

Appendix 2 Additional Mitigation

Table 1 Additional Mitigation applicable to all four schemes

Topic Area	Potential Impact	Mitigation Measures
Access/ Recreation & Traffic	<ul style="list-style-type: none"> • Noise • Severance and delay • Impact on walkers and access to the hills during construction phase 	<ul style="list-style-type: none"> • Site method statements to incorporate measures aimed at ensuring site operatives are aware of public presence. • Signage and diversions to be agreed ahead of works. • Programme of works affecting WHW to be agreed ahead of works. • Programme of works affecting Upper Falloch track to be agreed ahead of works. • Re-instatement of WHW to agreed standard following plant use/pipeline works
Habitat - Flora	Increased drainage of peatland created by linear features	<ul style="list-style-type: none"> • Protect restored ground from trampling by cattle: exclude stock to reduce deer and sheep grazing within the establishment period. • In deep peat, impermeable barriers should be installed for every 300mm drop in level.
Habitat – Flora / Landscape	Impact on habitats/ visual impact of temporary compounds	<ul style="list-style-type: none"> • Provide details of Construction for temporary compounds and laydown areas – stating size, construction methods, and means of restoration • The location and extent of compounds should be delineated on the contract drawings and their exact extent agreed on site by the landscape architect. • Temporary fencing should be erected along the agreed line and maintained for the duration of the contract. • Ensure prompt and careful restoration at completion of construction to minimise subsequent impacts.
Protected Mammals	Disturbance to Otters	<p>with ref. to SNH advisory notes http://www.snh.org.uk/publications/on-line/wildlife/otters/effects.asp#footnote :</p> <ul style="list-style-type: none"> • An updated survey should be undertaken in the year of the development at least 10 weeks prior to the development taking place. • Micro-route pipeline routes and associated access tracks to maximum distance from holts and resting up places. • Exclusion zones should be in place prior to a license being received with a separation distance of between 100m to 200m radius from breeding holts and 30m from other resting up sites. • Post and high-visibility barrier rope or

		<p>mesh to be erected under the supervision of a qualified ecologist.</p> <ul style="list-style-type: none"> • Consider restrictions on timing of works, eg. stop at least one hour before sunset and commence until at least an hour after sunrise. • license and mitigation is to be agreed with SNH and RDSG. • Cut and fill strategy should be adopted for open pipe runs, ramps at frequent intervals and capping off pipe ends at the end of each working day. • Protective grid cover on intakes (75mm mesh), ramped exit on intake walls. • Pollution control measures in place to mitigate against fuel spillage, siltation or cement spillage. • Compensation flows should be sufficient to protect fish populations (prey) • If a breeding holt is discovered during construction that has not mitigated for, construction should be suspended in this area until suitable mitigation measures and license are in place.
Landscape	Visual impact of intakes	<ul style="list-style-type: none"> • bury wing walls to reduce their dominance and minimise the amount of visible concrete as far as possible; • carefully place large boulders against wing walls, to reduce the exposed height and the need for railings; • remove all lumps of concrete from the site at completion; • wherever possible, eliminate the need for elements that contribute to clutter, by anchoring cables into adjacent banks or large boulders instead of stanchions, for example; • substitute stainless steel cables and thinner stanchions wherever possible; • paint any essential railings a matt colour to reduce their visibility. The colour of the paint should be agreed with the landscape architect; • cover any bank protection up stream with peat to reduce visibility; and • include detailed site supervision of reinstatement works by a suitably qualified landscape architect
	Visual impact of Construction Corridor	<ul style="list-style-type: none"> • contain working areas and access routes – demarcate with temporary fencing; • survey all watercourses and mark routes on temporary fencing for subsequent reinstatement; • define peat storage areas; stockpile in separate heaps so that the vegetation may continue to live; • avoid mixing peat and mineral soil;

		<ul style="list-style-type: none"> • ensure rapid progressive restoration as the track is excavated, re-using turf within a few hours where a topside drain or a cut through the top side of the track is made; • decompact working areas prior to re-soiling; • carefully reinstate undulating terrain; • retain groups of rocks (replaced “sunny side up” wherever possible); and • remove all debris from working areas and all temporary fencing at completion.
Landscape (cont.)	Visual impact of pipeline	<ul style="list-style-type: none"> • Air release valves should be concealed by the strategically placed rocks when the pipeline route is reinstated. • The impacts of pipe bridges in open moorland may be reduced by burying the bridge abutments, concealing any exposed concrete with strategically placed boulders and painting the pipe with matt paint. The colour of the paint should be agreed with the landscape architect.
	Visual impact of Powerhouse	<ul style="list-style-type: none"> • detailed design of external works to ensure low key rural style, avoiding kerbs and other over engineered detailing and restricting the area of hard standing and other utilitarian areas; • careful topsoil management to maximise potential for successful re-vegetation; • reuse of any excavated rock for track construction or dyke construction where suitable; • tree protection measures during construction to protect trees to be retained; and • cutting back any steep slopes to reduce the risk of erosion.
	Visual impact of the tailrace	<ul style="list-style-type: none"> • the detailed design should avoid the loss of any natural features, reduce the amount of exposed concrete visible and avoid the use of railings as far as is possible.
	Long term damage to landscape character	<ul style="list-style-type: none"> • monitoring and management over a three year post construction period to ensure establishment takes place with remedial work carried out if required

Table 2 Additional Mitigation applicable to Allt Fionn

Topic Area	Potential Impact	Mitigation Measures
Landscape	Visual impact of Powerhouse	<ul style="list-style-type: none"> Tree planting of Scots pine/birch between the A82 and the powerhouse to enhance the setting and improve the integration of the powerhouse, nearby tracks and bridges.

Table 3 Additional Mitigation applicable to Ben Glas

Topic Area	Potential Impact	Mitigation Measures
Protected Mammals	Disturbance to Badgers	<ul style="list-style-type: none"> an updated badger survey should be carried out if the development commences more than 12 months hence should be included in the RA & mitigation section and further mitigation should be included to protect existing setts.
Protected Mammals	Disturbance to Red Squirrels	<ul style="list-style-type: none"> an updated squirrel survey concentrating on identifying active dreys should be carried out if the development commences more than 12 months hence should be included in the RA & mitigation section and further mitigation included to protect dreys if these are found
Landscape	Visual impact of Intake	<ul style="list-style-type: none"> It is important that the wing wall on intake 7A is buried a far as possible to minimise the apparent overall size of the intake.
	Visual impact of exposed pipe bridge (BR7)	<ul style="list-style-type: none"> Bury bridge abutments, conceal any exposed concrete with strategically placed boulders and painting the pipe an appropriate matt colour.
	Visual impact of access track	<ul style="list-style-type: none"> The use of the permanent argo track must be monitored and re-routed as necessary in order to prevent erosion and consequent landscape and visual impacts in the long term.
	Visual impact of powerhouse	<ul style="list-style-type: none"> Planting individual broadleaf trees, with adequate stock protection, within the open woodland area adjacent to the powerhouse to provide a long term replacement to any trees lost or potentially damaged as a result of the works.

Table 4 Additional Mitigation applicable to Derrydarroch

Topic Area	Potential Impact	Mitigation Measures
Landscape	Visual impact of bridges	<ul style="list-style-type: none"> Bury bridge abutments, conceal any exposed concrete with strategically placed boulders and painting the pipe dark grey Tree clearance on the railway embankment and on the A82 roadside should be kept to a minimum as this will ensure visual impact is reduced.
	Visual impact of buried thrust block	<ul style="list-style-type: none"> The detailed design and mitigation of this block should be agreed with the landscape architect as part of the landscape conditions
	Visual impact of powerhouse	<ul style="list-style-type: none"> Planting of suitable species between the A82 and the powerhouse as well as the railway and the A82 to enhance the setting and improve the integration of the powerhouse, nearby tracks and bridges.

Table 5 Additional Mitigation applicable to Upper Falloch

Topic Area	Potential Impact	Mitigation Measures
Habitat - Flora	Impact on SSSI	<ul style="list-style-type: none"> Move the pipeline route further away from the SSSI boundary to provide a more robust buffer.
Access/ Recreation & Traffic	<ul style="list-style-type: none"> Severance and delay Impact on walkers and access to the hills during construction phase 	<p><i>[The cumulative assessment notes at 2.7.3 that the developer is committed to:]</i></p> <ul style="list-style-type: none"> extend the track at the east end of the existing hill road at the Upper Falloch scheme by 500m to improve the pathway through to Inverlochlairig (necessary for access to the intake in any case); provide improvements to the Long lay-by at Keilar to facilitate parking for hill walkers setting off up the upper reaches of the Falloch; provide 150m access track from the long lay-by on the A82(T) to the sheep creep to improve access for hill walkers; provide a new and more secure alternative crossing of the upper Falloch adjacent to the railway; and provide an improved access from the railway level crossing, including the replacement of the old bridge across the upper Falloch (necessary for works access in any case).
Landscape	Visual impact of access track	<ul style="list-style-type: none"> Given that the upper 400m section of track is to be permanent, the final width of the tract should be reduced to 2.5m width and/or downgraded to suit access by argo/quad only

	Visual impact of powerhouse	<ul style="list-style-type: none">• seeding with a suitable seed mix around the cut slopes to improve re-establishment of vegetation, reduce the visual impacts of disturbed ground and also reduce risk of erosion; and• planting Scots pine and birch between the track and the powerhouse to enhance the setting and improve the integration of the powerhouse, nearby tracks and bridges
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