



**TWYFORD PARISH COUNCIL
TWYFORD FLOOD ALLEVIATION
SCHEME
TWYFORD**

**FLOOD ALLEVIATION PROPOSALS
(ADDENDUM)**

APRIL 2020



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(ADDENDUM)**

APRIL 2020

Project Code:	22784
Prepared by:	RHA
Approved by:	RHA
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Ref.	ZTPCTWYFORD/REP/02

**TWYFORD PARISH COUNCIL
TWYFORD FLOOD ALLEVIATION SCHEME
TWYFORD
FLOOD ALLEVIATION PROPOSALS (ADDENDUM)**

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1 Introduction

Introduction

- 1.1 Mayer Brown Ltd was commissioned by Twyford Parish Council to undertake an outline design and cost estimate for a flood mitigation scheme in the centre of Twyford. Figure 1 shows the location.

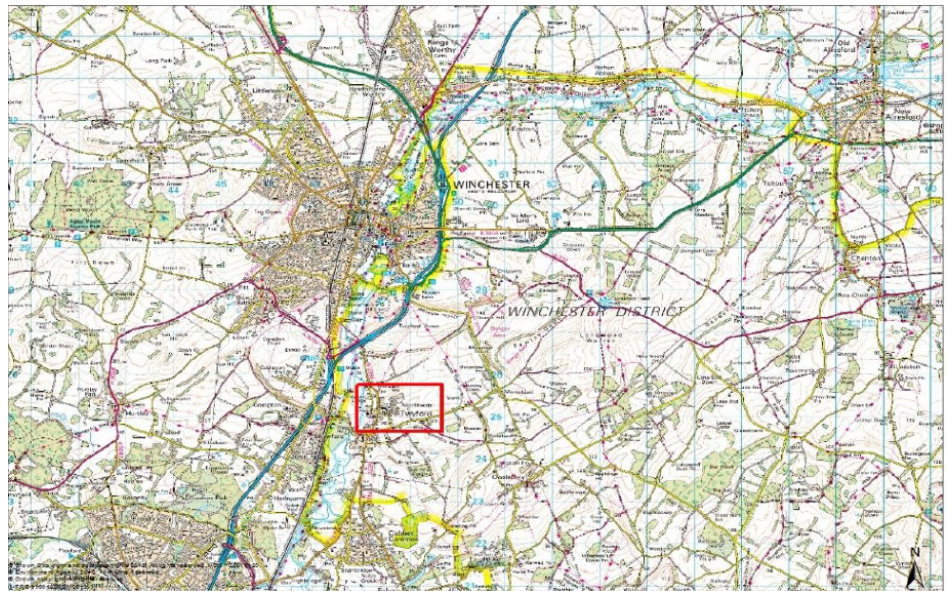


Figure 1 - Location Plan

- 1.2 The scope of the study comprised an analysis of the winterborne (its existing route and flood impact); assessment of the existing drainage network (condition and capacity); identification of potential improvements to the drainage network to alleviate flooding; measures to manage flood flows should they still occur; potential cost of feasible improvements.
- 1.3 The proposals were accepted favourably by HCC who subsequently programmed essential maintenance work to be undertaken in April 2020.
- 1.4 A meeting was held with HCC on 19th February 2020 to discuss potential funding streams and to get an indication of their acceptance of the wider proposals . HCC confirmed currently it would be difficult for them to sponsor funding for the works and funding from future bids would not be imminent.

- 1.5 Based on the above PCC have decided to phase the works whilst incorporating some changes to the proposals. The phasing would enable an initial works package to be identified. Future phases will be undertaken as and when funding is available, either from public sources or developers.
- 1.6 Hampshire County Council (HCC) have already undertaken some improvements to the existing highway drainage network, including modifications to the outfall grating at the western end of the study area and reprofiling on the existing ditch at the eastern end of the study area.
- 1.7 This Addendum to the original report (Ref. Tywford Flood Alleviation Proposals). provides information on :
 - The proposed changes to the design and initial phasing (Ref. Phase 1)
 - Estimated cost to design and construct Phase 1 and Phase 3 relating to Twyford Parish Council funding.

2 Revised Proposed Improvements and Phasing

- 2.1 Dwg. ZTPCTWFORD/DR03/B shows the original proposals prior to consultation with HCC.
- 2.2 Dwg. ZTPCTWFORD/DR03/D shows the current proposals and proposed phasing for the works. The current proposals include a revision to the ditch/culvert arrangement opposite Littlebourne Lodge.
- 2.3 The sequence and trigger for each phase is set out in Table 3.1 below.

Phase	Estimated Implementation	Trigger
Phase 1	TBC	Funding stream confirmed
Phase 2	TBC	Development Planning Approval
Phase 3	TBC	Re-assessment following completion of Phase 2

Table 3.1: Works Phasing

- 2.4 Phase 1 would be carried out once funding had been confirmed and would include the replacement of a portion of the ditch/pipe section on the north side of the carriageway. The replacement ditch would provide more capacity and would divert all or a large proportion of winterborne flows away from the area around Littlebourne Lodge.
- 2.5 A layout and section of the proposed works are shown on Dwg. ZTPCTWYFORD/DR/04/A in Appendix A. The section of the ditch will revert to the existing ditch profile at its downstream end in proximity to the existing headwall.
- 2.6 The system would still be constricted by the 450mm diameter pipe downstream. Therefore, during the most significant events it is possible that a portion of the resulting flood flow will still occupy the highway.
- 2.7 The repair to the culvert along the frontage of the Twyford Chiropodist Clinic is considered important in returning capacity to the existing system and minimising the risk of future blockage at this point. It is not clear how this element of work would be funded but it is considered to sit in the remit of HCC.
- 2.8 Phase 2 would be funded by the sponsor for the proposed residential development located east of the car park. The proposals would likely

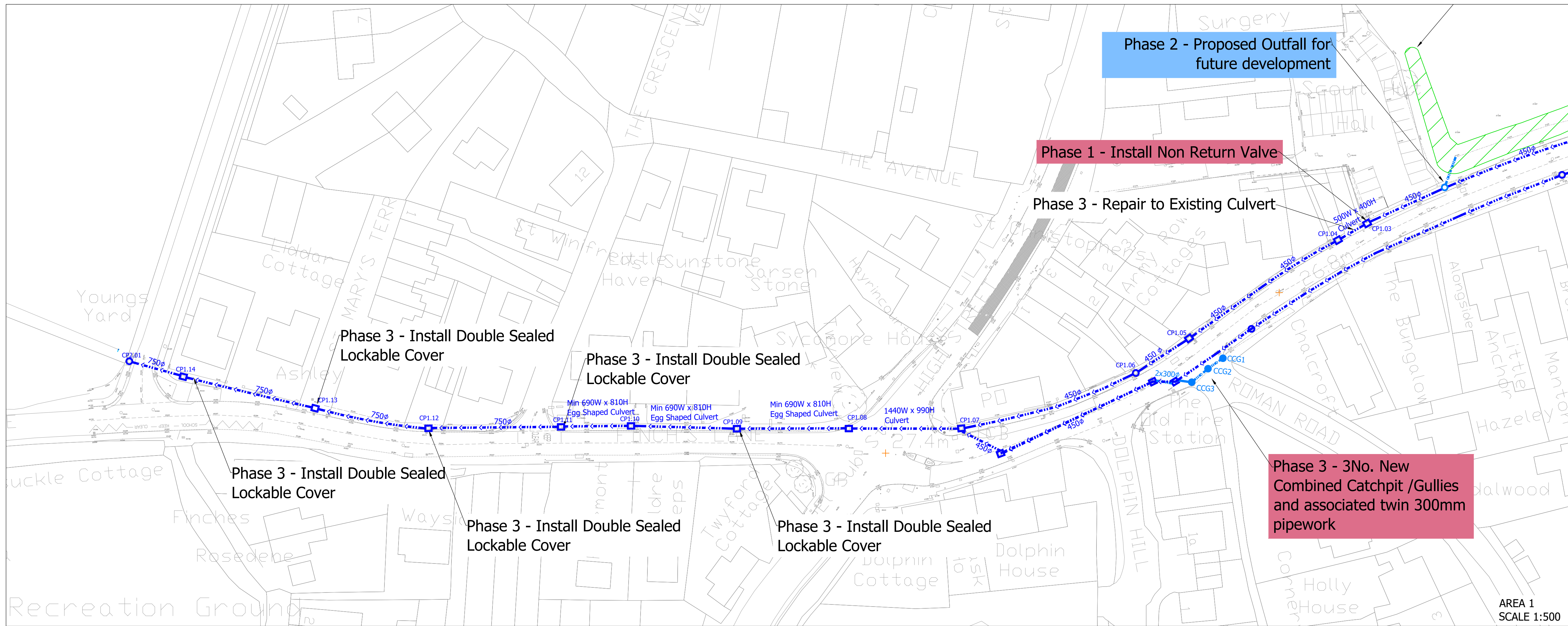
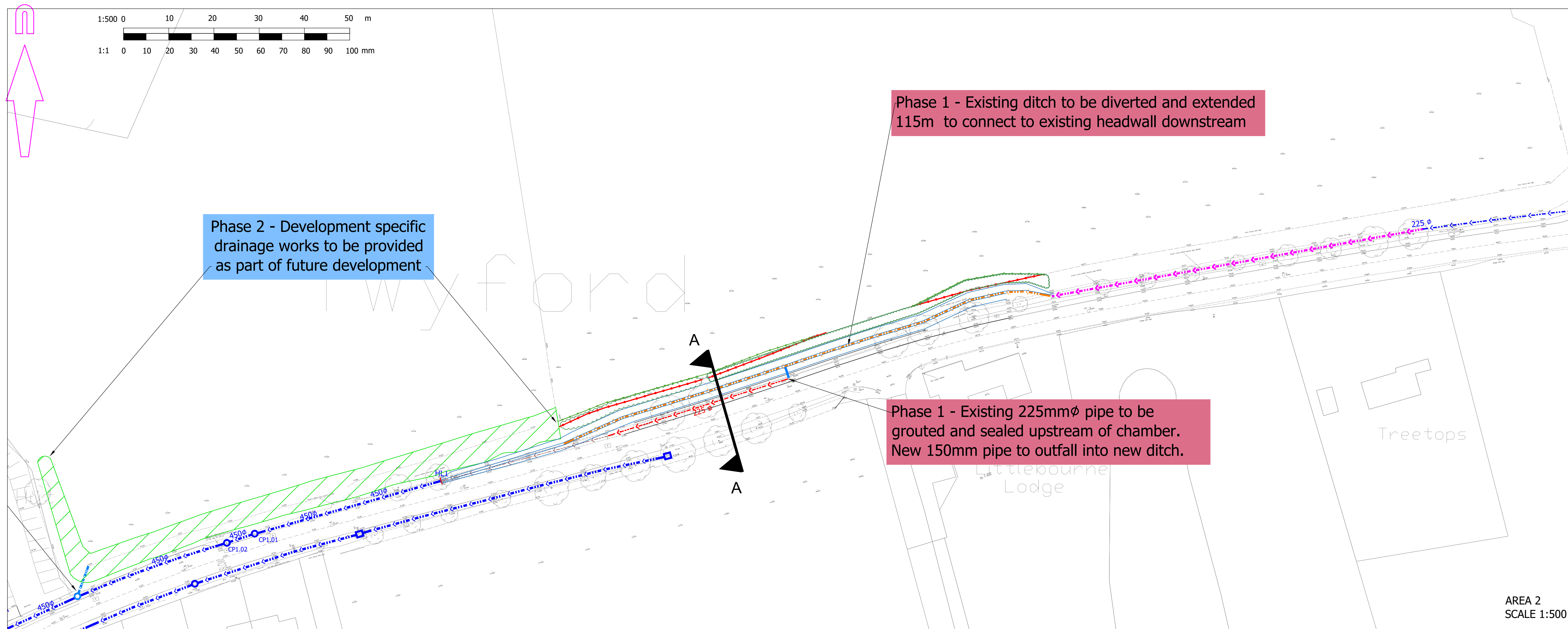
be a drainage route along the southern boundary of the site and would include an outfall as part of Phase 2 in the south west corner of the development.

- 2.9 The proposed Phase 2 works would also serve as a receptacle for run-off from the development. This would likely be a restricted outfall with independent storage/attenuation measures to ensure discharge/volumes into the existing drainage system do not exceed the greenfield run-off rate.
- 2.10 The proposed Phase 3 works, which are indicated on Dwg. ZTPCTWYFORD/DR/03, would include for drainage improvements in the locality of the Roman Road and Old Fire Station. The combined catchpit/gullies (CCG) would be provided along the southern side of Hazeley Road to improve the removal of surface water, should winterborne flood flows exceed the existing drainage system. A cost estimate has been provided for this element of work.
- 2.11 The CCG's could be installed either with the proposed Phase 2 works or independently.
- 2.12 The remainder of the proposed Phase 3 works would be for consideration by HCC and it is considered this work would be funded by HCC.

3 Costing

- 3.1 The estimated cost of Phase 1 is £89,845.
- 3.1 The estimated cost of those Phase 3 works referred to in Section 2.10 above is £29,245.
- 3.2 A detailed breakdown of is provided in Appendix B. The costs are based on current construction pricing so there is a risk of costs varying depending on when the works are undertaken.
- 3.3 An optimum bias has been included in the costs to reflect the status of the design. For example' there will be more outturn risks associated with a preliminary layout compared with a construction issue package. As the design develops towards construction issue, identified risks are managed and mitigated against. The optimum bias supplement has been set as follows:
- Preliminary Design 40%
 - Detailed Design 21%
 - Works Commitment 10%
- 3.4 The above percentages are not necessarily fixed but give an indication of the worst case cost assuming all risks come to fruition.

APPENDIX A: Proposed Improvements – Drawings



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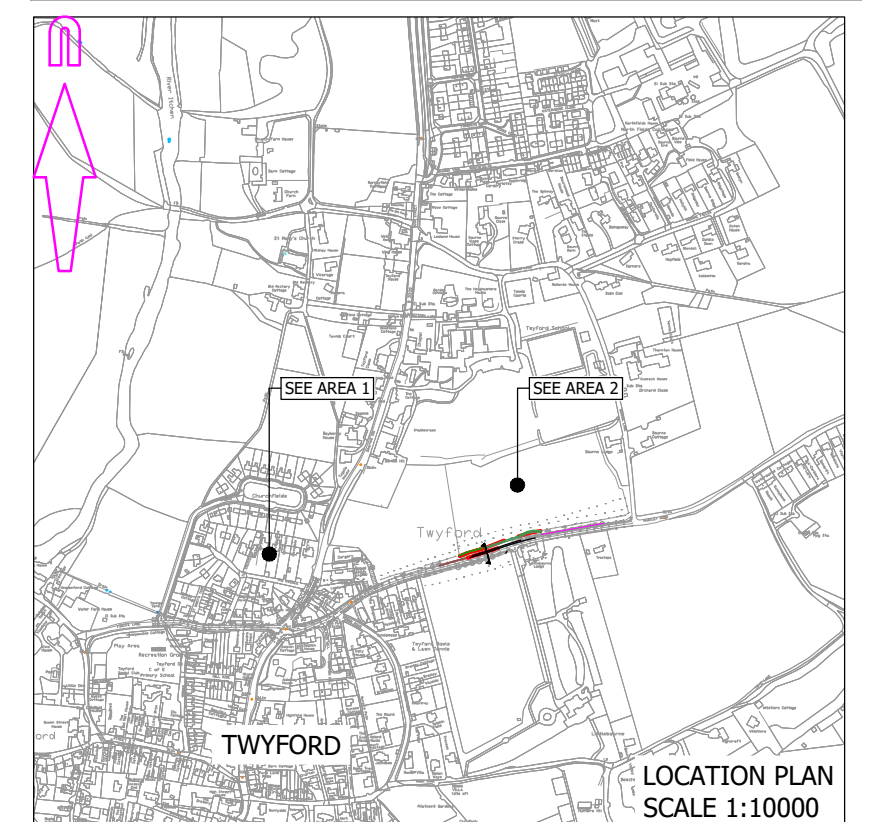
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NOTES

1. Refer to Dwg. ZTPCTWYFORD-DR-04 for cross sections.
2. Refer to Doc Ref. ZTPCTWYFORD/REP/02 Twyford Flood Alleviation Report (Addendum) for information relating to Phasing of the works.

KEY	
	EXISTING SURFACE WATER PIPE
	EXISTING DITCH
	PROPOSED SURFACE WATER PIPE
	REDUNDANT SURFACE WATER PIPE
	REDUNDANT DITCH
	RELOCATED FENCE
	FENCE TO BE REMOVED



PRELIMINARY
NOT FOR CONSTRUCTION

D	Phase 2 Works Extent amended	RHA	27/04/2020
C	Revised Layout opposite Littlebourne Lodge and inclusion of CCG's (RHA)	RHA	24/04/2020
B	Design Updates (AM)	RHA	24/04/2019
A	Microdrainage labels added	RHA	01/04/2019

rev.	amendment	checked	date
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client

TWYFORD PARISH COUNCIL

project

TWYFORD FLOOD STUDY

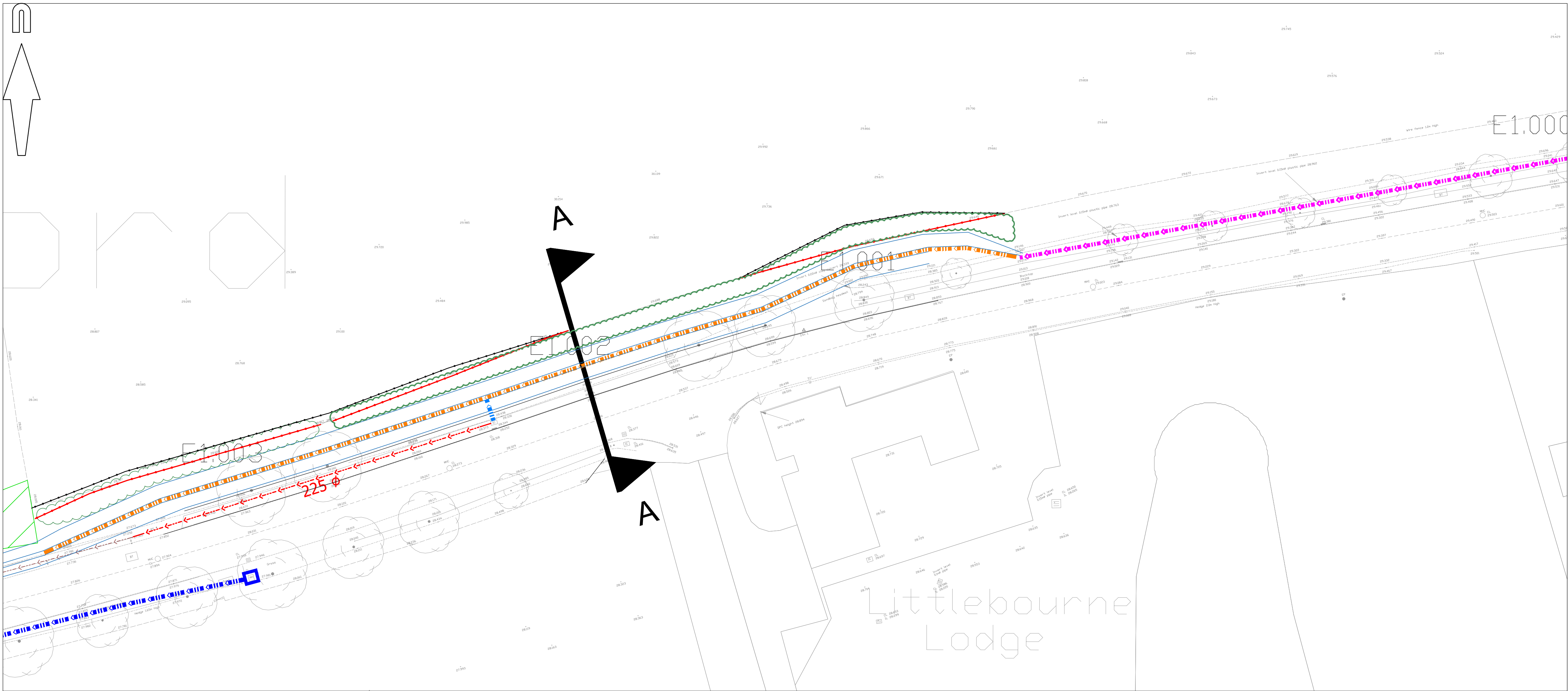
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date	MARCH 2019	cad file	DR-03.DWG		

title

Proposed Improvements

drawing number	rev.
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D

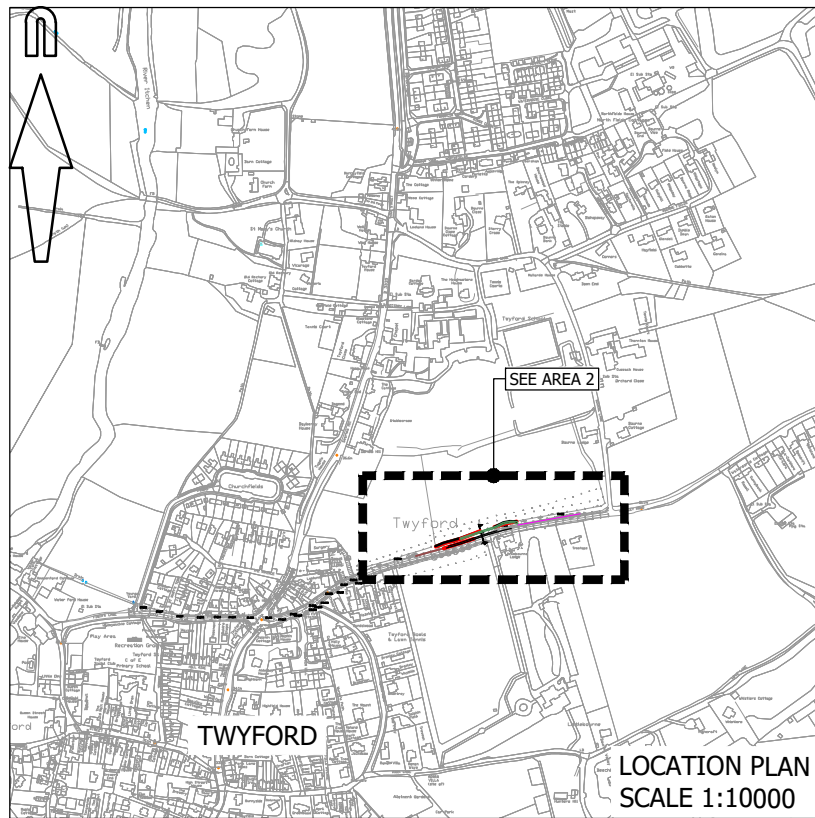


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KEY	
	EXISTING SURFACE WATER PIPE
	EXISTING DITCH
	PROPOSED SURFACE WATER PIPE
	REDUNDANT SURFACE WATER PIPE
	REDUNDANT DITCH
	RELOCATED FENCE
	FENCE TO BE REMOVED
	TRANSLOCATED/NEW HEDGING



PRELIMINARY
NOT FOR CONSTRUCTION

A	Ditch Alignment Revised	RHA	20/04/2020
rev.	amendment	checked	date

m3
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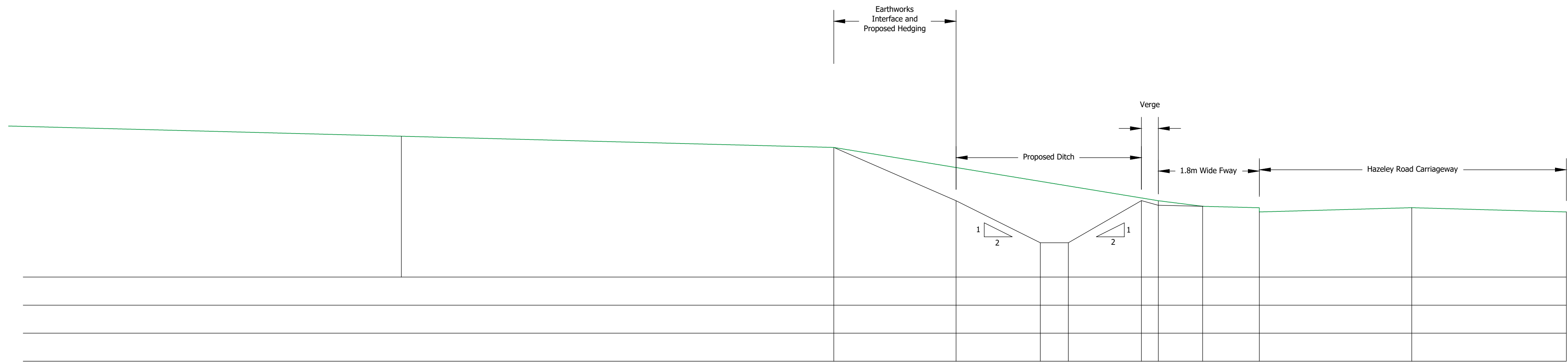
project
TWYFORD FLOOD STUDY

scale 1:200 drawn by RHA checked by RHA

date MARCH 2020 cad file DR-04.DWG

title
PHASE 2 - DITCH DIVERSION DETAILS

drawing number ZTPCTWYFORD-DR-04 rev. A



SECTION A - A

APPENDIX B: Cost Estimate

Preliminary Cost Estimate Twyford (Phase 1 Works)				
Item	Quantity	Units	Rate	Cost
Preliminaries including welfare and temporary fencing	1	Per Item	10.00%	£4,438.00
Site Clearance	1	Per Item	£2,000.00	£2,000.00
Traffic management	3	Per Week	£2,000.00	£6,000.00
New Manholes	1	Per Item	£1,500.00	£1,500.00
Excavate footway, kerbs and all drainage within construction	6	Per Metre	£75.00	£450.00
Footway Construction per metre including kerbs and edgers	6	Per Metre	£105.00	£630.00
Excavate and Construct ditch (115m)	1	Item	£200.00	£23,000.00
Construct Non-return valve and overflow weir including new chamber and connecting pipework	1	Per Unit	£5,000.00	£5,000.00
Construct 450mm Pipe	2	Per Metre	£400.00	£800.00
Construct 150mm outfall with Headwall	1	Item	£600.00	£600.00
New Fencing (Timber Post and Rail)	110	Per Metre	£35.00	£3,850.00
New Hedging (Wip planting)	110	Per Metre	£5.00	£550.00
Total Cost of BoQ		£48,818.00		
Detail Design Fee		£8,500.00		
HCC Consultation (OWC and S278 Minor Works)		£4,000.00		
Utility Diversion	BT	£9,000.00		
	Water			
	Other			
Factor for Unknowns and early design stage	40%	£19,527.20		
Total		£89,845.20		

Preliminary Cost Estimate Twyford (Phase 3 TPC Works)				
Item	Quantity	Units	Rate	Cost
Preliminaries including welfare	1	Per Item	10.00%	£1,312.00
Traffic management	2	Per Week	£2,000.00	£4,000.00
New Combined Catchpits/Gully (CCG)	3	Per Item	£1,500.00	£4,500.00
Reprofiling of carriageway surface to suit new CCG's	50	Per Metre	£30.00	£1,500.00
Associated pipework to form connections to existing drainage system (2No. 300mm diameter)	26	Per Metre	£120.00	£3,120.00
Connection to existing system	3	Item	£200.00	£600.00
Total Cost of BoQ		£15,032.00		
Detail Design Fee		£1,200.00		
HCC Consultation (S278 Minor Works)		£2,000.00		
Utility Diversion	BT	£5,000.00		
	Water			
	Other			
Factor for Unknowns and early design stage	40%	£6,012.80		
Total		£29,244.80		

APPENDIX C: Ecological Update (To be provided)