

# AGENDA ITEM 8

## APPENDIX 2

# CONSTRUCTION METHOD STATEMENT AND EMERGENCY POLLUTION PROTECTION PLAN



# **Method statement for mitigation and remedial works for tracks on Dinnet Moor**

Glenfenzie – TomDudh – Moine Allt Duisgan – Section 1

Highland Conservation Ltd, Beallach Farm, Jamestown, Strathpeffer, Ross-shire, IV14 9ER

## CONTENTS

1. BACKGROUND
2. DESCRIPTION
3. SPECIFICATION AND METHOD
4. WORKMANSHIP
5. MATERIALS
6. SEDIMENT CONTROL MEASURES
7. OTTERS
8. CONCLUSIONS

## 1. BACKGROUND

This method statement has been produced to address the planning authorities concerns over track maintenance works previously carried out on this track and is to be adopted and implemented to carry out mitigation/remedial works to a satisfactory environmental standard so as to achieve both a sustainable solution with minimal environmental impact. The objective of Findrack (Investments) Ltd is to complete the job it started and to ensure, as far as is possible, that there is no need to regularly carry out such repairs again. This will involve re-engineering some sections of road, repairing others and top dressing other sections.

Findrack (Investments) Ltd are the agricultural tenants and operate the farm and hill grazing. There are currently 1350 ewes with 250-300 hog's and lambs. The strategic aim of the farm business is to build up the flock to 2,000 ewes.

Highland Conservation has a proven track record in the design, construction and maintenance of hill tracks which are 'fit for purpose' and with a low visual/environmental impact.

We have undertaken construction contracts on the very highest level of designated environmental sites – under both UK and EU legislation. These include Natura 2000, SSSIs, SPAs, SACs, NSAs, NNRs and the National Parks

## 2. DESCRIPTION

This track runs from the sheep pens at Glenfenzie -GR NJ 316028 at around 420 metres up the shallow ridge to Moine Allt Duisgan GR NJ 313050 at 660 metres with a short spur to the West at Tom Dubh. The track length is approximately 2300 metres in length.



To date the track has been re-surfaced from borrow-pits at Grid Ref NJ315032, NJ314040, NJ 313043 and NJ 313050 with 300 metres of side ditching installed where the track turns at GR 314038. The stone used is of good quality but requires to be compacted using a heavy roller/plate to help seal the surface and form a chamber to shed water. Some fines may be required on the steeper sections though there is evidence of vegetation recovery already taking place (see left).

From the start of the track at 57.11186 – 3.13158 up to the first borrow-pit at 57.11489- 3.13331 there is a need to top dress with some fines to help seal the surface and promote vegetation recovery.

From the first borrow-pit up to 57.12141-3.13462 2 culverts need to be installed at 57.11797-3.13420 and 57.11878-3.13424 with approx. 50 metres turf lined ditch.



At this point there has been a considerable amount of wash out from the ditch running alongside the track and the installation of culverts every 40m minimum from here passed the 2 borrow-pits at 57.12253-3.13433 and 57.12472-3.13499 up to the fork in the track at 57.12540-3.13505 will prevent this scour happening in the future. Berms should be installed as needed.

From the fork in the track one section heads East for a short distance to a field gate at 57.12755-3.13852. Again a turf center line should be established and any bare ditches turfed. Berms installed as needed and the surface shaped to camber and compacted.



The other section continues North up the ridge. At 57.12685-3.13458 there are 2 gullies that would benefit from the installation of stone fords rather than large culverts. The track continues from here up to the final borrow pit and the end of the previous construction at 57.13222-3.13475. Here the track reverts to 2 deep ruts which are acting as ditches in wet weather. These ruts should be resurfaced and berms installed to slow the flow of water.

### 3. SPECIFICATION AND METHOD

#### Track Surfacing

The tracks will be re-surfaced with 'as won' aggregates graded on site to provide 'fines' for top-dressing. There are existing borrow-pits as detailed above where suitable material is available for grading fines for top dressing the track where needed.



Where sections require extra side-drains to be installed then there will be an opportunity to win material from the ditches. (see Turf lined ditches). The intention would be to “camber” the tracks as much as possible rather than to excavate ditches thus reducing the visual impact of the operations.

Aggregates taken from the existing borrow-pits and ditches will be graded for fines to top dress the track as necessary. The application of fines as well as compaction will aid in the process of re-vegetation.

Every effort will be made to save and protect existing vegetation (see Landscaping). This will include the turf center of the track and the vegetation that has colonized the ditch lines.

#### Landscaping

This element is arguably the most important. All turf and vegetation will be preserved wherever possible and used to re-vegetate the ditch sides, road edges and a turf center line. As the process will be on-going in one pass no turf will be stored for any length of time so as not to let it dry out and to preserve the integrity of the root matrix.

As there will be no turf or organic material won from excavating a tray then any turf that already exists along the center and margins of the track will be saved and utilized wherever practical. Emphasis will be placed on the sensitive handling of turfs. A turf center line will be incorporated into the track, during re-surfacing works to give the track an 'aged' appearance and to reduce the visual impact of the track over the landscape.

Exposed boulders and stones from the previous works will be either buried or taken to the borrow-pits for infill. (see above)

The existing borrow-pits will be landscaped and turfed once the works are complete. Local turf will be applied as a priority to the drainage ditches and track margins.

Extra turf will be won from the track margins by lifting of 1- 1.5 sq. m turfs sourced in a wide distribution with a minimum distance of 1 meter between lifted turf and the 'scratching in' of the surrounding turf to the void to accelerate repair and to ensure that these areas are not compromised. This method is used extensively on peatland restoration contracts and has proven very successful on designated sites.

We are confident that sufficient turf can be won from the track margins, however, if necessary heather brash will be harvested from the vicinity of the track with dual wheeled tractor and harvester/collector which would then be spread over the areas needed. In our experience, however, this technique has limited effect on bare mineral soils and would only be adopted if turf exploitation were not possible.

### **Turf lined Ditching**

Where extra ditching is required it will be deployed only where it is necessary to avoid as far as is possible the visual impact of the road/ditch on the landscape. Shaping of the track utilizing cambers will be the favored option.

An excavator will be used to level and shape areas from which materials have been won, ditches need not be of conventional shape, as a more informal effect can be created by forming a more scalloped shape next to the track, this can vary in width and depth in order not to create to linear an effect next to the track.

Although there may be scope for some variation in ditch size and shape to reduce visual impact, any such variation must be carefully implemented. It should not be at the expense of increasing the footprint of the works or reducing the area over which there is potential for vegetation recovery. Turfs to be used to line the ditch to promote vegetation recovery and help the ditch blend into the landscape.

Equally important is to ensure that the tracks have adequate and effective drainage and off-lets to ensure that the roads will not deteriorate or wash out in the future. All works will be carefully engineered to ensure that they are capable of withstanding the extreme weather events that we are seeing more frequently nowadays. As previously stated, cambering of the track surface will help to avoid increased ditch works and visual impact.

The priority use of excavated turf and peat which is held together by a matrix of roots is for restoration of the track edges, the ditch and the turf center line.

Remaining turf and organic material can be used for restoration of bare mineral surfaces and/or for blocking existing ditches if where extra culverts will be installed to reduce volume. Loose organic material which is unlikely to be suitable for other purposes may be spread on existing bare mineral surfaces, again as appropriate.

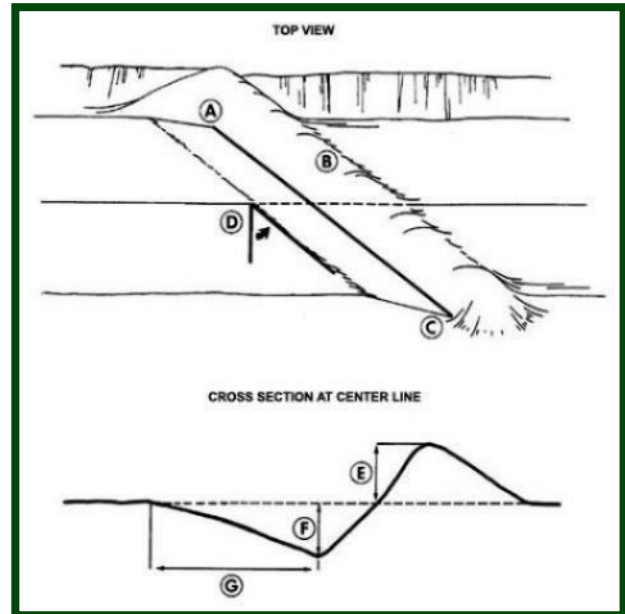
V-ditching will be avoided.

## Berms/shedding bars

On the steeper sections of the track and where there is too steep a bank on the top side of the track these sections will have berms and off-lets installed at regular intervals to reduce the flow of water down the track.

A berm is where the camber of the track is emphasized by shaping the aggregate surface at a 45-degree angle to the track at a low point where the water can escape.

The berm can be incorporated as an added defense during extreme weather to help reduce the volume and energy of flows. The low points at berm features will feed to well vegetated areas and if near to a burn or watercourse feeding into a burn will include a silt trap. This will be a depression.



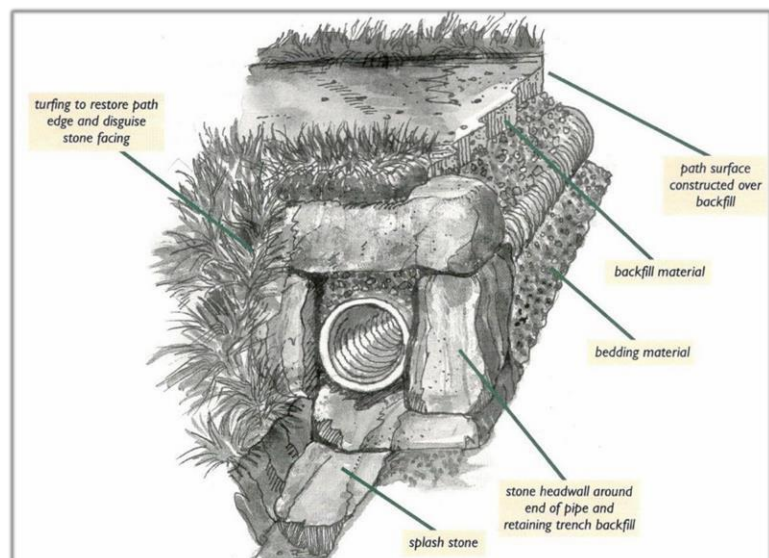
## Culverts

All culverts, where deployed, to be black twin walled polypropylene pipe.

Pipes will be of sufficient diameter to cater for the maximum anticipated water flow from future extreme weather events and will be of sufficient length to overlap each side of the track by a minimum of 500mm.

They should be stone faced with splash plates and if necessary the out-flow water course stone pitched to lower the risk of washout.

Headwalls should be turfed over where possible to ensure pipe is not visible.



The frequency of culverts will reflect the anticipated water flow and the tracks ability to shed surface water and also to accommodate any extreme weather events. Distances between the culverts will be between 40 and 60 metres.



## 4. WORKMANSHIP

In general, all workmanship will comply with the standards and techniques set out in *Constructed tracks in the Scottish Uplands- SNH*.

The works to be carried out are to be executed to a standard that will preserve the integrity of the tracks running surfaces for the future and so that they require only basic but regular maintenance. By doing this it should negate the need to regularly carry out aggressive reconstruction works with the obvious setbacks to the healing process and the resultant visual impact.

Machinery would be a 7/8 tonne excavator, a wheeled dumper and a vibrating roller or large whacker plate attached to digger.

The level of landscaping required to successfully complete this project will require some hand finishing works, this is generally associated with sensitive track construction and maintenance.

It is imperative in our opinion that, in order to deliver an environmentally sensitive mitigation and remediation program of works that caters for all user groups, contractors with the necessary level of experience working on designated sites are used to carry out this work.

6

## 5. MATERIALS

The stone/fines required for any top dressing will be taken from the existing borrow pit and from the extra ditching along the track edges. This will ensure local matching of ph. values and color and remove the need to import material long distances.

There is enough local stone in the vicinity along the track margins to provide for the extra culvert headwalls and splash plates required.

## 6. SEDIMENT CONTROL MEASURES

During the construction and repair period a detailed Pollution Prevention Plan will be produced and adhered to in order to prevent any effect from the construction process on the designated features of the River Dee SAC and Muir of Dinnet SAC.

These measures will include the use of silt traps on all ditches and run-offs below the construction sites. They will include both straw bale dams and geo-textile dams where appropriate.

No work will take place during heavy periods of rain and all silt traps and sediment mitigation measures will be regularly monitored and maintained.

## 7. OTTERS

Any pipework stored on site or due to be worked on or near will be checked, prior to work, to ensure there are no otters present.

## 8. CONCLUSIONS

We have produced this method statement to address the issues raised by Aberdeen-shire Council Planning department and the CNPA to bring this track highlighted up to a standard that reflects the will of all parties involved to find a solution that not only blends well into the landscape but is also 'fit for purpose'.

We have attached a map for section one showing the track line.

This statement details the methods needed to restore the Glenfenzie – TomDudh – Moine Allt Duisgan – Section 1 track in an environmentally sound way. Sensitive landscaping and a sympathetic drainage regime will go a long way to reducing the tracks environmental impact.

Signed for and on behalf of Highland Conservation Ltd



Date: 17/06/2016



# **Method statement for mitigation and remedial works for tracks on Dinnet Moor**

**Glenfenzie – Sron Gharbh – Morven Lodge – Section 2**

Highland Conservation Ltd, Beallach Farm, Jamestown, Strathpeffer, Ross-shire, IV14 9ER

## CONTENTS

1. BACKGROUND
2. DESCRIPTION
3. SPECIFICATION AND METHOD
4. WORKMANSHIP
5. MATERIALS
6. SEDIMENT CONTROL MEASURES
7. OTTERS
8. CONCLUSIONS

## 1. BACKGROUND

This method statement has been produced to address the planning authorities concerns over track maintenance works previously carried out on this track and is to be adopted and implemented to carry out mitigation/remedial works to a satisfactory environmental standard so as to achieve both a sustainable solution with minimal environmental impact.

The objective of Findrack (Investments) Ltd is to complete the job it started and to ensure, as far as is possible, that there is no need to regularly carry out such repairs again. This will involve re-engineering some sections of road, repairing others and top dressing other sections.

Findrack (Investments) Ltd are the agricultural tenants and operate the farm and hill grazing. There are currently 1350 ewes with 250-300 hog's and lambs. The strategic aim of the farm business is to build up the flock to 2,000 ewes.

Highland Conservation has a proven track record in the design, construction and maintenance of hill tracks which are 'fit for purpose' and with a low visual/environmental impact.

We have undertaken construction contracts on the very highest level of designated environmental sites – under both UK and EU legislation. These include Natura 2000, SSSIs, SPAs, SACs, NSAs, NNRs and the National Parks

## 2. DESCRIPTION

This section of track runs from the gate North East of the sheep pens at Glenfenzie -GR NJ 321033 at around 445 metres along a cross slope to a fork in the track at NJ 324042 at 465 metres. Here the track runs North as far as Sron Gharbh GR NJ 325048 and East as far as NJ 331044. The track length is approximately 2480 metres in length.

To date the track has been re-surfaced from borrow-pits at Grid Ref NJ323039, NJ325049, NJ 332044 and NJ 332045. The stone used is of good quality but requires to be compacted using a heavy roller/plate to help seal the surface and form a chamber to shed water. Some fines may be required on the steeper sections.



The first 500 metres of track require the installation of berms and approx. 6 No. 300 MM. culverts with turf lined ditching to supplement the existing culverts. On the whole the track margins on this section are fully vegetated and a significant amount of turf along the centre line is already well established. In view of the extensive re-vegetation of the centre line of the track (see photo), only very limited intervention is necessary as the healing process will be set back significantly if existing vegetation is removed. Re-surfacing on small sections and potholes is all that is required here.



There are sections on the track (see photo) that have a steep exposed bank on the top side of the tracks North spur between 57.12495 – 3.11686 and 57.12528 – 3.11724 (40 m) and also between 57.12577 - 3.11716 and 57.12584 – 3.11602 (70 m) the steep embankment should be reduced in height and vegetated over using borrowed vegetation and turf from the lower slope.



The existing rock and boulders should be formed into a low informal revetment wall with vegetation in the gaps to enable the gradient of the slope to be lowered and provide a stable base for vegetation to re-establish. There is insufficient space to install a turf lined ditch so berms re-enforced with suitable stone to be installed every 10 metres to allow surface water to escape before building up. They along with the revetment and re-vegetated bank will have the effect of consolidating the loose gravel and allowing water to leave the track without causing damage.



The spoil on the lower side is to be buried and re-vegetated and also used on the upper slope with any large boulders being used in the revetment wall.

The upper section is relatively well vegetated though would benefit from the burial of some of the larger exposed rocks and the installation of berms where needed.



On the East spur of section 2 there is a longer section of exposed embankment though the material is much less rocky and more beneficial for re-vegetation. It starts at 57.12382 – 3.11512 and finishes at 57.12532 – 3.11022 (350 m)

This section requires berms re-enforced with rock every 20-30 metres to reduce the flow of water down the track.

The embankment is up-to 3 metres high in places. The gradient requires reducing and the extra material gained should be used to re-surface the track while at the same time constructing the berms and switching the camber to the downhill side. This would prevent the water volume causing as much damage



The upper section after the exposed embankment has much more vegetation cover. There is a very small amount of work required on the top side of the track and only requires berms to be installed to reduce the flow of water down the track. There is a turf centre line here starting to establish.



### 3. SPECIFICATION AND METHOD

#### Track Surfacing

The tracks will be re-surfaced where needed with 'as won' aggregates graded on site to provide 'fines' for top-dressing. There are existing borrow-pits as detailed above where suitable material is available for grading fines for top dressing the track where needed on the steeper sections.

Where sections require extra side-drains to be installed then there will be an opportunity to win material from the ditches. (see Turf lined ditches). The intention would be to "camber" the tracks as much as possible rather than to excavate ditches thus reducing the visual impact of the operations.

Aggregates taken from the existing borrow-pit and ditches will be graded for fines to top dress the track as necessary. The application of fines as well as compaction will aid in the process of re-vegetation.

Every effort will be made to save and protect existing vegetation (see Landscaping). This will include the turf center of the track and the vegetation that has colonized the ditch lines.



## Landscaping

This element is arguably the most important. All turf and vegetation will be preserved wherever possible and used to re-vegetate the ditch sides, road edges and a turf center line. As the process will be on-going in one pass no turf will be stored for any length of time so as not to let it dry out and to preserve the integrity of the root matrix.

As there will be no turf or organic material won from excavating a tray then any turf that already exists along the center and margins of the track will be saved and utilized wherever practical. Emphasis will be placed on the sensitive handling of turfs. A turf center line will be incorporated into the track, during re-surfacing works to give the track an 'aged' appearance and to reduce the visual impact of the track over the landscape.

The existing borrow-pits will be landscaped and turfed once the works are complete. Where there are steep exposed banks notably sections 57.12495 – 3.11686 to 57.12528 – 3.11724 (40 m) and also between 57.12577 - 3.11716 and 57.12584 – 3.11602 (70 m) then every effort will be made to lower the gradient of the top side slope by building a low revetment wall with boulders on site and re-vegetating using turf and spoil 'borrowed' from the lower slope and 'scratched back' to ensure that these areas are not compromised.

Local turf will be applied as a priority to the drainage ditches and track margins.

Extra turf will be won from the track margins by lifting of 1- 1.5 sq. m turfs sourced in a wide distribution with a minimum distance of 1 meter between lifted turf and the 'scratching in' of the surrounding turf to the void to accelerate repair and to ensure that these areas are not compromised.

This method is used extensively on peatland restoration contracts and has proven very successful on designated sites.

We are confident that sufficient turf can be won from the track margins, however, if necessary heather brash will be harvested from the vicinity of the track with dual wheeled tractor and harvester/collector which would then be spread over the areas needed. In our experience, however, this technique has limited effect on bare mineral soils and would only be adopted if turf exploitation were not possible.

## Turf lined Ditching

Where extra ditching is required it will be deployed only where it is necessary to avoid as far as is possible the visual impact of the road/ditch on the landscape. Shaping of the track utilizing cambers will be the favored option.

An excavator will be used to level and shape areas from which materials have been won, ditches need not be of conventional shape, as a more informal effect can be created by forming a more scalloped shape next to the track, this can vary in width and depth in order not to create to linear an effect next to the track.

Although there may be scope for some variation in ditch size and shape to reduce visual impact, any such variation must be carefully implemented. It should not be at the expense of increasing the footprint of the works or reducing the area over which there is potential for vegetation recovery. Turfs to be used to line the ditch to promote vegetation recovery and help the ditch blend into the landscape.

Equally important is to ensure that the tracks have adequate and effective drainage and off-lets to ensure that the roads will not deteriorate or wash out in the future. All works will be carefully engineered to ensure that they are capable of withstanding the extreme weather events that we are seeing more frequently nowadays. As previously stated, cambering of the track surface will help to avoid increased ditch works and visual impact.

The priority use of excavated turf and peat which is held together by a matrix of roots is for restoration of the track edges, the ditch and the turf center line.

Remaining turf and organic material can be used for restoration of bare mineral surfaces and/or for blocking existing ditches if where extra culverts will be installed. Loose organic material which is unlikely to be suitable for other purposes may be spread on existing bare mineral surfaces, again as appropriate.

V-ditching will be avoided.

### Berms/shedding bars

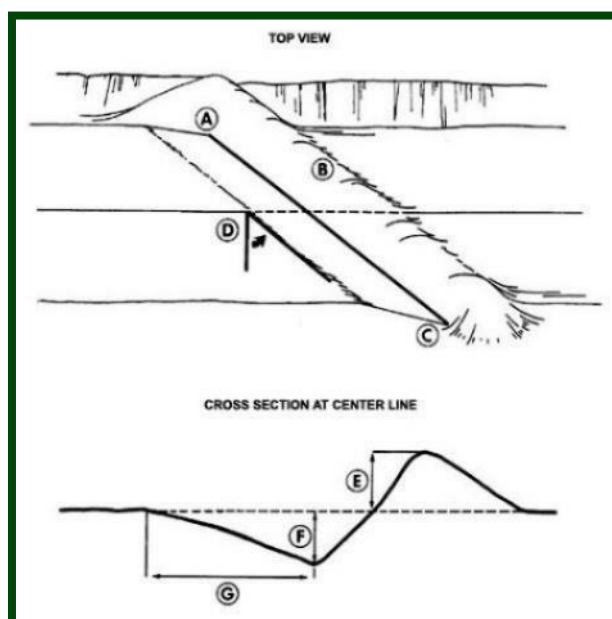
On the steeper sections of the track and where there is too steep a bank on the top side of the track these sections will have berms and off-lets installed at regular intervals to reduce the flow of water down the track.

On the very steep sections mentioned above the berms will be strengthened using suitable on site stone to help consolidate the loose material on the track surface as well as shedding water from the track.

A berm is where the camber of the track is emphasized by shaping the aggregate surface at a 45-degree angle to the track at a low point where the water can escape.

The berm can be incorporated as an added defense during extreme weather to help reduce the volume and energy of flows.

The low points at berm features will feed to well vegetated areas and if near to a burn or watercourse feeding into a burn will include a silt trap. This will be a depression.

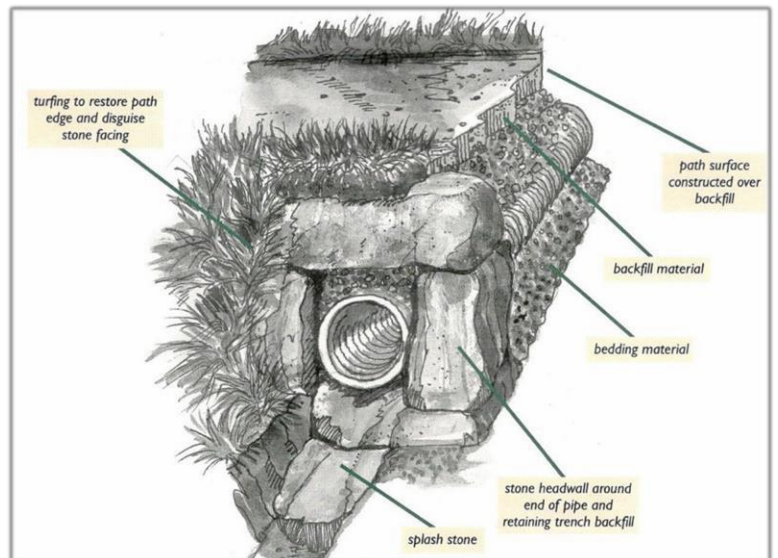


## Culverts

All culverts, where deployed, to be black twin walled polypropylene pipe.

Pipes will be of sufficient diameter to cater for the maximum anticipated water flow from future extreme weather events and will be of sufficient length to overlap each side of the track by a minimum of 500mm.

They should be stone faced with splash plates and if necessary the out-flow water course stone pitched to lower the risk of washout.



Headwalls should be turfed over where possible to ensure pipe is not visible.

The frequency of culverts will reflect the

anticipated water flow and the tracks ability to shed surface water and also to accommodate any extreme weather events. Distances between the culverts will be between 40 and 60 metres.

## 4. WORKMANSHIP

In general, all workmanship will comply with the standards and techniques set out in

*Constructed tracks in the Scottish Uplands- SNH.*

The works to be carried out are to be executed to a standard that will preserve the integrity of the tracks running surfaces for the future and so that they require only basic but regular maintenance. By doing this it should negate the need to regularly carry out aggressive reconstruction works with the obvious setbacks to the healing process and the resultant visual impact.

Machinery would be a 7/8 tonne excavator, a wheeled dumper and a vibrating roller or large whacker plate attached to digger.

The level of landscaping required to successfully complete this project will require some hand finishing works, this is generally associated with sensitive track construction and maintenance.

It is imperative in our opinion that, in order to deliver an environmentally sensitive mitigation and remediation program of works that caters for all user groups, contractors with the necessary level of experience working on designated sites are used to carry out this work.

8

## 5. MATERIALS

The stone/fines required for any top dressing will be taken from the existing borrow pits and from the extra ditching along the track edges. This will ensure local matching of ph. values and color and remove the need to import material long distances.

There is enough local stone in the vicinity along the track margins to provide for the extra culvert headwalls and splash plates required.

## 6. SEDIMENT CONTROL MEASURES

During the construction and repair period a detailed Pollution Prevention Plan will be produced and adhered to in order to prevent any effect from the construction process on the designated features of the River Dee Sac and Muir of Dinnet SAC.

These measures will include the use of silt traps on all ditches and run-offs below the construction sites. They will include both straw bale dams and geo-textile dams where appropriate.

No work will take place during heavy periods of rain and all silt traps and sediment mitigation measures will be regularly monitored and maintained.

## 7. OTTERS

Any pipework stored on site or due to be worked on or near will be checked, prior to work, to ensure there are no otters present.

## 8. CONCLUSIONS

We have produced this method statement to address the issues raised by Aberdeenshire Council Planning department and the CNPA to bring this track highlighted up to a standard that reflects the will of all parties involved to find a solution that not only blends well into the landscape but is also 'fit for purpose'.

We have attached a map for section one showing the track line and the existing borrow-pits.

This statement details the methods needed to restore the Glenfenzie – Sron Gharbh – Morven Lodge – Section 2 track in an environmentally sound way. Sensitive landscaping and a sympathetic drainage regime will go a long way to reducing the tracks environmental impact.

Signed for and on behalf of Highland Conservation Ltd



Date: 17/06/2016





# Method statement for mitigation and remedial works for tracks on Dinnet Moor

Roar Hill – Redburn – Section 6

Highland Conservation Ltd, Beallach Farm, Jamestown, Strathpeffer, Ross-shire, IV14 9ER

## CONTENTS

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## 1. BACKGROUND

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Findrack (Investments) Ltd are the agricultural tenants and operate the farm and hill grazing. There are currently 1350 ewes with 250-300 hog's and lambs. The strategic aim of the farm business is to build up the flock to 2,000 ewes.

Highland Conservation has a proven track record in the design, construction and maintenance of hill tracks which are 'fit for purpose' and with a low visual/environmental impact.

We have undertaken construction contracts on the very highest level of designated environmental sites – under both UK and EU legislation. These include Natura 2000, SSSIs, SPAs, SACs, NSAs, NNRs and the National Parks

## 2. DESCRIPTION

This section of track runs from the gate at Redburn -GR NJ 420025 at around 220 meters alongside the burn and up the ridge then along a side slope to the junction just South of Roar Hill at NJ 397024 at 515 meters. The track length is approximately 2780 meters in length.

To date the track has been re-surfaced from borrow-pits at Grid Ref NJ410020, and NJ 402019. The stone/aggregate is of good quality but is of a reddish color that emphasizes the tracks appearance on the landscape. As much of the existing ditches as possible should be turf lined and the center of the track turfed over where there is not already existing vegetation showing. This will help to reduce the overall visual impact of the track from the surrounding hills.

The first 200 m from the top down require berms every 25 m with a deflection ditch at the first corner at 57.10769-2.99599. From here to the junction of the next track at 57.10759-2.99266 the track follows a shallow gradient and would benefit from a turf lined ditch and culverts every 40m. This method should be continued as far as the hut and borrow-pit at 57.10493-2.98751. There is an existing ditch for the last 200 m but this is being badly scoured due to the



volume of water it has to cope with. Again from here down to the junction with the next track at 57.10534-2.98138 the culvert regime needs to be increased as many of the existing ones have been overwhelmed. This along with the installation of berms should address the problem and protect against future storms.

The vegetation and material won from the new ditches should be used to revegetate the track margins and centre as well as the ditch itself with extra turf being 'borrowed' from the track margins.(See Landscaping)

From here the track starts to descend more rapidly to the top of a section of zig zags . In some places the track is 4.5 metres wide and here the track width should be reduced using spoil and vegetation.



Again a turf centre should be incorporated to reduce visual impact.

From this point down to the borrow pit at 57.10503-2.97693 again the incline increases and there is a need for extra culverts

and berms. The existing drainage ditch requires re-vegetating and would benefit from the installation of some stone stoppers to reduce the speed of flow.

From here down to the gate at 57.10776-2.96803 there is just a need to rebuild the berms that were once on this section but have been washed out/silted up and install a turf centre line to help reduce the visual impact.



Then from the gate down passed the borrow pit at 57.10841 – 2.96397 there is little to do. Just a handful of berms and a turf centre line.

The length of run on the ditches between culverts on most of the track is excessive and requires more culverts to be installed to reduce the possibility of further scouring where there is some evidence already and the existing culverts have been overwhelmed. Also there is a need to install turf lined ditches and line existing ditches.

There are sections on the track (see above) that have a steep exposed bank on the top side of the track. Where possible this bank should be reduced in height and vegetated over using borrowed vegetation and turf from the lower slope and track margins.

### 3. SPECIFICATION AND METHOD

#### **Track Surfacing**

The tracks will be re-surfaced where needed with 'as won' aggregates graded on site to provide 'fines' for top- dressing. There are existing borrow-pits as detailed above where suitable material is available for grading fines for top dressing the track where needed on the steeper sections, however, there is not such a need on this section for topping up the surfacing.

Where sections require extra side-drains to be installed then there will be an opportunity to win material from the ditches. (see Turf lined ditches). The intention would be to "camber" the tracks as much as possible rather than to excavate ditches thus reducing the visual impact of the operations.

Aggregates taken from the existing borrow-pit and ditches will be graded for fines to top

dress the track as necessary though this section requires little in the way of topping up with the main issues being landscaping/visibility.

Every effort will be made to save and protect existing vegetation (see Landscaping). This will include the turf center of the track and the vegetation that has colonized the ditch lines.

## **Landscaping**

This element is arguably the most important. All turf and vegetation will be preserved wherever possible and used to re-vegetate the ditch sides, road edges and a turf center line. As the process will be on-going in one pass no turf will be stored for any length of time so as not to let it dry out and to preserve the integrity of the root matrix.

As there will be no turf or organic material won from excavating a tray then any turf that already exists along the center and margins of the track will be saved and utilized wherever practical. Emphasis will be placed on the sensitive handling of turfs. A turf center line will be incorporated into the track, during re-surfacing works to give the track an 'aged' appearance and to reduce the visual impact of the track over the landscape.

The existing borrow-pits will be landscaped and turfed once the works are complete and local turf to be applied as priority to the drainage ditches and track margins.

Where there are steep exposed banks then every effort will be made to lower the gradient of the slope and re-vegetate using turf 'borrowed' from the lower slope. Extra turf will be won from the track margins by lifting of 1- 1.5 sq. m turfs sourced in a wide distribution with a minimum distance of 1 meter between lifted turf and the 'scratching in' of the surrounding turf to the void to accelerate repair and to ensure that these areas are not compromised.

This method is used extensively on peatland restoration contracts and has proven very successful on designated sites.

We are confident that sufficient turf can be won from the track margins, however, if necessary heather brash will be harvested from the vicinity of the track with dual wheeled tractor and harvester/collector which would then be spread over the areas needed. In our experience, however, this technique has limited effect on bare mineral soils and would only be adopted if turf exploitation were not possible.

## **Turf lined Ditching**

Where extra ditching is required it will be deployed only where it is necessary to avoid as far as is possible the visual impact of the road/ditch on the landscape. Shaping of the track utilizing cambers will be the favored option.

An excavator will be used to level and shape areas from which materials have been won, ditches need not be of conventional shape, as a more informal effect can be created by forming a more scalloped shape next to the track, this can vary in width and depth in order not to create to linear an effect next to the track.

Although there may be scope for some variation in ditch size and shape to reduce visual impact, any such variation must be carefully implemented. It should not be at the expense of increasing the footprint of the works or reducing the area over which there is potential

for vegetation recovery. Turfs to be used to line the ditch to promote vegetation recovery and help the ditch blend into the landscape.

Equally important is to ensure that the tracks have adequate and effective drainage and off-lets to ensure that the roads will not deteriorate or wash out in the future. All works will be carefully engineered to ensure that they are capable of withstanding the extreme weather events that we are seeing more frequently nowadays. As previously stated, cambering of the track surface will help to avoid increased ditch works and visual impact.

The priority use of excavated turf and peat which is held together by a matrix of roots is for restoration of the track edges, the ditch and the turf center line.

Remaining turf and organic material can be used for restoration of bare mineral surfaces and/or for blocking existing ditches if where extra culverts will be installed. Loose organic material which is unlikely to be suitable for other purposes may be spread on existing bare mineral surfaces, again as appropriate.

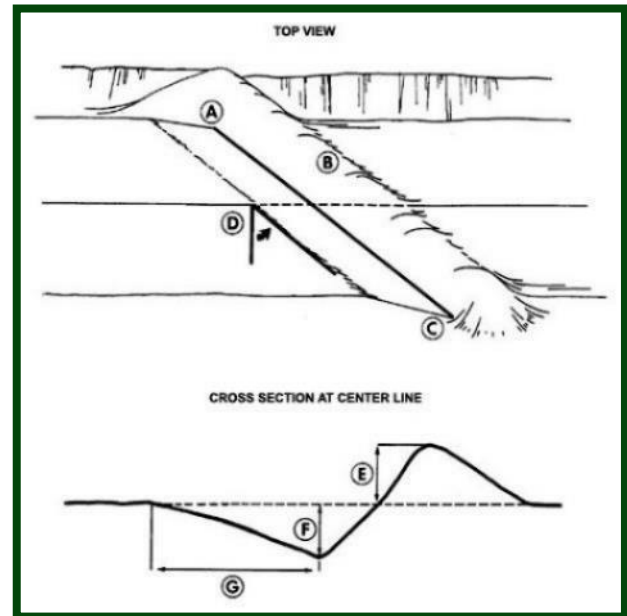
V-ditching will be avoided.

## Berms/shedding bars

On the steeper sections of the track and where there is too steep a bank on the top side of the track these sections will have berms and off-lets installed at regular intervals to reduce the flow of water down the track.

A berm is where the camber of the track is emphasized by shaping the aggregate surface at a 45-degree angle to the track at a low point where the water can escape.

The berm can be incorporated as an added defense during extreme weather to help reduce the volume and energy of flows. The low points at berm features will feed to well vegetated areas and if near to a burn or watercourse feeding into a burn will include a silt trap. This will be a depression.



## Culverts

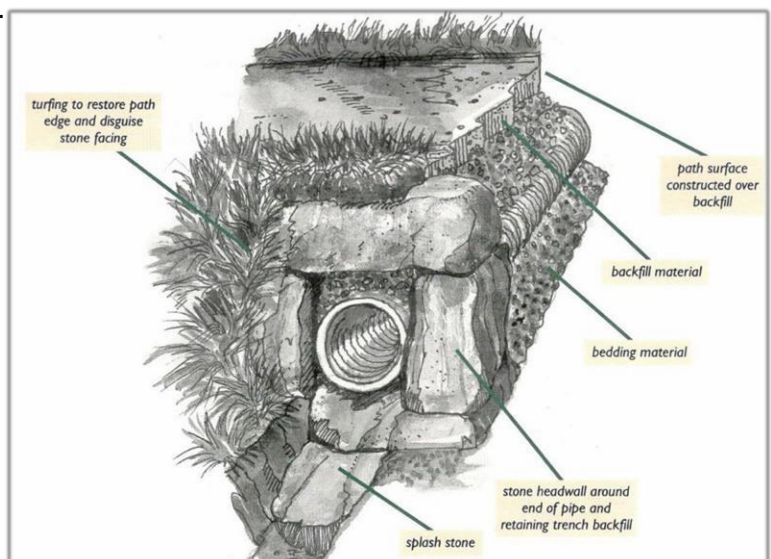
All culverts, where deployed, to be black twin walled polypropylene pipe.

Pipes will be of sufficient diameter to cater for the maximum anticipated water flow from future extreme weather events and will be of sufficient length to overlap each side of the track by a minimum of 500mm.

They should be stone faced with splash plates and if necessary the out-flow water course stone pitched to lower the risk of washout.

Headwalls should be turfed over where possible to ensure pipe is not visible.

The frequency of culverts will reflect the anticipated water flow and the tracks ability to shed surface water and also to accommodate any extreme weather events. Distances between the culverts will be between 40 and 60 metres.



## 4. WORKMANSHIP

In general, all workmanship will comply with the standards and techniques set out in

*Constructed tracks in the Scottish Uplands- SNH.*

The works to be carried out are to be executed to a standard that will preserve the integrity of the tracks running surfaces for the future and so that they require only basic but regular maintenance. By doing this it should negate the need to regularly carry out aggressive reconstruction works with the obvious setbacks to the healing process and the resultant visual impact.

Machinery would be a 7/8 tonne excavator, a wheeled dumper and a vibrating roller or large whacker plate attached to digger.

The level of landscaping required to successfully complete this project will require some hand finishing works, this is generally associated with sensitive track construction and maintenance.

It is imperative in our opinion that, in order to deliver an environmentally sensitive mitigation and remediation program of works that caters for all user groups, contractors with the necessary level of experience working on designated sites are used to carry out this work.

22

## 5. MATERIALS

The stone/fines required for any top dressing will be taken from the existing borrow pits and from the extra ditching along the track edges. This will ensure local matching of ph. values and color and remove the need to import material long distances.

There is enough local stone in the vicinity along the track margins to provide for the extra culvert headwalls and splash plates required.

## 6. SEDIMENT CONTROL MEASURES

During the construction and repair period a detailed Pollution Prevention Plan will be produced and adhered to in order to prevent any effect from the construction process on the designated features of

the River Dee SAC and Muir of Dinnet SAC.

These measures will include the use of silt traps on all ditches and run-offs below the construction sites. They will include both straw bale dams and geo-textile dams where appropriate.

No work will take place during heavy periods of rain and all silt traps and sediment mitigation measures will be regularly checked and maintained.

## 7. OTTERS

Any pipework stored on site or due to be worked on or near will be checked, prior to work, to ensure there are no otters present.

## 6. CONCLUSIONS

We have produced this method statement to address the issues raised by Aberdeen-shire Council Planning department and the CNPA to bring this track highlighted up to a standard that reflects the will of all parties involved to find a solution that not only blends well into the landscape but is also 'fit for purpose'.

We have attached a map for section one showing the track line and the existing borrow-pits.

This statement details the methods needed to restore the Redburn – Roar Hill - Section 6. in an environmentally sound way. Sensitive landscaping and a sympathetic drainage regime will go a long way to reducing the tracks environmental impact.

Signed for and on behalf of Highland Conservation Ltd



Date: 20/06/2016



**EMERGENCY POLLUTION PREVENTION PLAN  
CONTAMINANT SPILLAGE**

**ANNEXURE A TO:**

**Method Statement for mitigation and remedial works for tracks on Dinnet Moor  
Sections 1, 2 & 6.**

**FINDRACK (INVESTMENTS) LTD (Owner)**

**Dated:- 20<sup>th</sup> June 2016**

1. Location

All areas of the works area are easily accessible and as demonstrated in the three method statements.

2. Constraints

All areas of the works area are particularly sensitive to any form of pollution. Therefore, the following Pollution Prevention Plan is to be adhered to at all times.

3. Specific Requirements

Spill Kits (minimum of 20 sheets and two pillows) will be carried by individual machines on site. An adequate supply of absorbent pads, cushions, sheets, booms, impregnated wood fibre and disposal bags will be kept on site. The contractor will be responsible for the supply of these materials (including appropriate protective clothing) and safe disposal of any waste materials as a result of the operations. Materials used for pollution preventative measures should be suitable for all specific types of pollution control in relation to the site conditions, and methods of use known by all concerned with the construction, repair/landscaping, in cases of emergency.

4. Storage

All oils (including petrol, diesel, lubricants and hydraulic oils) and machinery parts must be stored at predetermined points well away from watercourses, ditches and wet flushes. Fuel/Oil bunded storage tanks must be securely locked when not in use to prevent accidental or deliberate spillage. Mobile bunded tanks should be fitted with lockable transfer hoses.

5. Disposal

There will be no disposal, burying or burning of waste oils or containers on site.

6. Emergency Action

In the event of spillage, the contractor/sub-contractor/operator will be responsible to ensure that the following emergency procedures are taken:-

**Land Management (Scotland) Ltd, Haer Cairn, Finavon, By Forfar, Angus, DF8 3QH  
Tel: 01356 224567 Fax: 01307850778  
[www.landmanagementscotland.co.uk](http://www.landmanagementscotland.co.uk)**

a)/

- a) Apply pillow(s) to absorb contaminant, then take rapid action to stem the source and prevent further leakage.
- b) Contain the existing spill to minimise its effect and prevent the spillage from entering watercourses.
- c) Apply absorbent materials to the contaminated area. All personnel must be aware of pollution prevention procedures as detailed in FC Technical Development Report 7/93 "Oil and Chemical Spillages".
- d) As soon as possible, after carrying out a), b) and c) above, the contractor/sub-contractor/operator will contact personnel as listed over the page, advising of the incident and action taken. A list of telephone contact numbers (attached) is given.
- e) Where contact has been made, the Owner's representatives will be responsible for all contact with The Scottish Environment Protection Agency and other appropriate parties. A specialist pollution control company will be contacted if required (cleaning agents and methods used to be approved by SEPA).
- f) The contractor/sub-contractor will return to the site regularly, if required, to apply new absorbent materials and to monitor progress.
- g) All contaminated materials and equipment shall be removed from the site and cleaned down/disposed of by the contractor/sub-contractor, off site before recommencing operations.
- h) The Owner will submit a written report of the incident to The Scottish Environment Protection Agency, CNPA, SNH and Scottish Water, if requested to do so, giving the date, time, extent of spillage and action taken. The contractor/sub-contractor will be required to provide the necessary information to assist in the preparation of such a report.

## 7. Operational Procedures

During the construction, repair/landscaping period the operations will be carried out in to ensure pollution prevention to watercourses and the immediate environs of the track. The operations will be specifically cognisant of the River Dee and Muir of Dinnet SAC's and all other designations across the site. Measures to be adopted will include the following which is not to be treated as an exhaustive list:

- a) Installation of silt traps on all ditches and run offs below the construction site. Methods deployed will be either straw bale dams and/or geotextile dams where appropriate;

- b) Work will be immediately halted in periods of heavy and sustained rainfall during which silt traps and dams will be monitored to ensure that they are operating effectively;

Signed by ..... Date .....  
For Contractor

Signed by ..... Date .....  
For Owner

**EMERGENCY CONTACT NUMBERS  
CONTACT PRIORITIES IN ORDER**

1. **Seller**

Daytime	Robin Leslie Melville	01356 224567
Evening	“	01356 625477
Mobile	“	07796262593

2. **Contract Manager:-**

Office	To be appointed
Mobile	
Mobile	
Mobile	
Mobile	

3. **KN Services – Pollution Control Specialists:-**

(24 hours)	01862 640201
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4. **Scottish Water:-**

24 hour	0845 6018855
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5. **The Scottish Environment Protection Agency:-**

Daytime (Aberdeen)	01224266600
Pollution control	0800807060 (24 hour)

6. **Other Useful Numbers:-**

Forestry Commission	01738 442830
Scottish Natural Heritage	01224 266500
Scottish & Southern Electricity	01738 453072
Cairngorms National Park Authority	01479 873535
Aberdeenshire Council Planning Dept	01569 768300

Signed by ..... Date .....  
(for Contractor)

Signed by ..... Date .....  
(for Owner)