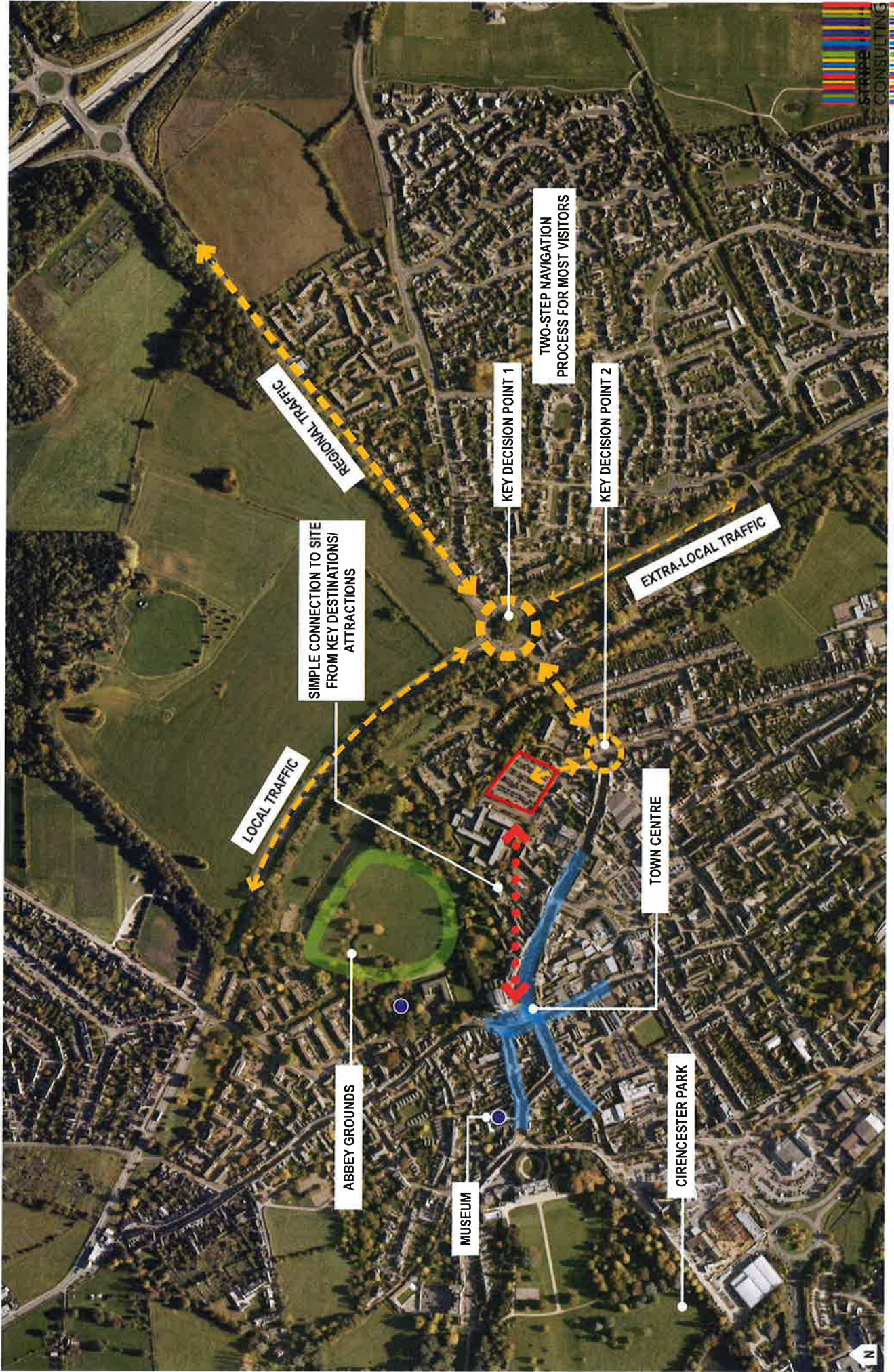


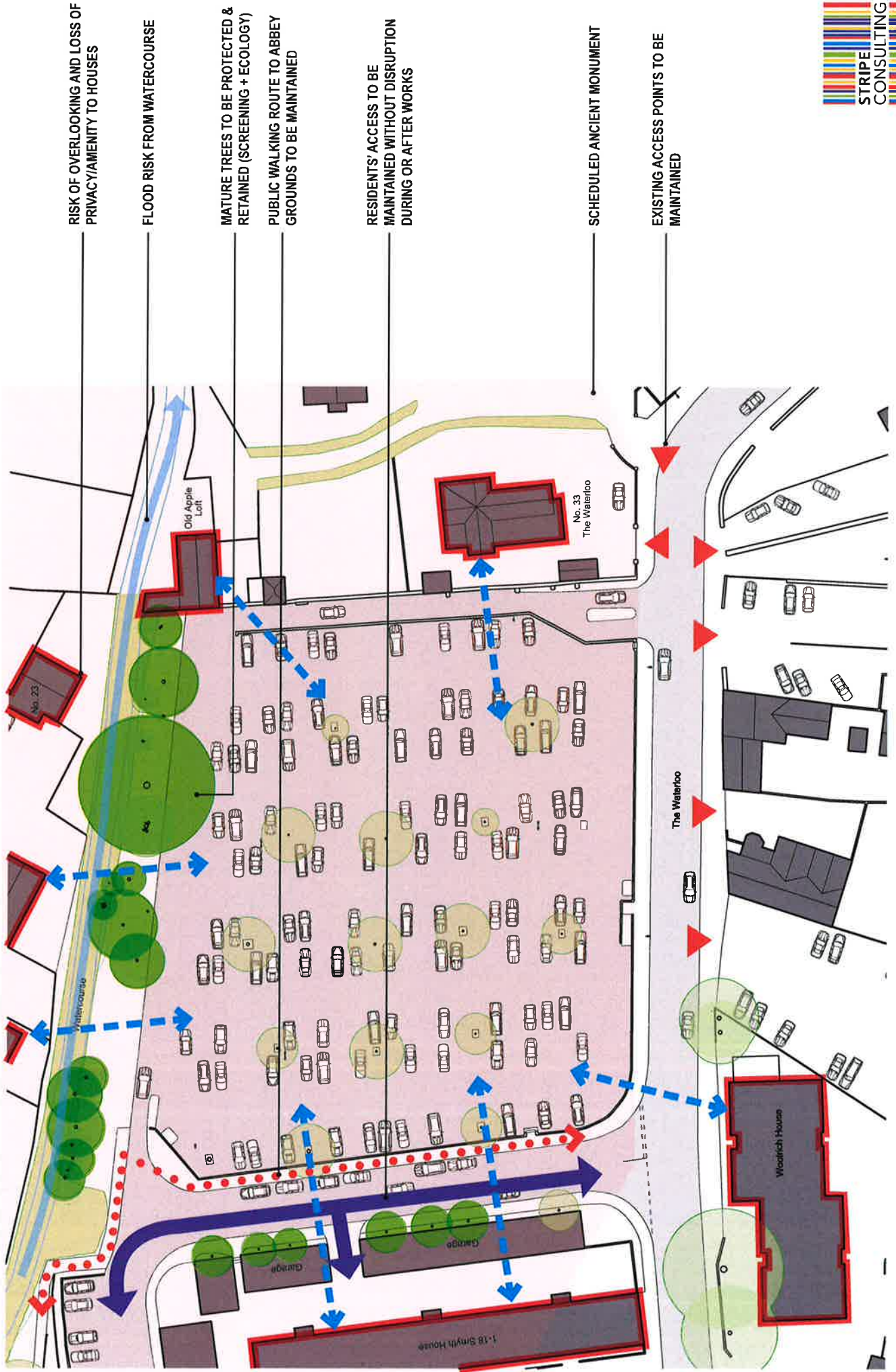
THE WATERLOO, CIRENCESTER
MULTI-STOREY CAR PARK
INITIAL ANALYSIS & OPTIONS
07/12/2018 REVISION P1



CONTEXT ANALYSIS STRATEGIC LOCATION



CONTEXT ANALYSIS SITE CONSTRAINTS



CONTEXT ANALYSIS OPPORTUNITIES



PROMOTE ROUTE TO ABBEY
GROUNDS & ACTIVATE FOOTPATH

VISUAL/ACOUSTIC SCREENING TO
RESIDENTIAL PROPERTIES

POTENTIAL SECONDARY CORE

VISUAL/ACOUSTIC SCREENING ON
UPPER LEVELS TO RESIDENTIAL
PROPERTIES

PRIMARY CORE & MAIN PEDESTRIAN
ACCESS POINT

POTENTIAL SECONDARY CORE

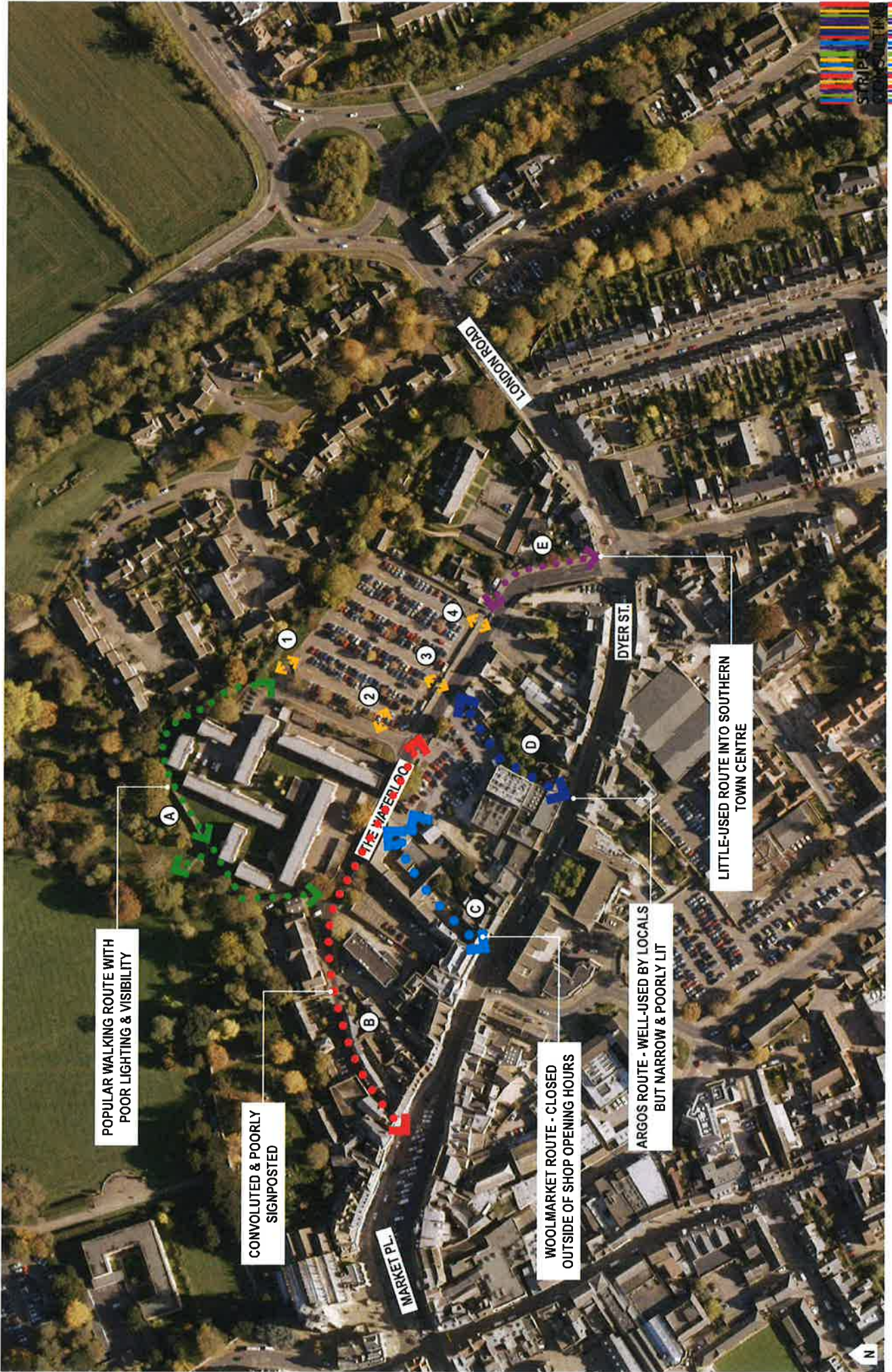
POTENTIAL FOR ACTIVE FRONTAGE
ON GROUND FLOOR

VISIBILITY & LEGIBILITY OF MSCP FOR
APPROACHING TRAFFIC

PROMOTE WALKING ROUTE TO
MARKET PLACE / TOWN CENTRE



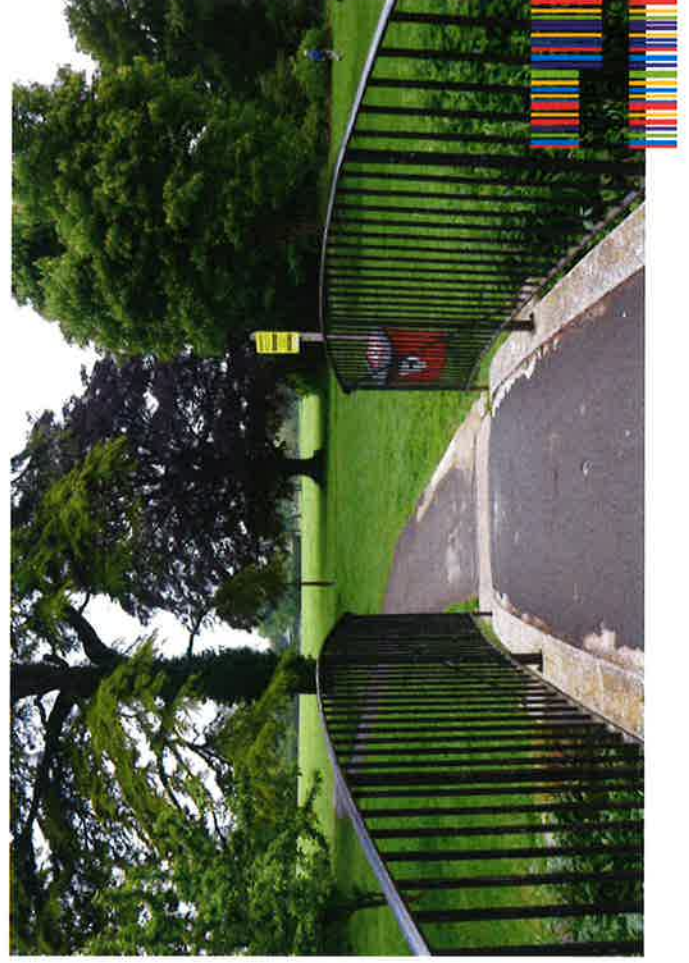
CONTEXT ANALYSIS EXISTING PEDESTRIAN ROUTES



CONTEXT ANALYSIS EXISTING PEDESTRIAN EXITS FROM CAR PARK



CONTEXT ANALYSIS ROUTE A - ABBEY GROUNDS



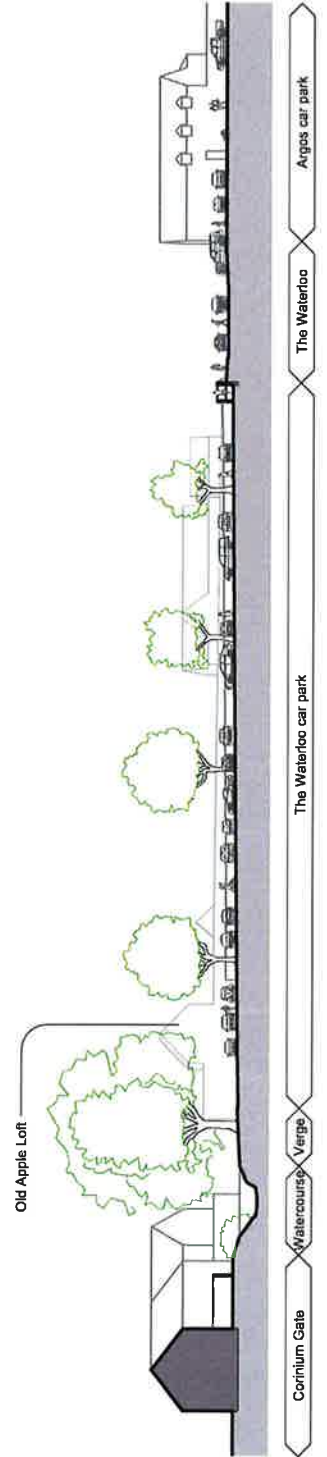
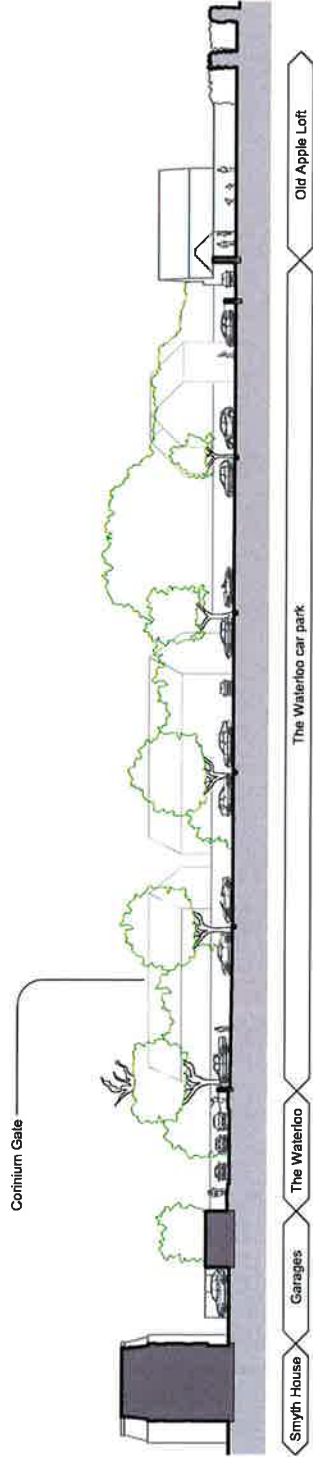
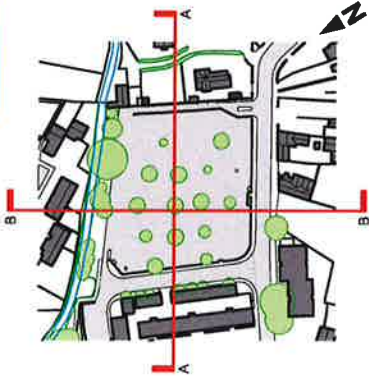
CONTEXT ANALYSIS ROUTE B - THE WATERLOO



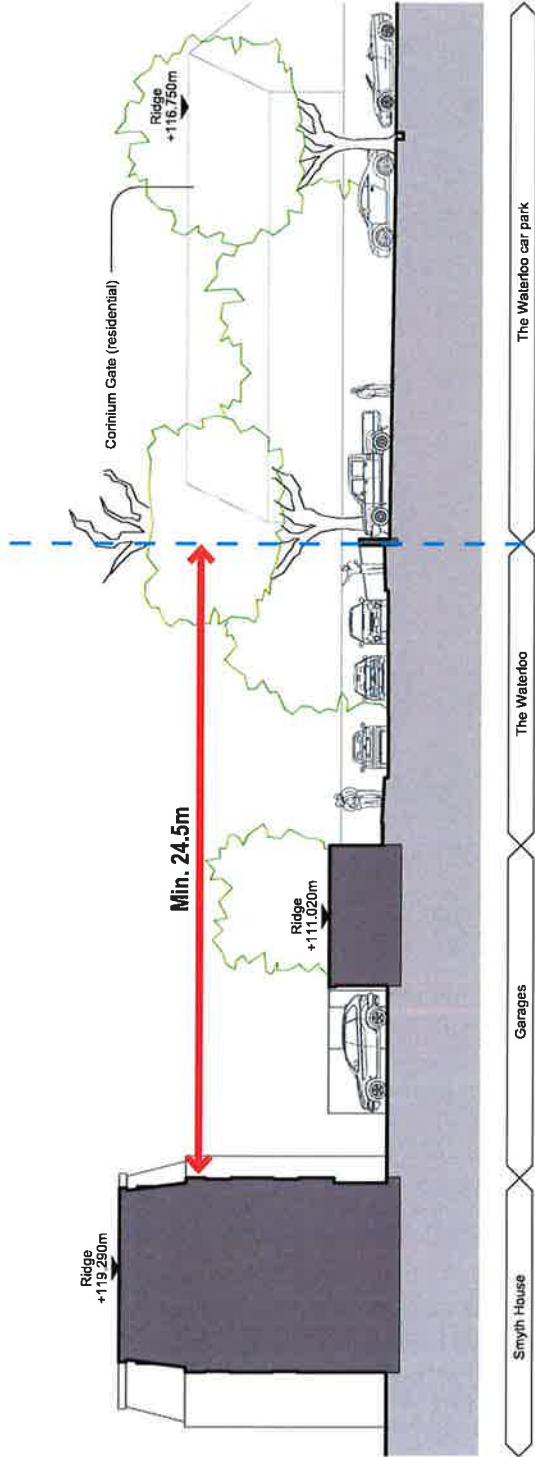
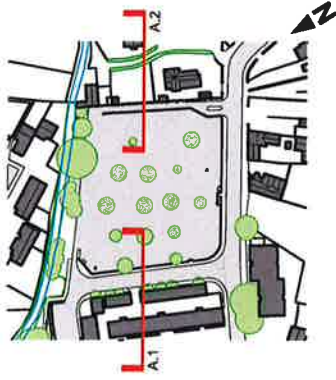
CONTEXT ANALYSIS ROUTE D - ARGOS



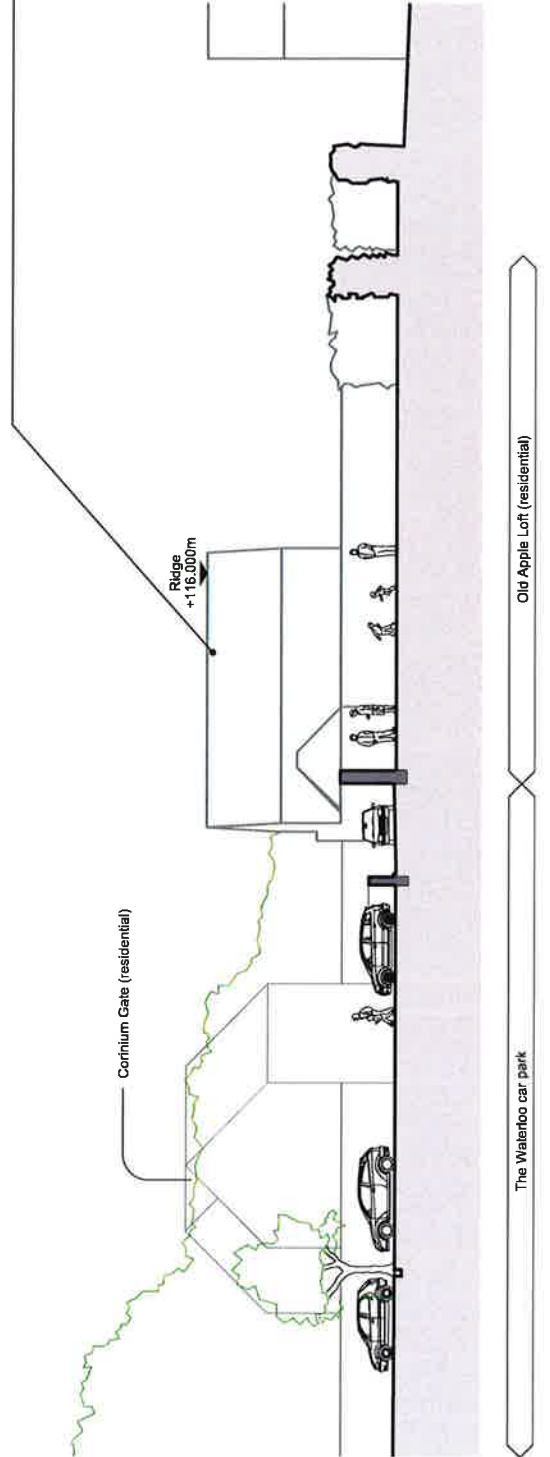
SITE ANALYSIS EXISTING SECTIONS



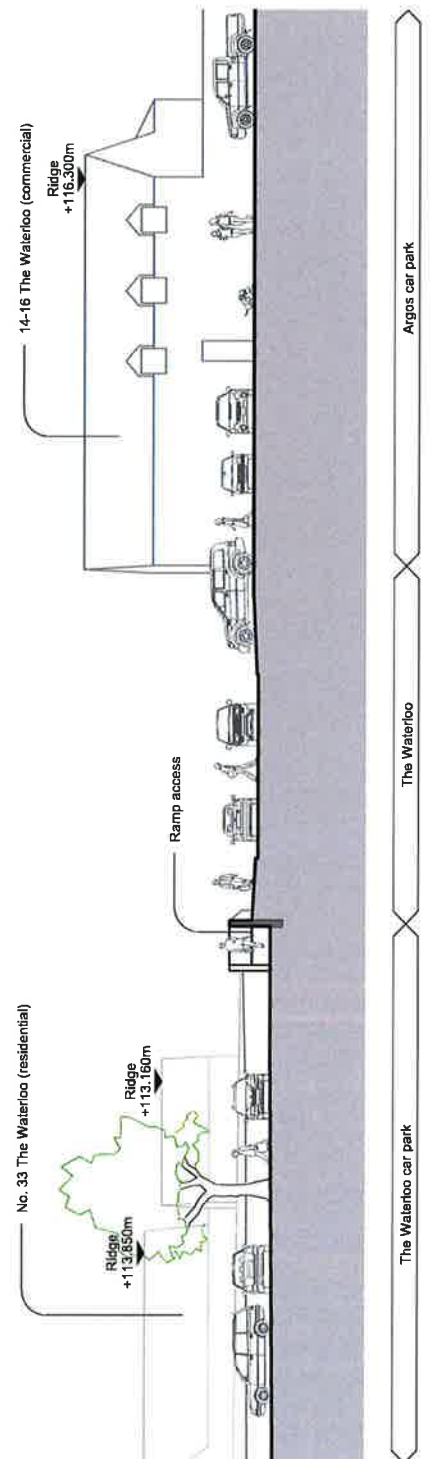
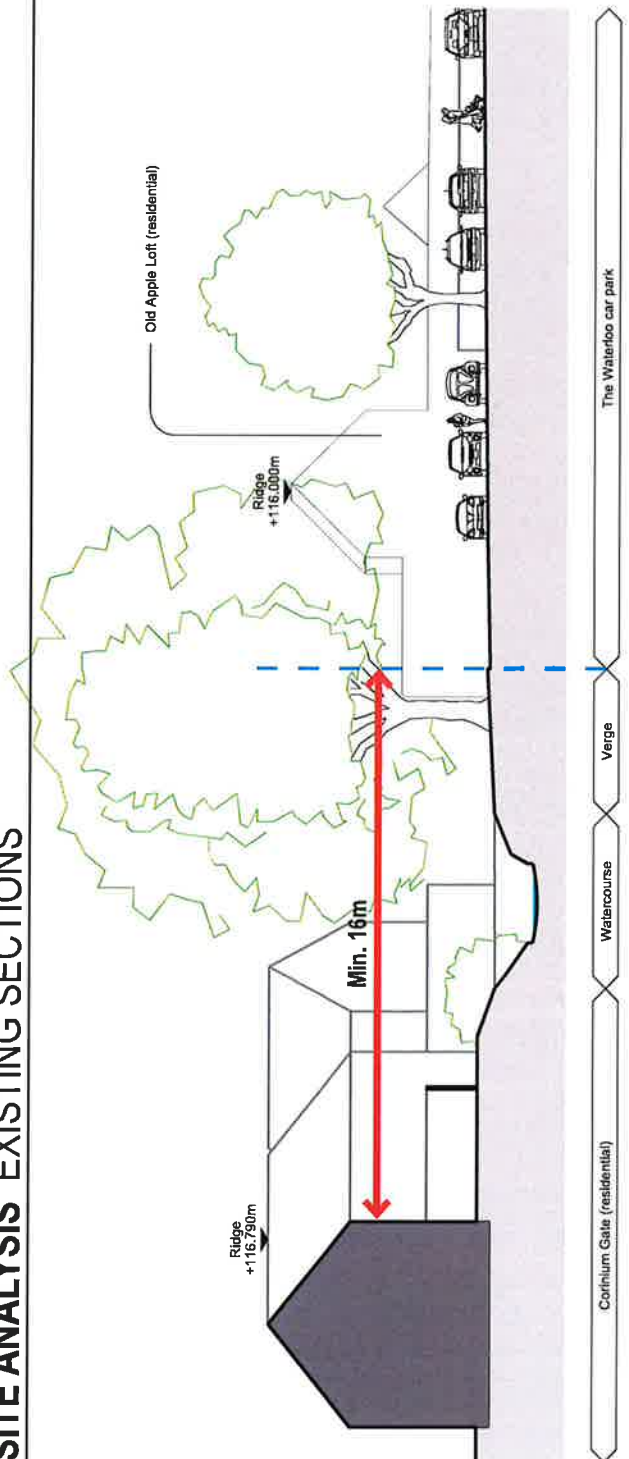
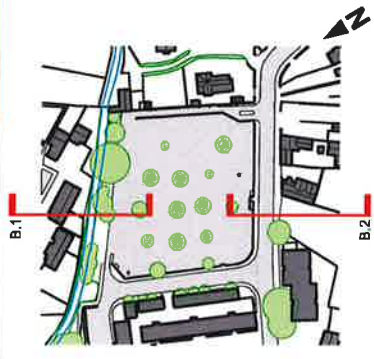
SITE ANALYSIS EXISTING SECTIONS



Old Apple Loft



SITE ANALYSIS EXISTING SECTIONS



PARKING



800 SPACES MAX TOTAL CAPACITY
As set in EIA Scoping



6% DISABLED SPACE ALLOCATION
CDC Parking Standards



8 PARENT AND CHILD SPACES



10 ACTIVE RAPID CHARGING POINT
Plus passive provision - numbers TBC
Substation capacity TBC
Consideration to be given to PV and battery storage to assist with demand

OTHER MODES



DROP-OFF / WAITING AREA - TBC
As demand for vehicle sharing increases...
Self driven
Autonomous
Shared ownership
OEM subscription scheme



MOTORCYCLES - TBC



BICYCLES - TBC

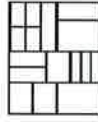
ANCILLARY SPACES



OFFICE SPACE - TBC
For 8 people
To include welfare facilities, IT and public reception



PUBLIC TOILETS - TBC
Provision TBC
Changing Places facility TBC



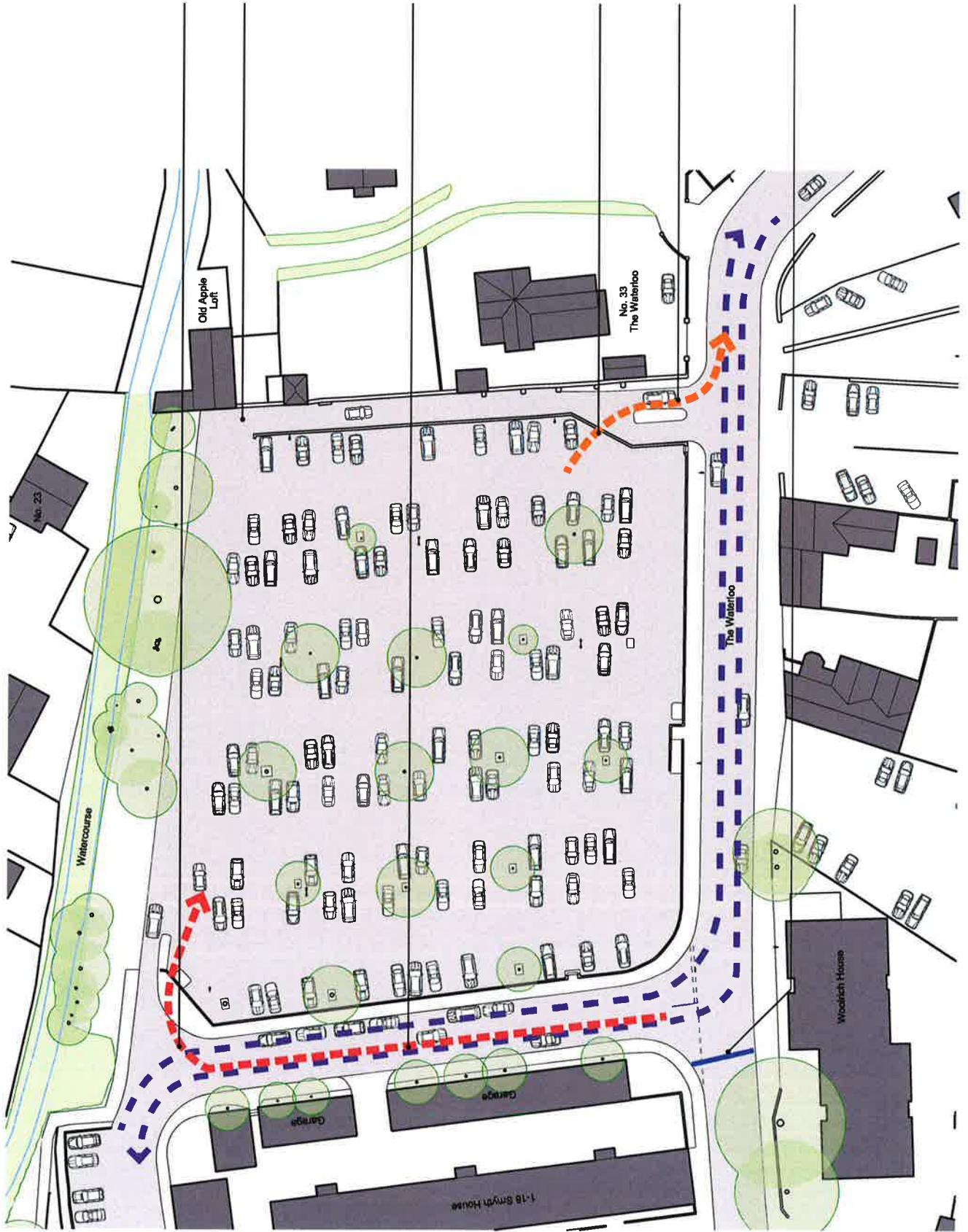
PARCEL COLLECTION - TBC
E.g. Amazon parcel lockers



CHANGING FACILITIES - TBC
E.g. serving cycle storage / cycle hub

Geometry and layout	Spaceproofed for future uses	Dedicated MSCP
Overall height	The floor to floor height would have to be increased to allow suitable vertical spaceproofing for future uses. The overall height of any proposal with allowance made for future uses would therefore be taller than that of a purely car parking focused structure.	Typical floor to floor height is 2.9-3.1m, optimising the overall height of the building.
Ramping	To be external to circulation or removable.	Can be integral for maximum efficiency.
Spatial efficiency	Limited by ramping strategy	Optimised
Decks	Flat structure with sacrificial screed or demountable sloped surface layer. This results in a further increase in overall building height.	Decks can be sloped as part of circulation strategy and to accommodate drainage, further optimising the structural floor to floor height.
Structure		
Deck structure	Performance requirement will have to be as flexible as possible to accommodate future penetrations. This will rule out precast concrete due to its structural properties.	Deck structure can be selected based on costs and lifespan requirements. Limited requirement for additional future penetrations.
Imposed Load	A typical MSCP has an imposed load of 1.5kN/m ² (BS EN 1991-1-1:2002 NA.2 and NA.3). In order to accommodate future alternative uses, the design will likely require a higher imposed load capacity. Careful consideration should be given to what sort of uses are likely (e.g. residential/retail/light commercial) and what load capacity they will require. This will increase the construction value of the project.	Able to use 1.5kN/m ² generally for maximum cost efficiency.
Fire rating	It may be possible to classify the MSCP as 'open sided'. This is likely to be supported by the requirement to increase the floor to floor height, therefore increasing the opportunity to achieve sufficient free area. It is highly unlikely that any future use would meet the requirements of "open sided" and retrospective treatments to any steel structures would be required.	Open-sided' strategy to be targeted in order to reduce construction costs and ongoing maintenance costs. Current regulations require a 15 minute rating.
Clear height under beams	Likely to be significantly increased to enable future alternative uses.	2.1m plus allowance for structural tolerance and deflection.
Structural form	In situ concrete is suitable for a futureproofed building but will take longer to build due to temporary propping. Steel frame with precast decks is unlikely to be suitable due to difficulties of modifying precast decks retrospectively. Steel frame with steel composite deck is likely to be the most efficient from a cost perspective whilst also offering future flexibility.	Steel frame with composite decks is likely to be the most cost effective and efficient for this particular site. Potential restriction to free area may restrict the cladding options.
Bracing	Would have to be located to prevent blocking of windows in the future. However this will potentially result in size increases.	Likely to see bracing on the external face of the structure as it offers optimisation.

PROPOSAL VEHICLE MOVEMENT OPTION A



CROSSOVER WITH RESIDENTIAL TRAFFIC TO ENTER CAR PARK
 REDUCED VEHICLE MOVEMENT BY RESIDENTIAL PROPERTY

SCOPE TO UTILISE WATERLOO ROAD (DEAD END) AS RESERVOIR; BUT WILL POTENTIALLY IMPACT ON RESIDENTS' ACCESS.

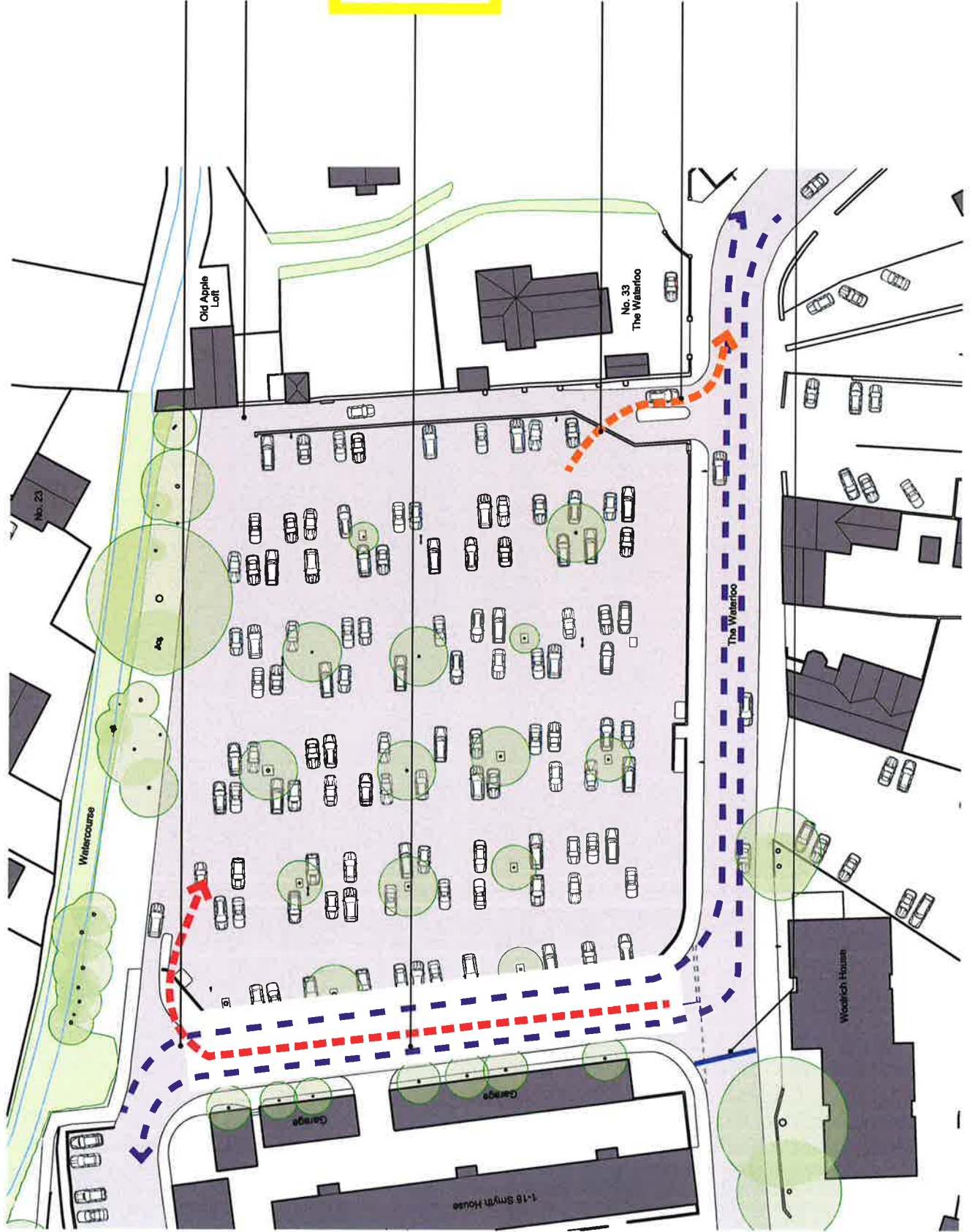
LIMITED EXIT RESERVOIR, SUBJECT TO INTERNAL LAYOUT - SCOPE TO MITIGATE WITH TECHNOLOGY.

EXIT IN EXISTING POSITION: RISK OF NUISANCE (NOISE AND LIGHT) TO NEIGHBOURING PROPERTY

POTENTIAL TO CHANGE PRIORITY OF JUNCTION TO REDUCE QUEUING; TRAFFIC FROM WEST TO GIVE WAY.



PROPOSAL VEHICLE MOVEMENT OPTION B



CROSSOVER WITH RESIDENTIAL TRAFFIC TO ENTER CAR PARK

REDUCED VEHICLE MOVEMENT BY RESIDENTIAL PROPERTY

WIDEN EXISTING ROAD TO CREATE A CENTRAL LANE FOR MSCP TRAFFIC ONLY; SEPARATE ACCESS LANE TO PREVENT CONGESTION AFFECTING RESIDENTS. ALSO CREATES ADDITIONAL BUFFER ZONE BETWEEN HOUSING AND MSCP.

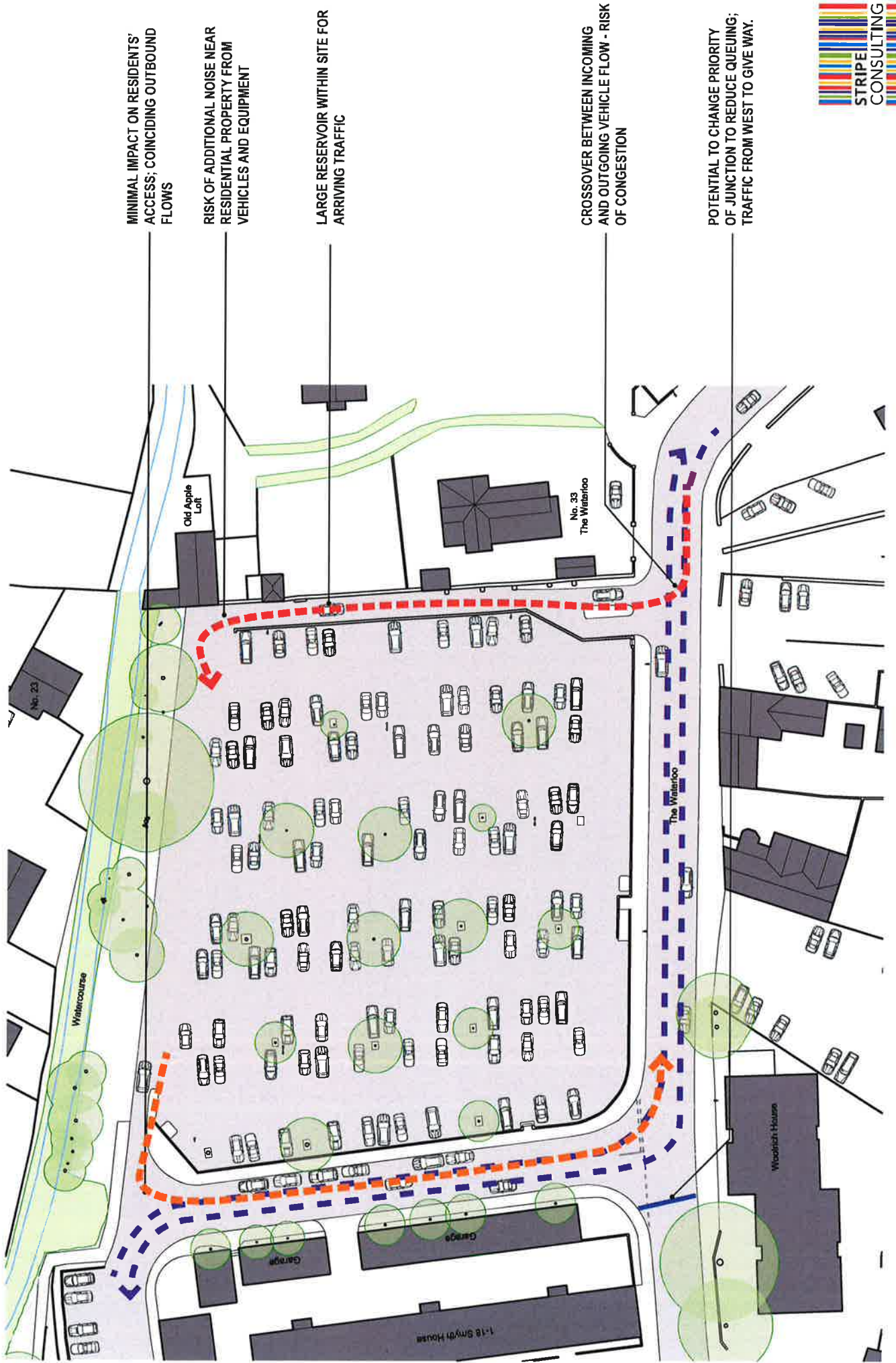
LIMITED EXIT RESERVOIR, SUBJECT TO INTERNAL LAYOUT - SCOPE TO MITIGATE WITH TECHNOLOGY.

EXIT IN EXISTING POSITION: RISK OF NUISANCE (NOISE AND LIGHT) TO NEIGHBOURING PROPERTY

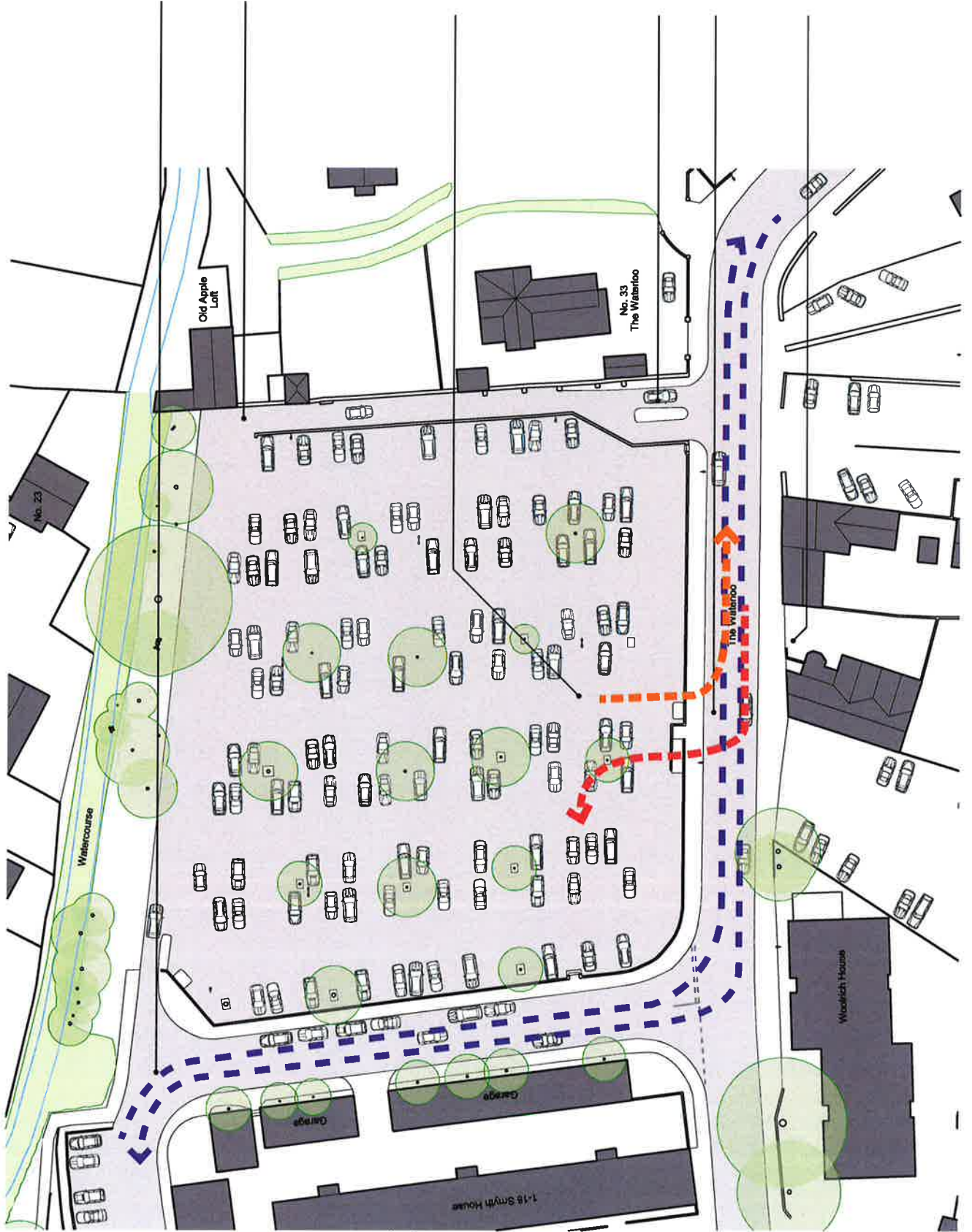
POTENTIAL TO CHANGE PRIORITY OF JUNCTION TO REDUCE QUEUEING; TRAFFIC FROM WEST TO GIVE WAY.



PROPOSAL VEHICLE MOVEMENT OPTION C



PROPOSAL VEHICLE MOVEMENT OPTION D



NO IMPACT ON RESIDENTS' ACCESS ROAD AND NO ADDITIONAL VEHICLE MOVEMENT NEAR HOUSING

MINIMISING VEHICLE MOVEMENT NEAR RESIDENTIAL PROPERTIES

PROVIDING RESERVOIR WITHIN FOOTPRINT OF BUILDING WILL SIGNIFICANTLY REDUCE CAPACITY AND EFFICIENCY. PROVIDING RESERVOIR ON ROAD IS NOT ACCEPTABLE.

MINIMISING VEHICLE MOVEMENT NEAR RESIDENTIAL PROPERTIES

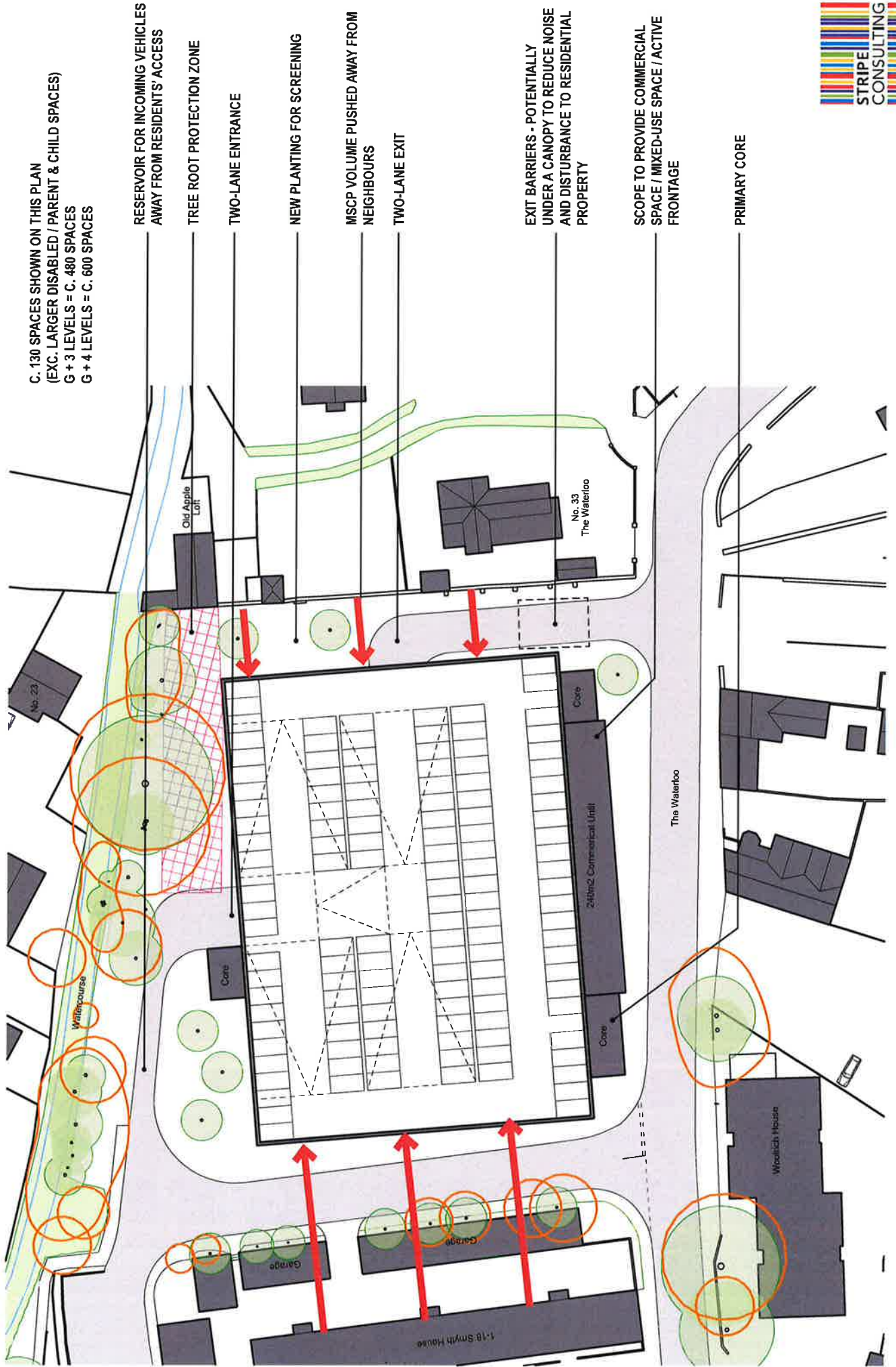
AVOIDS CROSSOVER FLOW

RISK OF CONFLICT WITH EXISTING VEHICLE ACCESS POINTS ON OPPOSITE SIDE OF ROAD



PROPOSAL INDICATIVE PLAN

C. 130 SPACES SHOWN ON THIS PLAN
 (EXC. LARGER DISABLED / PARENT & CHILD SPACES)
 G + 3 LEVELS = C. 480 SPACES
 G + 4 LEVELS = C. 600 SPACES



RESERVOIR FOR INCOMING VEHICLES
AWAY FROM RESIDENTS' ACCESS

TREE ROOT PROTECTION ZONE

TWO-LANE ENTRANCE

NEW PLANTING FOR SCREENING

MSCP VOLUME PUSHED AWAY FROM
NEIGHBOURS

TWO-LANE EXIT

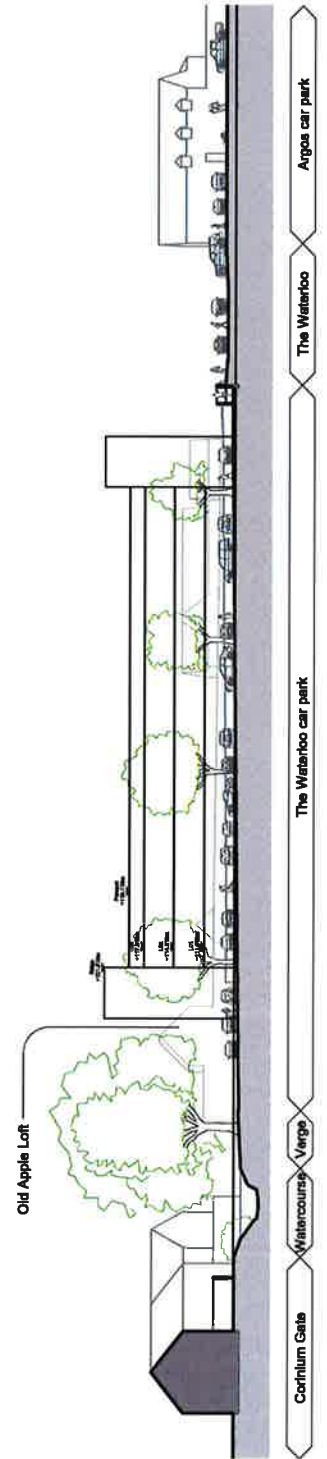
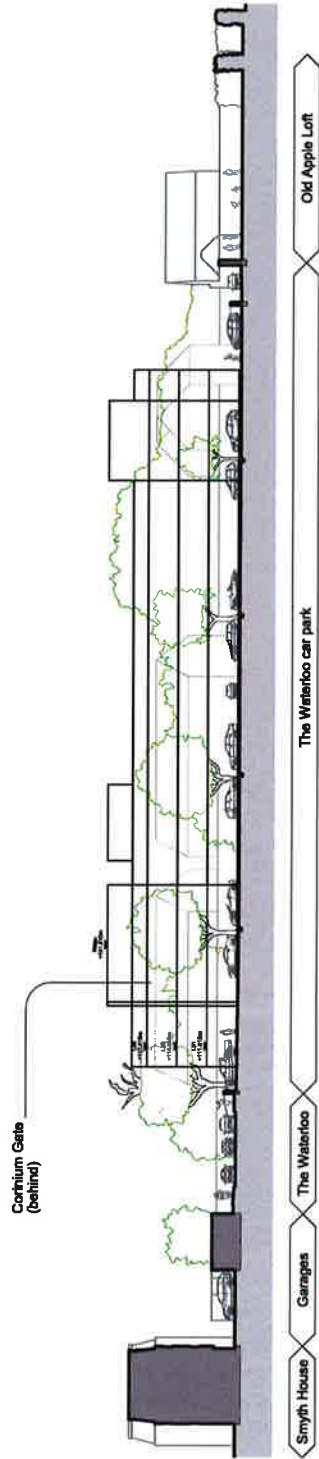
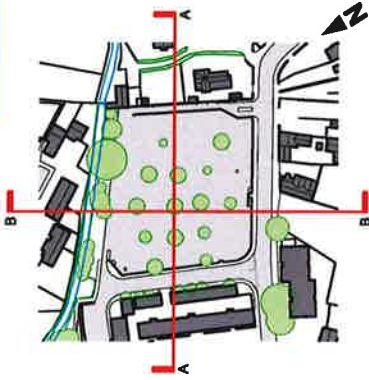
EXIT BARRIERS - POTENTIALLY
UNDER A CANOPY TO REDUCE NOISE
AND DISTURBANCE TO RESIDENTIAL
PROPERTY

SCOPE TO PROVIDE COMMERCIAL
SPACE / MIXED-USE SPACE / ACTIVE
FRONTAGE

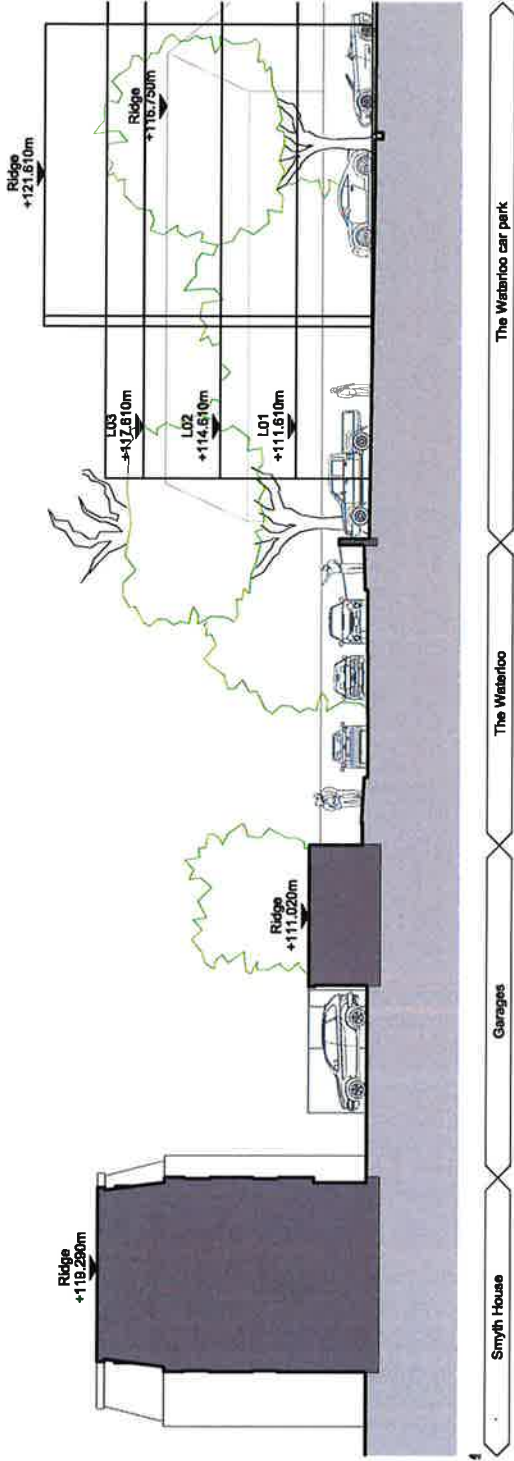
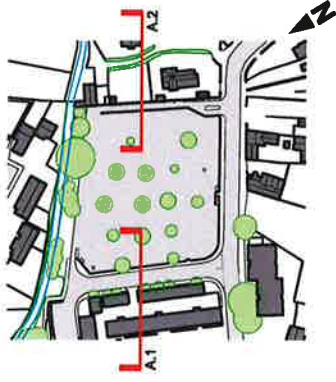
PRIMARY CORE



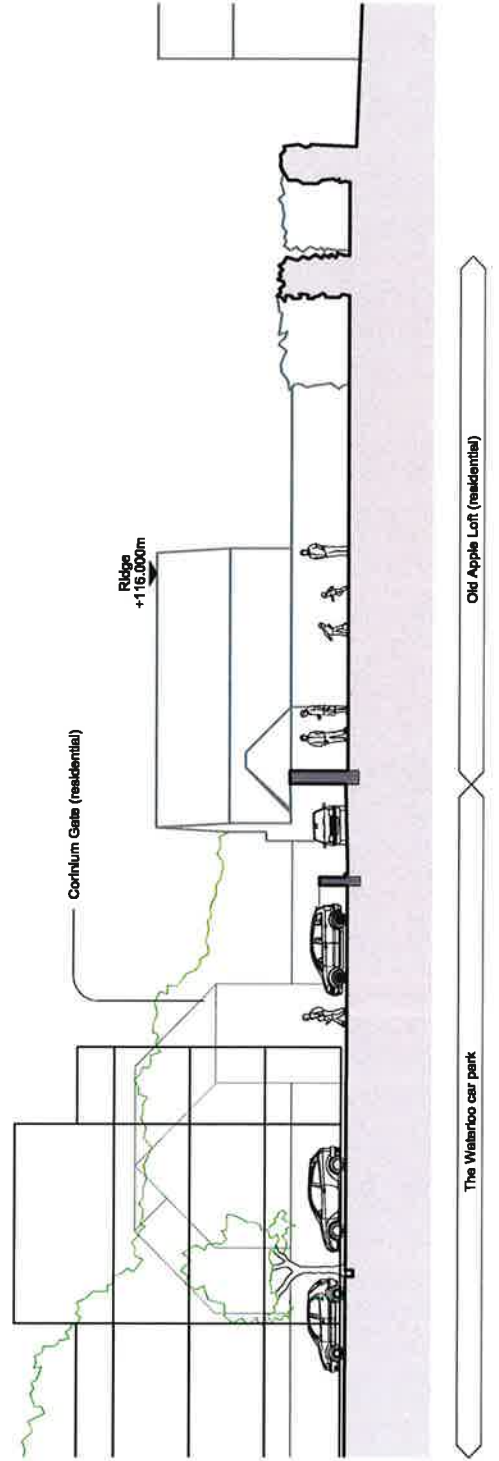
PROPOSAL SECTIONS



PROPOSAL SECTIONS



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PROPOSAL SECTIONS

