

**Unclassified**

# **Old Castle Road Weymouth Landslip**

## **Feasibility Report**

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## 1. Introduction

- 1.1 This feasibility report investigates the short- and long-term options around creating alternative access to Old Castle Road, Weymouth, in the event of, or requirement, for a road closure.

## 2. Background

- 2.1 23 Old Castle Road, Weymouth, is currently an undeveloped plot on the east side of Old Castle Road, closest to the beach. The plot suffered a major landslip movement in March 2020 which is threatening the integrity of the carriageway. This is a coastal landslip, with a back scar of 4-5 metres height, has left around 3 metres width of land between the slip plane and the edge of highway. A further slippage could result in losing the carriageway and cutting off 94 properties and businesses.



- 2.2 The requirement for Old Castle Road needing to be fully closed for many months could arise due to a further landslip or the need for road space during any highway / developer construction.
- 2.3 There is an existing planning consent to develop 23 Old Castle Road. The side benefit of the development would be the stabilisation of the highway. In October 2019 a start on the development was imminent, since then the site has been put up for sale and the site has recently sold to a new developer. The new developer's intentions are unknown. In the short term, Dorset Highways must consider the possibility that without intervention Old Castle road could be severed by further landslips.

### 3. Existing Situation

- 3.1 Old Castle Road is situated along the north west shore of Portland Harbour (see Appendix 1) and currently only has one point of entry and exit after the Sudan Road junction. The road after this point services 102 properties, including Castle Cove Sailing Club situated at the end.
- 3.2 The area is heavily visited during the summer months and weekends due to having access to 2 local beaches, a sailing club and the 16<sup>th</sup> century Sandsfoot Castle and gardens.
- 3.3 Running parallel to Old Castle Road, to the north west, is the Rodwell Trail, as seen in drawing HI1230-05-01-Orig (Appendix 1). This was the route of the rail line to Portland, constructed in 1864. The rail line was used until 1965. In 2000 the trail was paved throughout the entire length and made into a shared use cycle/footpath. The trail is extensively used by people, often as a means of avoiding traffic congestion in Weymouth. The trail is popular with pedestrians, cyclists and dog walkers. Maintenance of the trail is carried out by the Friends of Rodwell Trail group, Weymouth Town Council and Dorset Council.



- 3.4 Ownership of the trail is by Dorset Council, to which extends the highway rights.
- 3.5 A section of the South West Coast Path, as seen in drawing HI1230-05-01-Orig (Appendix 1), runs along the southern section of the Rodwell Trail and leaves the trail at the Sandsfoot Court crossing. Any construction work, either providing alternative access or working on Old Castle Road, will require consideration into diversions.



- 3.6 Old Castle Road has one vehicle and pedestrian access point onto the Rodwell Trail due to the Sandsfoot Court development. Sandsfoot Court is situated on the opposite side of the Rodwell trail to Old Castle Road. Vehicles are required to 'Give Way' to users of the trail when crossing the Rodwell trail upon approaching the gated court, as seen in photograph 3.3. This access point onto the trail is also used by local authorities for routine maintenance and litter bin collections.



- 3.7 The speed limit along Old Castle Road is 30mph.
- 3.8 Old Castle Road is not on a scheduled salt gritting route.
- 3.9 In the last 5 years no accidents have been reported within the immediate area.
- 3.10 Weymouth Town Council and Dorset Council require access to both the Rodwell trail and Sandsfoot gardens for routine maintenance, gardening/grass cutting and litter removal from Old Castle Road.

- 3.11 Traffic regulation order's (TRO) are in place to prohibit parking along the north west side of Old Castle Road, extending from Sudan Road junction to the Sandsfoot Court junction. Further parking restrictions are found starting at the Sandsfoot Castle gardens and extending down to the sailing club. Parking along this road does limit the majority of the carriageway to a single lane with intermittent passing places.



- 3.12 Existing environmental data:

Dorset AONB Affected	No.
SSSI Affected	No.
Conservation Area Affected	No.
TPO's Affected	No.
Flood Plain Affected	No.
Drainage Issues	No.
Rights of Way Affected	Yes (see 3.6).
Open Access Land Affected	No.
Common Land Affected	No.
Listed Buildings Affected	No.

- 3.13 At number 23 Old Castle Road, due to the landslip, temporary traffic management is being used to reduce the width of the carriageway to one lane. Vehicles through this section are under traffic signal control. This arrangement will be in place until the plot is developed or the road edge is stabilised.



- 3.14 Castle Cove sailing club does generate some additional vehicles along Old Castle Road. One special consideration that has to be made is the requirement of the sailing club to have a large mobile crane on site to lift boats in and out of the water. This generally occurs twice a year in the spring and autumn, at which time the crane will come from Buxton Road and access the sailing club along Old Castle Road.
- 3.15 No predicted vehicle or pedestrian counts are currently available for the area due to any surveying being unrepresentative of normal conditions because of the current Covid-19 restrictions.



- 3.16 Another area mentioned within this report is Parr Way, a small cul-de-sac consisting of 5 properties, a car parking area and a small play area. Parr Way is situated at the end of Boleyn Crescent. The play area is currently owned by Aster Property. There is pedestrian access onto the Rodwell trail at the end of Parr Way adjacent to number 5 and the entrance of the play area.



#### 4. Options

- 4.1 Due to the geography of the area there is only one point at which a new access route onto Old Castle Road can be constructed. The areas surrounding Sandsfoot Court / Parr Way are level with the Rodwell trail, with an existing route onto Old Castle Road. Other alternatives, such as bringing an access route in at the sailing club end of Old Castle Road would require a cutting to be made across the Rodwell trail and a subsequent foot bridge required.



- 4.2 Two options are presented within this report, the first being a design to be constructed prior to any need for a road closure. Once constructed it would have no impact on the daily, normal, movements of vehicles and users of Old Castle Road, Sandsfoot Court, Parr Way and the Rodwell trail. In the event of an emergency road closure, due to further land slipping on Old Castle Road, the new section can be opened up as an access route for those properties isolated. The second option shows an intermediate design through Parr Way and the Rodwell trail. This design can be used if access to Old Castle Road is required permanently along this route.



- 4.3 Both options rely on access through Parr Way. This will have an impact on the surrounding area, as parking restrictions will be required along Boleyn Crescent due to the average width of the carriageway being 4.5 metres. The provision of temporary parking for light vehicles could be provided by using the play area, subject to agreement, with minimal construction required.



- 4.4 Due to the requirement for large plant equipment access, such as a crane to the sailing club, both options have been designed with a layout which enables large vehicles to pass through. To access the site the large plant equipment will need to approach from Portland Road at the signalised junction with Merley Road. From there, heading along Doncaster Road, the south end of Hillcrest Road can be accessed. This route, as seen in drawing HI1230-05-01-Orig (Appendix 1), will be necessary due to the tight corner at the junction with Rylands Lane and Hillcrest Road. Depending upon the vehicle or load being taken through the site, escort vehicles and temporary parking restrictions may be necessary along the route.
- 4.5 In all designs, the Sandsfoot Court access will have a 'Give Way' road marking and shall be regarded as a driveway due to the low number of users. Users of Sandsfoot Court will not need to cross or come in conflict with users of the Rodwell trail and will have good visibility.

- 4.6 A diversion route will be needed from the point of the road closure. From the junction of Sudan Road and Old Castle Road, vehicles will be diverted to Clearmount Road and onto Hillcrest Road and then Boleyn Crescent/Parr Way. The limitation of this route is the volume of traffic calming within the Rodwell area. Considerations into temporary removal of the traffic calming and temporary traffic regulation orders will be required.



- 4.7 As there is the potential for heavy plant equipment using this route, a further study into the weight bearing capacity of the Rodwell trail will need to be carried out. Construction of the carriageway, for both options, is expected to be at full depth to ensure stability.
- 4.8 Situated on the Rodwell trail embankment, on the corner of Old Castle Road and the connecting Sandsfoot Court road, there is a British Telecom pole. This pole provides an over ground connection to the immediate properties, including a line running up the slope to Sandsfoot Court. The clearance height of this cable will need to be adequate for high sided vehicles to pass and if required the pole will be moved towards the top of the embankment.
- 4.9 One option considered, but discounted, at this stage of feasibility is to develop the access track running along the back of the properties on Clearmount Road, as seen in drawing HI1230-05-01-Orig (Appendix 1). The track starts by the road tunnel, carrying the Rodwell trail above, on Sudan Road. The track gives access to numerous garages and the back of properties along the right-hand side. Half way along the left side is a small allotment plot. The track terminates at a group of garages. A footpath joins the end of the track and connects to the Rodwell trail, approximately 25 metres from the Sandsfoot Court access. This option was discounted due to a number of reasons. The major reason would be the impact on users of the Rodwell trail as the carriageway will have to run along the trail for a short length before crossing it. Another limiting factor is the width of the track running up to the Rodwell trail, which would require compulsory land purchases in order to make enough room for a single 'One Way' road and space for residents to use their garages. The track also runs up the side of the old railway embankment so further geotechnical surveying would be required to determine the stability of the slope prior to vehicle loading.

## 5. Parr Way (Give and Take)

- 5.1 See drawing HI1230-04-01-Orig (Appendix 2).
- 5.2 This design gives priority to the Rodwell trail.
- 5.3 The most direct route to Old Castle Road is through the end of Parr Way where pedestrians can access the Rodwell trail.
- 5.4 Due to the current layout a new kerb line and footway will need to be constructed to bring the carriageway width to 3.2 metres. This will create a pinch point in the carriageway therefore priority signs will be used here giving the right of way to vehicles heading from Old Castle Road to Hillcrest Road.
- 5.5 To enable sufficient carriageway and footway widths, modifications to the play area and green space will be required. Subject to agreement, the end of the play area will need to be reduced back and closed off. The play area is currently open at this end but there is access along the side. Closing off of the play area fence along this side will also improve child safety, preventing users from running out into the carriageway if the play area is not used as temporary parking. The lamp column will need to be moved and is proposed to be placed outside the boundary wall of 5 Parr Way. An assessment of the mature tree beside the play area will be required to see if it can be retained through crown lifting and root protection, although due to the multi-stem nature of the tree, preservation may not be possible.



- 5.6 Currently the area between Parr Way and Sandsfoot Court is a mix of grass and native hedge species, mainly Bramble, with wooden posts running along the Sandsfoot Court side. A new, sweeping, kerb line will be constructed along the boundary wall of 5 Parr Way, intersecting the Sandsfoot Court driveway. Full depth, carriageway construction



will be required over this whole area, including the Rodwell trail, due to the requirement to get plant equipment through to either the sailing club or the point of the road closure.



- 5.7 A new radius will be required at the top of the existing, connecting road, to ensure vehicles can now turn left. An extension of the footway running along that side, will also be required. The existing lamp column on this corner will need to be moved.
- 5.8 The width of the connecting road shall remain the same, currently motorists are expected to behave appropriately.
- 5.9 Two 'Give Way' road markings, either side of the Rodwell trail will give priority to the Rodwell trail users. A red coloured surface will also highlight to motorists the need for observation while approaching the area. Warning signs shall be placed on the approaches to the Rodwell trail to warn of pedestrians and cyclists in the road.
- 5.10 Users of the Rodwell trail upon approach to the area will be presented with a temporary sign warning of vehicles crossing the track. On approach there will be SLOW marking on the ground to warn cyclists and a line of bollards spaced 1.5 metres apart to encourage cyclists to reduce speeds.
- 5.11 The bollards across the Rodwell trail will also prevent vehicles from turning onto the Rodwell trail. All of the bollards on the Rodwell trail and new carriageway surface will be removeable to allow emergency and maintenance access. The removal of these bollards maybe required when moving large plant equipment across the site.
- 5.12 When the connection between Parr Way and Old Castle Road is not required, a line of bollards shall be fitted across the pinch point, closing off the cul-de-sac once again.

## **6. Parr Way (Temporary Traffic Signals)**

- 6.1 See drawing HI1230-03-01-Orig (Appendix 3).
- 6.2 This design gives priority to motorists, under signal control. Rodwell trail users would need to use the push button to allow safe crossing stop vehicles crossing the Rodwell trail.
- 6.3 The use of temporary signals on this site will greatly increase the running costs. Further investigation into the cost of hiring temporary equipment against the cost of setting up a semi-permanent installation will be needed. Through the use of predominantly above ground ducting and foundation blocks, a closed traffic management system can be put in place, thus reducing maintenance costs. The only requirement of this semi-permanent system is the need for a power supply. For a 7-pole site, hired equipment is estimated to cost £5,000 per month.
- 6.4 The layout in drawing HI1230-03-01-Orig is the same as the 'Give and Take' scheme above (5). All of the civils geometry and construction will remain the same.
- 6.5 The vehicles and pedestrians will move at different times in the cycle but due to the distances involved, the waiting times for both vehicles and pedestrians will be in excess of 3 minutes.
- 6.6 Due to the motorists now having priority through the site, the road markings will be altered showing a centre line running across the trail.
- 6.7 This temporary traffic signal option is only to be used if problems arise using the 'Give and Take' layout.

## **7. Parr Way (Permanent)**

- 7.1 See drawing HI1230-02-01-Orig (Appendix 4).
- 7.2 This design gives priority to the Rodwell trail.
- 7.3 If circumstance dictates the need for a permanent connection to Old Castle Road from Parr Way, this design overcomes the issue of the pinch point adjacent to 5 Parr Way.
- 7.4 This design incorporates the same layout and construction techniques as the previous 'Give and Take' design on the Rodwell trail but through bringing the kerb line further back along the entire length of Parr Way, on the south side, a two-lane carriageway can be achieved.

- 7.5 The width of the connecting road will also be widened, and the footway moved to the other side. Having the footway on this side will tie it in with the existing footway along Old Castle Road and provide a safe route for pedestrians accessing the Rodwell trail. Further geotechnical surveys will be required on this slope to determine the load bearing capacity and construction required.
- 7.6 The widening of the connecting road will require the British Telecom pole to be moved, if the pole was to be positioned at the top of the Rodwell trail it will help ensure adequate clearance for high sided vehicles.
- 7.7 The additional carriageway width gained in this design will make any movement of large plant equipment easier by providing extra swept path space.
- 7.8 Surface water drainage gullies will need to be moved along Parr Way due to the new kerb line and an analysis into the additional surface water run off will be required due to the area of new carriageway surface.
- 7.9 A new channel line shall run along the carriageway edge through the turning head at the end of Parr Way. By doing this the northern residential side can remain in the block paving, as currently existing, and the TRO can be continued on to the start of Parr Way. The contrast between block paving and the new carriageway surface will further help delineate the road.
- 7.10 The additional carriageway widths can be constructed as a second phase of construction to the 'Give and Take' option, with minimal re-building in the same area.

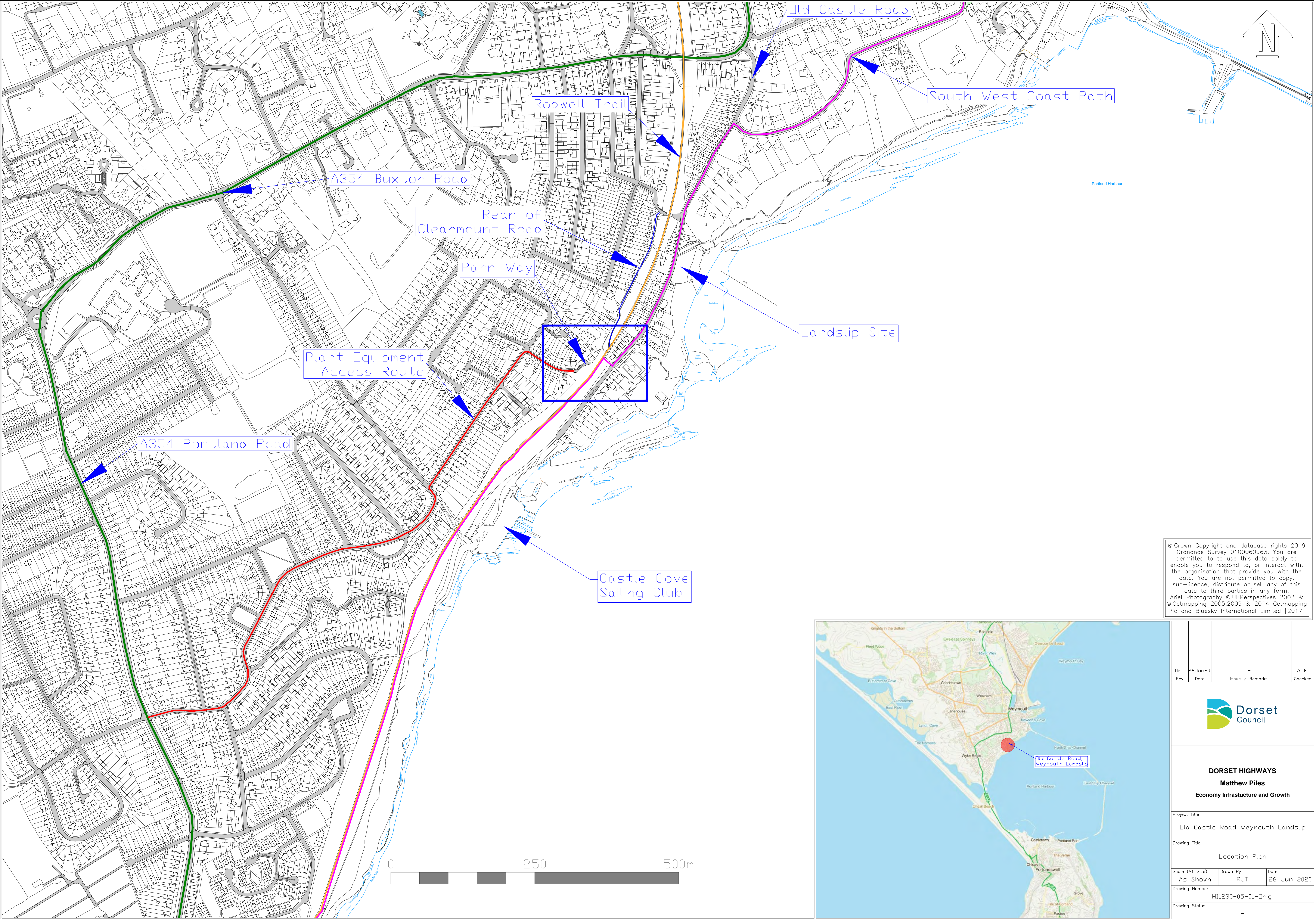
## 8. Estimates

- 8.1 All estimates are approximations and therefore carry a 44% optimism bias. More accurate costs will be established during detailed design.
- 8.2 The estimates are for the required civils work only and the traffic management required, additional costs will be needed for other services, these include;  
Legal services for the easement required on the play area.  
Traffic regulation orders for parking restrictions.  
Statutory Undertakers for the movement of equipment (BT pole, Lamp columns)
- 8.3 **Parr Way 'Give and Take'**
- Civils Cost - £86,000  
Construction time estimated at 4 weeks.
- 8.4 **Parr Way 'Temporary Traffic Signals'**
- Civils Cost – £90,000  
Construction time estimated at 5 weeks.  
Additional running cost for temporary traffic signals and crossing estimated at £5000 per month.
- 8.5 **Parr Way 'Permanent'**
- Civils Cost - £175,000  
Construction time estimated at 10 weeks.

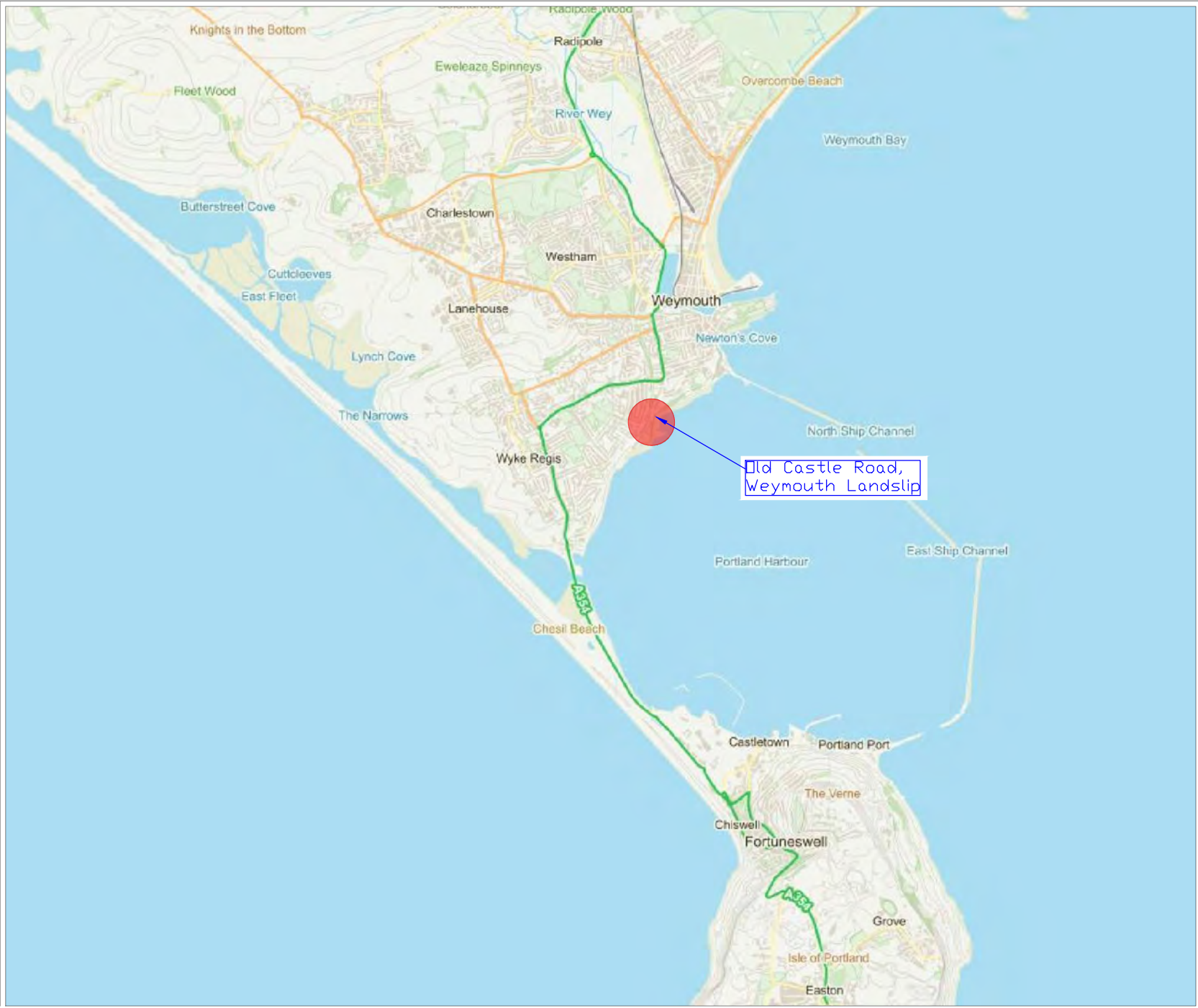
## 9. Appendix


1. [HI1230-05-01-Orig](#) Location Plan
2. [HI1230-04-01-Orig](#) Parr Way Access to Old Castle Road 'Give and Take' Scheme Plan
3. [HI1230-03-01-Orig](#) Parr Way Access to Old Castle Road Temporary Traffic Signals Scheme Plan
4. [HI1230-02-01-Orig](#) Parr Way Access to Old Castle Road Scheme Plan



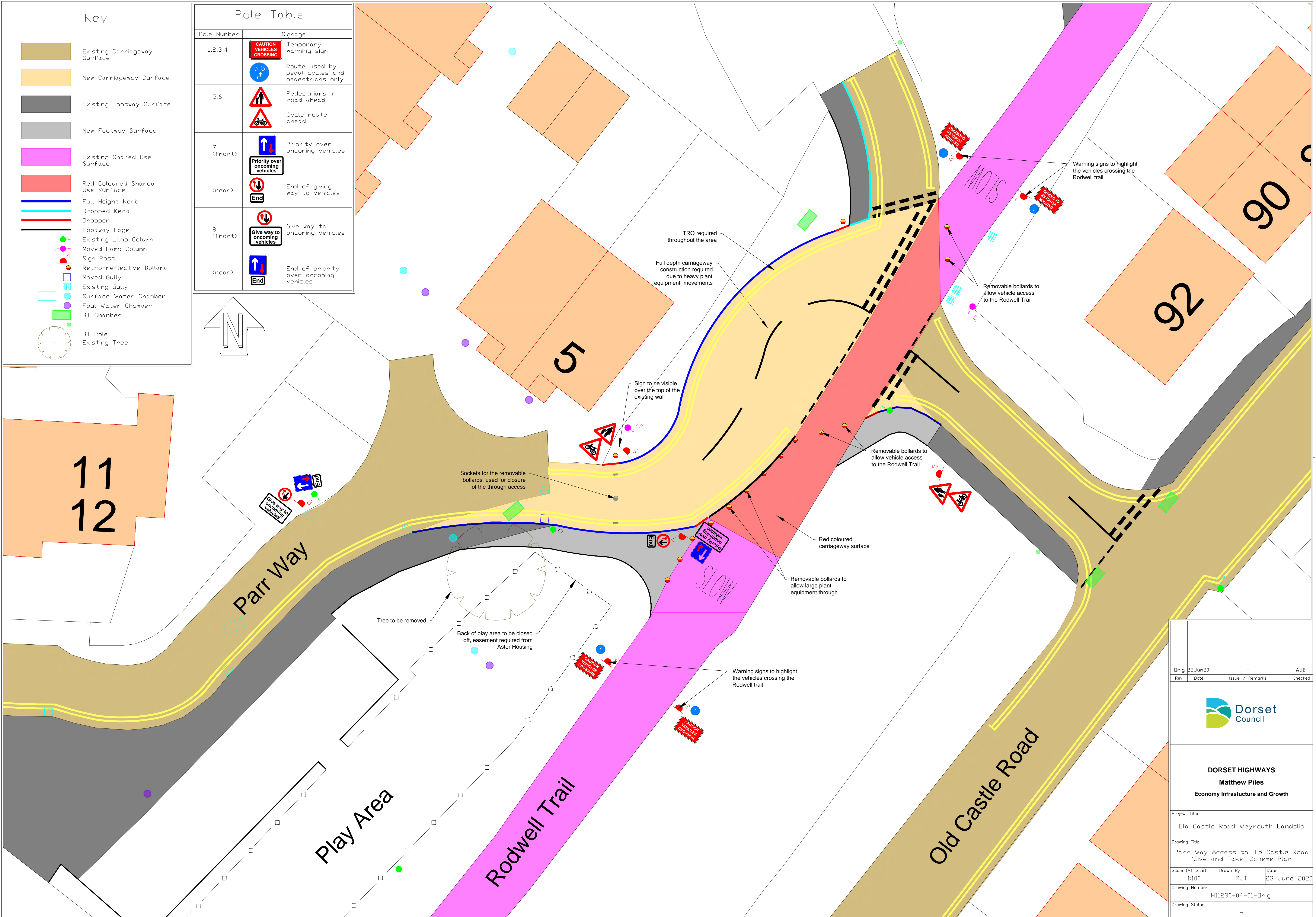


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Orig	26Jun20	-	AJB
Rev	Date	Issue / Remarks	Checked
<div><div><b>Dorset</b> Council</div></div>			
<div><b>DORSET HIGHWAYS</b> <b>Matthew Piles</b> <b>Economy Infrastructure and Growth</b></div>			
Project Title <div>Old Castle Road Weymouth Landslip</div>			
Drawing Title <div>Location Plan</div>			
Scale (A1 Size) As Shown	Drawn By RJT	Date 26 Jun 2020	
Drawing Number HI1230-05-01-Orig			
Drawing Status -			



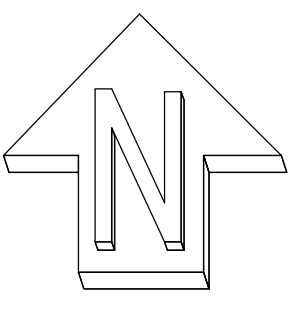


Key

- Existing Carriageway Surface
- New Carriageway Surface
- Existing Footway Surface
- New Footway Surface
- Existing Shared Use Surface
- Red Coloured Shared Use Surface
- Full Height Kerb
- Dropped Kerb
- Dropper
- Footway Edge
- Existing Lamp Column
- Moved Lamp Column
- Sign Post
- Retro-reflective Bollard
- Moved Gully
- Existing Gully
- Surface Water Chamber
- Foul Water Chamber
- BT Chamber
- BT Pole
- Existing Tree

Pole Table

Pole Number	Signage
1,2,3,4	<div>CAUTION VEHICLES CROSSING</div> Temporary warning sign
5,6	<div>Route used by pedal cycles and pedestrians only</div>
	<div>Pedestrians in road ahead</div>
	<div>Cycle route ahead</div>
7 (front)	<div>Priority over oncoming vehicles</div>
(rear)	<div>End of giving way to vehicles</div>
	<div>End</div>
8 (front)	<div>Give way to oncoming vehicles</div>
(rear)	<div>End of priority over oncoming vehicles</div>
	<div>End</div>



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Date

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DORSET HIGHWAYS

Matthew Piles

Economy Infrastructure and Growth

Project Title

Old Castle Road Weymouth Landslip

Drawing Title

Parr Way Access to Old Castle Road 'Give and Take' Scheme Plan

Scale (A1 Size)

1:100

Drawn By

RJT

Date

23 June 2020

Drawing Number

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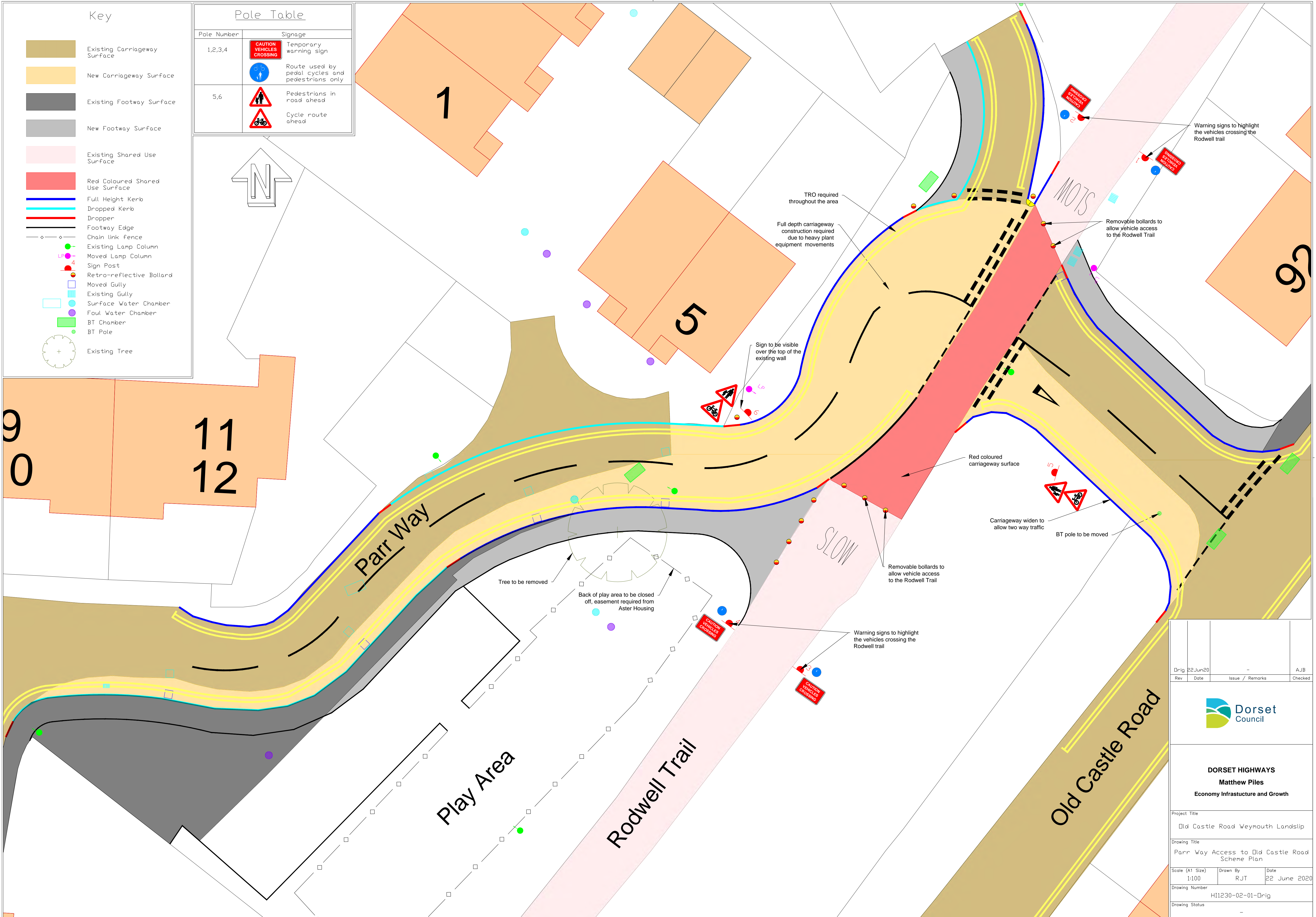
Drawing Status

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Key

- Existing Carriageway Surface
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Pole Table		
Pole Number	Signage	
1,2,3,4		Temporary warning sign
		Route used by pedal cycles and pedestrians only
5,6		Pedestrians in road ahead
		Cycle route ahead

Orig	22Jun20	-	AJB
Rev	Date	Issue / Remarks	Checked
<b>DORSET HIGHWAYS</b> <b>Matthew Piles</b> Economy Infrastructure and Growth			
Project Title Old Castle Road Weymouth Landslip			
Drawing Title Parr Way Access to Old Castle Road Scheme Plan			
Scale (A1 Size) 1:100	Drawn By RJT	Date 22 June 2020	
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Drawing Status -			