

# Carlisle Environment Agency Flood Risk Management proposals as of 16<sup>th</sup> Jan. '20

Presentation to Carlisle City Council's scrutiny committee



# Carlisle scheme objectives

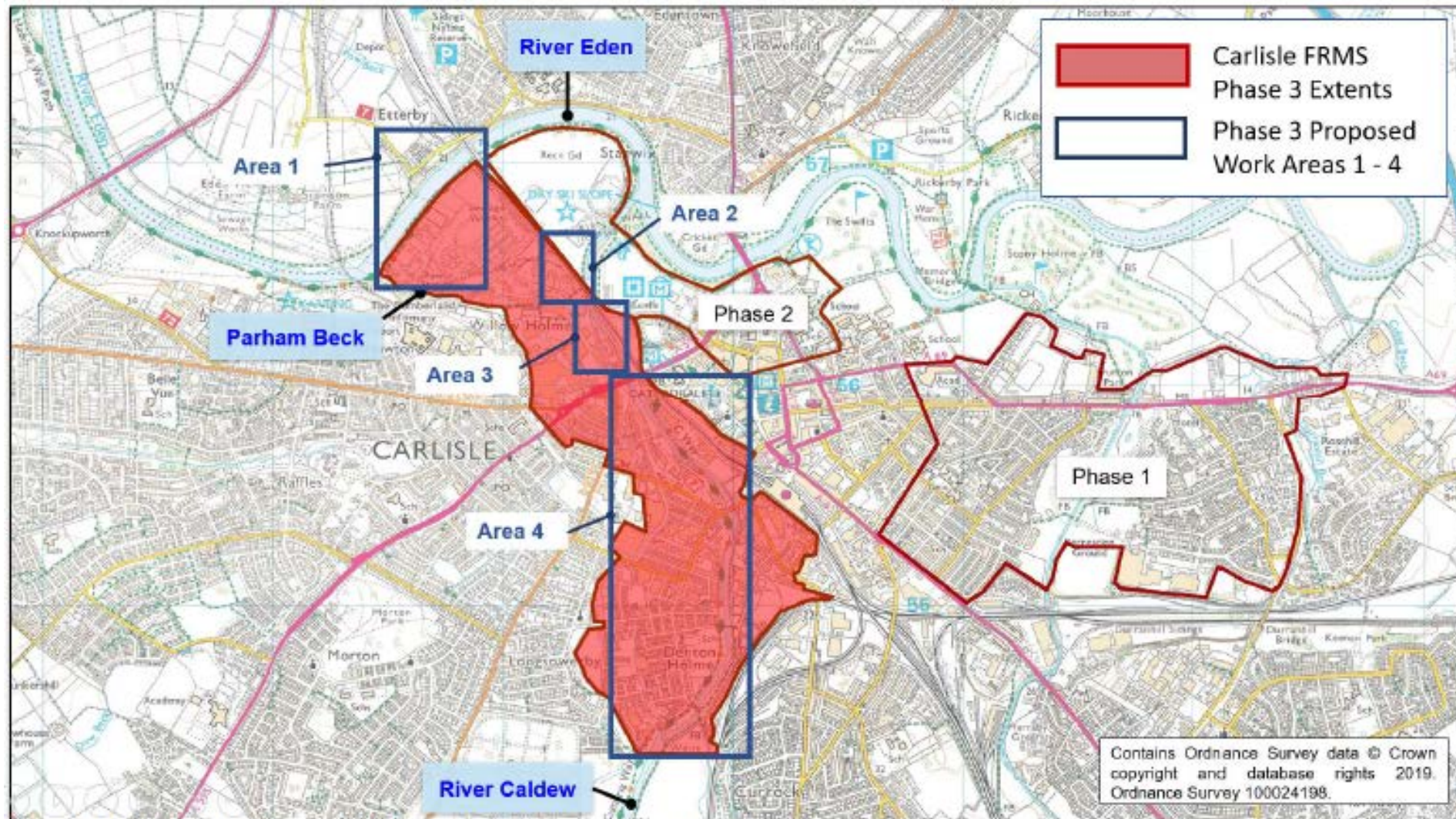
- Aim to improve the levels of flood protection to as many people as possible
- Design to observed 2015 Desmond levels + freeboard
- Economic assessment has considered impact on flows of climate change. Standard of Protection (SOP) falls over lifetime of scheme
- Scheme assessed on
  - Economic viability
  - Technical feasibility
  - Public acceptability
  - Environment sustainability



# Carlisle City – Phases

- Phase 1 – Warwick Road area Defence raising & lengthening: Melbourne Park & Tesco. Bridge work & River Petteril channel modifications at Botcherby Bridge
- Phase 2 – City Centre defence raising: Swifts, Sand Centre and Bitts Park to Dacre Road
- Phase 3 – Lower River Caldew within influence of River Eden River Caldew and Upper Caldew beyond influence of River Eden (not affected by Storm Desmond)

# Phases 1, 2 and 3 (and sub-areas within 3)

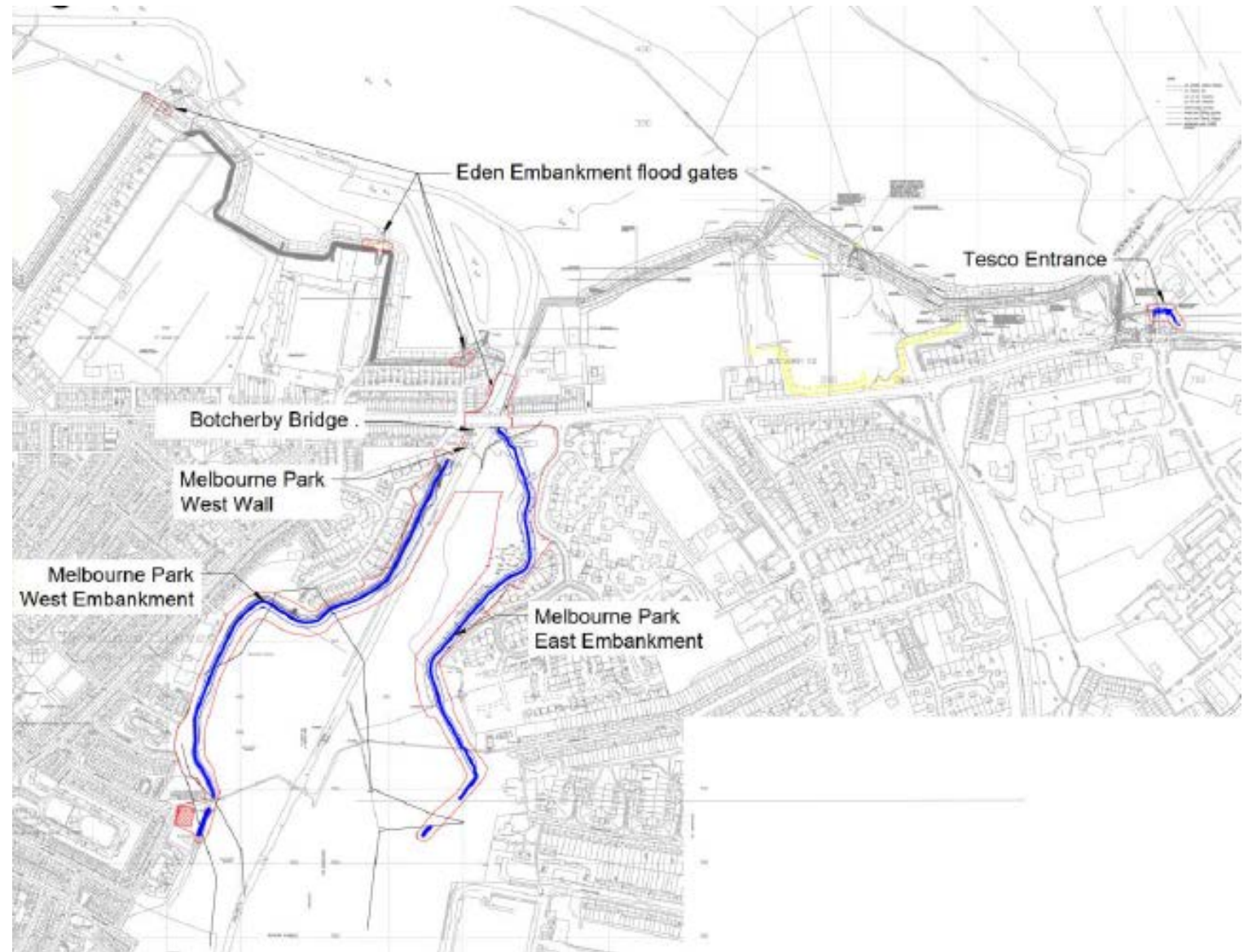


# Phase 1 Headlines

Warwick Road area Defence raising & lengthening: Melbourne Park & Tesco. Bridge work & River Petteril channel modifications at Botcherby Bridge

- Major works paused due to very wet autumn that resulted in high water levels and poor ground conditions
- Minor works continuing over service crossing etc.
- Botcherby Bridge reinstated to pre-works condition for the winter
  - Highways Authority instigated traffic mitigation measures pending additional measures to bridge deck and western span
- EA works largely complete Autumn '20
- Working with UU/Amey on water main upgrade works along Warwick Road
- Now includes work to the Eden embankments

# Phase 1 extents



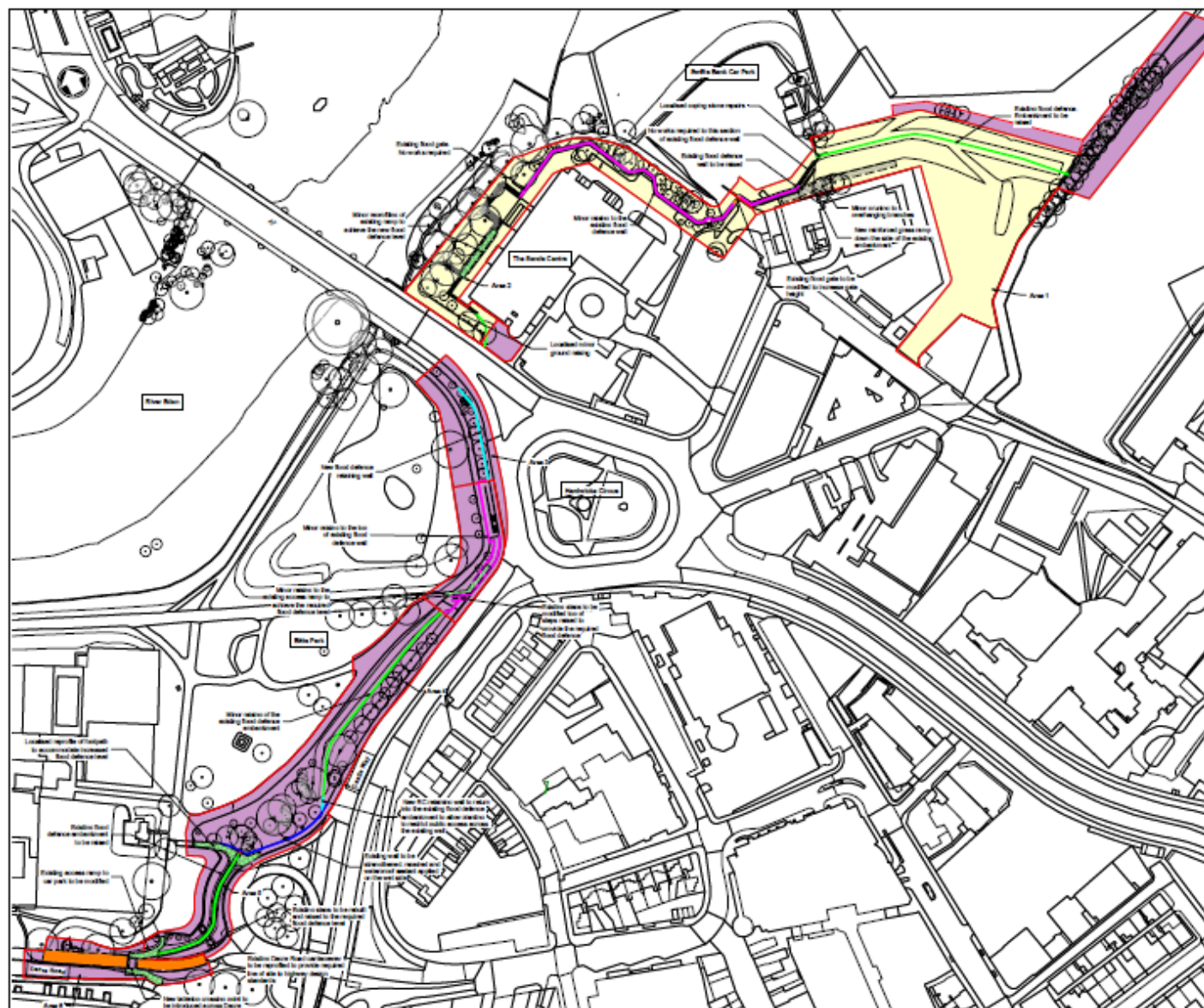
# Phase 1 programme

Activity	Date
Outline Business Case submission	Submitted and approved
Ground Investigation	completed
Planning submission	Submitted and approved
Full Business Case submission	Submitted and approved
Works Melbourne Park Drainage	February '20
Works Melbourne Park services protection	March '20
Main flood defences work re-start	April
Main flood defences completion	September '20
Tescos entrance improvements work	Autumn '20

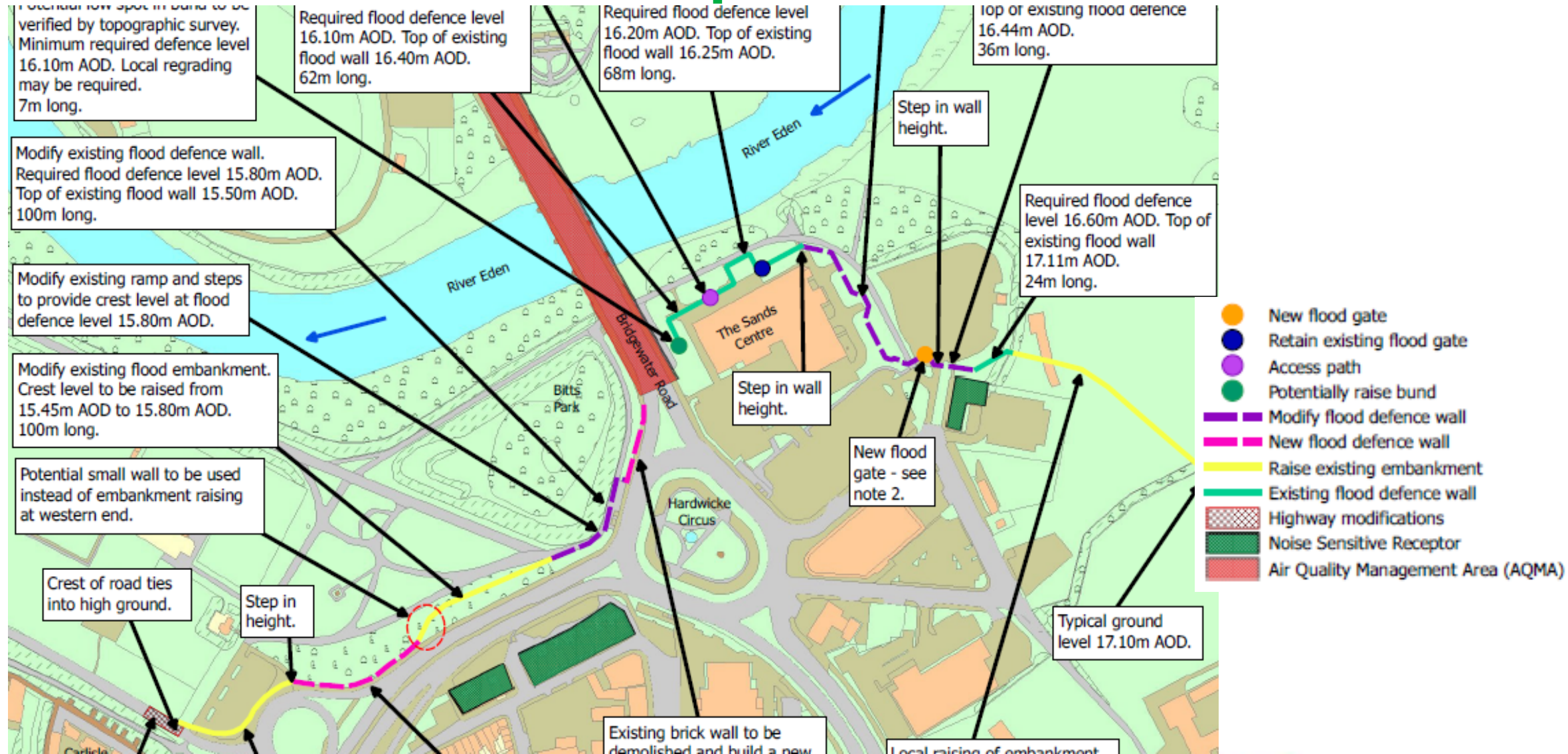
## Phase 2 Headlines - City Centre defence raising: Swifts, Sand Centre and Bitts Park to Dacre Road

- Early work now commenced to increase strength of existing foundations at Sands Centre to accommodate further raising
  - *Only possible with collaboration and support of the City Council and their Sands Centre redevelopment project team*
- Outline Business Case submitted for approval
- Looking to proceed under Permitted Development subject to confirmation from Planning Authority
- No conveyance improvements proposed on A7 Eden Bridge
- Engagement ahead of either any planning submission or start on site

## Phase 2 extents



# Elements of scheme for phase 2



# Sample of possible wall raising via angled brackets/raising coping stones (subject to conversation with planners)



# Phase 2 programme

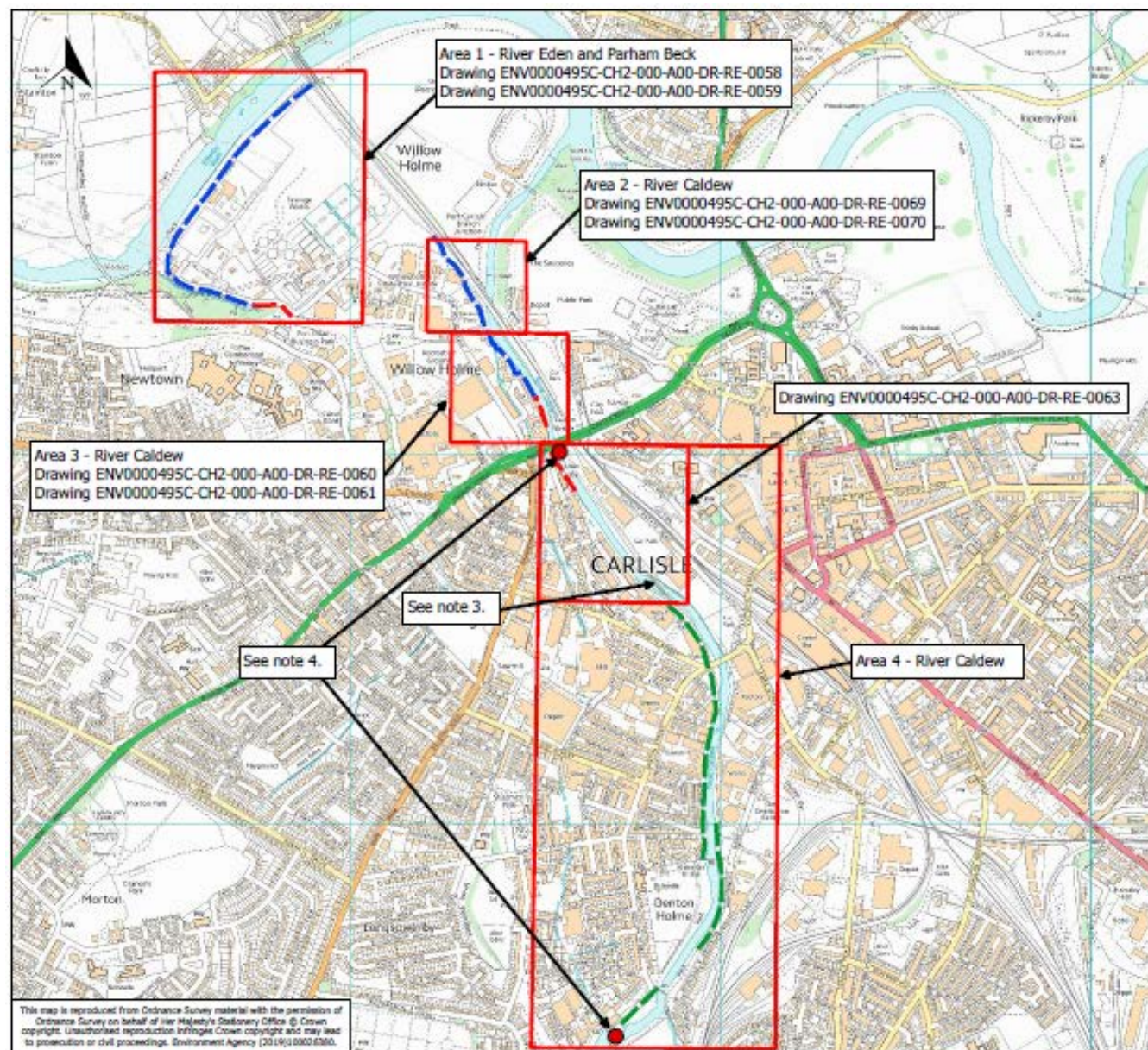
Activity	Date
Outline Business Case submission	12 December '19
Ground Investigation	December '20 (complete with exception of Hardwicke Circus)
Planning submission (if required)	April '20
Full Business Case submission	May '20
Construction Contract award	July '20
Construction completion	End '20
Early work at Sands Centre (with help of City Council Sands Centre redevelopment project team)	Start 6 <sup>th</sup> January '20 Completion 14 <sup>th</sup> February '20

## Phase 3 Headlines

Lower River Caldew within influence of River Eden  
River Caldew and Upper Caldew beyond influence of River Eden (not affected by Storm Desmond)

- Currently at outline design stage
- Area under consideration Eden / Caldew confluence up to Holme Head weir
- Focus on left hand bank from WCML past the Maltings to point upstream of A595 bridge
- Minor work at Willowholme (as existing Eden and Parham Beck defences are at the appropriate standard)
- Localised works upstream around Robert Ferguson Primary School and Maryport Cottages in Denton Holme
- Working with Network Rail for scour repairs to Eden WCML crossing
- Aiming for a consistent Standard of Protection across the city (SOP already high)
- Caldew didn't overtop defences in Storm Desmond
- Currently planning community engagement.

# Phase 3 Areas



# Phase 3 programme

Activity	Date
Design Contract award	Spring '20
Outline Business Case submission	Spring '20
Ground Investigation	TBC
Planning submission (if required)	September '20
Full Business Case submission	October '20
Construction Contract award	Winter '20
Construction completion	Spring '22

# Programme - Key Risks / Opportunities

- Business case
  - Economic viability
  - Costs inflation
  - Contract award and end of Comprehensive Spending Review period
- Permissions
  - Planning permission determination period (could impact phase 2 programme)
  - Compliance with Habitat Regulations, WFD etc.
  - Landowner agreements
- Political and Community acceptance
  - Preferred options – mixed views in communities (particularly in absence of conveyance improvement options for A7 Eden Bridge)
  - Levels of protection
- Delivery risks
  - Resource availability
  - Timescales (in-river works)
  - Weather

# Elsewhere in district

- Low Crosby
- Warwick Bridge
- Rickerby
- Etterby Terrace
- Harraby Green
- Natural Flood Management in catchment



# Cairn Beck NFM (partnership between ERT and EA)



# Beyond the scheme and the longer term strategy

- Climate change
- New national flood risk management strategy
- Catchment based actions – examples of NFM (eg. Cairn Beck – Warwick Bridge) in the catchment and the future of farming
- Cumbria Strategic Flood Partnership – mention refresh (new Chair and Strategy being revisited)
- Embedding flood risk management and resilience into other capital programmes - HS2, Borderlands, St Cuthberts, Southern Link road etc.....