Brass Domed Survey Markers; 10 mm dia domed head, 30 mm long x 6 mm diameter shank, as supplied by York Survey Supply, or equal and approved. Nails to be inserted into pre-drilled holes, (drill bit size - 6 mm) and set in epoxy resin. Underside of marker head to sit flush with fabric surface.

e) Cross Head Brass Survey Marker - 14 mm dia head - fine cross cut head for pin-point accuracy; 52 x 8 mm shank - ribbed for grouting/gluing in position, Code - 209530, as supplied by York Survey Supply, or equal and approved. Marker to be inserted into pre-drilled holes, (drill bit size - 9 mm) and set in epoxy resin. Underside of head to sit flush with fabric surface. Min. 2No. survey markers per External Elevation and 1No. each on both Internal Gables.

Exact locations for marker types b), c), d) on plan and e) on an elevation, determined on site. These marker types only inserted into non historic fabric - ie. modern paving or concrete floor slabs (lime or otherwise) or mortar joints. Which type used dependant on monument location (vandalism/theft potential) and paving material.

All drilling and epoxy work to be undertaken by Historic Scotland MCU.

TEMPORARY SURVEY STATION MARKERS

Temporary Survey Station Markers may be required to carry out the survey. These will be 50 x 50 mm pointed wooden pegs driven into the ground to a depth of 100mm.

Exact locations can only be identified by the surveyor as the works proceed. All Temporary Survey Station Markers will be removed on completion of the works.

MARKER TYPES



d) DOME HEADED BRASS SURVEY MARKER
Alternative to b) and c) where there is no access / trip hazard or for fixing into bedrock. 2 No. marker of this type to be inserted into paving slab set in pre-drilled hole as specified. Proposed survey mark location indicated by ● on drawing.



a) FENO MARKER
8 No. Barnes 'Feno' 350 mm long permanent survey markers (PGM) as specified, driven into approximate locations indicated by X on drawing.

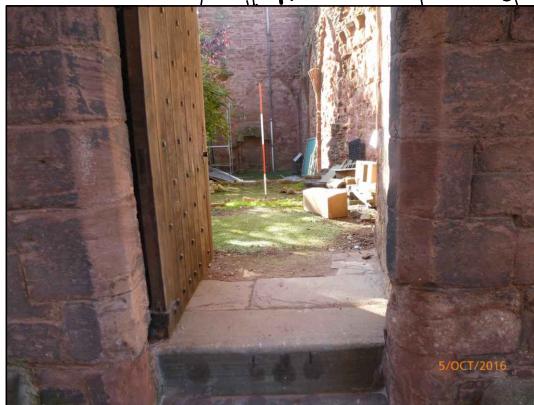
PERMANENT SURVEY MARKERS:
It is proposed to establish 12 permanent survey markers in and around the site of Arbroath Abbey.

Eight proposed marker locations lie within the Arbroath Abbey PIC boundary and one (PSM111) out with, but all nine are within the Scheduled Monument area are subject to the Scheduled Monument Consent (SMC) application to which this drawing relates.

Three proposed marker locations lie out with Arbroath Abbey PIC boundary on [redacted] and are subject to a permission request to them for installation. Note: PSM111 is located on Angus Council land and is also part of the permission request to them.



PSM 108 Brass pin ●



PSM 107 Feno X



PSM 105 Feno X



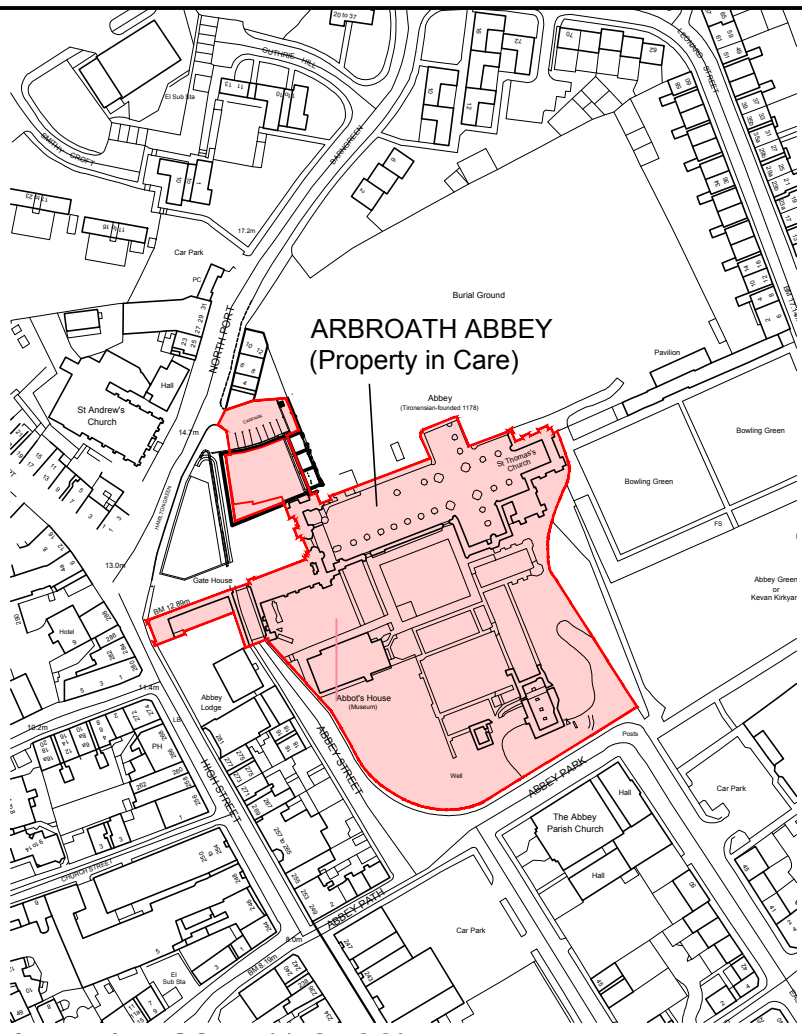
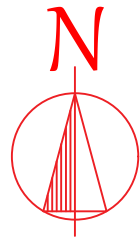
PSM 104 Feno X



PSM 110 Brass pin ●



PSM 111 Feno X



Location Map (1:2500)



PSM 101 Feno X



PSM 102 Feno X



PSM 103 Feno X

Notes:

Revisions:

Contains Historic Environment Scotland, Ordnance Survey and Aerial Imagery Data
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SMC

MONUMENT	ARBROATH ABBEY
PROJECT	SMC APPLICATION FOR PERMANENT SURVEY MARKERS



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