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Housing Association



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Wellhouse Crescent Flooding SWM Opportunities Workshop 2

14th May 2021 | Scottish Water

Terms of Reference – Wellhouse Crescent SWM Opportunities – Mtg 2

DATE: 14th May 2021

VENUE: Microsoft Teams

CHAIR: Neil Beveridge

OBJECTIVES

Surface Water Management Opportunities have been identified to reduce flooding at Wellhouse Crescent in Glasgow. Objective of this 2nd meeting is to discuss some of these SWM Opportunities in more detail together with developing an action plan for ongoing stakeholder discussions and community engagement.

GROUND RULES

- Come prepared
- Minimise background noise (please go on mute when not speaking)
- Start and finish on time
- Respect everyone's opinion
- Think proactively – What is best for Glasgow and not just your own needs
- Think outside the box and not what we have done before

INPUTS

- Hydraulic Model / GIS / Sewers and Watercourse / Background Mapping
- Hydraulic Model Results
- Opportunity Mapping Results
- Draft SWM Plan
- Google Earth
- Others, as required

OUTPUTS

- Type and location of potential new SWM measures
- Meeting record circulated within 3 weeks of meeting
- Action log circulated to attendees

ATTENDEES

Scottish Water

Kieran Downey (Flooding Manager); Arshid Karim (Catchment Planner); Neil Beveridge (Value & Benefits Co-Ordinator); Martin Hagen (Intervention Manager); David Winter (Wastewater Service Strategy Team Lead).

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Richard McGowan (Project Principal) Michael McWhinnie (Design Lead); Wayne Potter (Wellhouse Hydraulic Modelling Lead); Ricky Mitchell (Newhills Hydraulic Modelling Lead); Lee Haywood (Graduate Civil Engineer); Nicola Currie (Civil Engineer); Rob Playford (Senior Landscape Architect).

Glasgow City Council

David Hay (Engineering Group Manager); James Murray (MGSDP Manager) Craig Hart (Roads Maintenance Technician); Mic Ralph (Transport Planning Manager).

Wellhouse Housing Association

Martin Wilkie-McFarlane (Director)

Green Action Trust

Emilie Wadsworth (Strategy & Development Manager)

Agenda

Time	Topic
10:00	WELCOME AND INTRODUCTIONS
10:10	REVIEW OF LAST MEETING ACTIONS
10:30	AGREE PLAN FOR FUTURE MEETINGS INC ENGAGEMENT MATRIX
10:50	BREAK
11:00	COMMUNICATIONS PLAN
11:20	REVIEW OF QUICK WIN OPPORTUNITIES – RAINGARDENS
	REVIEW OF QUICK WIN OPPORTUNITIES – LANGBAR SSO
	OTHER OPPORTUNITIES – NEWHILLS ROAD
12:50	CONCLUSIONS AND ACTION PLAN
13:00	FINISH

Workshop 1 - Action Plan

Action	Action	Owner	Action Due
1	Complete table of potential SWM measures from meeting presentation and circulate for comment / acceptance.	SF / MM	30/4/21
2	Develop a plan for future meetings to discuss and agree the extent of the SWM measures to be designed. This meeting plan needs to consider the various SWM interventions and the particular stakeholders that need to be engaged with. Discuss and agree at meeting on 14th May. Also use this meeting to discuss 1 or more SWM measures to test the process.	SF/MM/AK/MH/JM	14/5/21
3	Discuss content from this meeting with colleagues in Glasgow City Council maintenance.	JM	14/5/21
4	Identify any quick wins that could be progressed to make noticeable reduction in flooding impact.	SF/MM/AK/MH/JM	14/5/21
5	In parallel to the other actions, develop a communication strategy and associated material (maximising use of existing info) for engaging with communities / customers / tenants with regard to the SWM measures being considered.	SF/MM/AK/MH/JM/HA's	30/5/21 (strategy) 30/6/21 (material)
6	In parallel to the other actions, agree a number of pilot locations for SWM Raingardens / SUDS Planters with the Housing Associations. Design and Implement.	SF/MM/AK/MH/HA's	30/5/21 (agree) 30/8/21 (implement)

SWM Engagement Matrix

Type of measure	Scottish Water	Glasgow City Council	Housing Association	Others
Rain gardens (property)		Margaret Orzell (Housing)	Martin Wilkie-McFarlane (WHA) <i>John McMorrow (Easthall Park HA)</i>	Emily Wadsworth (Green Action Trust)
Rain gardens (non-property)	<i>Grant Vanson/ Annelies McMillan (FRM Team)</i>	Seamus Connolly (Parks) James Murray (FRM) <i>Mic Ralph (Transport Planning)</i>		Emily Wadsworth (Green Action Trust)
Roadside retrofits (bioretention, tree pits)		Mic Ralph (Transport Planning) Brendan Frankgate (Roads)	Martin Wilkie-McFarlane (WHA) <i>John McMorrow (Easthall Park HA)</i>	<i>Emily Wadsworth (Green Action Trust)</i>
Permeable surfaces	Grant Vanson/ Annelies McMillan (FRM Team)	James Murray (FRM) Mic Ralph (Transport Planning)		
SuDS planters (property)		Margaret Orzell (Housing)	Martin Wilkie-McFarlane (WHA) <i>John McMorrow (Easthall Park HA)</i>	Emily Wadsworth (Green Action Trust)
Detention basins/ storage	Grant Vanson/ Annelies McMillan (FRM Team)	Seamus Connolly (Parks) James Murray (FRM) <i>Mic Ralph (Transport Planning)</i>		Emily Wadsworth (Green Action Trust)
Swales	Grant Vanson/ Annelies McMillan (FRM Team)	Seamus Connolly (Parks) Mic Ralph (Transport Planning) James Murray (FRM) Brendan Frankgate (Roads)		Emily Wadsworth (Green Action Trust)
Green roofs		Joe Nelson (Education Estates)		
Rainwater harvesting (new developments)	Mark McCullagh/ Glen Hunter (Customer Connections)		Martin Wilkie-McFarlane (WHA) <i>John McMorrow (Easthall Park HA)</i>	

Review of Quick Win Opportunities

Images are reproduced from SUSDRAIN website, Glasgow City Council and the SuDS Manual with additional images from Lee Haywood.

Quick Win SWM - Rain Gardens

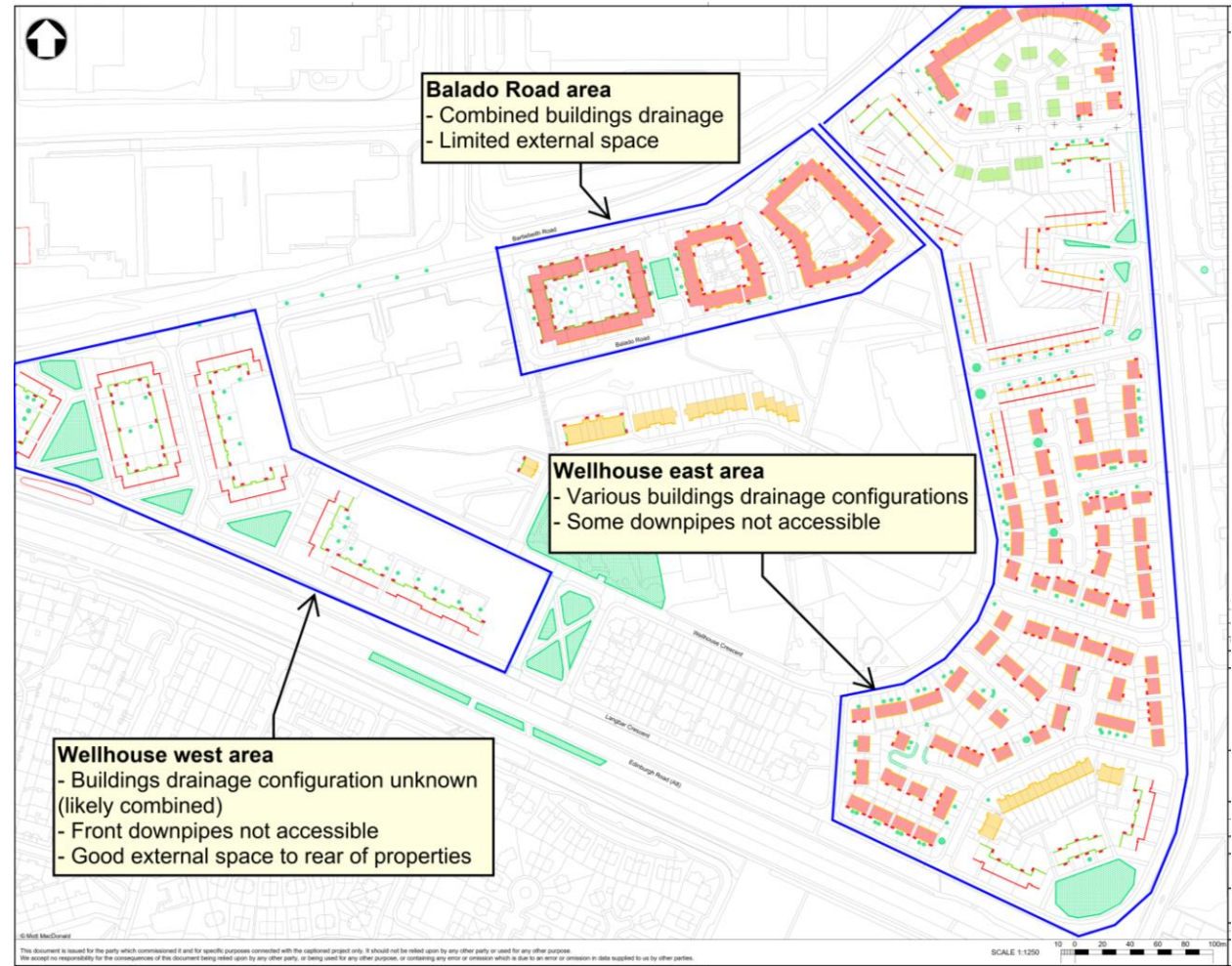
- Planter units typically around 1m^3 (total external volume).
- Single downpipes serving properties typically drain up to 50m^2 roof area.
- A 5mm rainfall event would require 0.25m^3 of available storage to prevent discharge to the downstream sewer network based on a 50m^2 roof area.



Quick Win SWM - Rain Gardens

Assessment of Existing Property Drainage

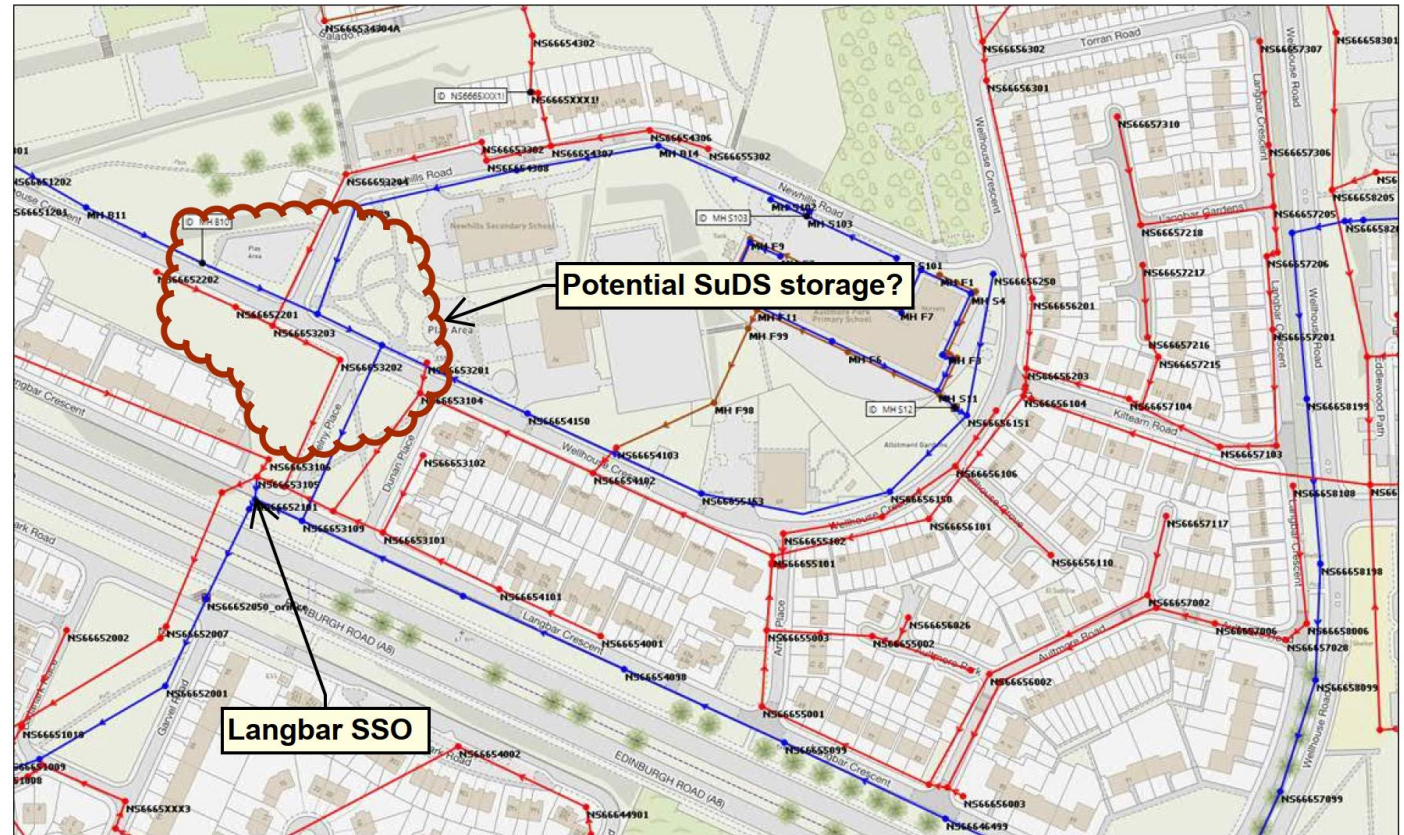
- Properties with combined foul and storm drainage within property boundary.
- Properties with separate foul and storm drainage within property boundary. Both systems discharge to combined sewer.
- Properties with separate foul and storm drainage within property boundary. Storm system discharges to surface water sewer.
- No information available.
- Development areas with existing SuDS measures.
- Properties where access to rainwater downpipes is restricted and will require intrusive works.
- Properties where rainwater downpipes are external but with limited adjacent space for retrofit SuDS measures.
- Properties where rainwater downpipes are external and there is adjacent space for retrofit SuDS measures.



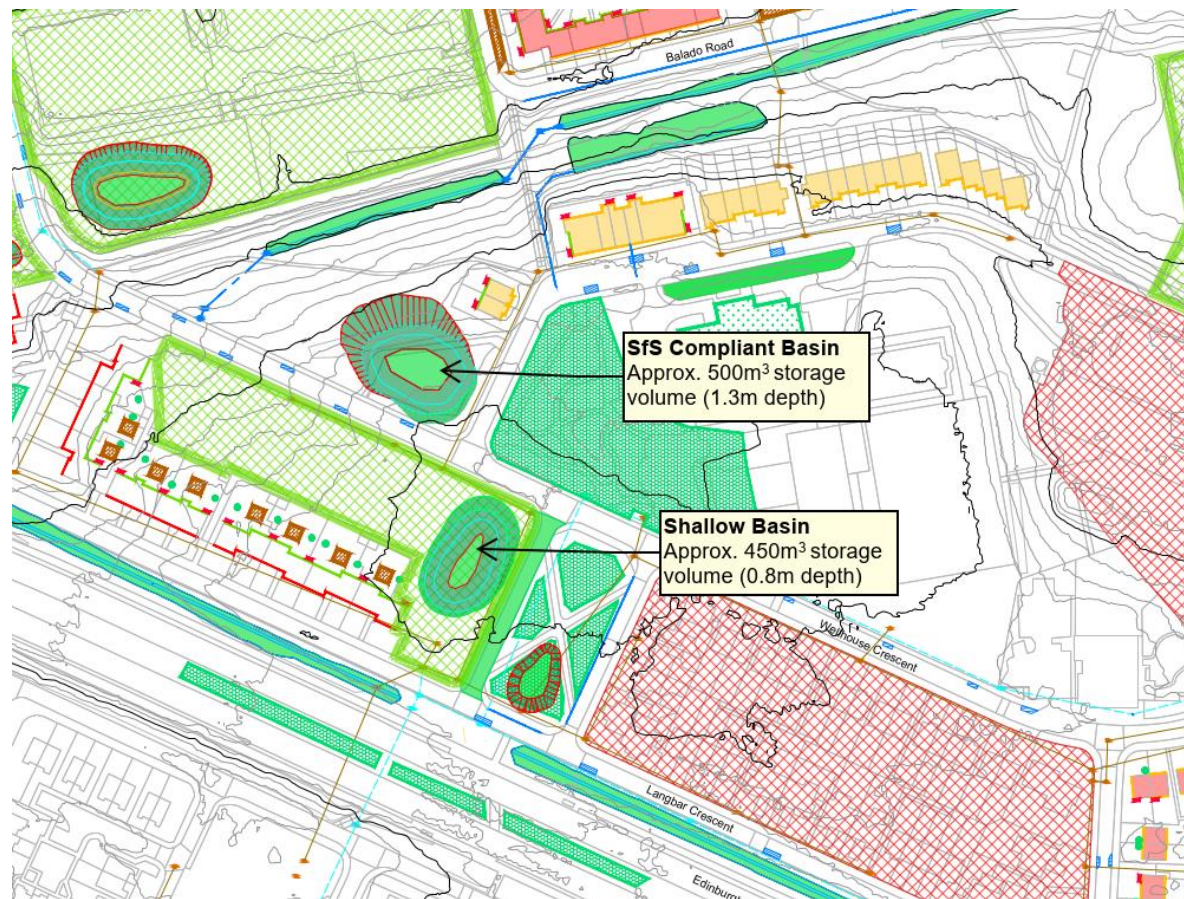
Quick Win SWM – Langbar SSO

Predicted 30yr Flooding

Wellhouse Flooding Nodes	Baseline (m³)	Disconnection (m³)
NS66653110	100.4	0
NS66654150	4.2	0
NS66655502	107.9	108
NS66656302	48.7	49
NS66653201	33.1	5.4
NS66654102	1130.8	711.5
NS66654103	13.6	11
NS66656301	1	0.9
NS66653104	104.5	21
NS66656101	134.5	131.9
NS66655101	673.8	600.6
NS66655102	30.2	29.3
NS66655103	62.2	59.4
NS66656106	9.1	9
NS66656107	9.9	9.8
NS66655104	25	22.8
Total flooding	2488.9	1769.6
Difference		-719.3

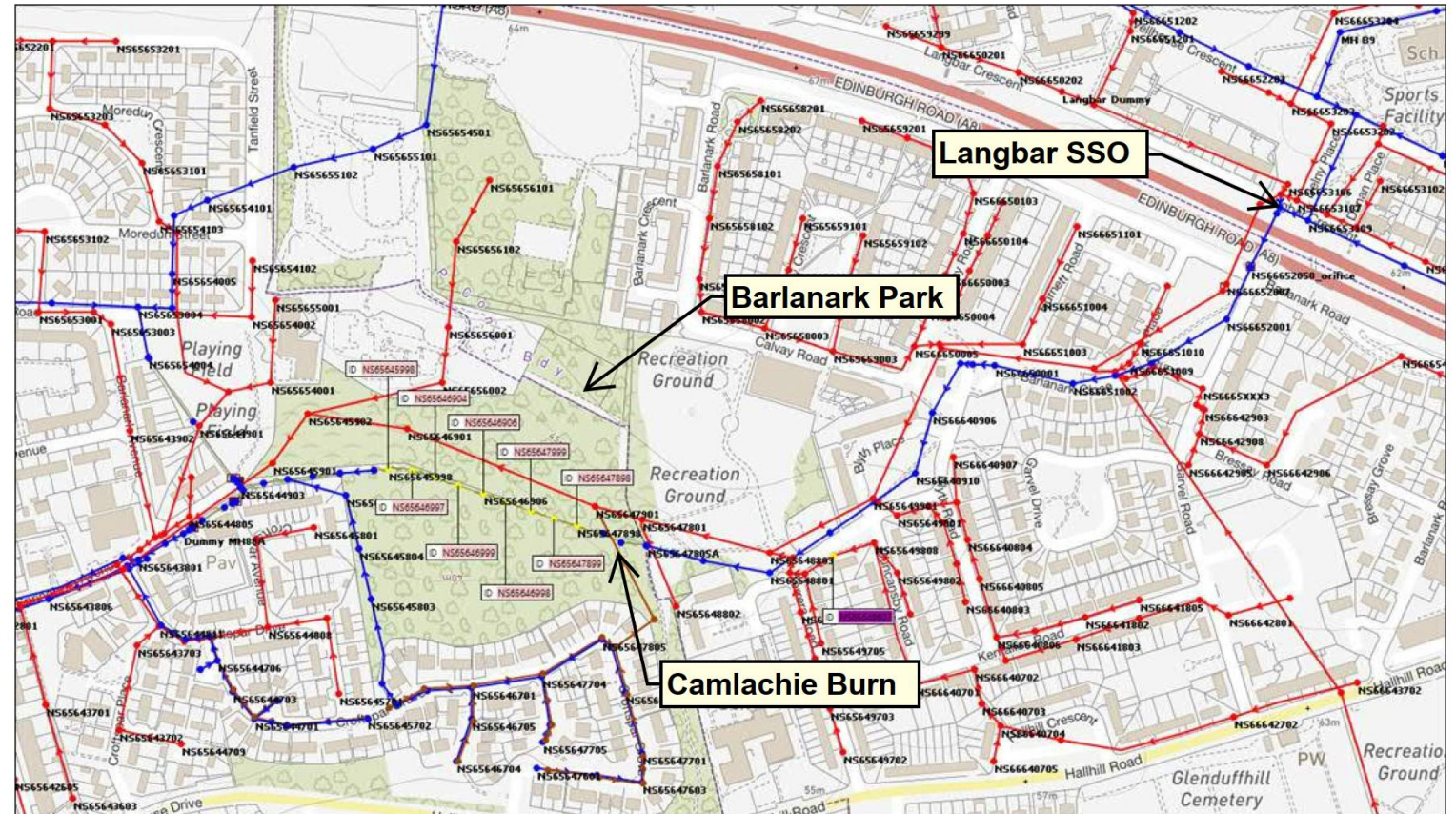


Quick Win SWM – Langbar SSO



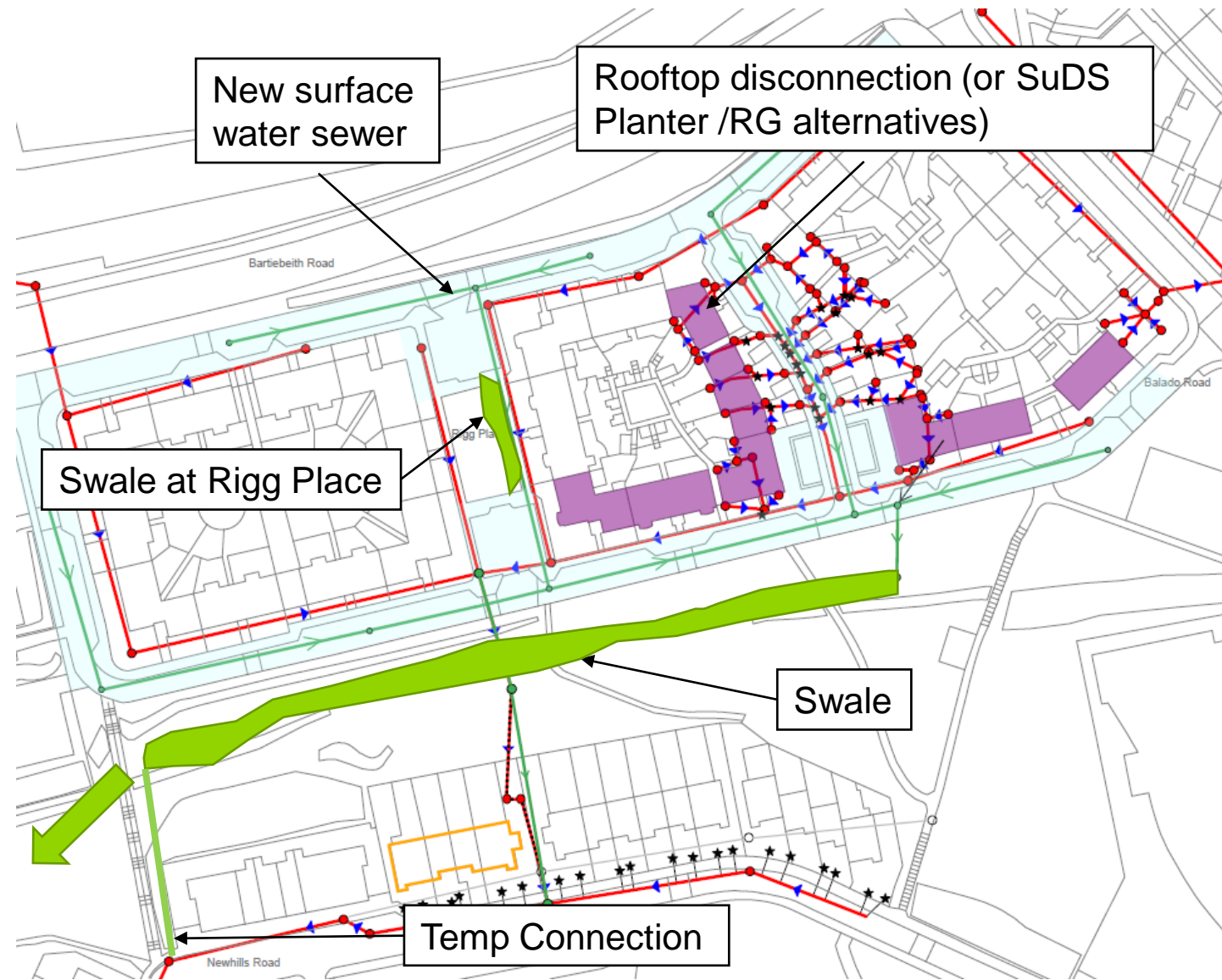
Quick Win SWM – Langbar SSO

- Disconnection of Langbar SSO results in a predicted increase in 1 in 30year flooding at Barlanark Park (1300m³ to 1425m³).
- Required mitigation could be provided as part of future Cockenzie St SWMP, subject to GCC/ landowner agreement.



Newhills Road Flooding Study Proposals

1. Relaying sewer between properties (to remove kink)
2. Collection of road runoff by intercepting gully tails and new surface water pipe
3. Rooftop interventions
 1. Intercept downpipes and route to surface water pipe (approx. 11 properties)
 2. Install Rain Gardens / SuDS Planters at 50 properties (assuming 1m³ per property)
4. Swale at Rigg Place running north to south used as conveyance and storage (possible check dams)
5. Swale running east to west off Balado Road used as conveyance and storage
6. Temporary connection to combined sewer on Newhills Road
7. Future connection to wider Wellhouse SWM interventions – creating a “green infrastructure network”



Newhills Road Flooding Study Proposals

Rigg Place



Land between Balado Road & Newhills Road



Key Decisions

- Preference of rooftop interventions i.e. rain gardens, suds planters or reconnection to new surface water pipe
- Can flow be routed along roads, using natural topography, discharging to swale? What is the statutory requirement for road drainage?

Opportunities

- Maximise surface water removal in this area to provide wider flooding / WQ benefits – extend beyond current flooding driver remit.
- Maximise green infrastructure solutions to create a “green network” across the Wellhouse area. This will enhance habitat and biodiversity.

Conclusions & Action Plan

Refer also to separate meeting minutes

Action Plan

Action	Action	Owner	Action Due
1	Update engagement matrix	MM	21/5/21
2	Quick win opportunities for surface water management to focus on Wellhouse west area. m ² to progress discussions with Wellhouse Housing Association (WHA).	m ² /WHA	30/5/21 (agree WHA) 30/8/21 (implement)
3	Langbar SSO – Detriment impact at Barlanark park to be investigated to understand impact on adjacent properties. Understand the flooding impact and how long flooding will remain. Recommendations for interventions to be identified.	m ² /SW/GCC	19/6/21 (agree SW/GCC detriment reporting) 30/8/21 (implement)
4	Camlachie Burn – Opportunities for Surface Water Management Plan in woodland area at Barlanark Park (note env. Constraints e.g. badger set). Recommendations for interventions to be identified.	m ² /SW/GCC	19/6/21 (GCC feedback re earlier investigations) 30/8/21 (implement)
5	Discussion on potential for using roads infrastructure for interventions at Newhills Road. RMit to meet with MR to discuss.	m ² /GCC (RMit/MR)	19/6/21
6	Update and distribute meeting plan for future meetings.	m ²	19/6/21
7	In parallel to the other actions, develop a communication strategy and associated material (maximising use of existing info) for engaging with communities / customers / tenants with regard to the SWM measures being considered.	SF/MM/AK/MH/JM/HA's	30/5/21 (strategy) 30/6/21 (material)
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