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# Drem to Gullane Cycle Route

## Feasibility Study

On behalf of **East Lothian Council**



Project Ref: 42119 | Rev: 2 | Date: 12 August 2019

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## Document Control Sheet

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# 1 Introduction

## 1.1 Study Objective

- 1.1.1 In April 2018, Peter Brett Associates (PBA), now part of Stantec, completed a feasibility study for East Lothian Council (ELC) which examined the Drem to Pepper Burn section of the proposed Drem to Gullane Cycle Route.
- 1.1.2 ELC has since commissioned PBA to assess the feasibility of delivering the entire route from Drem to Gullane. This study is to include further consideration of the Drem to Pepper Burn section, so that impacts on privately owned land can be better understood.
- 1.1.3 The outputs from this study will be a recommended route alignment, design specification, and outline cost estimate for the entire route. It is intended that this information will be used to inform potential funding applications and relevant ELC strategies, plans and guidelines.
- 1.1.4 The study area is illustrated in Figure 1.1 below.

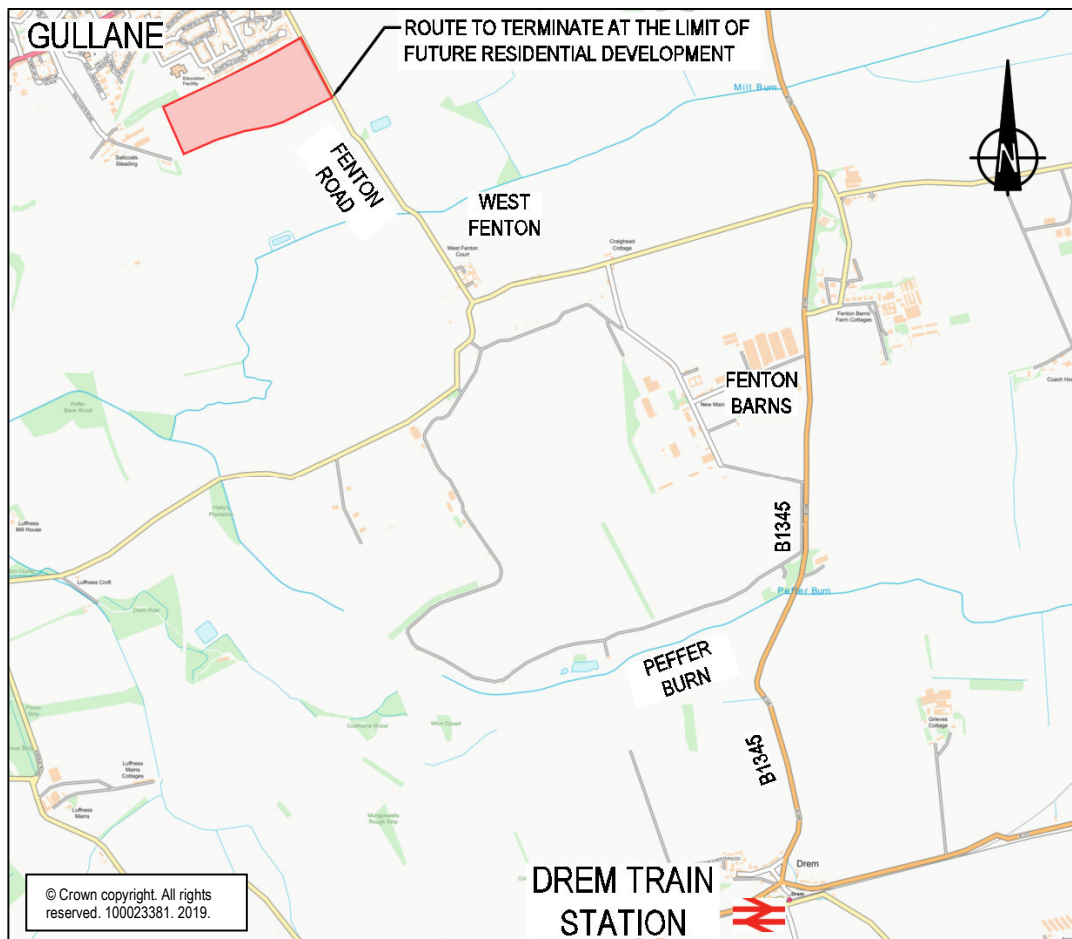


Figure 1.1: Study Area

## 1.2 Background

- 1.2.1 The desire for a safe walking and cycling route between Drem and Gullane was first identified during early consultations for ELC's Core Paths Plan in 2005. A route, roughly following the old 'Drem Ride', was identified and included in the first draft Core Paths Plan in 2007. Since then, ELC has had ongoing discussions with affected landowners, local residents, the Drem to Gullane Path Campaign Group and East Lothian Access Forum, with the aim of developing a preferred route.
- 1.2.2 In May 2016, having been unable to reach a consensus with key stakeholders on a preferred route to the north west of Drem, ELC appointed an independent Mediator to help take the project forward. Following consultations with all key stakeholders, the Mediator prepared a report which set out a number of findings and recommendations. A copy of the 'Drem-Gullane Path Mediation Report' is attached in Appendix A.
- 1.2.3 Following the issue of the Mediator's report in March 2017, ELC continued to engage with stakeholders to develop a walking and cycling route from Drem to Gullane, recognising that it would form an important sustainable transport connection between the two communities.
- 1.2.4 In 2017, PBA were commissioned by ELC to undertake a feasibility study to focus on the most constrained section between Drem and Pepper Burn. The report, which was published in April 2018, detailed a preferred route alignment, design specification, and outline cost estimate. The report also recommended that:
- A detailed topographical survey be undertaken along the extents of the proposed route to confirm physical constraints and establish the extents of land ownership boundaries. Affected landowners should be consulted/ involved in this process so that they can be satisfied that the boundary of their property has been established accurately.
  - A 3D preliminary design should be produced to confirm the horizontal and vertical alignment of the route. This should confirm the limits of construction works, including any necessary land acquisition and accommodation works. This will enable project costs and delivery timeframes to be more accurately defined.
  - A speed limit review be undertaken, to consider the potential for a reduction in the posted speed limit through Drem from 40mph to 30mph, in conjunction with complementary measures such as village gateway treatments, speed activated signs and street lighting.
  - Consultation is undertaken with affected landowners, local residents, and other stakeholders and statutory bodies during the preparation of the preliminary design.

## 1.3 Policy Context

- 1.3.1 The provision of a safe walking and cycling route between Drem and Gullane aligns well with sustainable travel objectives contained in numerous ELC and Scottish Government policy documents. Reference has been made to objectives contained within relevant strategic ELC and Scottish Government policy documents as set out below.
- 1.3.2 The vision set out in the 'East Lothian Council Plan 2017-2022', is for ***"An even more prosperous, safe and sustainable East Lothian, with a dynamic and thriving economy, that enables our people and communities to flourish"***. The Council Plan sets out the 51 Actions ELC intend to undertake to meet the vision, which includes a commitment to a walking and cycling route between Drem and Gullane. Council Action Plan 44 states: ***"Continue to encourage walking and cycling activity by both East Lothian residents and visitors and promoting green space as part of the promotion of healthy living; meeting our commitment to extending the provision of core paths, including the Drem-Gullane path"***

- 1.3.3 In 2018, ELC published its draft ‘*East Lothian Local Transport Strategy 2018-2024*’ (LTS). The vision set out in the LTS is: **“East Lothian will have well-connected communities with increased use of sustainable transport modes to access services and amenities.”** The LTS references some of the challenges associated with cycling and walking, and the important role that active travel can play in improving transport provision across East Lothian. Recognising this, a series of walking and cycling Indicators and Targets have been set out in the LTS. These are shown in Table 1.1 below.

Table 1.1: East Lothian LTS - Walking and Cycling Indicators and Targets

Indicator	Target
Modal share for travel to work.	Reduce levels of car use and increase use of sustainable modes including walking, cycling and public transport by 2024.
Households with access to a bicycle.	Increase households owning a bicycle to 55% by 2024.
People that walk regularly as a means of transport.	Increase people that walk regularly as a means of transport from 75% to 80% by 2024.

- 1.3.4 A walking and cycling route between Drem and Gullane would help ELC to meet the objectives of the Scottish Government’s ‘*Land Use Strategy 2016-2021*’ by reducing carbon emissions and encouraging people to develop an active and healthier outdoor lifestyle that is better connected to the natural landscape.
- 1.3.5 The proposed route would help ELC to realise the Scottish Government’s ‘*Cycling Action Plan for Scotland: 2017 – 2020*’ vision of **“10% of everyday journeys to be made by bike, by 2020”**. It would also help ELC to support the Scottish Government’s ‘*Let’s Get Scotland Walking - The National Walking Strategy*’ which was published in 2014. Its vision is **“A Scotland where everyone benefits from walking as part of their everyday journeys, enjoys walking in the outdoors and where places are well designed to encourage walking.”**
- 1.3.6 A walking and cycling route between Drem and Gullane would align well with the objectives of the ‘*Central Scotland Green Network*’ (CSGN). The CSGN sits within the third National Planning Framework (NPF3), which includes East Lothian. Its vision for sustainable economic growth recognises the importance of a good quality environment. It promotes active travel (by encouraging walking and cycling to school, shops or work along green corridors), and working to ensure that all communities can benefit from proximity to well-managed and accessible greenspace and landscape.

## 2 Design Guidelines and Standards

### 2.1 Design Guidelines

- 2.1.1 Transport Scotland's '*Cycling by Design*' will be the primary design reference for this study. The '*National Roads Development Guide*', the '*Design Manual for Roads and Bridges*' (DMRB), Sustrans Design Manual '*Handbook for cycle-friendly design*', and the '*Traffic Signs Regulations and General Directions*' (TSRGD) will also be referenced as appropriate.

### 2.2 Design Standards

- 2.2.1 The objective of this study is to develop a route for cyclists between Drem and Gullane. This will be provided wherever practical on quiet roads where it has been assessed as being safe to do so. '*Cycling by Design*' states that traffic volumes and speeds are key considerations in determining the suitability for on-carriageway infrastructure. Therefore, where the site conditions are deemed suitable, an on-carriageway facility will be the prime consideration.
- 2.2.2 Sustrans Design Manual '*Handbook for cycle-friendly design*' notes that fewer options are available to make roads outside of villages better for cyclists and that in many cases cyclists may need to use parallel routes on quieter roads. If interventions are to be considered they need to be sensitive to the nature of the rural environment and may include quiet lane designation, reduced speed limits and warning signs.
- 2.2.3 If this is not achievable then an off-carriageway shared use path will be considered. This is defined in '*Cycling by Design*' as '***A route for pedestrians and cyclists not associated with a road carriageway. Pedestrians and cyclists may share the cycle path or may be segregated from each other.***'
- 2.2.4 The intention is to provide a 2.5m wide shared path along these sections, but where this is impractical, an absolute minimum width of 2m would be adopted, as specified in '*Cycling by Design*'. A minimum separation of 0.5m would be provided between the shared use path and the carriageway, increasing to 1.5m in areas where the speed limit is greater than 40mph.
- 2.2.5 To ensure that the path provides a smooth and comfortable ride for cyclists, it is considered that an asphalt surface would be appropriate. This would also help to minimise the need for future maintenance works and thereby reduce whole life costs. As the route is in a rural location, the specification for the path has been taken from '*Table 10.2: Typical pavement construction*' of '*Cycling by Design*'. This is as follows:
- **Surface Course:** 30mm Hot Rolled Asphalt (CI 910).
  - **Binder:** 40mm Dense Asphalt Concrete (CI 912).
  - **Sub-base:** 200mm Type 1 Granular Material (CI 803).

## 3 Site Evaluation

### 3.1 Desktop Review

#### Mapping and Topographical Survey Data

- 3.1.1 To inform the initial selection of potential route alignment options, a desktop review of available mapping was undertaken to identify land ownership boundaries. The intention was to identify potential route alignments that could be contained within existing roads and verges as recommended by the Mediator.
- 3.1.2 As identified in the previous study '*Peffer Burn to Drem Section Feasibility Study*', key pinch points would require a detailed topographical survey be undertaken to confirm physical constraints and establish the extents of land ownership boundaries.
- 3.1.3 These pinch points included;
- Drem Station to the 40mph speed limit
  - Peffer Burn Layby.
- 3.1.4 The topographical survey was commissioned by PBA and was completed by Malcolm Hughes Land Surveyors Ltd in April 2019.
- 3.1.5 Areas outside the topographical survey extents were assessed using Ordnance Survey (OS) Mastermap data. As these sections are less constrained, the level of accuracy contained within the OS Mastermap data is considered appropriate for planning purposes at this stage.

#### Accident History

- 3.1.6 Prior to undertaking the site walkovers, an assessment of recorded injury accidents on the B1345 was undertaken to determine whether there were any locations in the study area that have an accident history. The assessment utilised data that is available to the public from the crashmap.co.uk website ('*Crashmap*'). Data published in '*CrashMap*' is collected by the police about road traffic accidents occurring on British roads where someone is injured. This data is approved by the National Statistics Authority and reported by the Department for Transport each year.
- 3.1.7 The assessment was undertaken using data that was extracted for the most recently available five-year period, which is 2014 to 2018. This revealed that there were no recorded injury accidents on the B1345 within the study area during this period. It is important to note that '*Crashmap*' does not include data on accidents which only result in damage to vehicles or property.

### 3.2 Site Walkover

- 3.2.1 The primary objective of the site walkovers was to identify and confirm physical constraints, such as road geometry/ sightlines, property boundaries, vehicle access points, watercourses, surface water drainage ditches, public utilities, trees and landscaping.
- 3.2.2 It was evident from the constraints observed during the site walkovers that the route has four distinct sections. These are:
- **Section 1** – Drem to 40mph Speed Limit
  - **Section 2** – 40mph Speed Limit to Peffer Burn
  - **Section 3** – Peffer Burn to Fenton Steading Access
  - **Section 4** – Fenton Steading Access to Gullane

- 3.2.3 Section 1 lies within the boundary of Drem village where the B1345 is subject to a 40mph speed limit. On the western side of the B1345, the road is bounded by residential properties. On the eastern side of the B1345, the road is bounded by a section of public greenspace and a number of residential properties and agricultural land, as well as a watercourse.
- 3.2.4 Section 2 lies out with the boundary of Drem village, where the B1345 is subject to the national speed limit. The road is surrounded on both sides by open agricultural land with no frontage development.
- 3.2.5 Section 3 connects Peffer Burn with the access road to Fenton Steading. The B1345 is subject to the national speed limit within this section. On the eastern side of the B1345, the road is bounded by a commercial property and agricultural land. On the western side, the road is bounded by woodland and agricultural land. There is an existing private access road that runs parallel to the B1345 on the western side.
- 3.2.6 Section 4 connects the Fenton Steading access to the proposed residential development located south of Gullane where the route terminates. This section of the route would utilise a mixture of quiet rural roads and private access roads.
- 3.2.7 The four route sections are illustrated in Figure 3.1 below.

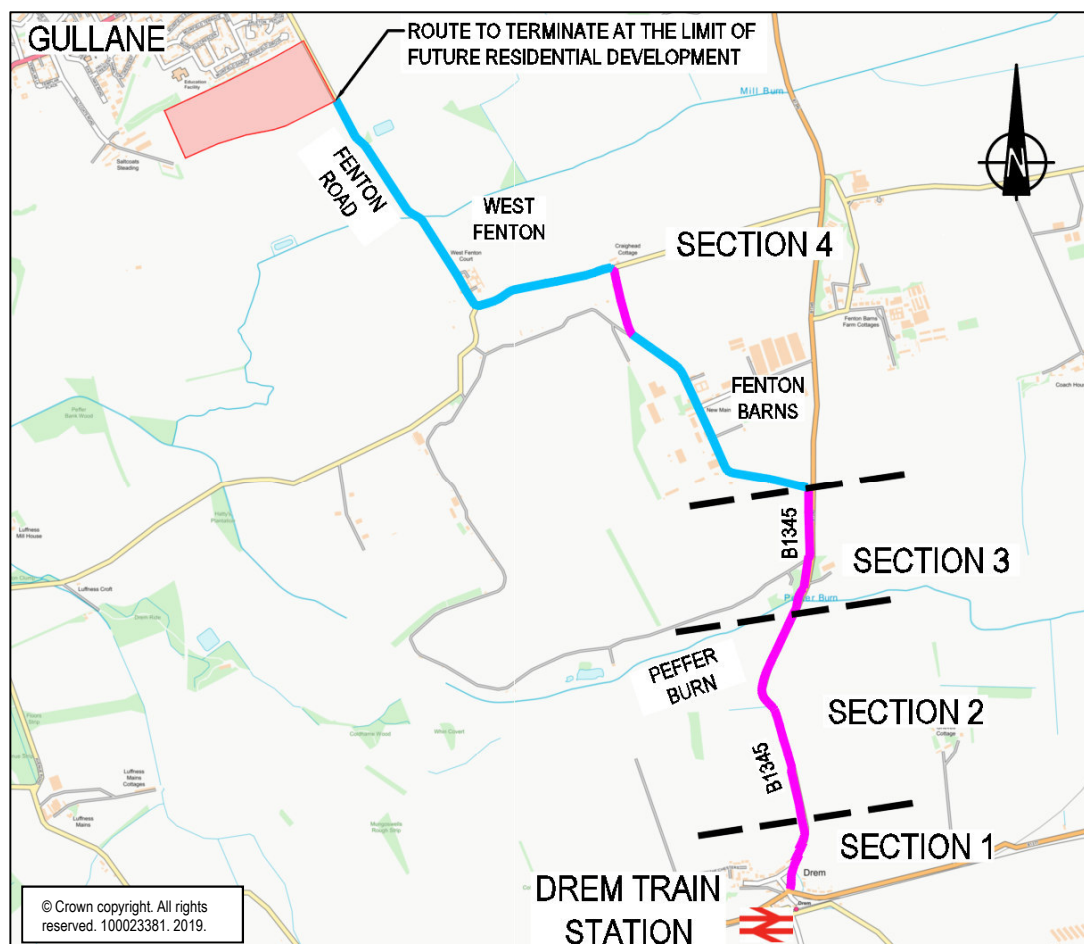


Figure 3.1: Peffer Burn to Drem Cycle Route Sections

- 3.2.8 A summary of the key constraints observed during the site walkovers is provided below.



### **Section 1 Constraints**

- 3.2.9 Topographical survey mapping and cross-sections of the existing road are shown in drawings 42119\_2003\_0002 and 42119\_2003\_0003 within Appendix B.
- 3.2.10 Site walkovers and a review of the topographical survey confirmed that a 2.0m to 2.5m wide shared path could not be accommodated wholly within the road verges along the B1345 in Section 1. This is due to the position of property boundaries and watercourses adjacent to the road. In addition, there are well established hedgerows and trees along significant portions of this section. The existing road carriageway is not wide enough to accommodate verge widening for a shared path or the reallocation of road space for on-carriageway cycle lanes.
- 3.2.11 The cross-sections between Chainage 100 to 160 indicate that there is a level difference between the existing carriageway and the field to the east of approximately 1m.
- 3.2.12 Some examples of constraints within Section 1 are illustrated in Figures 3.2 to 3.6.



Figure 3.2: Section 1 – Property boundary and tree constraints on western side of B1345



Figure 3.3: Section 1 – Property boundary and hedgerow constraints on western side of B1345



Figure 3.4: Section 1 – Footway width constraints on eastern side of B1345



Figure 3.5: Section 1 – Watercourse constraint on eastern side of B1345





Figure 3.6: Section 1 – Road alignment and verge width constraint on eastern side of B1345

3.2.13 As can be seen from Figures 3.4 and 3.5, the watercourse on the eastern side of the B1345 limits opportunities for widening the adjacent footway to the station. In addition, the tight curvature of the road also limits opportunities for realigning it to accommodate footway widening on the eastern side of the B1345 (see Figure 3.6).

#### 3.2.14 **Section 2 Constraints**

3.2.15 No topographical survey mapping was obtained for this section. Drawings 42119\_2003\_0004 and 42119\_2003\_0005 show the OS mapping and note existing constraints.

3.2.16 Site walkovers confirmed that a 2.0m to 2.5m wide shared path could not be accommodated wholly within the road verges of the B1345 in Section 2. This is due to the presence of field drainage ditches and watercourses adjacent to the road. In addition, there are well established hedgerows and trees along significant portions of this section. It should also be noted that the reallocation of road space for on-carriageway cycle lanes or reductions in the width of the carriageway to accommodate verge widening for a shared path are not possible. The road carriageway is approximately 6.6m wide, which is well below the current design standard of 7.3m.

3.2.17 Some examples of the constraints within Section 2 are illustrated in Figures 3.7 and 3.8.



Figure 3.7: Section 2 - Constraints on western side of B1345



Figure 3.8: Section 2 - Constraints on eastern side of B1345

### 3.2.18 **Section 3 Constraints**

- 3.2.19 Site walkovers confirmed that the Peffer Burn layby on the western side of the B1345 was subject to low vehicle flows and speeds. The condition of the layby surface is poor with ponding evident at the proposed connection to Section 2 (see Figure 3.9). The current surface course is currently not in a condition that would be suitable for cycling. At the layby there is an agricultural field access into the western field south of Peffer Burn, which cyclists would have to cross.
- 3.2.20 The Peffer Burn crosses the layby and the B1345 perpendicularly, north of the agricultural field access. The burn passes under the layby, which has a masonry bridge to support the pavement, and under the B1345 through a culvert.



- 3.2.21 North of Pepper Burn there is a wooded area which contains mature sycamore trees with dense canopy coverage. There are existing utility markers indicating the presence of buried services within the wooded area.
- 3.2.22 There is a wastewater treatment works to the north of the Pepper Burn containing infrastructure that is not currently fenced.



Figure 3.9: Section 3 – Pepper Burn Layby



Figure 3.10: Section 3 – Wooded Area and Wastewater Treatment Works

- 3.2.23 North of the wooded area there is a private access track which runs parallel to the B1345 and serves the wastewater treatment works. The private track is predominantly unbound with sections of concrete slab construction adjacent to the wastewater treatment works. The current surface is not in a suitable condition for cycling.
- 3.2.24 The western road verge on the B1345 between Pepper Burn layby and Fenton Steadings access was noted to be between 1.5m and 2.5m wide and is largely obstructed by a hedge. There is an existing field access located approximately 200m north of the Pepper Burn. This access forms part of an existing bridleway route, which cyclists would have to cross.



Figure 3.11: Section 3 – Private Access Track

#### 3.2.25 **Section 4 Constraints**

- 3.2.26 Section 4 consists of quiet public roads and private tracks around Fenton Barns and West Fenton. It was noted that the public road around Fenton Barns was in a good condition and had low vehicle numbers. An example of the typical public road within Section 4 is illustrated in Figure 3.12.



Figure 3.12: Section 4 – Typical Road Section

- 3.2.27 There is a short section of private track connecting Fenton Barns to Craighead Cottages. The current track is approximately 4m wide and damaged with visible potholes. The current surface course is not in a condition that would be suitable for cycling.
- 3.2.28 Fenton Road is a rural all-purpose road subject to the national speed limit. The road surface was in a good condition and had low vehicle numbers.

## 4 Landowner Consultations

### 4.1 Introduction

- 4.1.1 The Mediator recommended that no land should be taken from private landowners. However, the constraints identified during this study confirmed that it would not be feasible to construct the route wholly within the existing road verges. Consequently, it was decided that consultations should be undertaken with directly affected landowners. A summary of the affected landowner consultations is provided in Section 4.2.

### 4.2 Landowner Consultation Summary

#### Landowner 1

- 4.2.1 Since the previous '*Peffer Burn to Drem Section Feasibility Study*' the property on the western side of the B1345 within Section 1 has changed ownership. The previous landowner had shown a willingness to consider some limited encroachment on their land. However, the new landowner has submitted a strong objection to ELC, confirming that they are not willing to consider any encroachment onto their land.

#### Landowner 2

- 4.2.2 This landowner owns land on both the western and eastern sides of the B1345 within Section 1 and Section 2. This landowner expressed a willingness to consider a potential route alignment within their land on the western side of the B1345 in Section 2. However, they expressed strong objections to any potential alignment within their land on the eastern side of the B1345 in Section 1.

#### Landowner 3

- 4.2.3 This landowner owns the land north of the Peffer Burn layby, including the section of private access track to the west of the B1345. This landowner expressed a willingness to consider a new section of path through the wooded area and an upgrade of the private access track to an asphalt surface.
- 4.2.4 The landowner expressed some safety concerns regarding the proximity of the wastewater treatment plant to any path through the wooded area. It was agreed that appropriate screening would be installed as part of any scheme through this area to stop it being seen. Appropriate security fencing would also be erected to prevent unauthorised access.

#### 4.2.5 Landowner 4

- 4.2.6 This landowner owns the private access track connecting Fenton Barns to Craighead Cottages. This landowner expressed a willingness to consider an upgrade of the private access track to an asphalt surface.
- 4.2.7 They did express a concern regarding speeding issues through West Fenton. However, it is noted that ELC proposes to implement a quiet roads' order which would include enforceable speed limits aimed at reducing vehicle speeds in this area.

#### Landowner 5 - Residential Site Developer

- 4.2.8 The developer of the residential development in Gullane was consulted regarding the proposed cycle route. The developer is constructing a 2.0m wide footway within the extent of their development, adjacent to Fenton Road. It is proposed that the Drem to Gullane cycle route would terminate at the southern extent of this footway.

- 4.2.9 The developer discussed as part of their development the possibility of constructing an additional 1.2m wide whin dust path connecting the development site to West Fenton. This path would run parallel to the existing road through the field to the west. The proposed 1.2m whin dust path was to include a bridge structure crossing an existing burn.



## 5 Route Option Development

### 5.1 Introduction

- 5.1.1 Taking on board feedback from affected landowners and the findings of the site evaluation, route options were developed for Sections 1 – 4.

### 5.2 Sustrans Consultation

- 5.2.1 PBA met representatives from Sustrans to discuss the proposed design standards for the Drem to Gullane cycle route. Sustrans advised that there had been a recent change in policy regarding acceptable design standards. Sustrans' current desirable width for an off-carriageway shared use path has been increased to 3.5m. This width could potentially be reduced to 3.0m in constrained areas where it is considered safe to do so. These widths do not include separation distances from the carriageway or boundary fences.

- 5.2.2 Taking cognisance of Sustrans' comments, two options for each section of the route have been developed;

- Option A – Design geometry based on design standards in *Cycling by Design* and *Sustrans Handbook for Cycle-Friendly Design* as the absolute minimum requirement i.e. a 2.5m wide off-carriageway shared path, but where this is impractical, an absolute minimum width of 2m.
- Option B - Design geometry based on recent consultation with Sustrans, with off-carriageway shared use paths having a desirable width of 3.5m, reducing to 3.0m in constrained areas where it is considered safe to do so.

- 5.2.3 These are documented in Sections 5.3 to 5.6 below.

### 5.3 Section 1 – Drem to 40mph Speed Limit

#### Option 1A

5.3.1 The alignment for Option 1A is shown schematically in Figure 5.1 below. This option is based on the recommendations from the '*Peffer Burn to Drem Section Feasibility Study*'.

5.3.2 Option 1A would involve realigning the B1345 to accommodate a 2.5m wide shared path along the eastern side of the B1345 from the train station up to approximately 40m north of the existing headwall to an uncontrolled crossing point. Drawings 42119\_2003\_102 and 42119\_2003\_103 in Appendix B show the detailed layout.

5.3.3 The uncontrolled crossing point would consist of a build out that would narrow the road to 4.0m to provide traffic calming and to help minimise the encroachment into third party land.

5.3.4 There would be a requirement to provide sufficient stopping sight distance (SSD) in advance of the give-way for southbound vehicles. The minimum SSD for an 100kph road is 215m as defined in the Design Manual for Roads and Bridges (DMRB). This may be difficult to achieve and a Departure from Standards may be required to reduce this requirement to 160m.

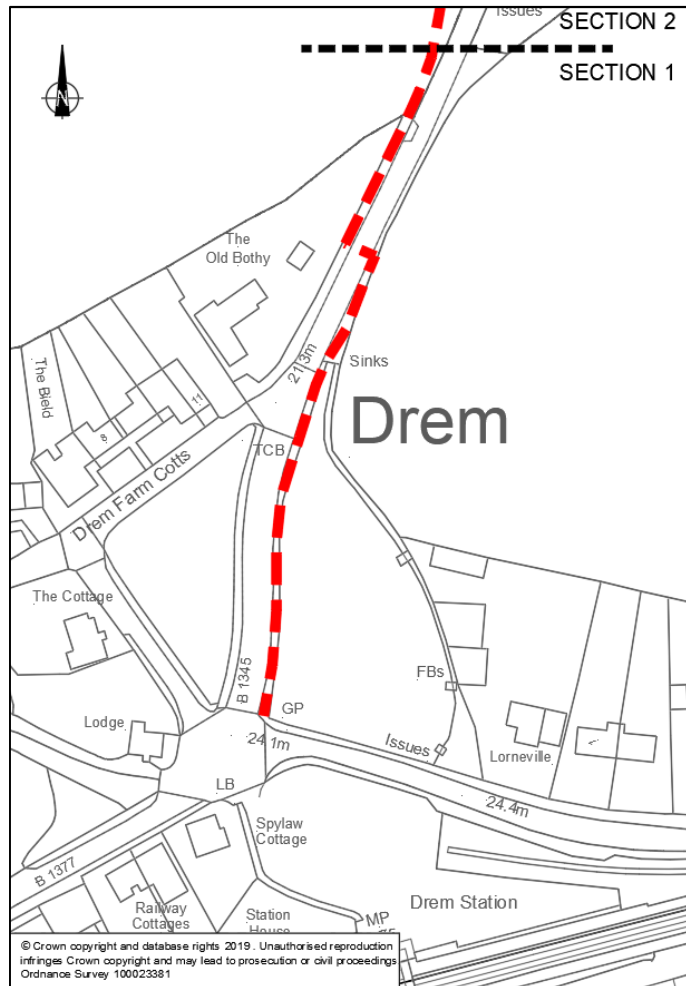


Figure 5.1: Section 1 - Option 1A

5.3.5 To achieve the splay for the 160m SSD, significant earthworks and tree clearance would be required to level the site in the field west of the B1345.

5.3.6 The footway widening on the eastern side of the B1345 would also encroach into the private land to the east within the village of Drem. This would require the upgrading and extending of the existing headwall. This landowner has not been consulted as part of this study.

5.3.7 The proposed crossing point would be located north of the established beech hedgerow and therefore this would be preserved.

5.3.8 The 2.5m wide path would continue on the western side of the B1345, with the rear edge of the path hard against the private land boundary. The B1345 would need to be realigned in order to avoid the encroachment into third party land on the western side. The vegetation north of the crossing point would need to be removed and a temporary working area would be required within the private land on the west.



- 5.3.9 In order to provide a 2m road verge on the eastern boundary, acquisition of third party land would be required. There would be a level difference of approximately 1.0m between the proposed shared path and road verge to the east of the B1345. This would require either earthworks or a retaining structure which would involve additional third party land acquisition.
- 5.3.10 The realignment of the B1345 may also cause issues with cover levels on the existing subterranean culvert. This may need to be diverted or protected to enable this arrangement. This should be investigated further at the detailed design stage if this option were developed.
- 5.3.11 **This option would require permanent acquisition of land on the east side of the B1345 and temporary disruptive acquisition of land on the west north of the headwall. Both affected landowners have expressed strong objections to this option. This option would also require land to the east of the B1345 within Drem. This landowner has not been consulted as part of this study.**
- 5.3.12 **This option would not meet current Sustrans design standards.**

#### **Option 1B**

- 5.3.13 Option 1B would be a similar layout as described above with a 3.5m wide shared path. Drawings 42119\_2003\_112 and 42119\_2003\_113 in Appendix B show the detailed layout.
- 5.3.14 The issues raised above for Option 1A would still be valid and increased due to the greater width requirements for the shared path. Due to the wider paths, permanent acquisition of land from the property adjacent to the western side of the B1345 would also be required.
- 5.3.15 **This option would require permanent acquisition of land on both the east and west sides of the B1345 north of the headwall. Both affected landowners have expressed strong objections to this option. This option would also require land to the east of the B1345 within Drem. This landowner has not been consulted as part of this study.**
- 5.3.16 **This option would meet current Sustrans design standards.**

### Option 2A

5.3.17 The alignment for Option 2A is shown schematically in Figure 5.2 below. Drawings 42119\_2003\_104 and 42119\_2003\_105 in Appendix B show the detailed layout.

5.3.18 Option 2A would involve realigning the B1345 to accommodate a 2.5m wide shared path along the eastern side of the B1345 crossing to the western side within the village of Drem. The path would continue up the western side of the B1345 on the village green before crossing the Drem Farm Cottages Road onto the western B1345 verge. The 2.5m path would continue on the western verge north out of the village of Drem, with the rear edge of the path abutting against the private land boundary. This option would require the removal of the section of established beech hedgerow adjacent to the property boundary.

5.3.19 The uncontrolled crossing across the B1345 would include a pedestrian refuge island with minimum width of 2.0m to accommodate cyclists. Due to the low volume of traffic, the crossing across Drem Farm Cottages Road is proposed to be a standard uncontrolled crossing.

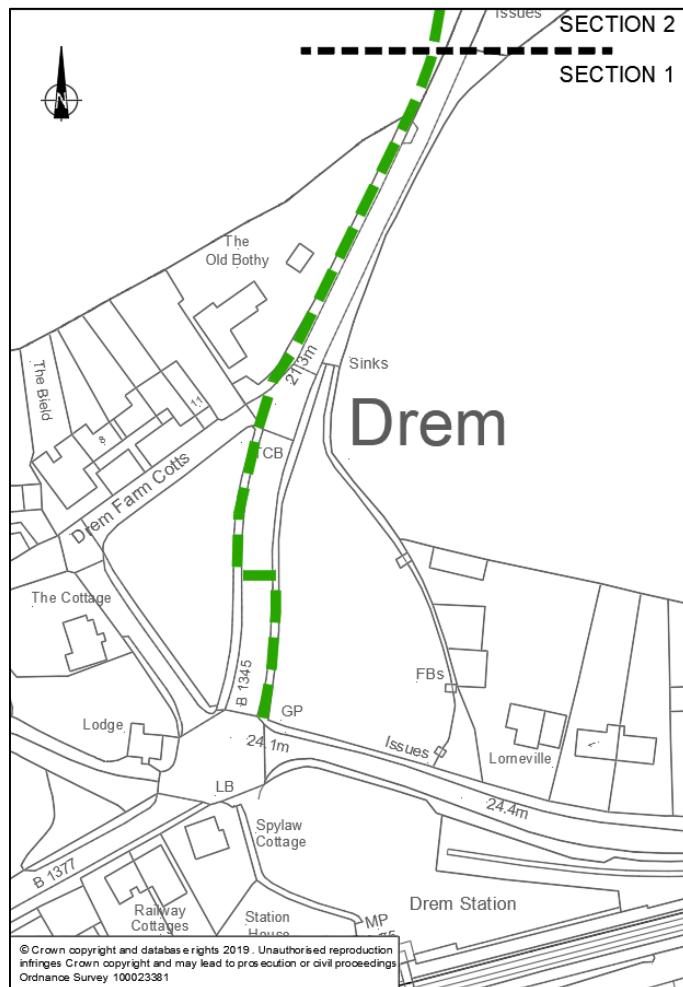


Figure 5.2: Section 1 - Option 2A

5.3.20 The B1345 would need to be realigned in order to minimise the encroachment into third party land. This would require encroaching approximately 2.5m westwards into the village green to provide enough width for the widened paths and refuge island. In order to provide a 2m road verge on the eastern boundary, permanent acquisition would be required of third-party land. There would be a level difference of approximately 1.0m between the proposed road verge and the existing field level to the east of the B1345 which would either require a retaining structure or earthworks, both requiring permanent additional third-party land acquisition.

5.3.21 The realignment of the B1345 to the east would also move the carriageway closer to the existing subterranean culvert. The increased loading from the carriageway may cause issues with cover levels and therefore the culvert may need to be diverted or protected to enable this arrangement. This should be investigated further at the detailed design stage if this option were developed

5.3.22 **This option would require permanent acquisition of land on the east of the B1345 north of Drem and temporary disruptive acquisition of land on the west including the removal of the hedgerow. Both affected landowners have expressed strong objections to this option.**

5.3.23 **This option would not meet current Sustrans design standards.**

### **Option 2B**

5.3.24 Option 2B would be a similar layout as described above but with a 3.5m wide shared path. Drawings 42119\_2003\_114 and 42119\_2003\_115 in Appendix B show the detailed layout.

5.3.25 The issues raised above for Option 2A would still be valid, but they would be exacerbated due to the greater width requirements for the shared path. Due to the wider paths, permanent acquisition of land from the property adjacent to the western side of the B1345 would be required for this option.

5.3.26 **This option would require permanent acquisition of land on both the east and west sides of the B1345 north of the headwall. Both affected landowners have expressed strong objections to this option.**

5.3.27 **This option would meet current Sustrans design standards.**

### **Option 3A**

5.3.28 The alignment for Option 3A is shown schematically in Figure 5.3 below. Drawings 42119\_2003\_106 and 42119\_2003\_107 in Appendix B show the detailed layout.

5.3.29 Option 3A would involve realigning the B1345 to accommodate a continuous 2.5m wide shared path along the eastern side of the B1345 north out of the village of Drem. The route would cross to the western side of the B1345 to join Section 2, north of the property to the western side of the B1345.

5.3.30 There is limited potential to provide a refuge island or carriageway narrowing at the uncontrolled crossing on the B1345. This is because of the proximity of the crossing location to the existing bridge structure to the north. If a refuge island is to be provided at this location, a new bridge structure would be required. This should be investigated further at the detailed design stage if this option is progressed.

5.3.31 There would be a requirement to provide sufficient SSD in advance of the uncontrolled crossing for southbound vehicles. The minimum SSD for an 100kph road is 215m as defined in the DMRB. This may be difficult to achieve and a Departure from Standards may be required to reduce this requirement to 160m.

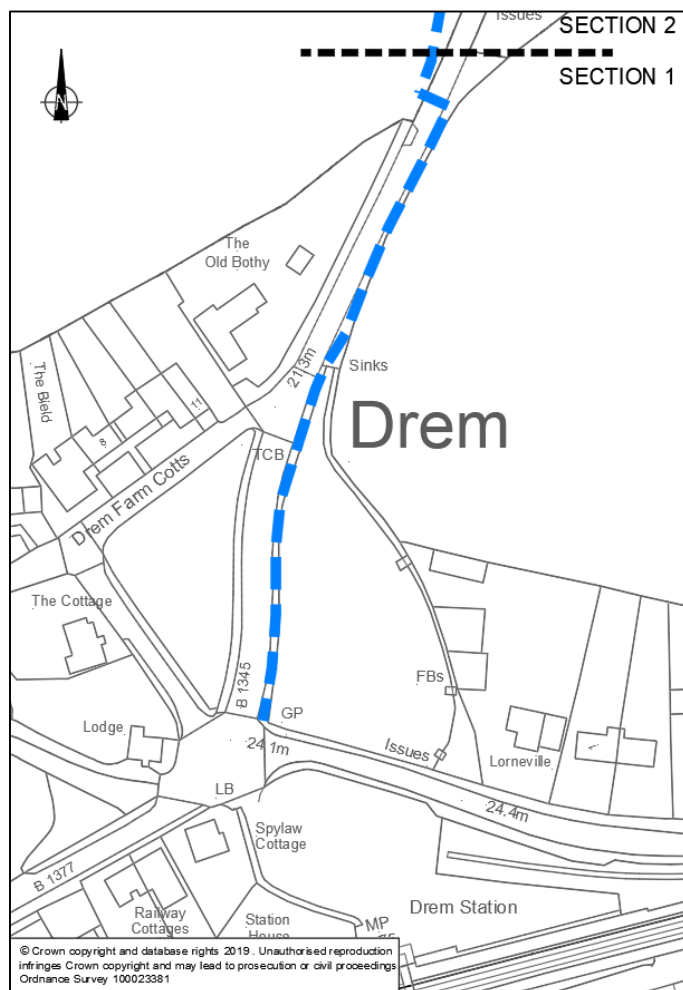


Figure 5.3: Section 1 - Option 3

- 5.3.32 To achieve the splay for the 160m SSD, significant earthworks and tree clearance would be required to level the site in the field west of the B1345.
- 5.3.33 There would be a level difference of approximately 1.0m between the proposed road verge and the existing field level to the east of the B1345. This would either require a retaining structure, involving permanent third-party land acquisition.
- 5.3.34 The realignment of the B1345 may also cause issues with cover levels on the existing subterranean culvert.
- 5.3.35 **This option would require permanent acquisition of land on both the east and west sides of the B1345 north of the headwall. Both affected landowners have expressed strong objections to this option**
- 5.3.36 **This option would not meet current Sustrans design standards.**

### **Option 3B**

- 5.3.37 Option 3B would be the same layout as described above with a 3.5m wide shared path. Drawings 42119\_2003\_116 and 42119\_2003\_117 in Appendix B show the detailed layout.
- 5.3.38 The issues raised above for Option 3A would still be valid, but they would be exacerbated due to the greater width requirements for the shared path. Due to the wider paths, permanent acquisition of land within The Old Bothy would also be required.
- 5.3.39 **This option would require permanent acquisition of land on both the east and west sides of the B1345 north of the headwall. Both affected landowners have expressed strong objections to this option. This option would also require land to the east of the B1345 within Drem. This landowner has not been consulted as part of this study.**
- 5.3.40 **This option would meet current Sustrans design standards.**

## 5.4 Section 2 - 40mph Speed Limit to Peffer Burn

### Option 1A

5.4.1 Option 1A is a segregated 2.5m wide shared path, which would run parallel to the B1345 in agricultural land to the west, as illustrated in Figure 5.4. This option is based on recommendations from the '*Peffer Burn to Drem Feasibility Study*'. The alignment for Option 1A is shown schematically in Figure 5.4 below. Drawings 42119\_2003\_202 and 42119\_2003\_203 in Appendix B show the layout of Option 1A.

5.4.2 The route would begin at the 40mph speed limit and continue northwards to the layby south of Peffer Burn.

5.4.3 Adjacent to the road there are field drainage ditches and established trees and hedgerows along significant portions of the route. The route would be located behind these existing features within private land, with a minimum offset of 0.5m. This would minimise impacts on existing drainage and landscaping.

5.4.4 As the shared path would be in private land, a fence would be required along the full length of the western side. It is also proposed that a fence would be provided along most of the eastern side to separate the shared path from the burn embankment.

5.4.5 An 8m long footbridge would be required to cross a field drainage ditch. The existing layby would be resurfaced to improve drainage and the field access would be formalised with asphalt surfacing.

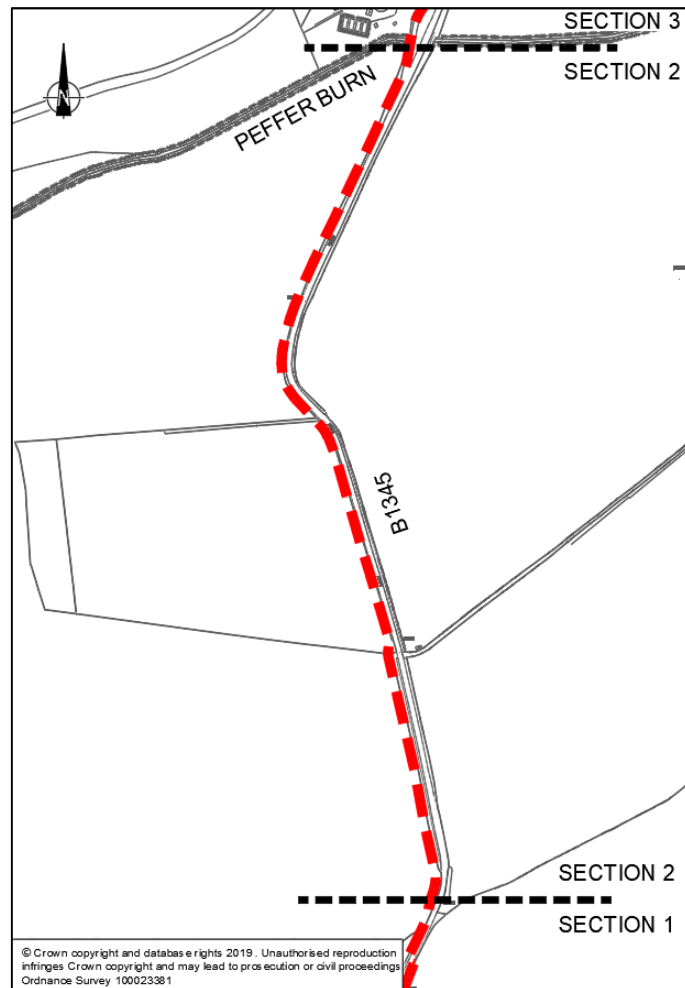


Figure 5.4: Section 2 - Option 1

5.4.6 The affected landowner has indicated a willingness to accommodate the shared path within the existing 4m wide field buffer. However, this option for a 2.5m wide shared path would not meet current Sustrans design standards.

### Option 1B

5.4.7 Option 1B would be a similar layout as described above, but with a 3.0m wide shared path. However, there may be insufficient space to accommodate a 3.0m wide shared path and the associated accommodation works within the existing 4m wide field buffer.

5.4.8 This option may require additional land outside the existing field buffer, which may not be acceptable to the landowner. The required land extents would need to be confirmed by a detailed topographical survey. Sustrans have indicated that a 3.0m shared path would be acceptable through this section as an absolute minimum.

## 5.5 Section 3 - Peffer Burn to Fenton Steading Access

### Option 1A

5.5.1 Option 1A would consist of a new 3.5m wide section of shared use path built on the western verge of the B1345. The alignment for Option 1A is shown schematically in Figure 5.5 below. Drawings 42119\_2003\_302 and 42119\_2003\_303 in Appendix B show the layout of Option 1A.

5.5.2 The route would enter the southern end of the Peffer Burn layby from Section 2. The existing field access would be relocated north of this point and formalised with asphalt surfacing and a new gate and fencing arrangement. The layby would require regrading and resurfacing to provide a suitable running surface free of ponding.

5.5.3 The route would continue northwards within the layby before joining the proposed shared use path at the junction with the B1345. The path would be directly adjacent to the existing carriageway edge. The existing hedge and vegetation would need to be cut back to accommodate construction.

5.5.4 The proposed 3.5m wide path consists of a 2m wide shared path and 1.5m wide separation from the carriageway due to the speed limit being 60mph. The rear of the path would encroach on third-party land and would require the existing hedge and boundary fence to be removed and a new fence to be installed.

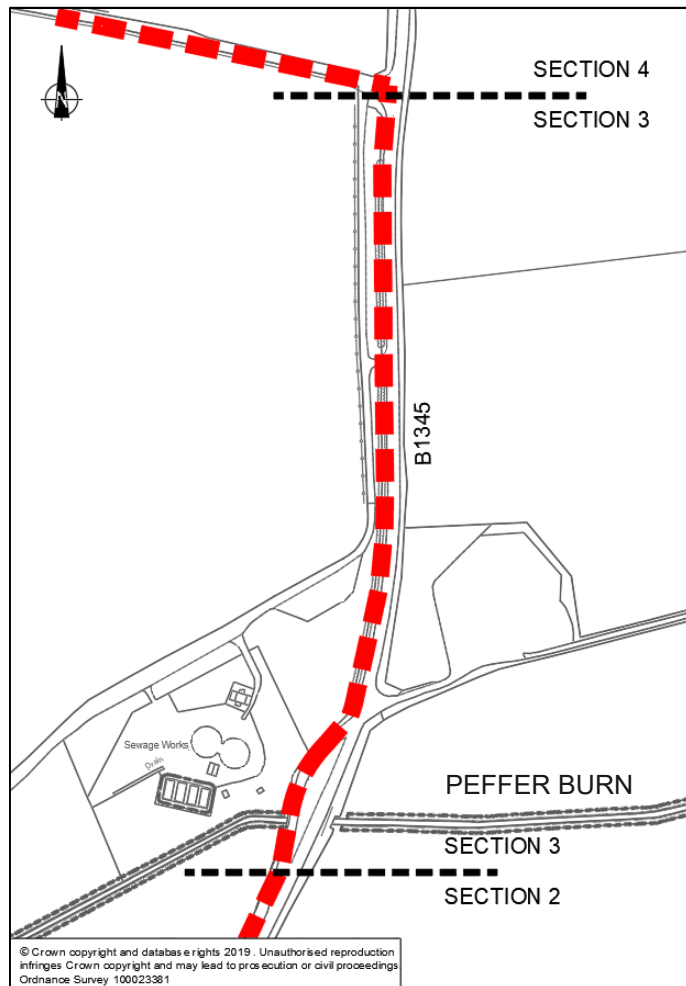


Figure 5.5: Section 3 - Option 1A

5.5.5 The existing field access gate would be repositioned relative to the new boundary fence and the cycle path would be a continuous paved surface over the access.

5.5.6 The proposed path would continue northwards to the Fenton Steading junction where cyclists would join the carriageway.

5.5.7 **This option would require permanent acquisition of land on the west side of the B1345. The affected landowner did not express any particular opinions on this option, as through discussion it was accepted that Option 2A and Option 2B offered better solutions. This option would not meet current Sustrans design standards.**



### Option 1B

- 5.5.8 Option 1B would be a similar layout as described above with a 3.5m wide shared path with a 1.5m wide separation from the carriageway due to the speed limit being 60mph.
- 5.5.9 The issues raised above for Option 1A would still be valid, but they would be exacerbated due to the greater width requirements for the shared path.
- 5.5.10 **This option would require permanent acquisition of land on the west side of the B1345. The affected landowner did not express any particular opinions on this option, as through discussion it was accepted that Option 2A and Option 2B offered better solutions. This option would meet current Sustrans design guidelines.**

### Option 2A

- 5.5.11 Option 2A would utilise the existing section of private track running parallel to the B1345 between Pepper Burn Layby and Fenton Steading Access. The alignment for Option 2A is shown schematically in Figure 5.6 below. Drawings 42119\_2003\_304 and 42119\_2003\_305 in Appendix B shows the layout of Option 2A.

- 5.5.12 The route would enter the southern end of the Pepper Burn layby from Section 2. The existing field access would be relocated north of this point and formalised with asphalt surfacing and a new gate and fencing arrangement. The layby would require regrading/resurfacing.

- 5.5.13 The route would continue northwards on the layby before joining the proposed 2.5m wide shared use path in advance of the junction with the B1345. The path would continue northwards through the wooded area for approximately 100m before joining the existing private access track.

- 5.5.14 A fence would be required along the full length of the western side of the shared path to provide screening to the wastewater treatment works to the west. The proposed fence would extend from the bridge over Pepper Burn to the new gate on the private access track. Appropriate access control bollards would be positioned at either end of the new path to prohibit vehicular access.



Figure 5.6: Section 3 - Option 2A

- 5.5.15 The path would require a 2m clear verge and significant tree removal to accommodate construction. Appropriate ecological and arboricultural surveys would be needed to confirm its viability. There may also be a requirement for the pavement structure to have a geotextile membrane to protect the path from future tree root damage. These issues should be investigated further as part of any future design development.
- 5.5.16 The existing private access track would be upgraded to provide an asphalt running surface. The pavement structure would be designed to accommodate occasional heavy vehicle overrun. The existing boundary fence and gates would need to be repositioned to

accommodate the new path. A turning head would be provided at the proposed gate position to enable vehicles to turn. The track would be resurfaced up to the junction with the Fenton Steading Access on the local road network and cyclists would join the carriageway.

- 5.5.17 **The affected landowner has indicated a willingness to accommodate the shared path and the access track upgrades within their land, however, it would not meet current Sustrans design guidelines.**

#### **Option 2B**

- 5.5.18 Option 2B would be the same layout as described above but with a 3.0m wide shared path through the wooded area. The additional width would require further tree clearance and more land acquisition for a length of approximately 100m.
- 5.5.19 **As noted in Option 2B above, the affected landowner has indicated a willingness to accommodate the shared path and the access track upgrades within their land. It would meet the current Sustrans design standards**

### **5.6 Section 4 - Fenton Steading Access to Gullane**

- 5.6.1 The remainder of the route would continue on quiet roads around Fenton Barns and West Fenton as shown on drawing 42119\_2003\_0402 in Appendix B. It is proposed that there would be wayfinding and warning signs to promote the route and raise awareness for drivers.
- 5.6.2 The route would leave the public road to the north west of Fenton Barns and would continue along a section of private road. The section connecting Fenton Barns to Craighead Cottages would be reconstructed and surfaced with an asphalt surface course.
- 5.6.3 **The affected landowner indicated a willingness to consider upgrading of the section of private road between Fenton Barns and Craighead Cottages. It would meet the current Sustrans design standards**
- 5.6.4 The route would re-join the public road at Craighead Cottage. Fenton Road is currently being designated as a quiet road by ELC under a traffic order. This would include a speed limit restriction of 40mph from Gullane to the B1345. It is proposed that the order be made permanent and additional warning signage provided where cyclists are re-joining the carriageway.
- 5.6.5 The route continues along Fenton Road northwards past West Fenton terminating at the residential development south of Gullane.
- 5.6.6 It is noted that the developer of the residential site is proposing to construct a 1.2m wide wheelie bin footpath between the residential development and West Fenton. The 1.2m wide path would not conform to the minimum design criteria set out in section 2.2. and would require a significant upgrade with additional land to improve the proposed designs up to an acceptable shared use standard. The low traffic volumes along this section combined with reduced traffic speeds from the proposed 40mph speed limit would make an on-carriageway route more appropriate. Therefore, an off-carriageway link at this section has not been considered as part of this report.



## 6 Route Option Assessment

### 6.1 Option Assessment Process

6.1.1 A matrix assessment was undertaken for each route option against the five core design criteria in ‘*Cycling by Design*’, which are: Attractiveness, Coherence, Comfort, Directness, and Safety. It was considered the assessment should also include an evaluation of deliverability. This reflected feedback from project stakeholders and the recommendation from the Mediator that there should be “*No land-take from private landowners outwith the existing road and verges*”.

6.1.2 The six criteria used for the matrix assessment were as follows:

- **Attractiveness:** The perception of a route is important, particularly in attracting new users. Infrastructure should be designed in harmony with its surroundings in such a way that the whole experience makes cycling an attractive option. A route should complement and where possible, enhance the area through which it passes. The treatment of sensitive issues including lighting, personal security, aesthetics, environmental quality and noise are important considerations.
- **Coherence:** Cycling infrastructure should form a coherent network which links origins and destinations. Coherence is about giving people the opportunity to access places by bicycle and to integrate cycling with other modes of travel. Routes should be continuous from an origin to a destination, easy to navigate and of a consistently high quality.
- **Comfort:** Non-sports cyclists prefer sheltered, smooth, uninterrupted, well-maintained surfaces with gentle gradients. Routes should minimise the mental and physical stress required. Routes should meet surface width, quality and gradient standards and be convenient, avoiding complex manoeuvres.
- **Safety:** Design should minimise the potential for actual and perceived accident risk. Perceived risk is a key barrier to cycle use and users should feel safe as well as be safe. It is important to provide consistency of design and avoid ambiguity.
- **Directness:** Cyclists should be offered as direct a route as possible based on existing and latent trip desire lines, minimising detours and delays. It should be recognised that directness has both geographical and time elements, and delays at junctions and crossings as well as physical detours will affect use.
- **Deliverability:** Design should consider constructability and land ownership boundaries so that all constraints and potential objections can be resolved within the timeframe for delivery.

6.1.3 The route options were evaluated using the following scoring system:

- + 3      Significant Positive
- + 2      Moderate Positive
- + 1      Slight Positive
- 0        Neutral
- - 1      Slight Negative
- - 2      Moderate Negative
- - 3      Significant Negative

6.1.4 The matrix assessments that were undertaken for Sections 1 to 4 are summarised in Tables 6.1 to 6.4 respectively.

Table 6.1: Matrix Assessment: Section 1 – Drem to 40 mph Speed Limit

Assessment Criteria	Section 1 - Option 1	Section 1 - Option 2	Section 1 - Option 3
<b>Attractiveness</b> <i>Should complement and enhance the environment in such a way that cycling is attractive.</i>	<ul style="list-style-type: none"> <li><b>1A</b> – A 2.5m shared path at this location would provide an off-carriageway route in a pleasant peri-urban environment which would be attractive for both walking and cycling.</li> <li><b>1A</b> – There would be no requirement to remove the section of established beech hedge. The footpath would need to encroach marginally on to the village green.</li> <li><b>1A</b> – There would be increased noise and congestion as a result of the traffic priority system.</li> <li><b>1B</b> – As above, however there would be increased encroachment onto the village green.</li> </ul>	<ul style="list-style-type: none"> <li><b>2A</b> – A 2.5m shared path at this location would provide an off-carriageway route in a pleasant peri-urban environment which would be attractive for both walking and cycling.</li> <li><b>2A</b> – There would be a requirement to encroach onto the village green by approximately 2.5m.</li> <li><b>2A</b> – The existing hedgerow in front of a private property would need to be removed.</li> <li><b>2B</b> – As above, however there would be increased encroachment onto the village green and into third party land.</li> </ul>	<ul style="list-style-type: none"> <li><b>3A</b> – a continuous 2.5m shared path at this location would provide an off-carriageway route in a pleasant peri-urban environment which would be attractive for both walking and cycling.</li> <li><b>3A</b> – The footpath would need to encroach marginally on to the village green. The existing hedgerow in front of a private property may be able to be maintained and incorporated into the highway verge subject to trimming.</li> <li><b>3B</b> – As above, however there would be increased encroachment onto the village green and into third party land. It is likely that the hedge would need to be removed to accommodate the wider path construction.</li> </ul>
<b>Score</b>	<ul style="list-style-type: none"> <li><b>1A</b> +1</li> <li><b>1B</b> -1</li> </ul>	<ul style="list-style-type: none"> <li><b>2A</b> 0</li> <li><b>2B</b> -2</li> </ul>	<ul style="list-style-type: none"> <li><b>3A</b> +1</li> <li><b>3B</b> -1</li> </ul>

Assessment Criteria	Section 1 - Option 1	Section 1 - Option 2	Section 1 - Option 3
<b>Coherence</b> <i>Should be continuous and consistent from origin to destination.</i>	<ul style="list-style-type: none"> <li><b>1A</b> – one uncontrolled crossing required within the 40mph section. The proposed road narrowing would help with crossing movements.</li> <li><b>1A</b> – Consistent 2.5m wide asphalt surface along the full length.</li> <li><b>1B</b> – As above but with a 3.5m wide path. Due to the low volume of anticipated users it is not considered that this would provide any additional coherence benefits.</li> </ul>	<ul style="list-style-type: none"> <li><b>2A</b> – two uncontrolled crossings required within the 40mph section. The proposed refuge island would help with crossing B1345 within the village of Drem.</li> <li><b>2A</b> – Consistent 2.5m wide asphalt surface along the full length.</li> <li><b>2B</b> – As above but with a 3.5m wide path. Due to the low volume of anticipated users it is not considered that this would provide any additional coherence benefits.</li> </ul>	<ul style="list-style-type: none"> <li><b>3A</b> – one uncontrolled crossing required within the 40mph section. The crossing is close to national speed limit terminals and does not have the capacity for a refuge island or carriageway narrowing.</li> <li><b>3A</b> – Consistent 2.5m wide asphalt surface along the full length.</li> <li><b>3B</b> – As above but with a 3.5m wide path. Due to the low volume of anticipated users it is not considered that this would provide any additional coherence benefits.</li> </ul>
<b>Score</b>	<ul style="list-style-type: none"> <li><b>1A</b> +2</li> <li><b>1B</b> +2</li> </ul>	<ul style="list-style-type: none"> <li><b>2A</b> +1</li> <li><b>2B</b> +1</li> </ul>	<ul style="list-style-type: none"> <li><b>3A</b> +1</li> <li><b>3B</b> +1</li> </ul>
<b>Comfort</b> <i>Should meet surface width, quality and gradient standards and be convenient by avoiding complex manoeuvres.</i>	<ul style="list-style-type: none"> <li><b>1A</b> – The route would have shallow gradients along its entire length with no complex manoeuvres required.</li> <li><b>1A</b> – Smooth asphalt surface would be provided.</li> <li><b>1B</b> – As above but 3.5m surface along full length of this section would provide additional comfort.</li> </ul>	<ul style="list-style-type: none"> <li><b>2A</b> – The route would have shallow gradients along its entire length with no complex manoeuvres required.</li> <li><b>2A</b> – Smooth asphalt surface would be provided.</li> <li><b>2B</b> – As above but 3.5m surface along full length of this section would provide additional comfort.</li> </ul>	<ul style="list-style-type: none"> <li><b>3A</b> – The route would have shallow gradients along its entire length with no complex manoeuvres required.</li> <li><b>3A</b> – Smooth asphalt surface would be provided.</li> <li><b>3B</b> – As above but 3.5m surface along full length of this section would provide additional comfort.</li> </ul>
<b>Score</b>	<ul style="list-style-type: none"> <li><b>1A</b> +2</li> <li><b>1B</b> +3</li> </ul>	<ul style="list-style-type: none"> <li><b>2A</b> +2</li> <li><b>2B</b> +3</li> </ul>	<ul style="list-style-type: none"> <li><b>3A</b> +2</li> <li><b>3B</b> +3</li> </ul>

Assessment Criteria	Section 1 - Option 1	Section 1 - Option 2	Section 1 - Option 3
<b>Safety</b> <i>Should minimise the potential for actual and perceived accident risk.</i>	<ul style="list-style-type: none"> <li><b>1A</b> – The proposed road narrowing for the priority traffic system may increase the likelihood for a road traffic accident (e.g. rear end shunt) due to the speed of following traffic. The visibility splay would need to be unobstructed to achieve the required SSD.</li> <li><b>1A</b> – The proposed road narrowing for the priority traffic system may cause congestion and queuing, increasing the likelihood for a road traffic accident (e.g. rear end shunt) and reducing the air quality within Drem.</li> <li><b>1A</b> – The road geometry would be compromised to accommodate the priority system within the current constraints.</li> <li><b>1A</b> – The road narrowing would provide a minor increase to the safety of crossing pedestrians and cyclists.</li> <li><b>1B</b> – As above.</li> </ul>	<ul style="list-style-type: none"> <li><b>2A</b> – The proposed arrangement provides a 2.0m wide refuge island to assist crossing movements across the B1345 appropriate for pedestrians and cyclists. There would be no impact to road traffic to accommodate the crossing.</li> <li><b>2A</b> – There is an additional uncontrolled crossing required across Drem Farm Cottages Road. This road is lightly trafficked.</li> <li><b>2B</b> – As above.</li> </ul>	<ul style="list-style-type: none"> <li><b>3A</b> – The proposed arrangement provides an uncontrolled crossing across the B1345 near the national speed limit. There is no scope for road narrowing or provision of a refuge island due to the proximity to the bridge.</li> <li><b>3A</b> – The crossing location is close to the national speed limit section.</li> <li><b>3B</b> – As above.</li> </ul>
<b>Score</b>	<ul style="list-style-type: none"> <li><b>1A</b> -2</li> <li><b>1B</b> -2</li> </ul>	<ul style="list-style-type: none"> <li><b>2A</b> +2</li> <li><b>2B</b> +2</li> </ul>	<ul style="list-style-type: none"> <li><b>3A</b> -3</li> <li><b>3B</b> -3</li> </ul>

Assessment Criteria	Section 1 - Option 1	Section 1 - Option 2	Section 1 - Option 3
<b>Directness</b> <i>Should be as direct as possible and minimise detours and delays. The impact of junctions and crossings on journey times should be considered.</i>	<ul style="list-style-type: none"> <li>• <b>1A</b> – Would provide a continuous shared path facility from Drem Station to the 40mph speed limit signs.</li> <li>• <b>1A</b> – One uncontrolled crossing required on the B1345.</li> <li>• <b>1B</b> – As above.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>2A</b> – Would provide a continuous shared path facility from Drem Station to the 40mph speed limit signs.</li> <li>• <b>2A</b> – One uncontrolled crossing required on the B1345 and one uncontrolled crossing required across a minor road.</li> <li>• <b>2B</b> – As above.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>3A</b> – Would provide a continuous shared path facility from Drem Station to the 40mph speed limit signs.</li> <li>• <b>3A</b> – One uncontrolled crossing required on the B1345.</li> <li>• <b>3B</b> – As above.</li> </ul>
<b>Score</b>	<ul style="list-style-type: none"> <li>• <b>1A</b> +2</li> <li>• <b>1B</b> +2</li> </ul>	<ul style="list-style-type: none"> <li>• <b>2A</b> +2</li> <li>• <b>2B</b> +2</li> </ul>	<ul style="list-style-type: none"> <li>• <b>3A</b> +2</li> <li>• <b>3B</b> +2</li> </ul>

Assessment Criteria	Section 1 - Option 1	Section 1 - Option 2	Section 1 - Option 3
<b>Deliverability</b> <i>Should consider constructability and land ownership boundaries so that all constraints and potential objections can be resolved within the timeframe for delivery</i>	<ul style="list-style-type: none"> <li>• <b>1A</b> – Would require permanent acquisition of an approximately 2.0m wide strip of private land to the east.</li> <li>• <b>1A</b> – Would require temporary disruptive acquisition of an approximately 0.5m wide strip of private land on the west.</li> <li>• <b>1A</b> – Would require significant earthworks and clearance works to provide an adequate visibility splay.</li> <li>• <b>1A</b> – Would potentially cause issues with the existing culvert which may need to be diverted and/or protected.</li> <li>• <b>1A</b> – Would require a retaining structure between the shared path/verge and the field level to the east.</li> <li>• <b>1A</b> – The impact to road traffic may cause significant congestion.</li> <li>• <b>1A</b> – Would require permanent land take within the field paddock in Drem. The existing headwall would need to be relocated and upgraded.</li> <li>• <b>1B</b> – As above, but the wider path would require additional permanent acquisition of land to the east and west.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>2A</b> – Would require permanent acquisition of an approximately 2.0m wide strip of private land to the east.</li> <li>• <b>2A</b> – Would require temporary disruptive acquisition of an approximately 0.5m wide strip of private land on the west.</li> <li>• <b>2A</b> – Would potentially cause cover issues with the existing culvert which may need to be diverted and/or protected.</li> <li>• <b>2A</b> – Would require a retaining structure or earthworks to accommodate the level difference between the shared path/verge and the field level to the east.</li> <li>• <b>2B</b> – As above, but the wider path would require additional permanent acquisition of land to the east and west.</li> <li>• <b>2B</b> – Would require permanent land take within the field paddock in Drem.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>3A</b> – Would require permanent acquisition of an approximately 2.0m wide strip of private land to the east.</li> <li>• <b>3A</b> – Would require permanent acquisition of an approximately 2.0m wide strip of private land on the west.</li> <li>• <b>3A</b> – Would potentially cause cover issues with the existing culvert which may need to be diverted and/or protected.</li> <li>• <b>3A</b> – Would require a retaining structure or earthworks to accommodate the level difference between the shared path/verge and the field level to the east.</li> <li>• <b>3B</b> – As above, but the wider path would require additional permanent acquisition of land to the east and west.</li> <li>• <b>3B</b> – Would require permanent land take within the field paddock in Drem. The existing headwall would need to be relocated and upgraded to allow construction of the path on top of this.</li> </ul>
Score	<ul style="list-style-type: none"> <li>• <b>1A</b> -3</li> <li>• <b>1B</b> -3</li> </ul>	<ul style="list-style-type: none"> <li>• <b>2A</b> -2</li> <li>• <b>2B</b> -3</li> </ul>	<ul style="list-style-type: none"> <li>• <b>3A</b> -2</li> <li>• <b>3B</b> -3</li> </ul>
TOTALS	<ul style="list-style-type: none"> <li>• <b>1A</b> +2</li> <li>• <b>1B</b> +1</li> </ul>	<ul style="list-style-type: none"> <li>• <b>2A</b> +5</li> <li>• <b>2B</b> +3</li> </ul>	<ul style="list-style-type: none"> <li>• <b>3A</b> +1</li> <li>• <b>3B</b> -1</li> </ul>

Table 6.2: Matrix Assessment: Section 2 – 40mph Speed Limit to Pepper Burn

Assessment Criteria	Section 2 - Option 1A	Section 2 - Option 1B
<b>Attractiveness</b> <i>Should complement and enhance the environment in such a way that cycling is attractive.</i>	<ul style="list-style-type: none"> <li>The shared path would provide a segregated off-carriageway route in a pleasant rural environment which would be attractive for both walking and cycling.</li> <li>Much of the route would be screened from the adjacent B1345 by the existing trees and hedgerows.</li> </ul>	<ul style="list-style-type: none"> <li>As per Option 1A, however there would be a wider path of 3.5m which may impact the rural setting.</li> </ul>
<b>Score</b>	• <b>+2</b>	• <b>+1</b>
<b>Coherence</b> <i>Should be continuous and consistent from origin to destination.</i>	<ul style="list-style-type: none"> <li>Provides a continuous off-carriageway route from the 40mph speed limit to Pepper Burn.</li> <li>Consistent 2.5m wide asphalt surface along the full length.</li> </ul>	<ul style="list-style-type: none"> <li>As per Option 1A, however there would be a wider path of 3.5m. Due to the low volume of anticipated users it is not considered that this would provide any additional coherence benefits.</li> </ul>
<b>Score</b>	• <b>+3</b>	• <b>+3</b>
<b>Comfort</b> <i>Should meet surface width, quality and gradient standards and be convenient by avoiding complex manoeuvres.</i>	<ul style="list-style-type: none"> <li>The route would have shallow gradients along its entire length with no complex manoeuvres required.</li> <li>No physical constraints to the formation of a shared path with a surface width of 2.5m.</li> <li>Smooth asphalt surface would be provided.</li> </ul>	<ul style="list-style-type: none"> <li>As per Option 1A.</li> </ul>
<b>Score</b>	• <b>+3</b>	• <b>+3</b>

Assessment Criteria	Section 2 - Option 1A	Section 2 - Option 1B
<b>Safety</b> <i>Should minimise the potential for actual and perceived accident risk.</i>	<ul style="list-style-type: none"> <li>Route segregated from high speed traffic on the B1345 along the full length of this section.</li> <li>No road crossings on the high-speed section of the B1345.</li> <li>Potential conflict with agricultural vehicles at field access points.</li> </ul>	<ul style="list-style-type: none"> <li>As per Option 1A, however there would be a wider path of 3.5m. Due to the low volume of anticipated users it is not considered that this would provide any additional safety benefits.</li> </ul>
<b>Score</b>	<ul style="list-style-type: none"> <li><b>+3</b></li> </ul>	<ul style="list-style-type: none"> <li><b>+3</b></li> </ul>
<b>Directness</b> <i>Should be as direct as possible and minimise detours and delays. The impact of junctions and crossings on journey times should be considered.</i>	<ul style="list-style-type: none"> <li>Provides a continuous off-carriageway route from the 40mph speed limit to Pepper Burn on the B1345.</li> <li>No road crossings required.</li> </ul>	<ul style="list-style-type: none"> <li>As per Option 1A.</li> </ul>
<b>Score</b>	<ul style="list-style-type: none"> <li><b>+3</b></li> </ul>	<ul style="list-style-type: none"> <li><b>+3</b></li> </ul>
<b>Deliverability</b> <i>Should consider constructability and land ownership boundaries so that all constraints and potential objections can be resolved within the timeframe for delivery.</i>	<ul style="list-style-type: none"> <li>Route would be constructed on third party land (farmland).</li> <li>Landowner has expressed a willingness to accommodate a shared path within the field buffer margin (approximately 4.0m wide).</li> <li>New bridge required across field drainage ditch.</li> </ul>	<ul style="list-style-type: none"> <li>As per Option 1A, however the wider path of 3.5m would not be able to fit within the field buffer margin and would require additional third-party land take of usable agricultural land.</li> </ul>
<b>Score</b>	<ul style="list-style-type: none"> <li><b>+2</b></li> </ul>	<ul style="list-style-type: none"> <li><b>-3</b></li> </ul>
<b>TOTALS</b>	<ul style="list-style-type: none"> <li><b>+16</b></li> </ul>	<ul style="list-style-type: none"> <li><b>+10</b></li> </ul>



Table 6.3: Matrix Assessment: Section 3 – Peffer Burn to Fenton Steading Access

Assessment Criteria	Section 3 - Option 1	Section 3 - Option 2
<b>Attractiveness</b> <i>Should complement and enhance the environment in such a way that cycling is attractive.</i>	<ul style="list-style-type: none"> <li>• <b>1A</b> – a 2.5m shared path at this location would provide a predominantly off-carriageway route adjacent to the busy high speed B1345</li> <li>• <b>1A</b> – The existing hedgerow on the western verge of the B1345 would need to be removed.</li> <li>• <b>1A</b> – The small section of shared carriageway along the Peffer Burn layby would be regraded and resurfaced. It is anticipated that due to the low traffic volumes in this area that shared carriageway is considered appropriate.</li> <li>• <b>1B</b> – As above, however the 5.0m wide corridor required to accommodate the path may impact the rural setting and appear unusual adjacent to a 6.5m wide road.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>2A</b> – The shared path would provide a predominantly segregated off-carriageway route in a pleasant rural environment which would be attractive for both walking and cycling.</li> <li>• <b>2A</b> – The small section of shared carriageway along the Peffer Burn layby would be regraded and resurfaced. It is anticipated that due to the low traffic volumes in this area that shared carriageway is considered appropriate.</li> <li>• <b>2A</b> – Much of the route would be on low trafficked private access track which will be screened from the adjacent B1345 by the existing trees and hedgerows.</li> <li>• <b>2A</b> – There would be a requirement to remove existing woodland including mature sycamore trees to accommodate the path construction.</li> <li>• <b>2B</b> – As above, however there would be a requirement to remove additional trees to accommodate the wider path construction.</li> </ul>
<b>Score</b>	<ul style="list-style-type: none"> <li>• <b>1A</b> +2</li> <li>• <b>1B</b> +1</li> </ul>	<ul style="list-style-type: none"> <li>• <b>2A</b> +3</li> <li>• <b>2B</b> +2</li> </ul>

Assessment Criteria	Section 3 - Option 1	Section 3 - Option 2
<b>Coherence</b> <i>Should be continuous and consistent from origin to destination.</i>	<ul style="list-style-type: none"> <li><b>1A</b> – Provides a predominantly off-carriageway route from the Peffer Burn to Fenton Steadings Access. It is proposed that adequate wayfinding signage is provided within the Peffer Burn layby to guide cyclists through this short section.</li> <li><b>1A</b> – Consistent asphalt surface along the full length.</li> <li><b>1B</b> – As above but with a 3.5m wide path. Due to the low volume of anticipated users it is not considered that this would provide any additional coherence benefits.</li> </ul>	<ul style="list-style-type: none"> <li><b>2A</b> – Provides a predominantly off-carriageway route from the Peffer Burn to Fenton Steadings Access utilising a section of low trafficked private access track segregated from the B1345. It is proposed that adequate wayfinding signage is provided within the Peffer Burn layby to guide cyclists through this short section.</li> <li><b>2A</b> – Consistent asphalt surface along the full length.</li> <li><b>2B</b> – As above but with a 3.5m wide path. Due to the low volume of anticipated users it is not considered that this would provide any additional coherence benefits.</li> </ul>
<b>Score</b>	<ul style="list-style-type: none"> <li><b>1A</b> +2</li> <li><b>1B</b> +2</li> </ul>	<ul style="list-style-type: none"> <li><b>2A</b> +2</li> <li><b>2B</b> +2</li> </ul>
<b>Comfort</b> <i>Should meet surface width, quality and gradient standards and be convenient by avoiding complex manoeuvres.</i>	<ul style="list-style-type: none"> <li><b>1A</b> – The route would have shallow gradients along its entire length with no complex manoeuvres required.</li> <li><b>1A</b> – Smooth asphalt surface would be provided.</li> <li><b>1B</b> – As above but 3.5m surface along full length of this section would provide additional comfort.</li> </ul>	<ul style="list-style-type: none"> <li><b>2A</b> – The route would have shallow gradients along its entire length with no complex manoeuvres required.</li> <li><b>2A</b> – Smooth asphalt surface would be provided.</li> <li><b>2B</b> – As above but the wider 3.5m surface would only apply over a short length of approximately 100m and therefore would not provide any significant additional comfort.</li> </ul>
<b>Score</b>	<ul style="list-style-type: none"> <li><b>1A</b> +2</li> <li><b>1B</b> +3</li> </ul>	<ul style="list-style-type: none"> <li><b>2A</b> +3</li> <li><b>2B</b> +3</li> </ul>

Assessment Criteria	Section 3 - Option 1	Section 3 - Option 2
<b>Safety</b> <i>Should minimise the potential for actual and perceived accident risk.</i>	<ul style="list-style-type: none"> <li><b>1A</b> – The small section of shared carriageway along the Pepper Burn layby would be regraded and resurfaced. It is anticipated that due to the low traffic volumes in this area that shared carriageway is considered appropriate.</li> <li><b>1A</b> – Route would have a 1.5m separation from the high-speed traffic on the B1345 along the full length of this section.</li> <li><b>1A</b> – No road crossings on the high-speed section of the B1345.</li> <li><b>1A</b> – Potential conflict with agricultural vehicles at field access points.</li> <li><b>1B</b> – As above but with a 3.5m wide path. Due to the low volume of anticipated users it is not considered that this would provide any additional safety benefits.</li> </ul>	<ul style="list-style-type: none"> <li><b>2A</b> – The small section of shared carriageway along the Pepper Burn layby would be regraded and resurfaced. It is anticipated that due to the low traffic volumes in this area that shared carriageway is considered appropriate.</li> <li><b>2A</b> – Route segregated from high speed traffic on the B1345 along the full length of this section.</li> <li><b>2A</b> – No road crossings on the high-speed section of the B1345.</li> <li><b>2A</b> – Potential conflict with agricultural vehicles along the upgraded private access track.</li> <li><b>2B</b> – As above but the wider 3.5m surface would only apply over a short length of approximately 100m and due to the low volume of anticipated users it is not considered that this would provide any additional safety benefits.</li> </ul>
<b>Score</b>	<ul style="list-style-type: none"> <li><b>1A</b> +1</li> <li><b>1B</b> +1</li> </ul>	<ul style="list-style-type: none"> <li><b>2A</b> +2</li> <li><b>2B</b> +2</li> </ul>

Assessment Criteria	Section 3 - Option 1	Section 3 - Option 2
<b>Directness</b> <i>Should be as direct as possible and minimise detours and delays. The impact of junctions and crossings on journey times should be considered.</i>	<ul style="list-style-type: none"> <li>• <b>1A</b> – Would provide a predominantly continuous shared path facility from Pepper Burn layby to the Fenton Steading Access adjacent to the B1345.</li> <li>• <b>1A</b> – The small section of shared carriageway along the Pepper Burn layby would be regraded and resurfaced. It is anticipated that due to the low traffic volumes in this area that shared carriageway is considered appropriate.</li> <li>• <b>1A</b> – No road crossings required.</li> <li>• <b>1B</b> – As above.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>2A</b> – Would provide a predominantly off-carriageway path facility from Pepper Burn layby to the Fenton Steading Access utilising the low trafficked private track.</li> <li>• <b>2A</b> – The small section of shared carriageway along the Pepper Burn layby would be regraded and resurfaced. It is anticipated that due to the low traffic volumes in this area that shared carriageway is considered appropriate.</li> <li>• <b>2A</b> – No road crossings required.</li> <li>• <b>2B</b> – As above.</li> </ul>
<b>Score</b>	<ul style="list-style-type: none"> <li>• <b>1A</b> +2</li> <li>• <b>1B</b> +2</li> </ul>	<ul style="list-style-type: none"> <li>• <b>2A</b> +2</li> <li>• <b>2B</b> +2</li> </ul>

Assessment Criteria	Section 3 - Option 1	Section 3 - Option 2
<b>Deliverability</b> <i>Should consider constructability and land ownership boundaries so that all constraints and potential objections can be resolved within the timeframe for delivery.</i>	<ul style="list-style-type: none"> <li>• <b>1A</b> – Would require permanent acquisition of an approximately 2.0m wide strip of private land to the west.</li> <li>• <b>1A</b> – Would require the removal of the existing hedgerow.</li> <li>• <b>1B</b> – As above, however there would be a requirement for additional land which would need to be negotiated with the landowner.</li> </ul>	<ul style="list-style-type: none"> <li>• <b>2A</b> – Route would be constructed on third party land through the wooded area and on a privately-owned track.</li> <li>• <b>2A</b> – Landowner has expressed a willingness to accommodate a shared path through the wooded area and to upgrade the private track to an asphalt surface.</li> <li>• <b>2A</b> – There would be a requirement to remove existing woodland including mature sycamore trees to accommodate the path construction. Appropriate ecological studies would need to be completed to assess the viability of this proposal.</li> <li>• <b>2B</b> – As above, however there would be a requirement to remove additional trees to accommodate the wider path construction.</li> <li>• <b>2B</b> – There would be a requirement for additional land take within the wooded area which would need to be negotiated with the landowner.</li> </ul>
Score	<ul style="list-style-type: none"> <li>• <b>1A</b> +2</li> <li>• <b>1B</b> +1</li> </ul>	<ul style="list-style-type: none"> <li>• <b>2A</b> +2</li> <li>• <b>2B</b> +1</li> </ul>
TOTALS	<ul style="list-style-type: none"> <li>• <b>1A</b> +11</li> <li>• <b>1B</b> +10</li> </ul>	<ul style="list-style-type: none"> <li>• <b>2A</b> +14</li> <li>• <b>2B</b> +12</li> </ul>



Table 6.4: Matrix Assessment: Section 4 – Fenton Steading Access to Gullane

Assessment Criteria	Section 4 – Option 1A (On-carriageway route option only)
<b>Attractiveness</b> <i>Should complement and enhance the environment in such a way that cycling is attractive.</i>	<ul style="list-style-type: none"> <li>The route would provide an on-carriageway route on quiet rural roads.</li> <li>Proposed speed limits would enhance the attractiveness of Fenton Road.</li> <li>Appropriate wayfinding and cycle warning signage should assist in promoting and raising awareness of the route.</li> </ul>
<b>Score</b>	<ul style="list-style-type: none"> <li><b>+1</b></li> </ul>
<b>Coherence</b> <i>Should be continuous and consistent from origin to destination.</i>	<ul style="list-style-type: none"> <li>Provides a continuous on-carriageway route from the Fenton Steading Access to Gullane.</li> <li>Appropriate wayfinding and cycle warning signage should assist in promoting and raising awareness of the route.</li> </ul>
<b>Score</b>	<ul style="list-style-type: none"> <li><b>+2</b></li> </ul>
<b>Comfort</b> <i>Should meet surface width, quality and gradient standards and be convenient by avoiding complex manoeuvres.</i>	<ul style="list-style-type: none"> <li>The route would have shallow gradients along its entire length with no complex manoeuvres required.</li> <li>It is proposed that the damaged section of private access track is reconstructed and surfaced to provide a smooth asphalt surface along the entirety of the route.</li> </ul>
<b>Score</b>	<ul style="list-style-type: none"> <li><b>+2</b></li> </ul>
<b>Safety</b> <i>Should minimise the potential for actual and perceived accident risk.</i>	<ul style="list-style-type: none"> <li>The route would provide an on-carriageway route on quiet rural roads.</li> <li>Proposed speed limits would enhance the attractiveness of Fenton Road.</li> <li>Potential conflict with HGVs and agricultural vehicles servicing the industrial areas at Fenton Barns</li> </ul>
<b>Score</b>	<ul style="list-style-type: none"> <li><b>0</b></li> </ul>

<b>Directness</b> <i>Should be as direct as possible and minimise detours and delays. The impact of junctions and crossings on journey times should be considered.</i>	<ul style="list-style-type: none"> <li>The route provides the most direct route to Gullane on existing quiet roads.</li> </ul>
<b>Score</b>	<ul style="list-style-type: none"> <li><b>+2</b></li> </ul>
<b>Deliverability</b> <i>Should consider constructability and land ownership boundaries so that all constraints and potential objections can be resolved within the timeframe for delivery.</i>	<ul style="list-style-type: none"> <li>Route would utilise existing quiet rural roads with minimum interventions required.</li> <li>The Landowner has expressed a willingness to allow the section of private track to be upgraded and used for cycling.</li> <li>Traffic Regulation Orders for the quiet road are being promoted by ELC.</li> </ul>
<b>Score</b>	<ul style="list-style-type: none"> <li><b>+3</b></li> </ul>
<b>TOTAL</b>	<ul style="list-style-type: none"> <li><b>+10</b></li> </ul>

## 6.2 Preferred Option

### Summary of Route Option Assessment

6.2.1 A summary of the route option assessment is shown on Table 6.5 below. The preferred option for each section, as per the scoring has been highlighted in green.

Table 6.5: Summary of Route Option Assessment

Section	Option	Attractiveness	Coherence	Comfort	Safety	Directness	Deliverability	Total	Rank
1	1A	+1	+2	+2	-2	+2	-3	+2	3
	1B	-1	+2	+3	-2	+2	-3	+1	4
	2A	0	+1	+2	+2	+2	-2	+5	1
	2B	-2	+1	+3	+2	+2	-3	+3	2
	3A	+1	+1	+2	-3	+2	-2	+1	4
	3B	-1	+1	+3	-3	+2	-3	-1	6
2	1A	+2	+3	+3	+3	+3	+2	+16	1
	1B	+1	+3	+3	+3	+3	-3	+10	2
3	1A	+2	+2	+2	+1	+2	+2	+11	3
	1B	+1	+2	+3	+1	+2	+1	+10	4
	2A	+3	+2	+3	+2	+2	+2	+14	1
	2B	+2	+2	+3	+2	+2	+1	+12	2
4	1A	+1	+2	+2	0	+2	+3	+10	1

6.2.2 The preferred route option for Section 1 is Option 2A. However, all options within this section have low scores on deliverability due to the constrained nature of this section. **It is noted that all options in this Section would require the acquisition of third party, which from discussions with the landowners, is considered unfeasible.**

6.2.3 The preferred route option for Section 2 is Option 1A, which is acceptable to the affected landowner in principle. The added benefits from the additional shared path width provided in Option 1B would add little value to the overall route and may make the path undeliverable within the existing land constraints.

6.2.4 The preferred route option for Section 3 is Option 2A. The affected landowner expressed a willingness to consider the proposals. The added benefits from the additional shared path width in Option 2B over the short section through the wooded area would add little value to the overall route and would make the path more difficult to deliver due to additional tree felling and land acquisition. Options 1A and 1B are less desirable due to the close proximity

of the B1345 and the associated additional width needed to provide the required set-back from the high speed road.

- 6.2.5 Only one option was considered for Section 4 and the scoring returned a positive result against the assessment criteria. The affected landowner expressed a willingness to consider the proposals.
- 6.2.6 Outline design drawings of all route options are provided in Appendix B.

### **Potential Complementary Measures**

- 6.2.7 In order to make the road environment within the village of Drem more pedestrian and cyclist friendly, consideration should be given to reducing the existing 40mph speed limit to 30mph, in conjunction with improved signage and street lighting. Some examples of potential signs, both static and cycle activated, are illustrated in Figure 5.1 below.



Figure 6.1: Examples of village gateway and cycle activated warning sign

## 7 Cost Estimate and Project Risks

### 7.1 Cost Estimate

- 7.1.1 As the project is at the feasibility stage, only high-level construction cost estimates can be provided. The cost estimate has been prepared using approximate estimating rates extracted from 'SPON's *Civil Engineering and Highway Works Price Book 2019*'.
- 7.1.2 No formal assessment of risk has been undertaken in preparing the cost estimates due to the limited information available at present. As the project is at the feasibility stage, an estimate including Optimism Bias of 44%, as per *Table 13.4 - Stage 1: Programme Entry, 'The Scottish Transport Appraisal Guidance (STAG) Technical Database, 2014'*, has been provided to reflect the uncertainties. The cost estimates do not include allowances for:
- Complementary measures (speed limit reduction, road lighting, road signage).
  - Costs associated with land/property acquisition.
  - Statutory approvals/ consents.
  - Adjustments to existing public utility apparatus.
  - Surveys and investigations.
  - Design and works supervision fees.
  - Value Added Tax (VAT) and inflation, as the date of construction is yet to be established.
- 7.1.3 The outline construction cost estimate for the preferred route option:
- £1,025,000 without Optimism Bias.
  - £1,476,000 including Optimism Bias at 44%.
- 7.1.4 It should be noted that costs could increase or decrease once more information becomes available and the design process advances. Consequently, the estimates provided should only be used as a broad indication of construction costs for the proposed works.

### 7.2 Project Risks

- 7.2.1 It is recognised that the delivery of a shared path from Drem to Gullane is subject to several risks, particularly the reliance on land that is in private ownership. As noted above, no formal assessment of risk has been undertaken due to the limited information available at present. However, an initial assessment of high-level project risks has been undertaken as documented below in Table 7.1.

Table 7.1: Project Risks

Risk Description	Consequences of Risk	Risk Rating
Delay/cancellation if agreements not reached with landowners.	Project delayed/cancelled as route cannot be provided without third party land.	High
Lack of funding	Project delayed/cancelled as funding cannot be secured to deliver the construction phase.	High
Objections to the proposed route	Delays to the project, as consultation and potential re-design required to address objector's concerns.	High
Ecological constraints	Potential delays to the project as re-design and re-alignment of the shared path may be required to mitigate ecological constraints.	Low



## 8 Summary of Study Findings

### 8.1 Summary of Study Findings

8.1.1 This study has identified a preferred route alignment between Drem and Gullane. The preferred route has been subdivided into four distinct sections;

- **Section 1** – Drem to 40mph Speed Limit
- **Section 2** – 40mph Speed Limit to Pepper Burn
- **Section 3** – Pepper Burn Layby to Fenton Steading Access
- **Section 4** – Fenton Steading Access to Gullane

8.1.2 Section 1 presents significant challenges in terms of deliverability. All options (including the preferred option) would require acquisition of third-party land. Through consultation with the relevant landowners it is understood that they are not willing to accommodate any encroachment on their land within this section. As a result, the preferred option scored poorly against assessment criteria based on '*Cycling by Design*' principles. All the options within this section have low scores on deliverability due to constrained nature of this corridor. **It is noted that all options in this Section would require the acquisition of third party, which from the discussions held with the landowners, is considered unfeasible.**

8.1.3 Section 2 can accommodate a good alignment for a shared path which would be separated from the busy B1345. Through consultation with the relevant landowner it has been agreed in principle that the path could be constructed within the existing field buffer margin. Therefore, the preferred option scored very favourably against assessment criteria based on '*Cycling by Design*' principles.

8.1.4 Section 3 would provide a good route utilising the existing low trafficked private access track separated from the busy B1345. Through consultation with the relevant landowner it has been agreed in principle that a new section of shared path could be constructed through the wooded area north of Pepper Burn and that the existing private access track could be upgraded. Ecological surveys would need to be completed to verify the feasibility of tree removal in the wooded area. The preferred option scored very favourably against assessment criteria based on '*Cycling by Design*' principles.

8.1.5 Section 4 would utilise the existing quiet rural road network to connect from the Fenton Steading Access to Gullane. The private track section between Craighead Cottages and Fenton Barns would need to be upgraded and the relevant landowner expressed a willingness to consider it. Through consultation, there have been concerns raised regarding vehicle speeds on the proposed route. Several interventions are proposed to reduce vehicle speeds including warning signage and a quiet lane order on Fenton Road. Therefore, the preferred option scored modestly against assessment criteria based on '*Cycling by Design*' principles.

## 9 Conclusions and Recommendations

### 9.1 Conclusions

- 9.1.1 This study has identified a preferred alignment, design specification, and outline cost estimate for the proposed Drem to Gullane Cycle Route.
- 9.1.2 The affected landowners within Sections 2, 3 and 4 of the route have expressed a willingness to consider the proposals. Consequently, the proposals for these three Sections could potentially be delivered in accordance with 'Cycling by Design' standards.
- 9.1.3 Section 1 of the route through Drem Village cannot be delivered without impacting on private land on both sides of the B1345. The affected landowners have objected strongly to any such proposals and, therefore, this Section of the route is considered unfeasible. It is also noted that the independent Mediator's report (Appendix A) states that within Drem there should be '*No land-take from private landowners outwith the existing road and verges*'.
- 9.1.4 Sustrans have expressed support for the proposed route in principle. However, given the physical and environmental constraints along significant parts of the route, it is not practical to comply with current Sustrans design standards.
- 9.1.5 Sustrans have indicated that they would not be prepared to consider funding the proposed route. Consequently, the full construction cost of £1,025,000 (£1,476,000 including Optimism Bias at 44%) would have to be met entirely by ELC.
- 9.1.6 The outcome of the feasibility study is that a safe cycle route/link from Drem to Gullane is not viable.

### 9.2 Recommendations

- 9.2.1 It is recommended a meeting be held with all project stakeholders to present the findings of this report.

## **Appendix A   Drem – Gullane Path Mediation Report**

# DREM–GULLANE PATH: REPORT OF MEDIATION

## 1 Introduction

- 1.1 This report has been prepared by Nick Wright, a trained mediator and independent town planner with no affiliation to any of the parties involved.
- 1.2 I was commissioned by East Lothian Council in May 2016 to identify, through mediation, whether a way forward could be found to resolve an impasse in the creation of a path along the route of Core Path 357 north-west of Drem.
- 1.3 The mediation followed a number of years of discussion involving landowners, the Drem to Gullane Path Campaign Group, local residents, East Lothian Access Forum and East Lothian Council.
- 1.4 This report was written after a series of individual meetings and correspondence with:
  - owners of land traversed by Core Path 357.
  - members of the Drem to Gullane Path Campaign Group.
  - the chair of East Lothian Access Forum.
  - a number of Drem residents (including a member of the Community Council).
  - members/officers of East Lothian Council.

## 2 Summary of key points from individual meetings

### Rural landowners

- 2.1 The landowners have no wish to prevent a responsible right of access in line with legislation, and feel that they have acted in good faith throughout the dispute over Core Path 357, not least through the offer of an alternative route on the west side of the B1345.
- 2.2 They would be concerned if more people were to be encouraged to use the route of Core Path 357 because of the impact on land management and cropping. Also, they do not wish to see any new path created which would cut across an existing field away from a field boundary, and interfere with cropping in that field.
- 2.3 The relevant landowner has however reiterated his support in principle for a new off-road path along the western edge of the B1345 from Drem heading north across the Peffer Burn to the Fenton Barns airfield, where it could then link onto minor roads or the airfield perimeter track.

## **Campaign Group**

- 2.4 The Group has no wish to interfere with land management activities. Their aspiration is for a path, suitable for walking and cycling, which would connect the expanding village of Gullane with Drem and its railway station. They are pleased that the mediation process is taking place and are hopeful that a solution can be found.
- 2.5 Through the process of mediation, the Group has decided to support the creation of an off-road path along the western edge of the B1345 north from Drem as the most realistic option to deliver a safe cycle path between Drem and Gullane.

## **Drem residents**

- 2.6 Through a small representative group, Drem residents indicated that they would not wish to see construction of a path along field margin / northern edge of residential property between Core Path 300 at The Chesters and the B1345.
- 2.7 They would however support an off-road route alongside the B1345, particularly if the scheme includes reduction of vehicle speeds within Drem and safer pedestrian access to the station entrance across the B1345. There have been a number of vehicle accidents causing damage to property on the B1345 through Drem.
- 2.8 I understand the residents' position was confirmed by Gullane Area Community Council in January 2017, subject to the caveat that Drem residents must be satisfied with the design of the path entering Drem from the north.

## **3 Recommendations**

- 3.1 Based on the discussions with the various parties between June 2016 and January 2017, it appears that the following actions would satisfy each of the parties.

### **Existing Core Path 357**

- 3.2 This route should be retained as an unconstructed beaten path around field margins but no further construction works should be undertaken. This would retain informal walking access to this part of the countryside, whilst avoiding negative impacts on land management. The route would be unsuitable for most cyclists.

### **New cycle route between Drem and Gullane adjacent to B1345**

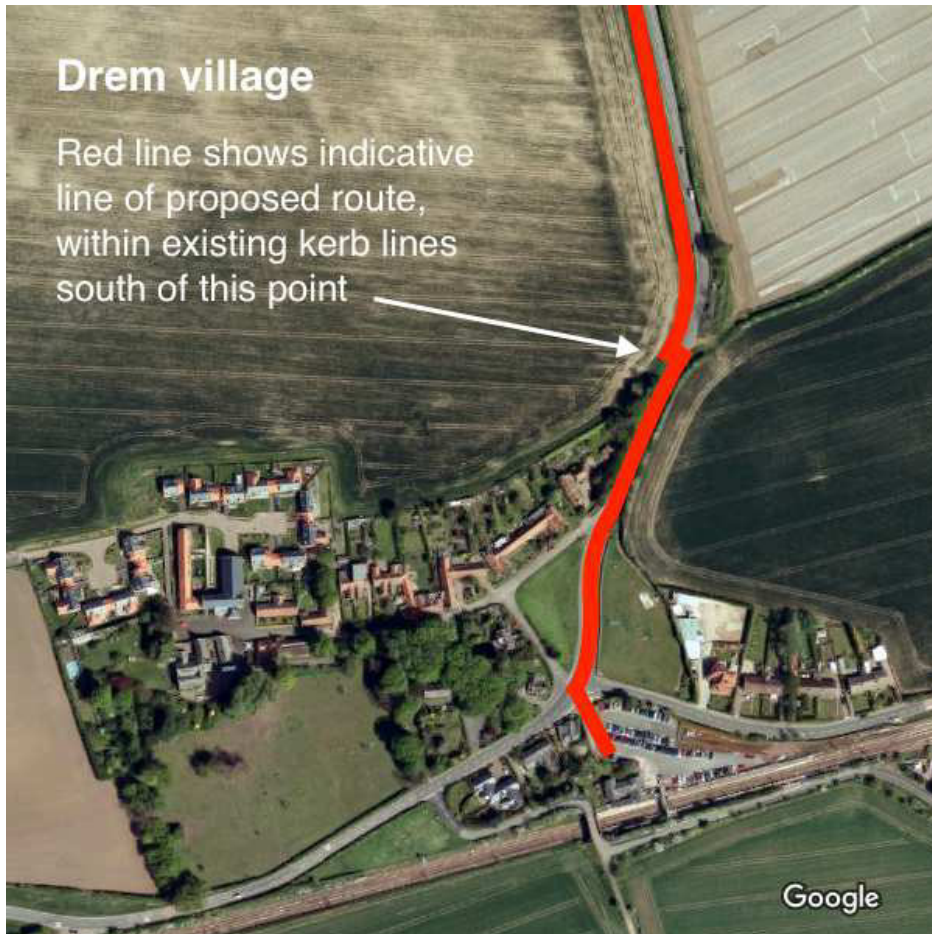
- 3.3 Create a new pedestrian/cycle route from Drem station northwards to Fenton Steading, Gullane and possibly Dirleton (see outline plans on page 4). This would involve:
  - 1. Construction of a new off-road cycling/walking path on the west side of the B1345 (using either the verge or field edge) from the northern edge of Drem to the airfield perimeter track or the Fenton Steading junction (between 1.3 and 1.7km). This would take up the landowner's offer of land on the west side of the B1345.



2. Use of existing lanes onwards through Fenton Steading to Gullane and possibly Dirleton with installation of appropriate signage and any other local requirements.
3. Within Drem, redesign of the B1345 with the following aims and constraints:
  - Priority for cyclists and walkers.
  - No land-take from private landowners outwith the existing road and verges.
  - Safe transition between the on-road and off-road sections, in the vicinity of the northern end of the 40mph speed limit.
  - Reduced vehicle speeds on the B1345 at the northern entrance to Drem and throughout the village, through a combination of reductions in the design speed of the road (through engineering interventions) and a reduced speed limit.
  - Safe pedestrian and cyclist crossing points over the B1345 to access the station.
  - Consultation with local residents and landowners in preparation of the proposals.
- 3.4 These aims and constraints should be incorporated into the brief for a feasibility study by a design/engineering team to assess the viability of the project and progress its delivery.
- 3.5 This route would become the Core Path between Drem and Gullane, replacing Core Path 357.

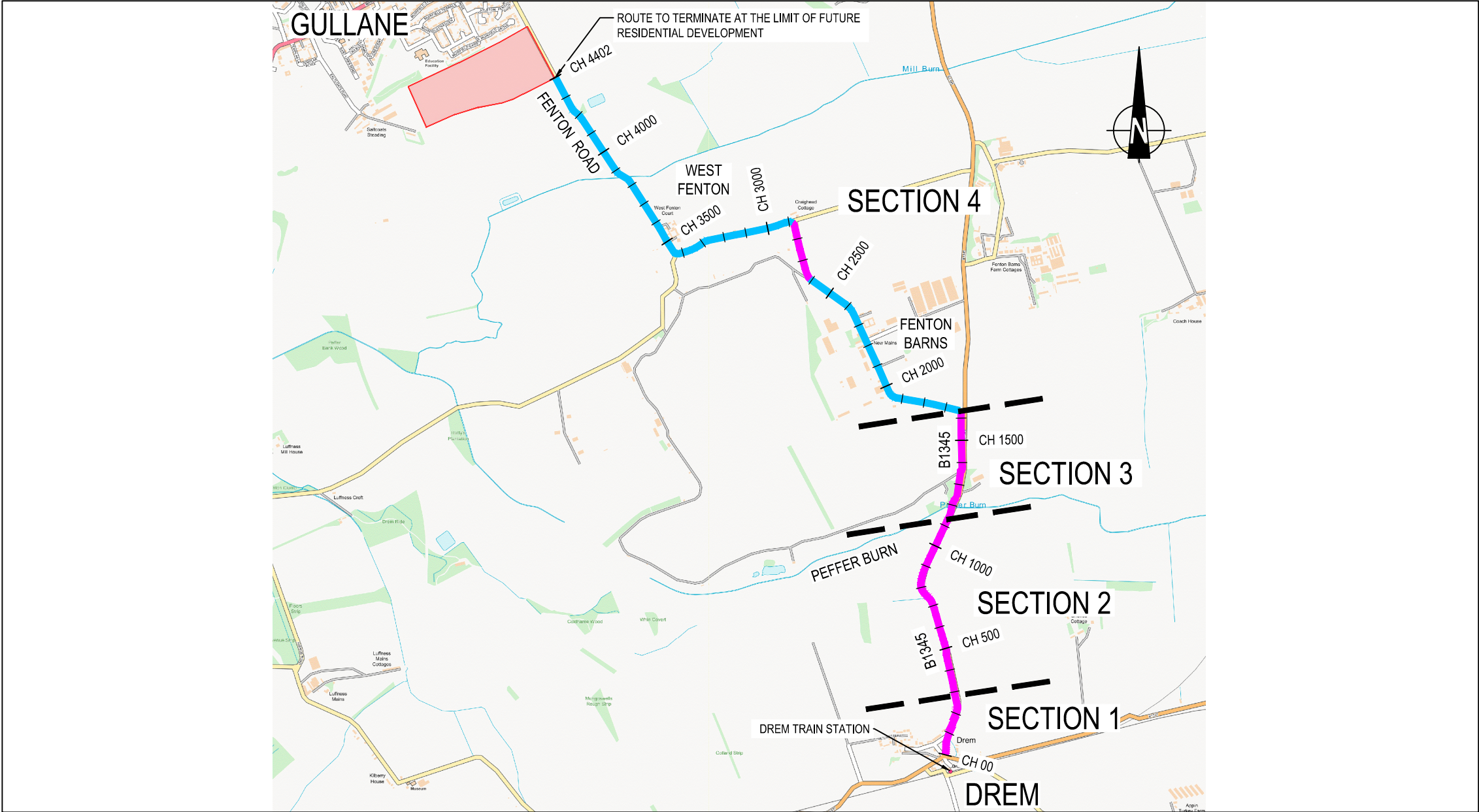
## 4 Next steps

- 4.1 There is a common desire amongst all concerned to bring the dispute over Core Path 357 to a conclusion. I would like to thank all those who have given of their time over recent months to meet me and move towards resolution.
- 4.2 The mediation process has revealed the potential opportunity of a new solution which would create a safe cycling and walking connection between Drem and Gullane, as well resolving longstanding concerns over traffic speeds and access to the station in Drem. A number of issues need to be resolved in order to make good on this opportunity, including design, land ownership and funding.
- 4.3 The next stage should therefore be to examine the potential design and delivery of the proposed route. The brief for this examination should include this report in full, with particular emphasis on paragraph 3.3. The aim should be a costed design proposal and delivery programme, which address design and land ownership issues.
- 4.4 East Lothian Council, Abellio Scotrail, Gullane Area Community Council and Sustrans are each potential partners for a project of this nature. Elements of the overall project may be delivered in conjunction with future planned expansion of existing settlements as part of new active travel infrastructure.
- 4.5 The Council should distribute this report to all those involved in the mediation process, to Gullane Area Community Council, and to any members of the public who request it.



## Appendix B Drawings





KEY:

PLAN VIEW

ON-ROAD SECTIONS

TRAFFIC-FREE SECTIONS

RESIDENTIAL DEVELOPMENT  
(SHOWN INDICATIVE)

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DRAWING NUMBER	DRAWING TITLE	REV	PURPOSE
42119_2003_0001	LOCATION PLAN AND INDEX SHEET	---	FOR PLANNING PURPOSES ONLY
42119_2003_0002	SECTION 1 - EXISTING CONDITIONS (1 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0003	SECTION 1 - EXISTING CONDITIONS (2 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0004	SECTION 2 - EXISTING CONDITIONS (1 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0005	SECTION 2 - EXISTING CONDITIONS (2 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0006	SECTION 3 - EXISTING CONDITIONS (1 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0007	SECTION 3 - EXISTING CONDITIONS (2 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0010	SECTION 4 - EXISTING CONDITIONS	---	FOR PLANNING PURPOSES ONLY
42119_2003_0102	SECTION 1 - OPTION 1A (1 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0103	SECTION 1 - OPTION 1A (2 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0104	SECTION 1 - OPTION 2A (1 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0105	SECTION 1 - OPTION 2A (2 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0106	SECTION 1 - OPTION 3A (1 OF 2)	---	FOR PLANNING PURPOSES ONLY

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42119_2003_0112	SECTION 1 - OPTION 1B (1 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0113	SECTION 1 - OPTION 1B (2 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0114	SECTION 1 - OPTION 2B (1 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0115	SECTION 1 - OPTION 2B (2 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0116	SECTION 1 - OPTION 3B (1 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0117	SECTION 1 - OPTION 3B (2 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0202	SECTION 2 - OPTION 1 (1 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0203	SECTION 2 - OPTION 1 (2 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0302	SECTION 3 - OPTION 1 (1 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0303	SECTION 3 - OPTION 1 (2 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0304	SECTION 3 - OPTION 2 (1 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0305	SECTION 3 - OPTION 2 (2 OF 2)	---	FOR PLANNING PURPOSES ONLY
42119_2003_0402	SECTION 4 - OPTION 1	---	FOR PLANNING PURPOSES ONLY
42119_2003_0403	SECTION 4 - POTTED ROAD SECTION	---	FOR PLANNING PURPOSES ONLY

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DREM TO GULLANE CYCLE PATH

LOCATION PLAN AND INDEX SHEET

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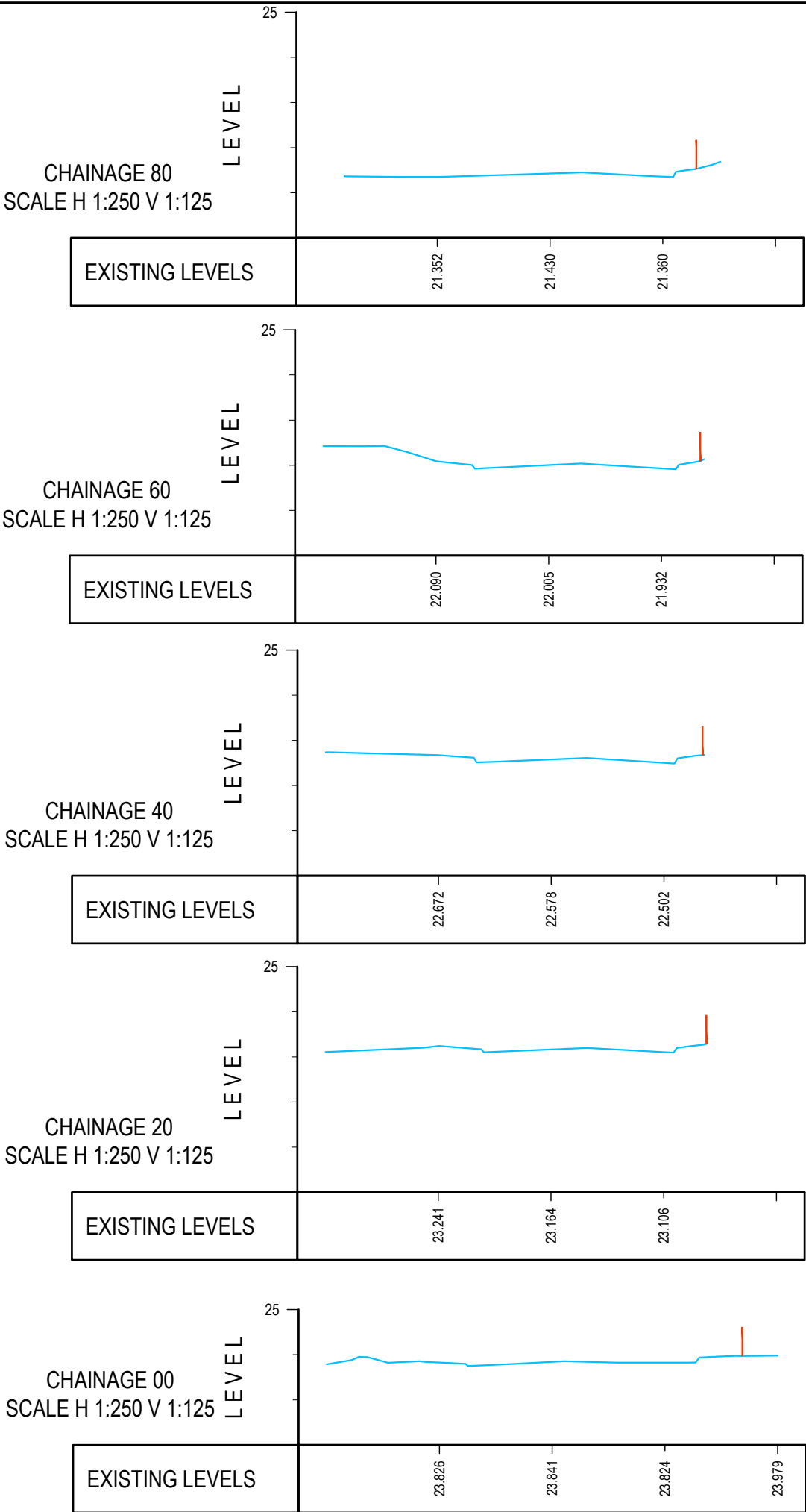
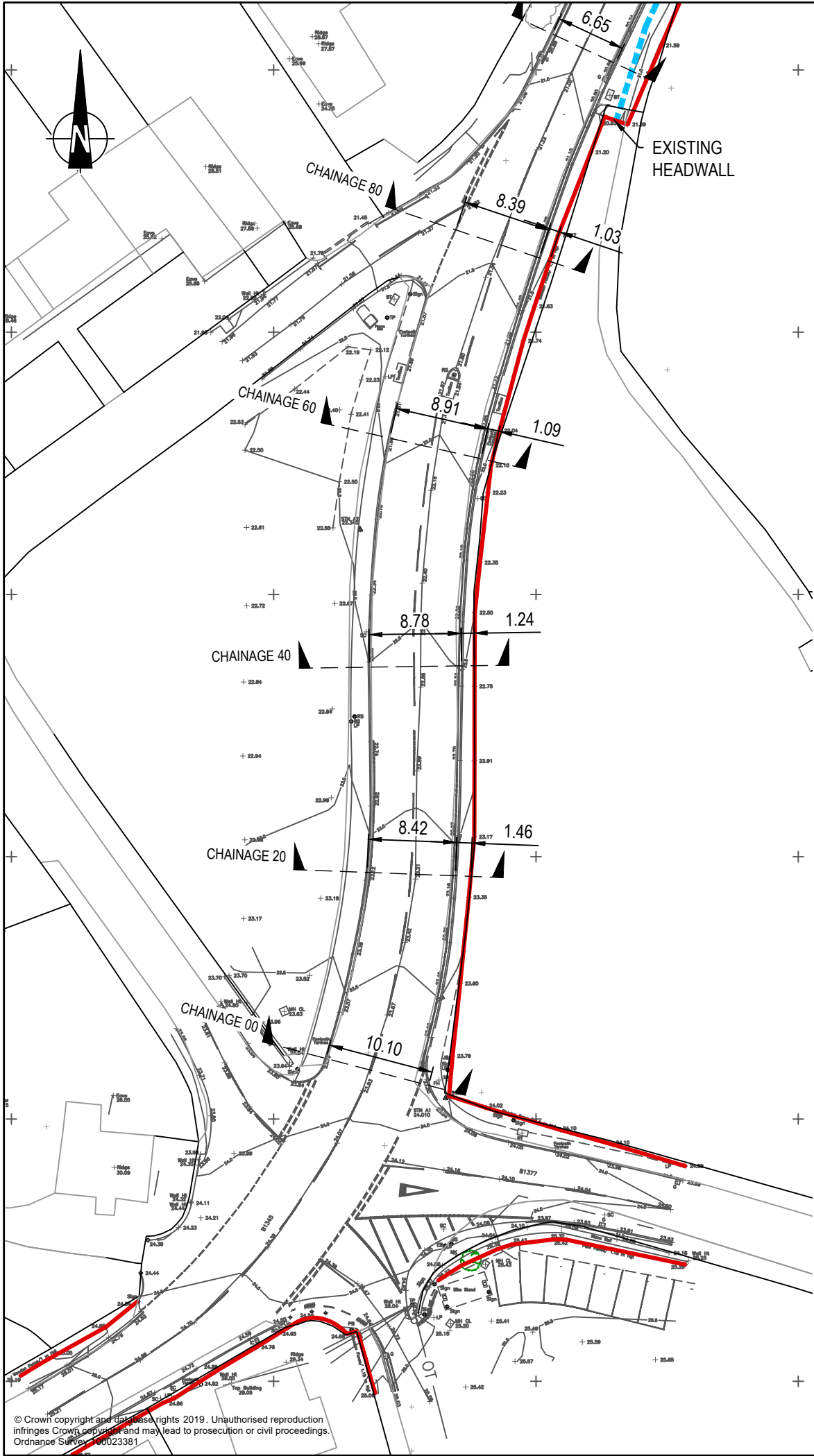
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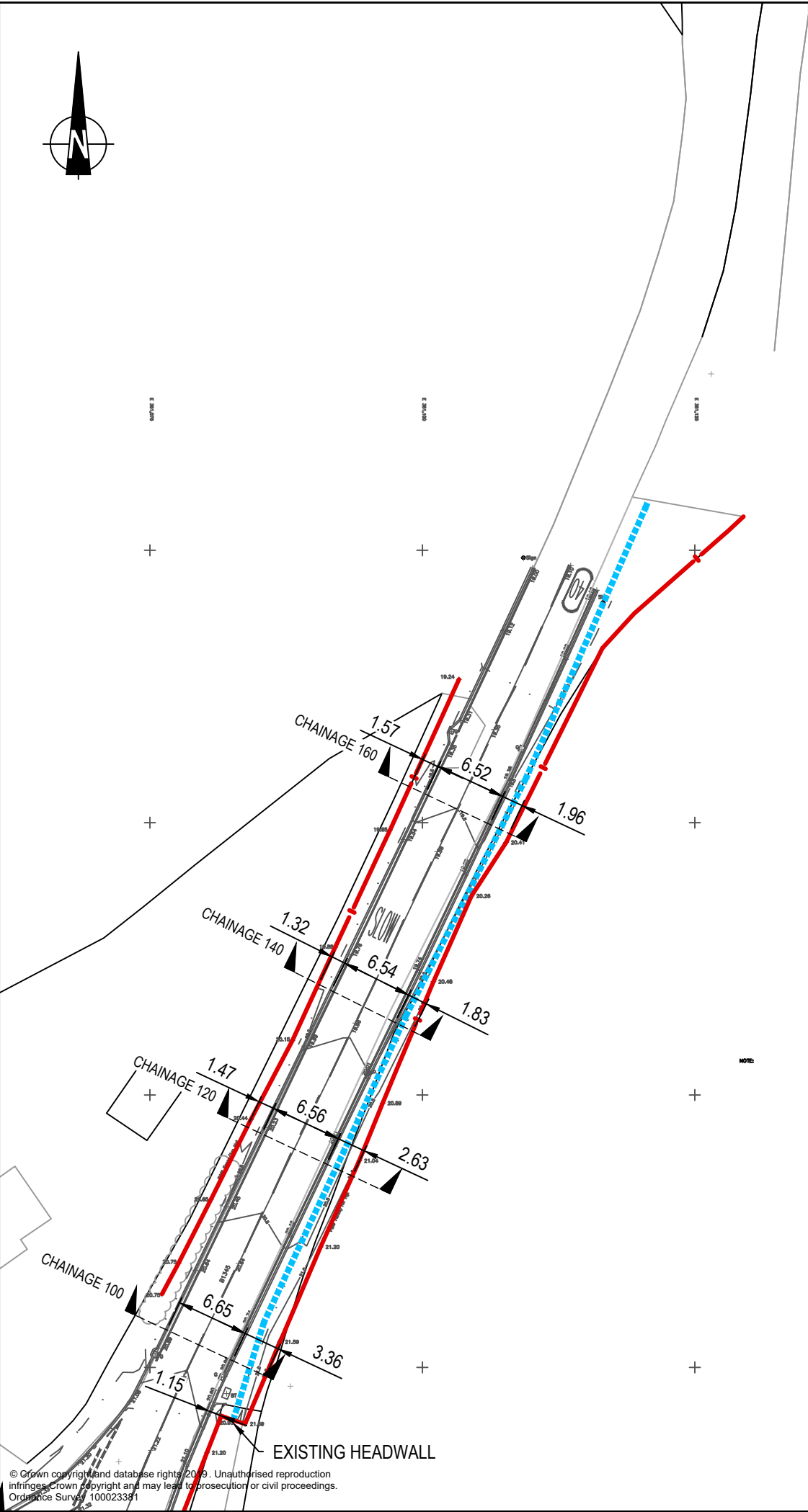
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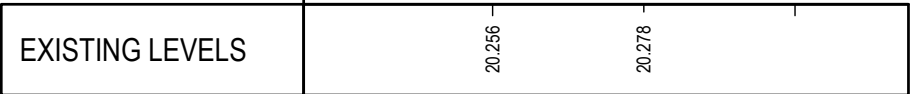
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CHAINAGE 140  
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CHAINAGE 120  
SCALE H 1:250 V 1:125



CHAINAGE 100  
SCALE H 1:250 V 1:125



KEY:

PLAN VIEW

- FENCELINE/PROPERTY BOUNDARY
- EXISTING SUBTERRANEAN CULVERT

SECTION VIEWS

- EXISTING GROUND LEVEL
- FENCELINE/PROPERTY BOUNDARY
- EXISTING CULVERT (SHOWN INDICATIVE)

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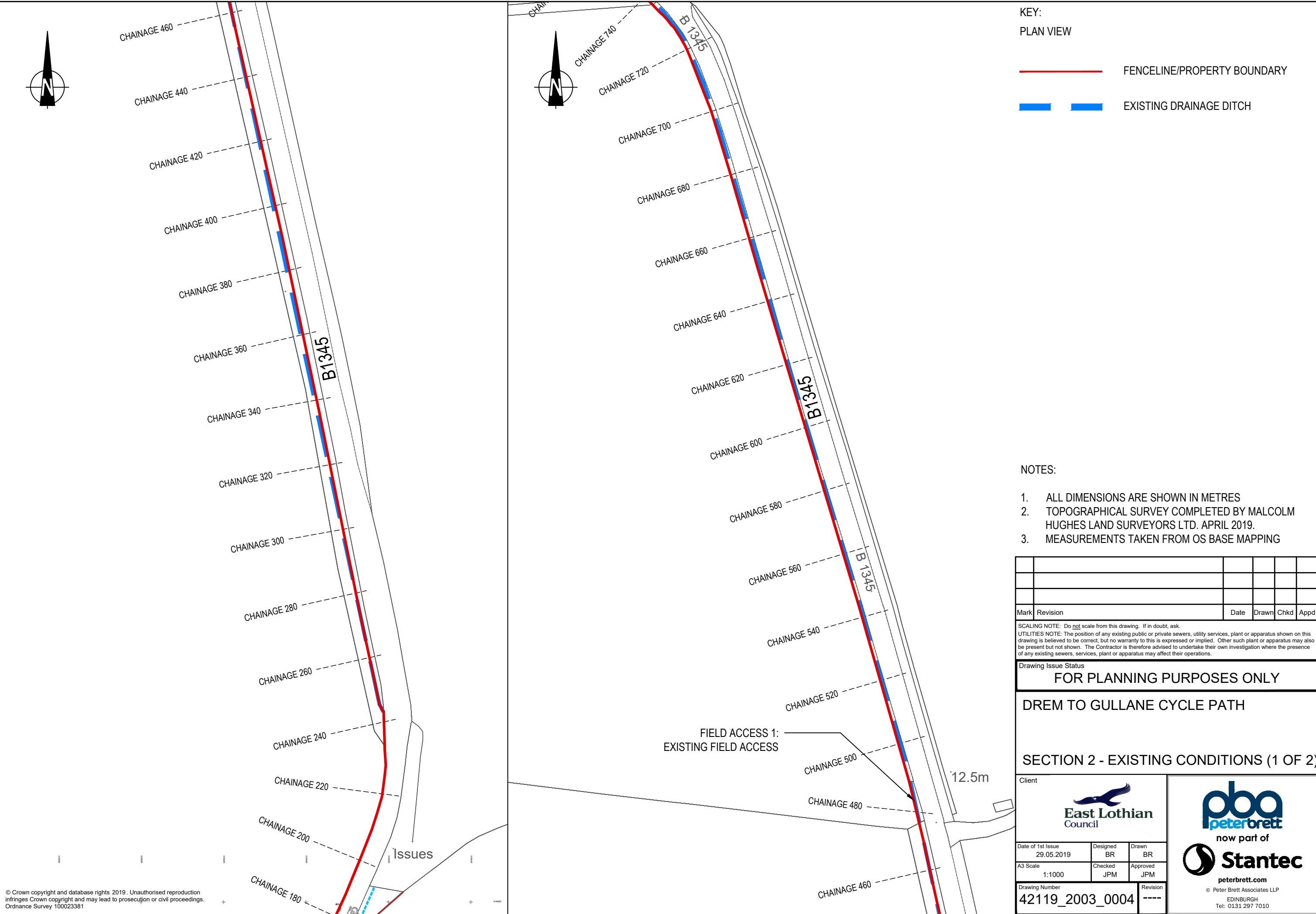
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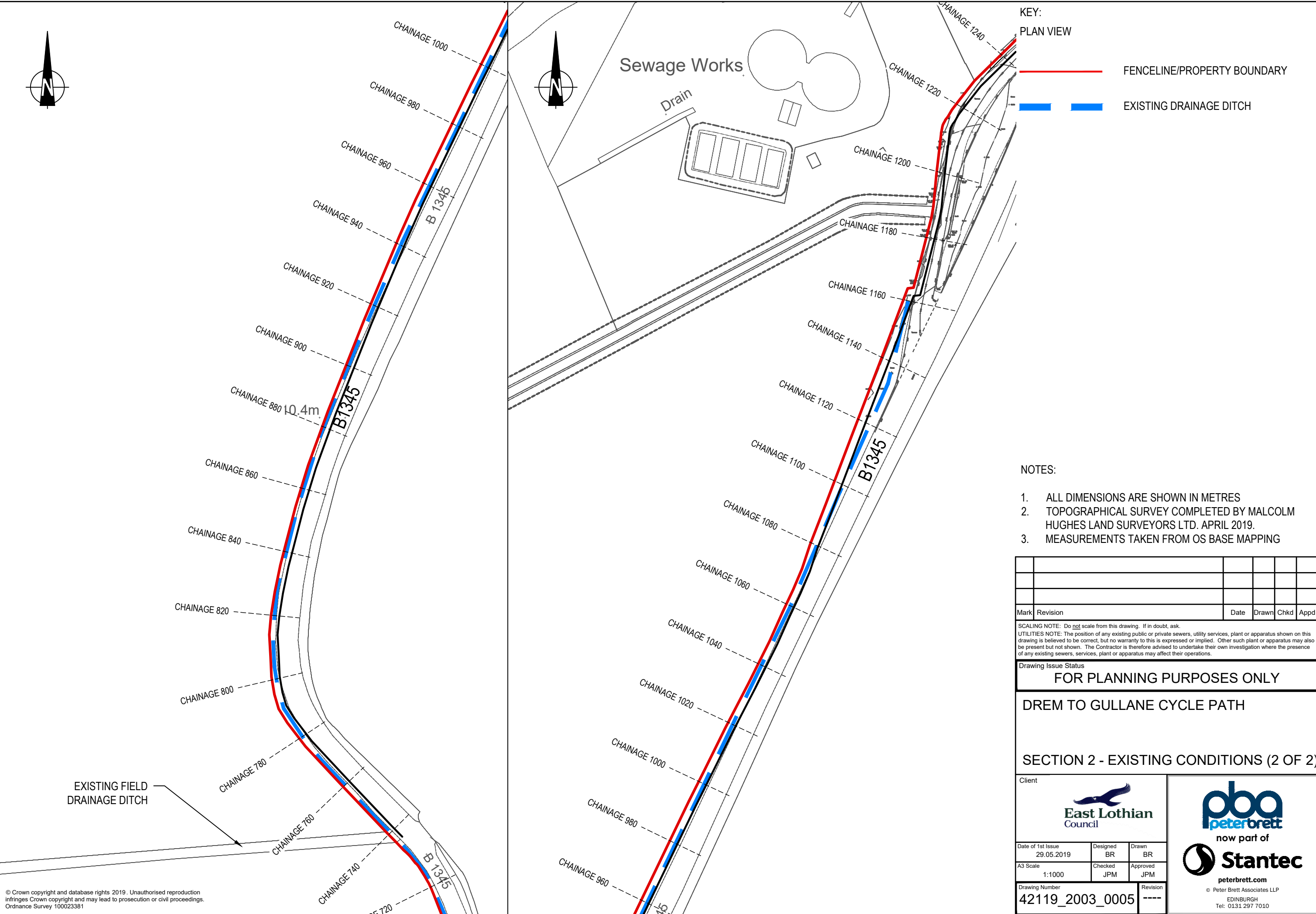
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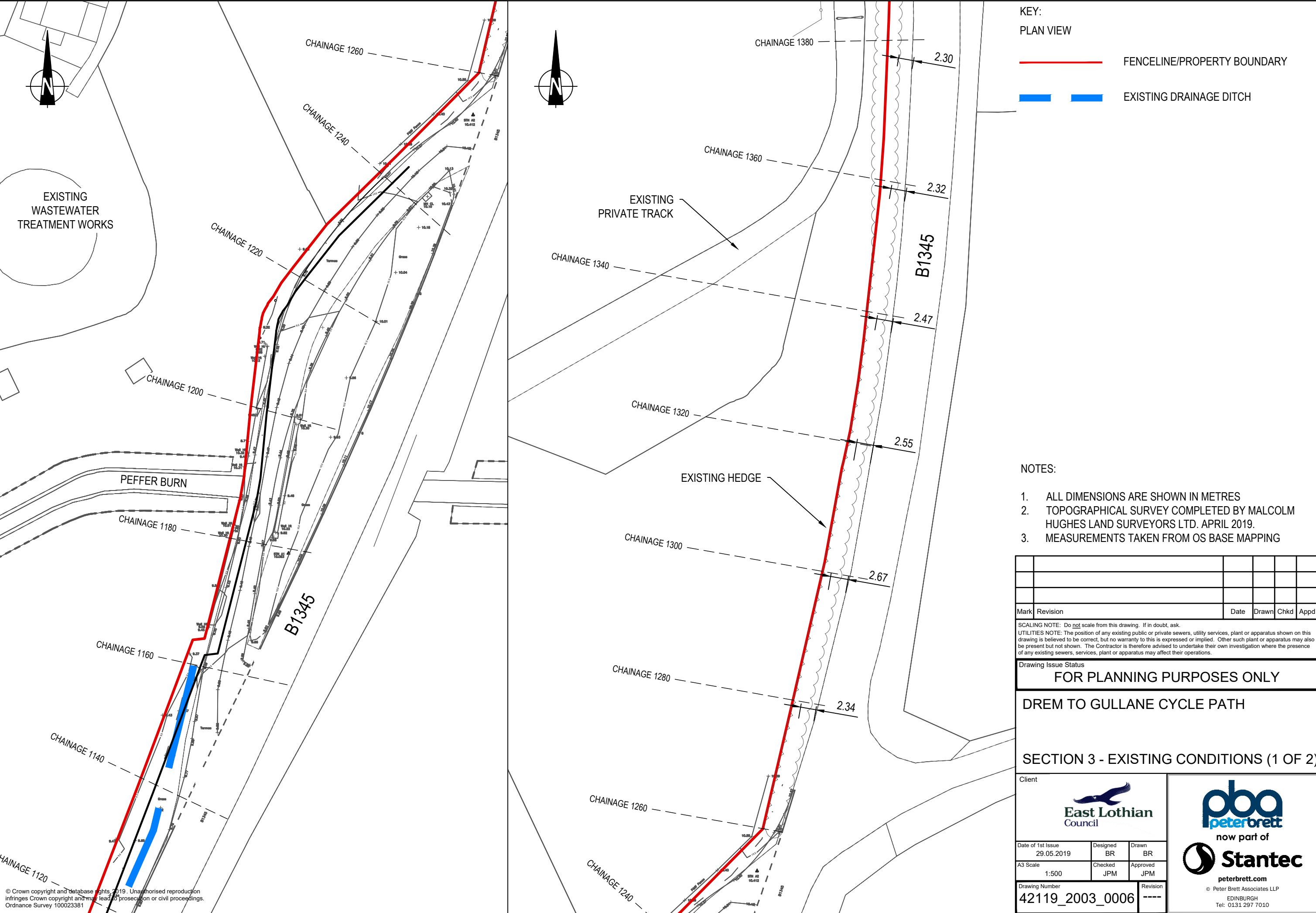
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DREM TO GULLANE CYCLE PATH

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EXISTING HEDGE

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CHAINAGE 1380



CHAINAGE 1640 5.32 TO FENTON STEADING

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EXISTING PRIVATE TRACK

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EXISTING HEDGE

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DREM TO GULLANE CYCLE PATH

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SECTION 4 - EXISTING CONDITIONS

POTTED ROAD SECTION

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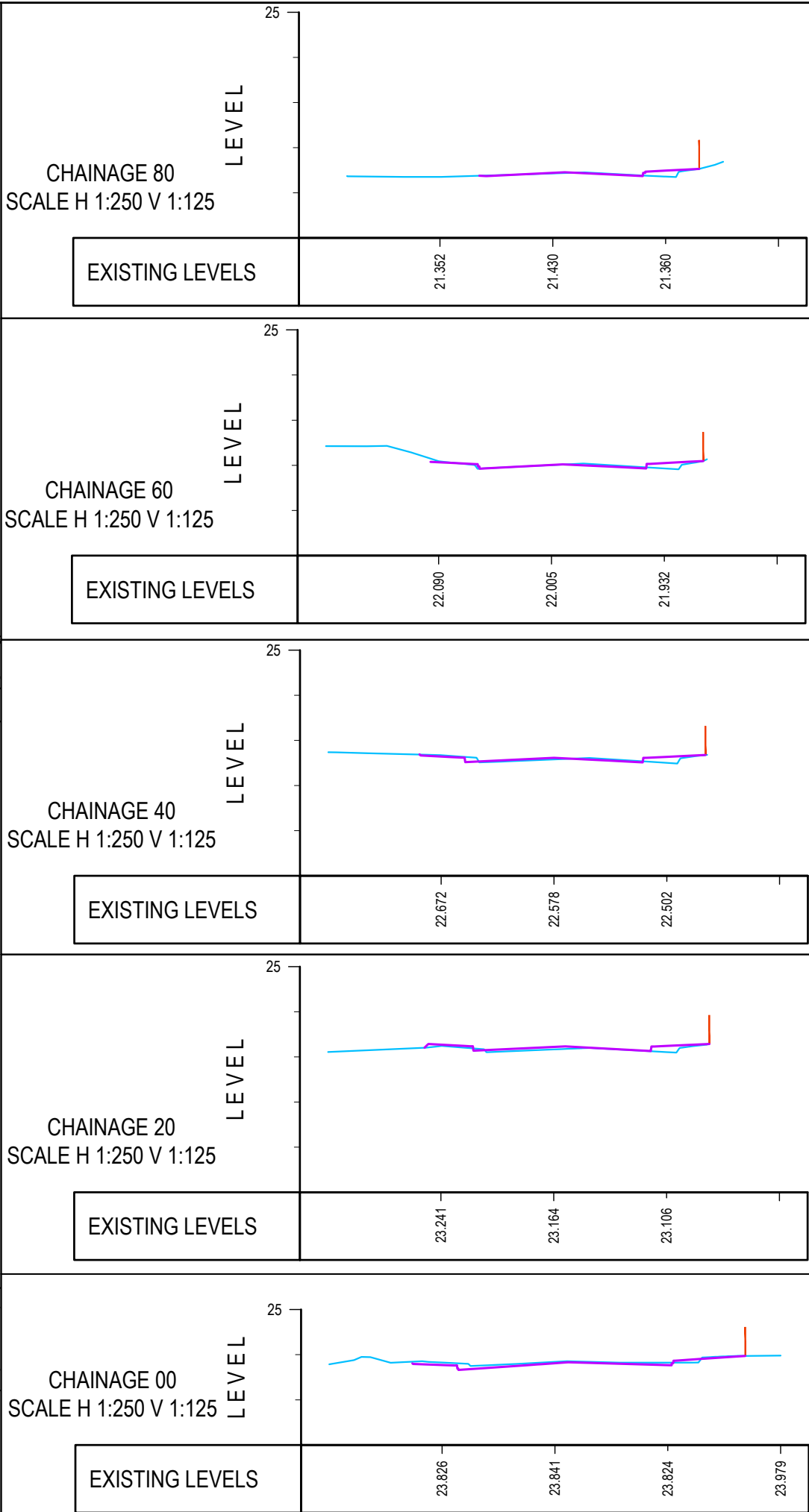
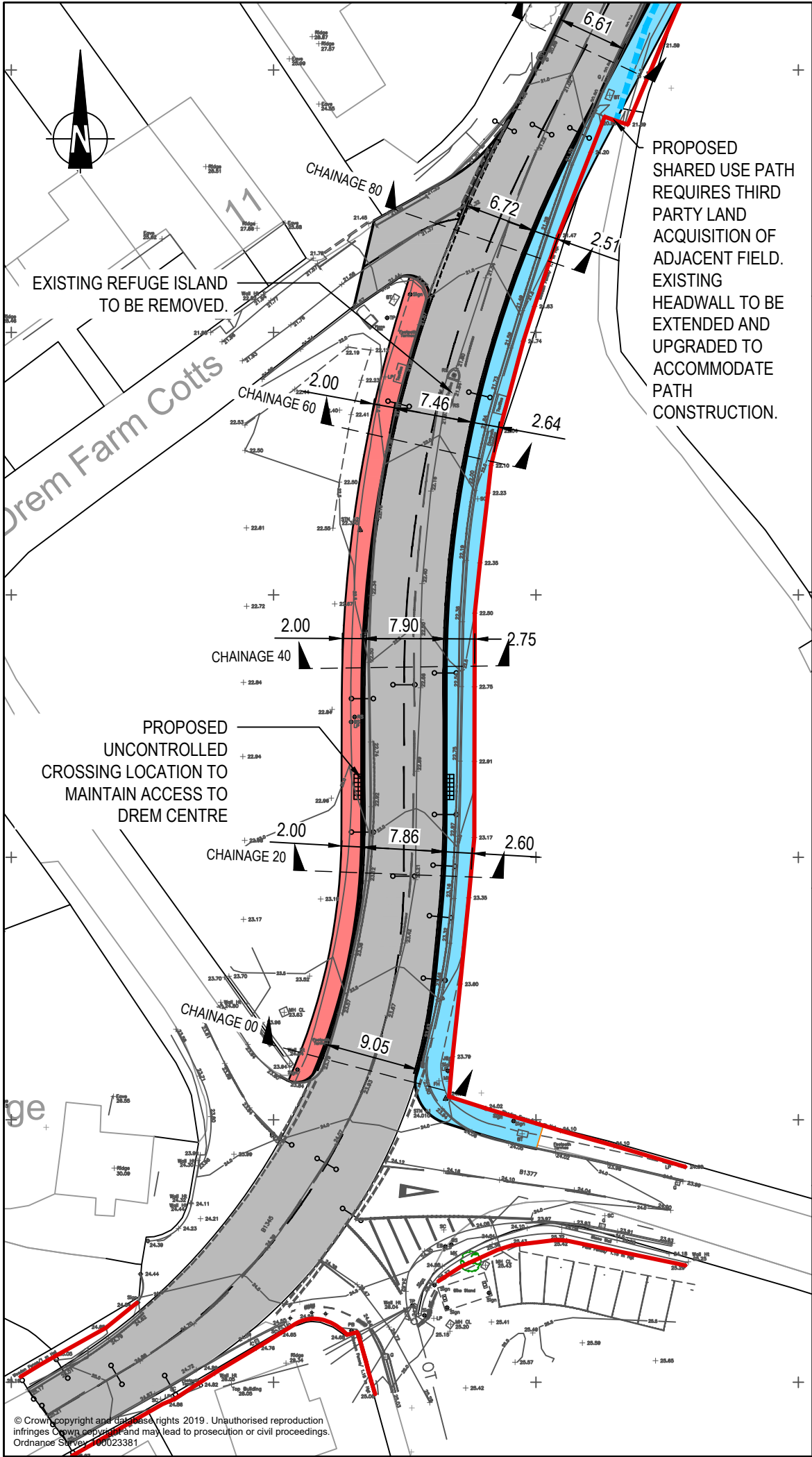
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- EXISTING SUBTERRANEAN CULVERT
- PROPOSED CARRIAGEWAY
- PROPOSED SHARED USE PATH
- PROPOSED VERGE
- PROPOSED FOOTPATH

SECTION VIEWS

- EXISTING GROUND LEVEL
- PROPOSED GROUND LEVEL
- FENCELINE/PROPERTY BOUNDARY

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DREM TO GULLANE CYCLE PATH

SECTION 1 - OPTION 1A (1 OF 2)

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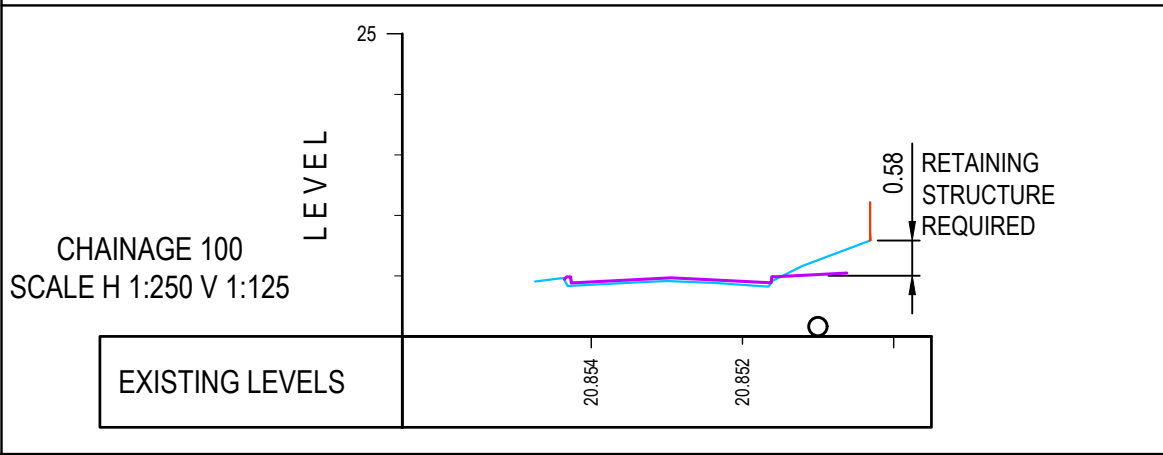
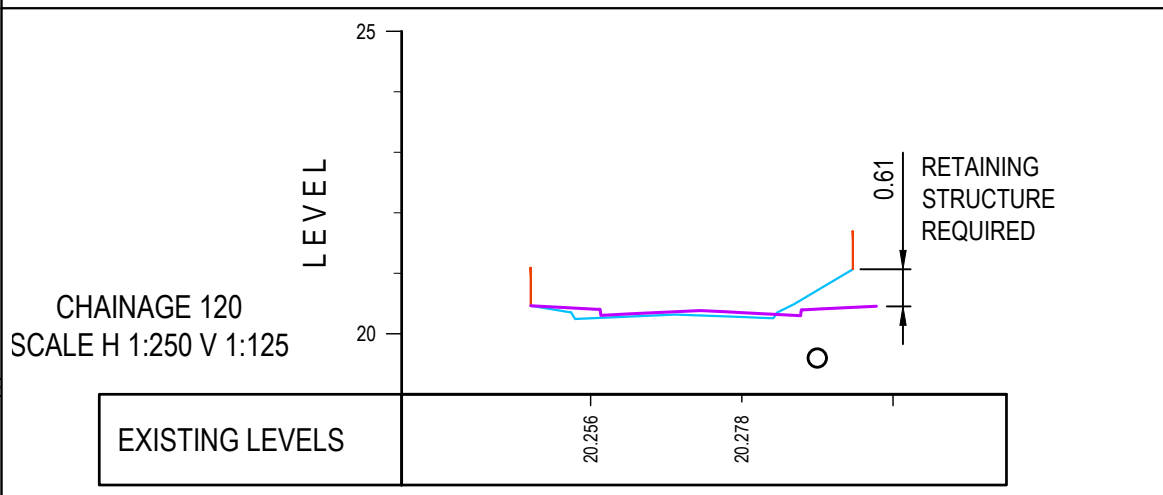
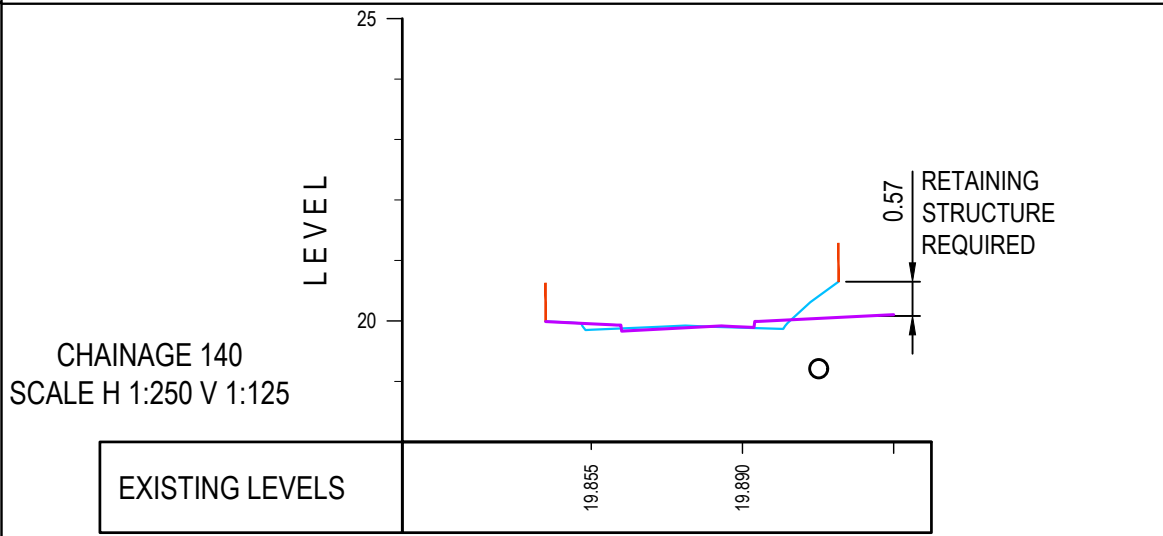
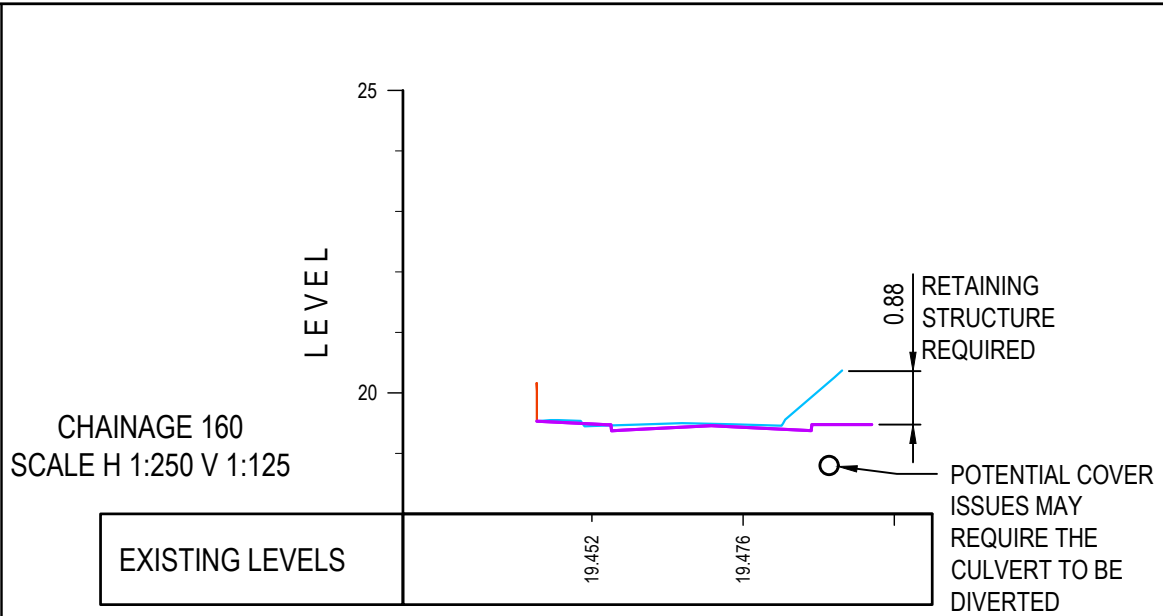
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- PROPOSED SHARED USE PATH
- PROPOSED VERGE
- PROPOSED FOOTPATH

SECTION VIEWS

- EXISTING GROUND LEVEL
- PROPOSED GROUND LEVEL
- FENCELINE/PROPERTY BOUNDARY
- EXISTING CULVERT (SHOWN INDICATIVE)

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DREM TO GULLANE CYCLE PATH

SECTION 1 - OPTION 1A (2 OF 2)

Client		Designed		Drawn	
East Lothian Council		BR		BR	
Date of 1st Issue		Checked		Approved	
29.05.2019		JPM		JPM	
A3 Scale		Revision			
1:500					
Drawing Number					
42119_2003_0103					

Client

East Lothian Council

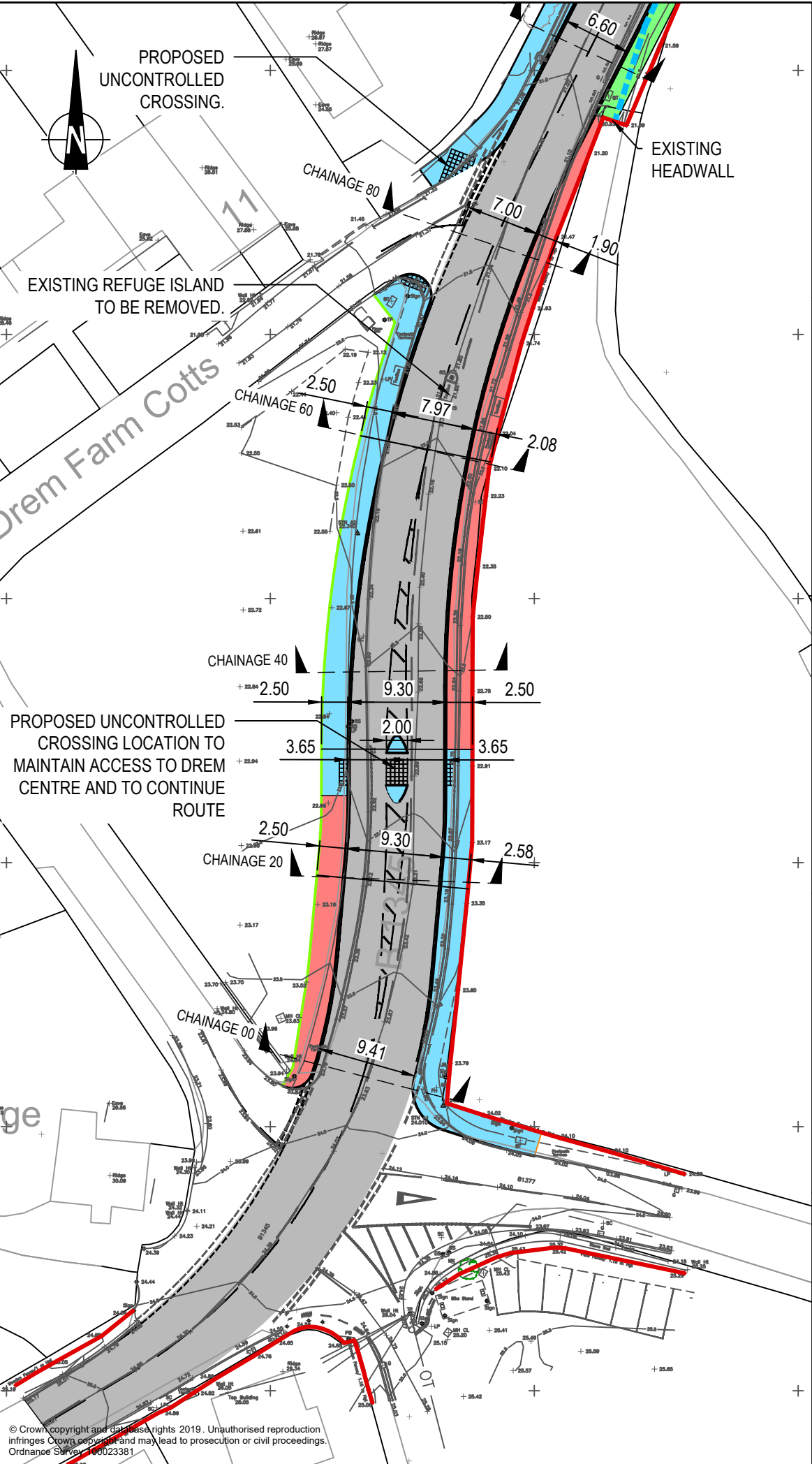
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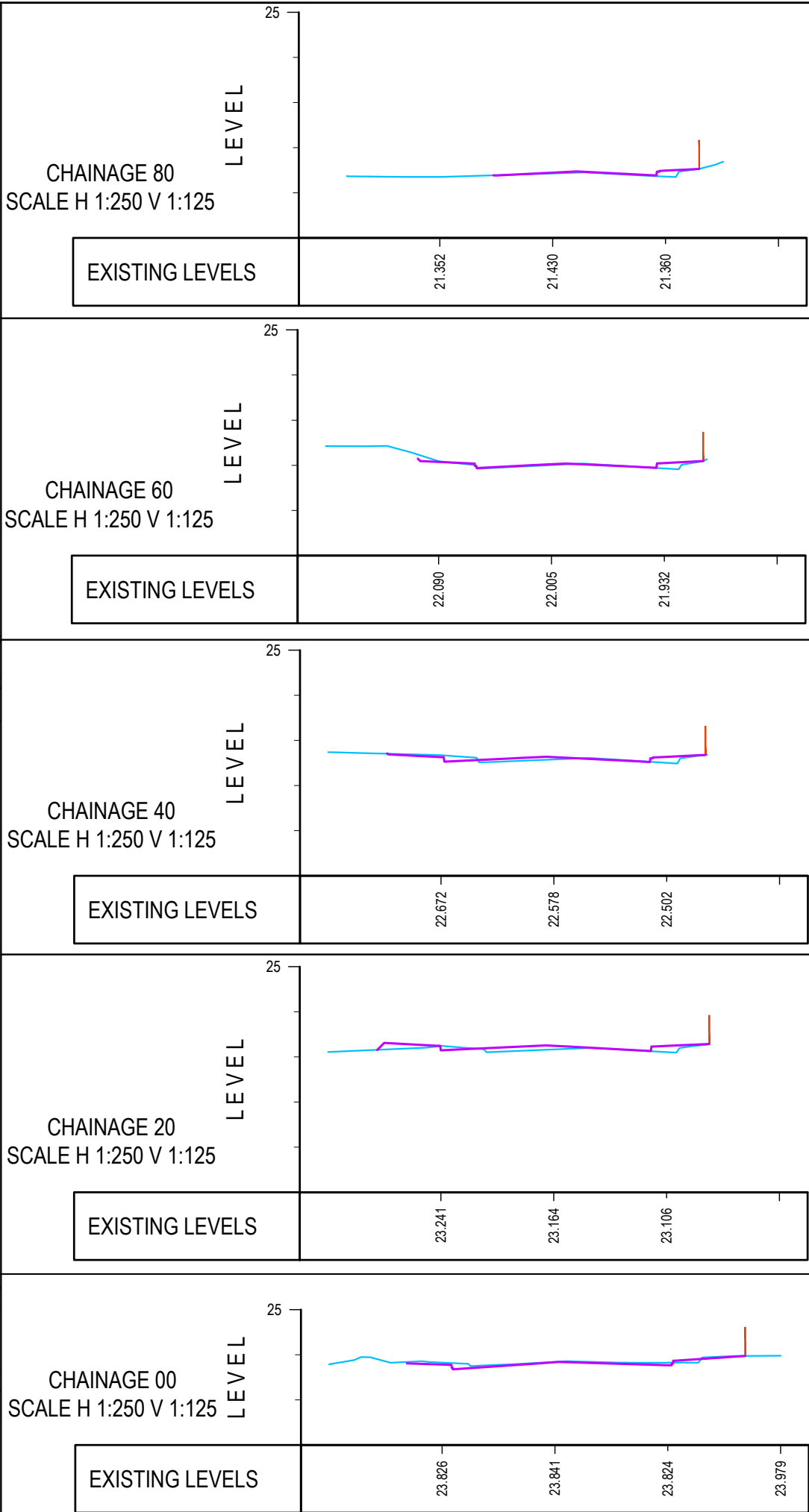
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KEY:

PLAN VIEW

- FENCELINE/PROPERTY BOUNDARY
- EXISTING SUBTERRANEAN CULVERT
- PROPOSED CARRIAGEWAY
- PROPOSED SHARED USE PATH
- PROPOSED VERGE
- PROPOSED FOOTPATH

SECTION VIEWS

- EXISTING GROUND LEVEL
- PROPOSED GROUND LEVEL
- FENCELINE/PROPERTY BOUNDARY

NOTES:

- ALL DIMENSIONS ARE SHOWN IN METRES
- TOPOGRAPHICAL SURVEY COMPLETED BY MALCOLM HUGHES LAND SURVEYORS LTD. APRIL 2019.

Mark	Revision	Date	Drawn	Chkd	Appd

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Drawing Issue Status  
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DREM TO GULLANE CYCLE PATH

SECTION 1 - OPTION 2A (1 OF 2)

Client

**East Lothian Council**

Date of 1st Issue  
29.05.2019

A3 Scale  
1:500

Drawing Number  
42119\_2003\_0104

Designed  
BR

Checked  
JPM

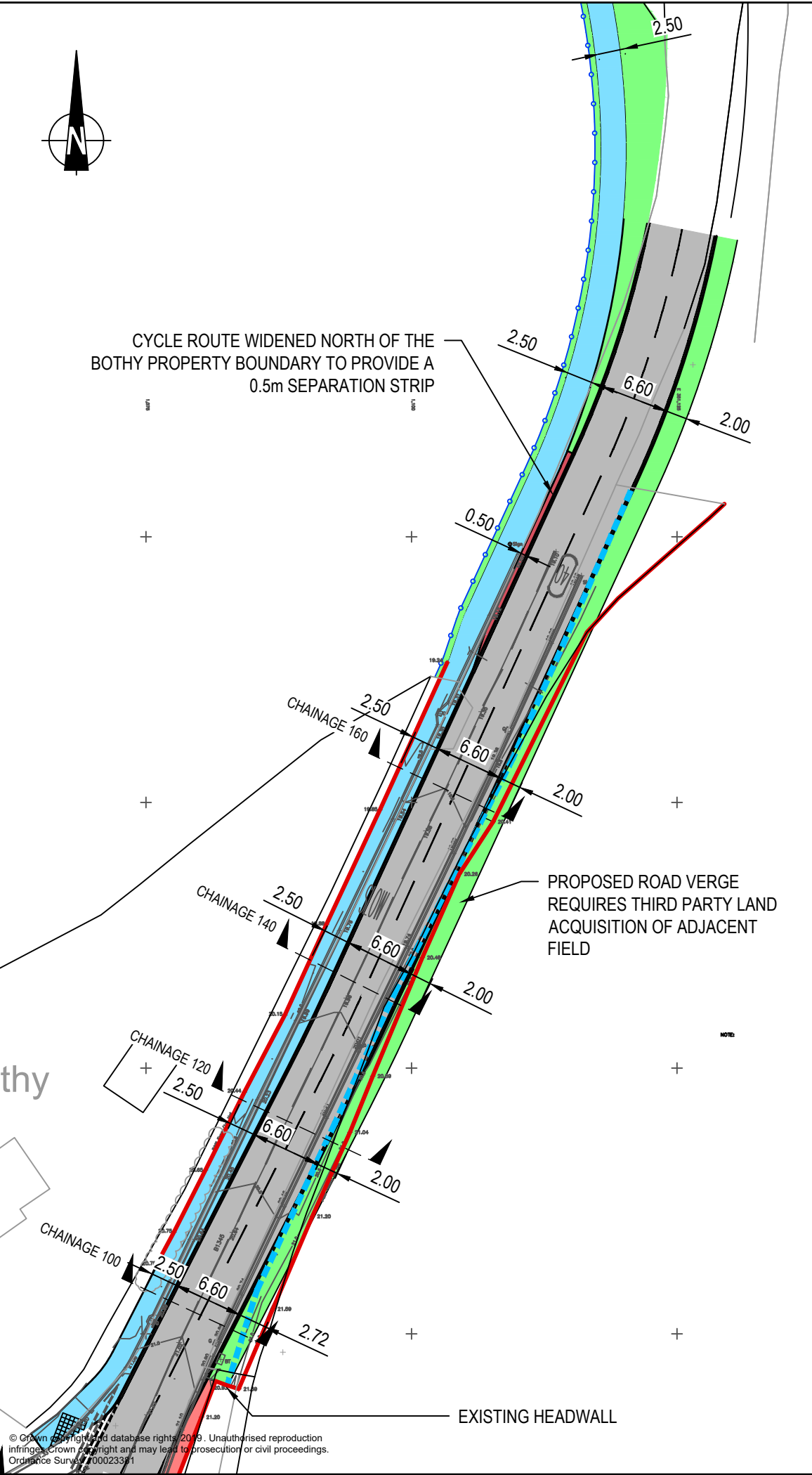
Approved  
JPM

Revision  
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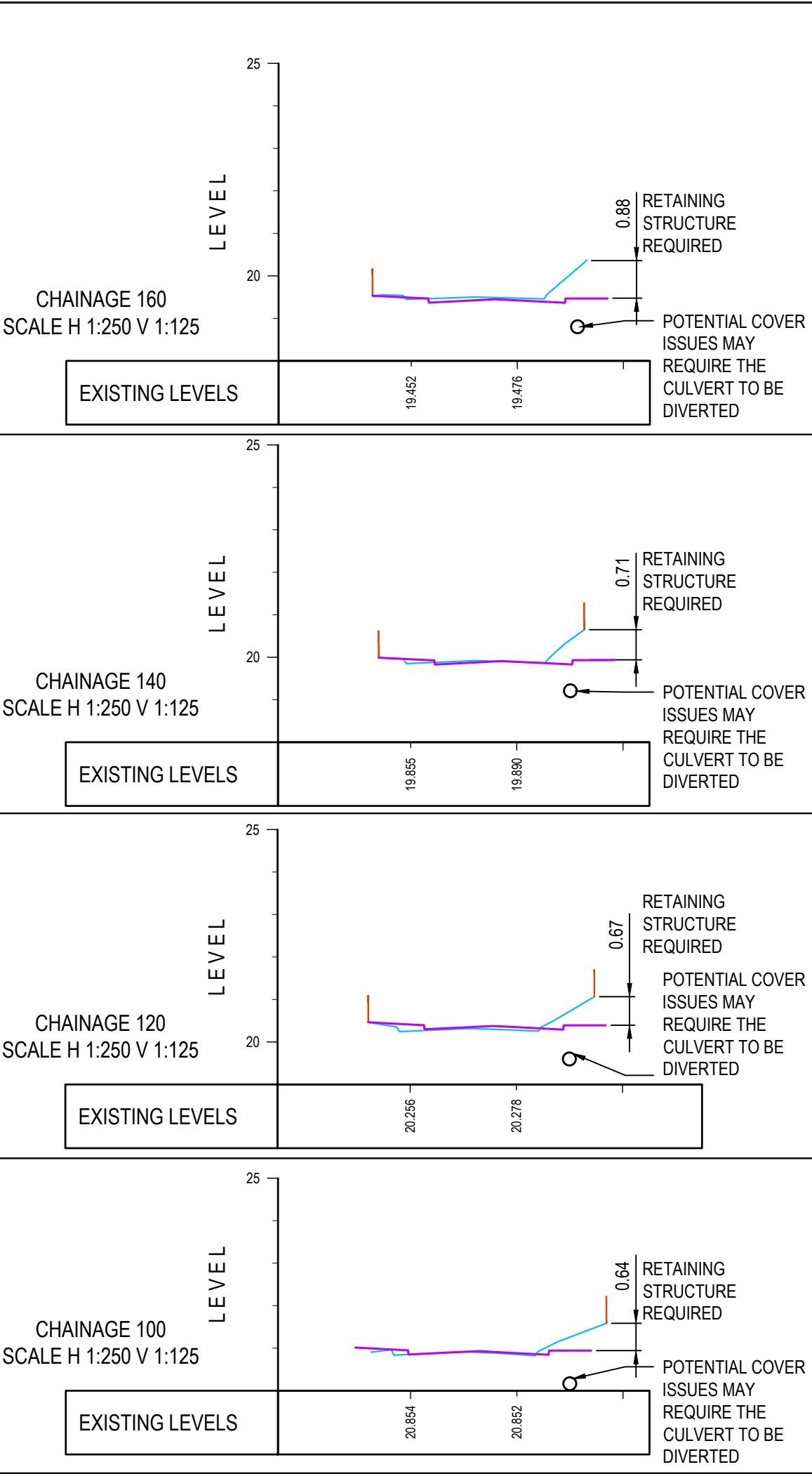
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user name: reid, bob



**KEY:**

**PLAN VIEW**

- FENCELINE/PROPERTY BOUNDARY
- EXISTING SUBTERRANEAN CULVERT
- PROPOSED CARRIAGEWAY
- PROPOSED SHARED USE PATH
- PROPOSED VERGE
- PROPOSED FOOTPATH

**SECTION VIEWS**

- EXISTING GROUND LEVEL
- PROPOSED GROUND LEVEL
- FENCELINE/PROPERTY BOUNDARY
- EXISTING CULVERT (SHOWN INDICATIVE)

**NOTES:**

- ALL DIMENSIONS ARE SHOWN IN METRES
- TOPOGRAPHICAL SURVEY COMPLETED BY MALCOLM HUGHES LAND SURVEYORS LTD. APRIL 2019.

Mark	Revision	Date	Drawn	Chkd	Appd

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Drawing Issue Status

**FOR PLANNING PURPOSES ONLY**

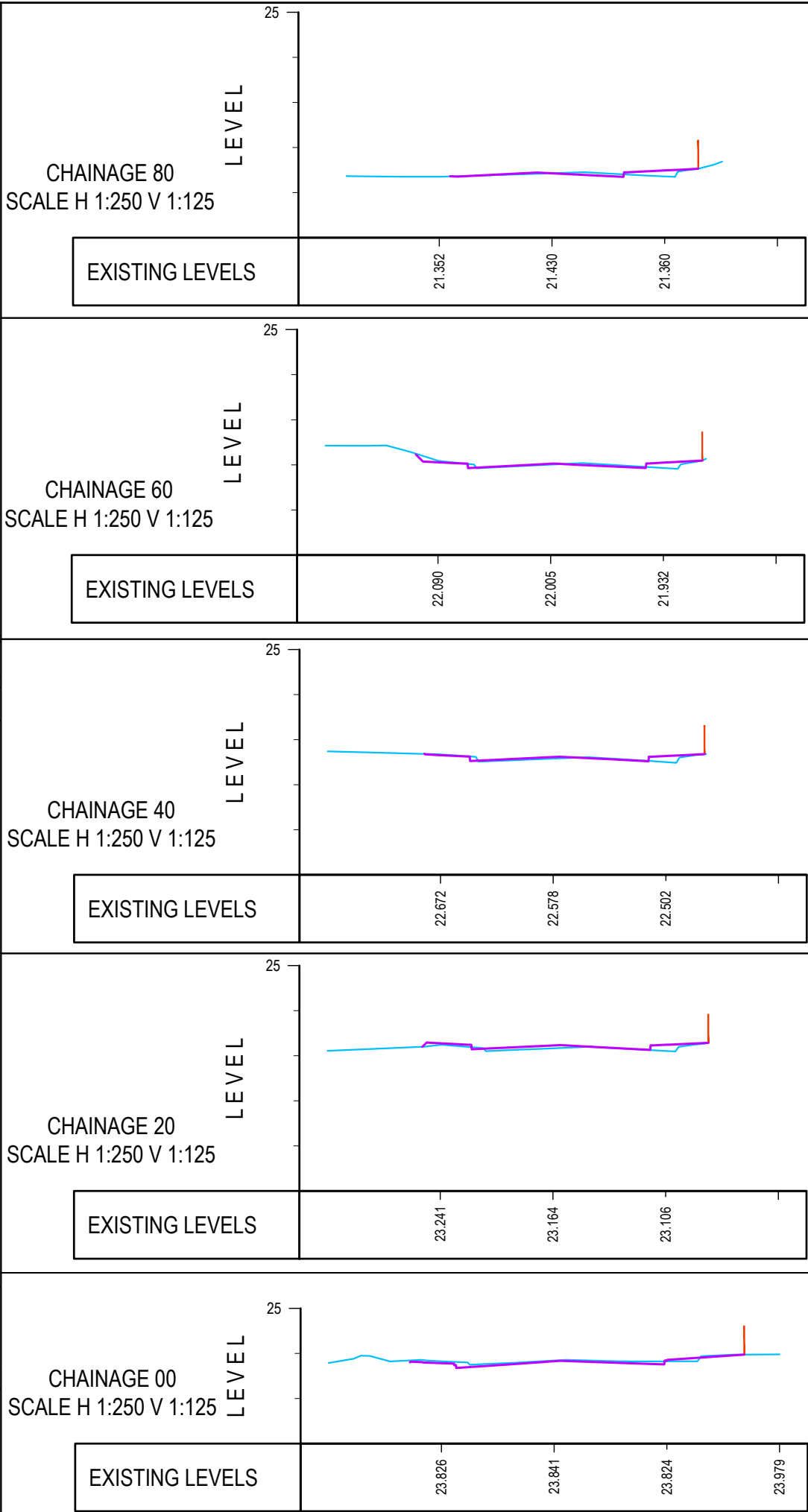
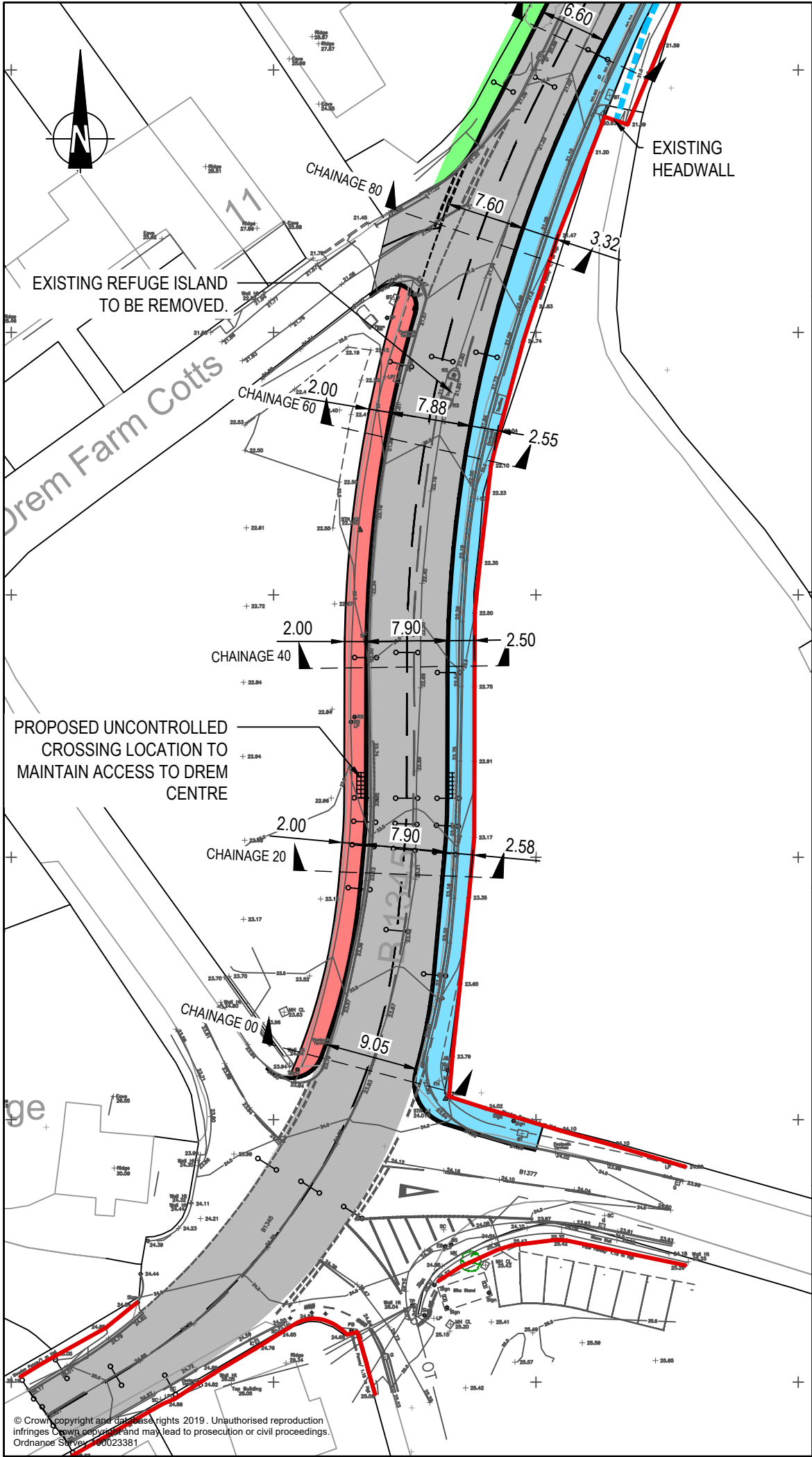
**DREM TO GULLANE CYCLE PATH**

**SECTION 1 - OPTION 2A (2 OF 2)**

Client		
East Lothian Council		
Date of 1st Issue 29.05.2019	Designed BR	Drawn BR
A3 Scale 1:500	Checked JPM	Approved JPM
Drawing Number 42119_2003_0105	Revision ----	

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KEY:

PLAN VIEW

- FENCELINE/PROPERTY BOUNDARY
- EXISTING SUBTERRANEAN CULVERT
- PROPOSED CARRIAGEWAY
- PROPOSED SHARED USE PATH
- PROPOSED VERGE
- PROPOSED FOOTPATH

SECTION VIEWS

- EXISTING GROUND LEVEL
- PROPOSED GROUND LEVEL
- FENCELINE/PROPERTY BOUNDARY

NOTES:

- ALL DIMENSIONS ARE SHOWN IN METRES
- TOPOGRAPHICAL SURVEY COMPLETED BY MALCOLM HUGHES LAND SURVEYORS LTD. APRIL 2019.

Mark	Revision	Date	Drawn	Chkd	Appd

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Drawing Issue Status

**FOR PLANNING PURPOSES ONLY**

**DREM TO GULLANE CYCLE PATH**

SECTION 1 - OPTION 3A (1 OF 2)

Client

East Lothian Council

Date of 1st Issue: 29.05.2019

Designed: BR

Drawn: BR

A3 Scale: 1:500

Checked: JPM

Approved: JPM

Drawing Number: 42119\_2003\_0106

Revision: ---

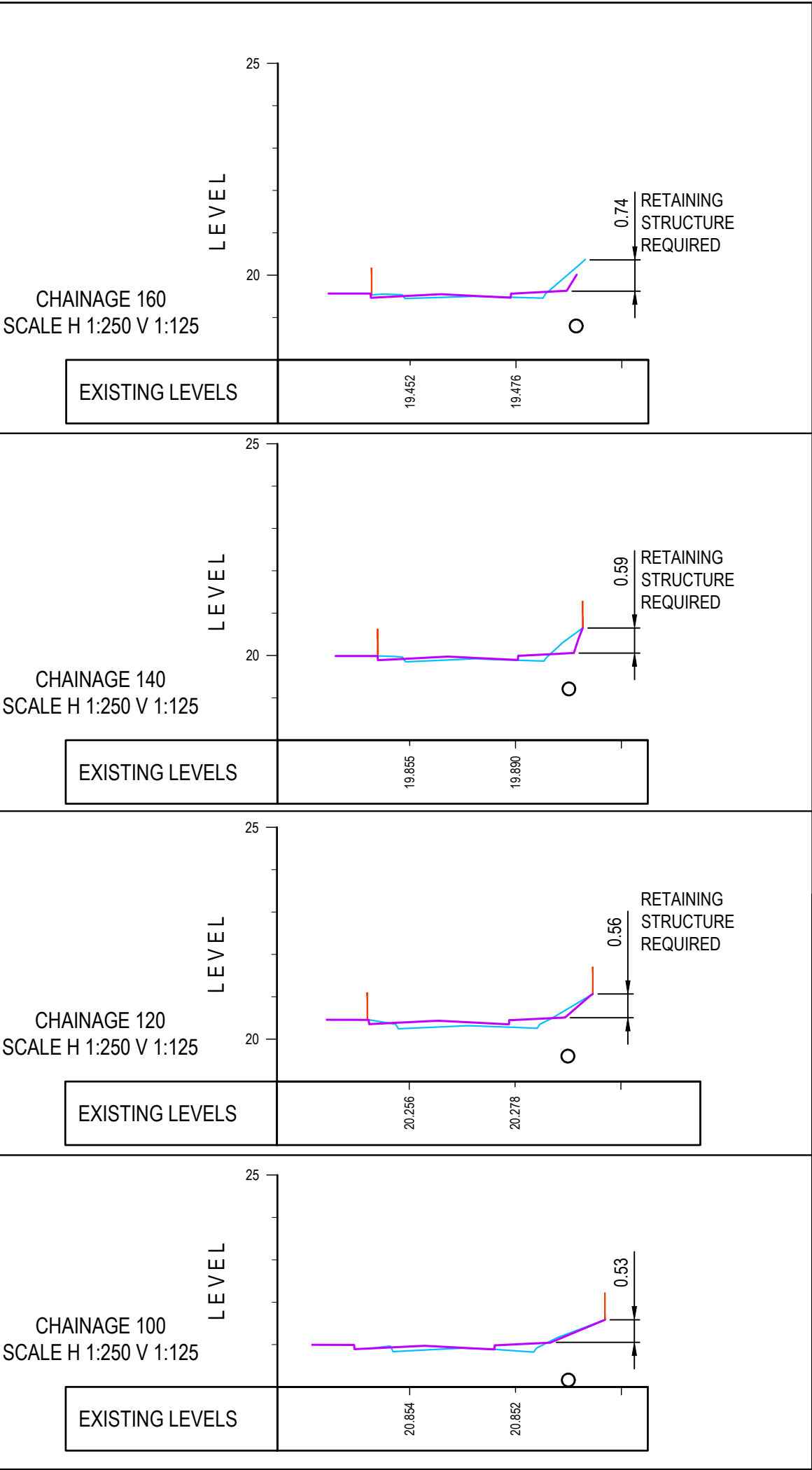
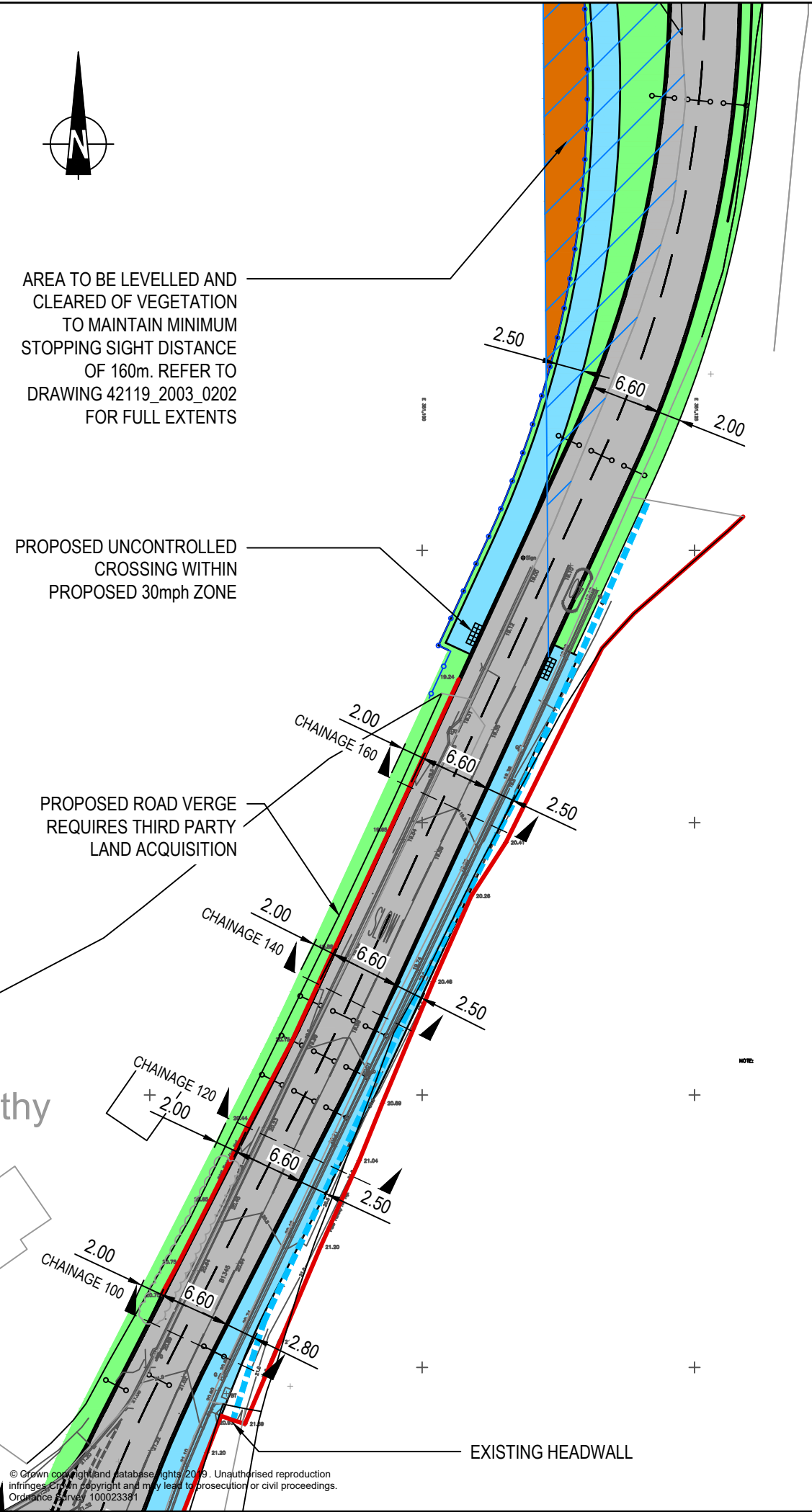
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KEY:

PLAN VIEW

- FENCELINE/PROPERTY BOUNDARY
- EXISTING SUBTERRANEAN CULVERT
- PROPOSED CARRIAGEWAY
- PROPOSED SHARED USE PATH
- PROPOSED VERGE
- PROPOSED FOOTPATH

SECTION VIEWS

- EXISTING GROUND LEVEL
- PROPOSED GROUND LEVEL
- FENCELINE/PROPERTY BOUNDARY
- EXISTING CULVERT (SHOWN INDICATIVE)

NOTES:

- ALL DIMENSIONS ARE SHOWN IN METRES
- TOPOGRAPHICAL SURVEY COMPLETED BY MALCOLM HUGHES LAND SURVEYORS LTD. APRIL 2019.

Mark	Revision	Date	Drawn	Chkd	Appd

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Drawing Issue Status

FOR PLANNING PURPOSES ONLY

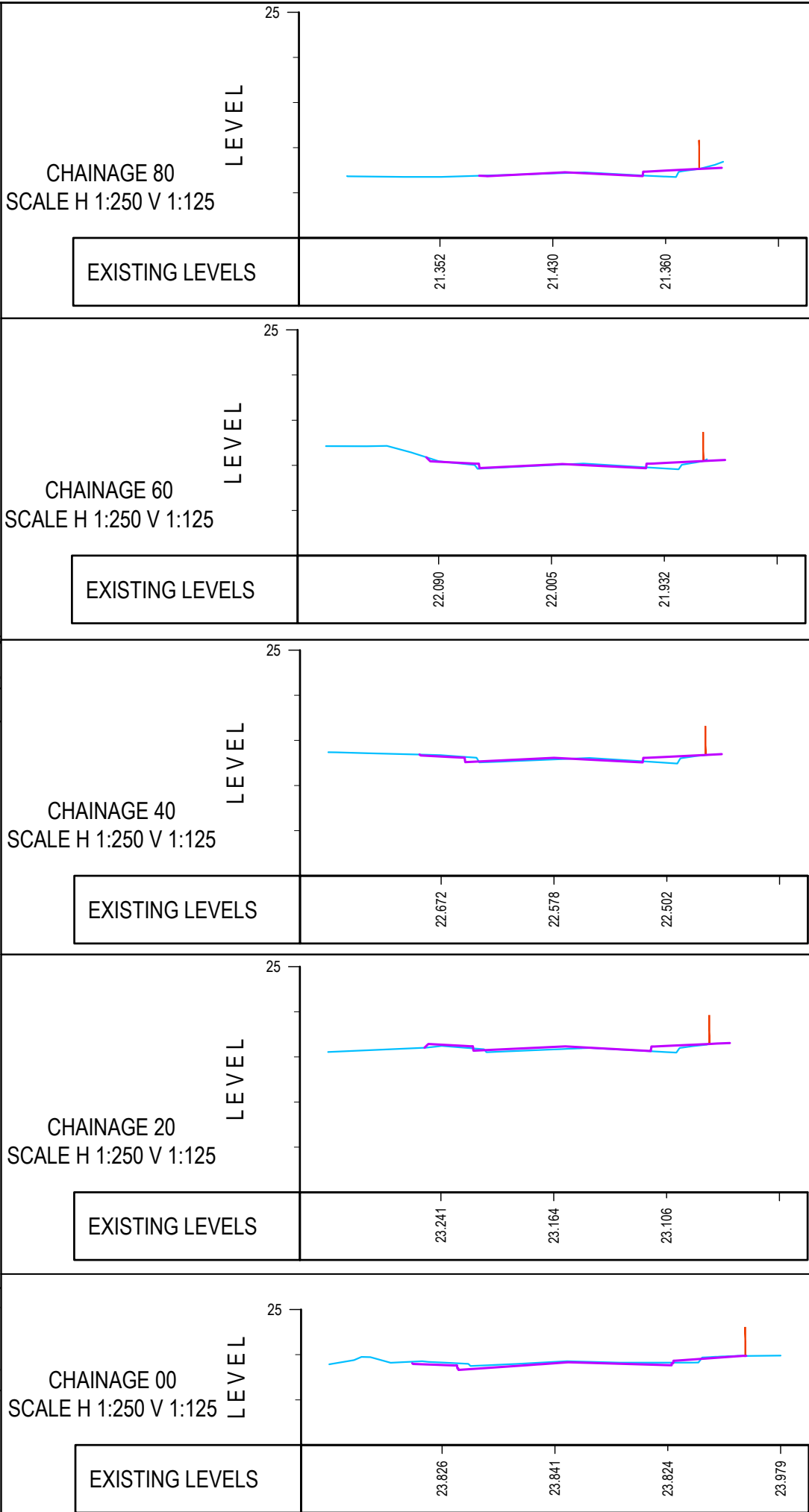
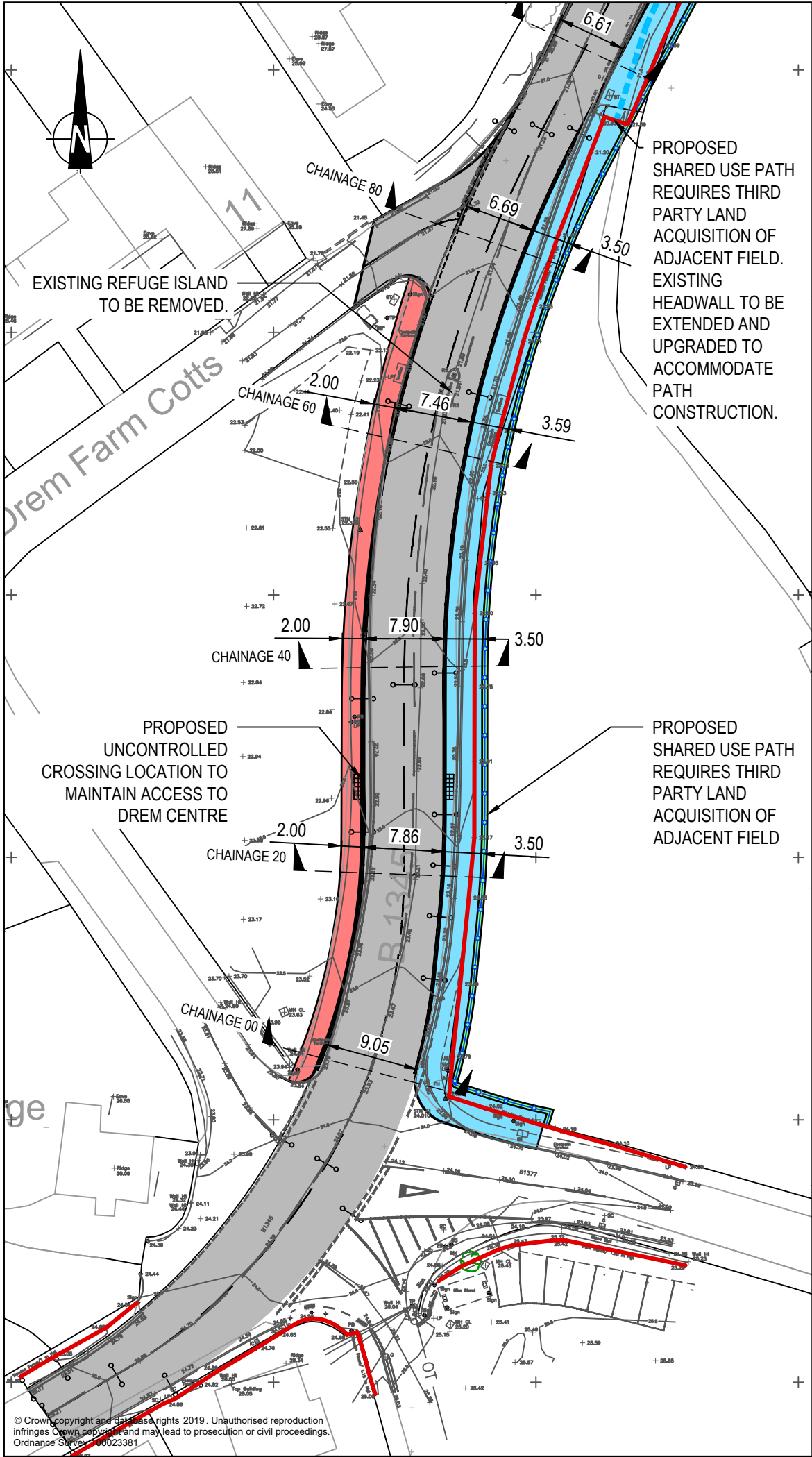
DREM TO GULLANE CYCLE PATH

SECTION 1 - OPTION 3A (2 OF 2)

Client		
Date of 1st Issue 29.05.2019	Designed BR	Drawn BR
A3 Scale 1:500	Checked JPM	Approved JPM
Drawing Number 42119_2003_0107	Revision ----	

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KEY:

PLAN VIEW

- FENCELINE/PROPERTY BOUNDARY
- EXISTING SUBTERRANEAN CULVERT
- PROPOSED CARRIAGEWAY
- PROPOSED SHARED USE PATH
- PROPOSED VERGE
- PROPOSED FOOTPATH
- PROPOSED FENCELINE

SECTION VIEWS

- EXISTING GROUND LEVEL
- PROPOSED GROUND LEVEL
- FENCELINE/PROPERTY BOUNDARY

NOTES:

- ALL DIMENSIONS ARE SHOWN IN METRES
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Drawing Issue Status

FOR PLANNING PURPOSES ONLY

DREM TO GULLANE CYCLE PATH

SECTION 1 - OPTION 1B (1 OF 2)

Client		
East Lothian Council		
Date of 1st Issue	Designed	Drawn
29.05.2019	BR	BR
A3 Scale	Checked	Approved
1:500	JPM	JPM
Drawing Number	Revision	
42119_2003_0112	----	

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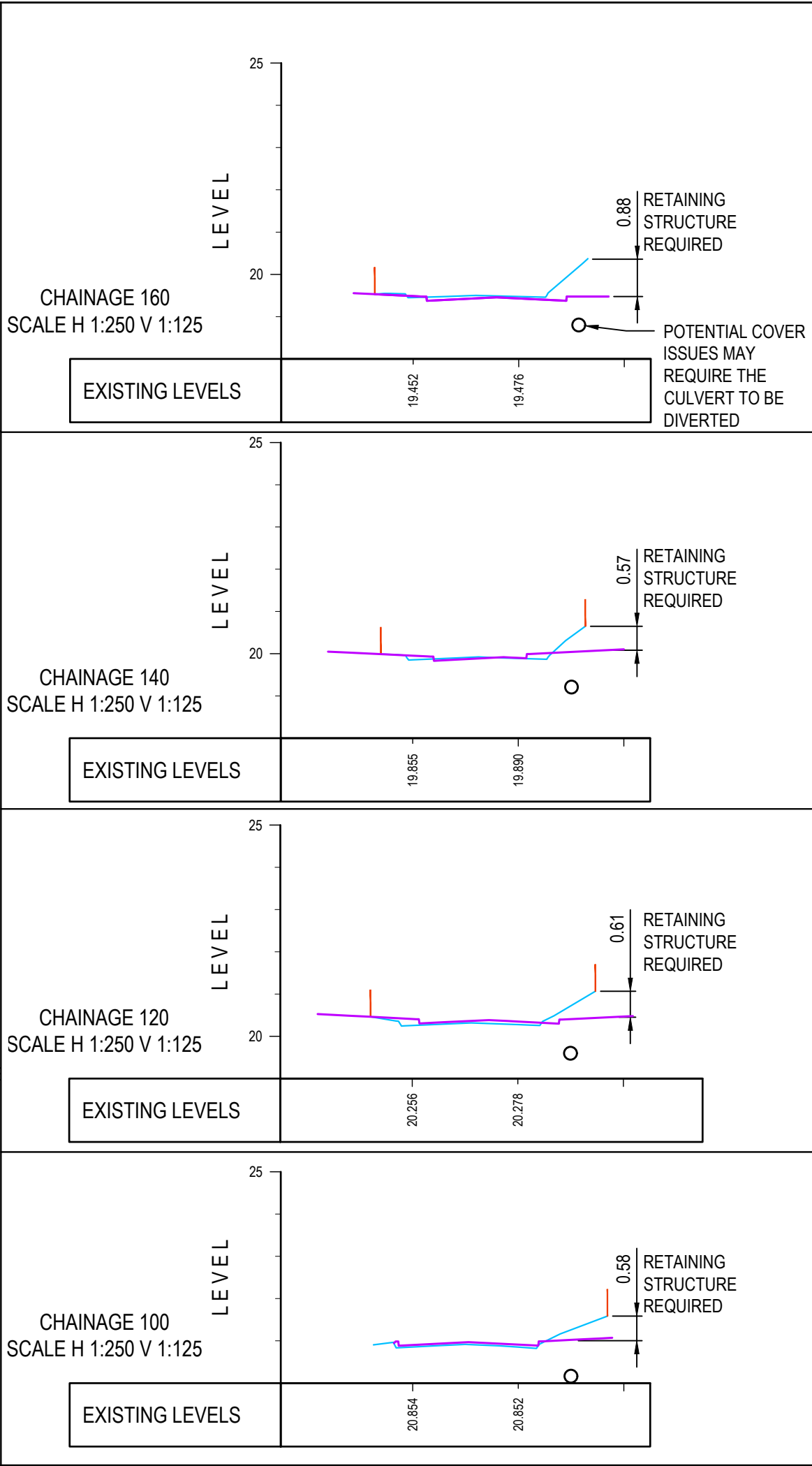
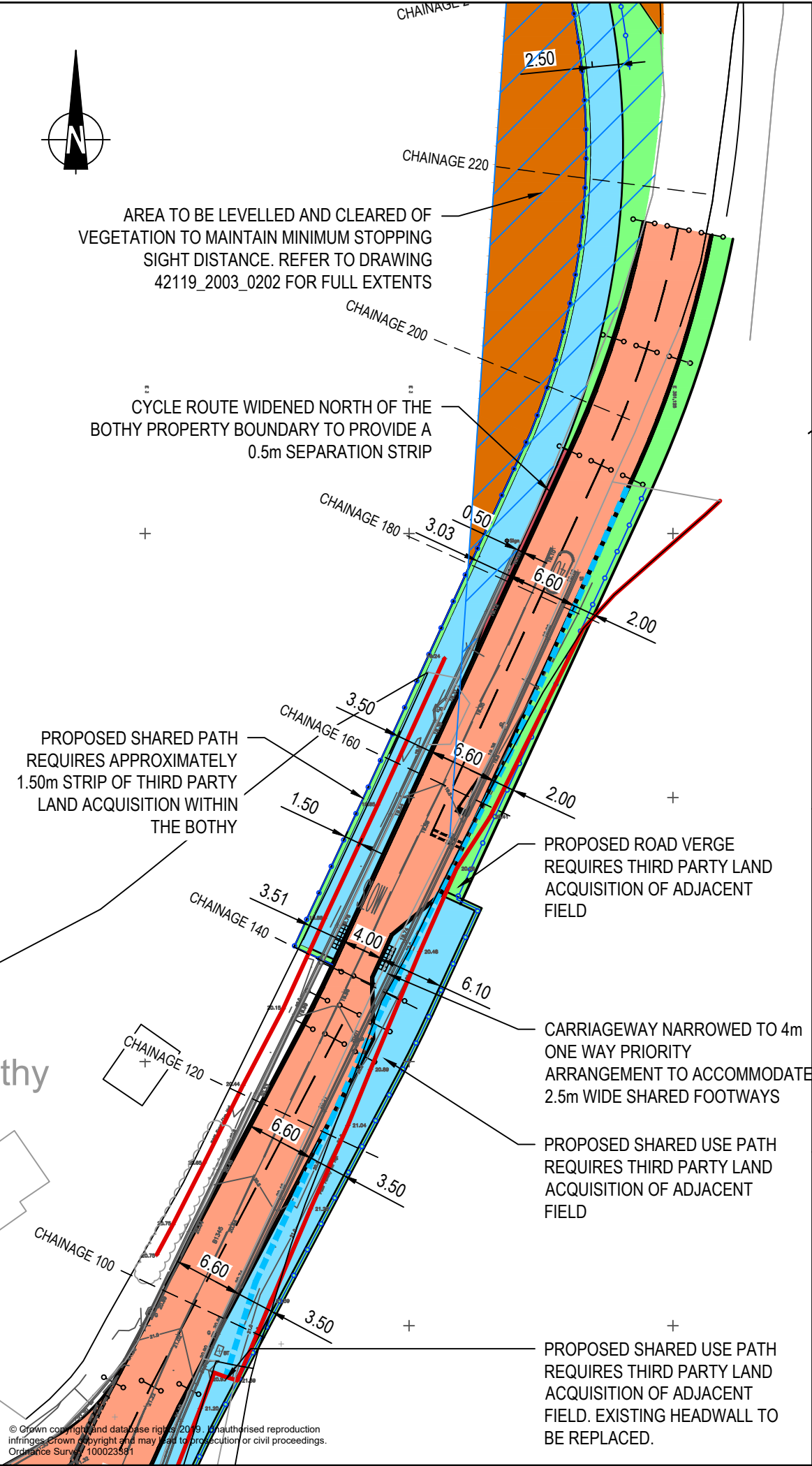
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KEY:

PLAN VIEW

- FENCELINE/PROPERTY BOUNDARY
- EXISTING SUBTERRANEAN CULVERT
- PROPOSED CARRIAGEWAY
- PROPOSED SHARED USE PATH
- PROPOSED VERGE
- PROPOSED FOOTPATH
- PROPOSED FENCELINE

SECTION VIEWS

- EXISTING GROUND LEVEL
- PROPOSED GROUND LEVEL
- FENCELINE/PROPERTY BOUNDARY
- EXISTING CULVERT (SHOWN INDICATIVE)

NOTES:

- ALL DIMENSIONS ARE SHOWN IN METRES
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Mark	Revision	Date	Drawn	Chkd	Appd

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Drawing Issue Status

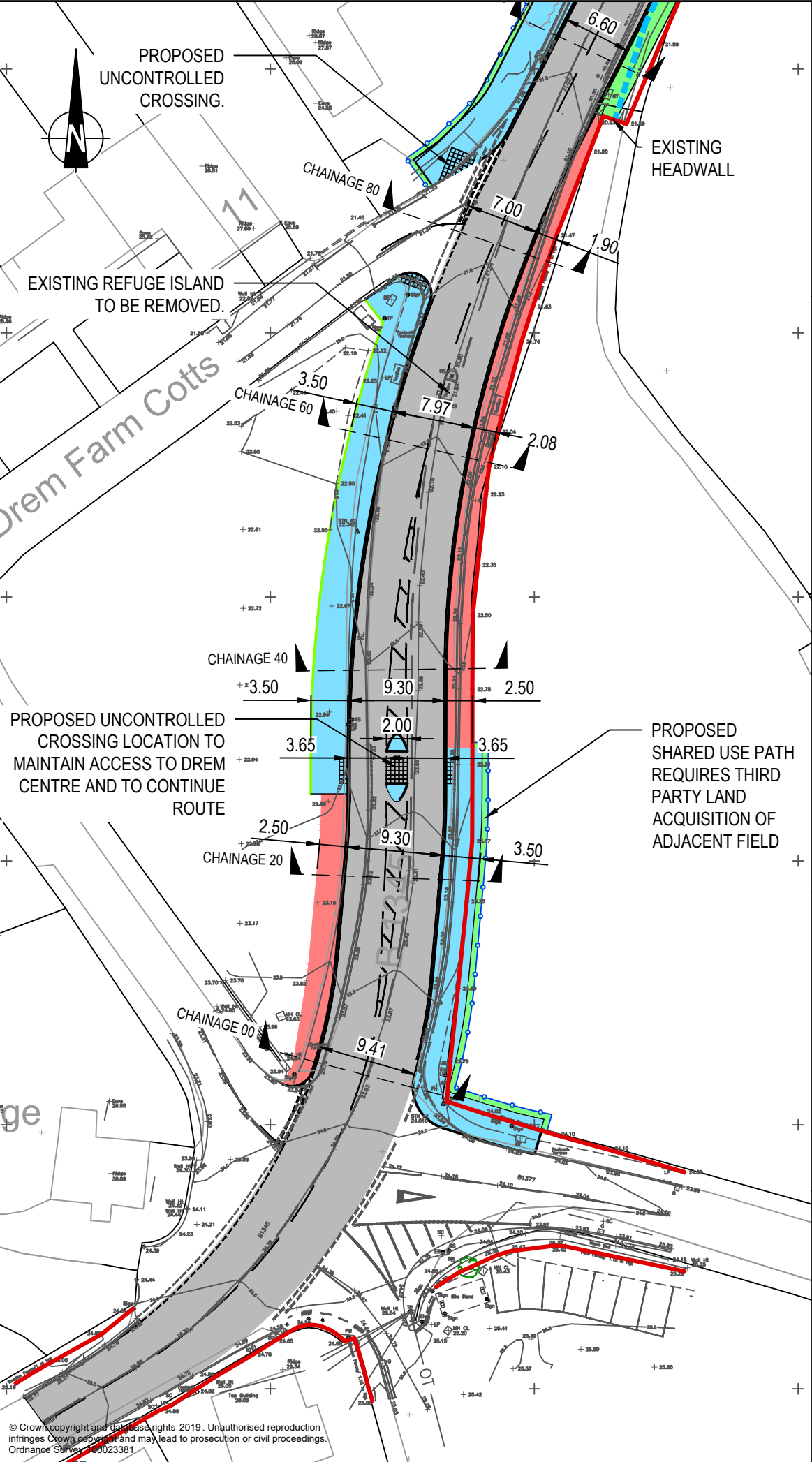
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**DREM TO GULLANE CYCLE PATH**

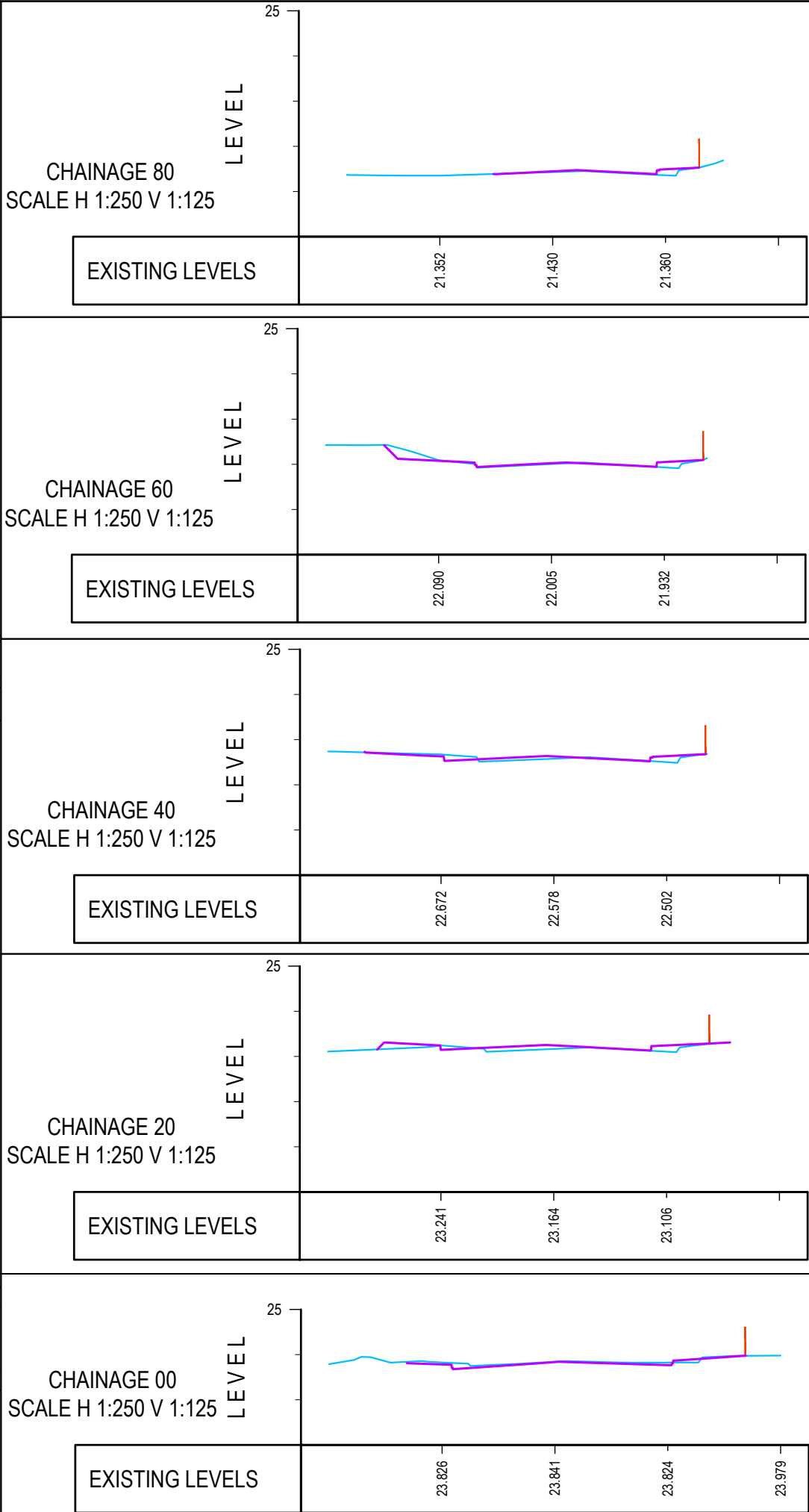
SECTION 1 - OPTION 1B (2 OF 2)

Client		East Lothian Council	
Date of 1st Issue	29.05.2019	Designed	BR
A3 Scale	1:500	Checked	JPM
Drawing Number	42119_2003_0113	Drawn	BR
		Approved	JPM
		Revision	----

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KEY:

PLAN VIEW

- FENCELINE/PROPERTY BOUNDARY
- EXISTING SUBTERRANEAN CULVERT
- PROPOSED CARRIAGEWAY
- PROPOSED SHARED USE PATH
- PROPOSED VERGE
- PROPOSED FOOTPATH
- PROPOSED FENCELINE

SECTION VIEWS

- EXISTING GROUND LEVEL
- PROPOSED GROUND LEVEL
- FENCELINE/PROPERTY BOUNDARY

NOTES:

- ALL DIMENSIONS ARE SHOWN IN METRES
- TOPOGRAPHICAL SURVEY COMPLETED BY MALCOLM HUGHES LAND SURVEYORS LTD. APRIL 2019.

Mark	Revision	Date	Drawn	Chkd	Appd

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Drawing Issue Status

**FOR PLANNING PURPOSES ONLY**

**DREM TO GULLANE CYCLE PATH**

**SECTION 1 - OPTION 2B (1 OF 2)**

Client

**East Lothian Council**

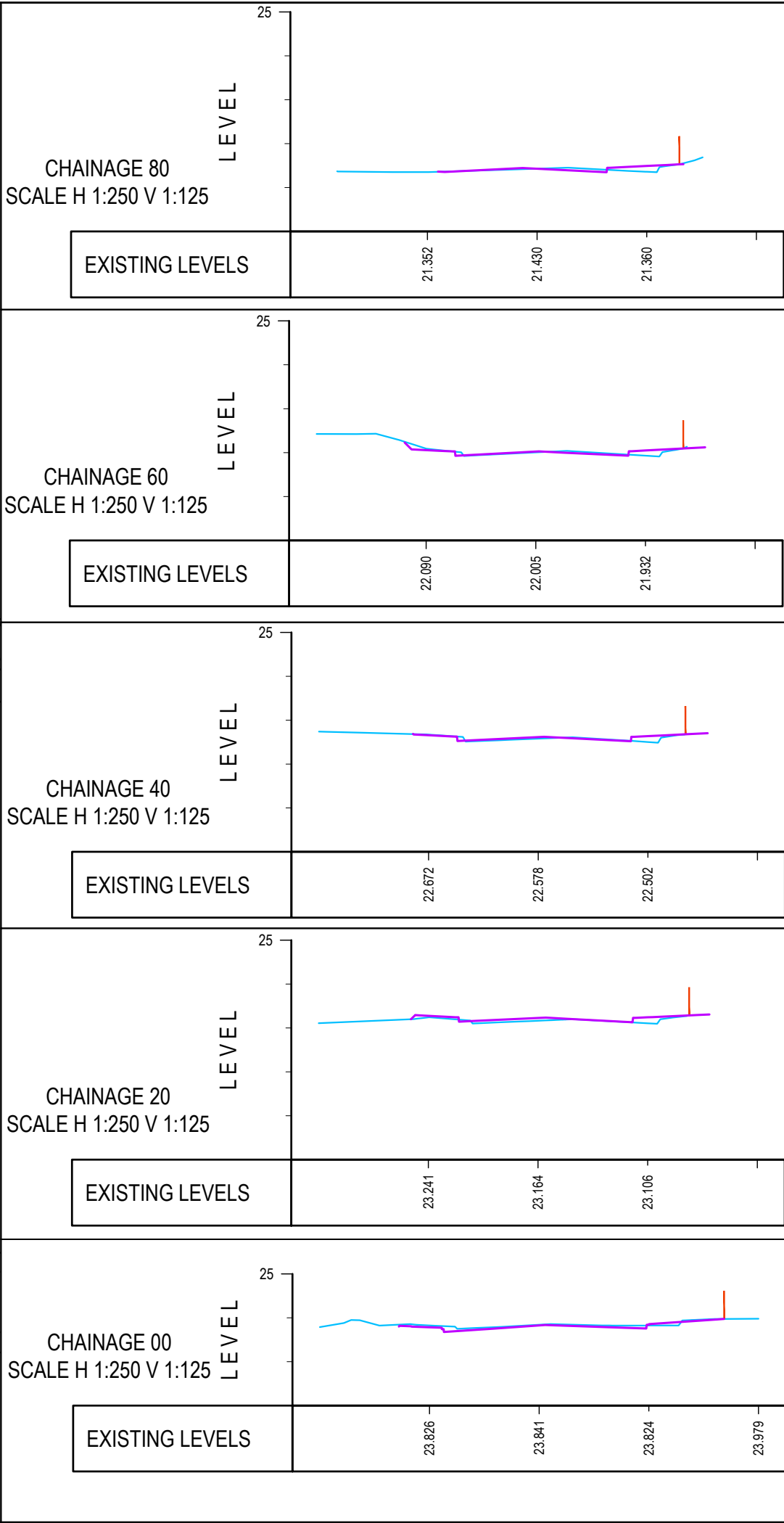
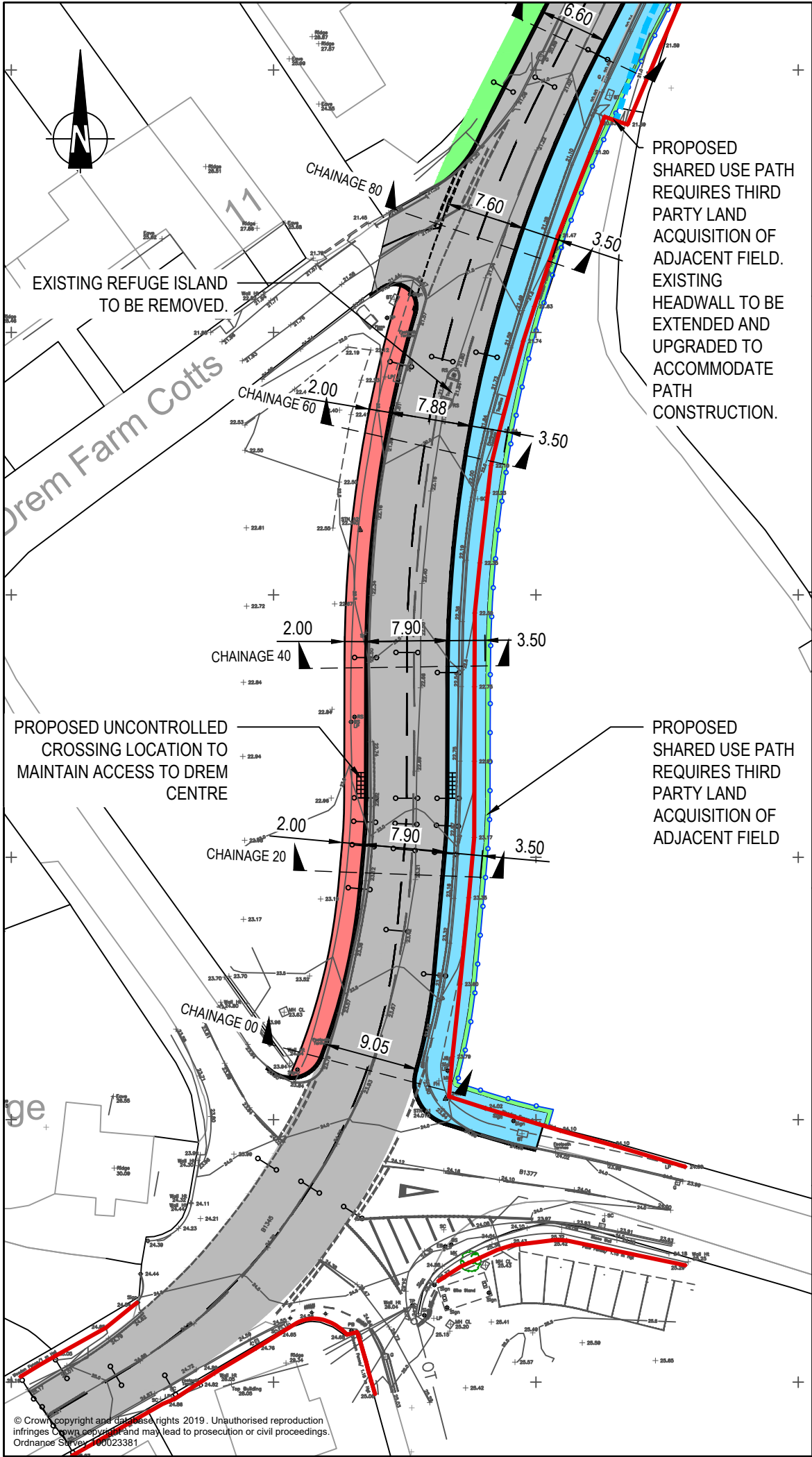
Date of 1st Issue	Designed	Drawn
29.05.2019	BR	BR
A3 Scale	Checked	Approved
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KEY:

PLAN VIEW

- FENCELINE/PROPERTY BOUNDARY
- EXISTING SUBTERRANEAN CULVERT
- PROPOSED CARRIAGEWAY
- PROPOSED SHARED USE PATH
- PROPOSED VERGE
- PROPOSED FOOTPATH
- PROPOSED FENCELINE

SECTION VIEWS

- EXISTING GROUND LEVEL
- PROPOSED GROUND LEVEL
- FENCELINE/PROPERTY BOUNDARY

NOTES:

- ALL DIMENSIONS ARE SHOWN IN METRES
- TOPOGRAPHICAL SURVEY COMPLETED BY MALCOLM HUGHES LAND SURVEYORS LTD. APRIL 2019.

Mark	Revision	Date	Drawn	Chkd	Appd

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Drawing Issue Status

FOR PLANNING PURPOSES ONLY

DREM TO GULLANE CYCLE PATH

SECTION 1 - OPTION 3B (1 OF 2)

Client

East Lothian Council

Date of 1st Issue: 29.05.2019

Designed: BR

Drawn: BR

A3 Scale: 1:500

Checked: JPM

Approved: JPM

Drawing Number: 42119\_2003\_0116

Revision: ----

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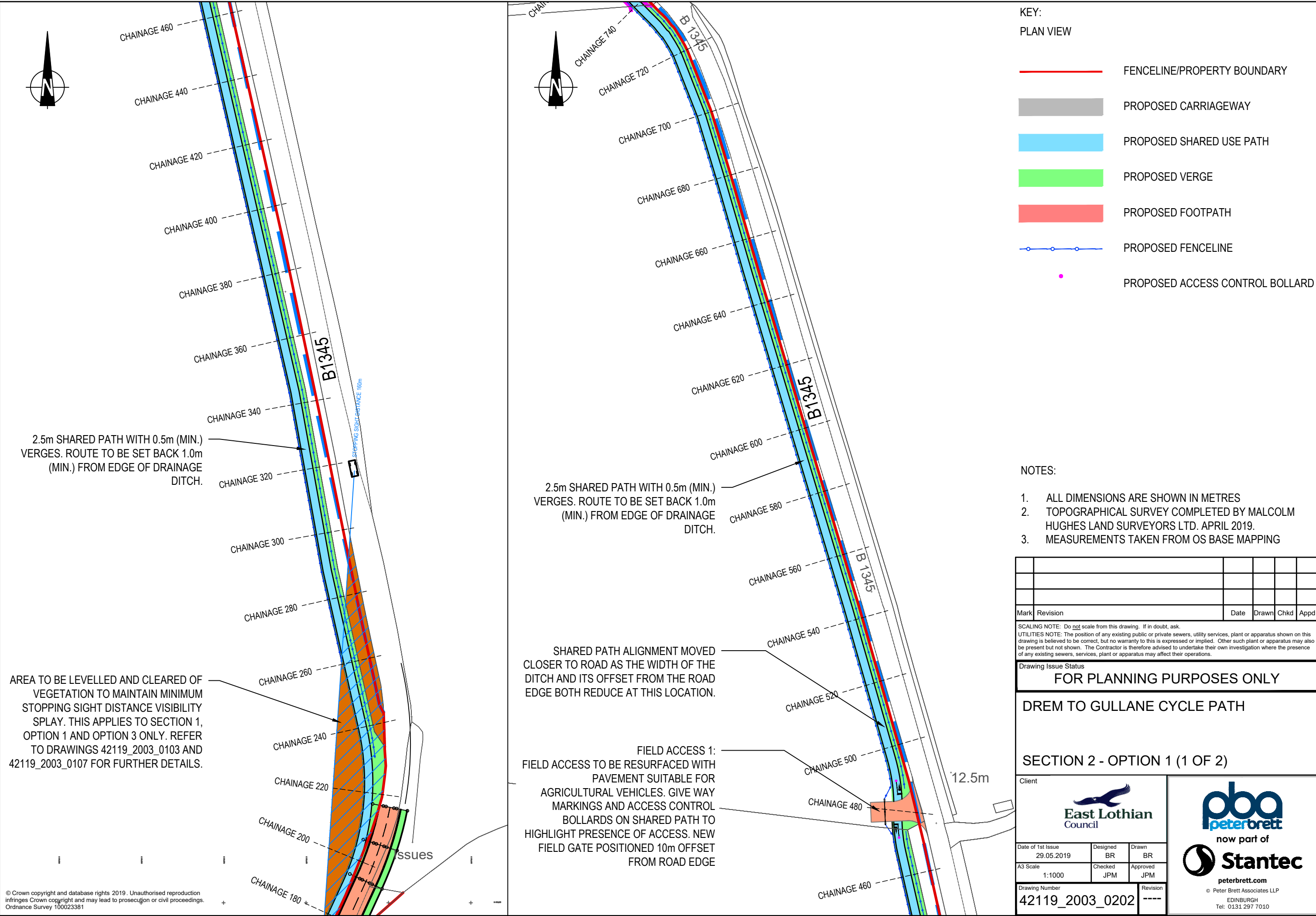
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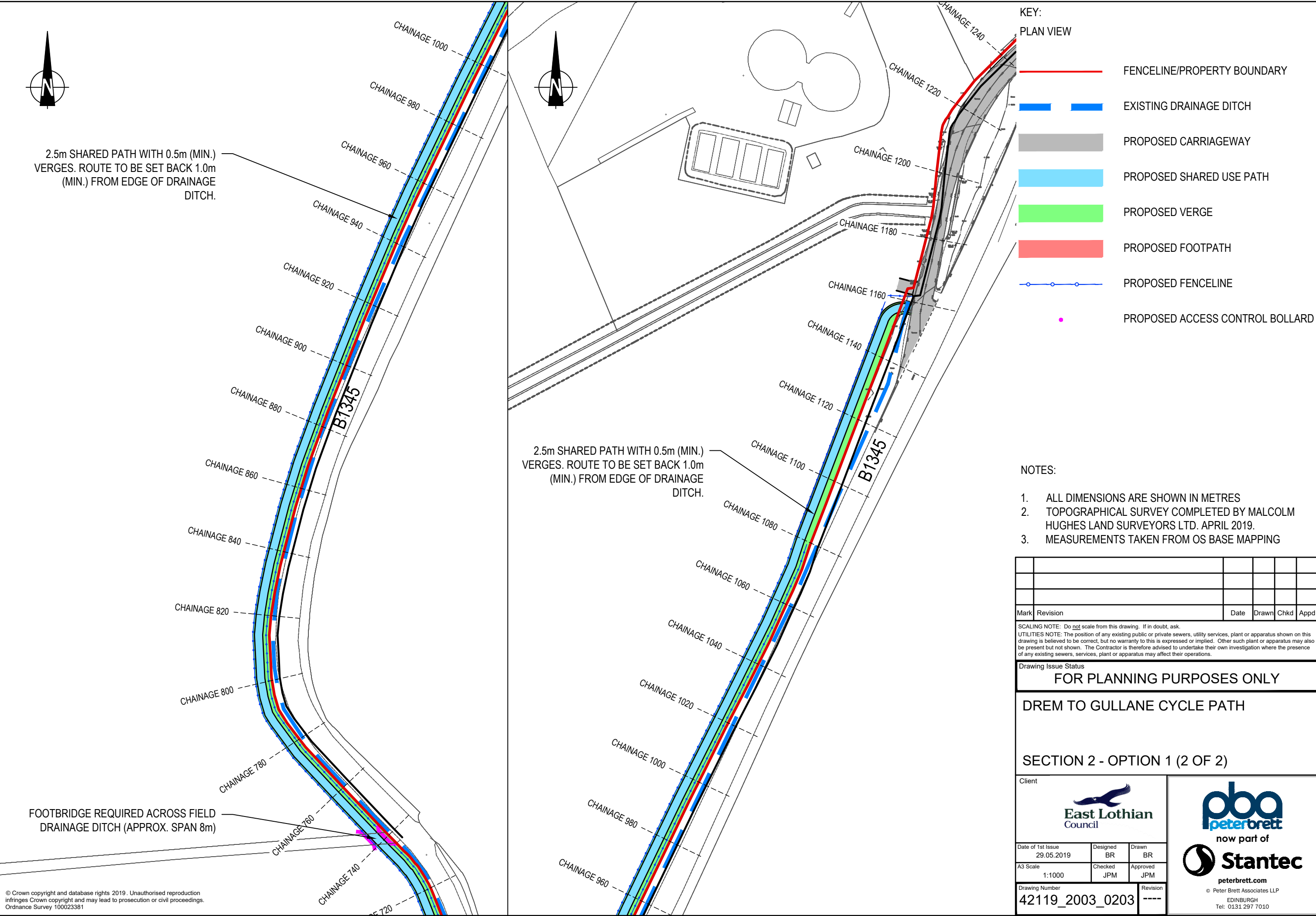
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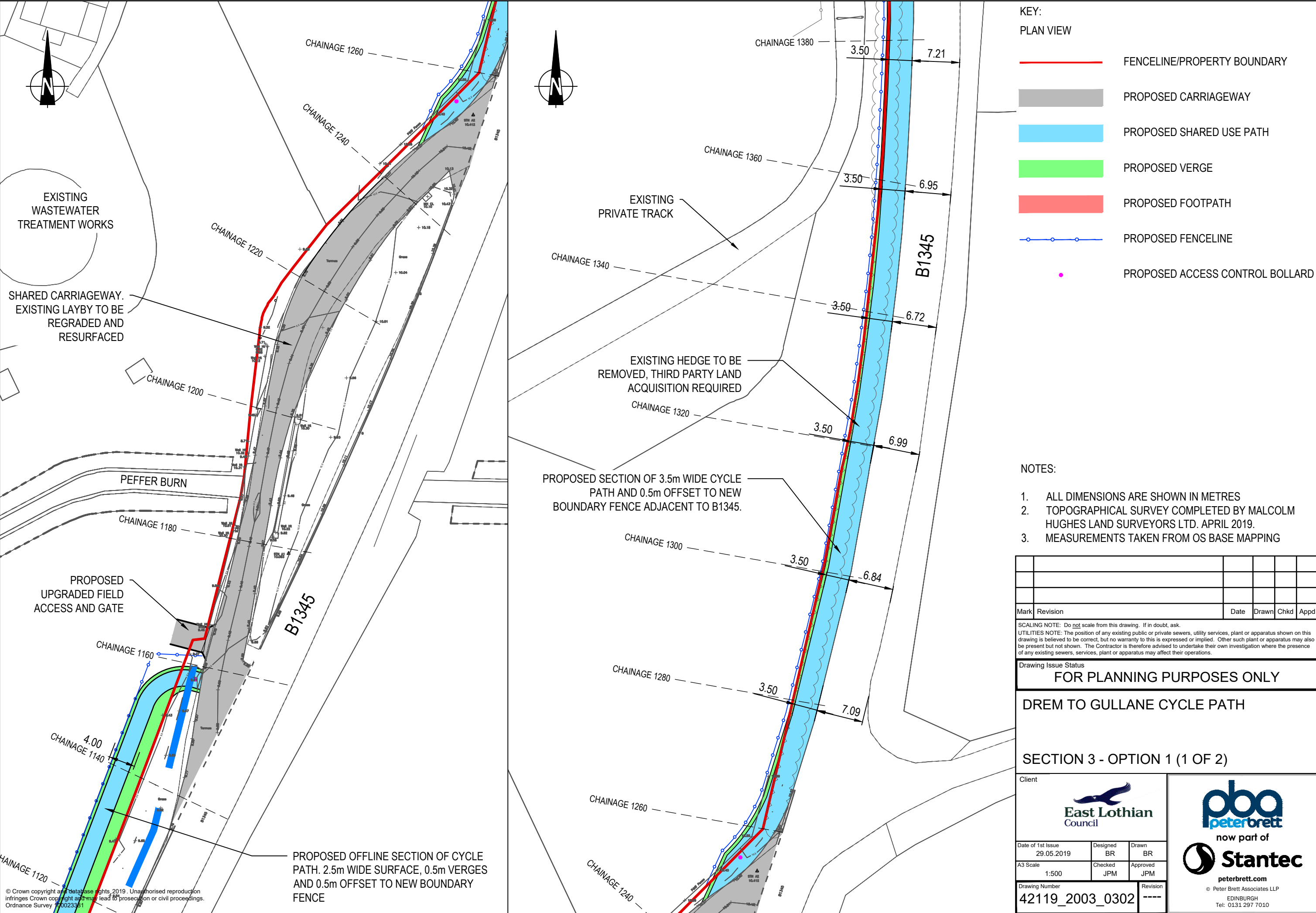
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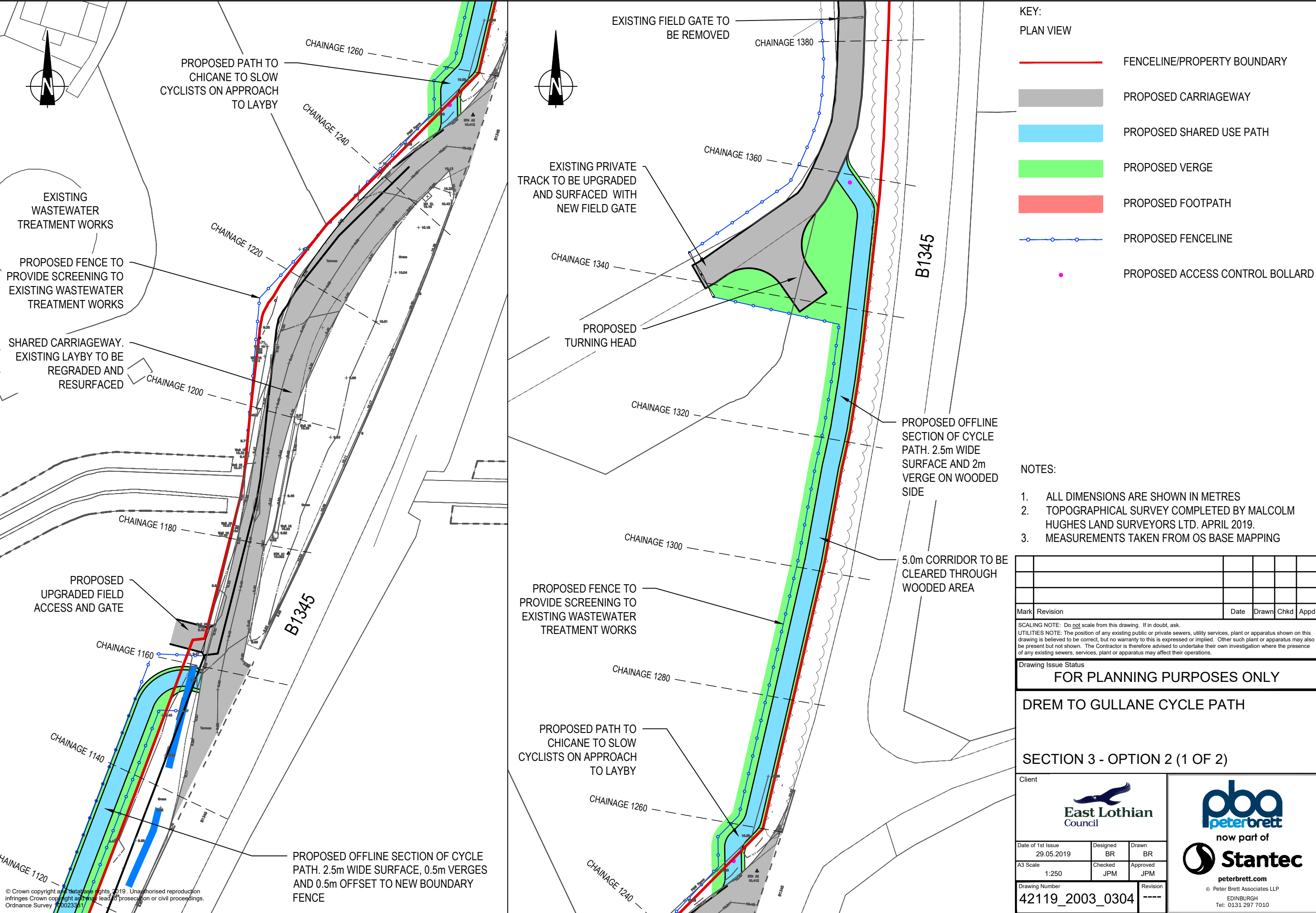


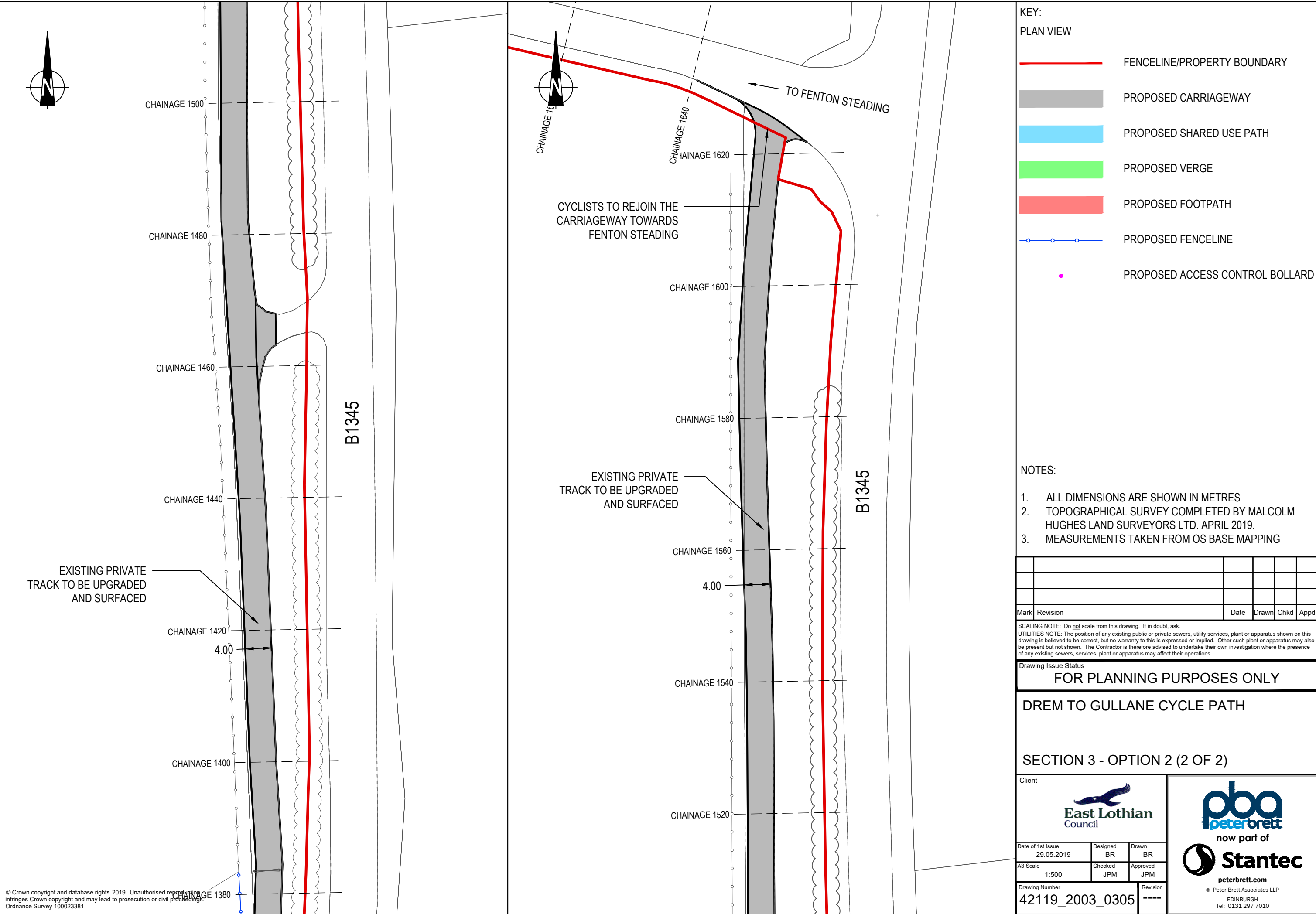


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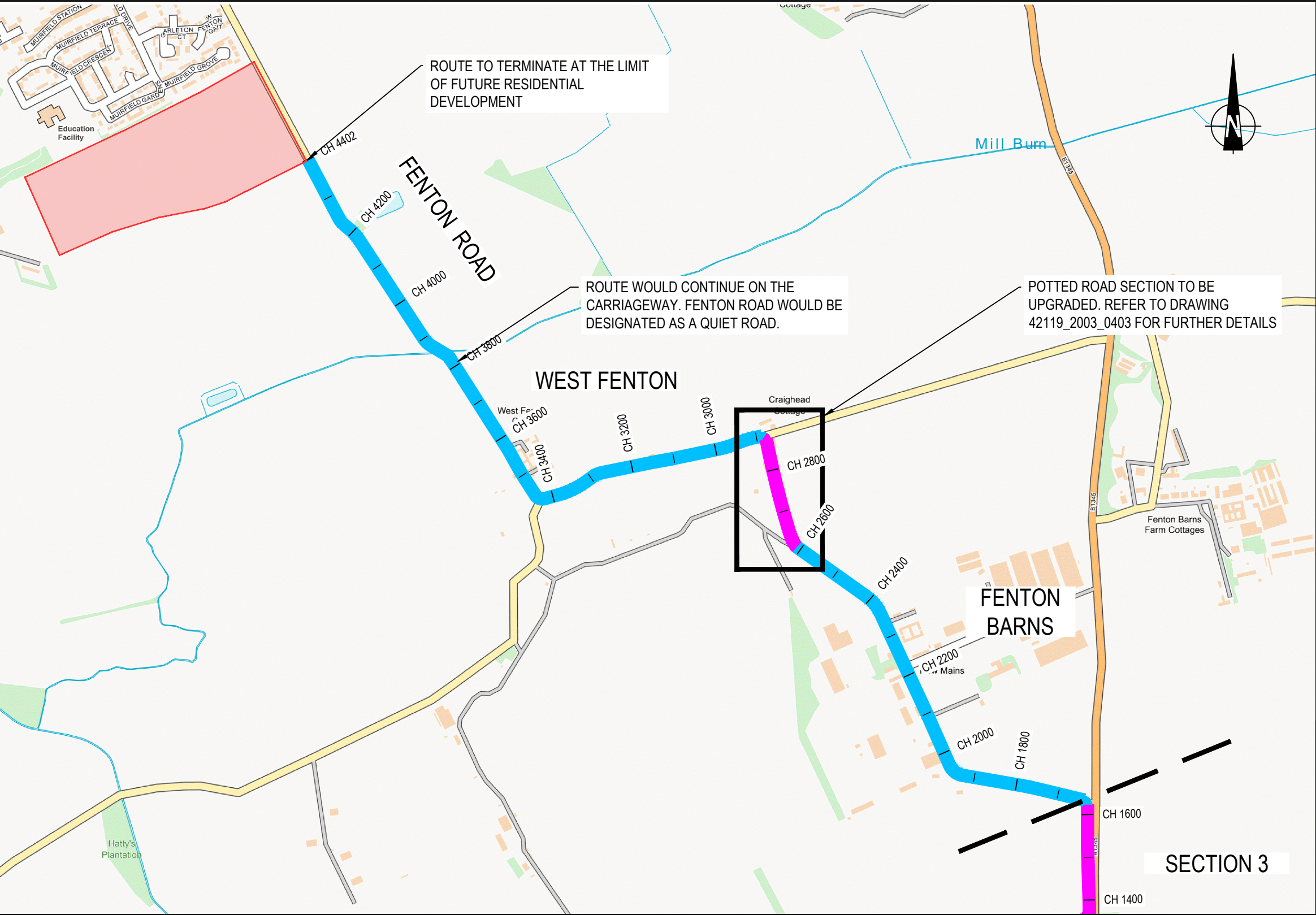












KEY:

PLAN VIEW

ON-ROAD SECTIONS

TRAFFIC-FREE SECTIONS

RESIDENTIAL DEVELOPMENT (SHOWN INDICATIVE)

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Drawing Issue Status

FOR PLANNING PURPOSES ONLY

DREM TO GULLANE CYCLE PATH

SECTION 4 - OPTION 1

Client

Date of 1st Issue

29.05.2019

Designed

BR

Drawn

BR

A3 Scale

1:20,000

Checked

JPM

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Drawing Number

42119\_2003\_0402

Revision

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KEY:

PLAN VIEW

FENCELINE/PROPERTY BOUNDARY

PROPOSED TRACK RECONSTRUCTION AND RESURFACING

NOTES:

1.

ALL DIMENSIONS ARE SHOWN IN METRES

2.

TOPOGRAPHICAL SURVEY COMPLETED BY MALCOLM HUGHES LAND SURVEYORS LTD. APRIL 2019.

3.

MEASUREMENTS TAKEN FROM OS BASE MAPPING

Mark	Revision	Date	Drawn	Chkd	Appd

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Drawing Issue Status

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SECTION 4 - POTTED ROAD SECTION

Client

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Date of 1st Issue

29.05.2019

Designed

BR

Drawn

BR

A3 Scale

1:500

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Approved

JPM

Drawing Number

42119\_2003\_0403

Revision

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