

Prestwick Strategic Drainage Project

Stakeholder Group Meeting

15th November 2019



Terms of Reference

OBJECTIVES

Establish a forum to engage key stakeholders in the Strategic Drainage Project currently underway in Prestwick. This forum will be used to provide updates and invite stakeholder feedback.

Provide background information and outline what has been done so far to address sewer 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

- Strategic Project Work plan and programme

OUTPUTS

- Action log circulated to attendees
- Circulated within 3 weeks of meeting

FREQUENCY: As Appropriate

VENUE: Prestwick Ambassador Bowling Club

CHAIR: Kieran Downey

GROUND RULES

- Come prepared
- Each individual is responsible for delivering their own actions
- Mobile phones off/on silent
- Start and finish on time
- Respect everyone's opinion

AGENDA

- Welcome and introductions
- Review of previous minutes and actions
- Overview of Brandon Gardens and St Nicholas Road Residents Meeting on 5th Sep 2019
- Overview of Recent Flooding
- Proposed Short Term Mitigations
- Proposed Medium Term Flood Reduction Measures
- Prestwick Strategic Study (longer term solution)
- Timelines
- Summary

Review of Actions from Prestwick Strategic Study Stakeholder Group Meeting on 31st May 2019

	Action	Owner	Update
1	Scottish Water to circulate information in relation to the fourteen flooding areas identified as part of the Strategic Drainage Project.	Scottish Water	Flooding Evaluation Form for the 14 Areas was sent out with meeting minutes on 17 th June 2019.
2	Stakeholders to collate feedback on the fourteen flooding areas and submit to Scottish Water for review	All	2No responses received.
3	Fiona Mullen to check the environmental register in relation to Main Street properties in Area 7.	Fiona Mullen	
4	Scottish Water to work with Ayrshire Roads Alliance, to investigate speed tables on streets adjacent to Ayr Road as an option to alleviate flooding.	Scottish Water / Ayrshire Roads Alliance	Speed Tables have been investigated and findings will be shared as part of this presentation.
5	The land behind Brandon Gardens to be considered as a potential storage option.	Scottish Water	Utilising land behind Brandon Gardens has been investigated and findings will be shared as part of this presentation

Overview of Brandon Gardens and St Nicholas Road Residents Meeting on 5th Sep 2019

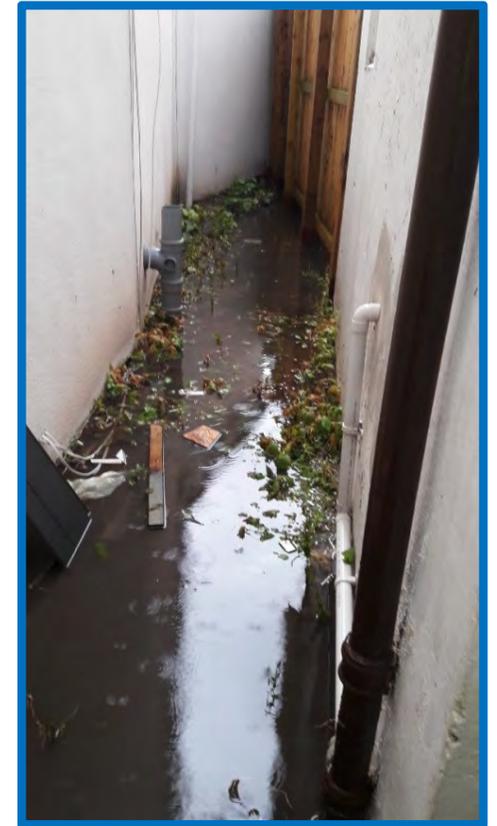
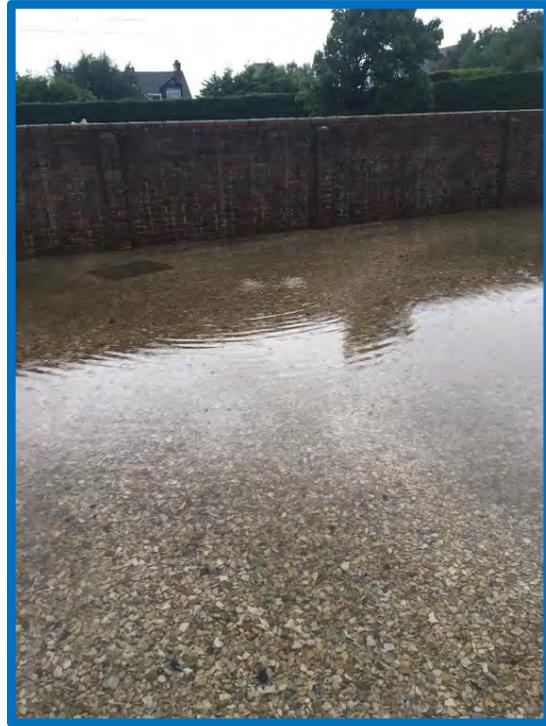
- Meeting held in Prestwick Ambassador Bowling Club.
- Residents from Brandon Gardens and St Nicholas Road invited.
- Around 50 People attended
- Overview given of recent and ongoing flooding
- Reviewed Actions from previous residents meeting on 12th Mar 2019
- Proposed short term mitigations
- Proposed medium term flood risk reduction measures
- Prestwick Strategic Study (longer term solution)



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Overview of Recent Flooding in Prestwick



What have we been doing about flooding?

- Developing short term mitigations and medium term flood reduction measures to reduce the impact of both internal and external flooding.
- Prestwick Strategic Study Ongoing
- Surveys undertaken to support Prestwick Strategic Study
- Supporting customers



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Short Term Mitigations



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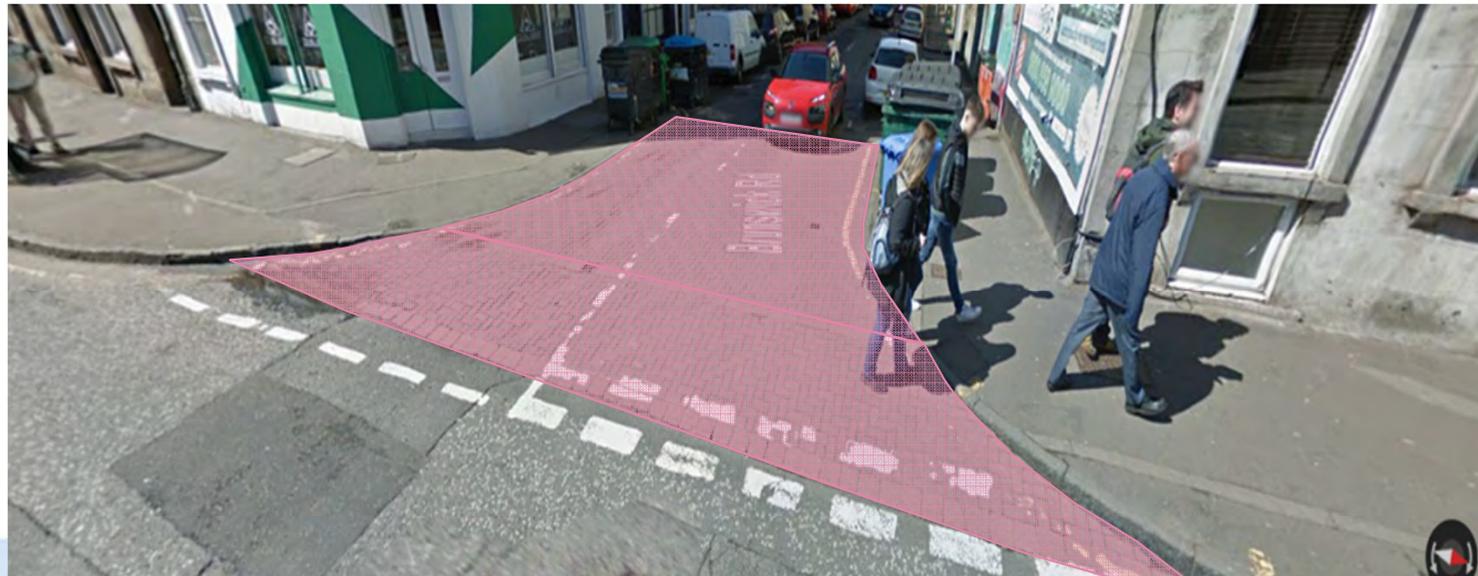
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Proposed Short Term Mitigations

Non Return Valves (NRVs)



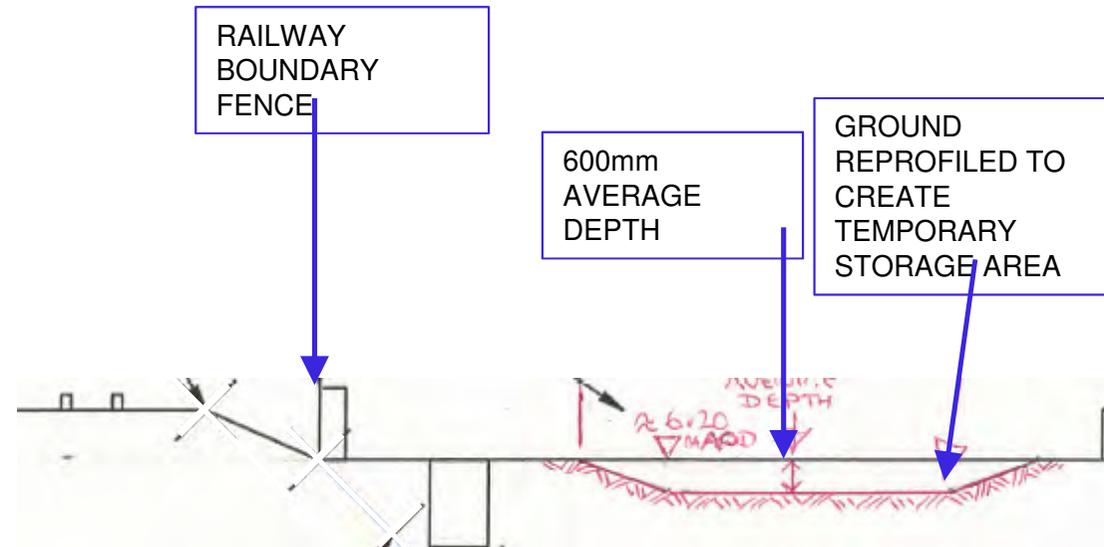
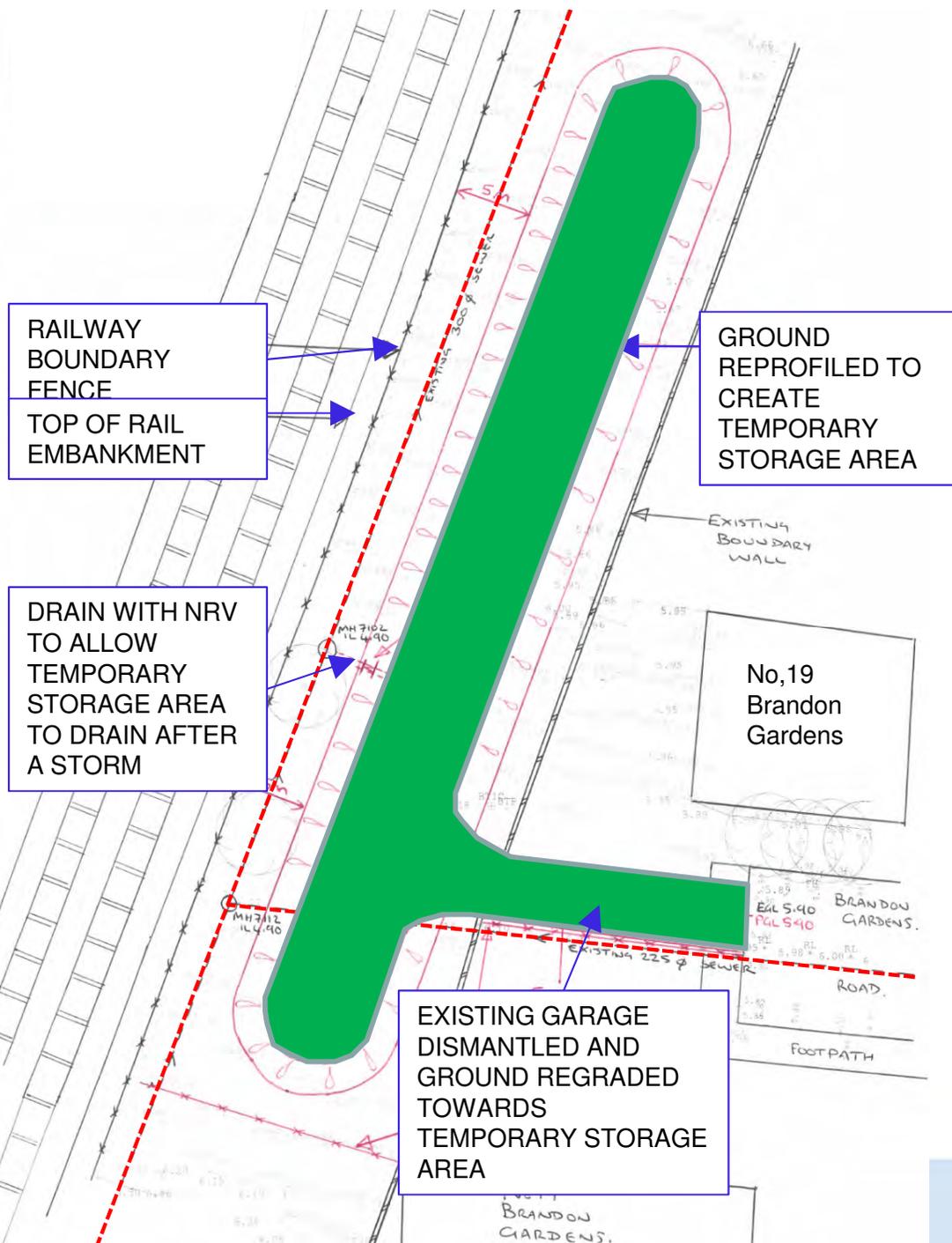
Speed Tables



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Temporary Flood Area to rear of 19 Brandon Gardens



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Proposed Speed Table Locations



Carrick Place
Speed Table

Edmiston Avenue
Speed Table

Meadowbank Lane
Speed Table

Brandon Gardens
Speed Table

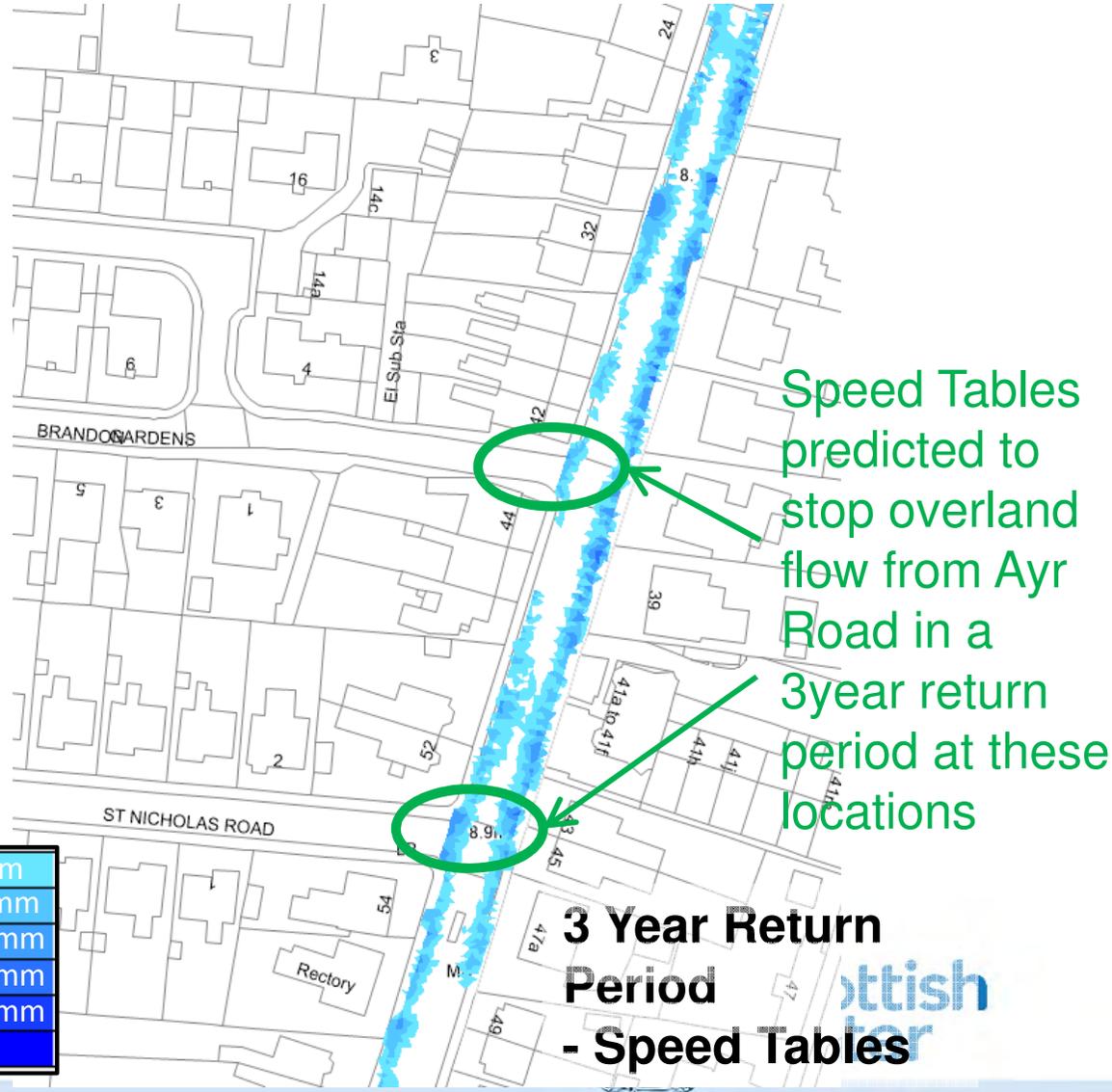
St Nicholas Road
Speed Table



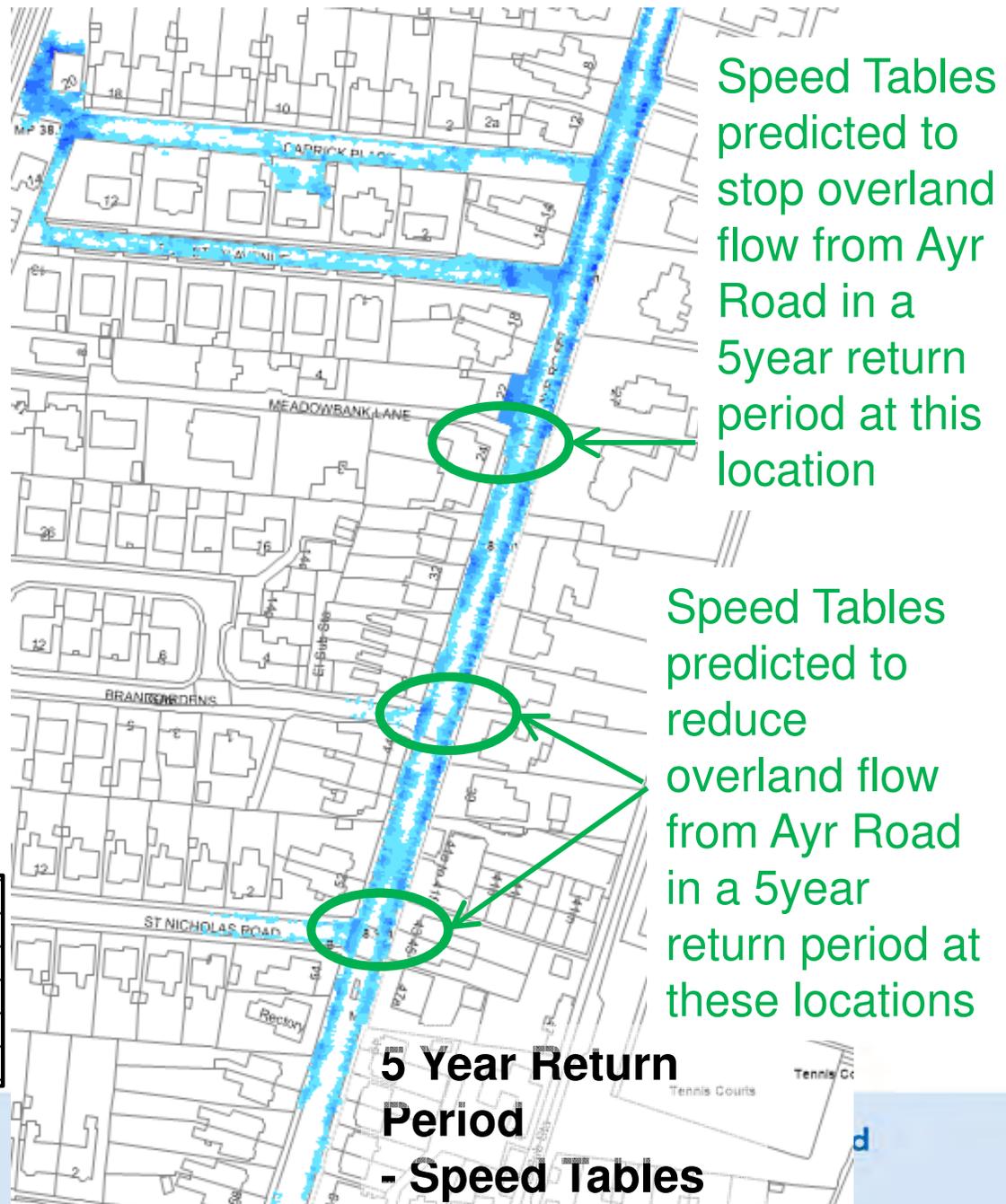
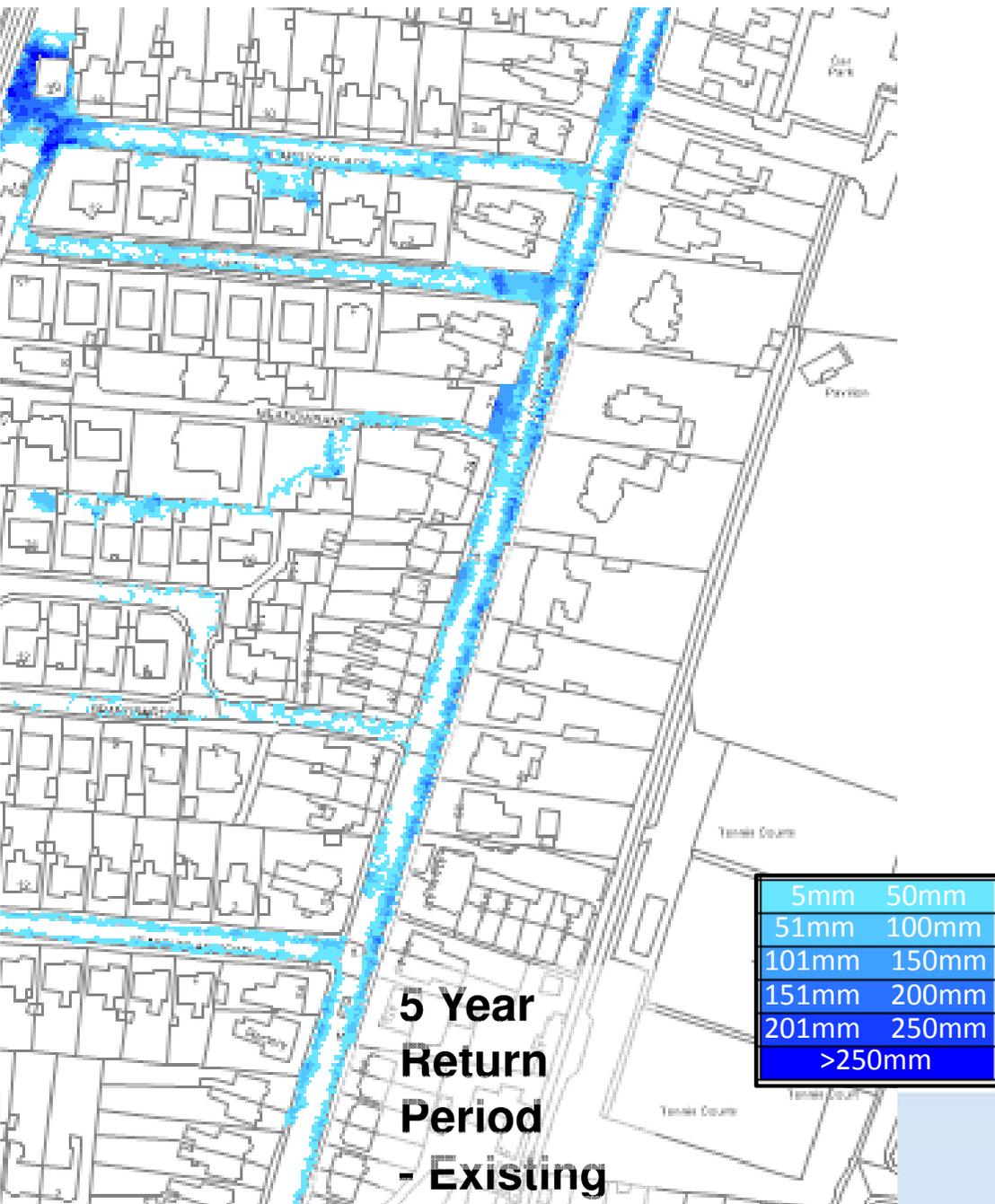
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Speed Tables – 2D Assessment



Speed Tables – 2D Assessment



Medium Term Flood Reduction Measures

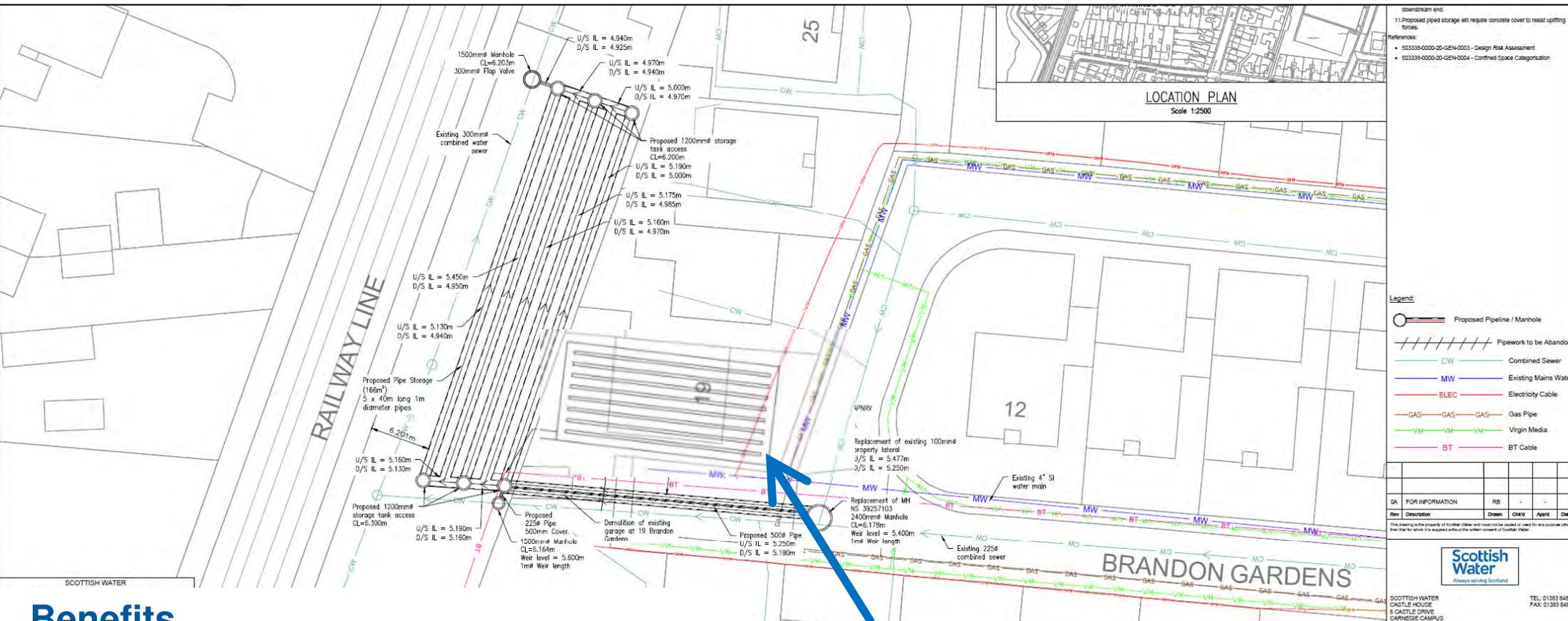


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Proposed Medium Term Flood Risk Reduction Measures (in addition to speed tables)

New Storage Pipe and Storage Tank in Brandon Gardens



Benefits

- Would provide 6 year protection for Brandon Gardens.

Risks

- Working alongside railway. Potential time implications.

Opportunities

- If 19 Brandon Gardens plot used to provide additional storage, this could increase the level of protection to 10 Year.

Proposed Medium Term Flood Risk Reduction Measures (in addition to speed tables)

New Storage Pipe in St Nicholas Road



5. Existing service information has been provided by utility companies and should be considered indicative only.
 6. Manhole access covers to BS EN124 and Class D400 were installed within carriageways and B125 in non-trafficked areas.
 7. Overlapping likely required at tie in to existing network.
 8. Existing 4" CI water main may require diversion as part of works. Utility Investigator to be undertaken by contractor.

References:
 • 503338-0000-20-GEN-0003 - Design Risk Assessment
 • 503338-0000-20-GEN-0004 - Confined Space Categorisation

Legend:

Benefits

• We will provide 8 year level of protection for St Nicholas Road.

Risks

• Restricted access during construction in St Nicholas Road

IN ADDITION TO THE HAZARDS NORMALLY ASSOCIATED WITH THE TYPES OF WORK DETAILED ON THIS DRAWING, PLEASE NOTE THE FOLLOWING:

(SEE FULL DRAWING ON CD FOR THE COMPLETE SITE CONSTRUCTION PHASE)

1. Traffic Management	1. Potential road closure on St Nicholas Road
2. Service strikes and access	2. Full investigation recommended to determine any potential service strikes
3. Ground conditions	3. No service data available. Further investigation recommended.
4. Existing network collapse / instability	4. Up to date CCTV information recommended.
5. Working in close proximity to sewers.	5. Potential for backing up within existing network and flooding due to slow flow.

SW OPS ACCESS - HORIZONTAL, VERTICAL, PEDESTRIAN, VEHICLE/PLANT

1. Confined Space Categorisation	1. Manholes - Category 2
2. DSEAR	2. Gas - No DSEAR risk identified

SW OPS HANDLING / LIFTING STRATEGY

1. Nothing from standard cases

IT IS ASSUMED THAT ALL WORKS WILL BE CARRIED OUT BY A COMPETENT PERSON WORKING, WHERE APPROPRIATE, TO AN APPROVED SAFE SYSTEM OF WORK



SCOTTISH WATER
 CASTLE HOUSE
 6 CASTLE DRIVE
 CARRISBROOK CAMPUS
 DUNFERMLINE
 FIFE, KY11 9GG

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 83 BOTHWELL STREET
 MERCANTILE CHAMBERS
 GLASGOW
 G1 4RU

TEL: 0141 332 0373

Designed By	K.FALCONER	Drawn By	R.BLAN	Checked By	-	Approved By	-
Date	21/09/2019	Date	21/09/2019	Date	-	Date	-
Scale	AS SHOWN	Status	FOR INFORMATION				

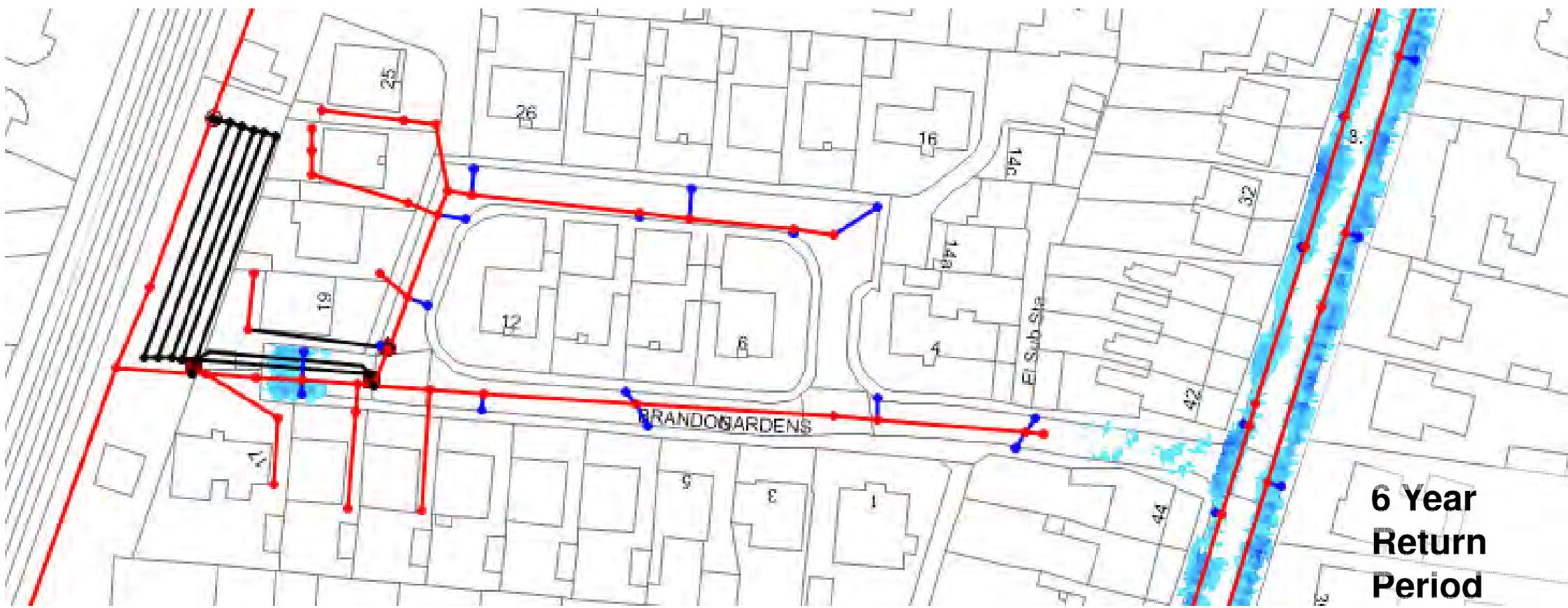
Project Title
PRESTWICK STRATEGIC FLOODING

Drawing Title
**PROPOSED STORAGE SOLUTION
 SITE LAYOUT - SHEET 2 OF 2**

ELLIPSE EQUIPMENT No. - - - - -
 AUTOCODE No. 5033380002

Drawing No.
503338-0000-20-DRG-9604

Storage & Speed Tables – 2D Assessment (Brandon Gardens)



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Storage & Speed Tables – 2D Assessment (St Nicholas Road)



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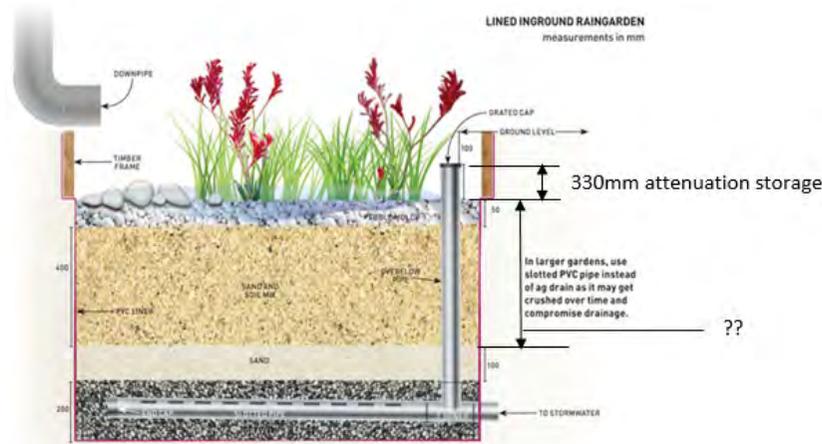
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Property Level Surface Water Attenuation

Rain Butts



Raingarden planter boxes



Bin shelter with green roof



Sedum green roof



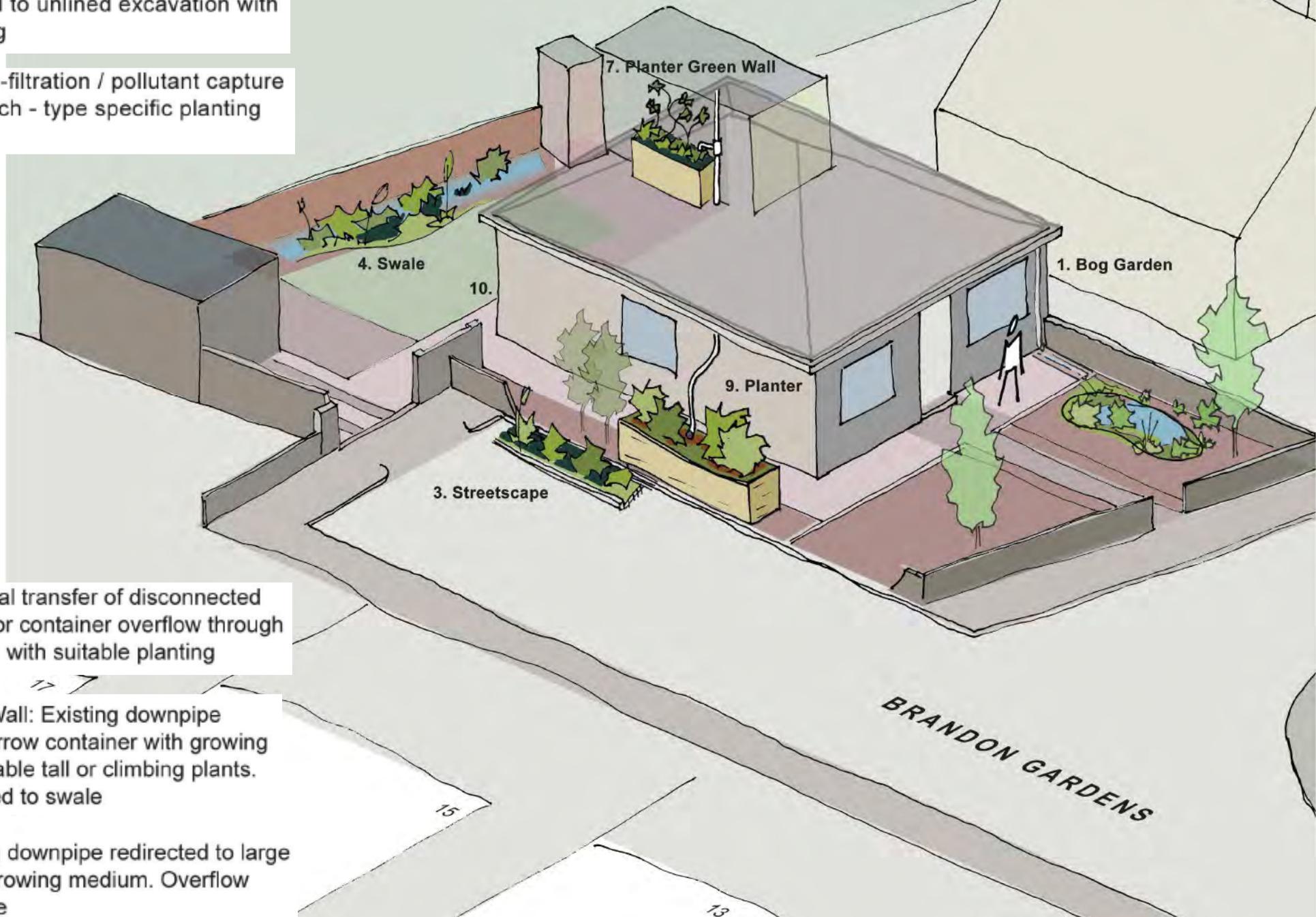
Natural raingarden



Green wall

Possible Property Level Surface Water Attenuation at No.19

1. Bog garden: New downpipe from roof via shallow channel to unlined excavation with suitable planting
3. Streetscape: Bio-filtration / pollutant capture within lined trench - type specific planting essential



4. Swale: Directional transfer of disconnected downpipes and/or container overflow through infiltration trench with suitable planting
7. Planter Green Wall: Existing downpipe redirected to narrow container with growing medium for suitable tall or climbing plants. Overflow directed to swale
9. Planter: Existing downpipe redirected to large container with growing medium. Overflow directed to swale

Risks and opportunities

Risks

- Ground conditions (high water table)
- Network Rail engagement/objections
- Planning Approval for temporary storage area

Opportunities

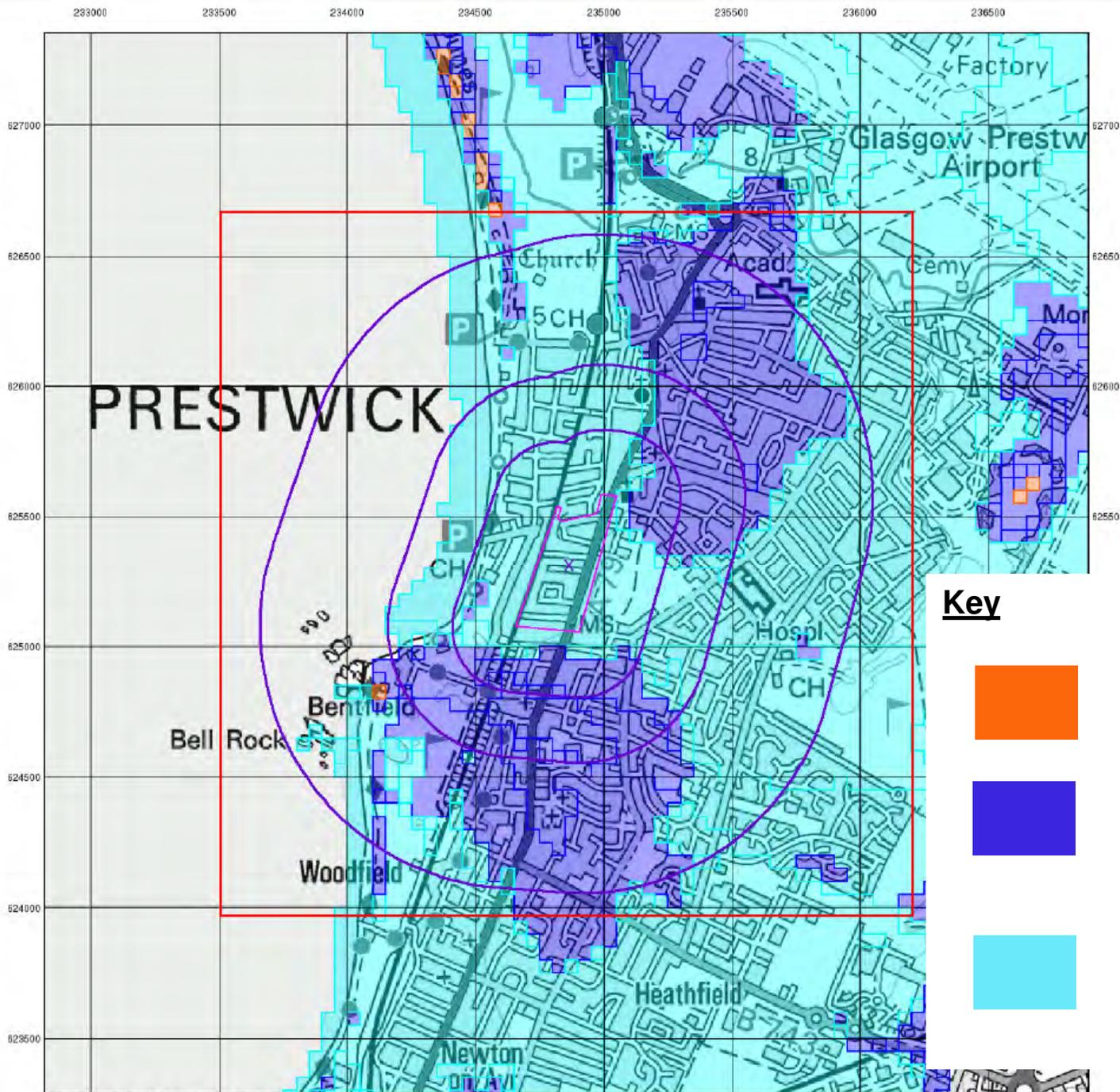
- Storage in footprint of 19 Brandon Gardens
- Local source control (water butts/rain gardens)
- Source control (St Ninian's Park)



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Envirocheck – Groundwater Flood Risk Map



Envirocheck®

LANDMARK INFORMATION GROUP®

- BGS Flood GFS Data**
- General**
- Specified Site
 - Specified Buffer(s)
 - Bearing Reference Point
 - Slice
- Agency and Hydrological (Flood)**
- Limited Potential for Groundwater Flooding to Occur
 - Potential for Groundwater Flooding of Property Situated Below Ground Level
 - Potential for Groundwater Flooding to Occur at Surface

Key

- Limited Potential for Groundwater Flooding to Occur
- Potential for Groundwater Flooding of Property Situated Below Ground Level
- Potential for Groundwater Flooding to Occur at Surface

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Strategic Study



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Strategic Study Update

Completed

- Survey works - 67Ha Impermeable Area Surveys
 - 214No Manholes
 - 816m of CCTV
 - 30No property surveys
 - 2No Pumping Stations
- Initial high-level option assessment



In Progress

- Flow survey
- Model updates with survey information
- Preparation for Hydraulic Review
- Assessment of verification
- SuDS Opportunity mapping and multiple benefit assessments



Next Steps

- Hydraulic Review
- Develop further high-level options
- Monitor/reassess flow survey

eeG Crew: G MC GINNES R CROLY

Date: 10.6.19 Street Name: BURGH ROAD
 Manhole No: NS42XXXX1 Place Name: PRIESTWICK
 Location: Light Road Purpose: Combined Weather: No Rain or Snow

COVER DETAILS
 Size: 540 x 540 Cover Level (in AOD): 4.195 234708.598 625809.29
 Shape: Single Triangle Lockable Hinged Bolted
 Type: Heavy Duty Condition: OK (Raised)

SHAFT DETAILS
 Size: 580 x 610 x 0.51
 Type: Taper Entry: Top
 Access 1: None Access 2: No. of Landings:

CHAMBER DETAILS
 Size: 500 x 900
 Type: Manhole Evidence of Surcharge
 Material: Brick Surcharge Depth from Cover (in):
 Evidence of Infiltration

INCOMING PIPE

Manhole Reference	Direction	Material	Size (mm)	Flow	Flow	Flow	Flow	Flow	Flow
A 10 1.500	UNKNOWN	Concrete	400	X					2.045
A 11 1.500	UNKNOWN	Concrete	300	X					2.245
C 00 0.500	UNKNOWN	Concrete	100	X					2.245
D 1				X					
E 1				X					
F 1				X					

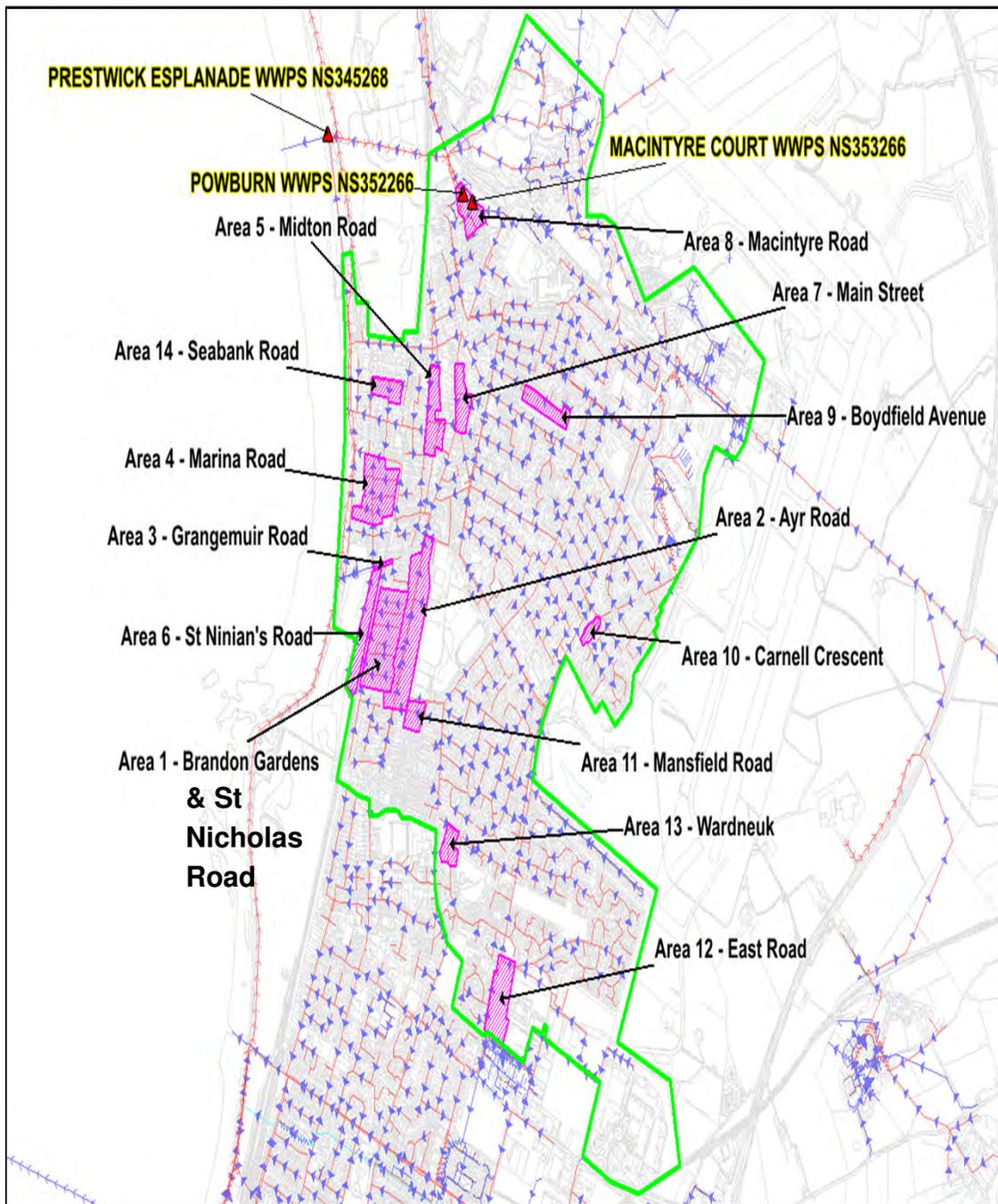
OUTGOING PIPE

Manhole Reference	Direction	Material	Size (mm)	Flow	Flow	Flow	Flow	Flow	Flow
A 10 1.500	UNKNOWN	Concrete	300	X					2.045
A 11 1.500	UNKNOWN	Concrete	300	X					2.245
C 00 0.500	UNKNOWN	Concrete	100	X					2.245
D 1				X					
E 1				X					
F 1				X					

MANHOLE CONDITION
 Cover: OK
 Step/Frame/Ladder: NONE
 Shaft: OK
 GENERAL COMMENTS:



Prestwick Strategic Study - Study Areas



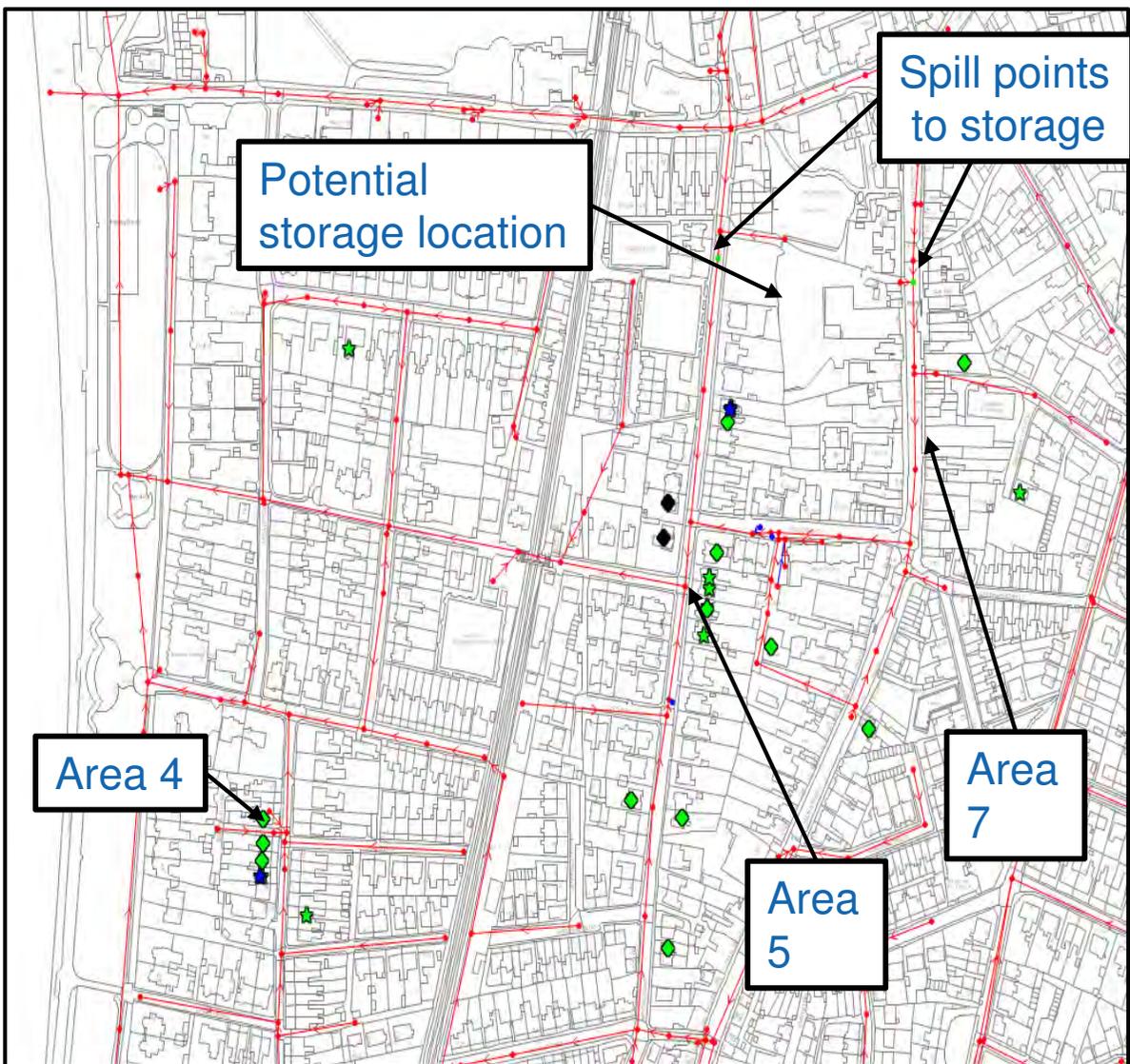
Study Area Description	Flooding Summary
Area 1 – Brandon Gardens & St Nicholas Road	Internal Flooding (2No) External Flooding (3No) Highway Flooding (1No)
Area 2 – Ayr Road	External Flooding (4No) Highway Flooding (1No)
Area 3 – Grangemuir Road	External Flooding (2No) Highway Flooding (1No)
Area 4 – Marina Road	External Flooding (3No) Highway Flooding (2No)
Area 5 – Midton Road	External Flooding (5No) Highway Flooding (1No)
Area 6 – St Ninian's Road	External Flooding (2No)
Area 7 – Main Street	Internal Flooding (TBC) Highway Flooding (1No)
Area 8 – MacIntyre Road	Highway Flooding (1No) Other Flooding Area (3No)
Area 9 – Boydfield Avenue	External Flooding (4No)
Area 10 – Carnell Crescent	Highway Flooding (1No)
Area 11 – Mansfield Road	Highway Flooding (1No)
Area 12 – East Road	Model Predicted Flooding
Area 13 - Wardneuk	Other Flooding Area (1No)
Area 14 – Seabank Road	External Flooding (1No)

EXAMPLE - High-level option assessment

Option description/purpose

Potential storage area or draw-off points for strategic solution

Three scenarios assessed, spill point on Main Street, spill point on Midton Road and both spill points together

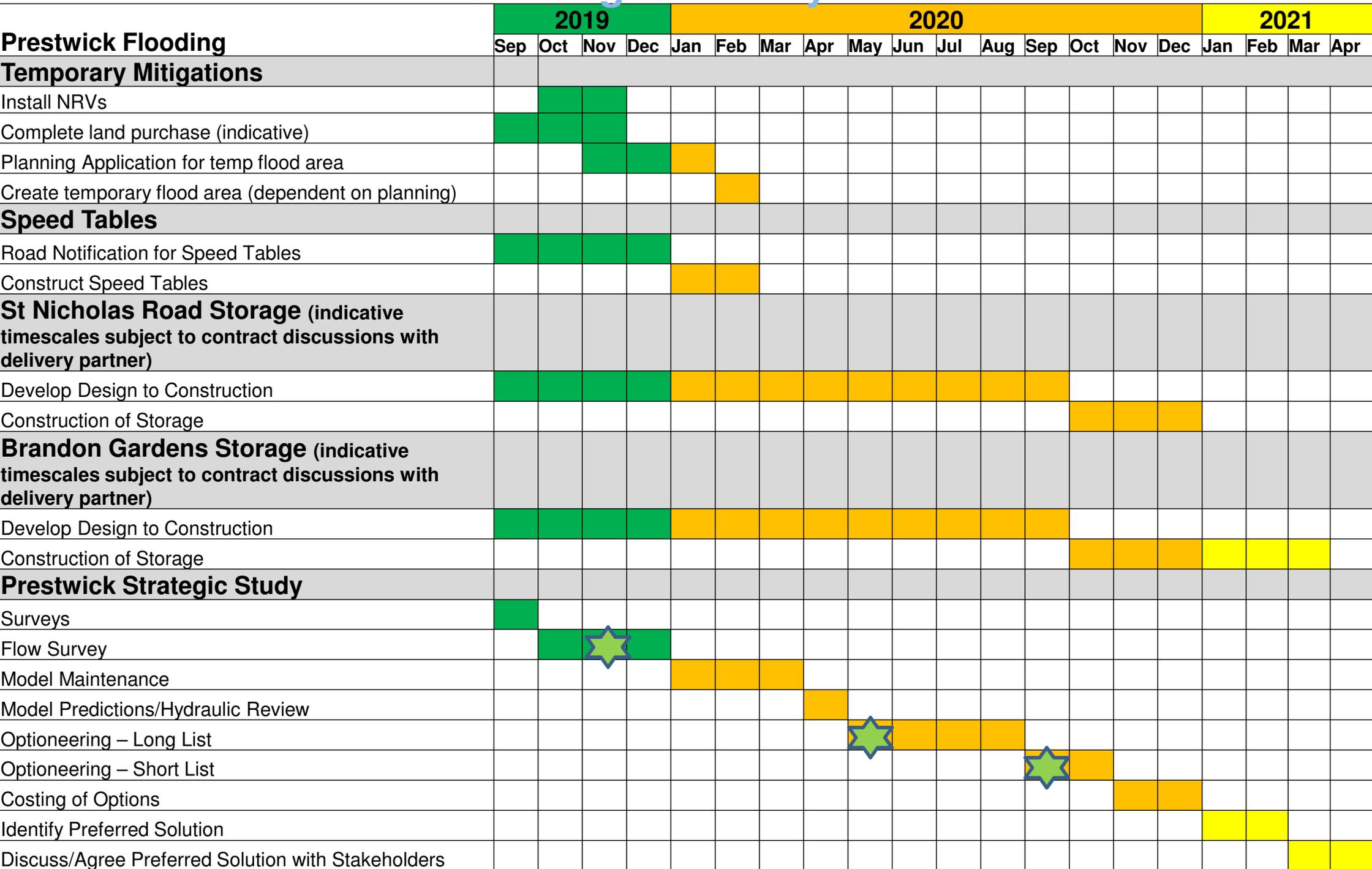


SuDS Opportunity mapping and benefit assessments

- Catchments across Scotland
- Identify opportunities to remove surface water from public sewers.
- GIS-based assessment
- Whole life costs estimates.
- Identify economic, environmental and social benefits.
- Stakeholder engagement



Prestwick Flooding Summary Timeline



★ Proposed Stakeholder meetings

Summary

- Historic and complex issues relating to sewer flooding in Prestwick
- Committed to progressing **Prestwick Strategic Drainage Study** to identify strategic solutions
- In interim committed to doing what we can to reduce frequency/impact of localised flooding in Brandon Gardens & St Nicholas Road
- Will maintain dialogue with the community as we progress
- Next meeting planned for May 2020 to review long list of options



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