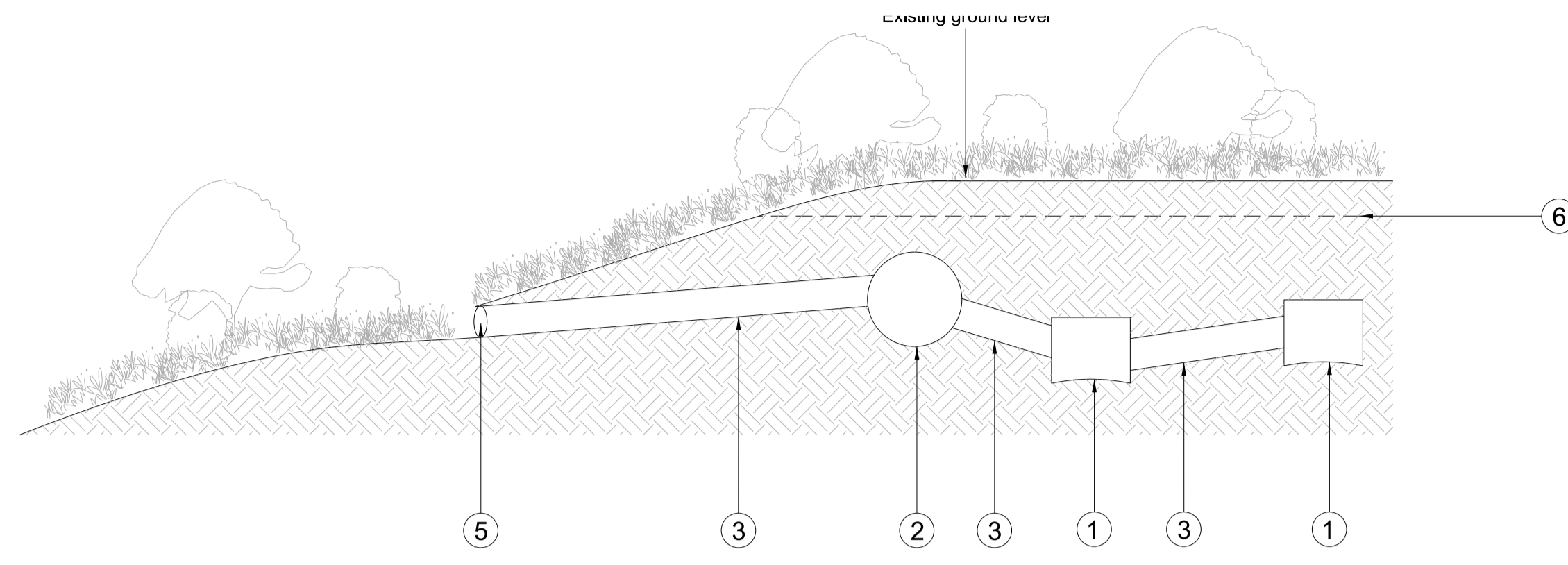
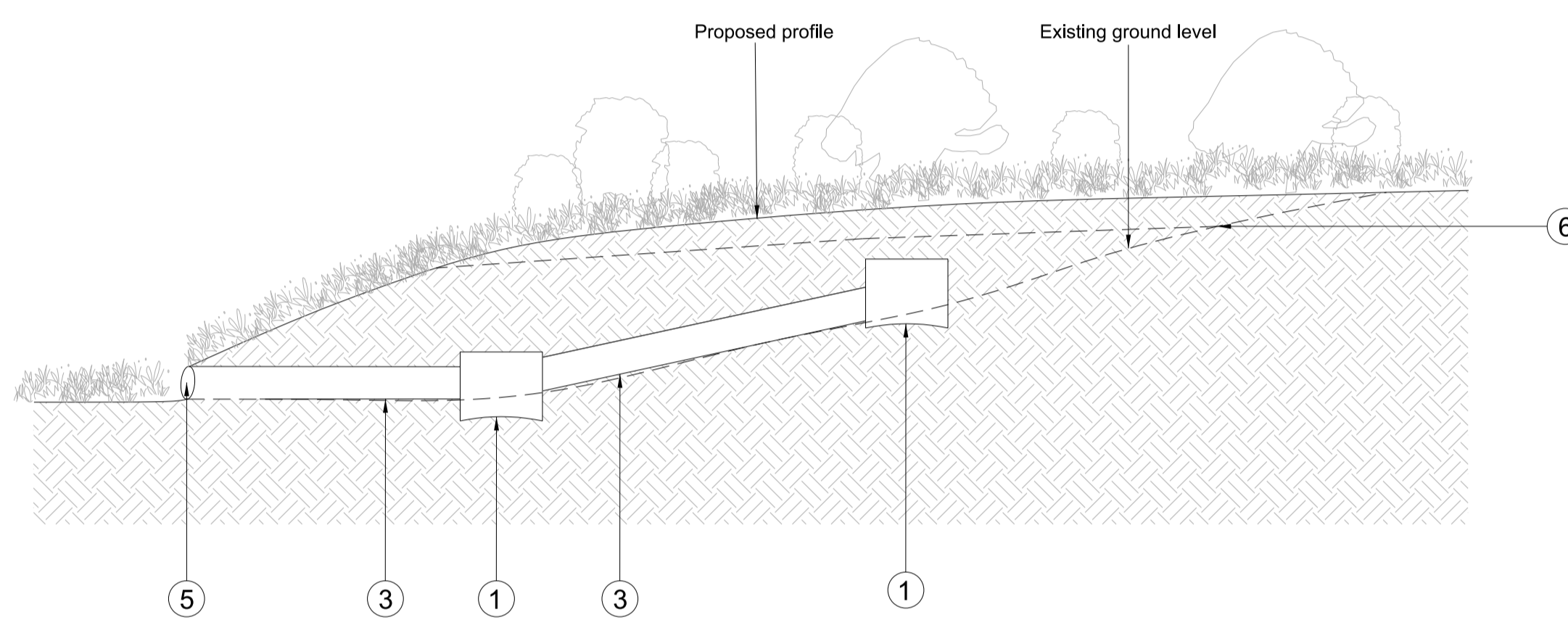


**1** Illustrative Badger Set scheme design for creation in scrub/woodland - Plan  
1:50

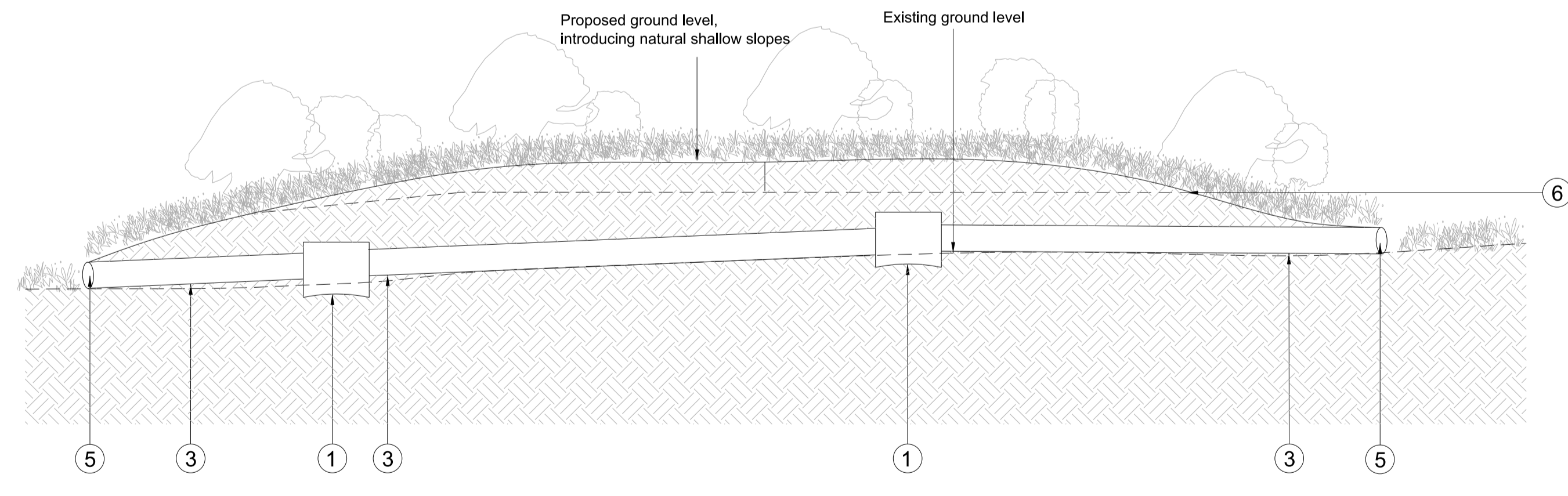
Note: The shapes of the chamber and tunnel joints are illustrative only - these will vary from site to site with the possibility of making use of locally felled wood in their construction.



**2** Illustrative Badger Set - Example 1 (Section A-A')  
Sett excavated into existing ground profile, with ground restored to pre-construction state  
1:50



**3** Illustrative Badger Set - Example 2  
Working with existing ground form  
1:50



**4** Illustrative Badger Set - Example 3  
Creation of natural, shallow slopes  
1:50

- Legend:**
- ① Nesting chamber: The shapes will vary from site to site, depending on the availability of locally felled wood. If locally felled wood is available, the chambers should be rounded in shape (see example pictures). If this is not an option, nesting chambers will be formed of 15mm marine plywood, length and width to vary from 450-750mm with max internal height 500mm.
  - ② Reinforced tunnel joint: The shapes will vary from site to site, depending on the availability of locally felled wood. If locally felled wood is available, the joints should be rounded in shape. If this is not an option, tunnel joints will be formed of 15mm marine plywood.
  - ③ Sett tunnel: 300mm internal dia, lengths to vary 300-4000mm, perforated along base, internal surface that allows the animals to grip ridges or rough surfaces.
  - ④ Blind ending chamber to allow for further sett building by badgers
  - ⑤ Sett entrance (provide a minimum of four entrances)
  - ⑥ Weldmesh cover or similar and approved

- General notes:**
- Location - specific sett design may include, but not be limited to parts shown; not all components required for any one given design;
  - Individual sett design should be devised by suitably qualified ecologist prior to installation on site. The exact design (shape, profile and number of chambers) will depend on the size of the sett to be lost, the space available for the artificial sett and the local ground conditions and topography, in accordance with the HS2 Ecology Technical Standard (ETS).
  - Nesting chamber size to be of an appropriate size to badger population and to be open to bare earth at base.
  - Badger plan and sections are shown indicatively, detailed design to respond to site specific constraints and to depend on the size of the sett to be lost.
  - Setts can be created above existing ground level and covered with soil, or excavated into the ground and within existing banks on site. Any earthworks undertaken to form the set should be natural in appearance and integrated into the existing site forms. See adjacent profile examples. Side slopes of setts should be a maximum gradient of 1:4
  - Sett construction to be undertaken under the supervision of an accredited agent to the Natural England Organisational Badger Licence.
  - Level of badger sett to be designed to ensure it does not flood. The floor of each chamber to be slightly mounded in the centre to ensure that any damp seeps toward the tunnels or free-draining edges.
  - The sett should be designed and constructed to be well-drained with no standing water within the sett or sett entrances and be free draining throughout
  - Ground-level entrances to be left open with a pile of soil left outside the entrance to mimic spoil heap and with some soil allowed to lie in the entrance pipe
  - For further design notes, tunnel and entrance specification and chamber design within artificial sett refer to HS2 Technical Standard - Ecology, document no.: HS2-HS2-EV-STD-000-000017
  - Any mounding or excavation works must be outside the root protection area of any retained trees or hedgerow.
  - Chambers roofs and wider area above them to be covered with galvanised weldmesh to deter illegal digging for badgers. Mesh to extend minimal distance beyond the footprint area of the sett so that it does not inhibit badgers expanding the sett nor cover the areas where blind tunnels are located.
  - Sett should be located adjacent to existing areas of scrub or woodland and/or grassland habitats that provide foraging areas.
  - Setts should be located away from areas with high levels of public access, or else if there is access nearby the artificial sett must be screened and made less accessible using planted scrub plus brushwood.
  - Setts should not be located where it is likely to cause territorial issues between social groups of badgers. Ensure a minimum of 30m from existing entrances.

- Landscape notes:**
- Material from pond excavation to be utilised in the construction of the badger sett, where deemed appropriate by supervising agent.
  - In order to encourage use by badgers, vegetation should be planted to provide cover of artificial setts.
  - Materials for construction of the nesting chambers to be wood to allow for natural biodegradation over time (the badgers will maintain the sett themselves) (HS2 Ecology Technical Standard (ETS)).
  - Wood to be untreated, preferably rough-hewn.
  - Materials used in landscaping an artificial sett can vary. Turf fragments, brush wood, salvaged coppice and other salvaged vegetation should be used to provide cover in preference, supplemented by planting of scrub and seeding with grass if required.
  - Habitat creation should provide connectivity of habitat suitable for foraging by badgers, connectivity between artificial and retained setts, screening and protection of tunnels and artificial setts.
  - Species suitable for planting comprise native shrub species. Those producing fruits, such as apple, pear, elder, crab apple, hazel, rowan, blackberries and wild cherry, or nuts are preferred as food sources, those with spines, such as hawthorn, blackthorn, dog rose and holly, are preferred to discourage human disturbance.
  - The sett and associated planting should be created at least 6 months prior to badgers moving in, to allow the soil to settle, planting to become established and the natural colonisation of grasses and shrubs on top of the sett. Planting on top of the sett will require a minimum depth of 450mm topsoil.



Example badger sett construction images - illustrative only as chamber construction may vary from site to site - see notes.

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Creator/Originator  
**Balfour Beatty Group Ltd**

Zone: **Route Wide**

Design Stage: **Scheme Design**

Drawing Title: **Generic Details**

**Badger sett plan and section**

Sheet 1 of 1

Project/Contract: **Phase 2a Early Environmental Works**

Discipline/Function: **Environmental**

Drawn: <b>TPI</b>	Checked: <b>NT</b>	Approved: <b>DCA</b>
Date: <b>27/04/2020</b>	Scale: <b>1:50</b>	Size: <b>A1</b>

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Rev. **P02**