

An aerial photograph of the town of Prestwick, Scotland, and its proximity to the Prestwick Airport. The town is densely packed with residential housing, interspersed with green spaces and some commercial buildings. To the right of the town, the airport's runways and taxiways are visible, with a few aircraft parked at gates. The sea is visible on the left side of the image. The text is overlaid on the central part of the image.

Prestwick Strategic Study Stakeholder Workshop

Friday 23rd October 2020

An aerial photograph of a coastal city. On the left is a wide, sandy beach meeting the ocean. The central part of the image is a dense residential neighborhood with many small houses and streets. To the right of the residential area is a large commercial or industrial zone with several large white buildings and parking lots. Further right is an airport with a runway, taxiway, and a few aircraft. The word "Introductions" is overlaid in the center of the image.

Introductions

Terms of Reference

DATE: 23rd October 2020

VENUE: Teams Meeting

CHAIR: Dr Phillipa Whitford MP

OBJECTIVES

Meeting as part of the Prestwick Strategic Study to update work undertaken on short list of options to reduce flooding in Prestwick.

ATTENDEES

- Scottish Water – Communities, Flooding Team
- Elected Members – MP, MSP, Councillors, Council Provost
- Ayrshire Roads Alliance
- Prestwick North and South Community Councils
- P-RAAF
- Plus any other invitee as agreed

INPUTS

- Key Information from the hydraulic model summarising the existing sewer network.
- Google Earth to aid discussions.
- Others, as required

OUTPUTS

- Meeting record circulated within 3 weeks of meeting
- Action log circulated to attendees

GROUND RULES

- Come prepared
- Each individual is responsible for delivering their own actions
- Minimise background noise (*please go on mute when not speaking*)
- Start and finish on time
- Respect everyone's opinion

10.00	START • Welcome and introductions • Review of report and actions from previous Stakeholder meeting.
10.15	UPDATE ON SHORT LIST OF OPTIONS • Zone A – West of the railway • Zone B – East of the railway (north) • Zone C – East of the railway (south)
11.15	BREAK
11.30	SURFACE WATER MANAGEMENT INITIATIVE
12.00	ANY OTHER BUSINESS
12.15	CONCLUSION AND ACTION PLANNING
12.30	FINISH



**Scottish
Water**
Trusted to serve Scotland

south
AYRSHIRE
COUNCIL

An aerial photograph of a coastal town. On the left is a wide, sandy beach meeting the ocean. The town is densely packed with residential houses and streets. To the right of the town is a large airport with several runways, taxiways, and hangars. A few commercial buildings and a large stadium-like structure are also visible within the town's boundaries.

Review of actions from previous Stakeholder meeting

Review of Actions from Prestwick Strategic Study Stakeholder Group Meeting on 19th June 2020

Item	Action	Owner	Update
1	South Ayrshire Council Planning Department to be encouraged to attend future Prestwick Strategic Study Meetings.	Helen Moonie	
2	Determine if South Ayrshire Council have any projects that may interface with any proposals to manage surface water.	Scott Greig	South Ayrshire Council/Ayrshire Roads Alliance have no current projects that interface with proposals to manage surface water.

Review of Actions from Prestwick Strategic Study Stakeholder Group Meeting on 19th June 2020

Item	Action	Owner	Update
3	Come up with ideas on how we can best engage with customers and the community to promote property level management of surface water. Report any ideas to Bill Elliot who will collate ahead of the next meeting.	All	Philippa Whitford : Public information campaign on alternatives such as gravel, drainable monoblock or mesh supported grass with a price comparison and comparison of flood reduction to common driveway surfaces such as tarmac, monoblock or paving. A Local Authority supported programme (similar to one for compost bins) to provide cheap water butts due to bulk purchasing. Ian Cochrane: Could you sponsor a scheme to offer free/discounted water butts/ rain gardens for residents of problem streets. Perhaps engage Energy Agency to promote and administer it on behalf of SW. Scottish Water: Prestwick Pilot being developed for implementing surface water management measures. Details will be shared as part of this meeting.

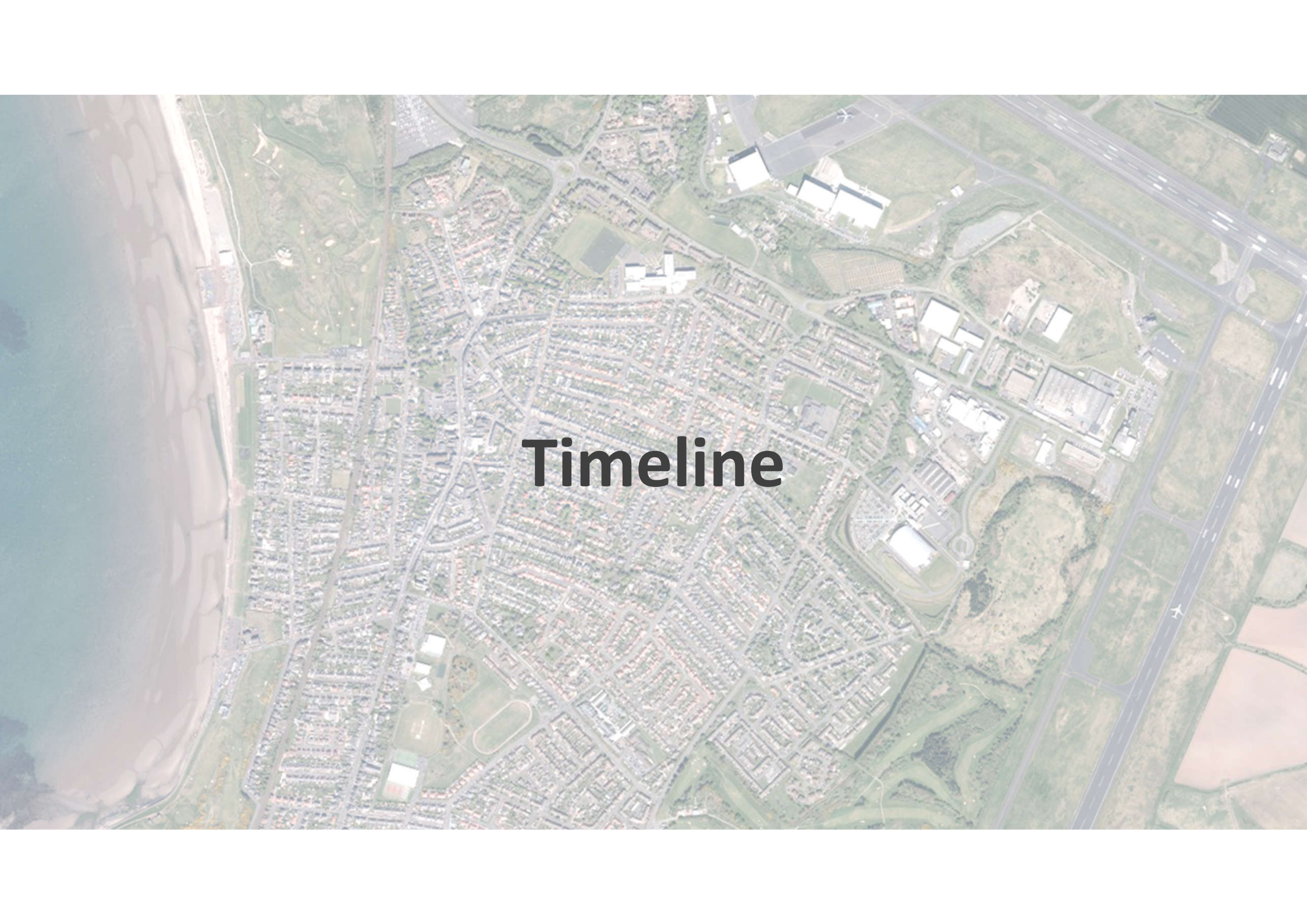
Review of Actions from Prestwick Strategic Study Stakeholder Group Meeting on 19th June 2020

Item	Action	Owner	Update
4	Scottish Water to send out information on rain water management measures such as that provided by Central Scotland Green Network.	Bill Elliot	Emailed out 10 th July 2020.
5	Next Meeting of Stakeholder Group to be arranged to evaluate the further developed options. Date provisionally agreed for 23 rd Oct 2020.	Bill Elliot	Placeholder emailed out 10 th July 2020.

Update on Mitigations

- Speed tables installed
- Temporary Storage Area constructed
- Permanent Storage at Brandon Gardens and St Nicholas Rd
 - Delivery Partner scheduling works



An aerial photograph of a coastal city. On the left is a wide, sandy beach meeting the ocean. The city is densely packed with residential houses and streets. To the right of the city is a large airport with multiple runways and taxiways. Several large industrial or commercial buildings are visible near the airport. The word "Timeline" is superimposed in the center of the image.

Timeline

Prestwick Strategic Study Timeline

	2019				2020												2021			
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Surveys																				
Flow Survey																				
Model Maintenance																				
Model Predictions/Hydraulic Review																				
Optioneering – Long List																				
Optioneering – Short List																				
Costing of Options																				
Evaluation of interventions to form Preferred Solution																				
Discuss/Agree Preferred Solution with Stakeholders																				



Proposed Stakeholder meetings

Prestwick Strategic Study Revised Timeline

	2019				2020												2021			
	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr
Surveys																				
Flow Survey																				
Model Maintenance																				
Model Predictions/Hydraulic Review																				
Optioneering – Long List																				
Optioneering – Short List and additional assessments for SWM																				
Costing of Options																				
Evaluation of interventions to form Preferred Solution																				
Discuss/Agree Preferred Solution with Stakeholders																				



Proposed Stakeholder meetings

An aerial photograph of a coastal city. On the left is a wide, sandy beach meeting the ocean. The central part of the image is a dense residential neighborhood with a grid-like street pattern. To the right of the residential area is a large commercial or industrial zone with several large white warehouse-like buildings and parking lots. Further right is an airport with a long runway, taxiway, and a few aircraft visible. The text "Why we are here" is superimposed in the center of the image.

Why we are here



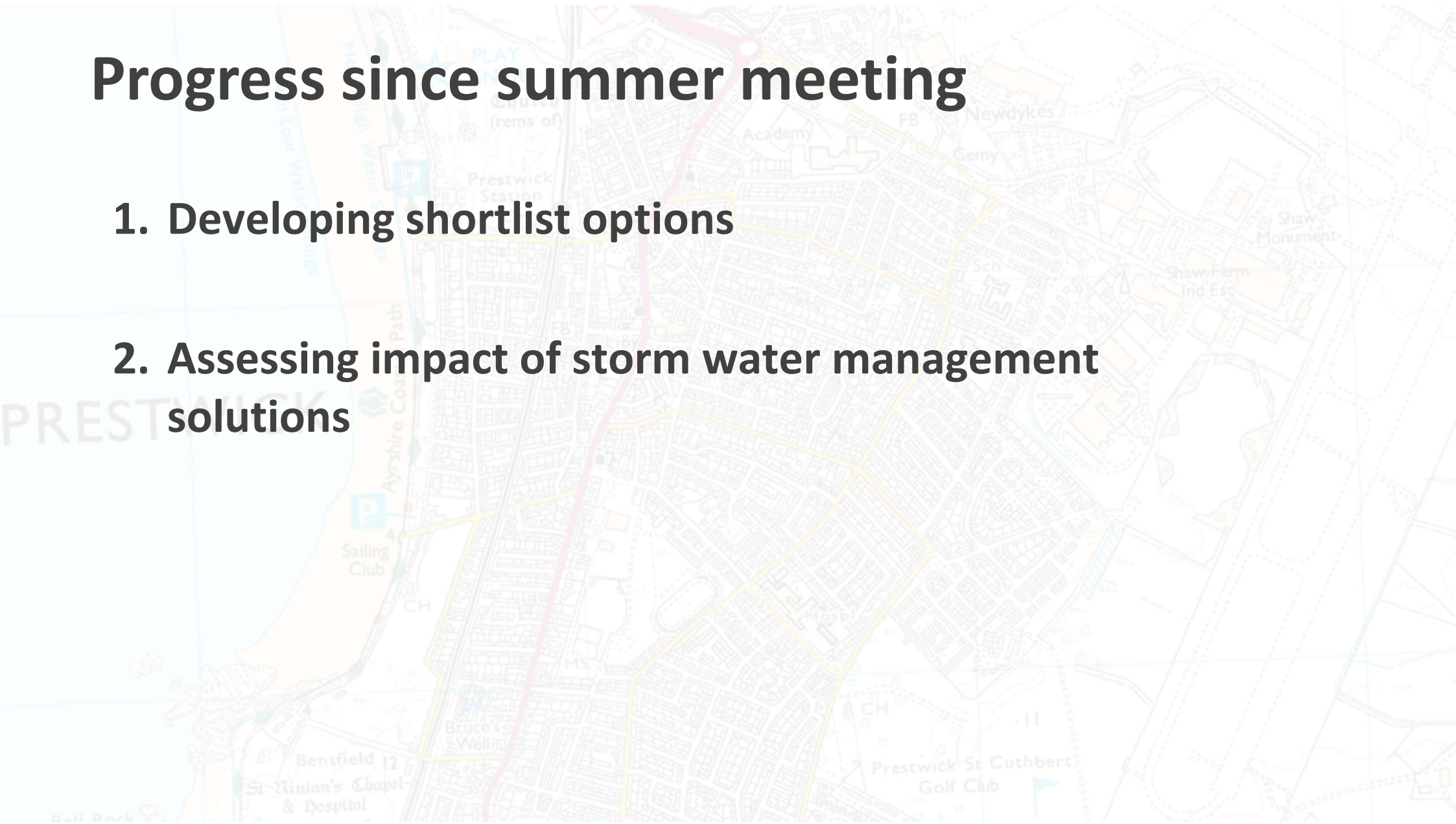
An aerial photograph of a coastal city. On the left is a sandy beach and the ocean. The middle section is a dense residential neighborhood with many houses and streets. To the right of the residential area are several large commercial or industrial buildings, some with white roofs. Further right is an airport with a runway and taxiway. The text "Project Update" is overlaid in the center of the image.

Project Update

Progress since summer meeting

1. Developing shortlist options

2. Assessing impact of storm water management solutions



Shortlist

Zone	Long list item	Take to shortlist
A – West of Railway	Preventing and slowing entry of surface water	Yes
	Pass-forward and storage (Esplanade)	Yes
	Pass-forward and storage (Parking and pool area)	No
B – East of Railway (north)	Preventing and slowing entry of surface water (roads)	Yes
	Preventing and slowing entry of surface water (roof and parking)	Yes
	Transfer to Pow Burn catchment	Yes
	Pass-forward to zone A (Links Road)	No
	Pass-forward to zone A (Bridge Street)	Yes
	Below ground storage in zone B	No
C – East of Railway (south)	Preventing and slowing entry of surface water (park)	Yes
	Preventing and slowing entry of surface water (road)	Yes
	Transfer to Pow Burn catchment	Yes
	Below ground storage (combined sewage)	No
	Pass-forward to zone A	Yes
Catchment wide	Preventing and slowing entry of surface water (source control)	Yes

Preventing and slowing entry of surface water

Description

- Basins in St Ninian's Park to direct roof runoff away from combined sewers
- Parking areas to follow

Advantages

- Small reduction in flood risk on Ayr Road and Carrick Place
- Small reduction in flood risk in Brandon Gardens
- Low carbon solution
- Potentially quicker delivery than traditional solutions

Disadvantages

- Doesn't reduce flow enough to stop flooding alone

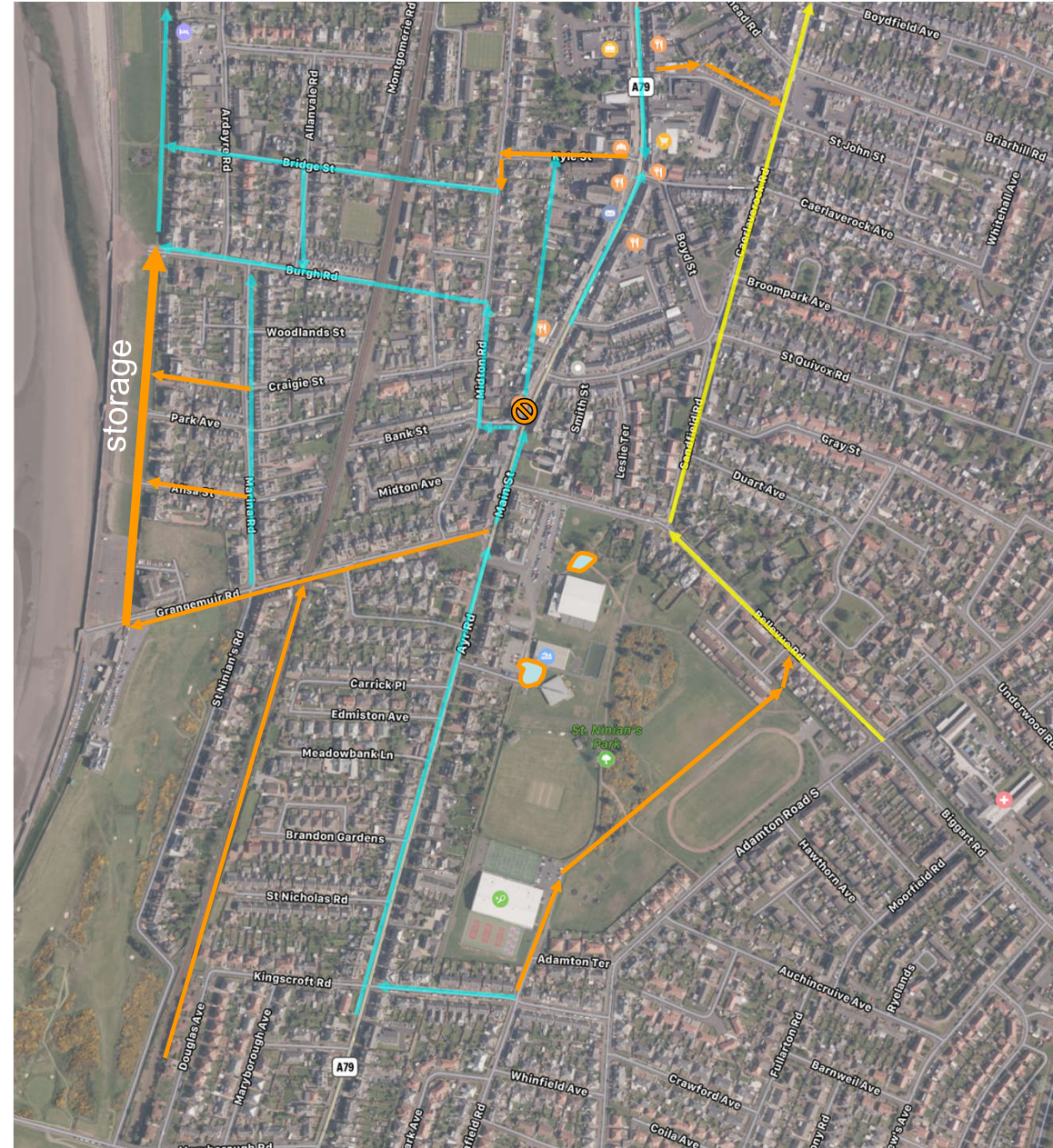


Shortlist progress

1. Work will be required on Ayr Road – measures around it help but are insufficient
2. Work required on Main Street – provision of capacity downstream helps but not enough

Next step:

Assessing impact of ways to prevent and slow entry of surface water



Need for further appraisal of surface flooding

- 1. Flooding descriptions from stakeholders**
 - 2. Findings of other projects (best practice)**
 - 3. Risk that traditional options alone may not be effective**
 - 4. More extreme events – climate change**
- Additional appraisal needed to represent existing catchment and options**

An urban catchment

Standard
approach

- Represented
simplistically



An urban catchment

Standard
approach

- Represented
simplistically



An urban catchment

Two main
sources:

1. Roofs + foul



An urban catchment

Two main sources:

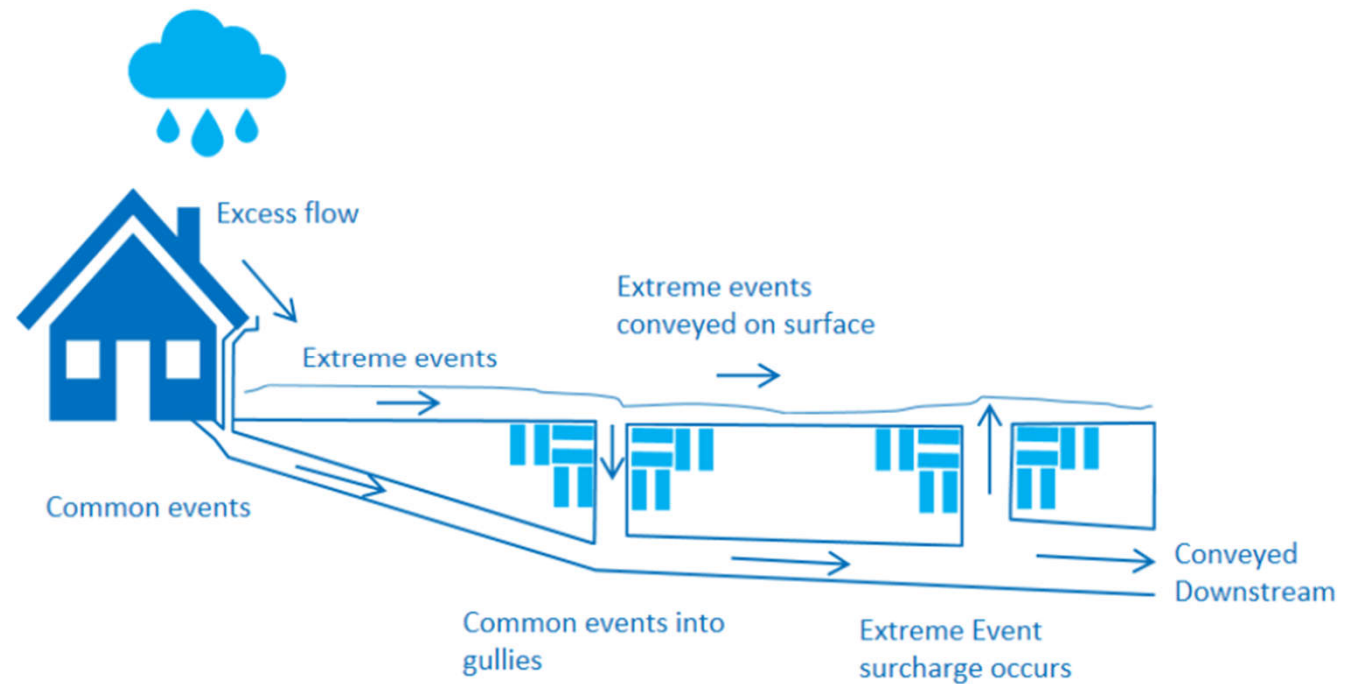
1. Roofs + foul

2. Roads, pavements and paved driveways



Progress

- Built additional detail into model
- Better able to represent extreme events
- Trial scenarios of shortlist options



Findings

- Even with unlimited sewer size, flood risk remains
 - Not all rainfall gets into the sewer
 - Avoided something that won't work
- Need to deal with the water that stays on the surface
 - Even more important than we expected
- Better able to accurately size what will reduce risk

Shortlist

Zone	Long list item	Take to shortlist
A – West of Railway	Preventing and slowing entry of surface water	Yes
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B – East of Railway (north)	Preventing and slowing entry of surface water (roads)	Yes
	Preventing and slowing entry of surface water (roof and parking)	Yes
	Transfer to Pow Burn catchment	Yes
	Pass-forward to zone A (Links Road)	No
	Pass-forward to zone A (Bridge Street)	Yes
	Below ground storage in zone B	No
C – East of Railway (south)	Preventing and slowing entry of surface water (park)	Yes
	Preventing and slowing entry of surface water (road)	Yes
	Transfer to Pow Burn catchment	Yes
	Below ground storage (combined sewage)	No
	Pass-forward to zone A	Yes
Catchment wide	Preventing and slowing entry of surface water (source control)	Yes

Shortlist

Preventing and slowing entry of surface water (road)



Shortlist

Preventing and slowing entry of surface water



Catchment info

- 160 houses
 - 16,000m² of roofs
 - = 800m³ of water from roofs
 - 1.1 miles of road
 - 18,000m² of road and pavement
 - = 900m³ of water
- = 1,700m³ of water

Equivalent of kerb to kerb of Ayr Road
from Grangemuir Road to Kingscroft
road at 0.5m deep. At least knee
height!



Preventing and slowing entry of surface water (Road)

Benefits



Risks

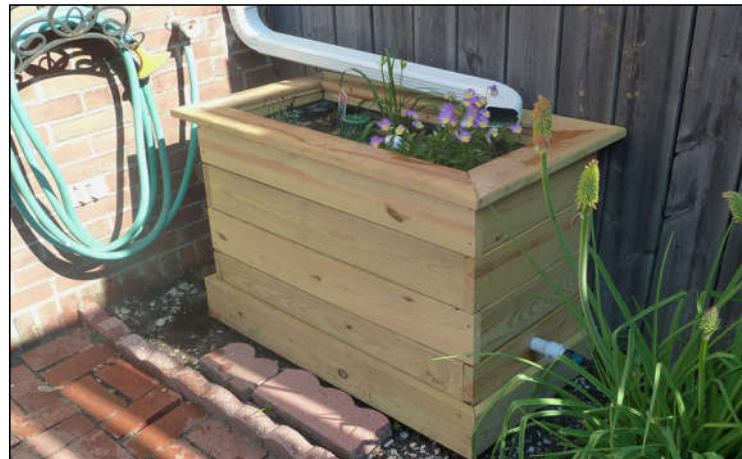


Preventing and slowing entry of surface water (Roof)

Benefits



Risks



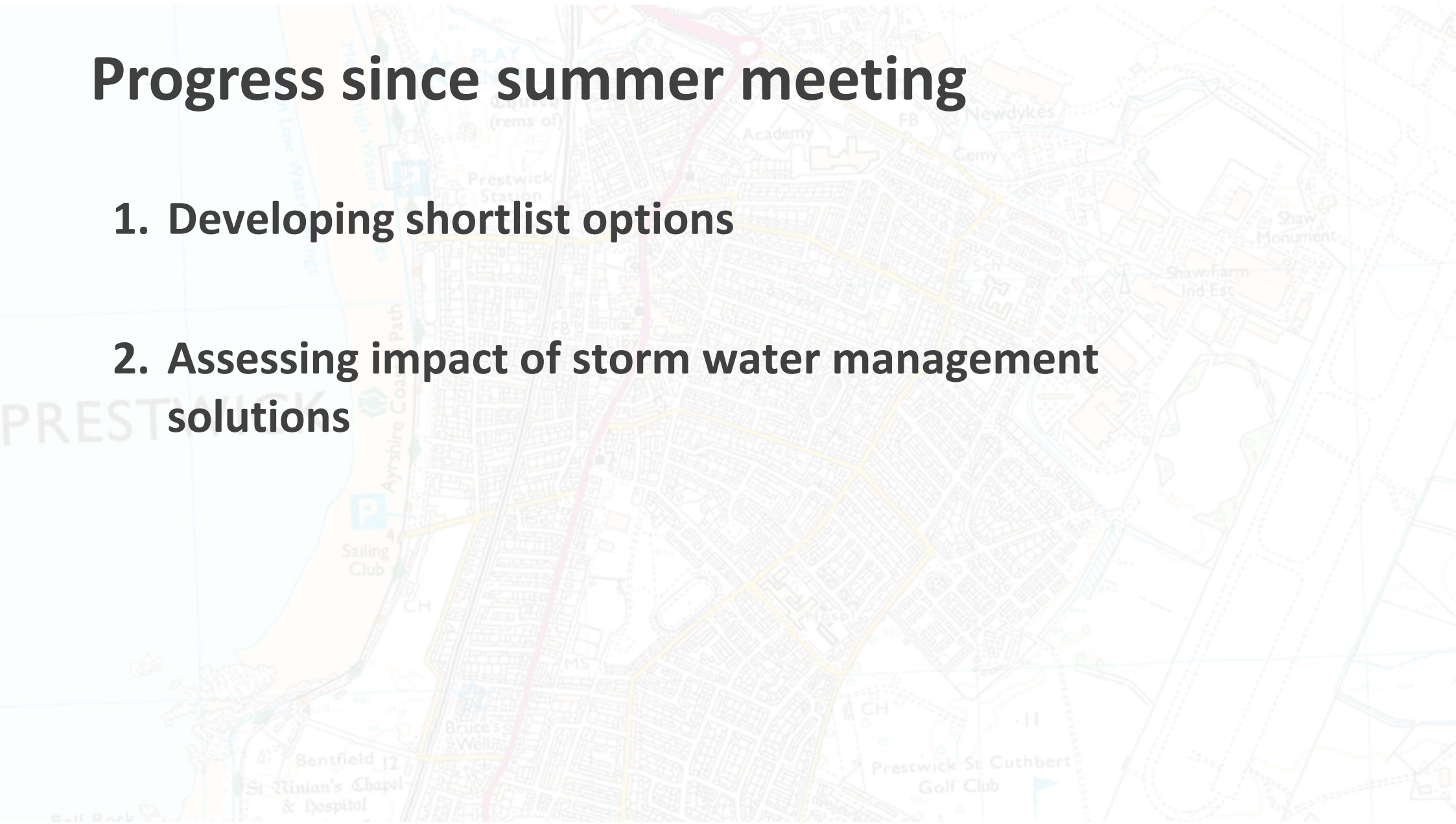
Residual flooding predicted

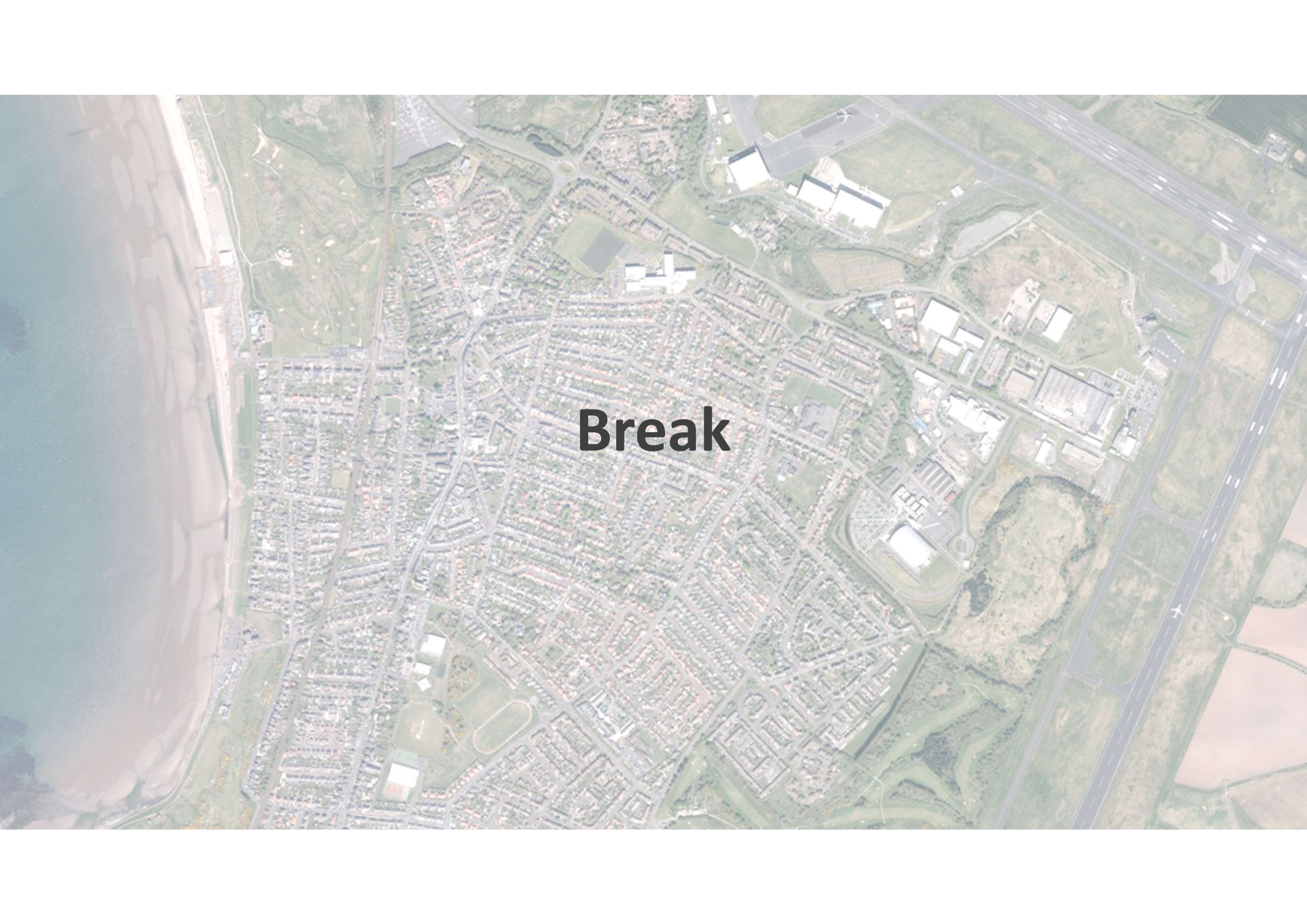
	All roads connected	25% of road area disconnected	50% of road area disconnected	75% of road area disconnected	All roads removed
All roofs connected	1,500	1,100	750	400	0
75% roofs connected (40 removed)	1,150	800	400	0	0
50% roofs connected (80 removed)	850	450	0	0	0
25% roofs connected (120 removed)	500	0	0	0	0
All roofs removed (160 removed)	150	0	0	0	0

Progress since summer meeting

1. Developing shortlist options

2. Assessing impact of storm water management solutions



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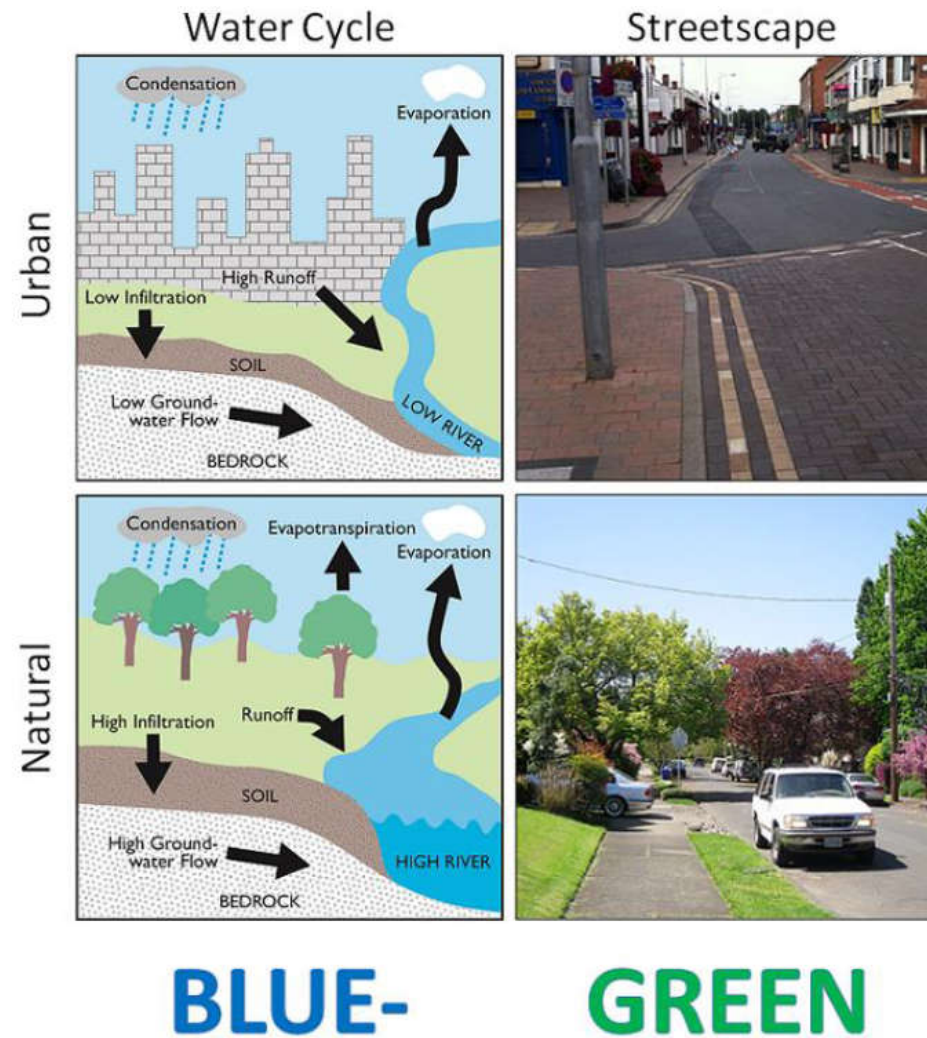
Break

An aerial photograph of a coastal city. On the left is a sandy beach and the ocean. The center is a dense residential area with many houses and streets. To the right is an airport with runways and taxiways. The text "Surface Water Management Initiative" is overlaid in the center of the image.

Surface Water Management Initiative

Surface Water Management Initiative

- What is Blue/Green Infrastructure?



Surface Water Management Initiative

- Pilot Initiative for town of Prestwick

- Large scale application of Blue/Green infrastructure
- Flood Risk Reduction
- Bring agencies together to engage the community and develop a programme for the large scale application of multiple Blue/Green across the town.
- Community engagement – perception of surface water responsibilities and appetite for Blue/Green infrastructure.
- Planning of locations and choices for source control measures
- Specialist teams to assess/design and implement measures.

Surface Water Management Initiative

- What might it involve?



- Remove /attenuate rain water from large roofs
- Target buildings under control of public bodies
- Remove/attenuate rain water from car parks

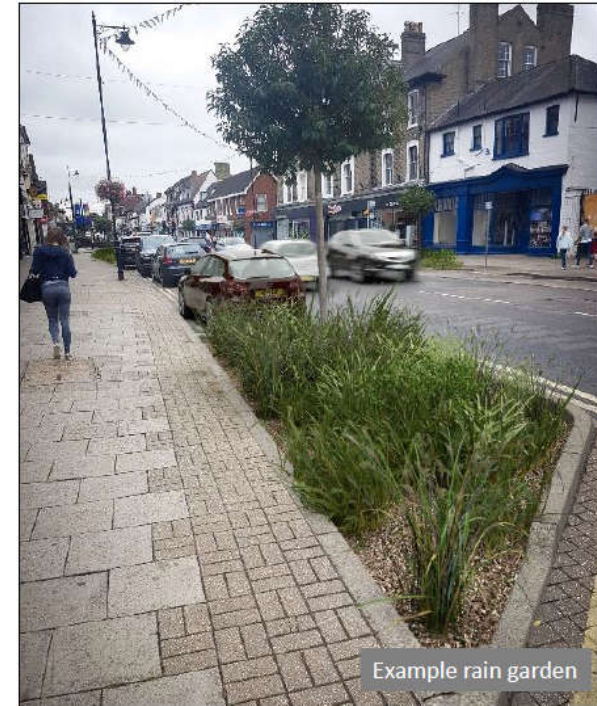


Surface Water Management Initiative

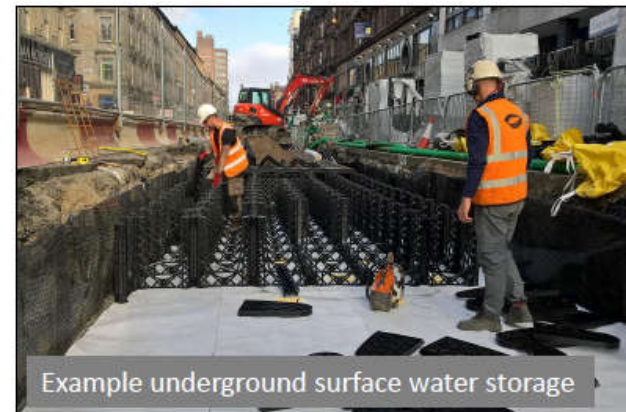
- What might it involve?



- Remove /attenuate rain water from roads/pavements
- Attenuation ponds
- Underground surface water storage



Example rain garden



Example underground surface water storage

Surface Water Management Initiative

- What might it involve?



- Property level attenuation - Greening driveways



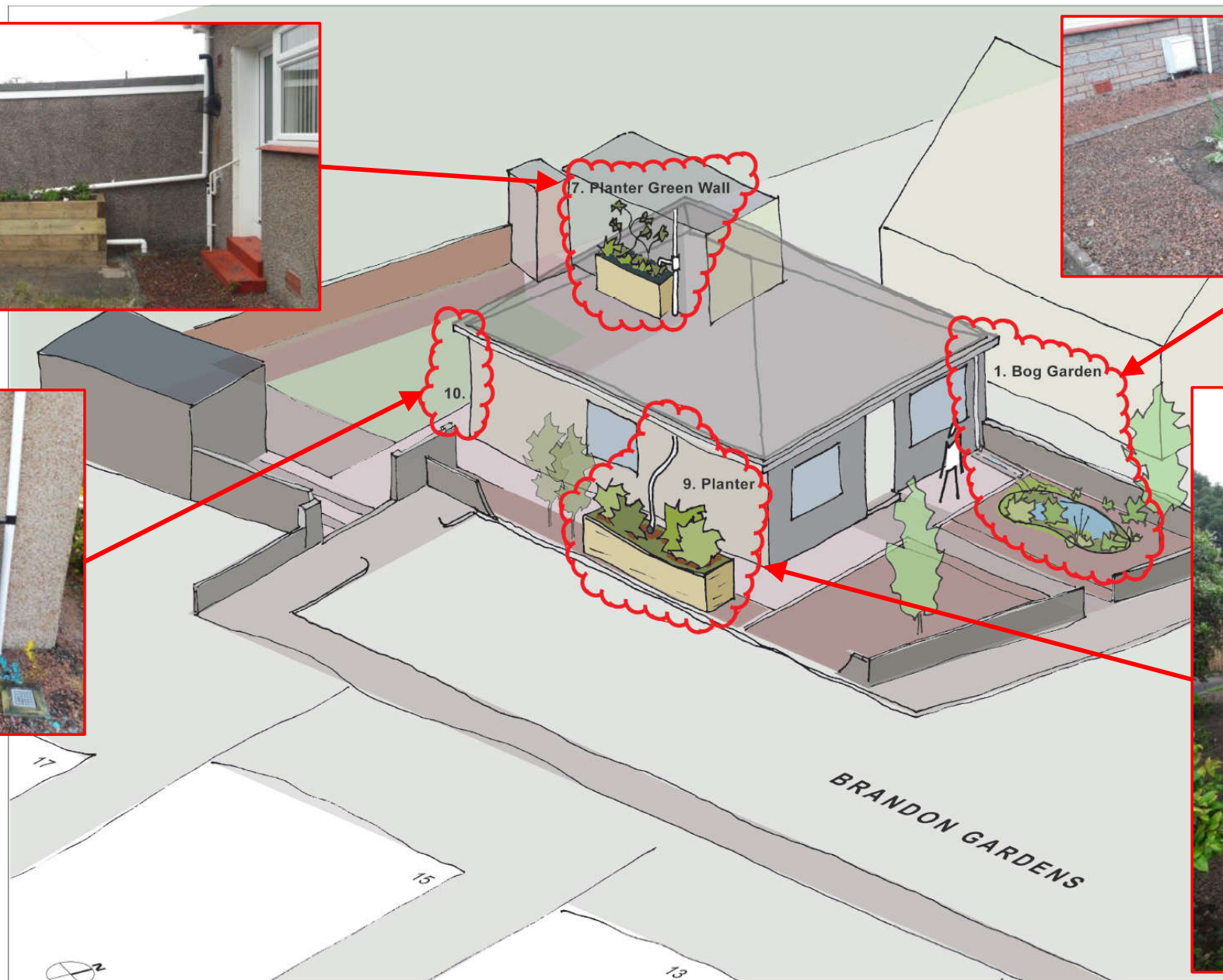
Surface Water Management Initiative

- What might it involve?



- Property level attenuation – planters/rain gardens





7. Planter Green Wall

1. Bog Garden

9. Planter

10.

BRANDON GARDENS

An aerial photograph of a coastal city. On the left is a wide, sandy beach meeting the ocean. The central part of the image shows a dense residential neighborhood with many houses and streets. To the right of the residential area are several large, white industrial or commercial buildings, some with flat roofs. Further right is an airport with a runway and taxiway. The text "Conclusions, action planning and round-up" is overlaid in the center of the image.

Conclusions, action planning and round-up