

Cedars Roundabout, Barnstaple

Report of the Head of Planning, Transportation and Environment

Please note that the following recommendation is subject to consideration and determination by the Committee before taking effect.

Recommendation: It is recommended that the contents of the report are noted and that feasibility scheme Option 8 shown on Plan DCCP15701-008 in Appendix I, be progressed subject to funding and final scheme approval.

1. Introduction

The report seeks to summarise the traffic situation at Cedars roundabout and the options that have been investigated to improve traffic priority from Bickington and Fremington.

2. Background

Journey time delays at Cedars Roundabout are experienced predominantly during the morning commuter period. This is typically 7:30am to 9:00am Mon-Fri during school terms. At these times there is strong travel demand inbound to Barnstaple from both Bickington and Roundswell directions. Right turning traffic from Roundswell has priority through the roundabout, which can lead to delays for traffic entering the junction from Bickington.

The capacity of the current roundabout junction is not the primary cause of journey time delays in the morning. The delays do not correlate with the highest morning traffic flows through the junction. These occur later in the morning, when demands on each main arm of the roundabout are more evenly distributed which in turn creates more gaps for traffic to enter the junction. The delays to Bickington traffic in the morning reflect the tidal pattern of commuting through this junction. The afternoon delays at Cedars are less severe as the commuting pattern out of town means that traffic volumes are concentrated on a single arm approach into the junction.

Traffic analysis has identified peak time capacity issues of the A3125 corridor to the east of Cedars roundabout. Any blocking of this exit from the roundabout can cause slow moving or stationary traffic that is turning right from Roundswell into Barnstaple. This reduces the opportunities for traffic from Bickington to enter the roundabout. There is also evidence that traffic from the Bickington\Fremington corridor uses alternative minor road routes to access Old Bideford Road and join Cedars roundabout from Roundswell. Both these factors can contribute to increased delays to traffic from Bickington.

The scheme options that have been investigated for Cedars junction have considered increasing priority through the junction for morning commuter traffic from Bickington.

3. Barnstaple Transport Strategy

The Transport Strategy for Barnstaple identifies other infrastructure that should be taken into consideration with any options proposed for Cedars junction. Two of the key traffic management issues affecting Cedars roundabout are firstly the traffic congestion and delays on the A3125 to the east of the junction and secondly access from Fremington and Bickington to alternative main road routes.

- Under Policy BAR02 of the North Devon & Torridge Local Plan, it is proposed that the Larkbear allocation will be served by a new primary junction onto the A361 Western Bypass between Lake Roundabout and the “Squarabout” (Stones signalised roundabout junction). A secondary access for BAR02 will connect Larkbear with the A3125 at Roundswell via Old Torrington Road and Gratton Way. Gratton Way is currently restricted to bus traffic, when this new route is open to all traffic then Old Torrington Road will become restricted to entry for bus traffic only from both Gratton Way and Larkbear. One of the main sources of delay on the A3125 east of Cedars is currently the Old Torrington Road\A3125 roundabout at the top of Sticklepath Hill. Congestion at this junction is heavily influenced by the impact of Petroc College with its main entrance and most of the bus traffic using Old Torrington Road. A new road network and access to the rear of the college from the A361 and Roundswell will reduce the current traffic demands on the Old Torrington Road\A3125 roundabout. Any options for improving traffic flow at this junction are currently very constrained. But a reduction in traffic demand from Old Torrington Road will allow consideration of junction improvements to improve traffic flow on the A3125 east of Cedars junction.
- Under Policy BAR03 the development on Land West of Tews Lane is making provision for the delivery of a Tews Lane Link Road connecting the development to the A39. Longer term there is potential to connect through to the B3233 this could provide an improved access from Fremington and Bickington to the A39 corridor and alternative main road routes into town. A link road will also provide an alternative for traffic from Fremington wishing to turn right at the current Cedars Roundabout, reducing traffic demand on this arm of the roundabout.
- The A39 southern junction for the Tews Lane Link is currently identified within the consultation for improvements to the North Devon Link Road Corridor. Proposals for the North Devon Link Road Corridor will increase capacity and journey time reliability on this vital regional corridor and help to make this route more attractive for traffic from Torridge, Roundswell and the Bickington corridor.

4. Feasibility Options

Eight feasibility design options were identified for analysis and appraisal. Plans and supporting information were provided in a briefing note to HATOC members in November 2016. A copy of the plans are included in Appendices I and II and are summarised below:

Option 1 – allows for a dedicated lane for Bickington traffic to cross the roundabout. Traffic from Bickington and Roundswell would merge to a single lane east of the junction. Traffic on the roundabout will be separated by ghost islands that allow larger vehicles to overrun when negotiating the junction. (Estimate £75,000*)

Option 2 – allows vehicles to filter in turn within the junction. This option is based on junctions used in the Channel Islands where vehicles take it in turn instead of giving way to their right. (Estimate £186,000*)

Option 3 – signalises the southern A3125 approach for right turning vehicles from Roundswell. Vehicles turning left will use a segregated un-signalised lane onto the roundabout. The full or part time signals would delay vehicles approaching Cedars from Roundswell that are intending to turn right. (Estimate £105,000*)

Option 4 – is a more conventional signalised junction layout to replace the current roundabout. The layout incorporates a segregated and un-signalised lane for traffic turning left from Roundswell to Bickington. The rest of the junction would be signal controlled throughout the day. (Estimate £324,000*)

Option 5 – is a conventional signalised junction replacing a roundabout, where all approaches are controlled by signals at all times of the day. (Estimate £307,000*)

Option 6 – is conventional priority give way junction with traffic from Roundswell giving way to Bickington traffic. (Estimate £202,000*)

Option 7 - is a conventional priority give way junction with traffic from Roundswell giving way to Bickington traffic. And incorporating a dedicated right turn lane from Bickington towards Roundswell. (Estimate £231,000*)

Option 8 – provides a staggered pedestrian crossing facility with part time signals operation on the southern A3125 approach from Roundswell. At peak times the crossing would operate as part time signals (with or without pedestrian demand) to delay vehicles approaching Cedars from Roundswell. (Estimate £72,000*)

*Indicative costs are shown for comparison only. They do not represent detailed design cost estimates.

Technical feedback and comments on the options was sought from road safety and signal engineers. A VISSIM traffic flow simulation was also undertaken to compare the key types of option and covering scenarios for a; conventional priority junction, a full traffic signalised junction and options for part time traffic signals on the southern arm. This analysis excluded the impact of exit blocking to the east of the junction; the VISSIM model provides an indication of queue length differences on all main arms in the morning peak for each option in comparison to the current roundabout.

In order to improve priority for Bickington traffic and minimise the increase in delays from other directions, then the recommended option is for part time signal control to the south of the junction. Full signal control or priority junction layouts are not being recommended as alternatives to the current roundabout.

5. Consultation

Options 1 and 2, were initially prepared in May 2015 and discussed with the local member for Fremington Rural. These are both very innovative junction layouts that are not typically encountered on the UK road network. These options raised valid safety concerns and it was resolved that alternatives including signals should also be prepared for consideration.

The revised feasibility options were prepared and consulted initially with the local member for Fremington Rural in September 2016. The favoured single option identified to take forward was Option 8 for the pedestrian crossing with part time signals. A briefing note with plans of the eight options including supporting information and analysis was issued to HATOC members at the November 2016 committee.

As resolved by HATOC, the eight options were discussed with members for Fremington Rural, Barnstaple South and Chulmleigh & Landkey in December 2016. Option 8 was still favoured. But there was no resolution to take forward any single option without further understanding of the wider transport implications. It was requested that the full HATOC should be able consider improvements for Cedars junction in conjunction with the wider transport strategy. This was confirmed at the December 2016 HATOC.

A report on the Transport Strategy for Barnstaple was presented to the March 2017 HATOC.

6. Scheme Proposal

The scheme shown on DCCP15701-008 provides a staggered signal controlled pedestrian crossing facility on the A3125 to south of the junction. The road would be widened on both sides to accommodate a central refuge area. Footpath links would connect to existing paths at Roundswell east and west of the crossing.

During the limited period of morning delays. The pedestrian signals inbound to Cedars roundabout would operate with or without pedestrian demand. Holding up A3125 traffic and introducing gaps for traffic from the Bickington B3233 traffic to enter Cedars roundabout.

This is not a typical engineering solution for a signalised junction. But it has been employed at limited location around the country and within Devon on the A379 at the Devon Hotel junction to the south west of Exeter. For the majority of the day this scheme option would provide a new pedestrian crossing linking Roundswell from east to west and provide an alternative to the current underpass located further to the south. This would improve current pedestrian links to Sticklepath Primary School and provide improved links to a new primary school site currently proposed on land to the north west of Tews Lane.

7. Options/Alternatives

Eight alternative scheme options for the junction have been considered as part of the feasibility design exercise as summarised in Section 4.

8. Financial Considerations

Sufficient funding has been secured by developer agreements that can be directed towards improvements to the A3125\B3233 corridor and/or Cedars junction. Payment triggers through completions and occupations of new dwellings have not been reached and no funds have been received to date.

9. Environmental Impact Considerations

By promoting sustainable alternatives to travel by car, and reducing delays on the urban B3233 Bickington corridor, the proposal will have a minor but positive effect on vehicle emissions and the environment.

10. Equality Considerations

An Equality Impact and Needs Assessment (EINA) was undertaken for the Local Transport Plan. No negative impacts were identified. No new policies are being recommended in this report and therefore an individual Equality Impact and Needs Assessment for the scheme is not considered necessary.

11. Legal Considerations

To introduce a new or amended pedestrian crossing a public notice will be required to be advertised in accordance with Section 23 of The Road Traffic Regulation Act.

12. Risk Management Considerations

All option including Option 8 for a controlled signalised crossing will introduce additional delays to traffic on the A3125.

The operation of a controlled pedestrian crossing with no pedestrian demand will need to be carefully monitored in this location to assess the safety impacts for both pedestrians and motorists.

No commuted sum to cover future maintenance has been identified for this scheme.

12. Public Health Impact

Scheme Option 8 will improve crossing facilities and walking routes at this junction. Improving opportunities for walking will have a small but positive impact on public health.

13. Reasons for Recommendations

The key traffic management issue affecting Cedar roundabout is congestion on the A3125 to the east of the junction. But the journey time delays for traffic entering the junction from Bickington could be improved by providing additional priority through the junction into town at the detriment to traffic from Roundswell.

Of the options that have been investigated, Option 8 to provide a full time pedestrian crossing on the southern Roundswell approach with part time signal operation in the am peak, is the favoured proposal based on analysis and feedback from both engineers and local members. But it is recommended that the committee consider both the benefits and drawbacks associated with this scheme option.

Dave Black
Head of Planning, Transportation and Environment

Electoral Divisions: Fremington Rural, Barnstaple South, and Chulmleigh & Landkey

Local Government Act 1972: List of Background Papers

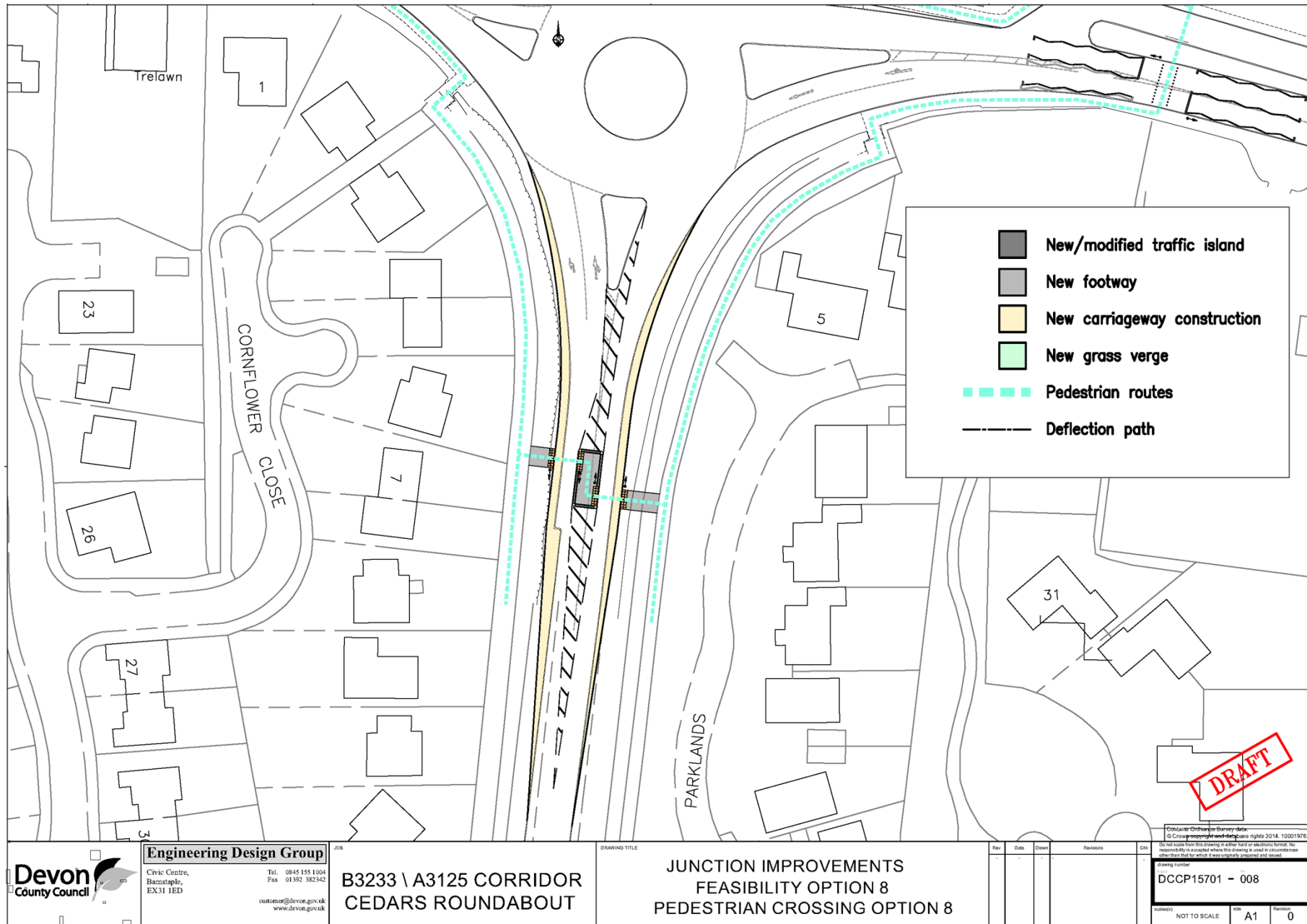
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Room No. AB2 Lucombe House

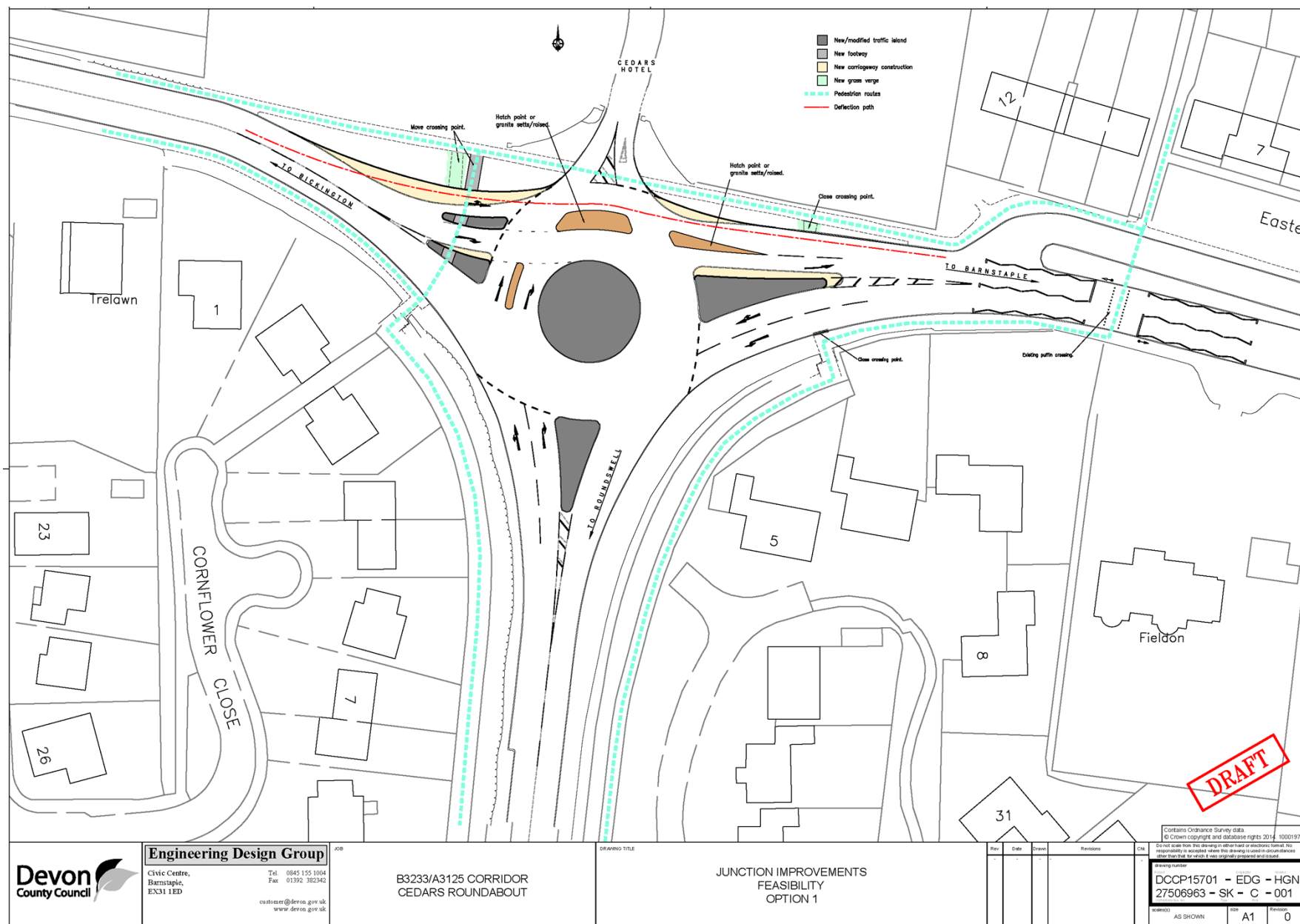
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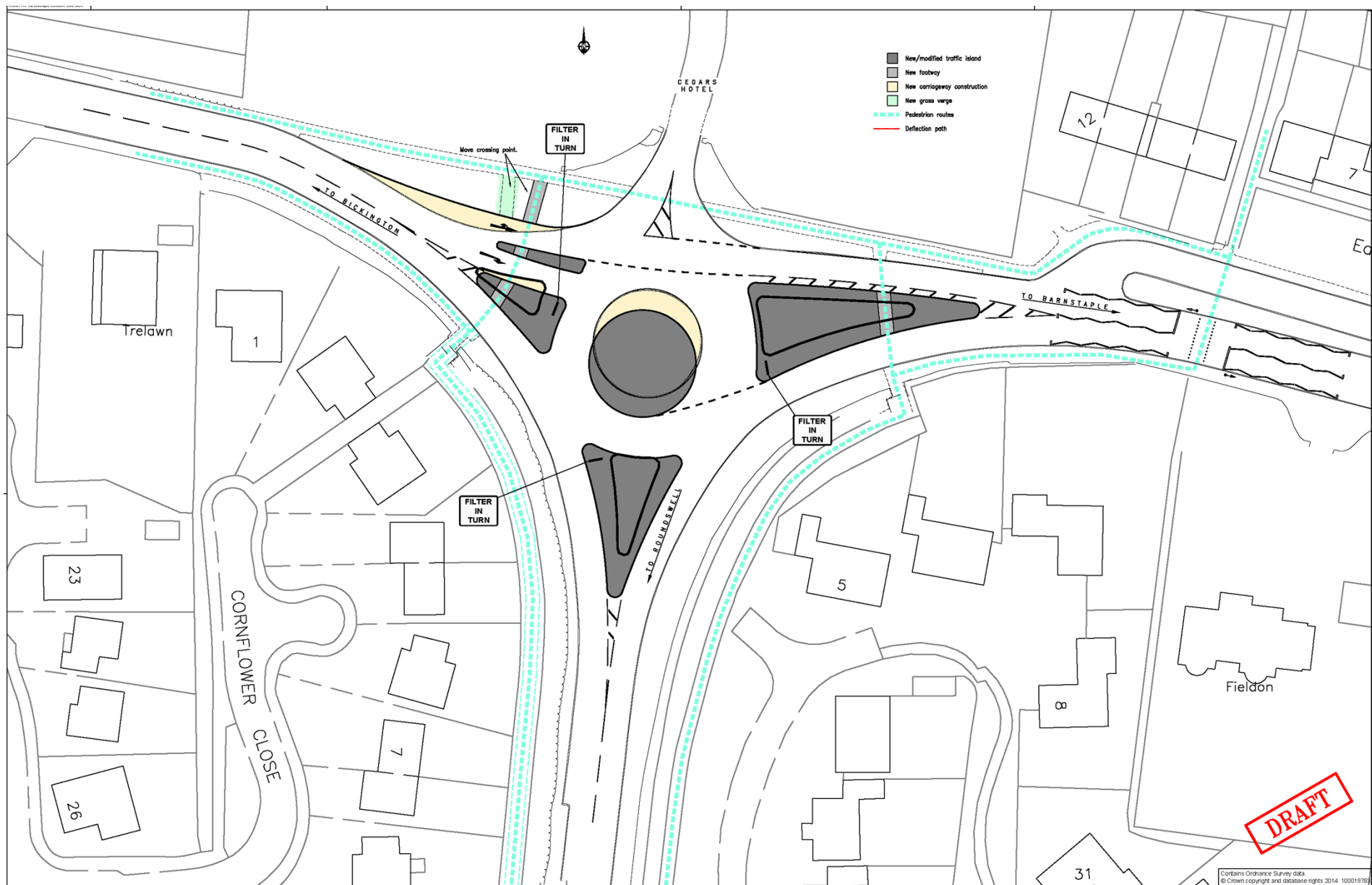
Background Paper	Date	Reference
None		

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Appendix II To PTE/17/33







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JOB

B3233/A3125 CORRIDOR
CEDARS ROUNDABOUT

DRAWING TITLE

JUNCTION IMPROVEMENTS
FEASIBILITY
OPTION 2

Rev	Date	Drawn	Revisions	Chk

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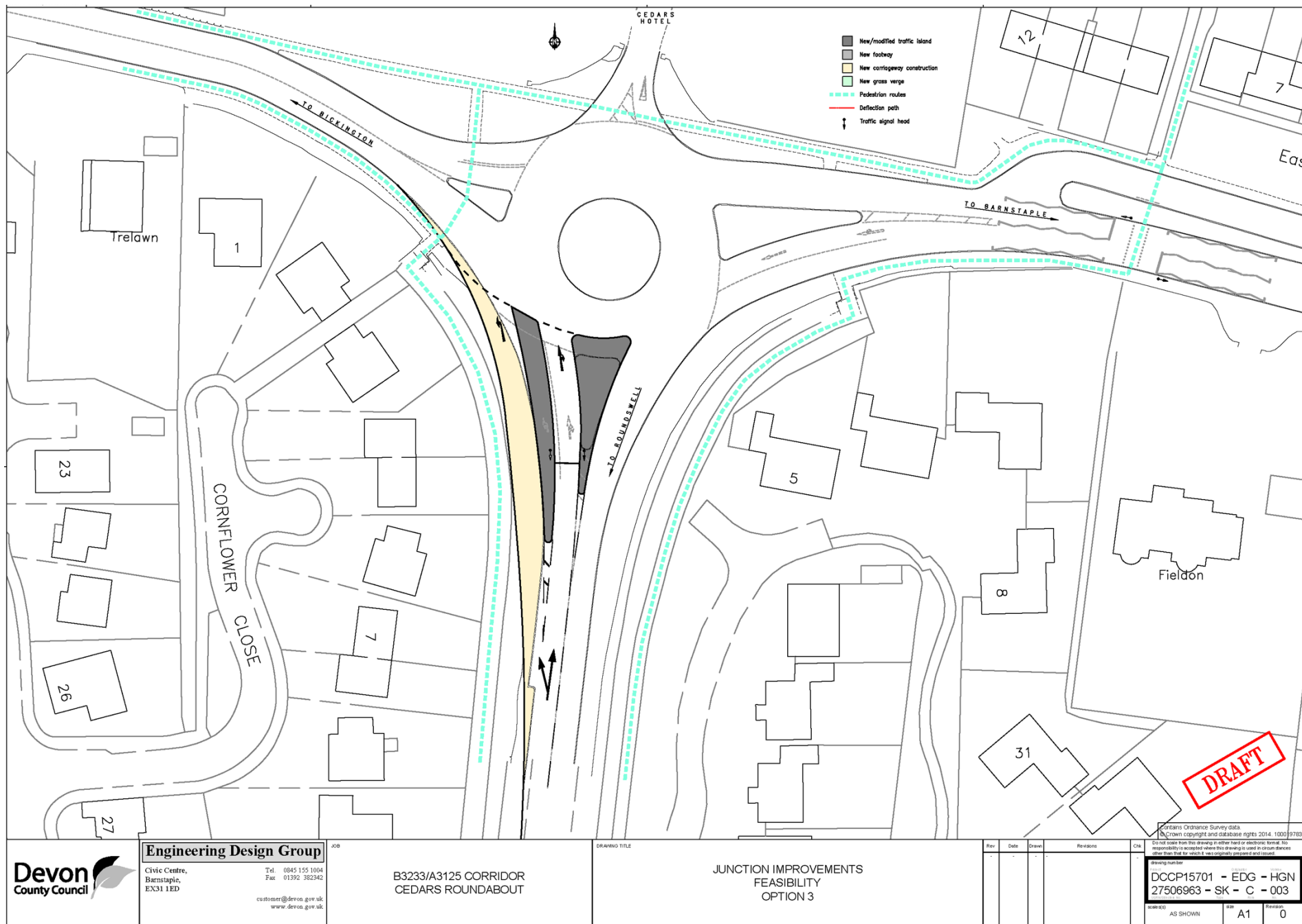
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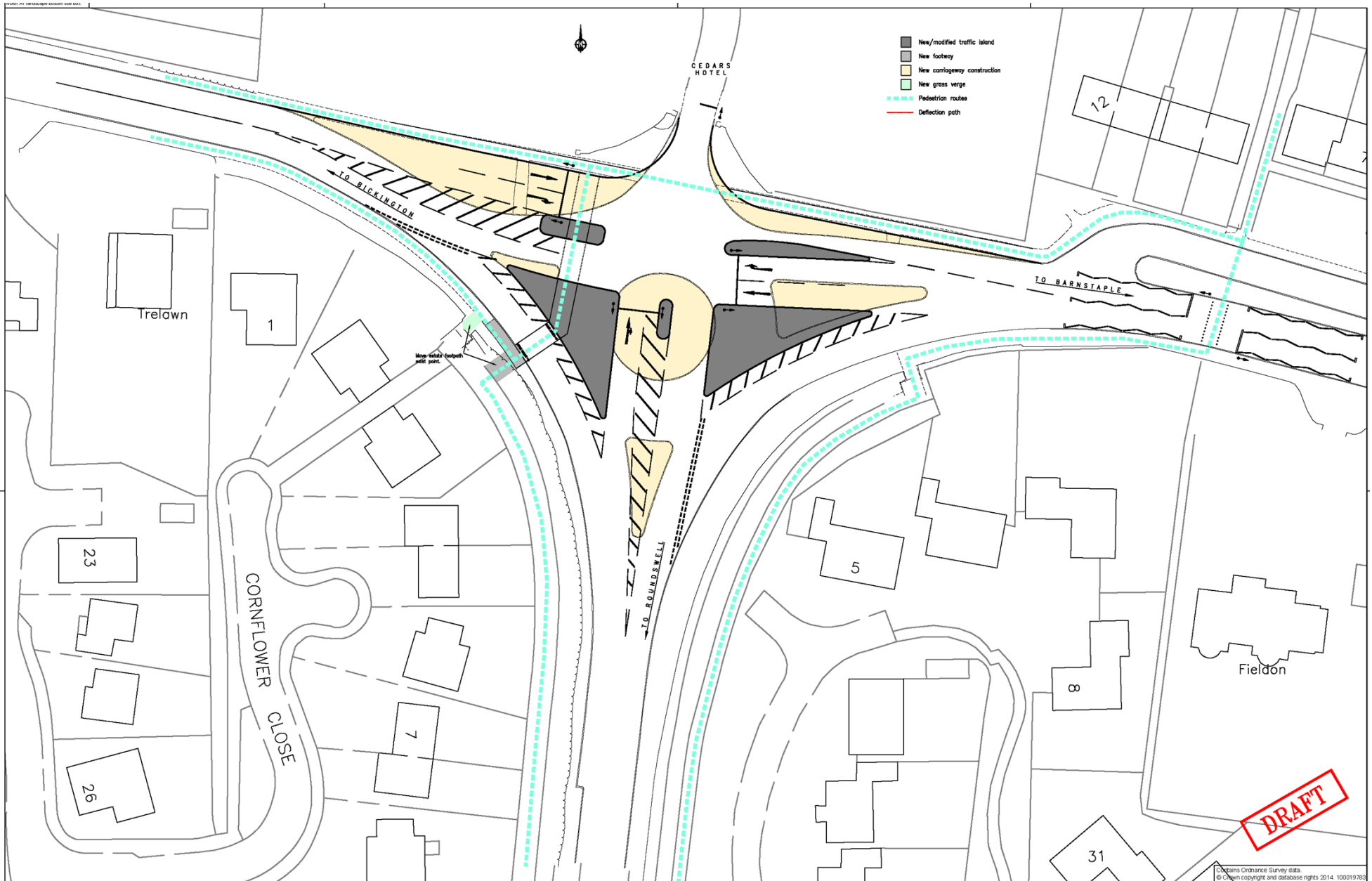
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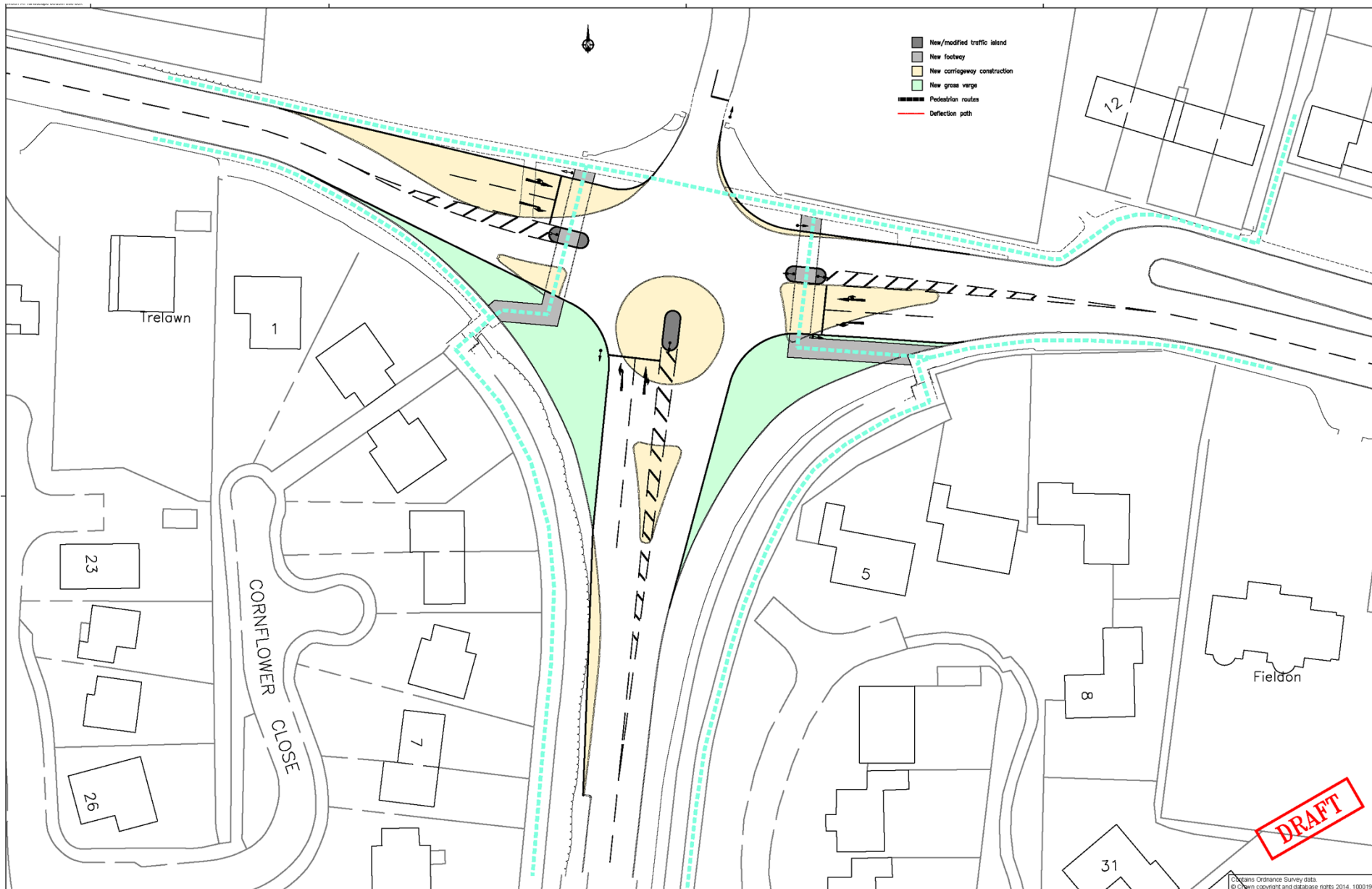
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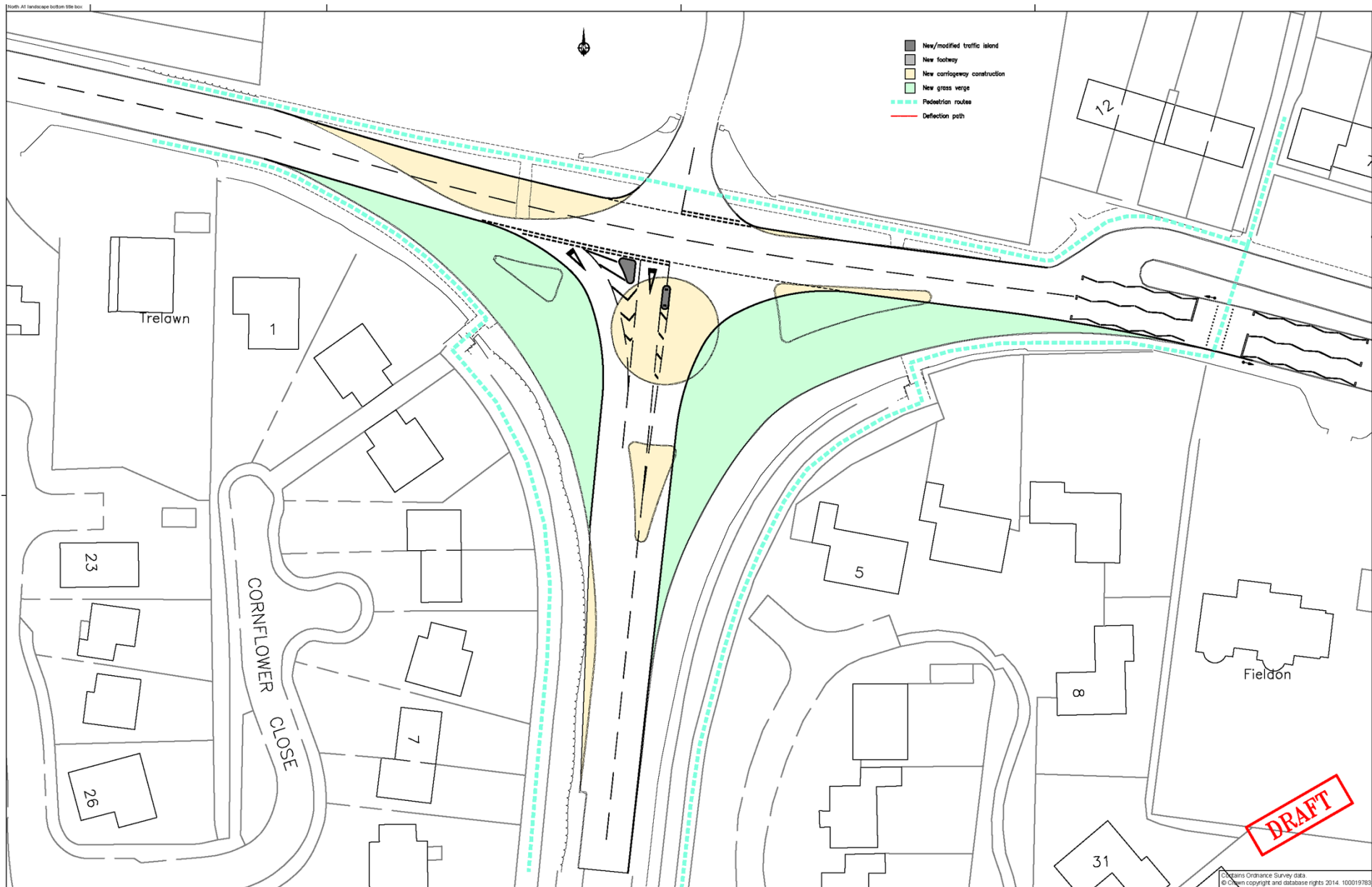


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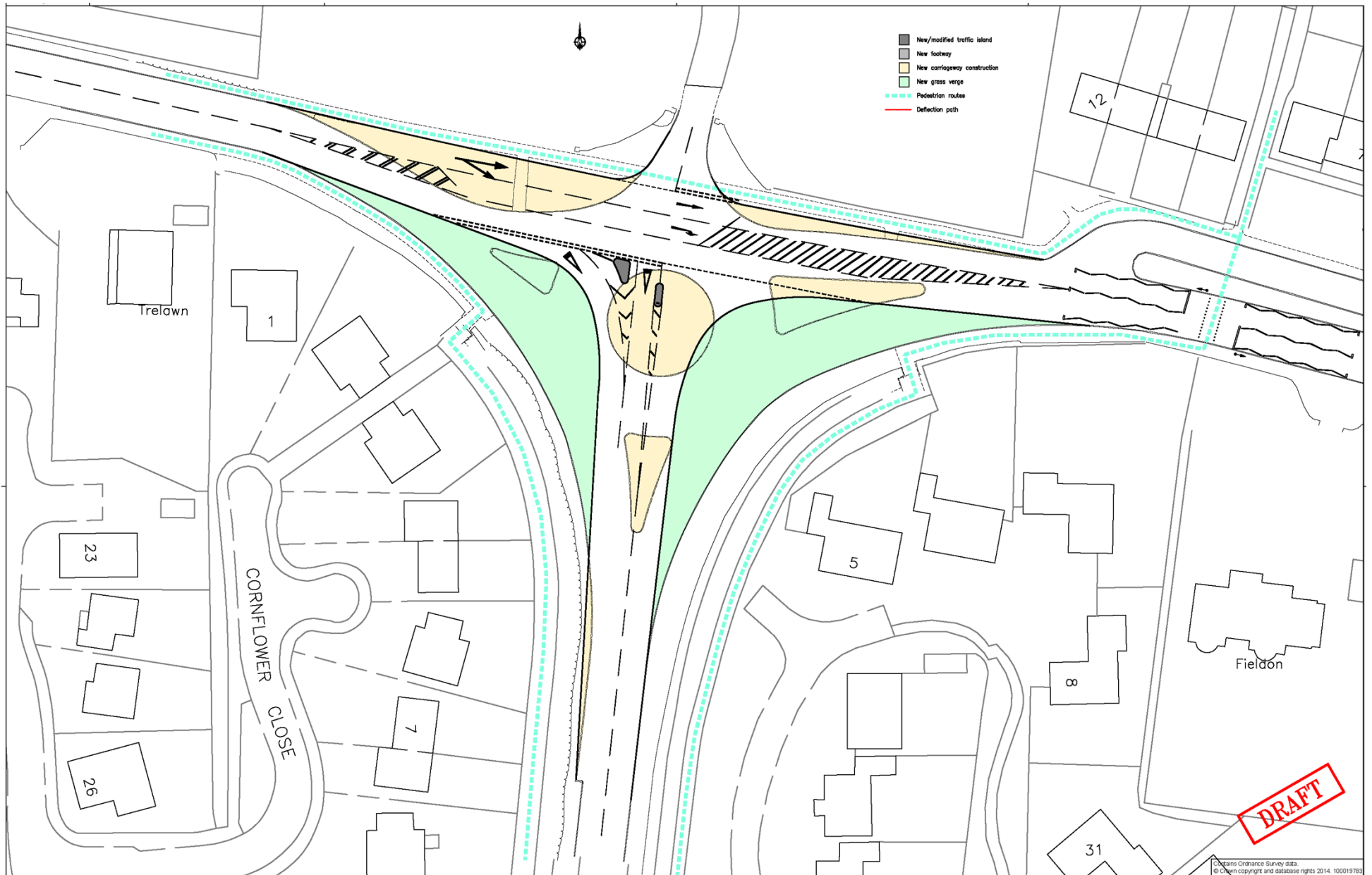


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