Catchment Name: Crownhill

Catchment Overview:

The catchment is approximately 8.8km^2 in area with a mix of residential housing, commercial development and green open space.

Forder Valley Stream runs from the north of the catchment, with the Bircham Valley Stream flowing from the west. There are flood issues associated with the lower reaches of the Forder Valley Stream around Leigham Mill where it is tidally influenced. In addition, there is an unnamed ordinary watercourse that flows in an easterly direction (to the south of the A38) that receives unattenuated flows from the A38.

Issues identified in the LFRMS include the catchment is heavily urbanised with potential areas of development. Objectives are to incorporate Strategic SuDS schemes into future developments as well as reducing pollution and flood risk in watercourses and improve environmental conditions in Forder Valley Stream

Areas of potential blue/green space:

There is potential to utilise green open space within the Forder Valley Park Area, this could include above ground SuDS to collect surface water prior to controlled discharge into the watercourse.

In addition, there is potential to utilise green open space in the headwaters of the unnamed watercourse in the south west of the sub-catchment (near Hartley Vale).

Infiltration potential:

The BGS SuDS infiltration map suggests there are limited SuDS infiltration opportunities due to poorly draining bedrock. However, data supplied from the Environment Agency which takes into account percolation tests from previous developments indicates that the area north of Derriford including Derriford Hospital, the former airport and Marjon Campus to be an area which has good infiltration. However, previous land filling within the locality is also known, therefore potentially constrains infiltration SuDS dependent on location.

Existing Sewer System:

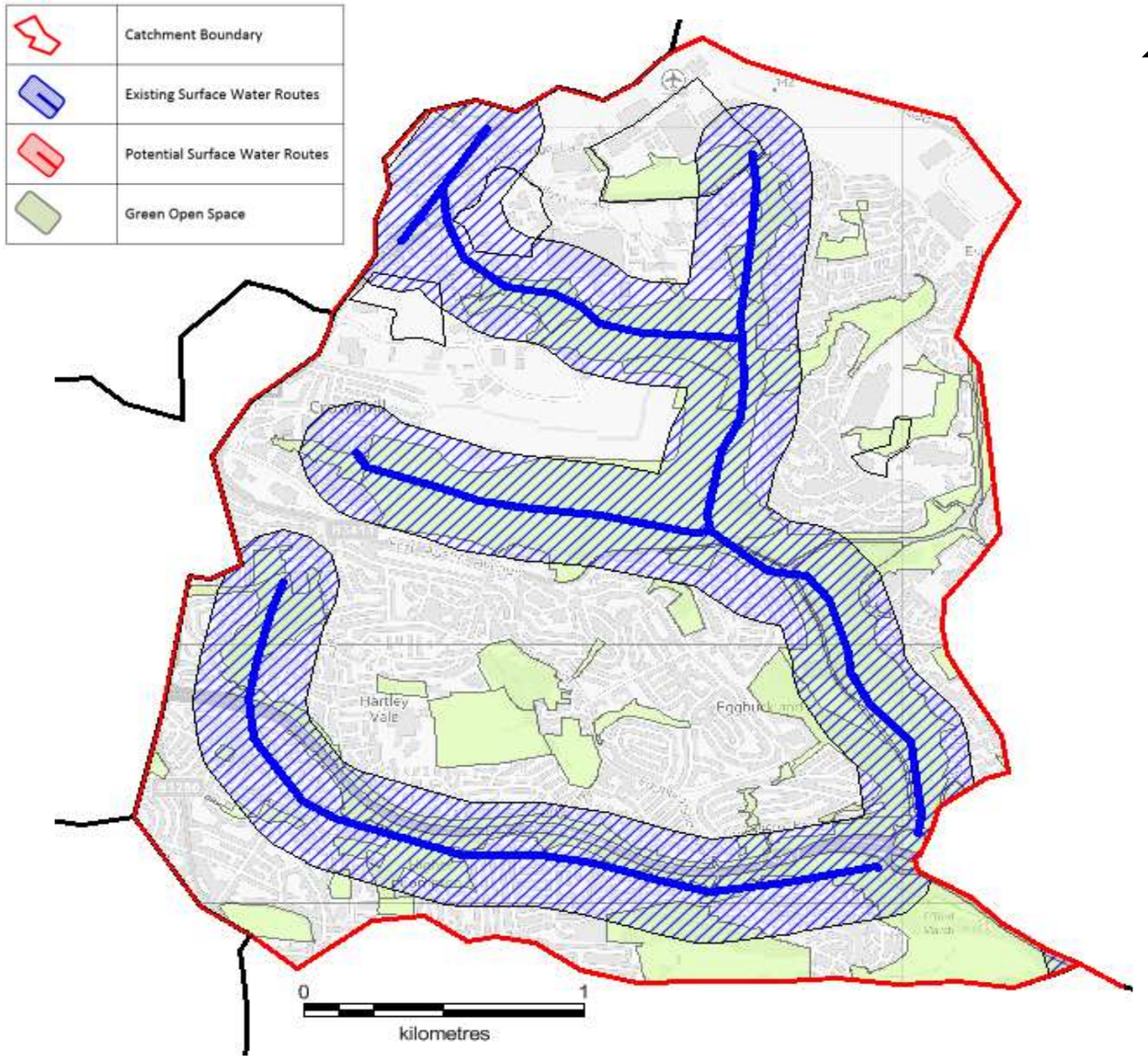
The catchment is predominantly served by separate surface water and foul water sewer networks. It is understood that significant highways work along part of Tavistock Road is due to take place in the near future, opportunities exist to future proof the surface water drainage system for future development in this locality.

Relevant City wide policies:

Follow SuDS hierarchy.

Sub-catchment specific water drainage policies:

Follow SuDS hierarchy, in particular, infiltration testing to BRE365. Where previously developed land drains to sewer system, opportunities to utilise infiltration should be explored first. Developers should refer to the Critical Drainage Area Guidance with regard to limiting discharge rates.



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PLYMOUTH CITY COUNCIL

Environment Agency

SOUTH WEST WATER

Catchment Name: Dockyard

Catchment Overview:

The catchment is approximately 3.5km^2 in area with predominantly residential housing and commercial development including MOD land around the dockyard. There are small areas of green open space but these are limited.

Land drains predominantly from east to west towards the River Tamar. A surface water flow route exists in the north of the catchment in the St Levan Road area where flooding incidences have been recorded. This flow route is tidally influenced in the lower part of the catchment.

There is a small area that drains in a southerly direction to Mutton Cove in the south of the catchment.

Issues identified in LFRMS indicate surface water flooding is the key risk with tidal sources being a risk in the future along the coastal frontage.

Areas of potential blue/green space:

There are limited areas of green open space. There are some small areas along St Levan Road that could be utilised. Opportunities at Devonport Park are more constrained due to level differences and slopes. In addition, significant areas of land are owned and managed by the MoD and acquiring access for discharge of surface water to tidal waters may be constrained.

Infiltration potential:

BGS Infiltration SuDS Mapping indicates that 'very significant constraints' exist at:

- Coastal frontage, lower lying dockyard areas and also St Levan Road area (western) are predominantly made ground and have shallow groundwater (<3 m).
- Area around Clowance Lane (west of Mount Wise) is constrained due to soluble rock formation.

Depending on depth of superficial deposits and made ground, infiltration may be feasible subject to soakaway tests to BRE365. Consider whether infiltration can be used as a SuDS technique alongside water storage (in ponds/chambers) and re-use.

Existing Sewer System:

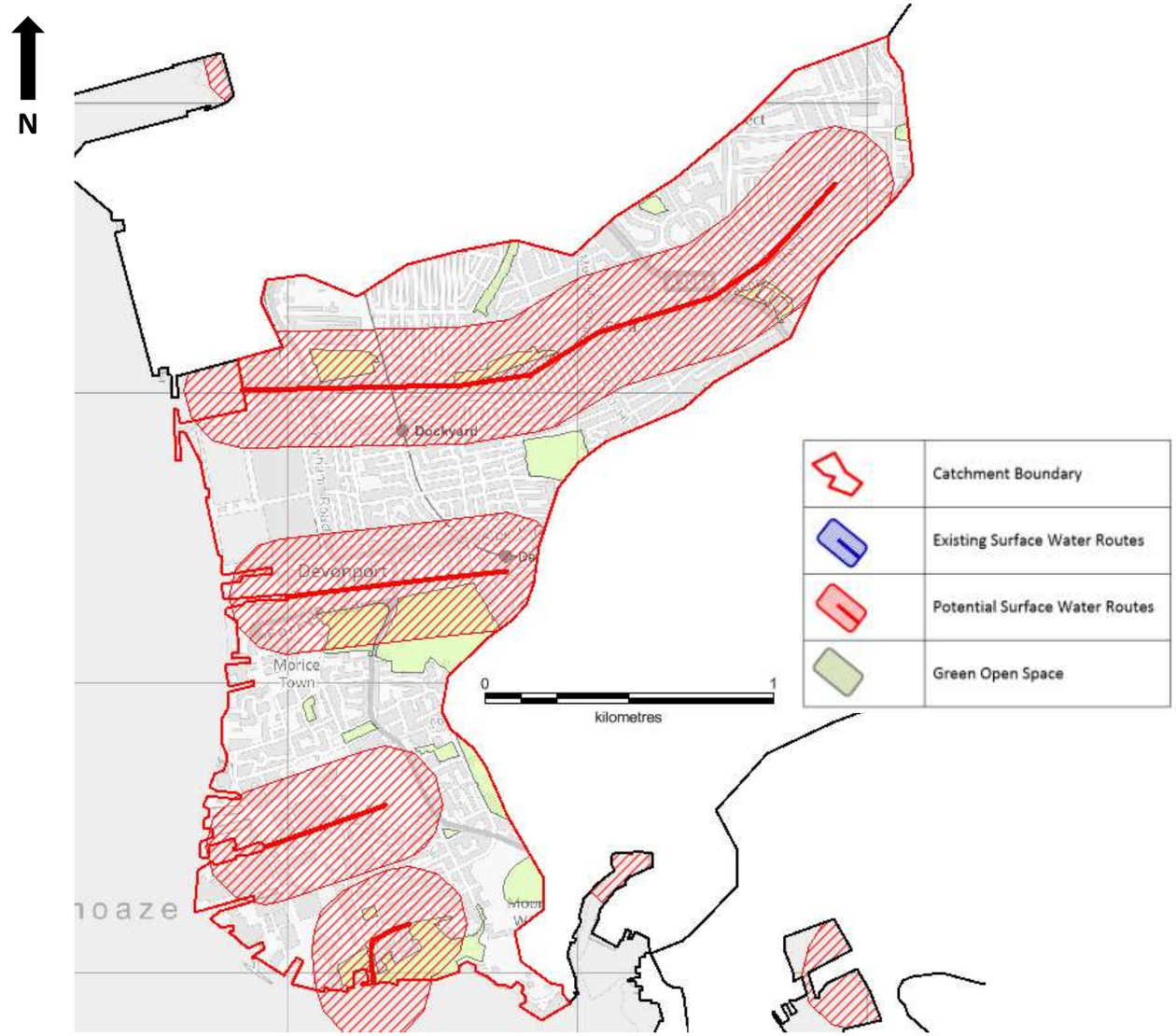
The area is predominantly served by combined sewers with some newer developments served by separate systems, however, connecting into the combined system. Potential for strategic surface water sewers to provide spine for future development to connect into and discharge into coastal waters, therefore relieving capacity issues in combined sewer system.

Relevant City wide policies:

Follow SuDS hierarchy.

Sub-catchment specific water drainage policies:

Follow SuDS hierarchy, in particular, infiltration testing to BRE365. Where previously developed land drains to sewer system, opportunities to utilise infiltration should be explored first. Developers should refer to the Critical Drainage Area Guidance with regard to limiting discharge rates. However, due to the location, where feasible options to implement and connect into new strategic surface water sewers discharging to coastal waters should be explored.



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PLYMOUTH CITY COUNCIL

Environment Agency

SOUTH WEST WATER

Catchment Name: Hamoaze

Catchment Overview:

The catchment is approximately 12.1km^2 in area comprising of predominantly residential housing, with some commercial development across the catchment and green space in the north and east of the catchment. The catchment is dissected by the A38. The Ham Brook flows through the catchment, part of which is culverted and flows in a south west direction to the River Tamar. There are known capacity issues on the watercourse near Mowhay Road where flows can be tidally affected. In addition, there is a CSO location in Ham Woods with associated pollution issues.

Issues identified in the LFRMS show the main area of flood risk is around Weston Mill and Wolseley Road due to capacity of existing combined sewerage systems and watercourses. In addition, this is a low lying area that is affected by tide levels. Objectives are to improve capacity and condition of watercourses to facilitate separation of surface water from combined sewerage systems.

Areas of potential blue/green space:

There is potential to utilise green open space within the Camels Head area and within the Ernesettle area. Within the Ham Brook catchment, above ground SuDS to collect surface water prior to controlled discharge may be feasible. Potential constraints exist in some locations due to access issues associated with land in Network Rail or MoD ownership.

Infiltration potential:

BGS Infiltration SuDS Mapping indicates that 'very significant constraints' exist at:

- Western Mill Drive/Ham Brook/Wolseley Road, these are predominantly made ground and have shallow groundwater (<3m).
- Between St Budeaux and Barn Barton is an area of shallow groundwater (<3m).

Depending on depth of superficial deposit and made ground, infiltration may be feasible subject to soakaway test to BRE365. Consider potential for infiltration/attenuation.

Existing Sewer system:

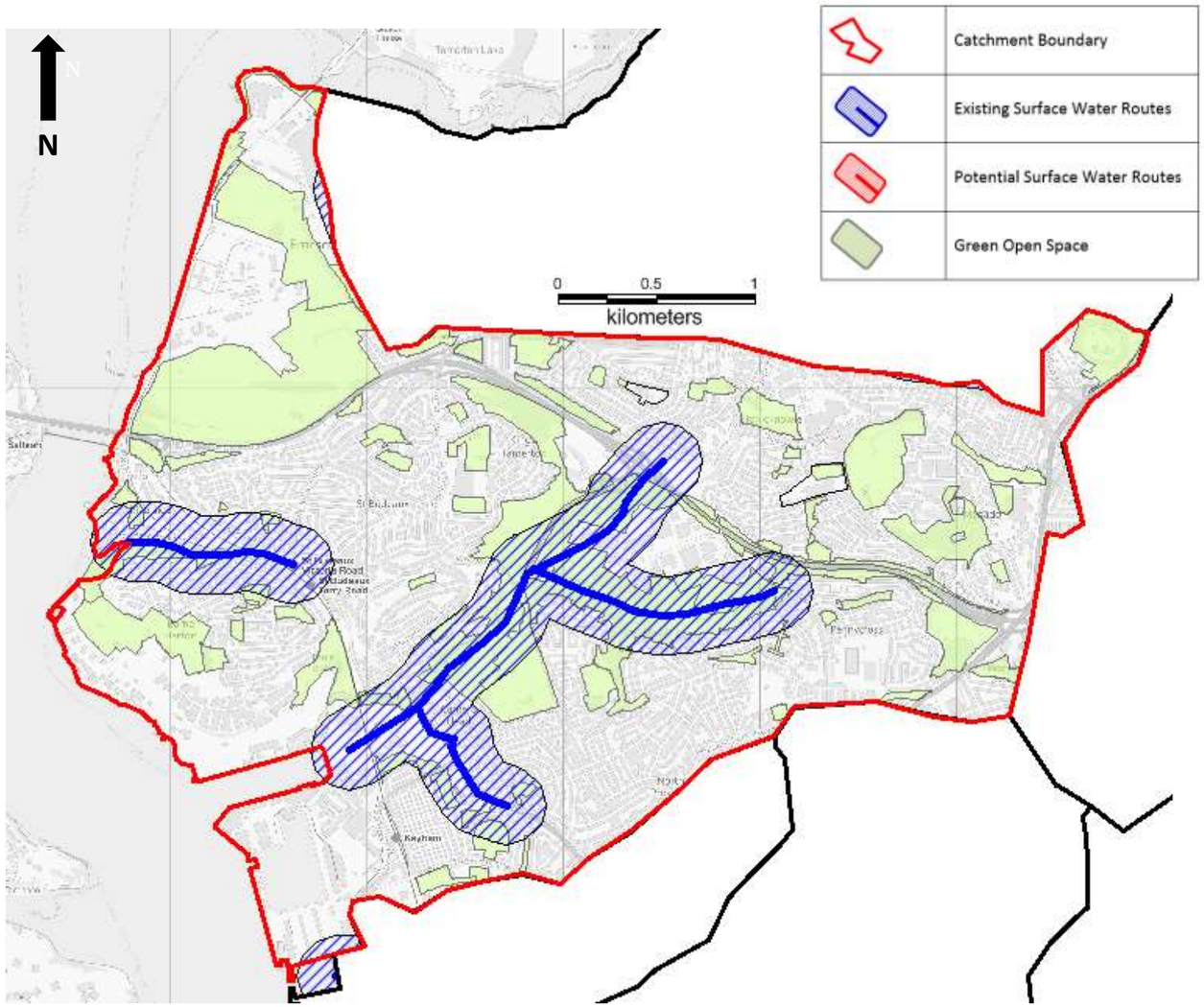
The catchment is predominantly served by separate surface water and foul water sewers although there are a number of locations that are served by combined sewers (Wolseley Road and Weston Mill).

Relevant City wide policies:

Follow SuDS hierarchy.

Sub-catchment specific water drainage policies:

Follow SuDS hierarchy, in particular, infiltration testing to BRE365. Where previously developed land drains to sewer system, opportunities to utilise infiltration should be explored first. Developers should refer to the Critical Drainage Area Guidance with regard to limiting discharge rates.



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PLYMOUTH CITY COUNCIL

Environment Agency

SOUTH WEST WATER

Catchment Name: Marsh Mills

Catchment Overview:

The catchment is approximately 3.9km^2 in area and is predominantly residential in character with small areas of green open space.

A small watercourse flows from Lower Compton to Lipson. There is no further evidence of watercourses across the catchment indicating that the remainder are predominantly culverted. Lipson Valley is very low lying and is subject to frequent flooding issues. In particular, the east of the catchment is limited by the level of the railway and also surface water outfalls are tidally affected.

In the north east of the catchment the Forder Valley Stream discharges near Marsh Mills where there is an Environment Agency flood defence asset designed to prevent tidal ingress in the Forder Valley. Embankment Road is a key infrastructure route that is prone to surface water flooding due to tide locking of surface water drains.

Issues identified in the LFRMS include tidally influenced surface water flooding around Lipson and Laira, with frequent pollution incidents at Arnold's point. Objectives are to remove pollution discharge into the River Plym and reduce the risk of surface water flooding in Lipson and Laira.

Areas of potential blue/green space:

There is limited green open space within the Marsh Mills catchment, however there may be opportunities for a strategic corridor and SuDS attenuation running north to south between Compton and Lipson and running west to east between Lipson and the River Plym.

Infiltration potential:

BGS SuDS Infiltration map suggests the majority of the catchment only has opportunities for bespoke infiltration SuDS, with a small area above Laira being compatible for infiltration SuDS. Depth to water table is greater than 5m below the ground surface.

Information from the Environment Agency shows the area around Efford has good potential for infiltration.

Existing sewer system:

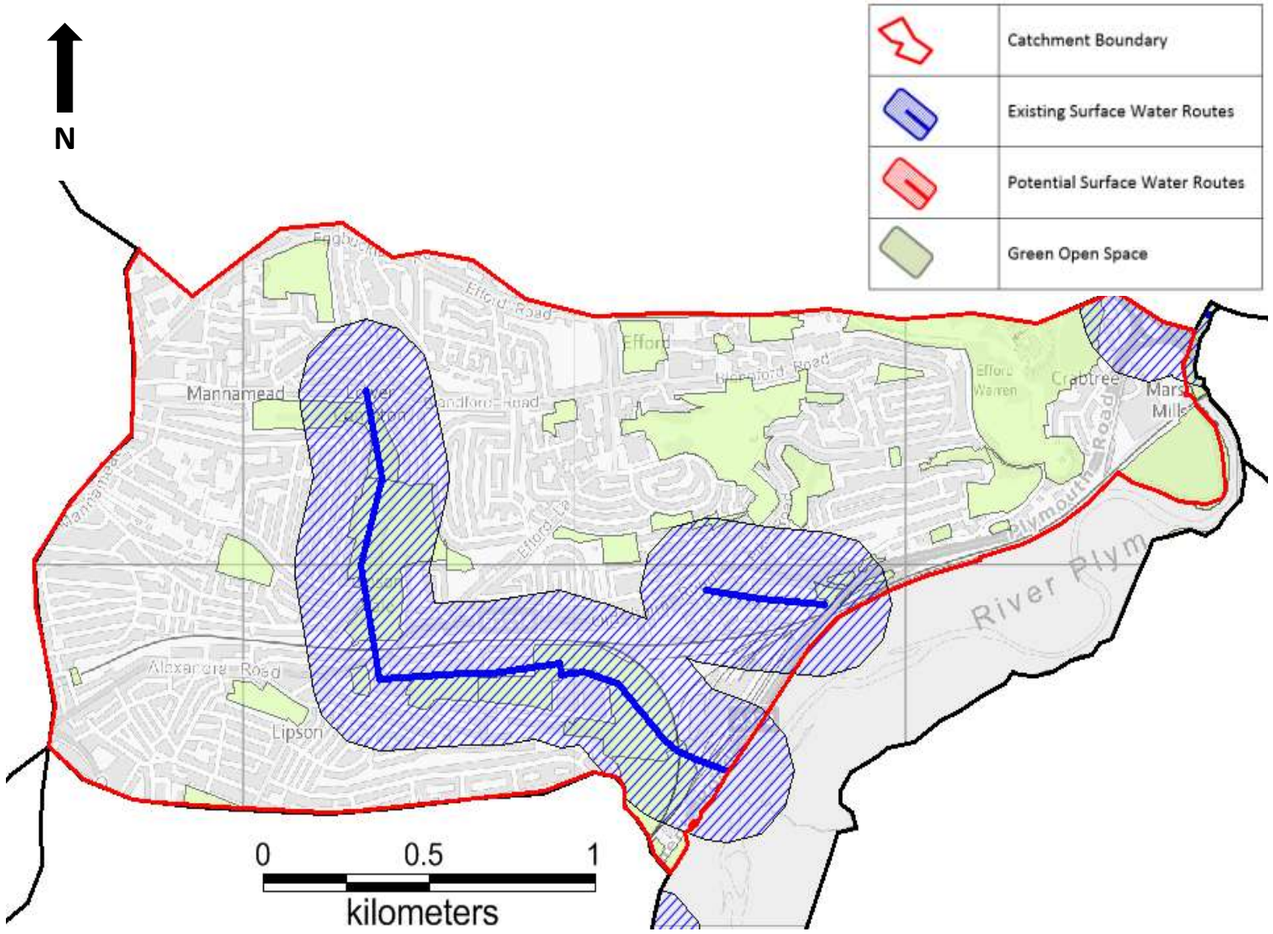
The catchment is served by both combined sewer systems and separate foul/surface water systems dependent upon location.

Relevant City wide policies:

Follow SuDS hierarchy.

Sub-catchment specific water drainage policies:

Follow SuDS hierarchy, in particular, infiltration testing to BRE365. Where previously developed land drains to sewer system, opportunities to utilise infiltration should be explored first. Developers should refer to the Critical Drainage Area Guidance with regard to limiting discharge rates.



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PLYMOUTH CITY COUNCIL

Environment Agency

SOUTH WEST WATER

Catchment Name: Millbay & City Centre

Catchment Overview:

The catchment is approximately 1.7km^2 that is predominantly urban with a mix of residential housing and commercial/retail development.

The catchment is predominantly served by combined sewers with some existing strategic surface water sewers. Millbay Tanks provide some surface water storage intended to reduce surface water flooding issues at Western Approach, Union Street and the Octagon. These SWW assets have recently been repaired to reduce salt water ingress.

Issues identified in LFRMS include surface water flooding in Union Street/The Octagon due to low lying ground levels. Tide locking in lower lying coastal areas occurs now and is likely to increase with climate change.

Areas of potential blue/green space:

Green open spaces are limited within the catchment. Potential opportunities exist to incorporate SuDS features into the public realm within strategic surface water routes (typically attenuated storage) and also potential for green roofs to be incorporated within new developments.

Infiltration potential:

BGS Infiltration SuDS Mapping indicates that 'very significant constraints' exist at:

- Low lying areas around Millbay (Union Street) are constrained by a combination of made ground and shallow groundwater levels.

Due to density of development and underlying ground conditions, infiltration is unlikely to be viable within this area (in particular low lying areas).

Surface Water Separation:

The area is predominantly served by combined sewers and there is potential for surface water separation, integration of attenuated storage and incorporating multiple uses within the public realm.

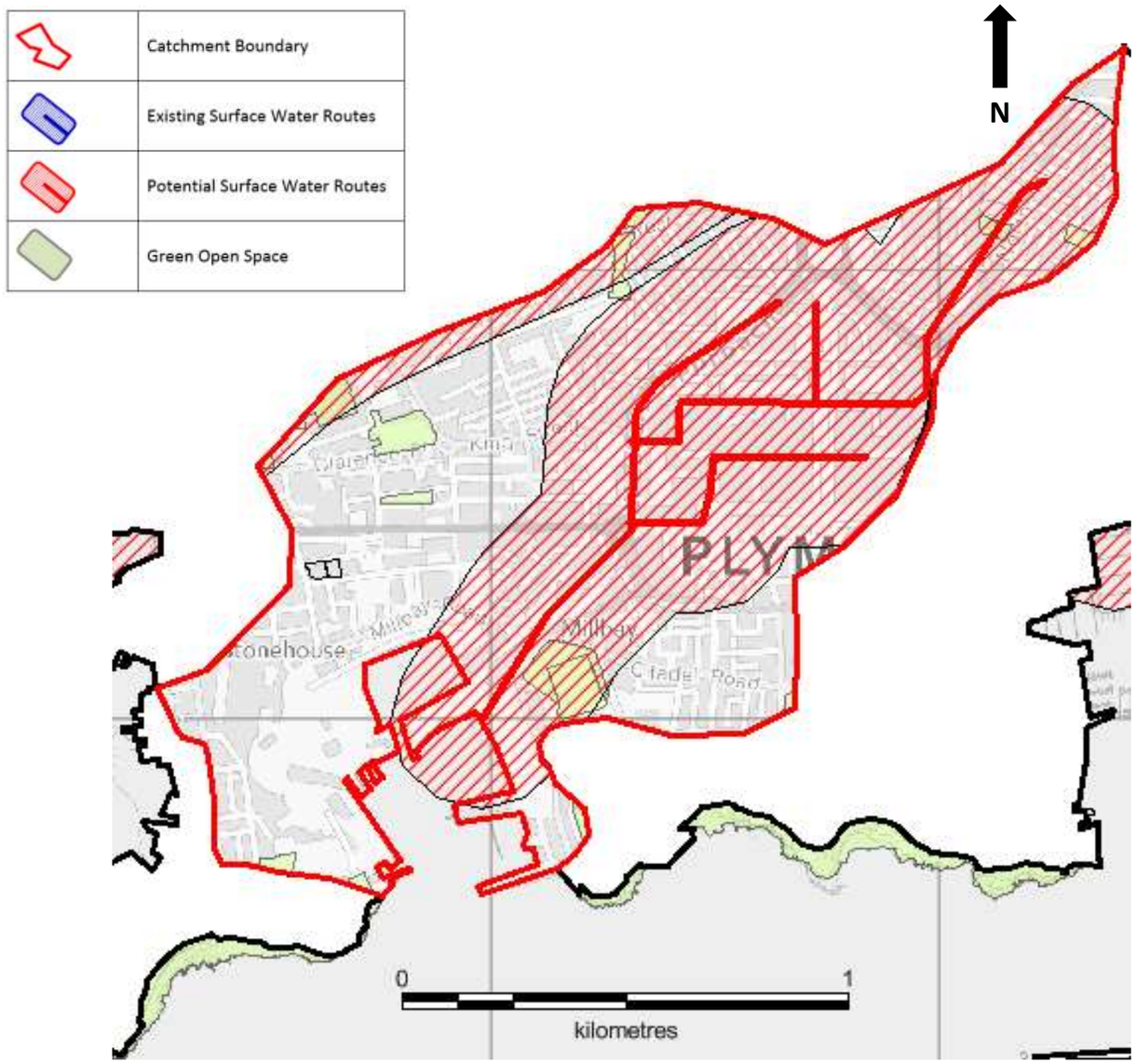
Potential to separate surface water system for lower lying areas from areas that can be driven by gravity head, this will further reduce flooding and compartmentalise systems.

Relevant City wide policies:

Follow SuDS hierarchy.

Sub-catchment specific water drainage policies:

Follow SuDS hierarchy, in particular, infiltration testing to BRE365 acknowledging that infiltration is constrained. Where previously developed land drains to sewer system, opportunities to utilise infiltration should be explored first. Developers should refer to the Critical Drainage Area Guidance with regard to limiting discharge rates. However, due to the location, where feasible options to implement and connect into a new strategic surface water sewer discharging to coastal waters at Millbay should be explored.



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PLYMOUTH CITY COUNCIL

Environment Agency

SOUTH WEST WATER

Catchment Name: Plym Valley

Catchment Overview:

The catchment is approximately 6.1km^2 in an area which is predominantly green open space within the eastern section and a combination of residential housing and commercial development in the west.

The River Plym lies on the eastern edge of the catchment and flows in a southerly direction. Several tributaries of the River Plym flow in an easterly direction into the River Plym. Those flowing into the River Plym from the east are predominantly from outside PCCs administrative boundary within the administrative area of South Hams District Council. The lower reaches of the River Plym are tidally influenced.

Issues identified in LFRMS include operational sewerage system issues around Glenholt and fluvial, surface water and tidal flooding in the south of the catchment. Objectives are to improve that standard of protection for property from surface water, fluvial and tidal flooding.

Areas of potential blue/green space:

There is green open space within Plymbridge Woods, however, the upper reaches of the valley are steep sided and therefore may present constraints.

There may be a limited amount of green open space to include above ground SuDS to collect surface water prior to controlled discharge into the River Plym.

Infiltration potential:

The BGS Infiltration SuDS Mapping indicates that within the strategic corridor identified there are only opportunities for bespoke infiltration SuDS. The depth to the water table is variable across the catchment.

Existing sewer system:

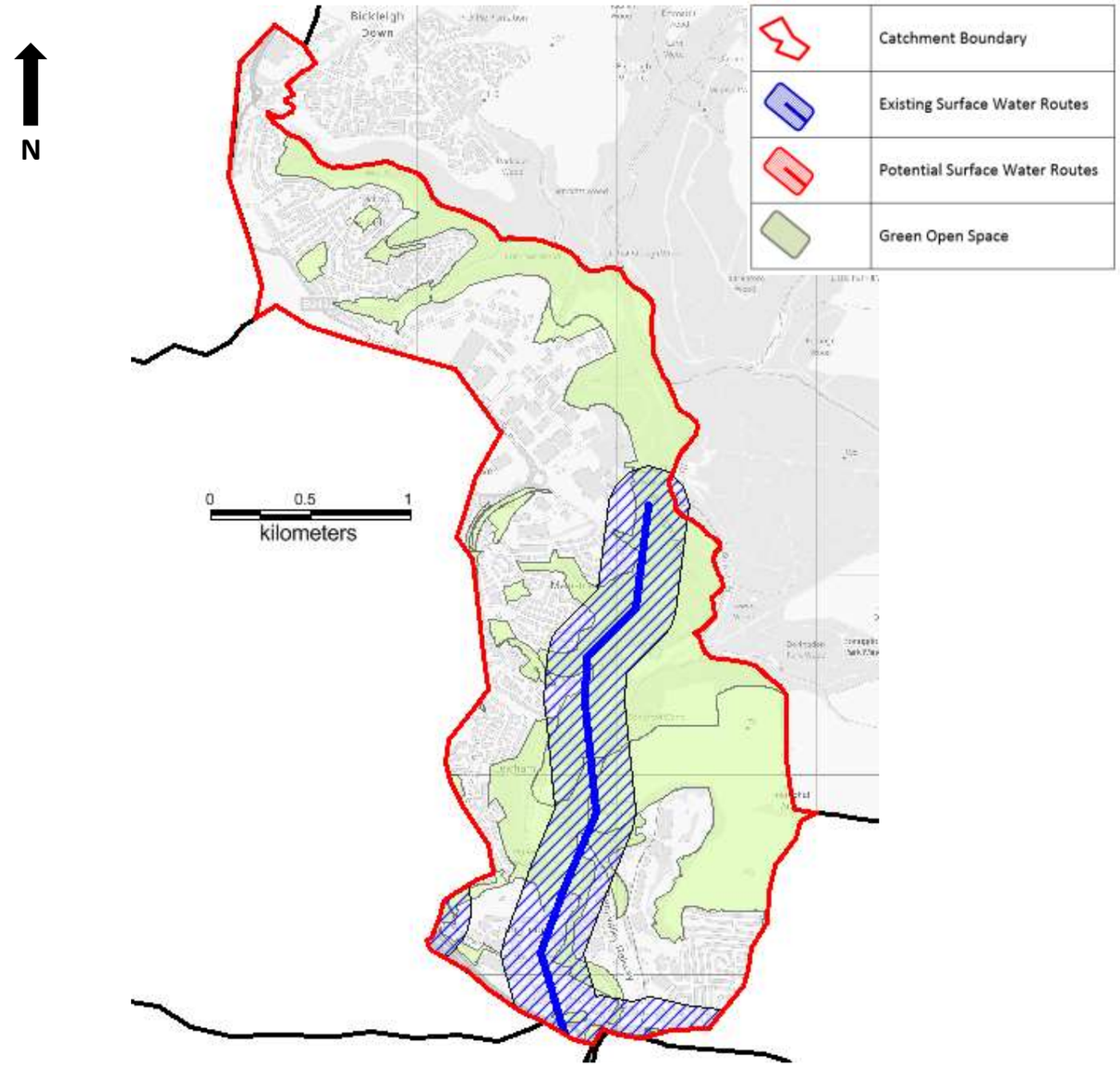
The catchment is predominantly served by separate surface water and foul water sewers.

Relevant City wide policies:

Follow SuDS hierarchy.

Sub-catchment specific water drainage policies:

Follow SuDS hierarchy, in particular, infiltration testing to BRE365. Whilst not in the Plymouth Critical Drainage Area, where development is proposed reference should be made to the Minimum Drainage Standards. Attenuate discharge to existing surface water sewers to greenfield runoff rates prior to discharge to River Plym.



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PLYMOUTH CITY COUNCIL

Environment Agency

SOUTH WEST WATER

Catchment Name: Plympton Long Brook

Catchment Overview:

The catchment is approximately 4.2km^2 in an area with a mixture of residential housing, commercial development and green open space.

The Long Brook flows in a westerly direction across the catchment and is culverted for parts of its length. There may be capacity within the Long Brook for surface water discharge, however, further investigation of existing issues is required. Part of the Tory Brook is situated in the west of the catchment. Both the Long Brook and Tory Brook are tidally influenced in their lower reaches.

Issues identified in LFRMS include the catchment being at risk of flooding from Long Brook, tidal flooding and surface water runoff due to surface water being unable to get into Long Brook. The objectives are to improve the capacity of the watercourse, reduce sewerage pollution and improve surface water connection to Long Brook.

Areas of potential blue/green space:

There is potential to utilise green open space within the Underwood and Plympton area, which could include above ground SuDS to collect surface water prior to controlled discharge into the Long Brook / Tory Brook. Whilst the southern part of the catchment is green open space, the topography is very steep and upslope from existing development, therefore limited potential for SuDS within these areas.

Infiltration potential:

The BGS Infiltration SuDS Mapping indicates that within the strategic corridor identified that 'very significant constraints' exist, with the depth to water table being less than 3m below the ground surface.

Existing sewer system:

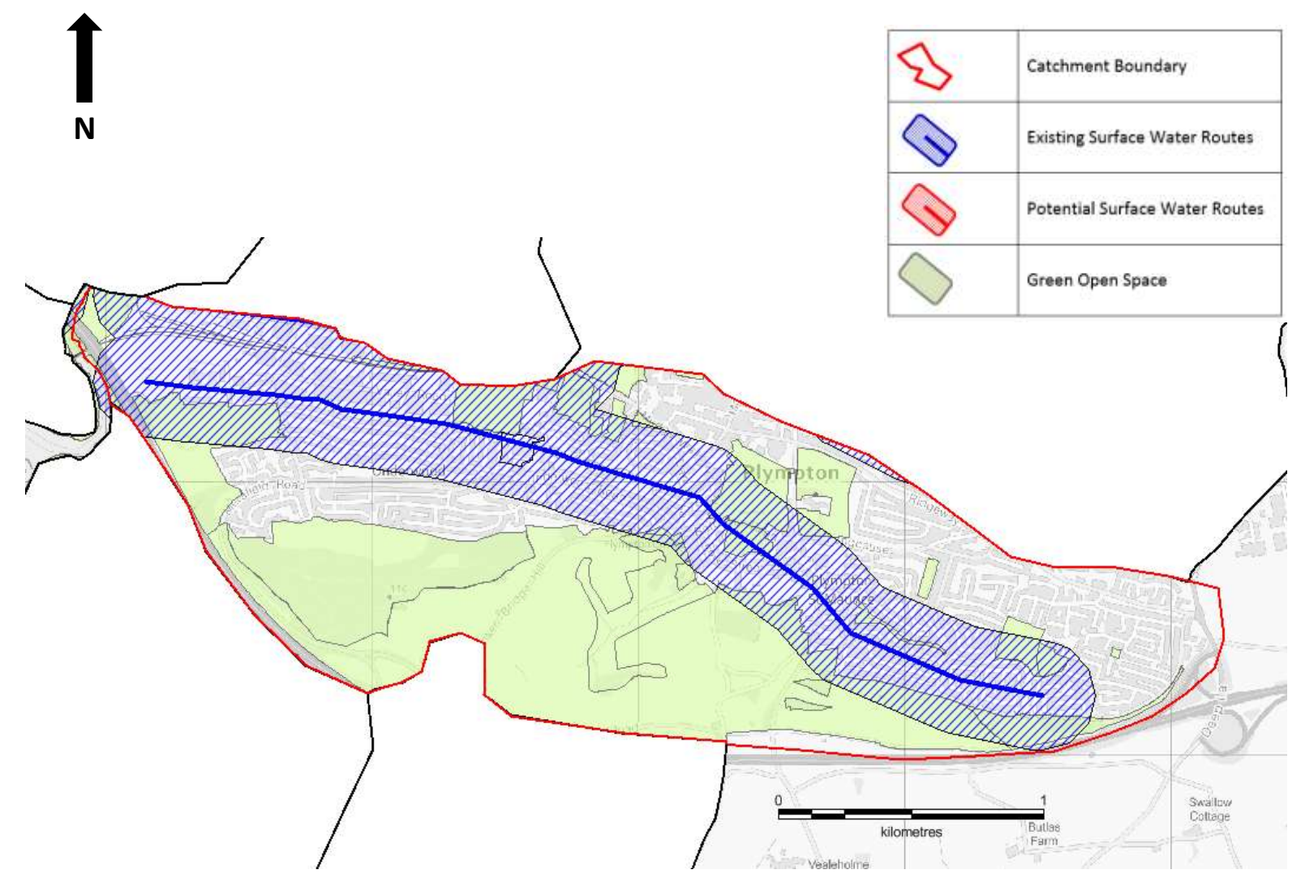
The catchment is a combination of separate surface water and foul water sewers and combined sewers. There is ongoing Integrated Urban Drainage Modelling being undertaken across the Long Brook, Tory Brook and Woodford catchments. As part of this work, identification of ways to improve surface water in Longbrook Street are being investigated.

Relevant city wide policies:

Follow SuDS hierarchy.

Sub catchment specific water drainage policies:

Follow SuDS hierarchy, in particular, infiltration testing to BRE365. Where previously developed land drains to sewer system, opportunities to utilise infiltration should be explored first. Developers should refer to the Critical Drainage Area Guidance with regard to limiting discharge rates. In particular, this is required due to the interaction with the Long Brook and Woodford sub-catchments.



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PLYMOUTH CITY COUNCIL

Environment Agency

SOUTH WEST WATER

Catchment Name: Plympton Tory Brook

Catchment Overview:

The catchment overview is approximately 3.3km^2 in an area with a mixture of green open space, residential housing and commercial development.

The Tory Brook flows in south westerly direction and is joined by a number of tributaries including the Stoggy Lane Stream, Chaddlewood Stream and Boringdon Stream. The Boringdon Stream is a culverted watercourse and flows in a southerly direction from Boringdon Hall where a rain gauge is located to provide a heavy rainfall warning to residents in Colebrook. In addition, there is a significant surface water flow route down Boringdon Hill that has previously caused surcharging of the combined sewer system and property flooding in Colebrook Village. Partnership working between South West Water, Plymouth City Council (PCC) and the Environment Agency has delivered the Colebrook Flood Alleviation Scheme via Flood Defence Grant in Aid (FDGiA) Local Levy and PCC Highways funding. Groundwater flooding has also caused issues at the Colebrook Inn and Colebrook Village is therefore vulnerable from this source as well.

Issues identified in the LFRMS include flood risk from the Tory Brook, Stoggy Lane Stream, Chaddlewood Stream and Boringdon Stream with the main objectives being to separate out the surface water from combined sewerage and improve the capacity of Tory Brook.

Areas of potential blue/green space:

Limited suitable green open space due to the topography of the area and location within the catchment in relation to existing development.

Infiltration potential:

BGS Infiltration SuDs mapping suggests bespoke infiltration SuDS only, with a variable depth to groundwater across the catchment.

Existing sewer system:

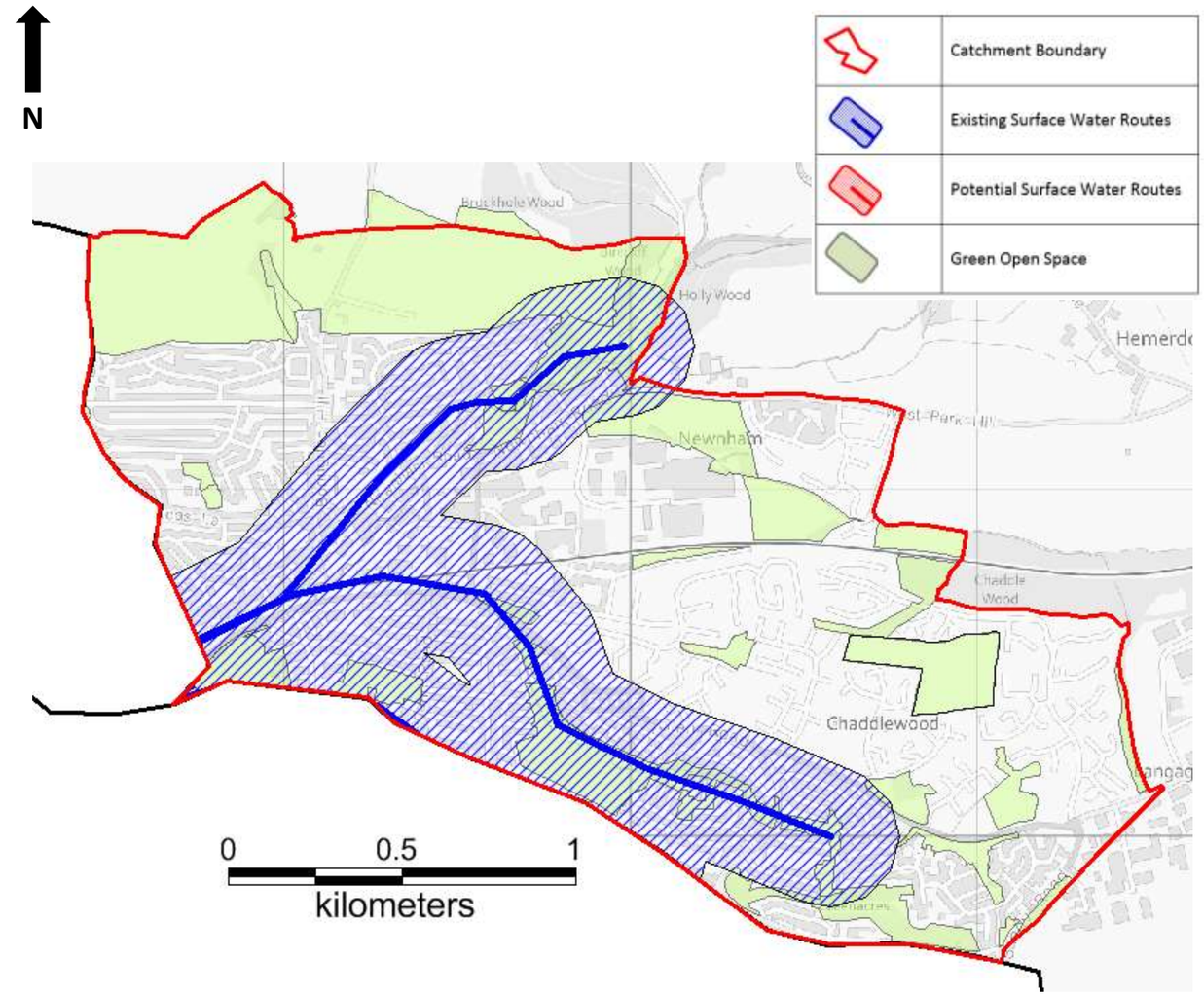
The catchment is a combination of separate surface water and foul water sewers with combined sewers predominantly in the lower part of the catchment (west). There is ongoing Integrated Urban Drainage Modelling being undertaken with regard to potential surface water separation across the Tory Brook, Long Brook and Woodford catchments.

Relevant city wide policies:

Follow SuDS hierarchy.

Sub catchment specific water drainage policies:

Follow SuDS hierarchy, in particular, infiltration testing to BRE365. Where previously developed land drains to sewer system, opportunities to utilise infiltration should be explored first. Developers should refer to the Critical Drainage Area Guidance with regard to limiting discharge rates. In particular, this is required due to the combination of downstream impacts with Long Brook and Woodford sub-catchments.



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PLYMOUTH CITY COUNCIL

Environment Agency

SOUTH WEST WATER

Catchment Name: Plympton Woodford

Catchment Overview:

The catchment is approximately 1.2km^2 in area with a mixture of residential housing and green open space.

There is no evidence of watercourses within the catchment with the exception of the Tory Brook that runs along the southern boundary of the catchment flowing in a westerly direction. The catchment slopes steeply from north to south with a significant surface water flow route from St Margaret's Road to the east of Great Woodford Road.

Issues identified in the LFRMS include flood risk from the Tory Brook with the main objectives being capacity improvements in the Tory Brook and to attenuate surface water flows.

Areas of potential blue/green space:

Green open space in the catchment is topographically situated above residential development so may be unsuitable as SuDS attenuation feature.

Infiltration potential:

BGS Infiltration SuDS Mapping indicates that the catchment is only suitable for bespoke infiltration SuDS and within the strategic corridor 'very significant constraints' exist.

Existing sewer system:

The catchment is predominantly separate surface and foul water sewers with combined sewers being present in the south east of the catchment. There is ongoing Integrated Urban Drainage Modelling being undertaken across the Woodford, Tory Brook and Long Brook catchments.

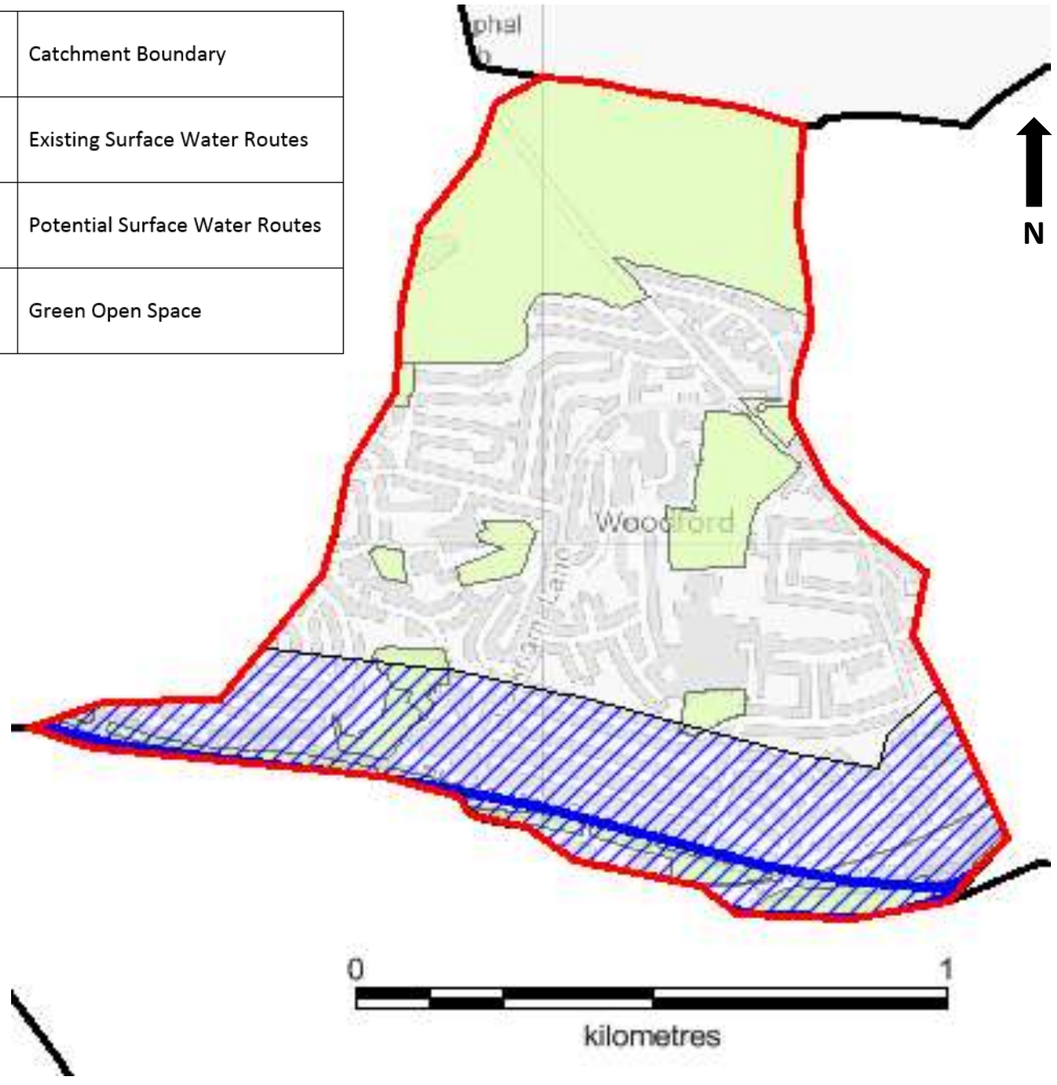
Relevant city wide policies:

Follow SuDS hierarchy.

Sub catchment specific water drainage policies:

Follow SuDS hierarchy, in particular, infiltration testing to BRE365. Where previously developed land drains to sewer system, opportunities to utilise infiltration should be explored first. Developers should refer to the Critical Drainage Area Guidance with regard to limiting discharge rates. In particular, this is required due to the combination of downstream impacts with Long Brook and Woodford sub-catchments.

	Catchment Boundary
	Existing Surface Water Routes
	Potential Surface Water Routes
	Green Open Space



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PLYMOUTH CITY COUNCIL

Environment Agency

SOUTH WEST WATER

Catchment Name: Pomphlett Lake

Catchment Overview:

The catchment is approximately 11.7 km^2 in area with a mixture of green open space, residential housing and commercial development.

The Radford watercourse flows in a westerly direction across the catchment, partly culverted until it reaches Cattewater. A number of other ordinary watercourses within the catchment are extensively culverted. Surface water issues are noted in the Pomphlett Road/Pomphlett Gardens area where surface water sewers discharge into the combined system.

Issues identified in the LFRMS include tidal flood risk at Oreston, Hooe and Turnchapel along with a high number of SWW incidents, CSO spills causing Bathing Water Quality issues, blockages and pollution incidents. Also identified is groundwater flooding around Haye Road and frequent surface water flooding around Broadway and Plymstock. Objectives include reducing tidal flood risk, reducing potential for pollution incidents and CSO spills, increasing sewerage capacity and reducing surface water flooding

Areas of potential blue/green space:

There is potential to utilise green open space within the north of the catchment and around Radford Lake, this could include above ground SuDS to collect surface water prior to controlled discharge into the watercourse.

Infiltration potential:

The BGS SuDS Infiltration mapping indicates that whilst the majority of the catchment has opportunities for bespoke infiltration SuDS only, there is a section running east to west across Plymstock which is highly compatible for infiltration SuDS

Existing sewer system:

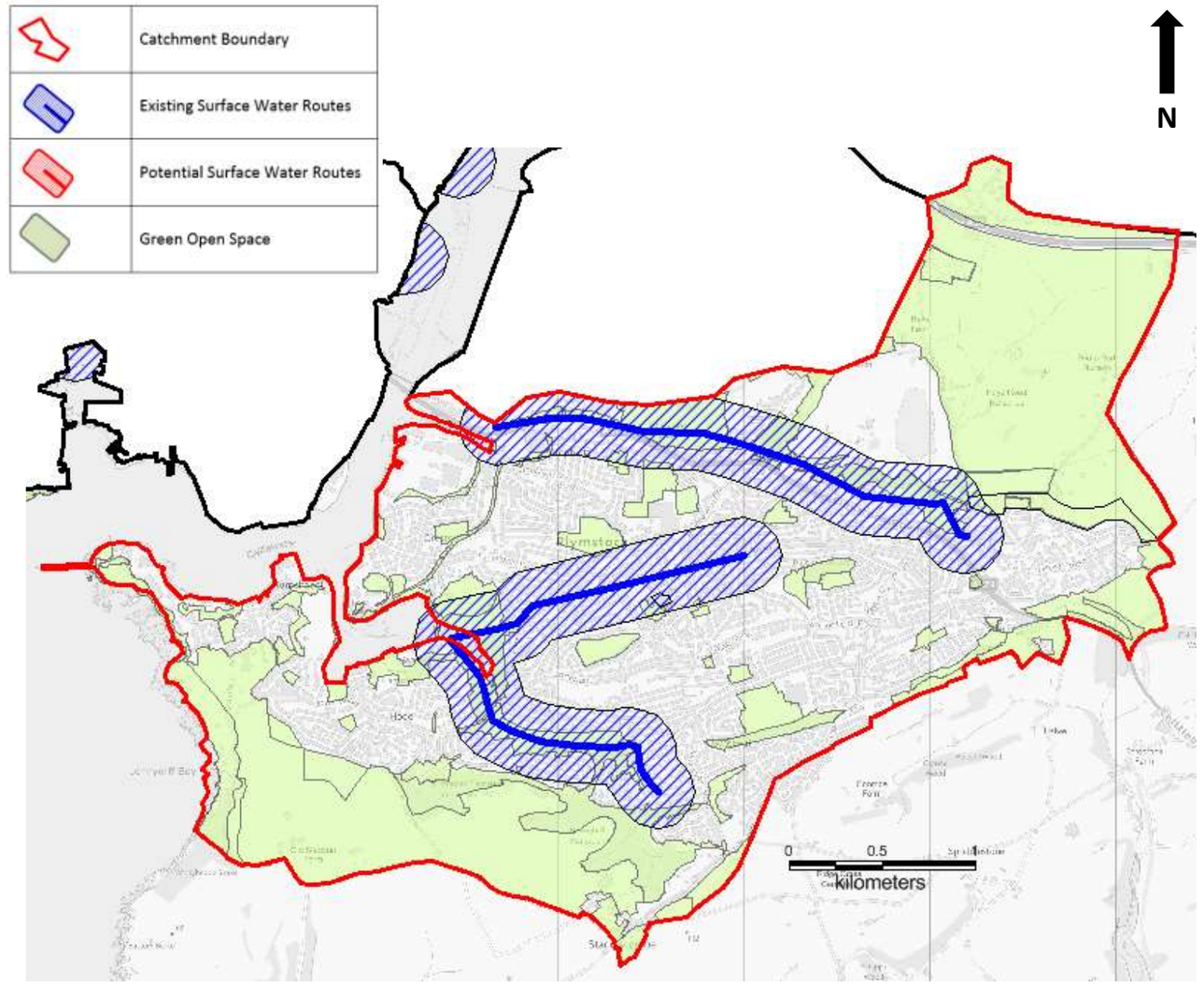
The catchment is served by a combination of separate surface and foul water systems alongside combined sewers. There are current investigations into potential surface water separation within the catchment.

Relevant city wide policies:

Follow SuDS hierarchy.

Sub catchment specific water drainage policies:

Follow SuDS hierarchy, in particular, infiltration testing to BRE365. Whilst not in the Plymouth Critical Drainage Area, where development is proposed reference should be made to the Minimum Drainage Standards. Attenuate discharge to existing surface water sewers to greenfield runoff rates prior to discharge to either existing watercourses or tidal waters.



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PLYMOUTH CITY COUNCIL

Environment Agency

SOUTH WEST WATER

Catchment Name: Royal William Yard

Catchment Overview:

The Royal William Yard sub-catchment consists of Grade 1 & Grade 2 listed buildings within the harbour area consisting of a mixed use development. In addition, there are residential houses along Cremyll Street, Strand Street and Durnford Street.

Areas of potential blue/green space:

There are limited areas of potential green open space due to the topography of the area. It is considered that unrestricted discharge to tidal waters is feasible although need to consider tide locking. Roads are also narrow, therefore potential for rainwater gardens are limited.

Infiltration potential:

According to the BGS SuDS infiltration map there are parts of the catchment that are highly compatible for infiltration SuDS, however, these are unlikely to be feasible for use due to location (i.e. at levels higher than existing development)

Existing sewer system:

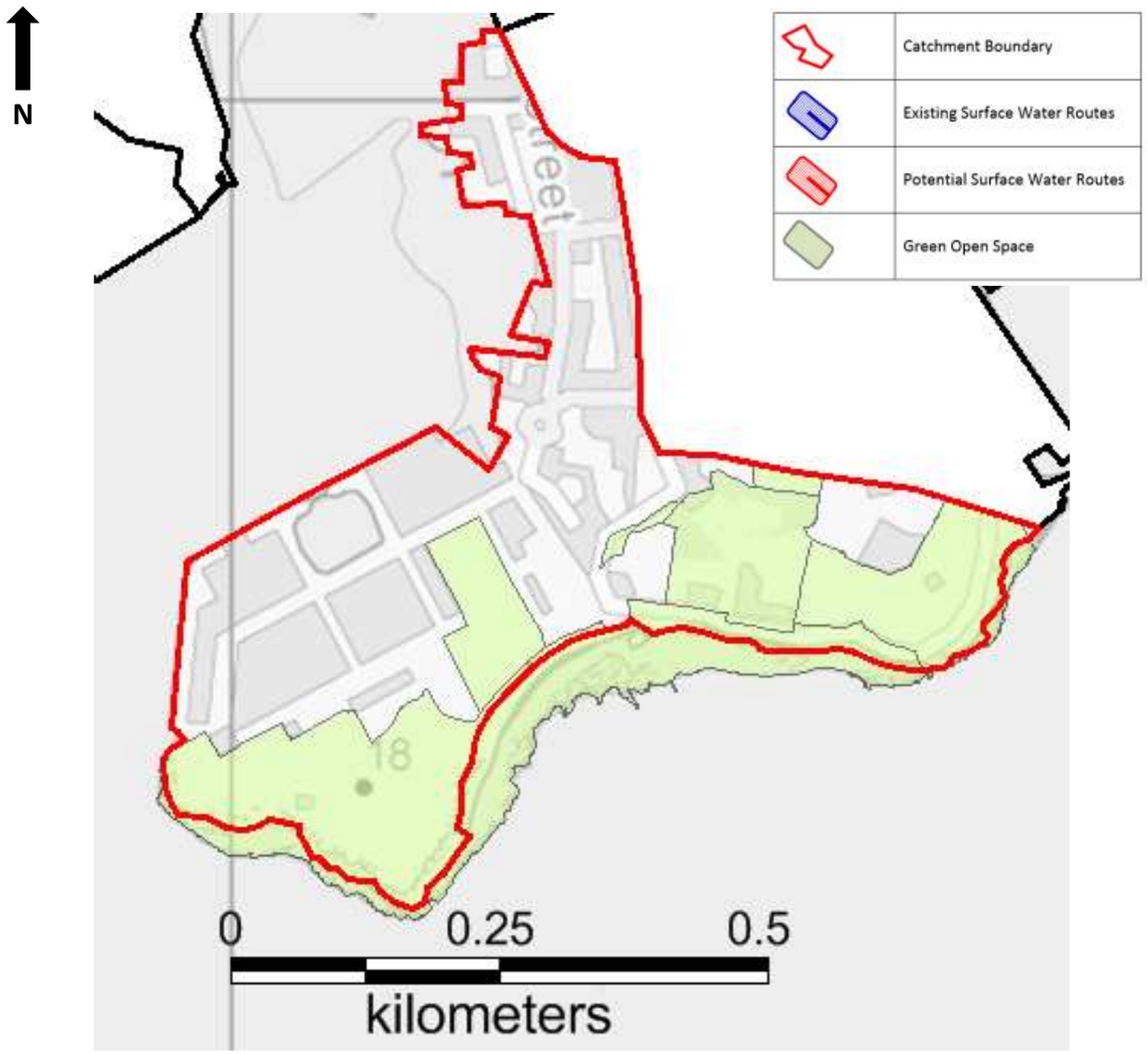
Royal William Yard is served by a separate surface water and foul sewer network. The existing development on Cremyll Street is served by a combined network.

Relevant city wide policies:

Follow SuDS hierarchy.

Sub-catchment specific water drainage policies:

The majority of the sub-catchment is not located within the Plymouth Critical Drainage Area. Due to limited space and low lying area, infiltration is unlikely to be feasible. Discharge to tidal waters via separate surface water sewer system is preferable although adequate storage required within system to reduce potential surface water flooding during tide locking.



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Environment Agency

SOUTH WEST WATER

Catchment Name: Saltram

Catchment Overview:

The catchment is predominantly green open space with numerous quarried areas and the former Chelson Meadows landfill site.

The River Plym lies along the western boundary of the catchment. 'The Belt' watercourse flows east to west across the catchment prior to discharging into the River Plym. This watercourse responds rapidly to rainfall and has previously flooded with depths > 1m experienced.

Issues identified in the LFRMS include the risk of tidal flooding, in particular, the impact to the landfill site. The LFRMS objectives are to attenuate surface water and reduce flood risk to The Ride and the landfill site.

Areas of potential blue/green space:

Large areas of blue / green space, but limited existing and proposed development in the area.

Part of the catchment is in a SSSI impact zone, there are listed buildings within the catchment and the northern section is a registered park and garden therefore the green space may not be available for use as SuDS.

Infiltration potential:

BGS Infiltration SuDS Mapping indicates that there are only very limited opportunities for bespoke Infiltration SuDS across the catchment. SuDS opportunities are also restricted by the extent of the former landfill (clay capped)

Existing sewer system:

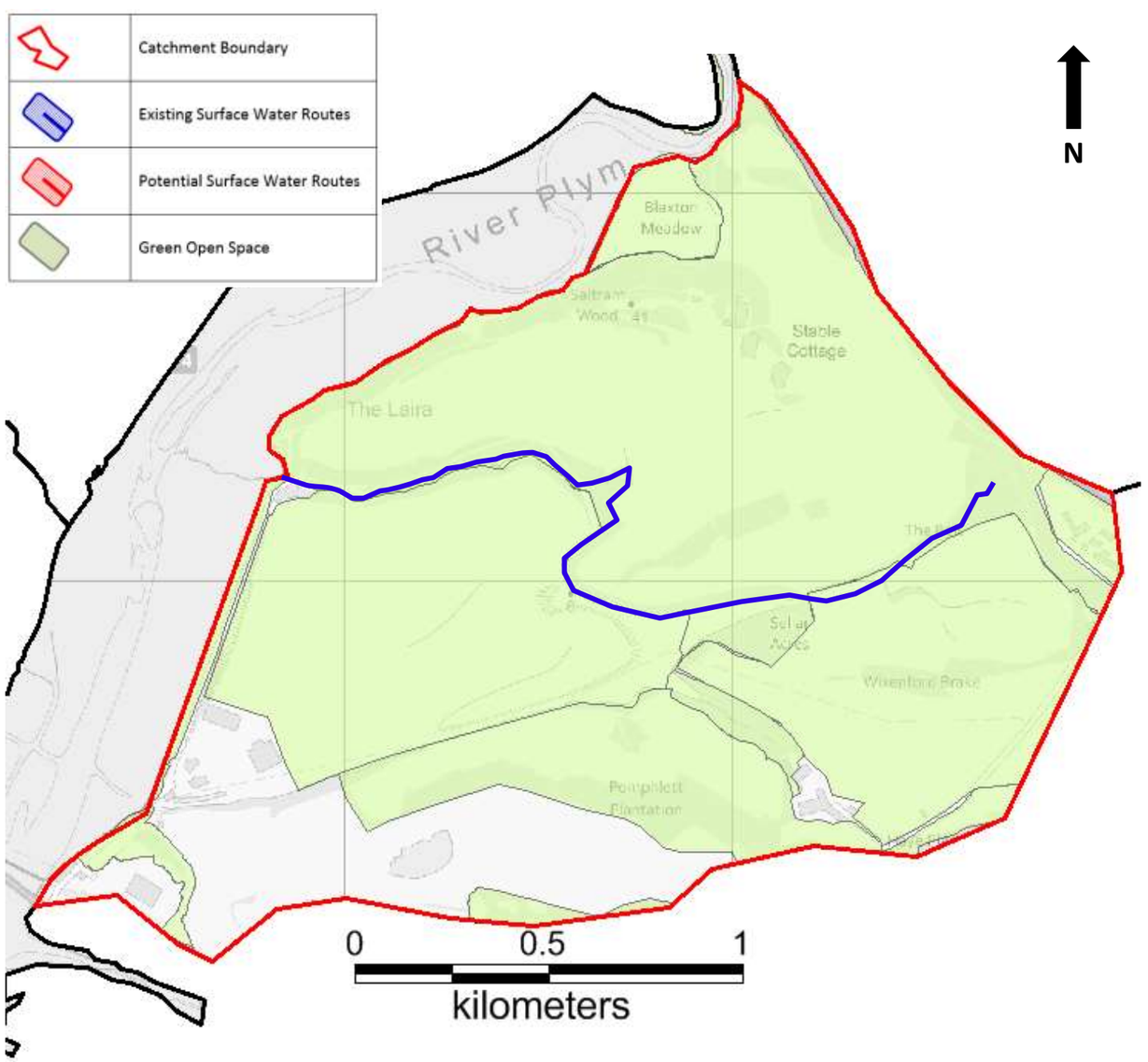
There is no existing sewer system across the catchment with the exception of a water treatment facility that treats runoff and leachate from the former landfill prior to discharge into the River Plym. Discharges from this catchment potentially impact on Bathing Water Quality.

Relevant City wide policies:

Follow SuDS hierarchy.

Sub-catchment specific water drainage policies:

Follow SuDS hierarchy, in particular, infiltration testing to BRE365. Whilst not in the Plymouth Critical Drainage Area, where development is proposed reference should be made to the Minimum Drainage Standards. Attenuate discharge to existing surface water sewers to greenfield runoff rates prior to discharge to River Plym.



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Environment Agency

SOUTH WEST WATER

Catchment Name: Stonehouse

Catchment Overview:

The catchment is approximately 5km^2 in area with a mixture of green open space, residential housing and commercial development.

The Stonehouse Creek watercourse is extensively culverted throughout its length from Central Park to the outlet beneath Stonehouse Bridge. A minor tributary (Pennycomequick Stream) has open sections in the upper catchment prior to being culverted and entering the Stonehouse Creek watercourse.

There is some tidal ingress at the outlet due to the tidal flaps being in poor condition, although these are due for refurbishment in the near future. Victoria Park is prone to sewer flooding and there are highways drainage issues at Fellows Place.

Issues identified in LFRMS include limited capacity in sewerage system causing CSO spills, surface water flooding around Millbridge due to tide locking downstream. Objectives are to improve surface water runoff through catchment incorporating SuDS plus improved/highways/surface water drainage.

Areas of potential blue/green space:

There is potential to utilise green open space within the Central Park area, this could include above ground SuDS to collect surface water prior to controlled discharge into the culverted watercourse. Daylighting the existing watercourse or supplementing the existing culverted watercourse with defined exceedance flow routes within the greenspace.

Infiltration potential:

BGS Infiltration SuDS Mapping indicates that within the strategic corridor identified 'very significant constraints' exist. This is a combination of made ground and shallow groundwater (< 3m from surface)

Existing Sewer System:

The catchment is predominantly served by combined sewers with some areas of separate surface water and foul sewers.

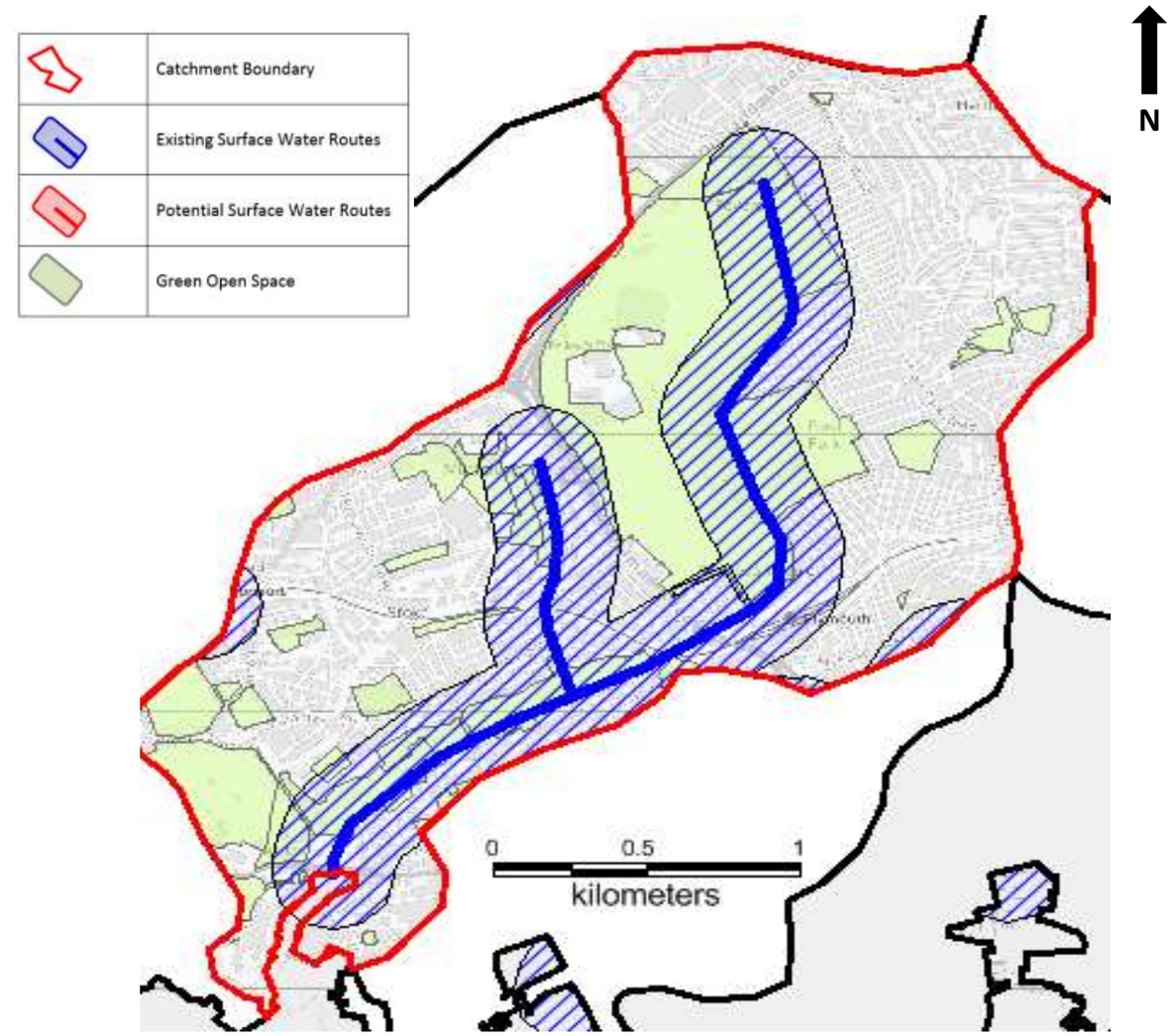
Relevant City wide policies:

Follow SuDS hierarchy.

Sub catchment specific water drainage policies:

Follow SuDS hierarchy, in particular, infiltration testing to BRE365. Where previously developed land drains to sewer system, opportunities to utilise infiltration should be explored first. Developers should refer to the Critical Drainage Area Guidance with regard to limiting discharge rates.

Development of strategic SuDS within the upper catchment as part of a Central Park Masterplan. Seek contributions for rehabilitation or upgrades of the existing culverted watercourse in the lower sections.



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PLYMOUTH CITY COUNCIL

Environment Agency

SOUTH WEST WATER

Catchment Name: Sutton & Laira

Catchment Overview:

The catchment is approximately 3.6km^2 in area and is predominantly residential in the north and commercial in the south with small areas of green open space.

The main water body within the catchment is Sutton Harbour Marina and the River Plym forming the eastern boundary. In the east of the catchment, drainage is limited by the level of the railway and tidal ingress at surface water outfalls. Slopes in St Judes and Mount Gould are steep, therefore the catchment responds quickly to rainfall. The SWW Central Waste Water Treatment Works is located within the catchment and there are instances of CSO spills recorded.

Issues identified in the LFRMS include significant pollution incidents into the River Plym impact on Bathing Water Quality, risk of tidal flooding to properties in Sutton Harbour and areas along the River Plym, and heavily urbanised area with frequent flooding due to surcharged sewer networks (Gydnia Way, Sutton Road). Objectives include reducing tidal influence on surface water drainage, reducing CSO spills and misconnections and reducing the impact of siltation on operation of sewers and highway drainage.

Areas of potential blue/green space:

There is potential to utilise green open space within the St Judes area, this could include above ground SuDS to collect surface water prior to controlled discharge although may be constrained due to the level of the railway.

Infiltration potential:

According to the BGS SuDS infiltration map the Cattedown area is highly compatible for infiltration SuDS. However, this area is historically industrial and potentially constrained by contaminated land.

Existing sewer system:

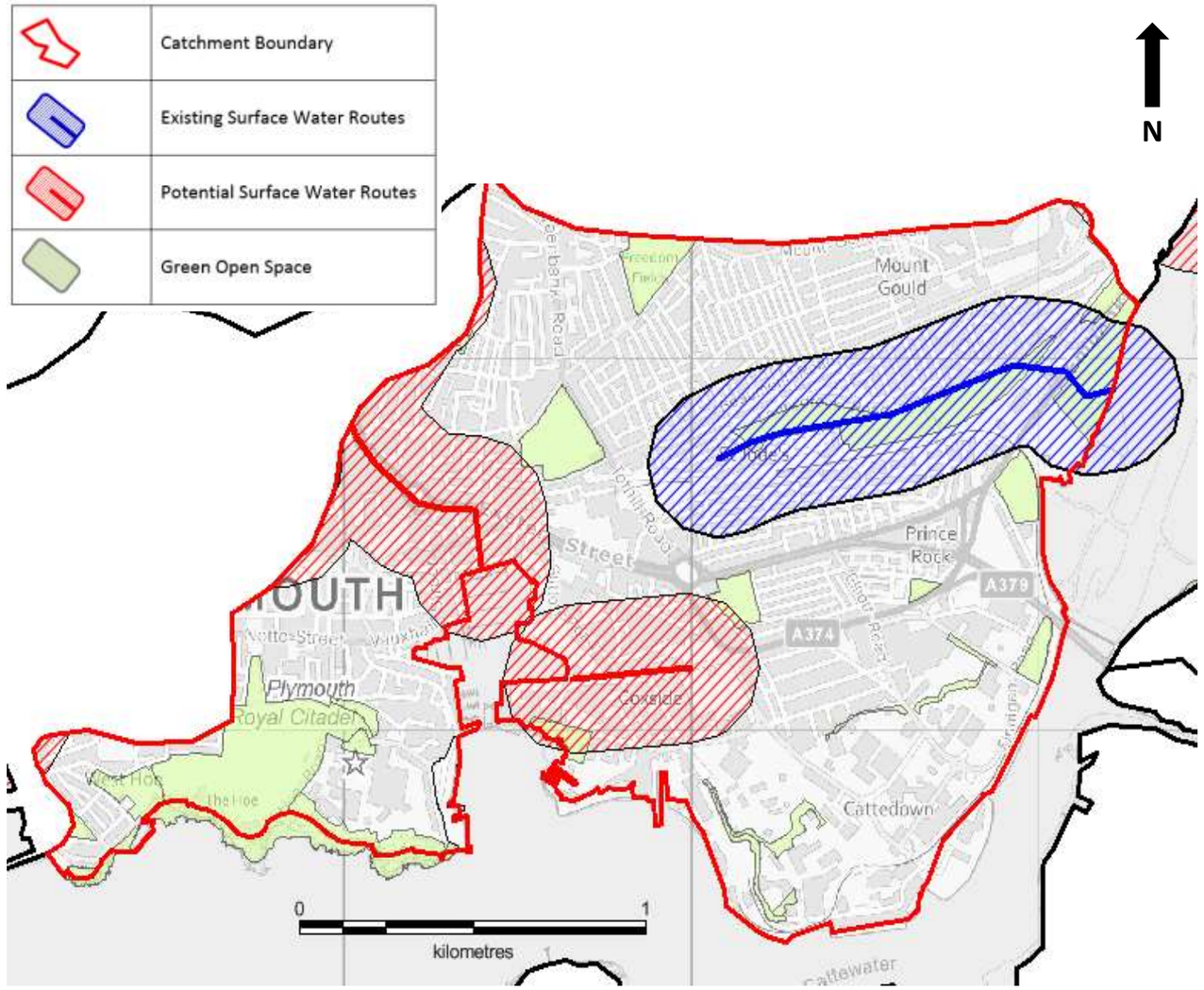
The site is predominantly served by combined sewer networks.

Relevant City wide policies:

Follow SuDS hierarchy.

Sub Catchment Specific water drainage policies:

Areas of previously developed land being redeveloped should incorporate separate surface water from the combined sewer. Where feasible connect into new strategic surface water sewers discharging to coastal waters in particular around Sutton Harbour Area.



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PLYMOUTH CITY COUNCIL

Environment Agency

SOUTH WEST WATER

Catchment Name: Tamerton Lake

Catchment Overview:

The catchment is approximately 10.5km^2 in area with a mixture of green open space, residential housing and pockets of commercial development.

There are a number of ordinary watercourses that discharge into Tamerton Lake (tidally influenced) that receive discharges from the surface water sewer network.

Issues identified in the LFRMS include flooding from combined sources in Tamerton Foliot (fluvial and surface water in combination with tidal sources). The catchments respond rapidly to rainfall causing hydraulic overload within the sewerage system and watercourses. There is an existing Flood Storage Area in poor condition that could be improved to provide greater attenuation and reduce flooding within Tamerton Foliot.

Areas of potential blue/green space:

The green open spaces typically consist of steep sided wooded valleys with predominantly open watercourses. Existing surface water systems predominantly discharge into these corridors that are strategic routes for surface water disposal to tidal waters.

Potential opportunities for rainwater gardens/swales to serve highways that have large grass verge areas. This may help to attenuate water entering surface water sewers and discharges to watercourses (i.e. this will manage potential downstream flooding).

The Flood Storage Area implemented to manage surface water from commercial developments at Roborough is heavily silted and over vegetated, therefore opportunities exist to improve the function of this asset.

Infiltration potential:

BGS Infiltration SuDS Mapping indicates that 'very significant constraints' exist at:

- Coombe Bottom (south of Tamerton Foliot) - mixture of constraints within the river corridor including shallow groundwater and slope instability.
- Southway Drive/Valley Playing Fields – areas of made ground and also shallow groundwater constraints within valley corridor.
- Crownhill Fort – large area of made ground to the north of Crownhill Fort.
- Budshead Wood – mixture of constraints within the river corridor including made ground, shallow groundwater and slope instability (lower reach)

Depending on depth of superficial deposits and made ground, infiltration may be feasible subject to soakaway tests to BRE365.

Existing Sewer System:

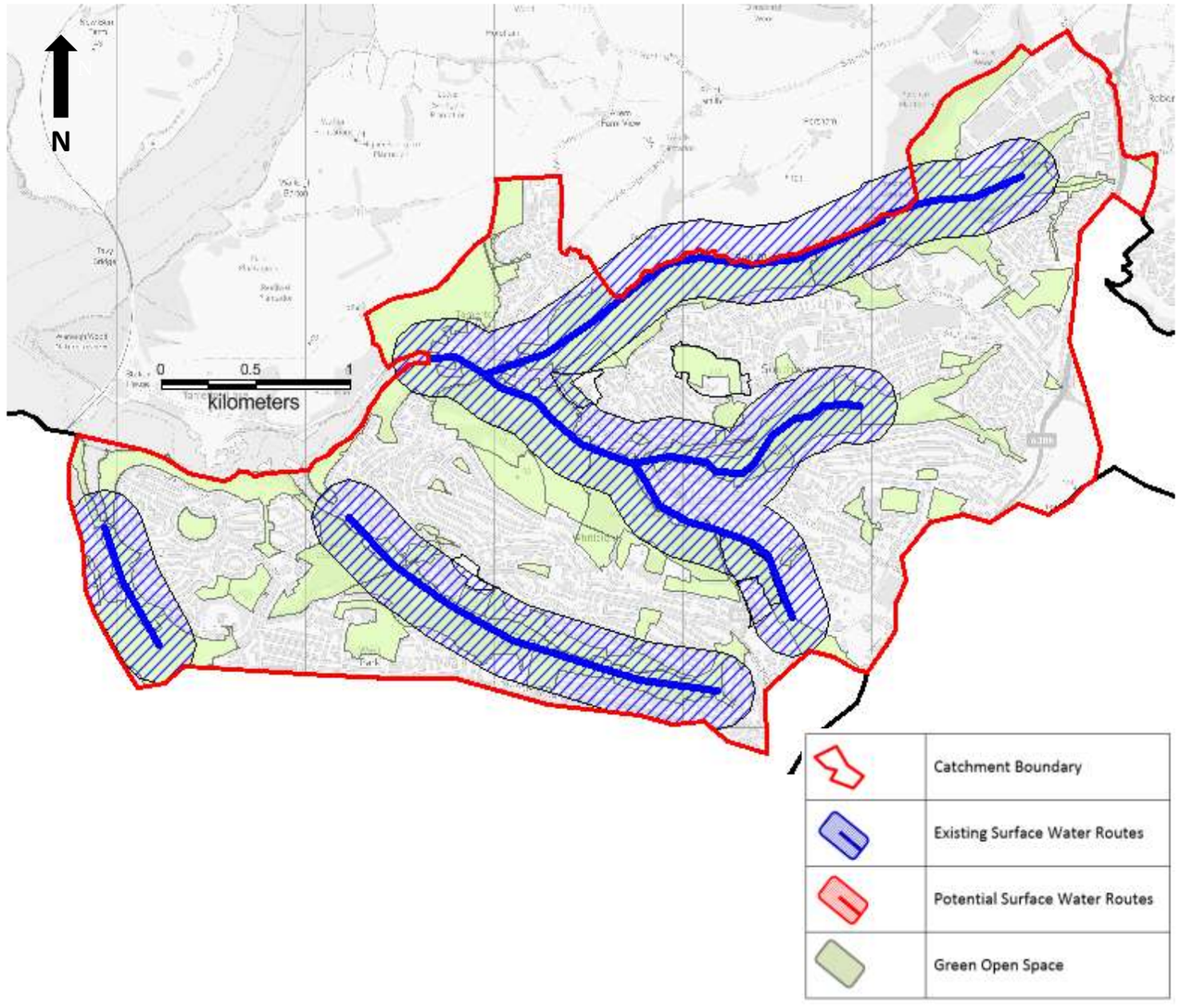
The area is predominantly served by separate surface water and foul sewers, therefore limited potential for further surface water separation. Potential separation for small area near 'The Brake', however, maybe error in asset database. Increase in attenuation and/or capacity within surface water system is likely to be more beneficial.

Relevant City wide policies:

Follow SuDS hierarchy.

Sub Catchment Specific water drainage policies:

Follow SuDS hierarchy, in particular, infiltration testing to BRE365. Where previously developed land drains to sewer system, opportunities to utilise infiltration should be explored first. Developers should refer to the Critical Drainage Area Guidance with regard to limiting discharge rates.



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SOUTH WEST WATER