

of the Plewlands Farm land holding. A further meeting with The landowner was held in early November to discuss the potential of this alternative alignment. The landowner stated that from an operational perspective he was generally agreeable to the principle of the alternative route subject to future discussions and negotiations on land purchase.

5.2.2 Moray Golf Club

A meeting to discuss the proposed alignment through land owned by the Moray Golf Club between was held on Friday 5th October. The meeting was attended by the club Secretary and Captain on behalf of the Moray Golf Club and they expressed general support towards the aims of the project although they had a number of concerns relating to the safety of potential users of the active travel route.

The main concern revolves around the potential liability and associated insurance risk of pedestrians / cyclists being struck by golf balls from the 5th tee and potentially along the 6th and 7th holes. It was noted that the positioning of the B9040 through the golf course already results in numerous vehicle strikes per year which are covered by Moray Golf Club's insurance. It was accepted that the public generally had access to these areas with the unsurfaced path adjacent to the 6th and 7th holes currently being used by plane spotters. It was also accepted that the risk could be potentially mitigated through either the provision of golf netting or alternatively a raised bund between the cycleway and golf course to ensure that cyclists are protected for the likely trajectory of golf balls.

It is recommended that, should the project be taken forward, further assessment is undertaken in conjunction with Moray Golf Club into identifying the height and positioning and cost of any required netting or bund in order to reduce the risks associated with stray golf balls. This assessment would also need to take account of the height clearance restrictions at the end of the RAF Lossiemouth runway.

5.2.3 RAF Lossiemouth

Representatives from RAF Lossiemouth were present at the Moray Golf club meeting with further discussions held with the Defence Infrastructure Organisation who manage the defence estate.

The RAF are generally supportive of the proposals in that the number of staff based at Lossiemouth will increase over the next few years and a proportion of these staff are likely to live within Hopeman or Duffus and make use of any potential route. Discussions with the RAF have revealed concerns regarding the potential downdraft of aircraft on users of the

route although this would be similar to that experienced by users of the B9040 some 150m to the north.

A request has been made for the RAF to consider where it may be feasible to alter the location of the security fence particularly in the vicinity of the constrained section adjacent to the Moray Golf Club to provide scope to provide a bund or similar solution in order to reduce the risks associated with stray golf balls. Discussions with the RAF are ongoing with representatives present at community group meetings.

Further consultation with all land owners along the preferred route option will be required should the project progress to the next stage. For the project to proceed, it is important to continue the dialogue with landowners, and identify key risks to the delivery of the complete route.

5.3 Options summary and Preferred Route

Following a review and appraisal of each of the proposed route corridors it is recommended that Route Corridor 1 – Moray Way and Route Corridor 5 – The Drainie Road are discounted from further consideration as they will not offer considerable benefits over the existing on-road option.

Route Corridor 3 – B9040 scored highest when measured against the core design principles set out in *Cycling by Design* and it is recommended that this route is subject to further



design consideration while noting that negotiation with all land owners in respect of both a northern and southern alignment is required.

Route Corridor 4a – 'Green Road' Southern Option scored second highest and should also be progressed as this would also offer considerable benefit over the existing situation and is the preferred option of the majority land owner on the western section of the route.

With respect to the section of the route between North Greens and Lossiemouth only one corridor is proposed at present although the deliverability of this alignment will largely be dependent on the outcome of ongoing discussions with Moray Golf Club and the MOD.

6.0 Outline Design

Following the options appraisal process initial route alignments for Route Corridor 3 – B9040 and Route Corridor 4a – ‘Green Road’ Southern Option have been developed and are illustrated in Appendix A.

The proposed initial route alignment highlights potential barriers along each section of the route along with consideration of typical cross-sections and standard detail of items such as field crossings and junctions.

The proposed alignments comply with both Cycling By Design and the Sustrans design manual with a proposed minimum cycleway width of 2.5m which is considered suitable for a rural commuter route. A segregation verge with a minimum width of 1.5m would be provided along sections running parallel to the road with a minimum verge of 1m provided to field boundaries. Further details of the proposed typical sections are provided in Appendix A.

6.1 Land Ownership and Public Utilities

Full landowner and public utility searches have not been undertaken at this stage although it is recommended that these are undertaken should the project progress.

6.2 Preliminary Cost Estimates

A preliminary cost estimate for the construction of the preferred option has been prepared. This has been based on unit cost rates extracted from the *SPON's Civil Engineering and Highway Works Price Guide 2018*. This value has also been cross-referenced with recent pricing examples of similar cycle design schemes, to confirm that it is in line with the current market. It should be noted that the estimate does not include costs associated with **land purchase, design and contract documentation, legal fees or other project management**. The costs will need to be refined once the chosen route(s) are taken forward to the next design stage.

At this stage of the design, an optimism bias of 44% has been applied to the cost estimate for a Standard Civil Engineering Project which is in accordance with guidance in the supplementary green book prepared by Mott MacDonald on behalf of the UK Government. Cost estimates for the options are summarised in Table 5.1 below. A detailed analysis of the costs can be seen within Appendix A.

Table 6.1 – High Level Cost Summary

Proposed Route Corridor	Indicative cost including 44% optimism bias
Route 3 – B9040 Northern Alignment	£2,381,588
Route 3 – B9040 Southern Alignment	£2,184,388
Route 4a - 'Green Road' Southern Option	£3,290,451



7.0 Conclusions & Recommendations

This study has confirmed a preferred route alignment for a cycling corridor between Hopetown and Lossiemouth. The route has been developed in accordance with options appraisal techniques and design principles set out in *Cycling by Design*. Where possible the proposed routes make the best use of existing infrastructure and land within the adopted extents to deliver the most practical and cost-effective proposal.

Depending on the final route corridor, construction cost for the proposed route would be between approximately £2.5 million and £3.4 million.

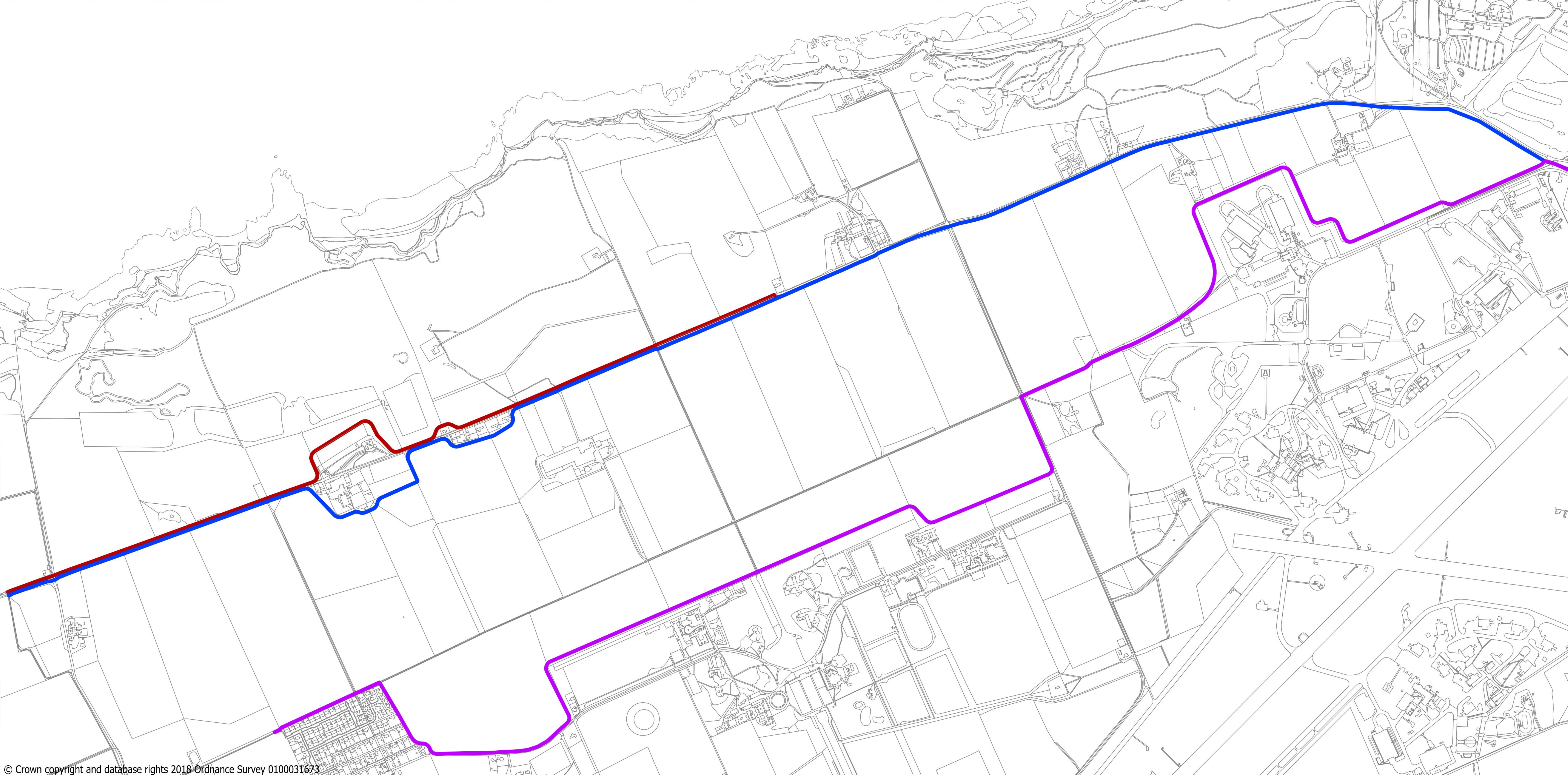
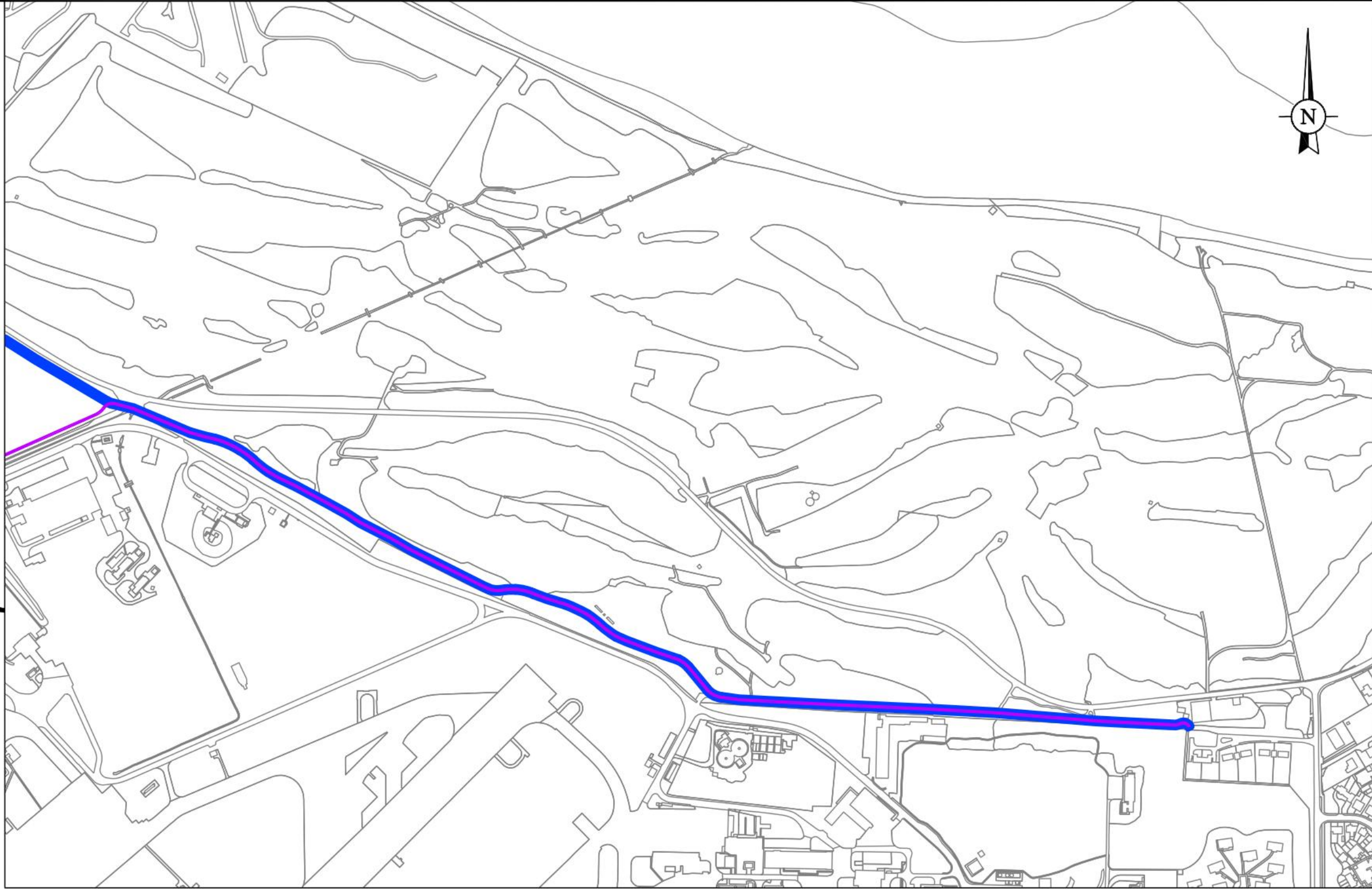
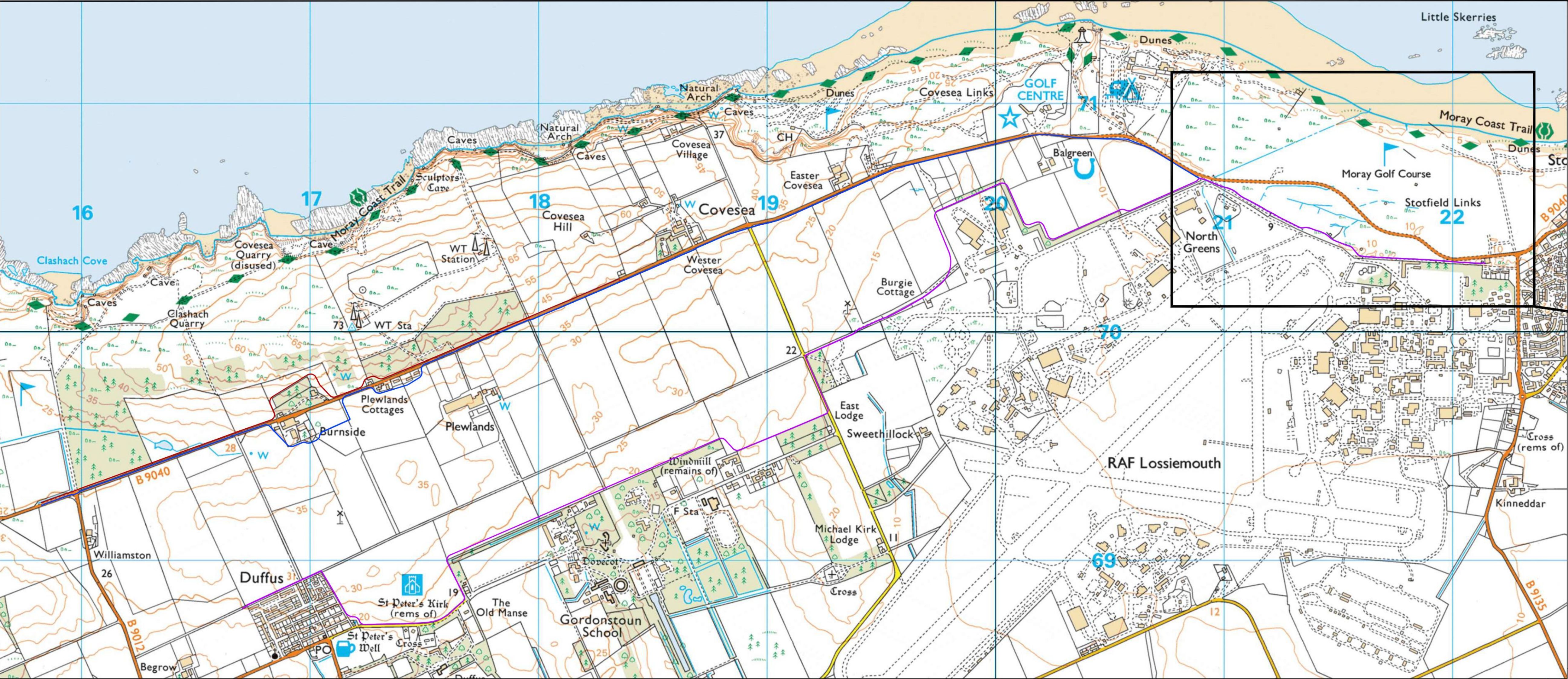
As established in previous studies, the development of an active travel route between Hopeman and Lossiemouth would provide excellent linkages between key local trip attractors/generators such as residential areas, schools and places of employment. It would also offer the opportunity to connect a number of existing local cycle routes and help build an attractive local cycling network suitable for all users.

Should either of the preferred alignments be taken forward, it is recommended that early consultations are undertaken with key stakeholders, including all affected landowners.



Appendix A

Outline Design



Notes:

- DO NOT SCALE FROM THIS DRAWING.
- ALL DIMENSIONS ARE IN METRES UNLESS STATED OTHERWISE.
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL RELEVANT DRAWINGS AND DOCUMENTS ASSOCIATED WITH THIS PROJECT.

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WYG Transport Planning

part of the WYG group

The Cube 45 Leith Street Edinburgh EH1 3AT
t: +44 (0)131 247 5700 e: edinburgh@wyg.com

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