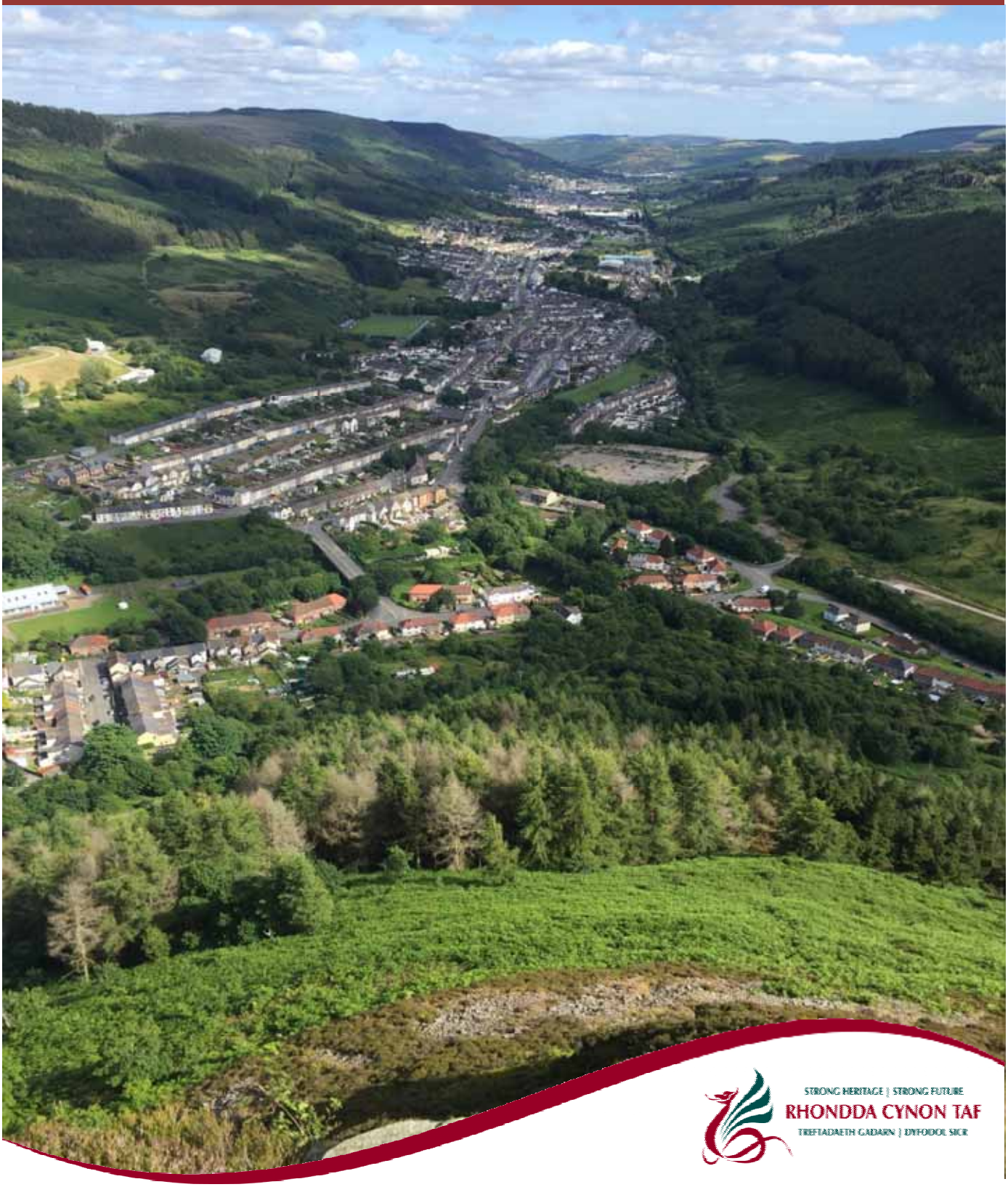
RHONDDA CYNON TAFF COUNTY BOROUGH COUNCIL

Flood Risk Management Plan

VOLUME 1



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RHONDDA CYNON TAF
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FLOOD RISK MANAGEMENT PLAN

VOLUME 1

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FOREWORD

During recent years, communities in Rhondda Cynon Taf have experienced the severe impacts and consequences of flooding. We have also witnessed other areas of the United Kingdom being subjected to devastating flood events. It is widely held that floods such as these are likely to become more frequent as the effects of climate change develop. The consequences of this unchecked expected increase in flooding will likely see greater risks to life, the economy and the environment of Rhondda Cynon Taf. In response to the above, Rhondda Cynon Taf County Borough Council has developed a holistic response to managing flood risk in the form of its first Flood Risk Management Plan. The Flood Risk Management Plan has been prepared with due deference to the objectives outlined in Rhondda Cynon Taf County Borough Council's Local Flood Risk Management Strategy, published in 2012.

The Flood Risk Management Plan is a key milestone in ensuring that the risk of flooding within Rhondda Cynon Taf is managed as a whole, integrating the work done by the Council, Government Bodies, Water Companies, communities and individuals. The Flood Risk Management Plan sets out the various measures that will be used to both gain a greater understanding of; and manage flood risk within Rhondda Cynon Taf. It should be stressed that the measures outlined within the Flood Risk Management Plan only contribute to the management of flood risk, aiming to assist in the prioritisation of flood risk management interventions where most required. Given the current pressures on public finance, it would be unrealistic to protect all property and infrastructure from the risk of flooding.

The Flood Risk Management Plan focuses on local flood risk, defined as flooding caused by surface runoff, groundwater and ordinary watercourses (streams, ditches etc.). This type of flooding was responsible for the highly publicised flooding of 2009, and is as an important mechanism of flooding within Rhondda Cynon Taf as is flooding from main rivers. However, it is appreciated that it is not the source of flooding that is of importance to those affected, but the effects. The Flood Risk Management Plan therefore sets out how Rhondda Cynon Taf County Borough Council will work collaboratively with other key stakeholders to input into the management of all sources of flood risk and ensure that investment decisions are made according to levels of risk.

Measures within the Flood Risk Management Plan outline how Rhondda Cynon Taf County Borough Council will attempt to gain a better understanding of the risks of flooding. By using modern modelling software it is possible to determine properties that are at risk from flooding, or are likely to be at risk of flooding in the future. It is appreciated that householders may have concerns about using models to determine areas of flood risk, but they are a significant and important tool in ensuring that limited resources are used in an effective manner to target flood risk measures to areas at the highest risk.

The Flood Risk Management Plan presents Rhondda Cynon Taf County Borough Council's preferred methodology for dealing with and better understanding flood risk and ensuring that communities, infrastructure and the wider environment are more resilient to the impacts of flooding and climate change.

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Councillor Andrew Morgan
Leader, Rhondda Cynon Taf County Borough Council

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1.0 PURPOSE OF THE FLOOD RISK MANAGEMENT PLANS

1.1 What is a Flood Risk Management Plan?

Flooding remains a key threat to communities across Wales, and managing this risk through careful planning is important to minimise the risk to communities. Flood risk management planning allows Risk Management Authorities (RMAs) to develop a better understanding of risk from all sources of flooding and agree priorities to manage that risk.

This Flood Risk Management Plan (FRMP) has been developed with this in mind and sets out how Rhondda Cynon Taf County Borough Council (RCTCBC) will manage flooding over the next six years, so that the communities and environment at highest risk benefit the most. In doing so, this Flood Risk Management Plan takes forward the objectives and measures set out in our Local Flood Risk Management Strategy (LFRMS), published in January 2013. The Local Flood Risk Management Strategy for Rhondda Cynon Taf County Borough Council can be found by following the link at www.rctcbc.gov.uk/flooding.

This Flood Risk Management Plan also aims to achieve some of the objectives set out in the Welsh Government's National Flood and Coastal Erosion Risk Management Strategy (FCERM) which provides the national framework for flood and coastal erosion risk management in Wales through four overarching objectives:

- **Reducing the consequences** for individuals, communities, businesses and the environment from flooding and coastal erosion;
- **Raising awareness of and engaging people in the response** to flood and coastal erosion risk;
- **Providing an effective and sustained response** to flood and coastal erosion events; and
- **Prioritising investment** in the most at risk communities.

1.2 What is Included in this Flood Risk Management Plan?

The information included in Rhondda Cynon Taf County Borough Council's Flood Risk Management Plan includes the components set out in the Flood Risk Regulations 2009. Most of this information has been gathered and updated through this first cycle, and has been drawn from the findings of our Preliminary

Flood Risk Assessment and the measures we identified and set out in our Local Flood Risk Management Strategy.

This Flood Risk Management Plan sets out appropriate objectives for the management of flood risk within the areas covered by the plan. The objectives focus on reducing the adverse consequences of flooding for human health, the environment, cultural heritage and economic activity.

To do so, this Flood Risk Management Plan highlights the areas which are most at risk from surface water flooding and ordinary watercourse flooding in Rhondda Cynon Taf County Borough Council and draws the conclusions from these risks, setting out the measures we will take over the next 6 years to mitigate these risks and make our communities more resilient.

Due to the nature of flooding and current funding situation, we have also looked at measures to reduce the likelihood of flooding using non-structural measures, including raising awareness of flooding and better understanding of local flooding issues. We have looked to address all aspects of flood risk management, focusing on prevention, protection and preparedness as required by EU legislation, as well as recovery and review.

1.3 Legislative context

1.3.1 Flood Risk Regulations 2009

The Flood Risk Regulations 2009 transpose the European Union Floods Directive (Directive 2007/60/EC on the assessment and management flood risk) into domestic law in England and Wales. The aim of the Directive is to provide a consistent approach to flood risk across Europe.

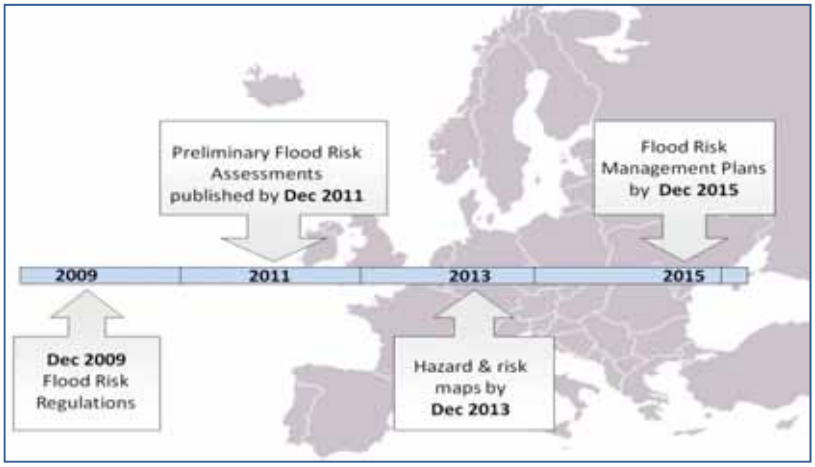
Under the Regulations, Rhondda Cynon Taf County Borough Council were identified as a Lead Local Flood Authority (LLFA). While Natural Resources Wales (NRW) is responsible for producing Flood Risk Management Plans at a river basin district level for communities at risk of flooding from main rivers and the sea, Lead Local Flood Authorities are required to produce local Flood Risk Management Plans to manage flooding from surface water and ordinary watercourse.

The Flood Risk Regulations set out a six year cycle with timescales for reporting to the European Commission and the publication of 3 key documents:

- Preliminary Flood Risk Assessment;
- Flood Hazard and Flood Risk Maps; and
- Flood Risk Management Plans.

These required publications are discussed in further Section 5.0 and the timeline for the publication of the requirements is presented in Figure 1.

Figure 1: Flood Risk Regulations 2009 Timeline



1.3.2 Flood and Water Management Act 2010

The Flood and Water Management Act 2010 was introduced in April 2010 in England and Wales and set to implement many of the recommendations made by Sir Michael Pitt's Review of the widespread flooding of 2007 in the UK. The Act was also intended to clarify roles and responsibilities between Risk Management Authorities (RMA's).

Under the Act, the Welsh Government was required to produce a National strategy for Flood and Coastal Erosion Risk Management. Lead Local Flood Authorities were required to produce a Local Flood Risk Management Strategy in partnership with other risk management authorities. The strategy was published in January 2013 and is discussed further in Section 4.3.

1.4 Water Framework Directive

The Water Framework Directive (WFD) is a European Union directive which came into force on December 22nd 2000. The aim is for Member States to adopt a holistic approach to water management, considering surface and groundwater in both qualitative and quantitative terms, by 2015. The WFD establishes a legal framework to protect and restore clean water across Europe and ensure its long-term, sustainable use.

The directive's key objectives, as set out in Article 1, are to:

- prevent further deterioration and protect and enhance the status of aquatic ecosystems and associated wetlands;
- promote sustainable water use based on long term protection of available water resources;
- aim at enhanced protection and improvement of the aquatic environment;
- ensure the progressive reduction of pollution of groundwater and prevents its further pollution;
- contribute to mitigating the effects of floods and droughts.

The overriding objective, set out in Article 4 of the Directive, is that Member States are required to achieve "good surface water status" and "good groundwater status", assessed by ecological and chemical qualities, and to prevent the deterioration in quality of those waters already classed as "good". There are limited expectations to achieve these objectives. For example, bodies of water which have been irrevocably and heavily modified will be required to achieve a status of "good ecological potential", which is equivalent to achieving good status given the constraints of the modifications.

The best model to achieve these objectives is management by river basin districts, rather than according to administrative or political boundaries. It is therefore required that Natural Resources Wales and the Environment Agency must produce and update a River Basin Management Plan for each district, setting out a programme of measures for the achievement of "Good Status".

There is a requirement for a coordinated approach on a River Basin District level between the Environment Agency, Natural Resources Wales and lead Local Flood Authority as the Flood Risk Management Plans and the River Basin River District Management Plans are developed.

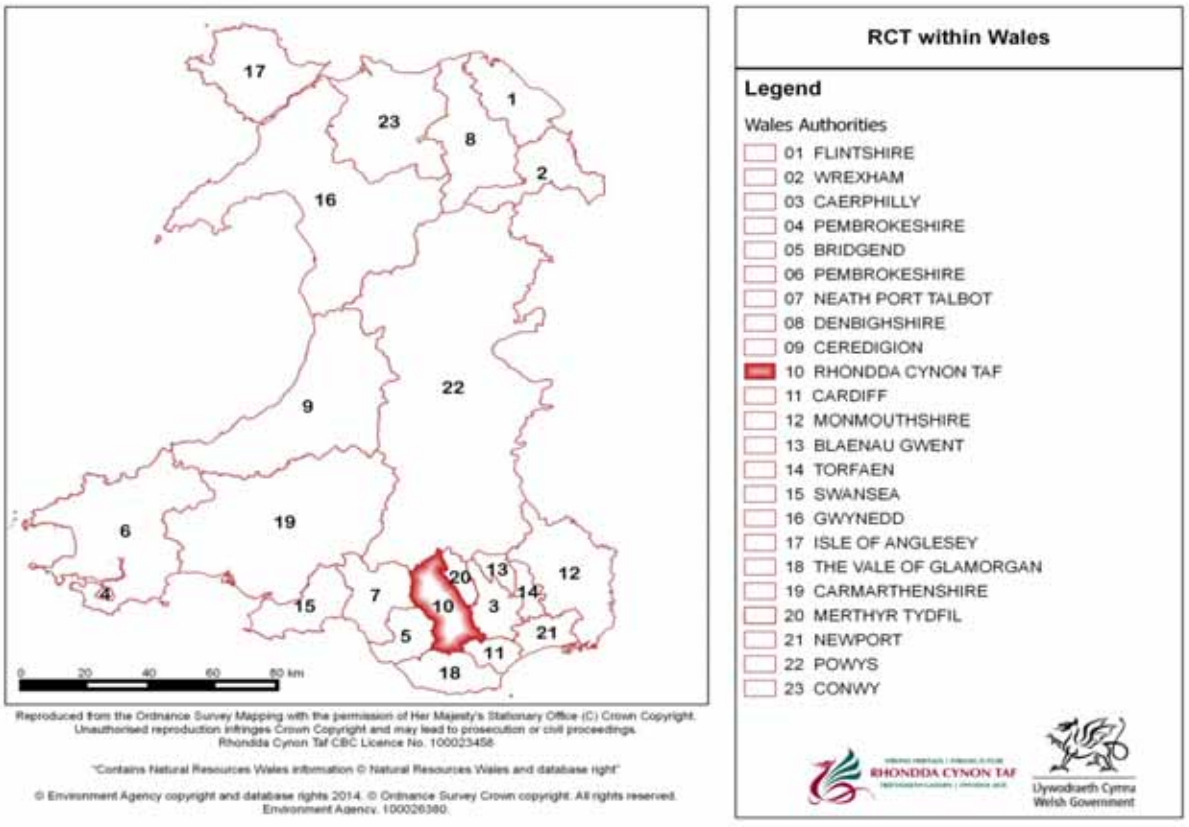
2.0 SUMMARY OF RHONDDA CYNON TAF COUNTY BOROUGH COUNCIL

2.1 Administrative Area

This Flood Risk Management Plan encompasses the administrative area of Rhondda Cynon Taf County Borough Council.

Rhondda Cynon Taf County Borough Council is Unitary Authority situated within the valleys of South East Wales and is the second largest authority in Wales, formed in 1996 from former Borough of Rhondda, Cynon Valley and Taff Ely, excluding the areas of Pentyrch and Creigiau, which were incorporated into Cardiff City Council. Rhondda Cynon Taff County Borough Council covers an area of approximately 42,400 Hectares with a population of 234,300 (census 2011). Rhondda Cynon Taff County Borough Council is bordered to the north by Merthyr Tydfil and Powys County Borough Councils, Caerphilly County Borough Council to the east, Cardiff City Council and The Vale of Glamorgan County Borough Council to the south and Bridgend County Borough Council and Neath Port Talbot County Borough Council to the west. A location plan and administrative setting is presented in Figure 2.

Figure 2: Location of Rhondda Cynon Taf County Borough Council within Wales



2.2 Land Use

The area was originally settled after the last ice age, between 8 and 10,000 years ago. There are Bronze Age, Iron Age and Roman remains, mostly situated on the upland plateau. It is likely that the valleys were heavily wooded and very wet. In time, farming developed and there is evidence of early earth and timber 'platform houses' on the valley sides; later, local stone was used for the construction of farms and churches. Llantrisant is most likely the oldest town. The population of the area was very small but farming would have changed the landscape by clearing and managing woodland, creating fields, draining and cultivating land. Watermills provided small scale power generation for flour and cloth production. Local place names provide clues to this pre-industrial history.

The Industrial Revolution brought a significant change to the area. Iron ore deposits in the north and south of the coalfield basin, combined with nearby exposures of limestone and a ready supply of timber for charcoal, led to the development of the iron industry (Merthyr, Aberdare, Hirwaun and Llanharan/Llanharry) by the first half of the 19th century. Coal soon replaced charcoal as the fuel and as more coal seams were discovered, mining technology advanced, railways and ports were built and the coal industry became dominant across the area. In response, towns grew rapidly as migrants arrived to work in the new industries; local stone was quarried to build the densely packed rows of terraced houses that are characteristic of the South Wales Valleys. Pitheads were the focus of each mining village, taking up relatively little space as most people were employed underground. The waste from coal extraction, and from iron manufacture, was piled on hill tops and valley sides.

Industry had a huge impact on the water environment with the construction of weirs and water abstractions for industrial use and then returned, filthy, to the river. Streams were culverted and large quantities of water were pumped from mines to allow the seams to be worked. The valley towns developed during this period, providing services for local residents. Coal production peaked in the first half of the 20th century and the valleys population began to decline in the second half as the pits closed. Industrial estates were built to provide alternative sources of employment, initially at Treforest and Hirwaun and later on many reclaimed colliery sites. The southern half of the County Borough has seen a rapid expansion of residential development from the second half of the 20th century, which has stemmed the population decline.

Agriculture is still a significant land use as is forestry; in particular government owned conifer plantations, although they employ very few people.

The history of the area means that the main rivers are heavily modified with adjacent built up areas along much of their length. Many of the watercourses in the built up area and on reclaimed tips have been culverted or channelled. Areas of commercial forestry and farming have been drained to increase production.

2.3 Geology

A review of available geological information indicates that Rhondda Cynon Taf is underlain by superficial deposits, consisting of Glacial Till and River Deposits, overlying Lower and Middle Carboniferous Coal Measures, consisting of mudstones, sandstones, siltstone, coal, ironstone and Ferricrete, which cover a significant area of the authority.

In the north and south of the county the underlying millstone grit and Carboniferous limestone is exposed: the northern band, in the foothills of the Brecon Beacons, being wider than the southern outcrop.

Superficial deposits are the youngest geological deposits formed during the most recent period of geological time, the Quaternary, which extends back around 2.6 million years. These deposits are mostly unconsolidated sediments such as gravel, sand, silt and clay. Within Rhondda Cynon Taf, superficial deposits associated with fluvial deposition, such as river gravels and alluvial clays and sands, are found at the floors of the main river valleys. Glacial Till is noted within valleys of minor watercourses and is more persistent in the north of the authority.

Areas of peat accumulation are found across the authority, with some extensive areas at higher altitudes in the north of the authority. These are considered to have good flood storage potential.

2.4 Hydrogeology

The Carboniferous Coal measures form the largest aquifer within Rhondda Cynon Taf, classified by the Environment Agency as a Secondary A aquifer, which means that these rocks are capable of supporting water supplies at a local rather than strategic scale. Within Rhondda Cynon Taf it is likely that these rocks provide an important source for base flow to rivers. These are generally aquifers formerly classified as minor aquifers.

The Carboniferous limestones form a locally important aquifer.

Groundwater movement is likely to be controlled by intergranular flow within the sandstones of the coal measures and fracture flow within the mudstones and limestones.

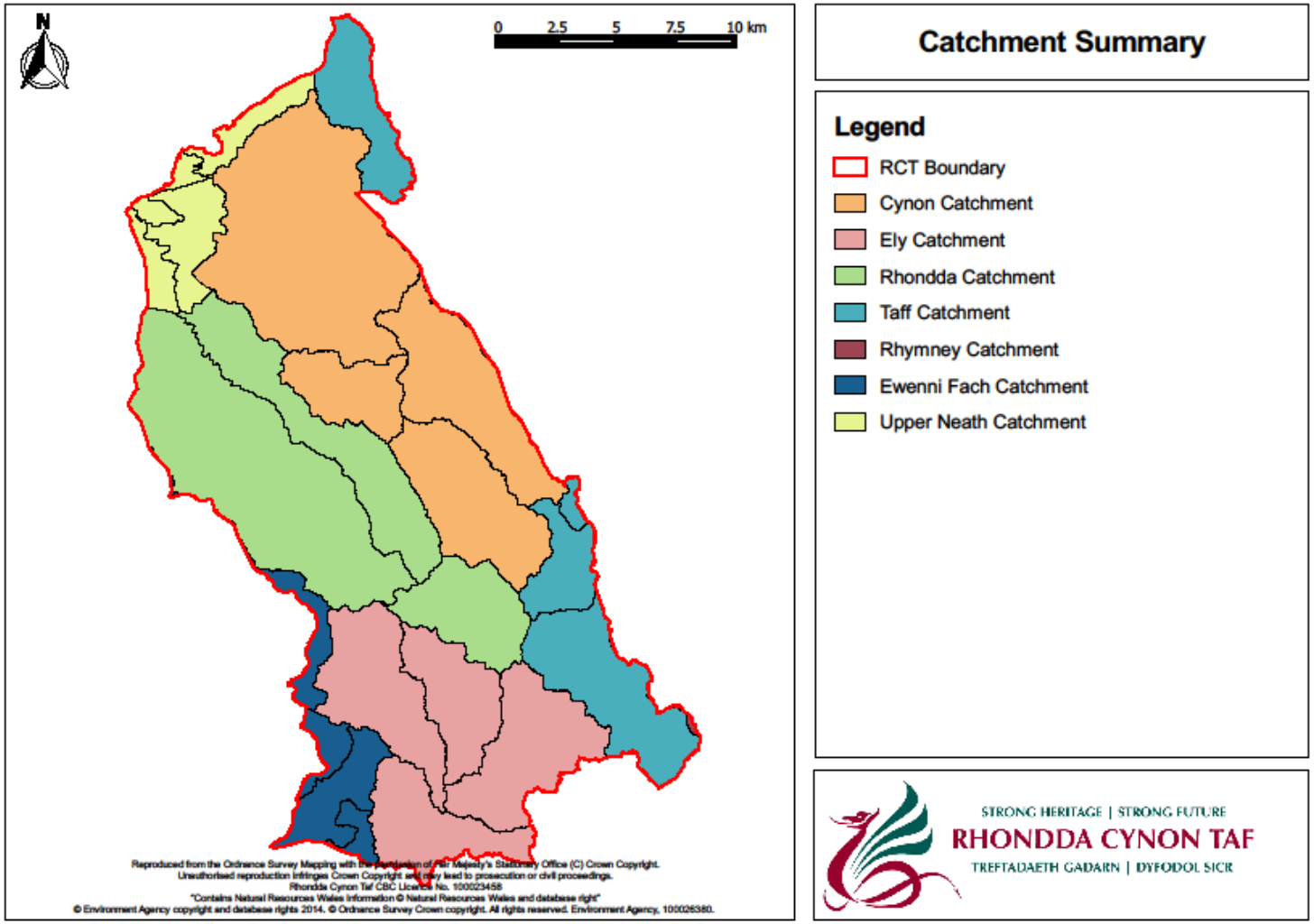
Due to the history of coal and ironstone mining in the south Wales coalfield there have been extensive underground workings, not all of which are mapped. During coal production in the twentieth century mines were routinely pumped to facilitate working and since the cessation of mining activity, this ground water pumping has been stopped. Ground water conditions are likely to have changed and there is anecdotal evidence of rising ground water levels. (For example, at Tir Founder fields in Aberdare); however, the impacts on ground water by the cessation of pumping are still poorly understood.

2.5 Catchment Characteristics

The catchments of the South East Wales Valleys within Rhondda Cynon Taf are the Rhondda, Cynon, Taff and Ely. Each catchment is characterised by steep sides, which are susceptible to intense rainfall and associated flash flooding. The combination of topographic, geological and geographical factors causes the catchments within Rhondda Cynon Taf to have an almost immediate response to rainfall with events often subsiding in hours, rather than days.

The character of the landscape reflects the geological history. The high ground forms a plateau sloping gradually to the south, cut by steep sided and relatively straight valleys carved by glaciers in the last ice age. The most southerly glacial cwms in Britain are spectacular features of the upper Rhondda and Cynon Valleys. These catchments are described in more detail below. Figure 3 displays the catchments within the boundary of Rhondda Cynon Taf County Borough Council.

Figure 3: Catchments within Rhondda Cynon Taf County Borough Council



2.5.1 Rhondda Catchment

2.5.1.1 Hydrology

The Rhondda Valley is comprised of the Rhondda Fach in the east and the Rhondda Fawr in the west as two distinct valleys, separated by Mynydd Maendy.

The Rhondda Fawr is sourced on the south eastern slopes of the Craig y Llyn, where a series of watercourses, including the Nant Melyn, Nant Carnfoesen and Nant Garreg-lwyd, plunge over waterfalls and merge together to form the Rhondda Fawr. The key settlements in the Rhondda Fawr are Treorchy, Tonypandy and Porth, with built up areas extending along the valley floor from Blaenrhondda in the north all the way to Porth. The headwaters are generally in a 'natural' condition whilst the main river channel is heavily modified.

The main tributary streams flowing into the Rhondda Fawr from the west are the Nant Selsig (Blaencwm), Nant Saerbren (Treherbert), Nant Cwm Parc (Treorchy) and the Nant Clydach (Tonypandy). These tributaries are generally modified by urban development on the valley floor with unmodified headwaters. The only significant tributary from the east is the Nant Orchi (Treorchy) which is mostly rural.

Figure 4: Typical view of the Rhondda Fawr with the town of Treorchy

The Rhondda Fach is sourced approximately 1 mile to east of the Rhondda Fawr with tributaries firstly being controlled within the Lluest-wen Reservoir. Ferndale is the key settlement in Rhondda Fach and although there is urban development along the whole valley, from Maerdy to Porth, north of Wattstown it is generally above the main river level. For much of its length the Fach has a more natural river profile, the modified channel sections being mostly north of Maerdy (reservoirs) and between Wattstown and Porth.

There are no significant tributaries of the Rhondda Fawr or the Afon Rhondda.

Figure 5: Typical view of the Rhondda Fach with the town of Maerdy

The confluence of the Rhondda Fach and the Rhondda Fawr is situated in the town of Porth, where the Afon Rhondda continues to drain the catchment to the south, with its confluence with the Afon Taf in the town of Pontypridd. This section of river channel is modified throughout.

The Afon Rhondda is characteristic of a fluvio-glacial valley, with steep-sided valleys and extensive urbanisation of the narrow valley floors. The urban settlement is characterised by terraced streets along the valley floor and lower slopes, with the main road, rail (Fawr only), water and sewerage infrastructure located in the river corridor. Subsequent to the decline in the coal industry, extensive colliery spoil tips have been reclaimed, new industrial sites developed and public open space created. Much of this land is owned by the Council.

The Afon Rhondda Catchment is contained wholly with the boundary of Rhondda Cynon Taf.

2.5.1.2 Ecology

The upland plateau includes extensive areas of deep peat, on the boundary with Neath Port Talbot. The landuse is predominantly coniferous forest, originally planted in the 1970's, with the majority in the ownership of the Welsh government (40% of the land area). There are also areas of privately owned land on the plateau and valley sides, which are mostly used for sheep and pony grazing. There are a number of windfarm developments on the plateau where peatland management is a requirement of the planning consent.

Within the Rhondda catchment there are Sites of Special Scientific Interest at Mynydd Ty-Isaf Rhondda (which includes Cwm Saerbren and its glacial cwm and alpine vegetation), Blaenrhondda Road Cutting (geological exposure) and the oak woodlands of Craig Pont Rhondda, or as it is better known Glyncornel (which is also part of the Glyncornel Local Nature Reserve). Outside the built up area, much of the land is designated under planning policy provision in the Local Development Plan as Sites of Importance for Nature Conservation (SINC). The SINC designations include extensive areas of upland forestry and unplanted habitat, where, amongst other habitats, there is a concentration of upland blanket bog (much of which has been planted and partly drained by the Forestry Commission). Elsewhere the valley sides support extensive areas of ffridd, a particularly characteristic habitat (and species rich mosaic of habitats) which is comprised of complex mixtures of woodland, acid grassland, heath, marshy grassland, undisturbed coal spoil, cliff and scree, and scrub. The ffridd occupies the steep valley sides between the upland plateau above and the urban settlement boundary below, and is a superb example of habitat connectivity form important 'wildlife corridor' and wonderful aesthetic backdrops to the Rhondda towns and villages. The Rhondda Rivers are also a SINC, and are important for their riparian habitats and associated species, including salmon, dipper and otter. There are also a number of Regionally Important Geological Sites (RIGS) in Rhondda.

There is capacity to develop on a landscape, multi-benefit land and habitat restoration schemes as part of planning agreement requirements for a number of large wind farm schemes on the high coal field plateau. If successful these would deliver extensive peat bog and upland wetland restoration, carbon storage, flood risk management at source and grass fire control outputs.

2.5.2 Cynon Catchment

2.5.2.1 Hydrology

The Afon Cynon is sourced in the area northeast of Penderyn, where the Nant Cadlan issues from Carboniferous Limestones and sandstones on the southern fringes of the Brecon Beacons National Park. The Nant Cadlan and other minor tributaries merge into the Afon Cynon to the east of Pontbren Llwyd. In the upper Cynon Valley, the high ground of Craig yr Llyn forms the watershed with the Rhondda to the south. The Afon Cynon joins the Taff at Abercynon.

The catchment includes some areas of coniferous forestry on the plateau and the valley sides and significant areas of farmland, again used largely for sheep and pony grazing. There are a number of reclaimed coal spoil tips, often in Council ownership. The Council's operational landfill site is located on the plateau at Bryn Pica, northeast of Aberdare.

The principal town in Cynon Valley is Aberdare and the key settlements are Hirwaun and Mountain Ash. The Cynon Valley has a wider valley floor than that of the Rhondda and there is more undeveloped land, including areas of floodplain, between the settlements. There are also more industrial sites and public open spaces/ playing fields on the valley floor, together with the main road, rail and water infrastructure. Terraced Victorian housing and more modern developments occur throughout the valley.

The Valley is dominated by the Afon Cynon and a number of important valleyside tributary streams: these include the Nant Y Bwlch (Hirwaun), Afon Dare (Aberdare), Nant Melyn (Penywaun), Nant-y-gwydel (Llwydcoed), Nant yr Derlwyn (Trecycnon) Nant Pennar (Mountain Ash), Nant Gwawr (Aberdare) and the Aman River (Aberaman). In addition the Cynon catchment also includes the separate tributary of the Afon Taf, the Nant Clydach, which is sourced in the highlands within St Gwynno Forest. From St Gwynno Forest, the Nant Clydach flows to the south into the Afon Taf near the village of Glyncoch. In the main areas of urbanised/post industrial valley bottom, streams and river channel have been modified, and sometimes grossly modified by a combination of culverting and canalisation as a result of housing development, industrial activity and tipping, coal mining, road building, and flood prevention: however, only the lower parts of the Dare and the Aman have significant built development. Elsewhere the Afon Cynon and many of its tributaries have natural stretches of riparian corridor, with largely natural bed and bank features. There is also a remnant section of the Aberdare Canal in Aberdare and remnants of the locks to the Glamorgan Canal in Abercynon.

The Afon Cynon is characteristic of a fluvio-glacial valley, with steep-sided valleys and urbanisation of the valley floors. The Cynon and Nant Clydach Catchment are contained wholly within the boundary of Rhondda Cynon Taf.

Figure 6: Typical view of the Cynon Valley

2.5.2.2 Ecology

The Cynon Valley catchment supports nationally and internationally important areas of marshy grassland and lowland peat, particularly in the upper catchment. There are a suit of European protected Special Areas of Conservation (SAC) and a larger number of SSSIs. The SACs are Cwm Cadlan (a series of base-rich fen and marshy grassland pastures inside the BBNP), Blaen Cynon SAC (marshy and drier grassland, marsh fritillary butterfly habitat and lowland peat bog) and parts of the very extensive and varied habitats mosaics of Coedydd Nedd a Mellte (most of which is within the Neath catchment). The SSSI (some of which are also parts of the aforementioned SACs) also include a number of important grassland sites (with considerable components of marshy grassland and marsh fritillary habitat), at the head of the Cynon Valley these are Bryncarnau Grasslands Llwydcoed, Tir Mawr a Dderi Hir Llwydcoed SSSI, Cors Bryn-y-gaer SSSI, Woodland Park and Pontpren SSSI and Cwm Cadlan SSSI, while further down the Valley there is a further species-rich marshy and drier grassland habitat at Waun Goch:Penrhiw-cradoc SSSI and Caeau Nant Y Groes SSSI. The Cynon

Valley catchment includes the glacial cwm and reservoir which is part of Craig y Lyn SSSI, on the north facing flanks of the coalfield plateau above Rhigos.

The ecological importance of the Cynon Catchment is also evidenced by the number and extent of planning designated Sites of Importance for Nature Conservation (SINC). These include the main River and unmodified (or partially modified) principle tributaries. The river systems support a suit of key river species. The Cynon Valley has extensive areas of floodplain grassland, carr and wetland (which are of regional importance as rare examples of unimproved floodplain habitats with associated species and include Tirfounder Fields, Aberdare and the Wildlife Trust nature reserve at Pwll Waun Cynon, Mountain Ash) and these are included within various River Cynon SINCs and the Cynon River Park (a Local Development Plan allocation). The SINC include extensive areas of upland grassland and heath and forestry plantation, with relic bog habitats, and glacial cwms. The valleyside ffridd is also well established in the Cynon Catchment, with many species rich marshy and drier grasslands, areas of dry and wet heath, ancient and secondary woodlands, species-rich coal tips (old and new). These SINC help support the functioning capacity of the SAC and SSSI network and allows habitat connectivity for a huge range of species. The success of this connectivity can be seen in the health of the marsh fritillary butterfly meta-population, the survival of which is dependent upon a distribution of habitats as a landscape scale. There is heavy infestation of Japanese knotweed on riverside sites, particularly south of Mountain Ash.

As part of planning mitigation for housing, industrial, energy and mining open cast planning permissions there is capacity to develop landscape scale, multi-benefit land and habitat restoration schemes which could deliver habitat and wetland restoration, carbon storage, flood risk management at source and grass fire control outputs.

2.5.3 Taff Catchment

2.5.3.1 Hydrology

The Afon Taf rises as two rivers, The Taf Fechan and the Taf Fawr, both sourced in the Brecon Beacons, before merging to form the Afon Taf north of Merthyr Tydfil. The Afon Taf flows through the southeast of Rhondda Cynon Taf County Borough Council, flowing into the authority approximately 1km to the northeast of Abercynon. The confluences with the Afon Rhondda, the Afon Cynon and the Nant Clydach are situated at Pontypridd, Abercynon and Glyncoch, respectively.

The Afon Taf leaves Rhondda Cynon Taf to the south of Gwaelod-Y-Garth where it continues to flow southward, outfalling into the Severn Estuary at Cardiff Bay. The valley floor is wider and the plateau lower than in Cynon and Rhondda. Most of the plateau and undeveloped valley sides are farmland with some private forestry and common land on the eastern boundary with Caerphilly.

The principal town of the Taff Valley in Rhondda Cynon Taf County Borough Council is Pontypridd, and urban development extends south to Taffs Well. There is a section of largely undeveloped floodplain between Abercynon and Pontypridd, comprising farmland and an area owned by the Dwr Cymru Welsh Water sewage treatment works. Whilst much of the urban development is characterised by terraced streets, there is more variety of Victorian housing and more recent housing developments. Treforest Industrial Estate, built in the 1930's and more recently extended, occupies the floodplain south of Pontypridd. The A470 trunk road, the rail-line, water and sewerage infrastructure follow the river corridor.

The significant tributaries are the Nant Cae Dwdwg (Cilfynydd), the Nant Gelliwion (Pontypridd), the Ely Brook (Pontypridd), Nant Corrwg (Rhydyfelin), Nant Ffynnon Wen (Upper Boat), Nant y Gedrys (Upper Boat) and Nant Cwmbedw following the Penrhos cutting (Nantgarw). There are some remnant sections of the Glamorgan Canal at Abercynon and Pontypridd and of the 'doctors' canal in Treforest.

Figure 7: Typical view of the Lower Taff catchment (Nantgarw)

2.5.3.2 Ecology

There is a European protected SAC at Cardiff beechwoods, which just extends into Rhondda Cynon Taf County Borough Council and which is also designated as part of the Castell Coch Woodlands and Road section SSSI. The Taff Valley also supports woodland SSSI in the very north of the catchment at Penmoelatt SSSI, north of Merthyr where Rhondda Cynon Taf includes part of the rivers western catchment, and in the south at Pontypridd at Coed Gelliwion SSSI. There is also an extensive network of SINC on the valley side with large areas of mosaic ffridd, and semi-natural woodlands (including Craig Yr Hesg Local Nature Reserve in Pontypridd). The River Taff is a key SINC corridor, with important riparian habitats and species, and associated floodplain grasslands and wet woodlands. RIG sites include quarry rock exposures and quaternary floodplain deposits north of Pontypridd.

2.5.4 Ely Catchment

2.5.4.1 Hydrology

The Ely valley is drained by the Afon Elai, which issues from Carboniferous Coal Measures on the slopes of Mynydd Pen-y-Graig and Mynydd Dinas in Rhondda Cynon Taf. The Afon Elai flows southwards through the principle town of Talbot Green before leaving Rhondda Cynon Taf adjacent to Junction 34 of the M4. The Afon Elai continues through Cardiff and discharges into Cardiff Bay.

The catchment includes the key settlement of Tonyrefail. Only the northern headwaters are confined to narrow steep sided glacial valleys, south of Tonyrefail the undulating terrain has characteristics of the border vale. The Afon Elai has two significant tributaries, the Afon Clun and Nant Muchudd, which are sourced on the western slopes of the Garth and the western slopes of Mynydd Y Glyn, respectively.

The Nant Muchudd rises in the highlands to the east of Tonyrefail, then flowing south to its confluence with the Afon Elai at Ynysmaerdy. The Afon Clun rises in a peat bog near Penycoedcae and flows to the west to its confluence with the Afon Elai in Pontyclun. The Clun has been identified under the Water Framework Directive as an area where pollution is compromising the water quality and a project to address these issues has been established by the Rivers Trust.

Figure 8: Typical view of the Afon Elai Catchment

2.5.4.2 Ecology

A short section of the southerly extent of Afon Elai in Rhondda Cynon Taf County Borough Council is part of the Ely Valley SSSI (most of the SSSI lies in the Vale of Glamorgan). A particular feature of the SSSI and the Ely Catchment in RCT is Monk's hood (a native delphinium species). The catchment is particular national importance for its marshy and dry species rich grasslands with the extensive Rhos Tonyrefail SSSI and the Llantrisant Common and Pastures SSSI (part of which is Y Gweria Wildlife trust Nature Reserve). Modelling work has shown that the Ely catchment has one of the best and most connective landscapes of marshy grassland habitat in Wales for the rare marsh fritillary butterfly (which occurs in the Tonyrefail area and which used to be much more widespread throughout the catchment). Considerable conservation efforts from a partnership of organisations are looking to restore this butterfly's historic range. The catchment has a complex network of SINCs which is recognition of the high quality of habitats. The SINC designate a rich range of habitats from upland peat bog and heath, through extensive ffridd areas to more lowland marshy grassland, species-rich meadows, semi-natural (often river valley) woods and a network of streams and tributaries of the Ely (which is also a SINC) with a suit of key riparian species

As part of planning mitigation for housing, industrial, and energy planning permissions there is capacity to develop landscape scale, multi-benefit land and habitat restoration schemes which could deliver habitat and wetland restoration, carbon storage, flood risk management at source and grass fire control outputs.

Whilst there are some discrete areas of public forest (Llantrisant, Trecastle, Dimbath, Tynycoed) and some Common land (Llantrisant) most of the rural area is farmed, largely for sheep cattle and pony grazing with an extensive network of hedges and small woods. There has been major new housing, commercial and industrial development since the 1970s across the catchment. The catchment includes a number of active and disused limestone quarries on the southern edge.

2.5.5 Upper Neath Catchment

2.5.5.1 Hydrology

Part of the administrative area of the Cynon Valley lies in the upper Neath catchment, draining to Swansea Bay and forming part of the West Wales River Basin District. This area comprises a short section of the Nant Gwrelych, and the Nant Wyrfa Isaf, Nant Wyrfa Ichaf and Nant Cors y Pownd which drain into the Nant Sychyrd, which forms the County Boundary (with Powys and Neath Port Talbot).

2.5.5.2 Ecology

A small area drains to the Nant Mellte which forms part of the County Boundary with Powys. The limestone gorges of the Hepste, Sychyrd and Mellte and a wider limestone dominated landscape of woods, and grassland habitats are designated as part of the Coedydd Nedd a Mellte SAC and Dyffrynnoedd Nedd A Mellte A Moel Penderyn SSSI. There are a number of RIGS sites associated with limestone and coal measures.

2.5.6 Ewenny Fach Catchment

2.5.6.1 Hydrology

Part of the Ely administrative area in Rhondda Cynon Taf County Borough Council includes the headwaters of the Ewenny Fach which rises on Mynydd Meiros, flows through the key settlement of Llanharan and then west into Bridgend County Borough Council area outfalling to Swansea Bay at Ogmore by Sea. Although only covering a small area of Rhondda Cynon Taf, this is the second area that drains into the Swansea Bay River Basin District.

2.5.6.2 Ecology

Again, species-rich marshy and dry grassland are an important feature of the Rhondda Cynon Taf catchment which includes part of the Brynna A Wern Tarw SSSI spanning the Bridgend boundary near Brynna. The Ewenny Fach (and tributaries) is SINC designated and important riparian corridors. SINC include upland bogs and grassland on the high ground north of Llanharan, and a rich network of wet and dry grasslands and woodlands in lowland areas, and some important brownfield habitats. Key species include strong colonies of Great Crested Newt (often on brownfield land), lesser horseshoe bats and dormice, with important networks of marsh fritillary butterfly habitat associated with the marshy grassland and fen SINC habitats.

As part of planning mitigation for housing, industrial, and energy planning permissions there is capacity to develop landscape scale, multi-benefit land and habitat restoration schemes which could deliver habitat and wetland restoration, carbon storage, flood risk management at source and grass fire control outputs.

2.6 Flood Risk in Rhondda Cynon Taf County Borough Council

This plan has been undertaken based upon evidence and understanding of the present day risk from flooding in Rhondda Cynon Taf County Borough Council. Within the Borough, Main River, reservoir and local sources of flooding are present. This Flood Risk Management Plan focuses from flooding from local sources.

Local Flood Risk is defined within the Flood and Water Management Act 2010 as:

- Surface runoff;
- Groundwater; and
- Ordinary watercourses.

In addition to the above, this Flood Risk Management Plan considers the flood risk from sewer flooding and Highway drainage flooding. An assessment of the local sources of flood risk and other sources effecting Rhondda Cynon Taf County Borough Council is presented in Table 1.

Main Rivers have remained under the remit of Natural Resources Wales and they, in partnership with the Environment Agency, are responsible for the publication of the Severn River Basin District Flood Risk Management Plans.

Table 1: Summary of types of Flood Risk within Rhondda Cynon Taf County Borough Council

Type of Flooding		Causes of Flooding	Assessment of Flood Risk in RCTCBC
Surface Water Flooding (includes both ordinary watercourse and surface runoff)	Ordinary Watercourse	Ordinary Watercourse flooding occurs when the capacity of a local drainage channel is exceeded. It also occurs due to blockages at culvert inlets and trash screens. Usually, flooding from culverts occurs following intense rainfall events happen, particularly following leave fall in the Autumn and the blockage of the trash screen with vegetation. Flooding can also occur in culverts when they collapse or are unmaintained. Ordinary watercourse flooding is the most common cause of flooding within RCTCBC.	Historically, ordinary watercourses within Rhondda Cynon Taf County Borough Council have been culverted, a practise that has led to significant flood risk resulting from blockage of inlets and lack of culvert capacity. Commonly, flooding has been experienced following blockages and poor maintenance of a watercourse. This is exacerbated where watercourses are culverted through development, as a culverted watercourse is more prone to blockages and flooding than an open watercourse. This Flood Risk Management Plan will look to implement measures to fully assess the capacity of culverts and where possible seek to replace culverts with open channels and where this is not practical, seek to introduce schemes to lessen the impact of flooding resulting from ordinary watercourse. The management of culverts is reactive and it is difficult to manage this risk proactively. This document will seek to highlight those watercourses at risk and implement a more proactive monitoring of culverts via CCTV equipment.
	Surface Runoff	Surface Runoff occurs when rainwater (including snow and other precipitation) which is on the surface of the ground (whether or not it is moving) and has not yet entered a watercourse, drainage system or public sewer. This is particularly prominent following a prolonged wet period when the catchment is saturated, or after an intense storm following a prolonged dry period and rainfall is unable to infiltrate into the sub-strata. Land use and maintenance often serve to exacerbate surface runoff, such as felling of trees, increased impermeable development and agricultural poor practise.	This is common within Rhondda Cynon Taf County Borough Council as a result of the catchments geomorphology and the areas climate. This Flood Risk Management plan will look to reduce the effects of surface runoff by implementing controls on development and introducing sustainable drainage and reducing runoff flows and volumes within the authority.

Table 1 continued: Summary of types of Flood Risk within Rhondda Cynon Taf County Borough Council

Type of Flooding	Causes of Flooding	Assessment of Flood Risk in RCTCBC
Groundwater Flooding	Groundwater is subsurface water in the zone of saturation, including water below the water table and water occupying cavities, pores and openings in underlying rocks. Groundwater flooding is the result of groundwater rising up from the underlying aquifer or from water flowing from normal springs at ground level. This type of flooding tends to occur after prolonged periods of rainfall and the area's most at risk are often low-lying areas, where the groundwater table is more likely to be at a shallow depth. I	This is commonly experienced within RCTCBC where development has cut into hillsides without appropriate land drainage installed. Water then seeps/flows out of the hillside into properties and across land. Groundwater flooding is also noted to occur from mines adits following the cessation of pumping. Historically, coalmining operations would pump excess water There is limited local information available which provides evidence on the risk posed by groundwater flooding to RCTCBC and it is notoriously difficult to quantify groundwater.
Combined Sewer Flooding	Combined sewers within Rhondda Cynon Taf County Borough Council are under the ownership of Dwr Cymru Welsh Water. Combined sewers are underground conduits for the removal of drainage water and waste matter from source to treatment works. Flooding arises from combined sewers when excess rainwater entering the system exceeds the capacity of the sewer.	Dwr Cymru Welsh Water have provided information that 293 locations at risk of sewer flooding at varying locations across the authority. Rhondda Cynon Taf County Borough Council will look to work with Dwr Cymru Welsh Water to better understand the risks posed by combined sewer flooding and where the locations are.
Highways Flooding	Flooding to the highway occurs following an intense and short storm event. In these circumstances, the gulley systems are unable to accommodate the volume of rainwater. Also, gullies may become blocked by debris. This type of flooding also provides a source of hydrocarbon contamination and is more of a problem when an intense rainfall follows a period of dry weather.	This is a potential problem throughout the authority. RCTCBC attempt to reduce the risk by undertaking gulley clearance. This Flood Risk Management Plan will look to introduce soft measures, such as swales and reed beds to reduce flooding.

3.0 HOW DO WE CURRENTLY MANAGE FLOOD RISK?

Rhondda Cynon Taf County Borough Council currently manages flood risk via the following actions:

- Operational procedures;
- Powers bestowed upon all lead local flood authorities under the Land Drainage Act 1991 and Flood and Water Management Act 2010;
- Measures included within the Rhondda Cynon Taf County Borough Council Local Flood Risk Management Strategy; and
- The powers under the Highways Act 1980, where Rhondda Cynon Taf acts in its capacity as the Highways Authority.

3.1 Operational Procedures

Rhondda Cynon Taf County Borough Council has a number of operation procedures to manage flood within the authority.

1. Routine cleaning of gullies throughout the authority;
2. Emergency cleaning of blocked gullies following reporting of a problem by a member of the public;
3. Routine inspection and clearance of significant flood structures, such as culvert inlets;
4. Emergency inspection of culvert inlets and other significant structures following specific rainfall events;
5. Emergency cleansing of culvert inlets and other significant structures following a report to the authority from a member of the public.

3.2 Regulatory Powers

The Flood and Water Management Act 2010 bestowed additional duties on lead local flood authorities, which aid in the management of flood risk. The duties include the following:

1. A duty to investigate all flooding within its area, insofar as a lead local flood authority considers it necessary or appropriate (Section 19);
2. A duty to maintain a register of structures and features likely to affect flooding flood risk (Section 21);
3. A duty to contribute to sustainable development (Section 32); and
4. The consenting of structures on ordinary watercourse (Section 29) via a change to the Land Drainage Act 1991.

3.3 Local Flood Risk Management Strategy

The Local Flood Risk Management Strategy sets out to satisfy and fulfil the requirements of the Flood and Water Management Act 2010 and adopts a holistic approach to flood risk management.

The strategy sets out, at a high-level, the objectives for managing flood risk within Rhondda Cynon Taf County Borough Council.

The Local Flood Risk Management Strategy is consistent with "The National Strategy for Flood and Coastal Erosion Risk Management in Wales" (Welsh Government 2011), which identifies four overarching objectives:

- Reducing the consequences for individuals, communities, businesses and the environment from flooding and Coastal Erosion;
- Raising the awareness of and engaging people in the response to flood and coastal erosion risk;
- Providing an effective and sustained response to flood and coastal erosion events; and
- Prioritising investment in the most at risk communities.

3.3.1 High Level Strategic Position

The Local Flood Risk Management Strategy identified four possible options at the highest flood risk management level for consideration:-

1. **Do Nothing** - acknowledging that flood risk will increase with climate change, increasing the risk of social, economic and environmental damage;
2. **Maintain Flood Risk Management at Current Levels** - acknowledging the social, economic and environmental risks;
3. **Maintain Current Level of Flooding by Improving Flood Risk Management** - keep at pace with climate change by improving flood risk management to maintain current level of protection; or
4. **Reduce the Consequences of Flood Risk** - take action to reduce social, environmental and economic damage due to flooding.

In order to comply with the requirements stated within The National Strategy for Flood and Coastal Erosion Risk Management in Wales, the high level strategy decision chosen by Rhondda Cynon Taf County Borough Council within the Local Flood Risk Management Strategy was to '**Reduce the Consequences of Flood Risk'**.

Rhondda Cynon Taf County Borough Council seeks to *Reduce the Consequences of Flood Risk*, by delivering **four core objectives**:

1. To utilise a risk based approach to managing flood risk, recognising that drainage and structural defences may not always be the most appropriate solution;
2. To develop a greater strategic understanding of flood risk from all sources within RCTCBC and at a wider 'catchment scale';
3. To raise community awareness of and actively engage communities in the response to flood risk;
4. Use of local planning policy to ensure that no new flood risk is created and where possible, opportunities to reduce flood risk are taken.

These core objectives are currently being delivered by a series of detailed objectives. These detailed objectives have due regard principally to the following higher tier strategies:

- *National Strategy for Flood and Coastal Erosion Risk Management in Wales* (Welsh Government, 2011);
- *Live. Grow. Aspire. Achieve. 2010-2020 Rhondda Cynon Taf Community Strategy* (Rhondda Cynon Taf County Borough Council, 2010).

Additionally, the detailed objectives attempt to embed sustainable development principles with the aim of enhancing the social, economic and environmental wellbeing of people and communities within Rhondda Cynon Taf County Borough Council.

Table 2 presents Rhondda Cynon Taf County Borough Council's core flood risk management objectives and their relationship to the detailed objectives by which they will be delivered. Table 3 highlights the inter-relationship between detailed objectives and the aforementioned overarching strategies.

Table 2: Rhondda Cynon Taf County Borough Council Core and Detailed Flood Risk Management Objectives

RCTCBC Core Objectives				RCTCBC Detailed Objective
1) Risk Based Approach	2) Develop Understanding	3) Raise Awareness	4) Planning Policy	
				1 Reduce distress by decreasing the population exposed to flood risk.
				2 Reduce community disruption by reducing the amount of residential and commercial property exposed to flood risk.
				3 Reduce risk to life by reducing the number of people exposed to risk of flooding of significant depth and velocity.
				4 Reduce disruption to critical infrastructure or support the preparation of plans to allow their operation to be maintained.
				5 Improve or not detrimentally affect water quality
				6 Where possible, improve naturalness - reducing modifications to channels, water bodies and, where appropriate, create or enhance natural floodplain storage linked to nature conservation and landscape initiatives.
				7 Ensure projects are designed and constructed in a sustainable way.
				8 Maintain, or where possible, improve the status of Special Areas of Conservation (SACs), Sites of Special Scientific Interest (SSSIs), Sites of Importance for Nature and Conservation (SINC) sites and contribute to the RCT biodiversity action plan.
				9 Explore the potential benefits of reducing flood risk through the use of innovative land management techniques.
				10 Provide clarity of stakeholder's responsibilities with regard to flooding and, where possible, seek to support stakeholders in carrying out their responsibilities.
				11 Develop a better understanding of the risks of flooding from surface runoff, groundwater and ordinary watercourses and plan how best to communicate and share information with communities and businesses on all forms of flooding.
				12 Promote resilience at property/community level
				13 Ensure that emergency plans are prepared at local and community levels as required and that response to and recovery from flood incidents is effective.
				14 Ensure that RCT works in partnership with other Risk Partners and works collaboratively with adjacent authorities
				15 Provide flood risk management plans for each area subject to flood risk.
				16 Ensure that investment decisions for the implementation of flood risk management schemes are made on a consistent prioritised basis subject to cost benefit analysis.

Table 3: Rhondda Cynon Taf County Borough Council detailed objectives and comparison to NFRMS and RCTCBC Community Strategy and sustainable development objectives

RCTCBC Detailed Objective		National Flood Risk Management Strategy Objectives	RCTCBC Community Strategy Ambitions				Sustainable Development		
			Improve waste management	Improve housing conditions and access	Tackle basic environmental problems	Encourage public awareness and responsibility	Social	Economic	Environmental
1	Reduce distress….	Reducing consequences			✓		✓	✓	
2	Reduce community disruption….		✓	✓			✓	✓	
3	Reduce risk to life….				✓		✓		
4	Reduce disruption to critical infrastructure….		✓	✓			✓	✓	✓
5	Improve/no detriment to water quality….				✓		✓	✓	✓
6	Improve naturalness….			✓	✓				✓
7	Sustainable projects….		✓		✓		✓	✓	✓
8	Maintain/enhance SACs, SSSIs, etc….			✓	✓	✓	✓	✓	✓
9	Land management….			✓	✓		✓	✓	✓
10	Clarity of stakeholder responsibilities….	Raising awareness				✓	✓	✓	✓
11	Increased understanding of local flood risk….				✓	✓	✓	✓	
12	Property/community resilience….					✓	✓	✓	
13	Local and community emergency plans….	Provide effective response				✓	✓	✓	✓
14	Partnership working….		✓			✓	✓	✓	
15	Flood risk management plans….	Prioritising investment	✓	✓	✓	✓	✓	✓	✓
16	Prioritised investment….			✓	✓			✓	

3.3.2 Actions and Measures within the Local Flood Risk Management Strategy

The detailed objectives are being delivered through the implementation 38no. measures which are to be implemented in the short (0-20 years), medium (20-50 years) and long term (50-100 years). The measures include both structural and non-structural activities.

The measures have been under the following seven high level themes:

- Development planning and adaptation (encompassing both new and adaptations to existing developments/landscapes);
- Flood forecasting, warning and response;
- Land, cultural and environmental management;
- Asset management and maintenance;
- Studies, assessments and plans;
- High level awareness and engagement (to increase individual and community resilience); and
- Monitoring (of the local flood risk issue).

The table below outlines the 38no. measures put forward within the Local Flood Risk Management Strategy.

Table 4: Local Flood Risk Management Strategy Measures

LFRMS Measure	Measure Title
Development and Planning Adaptation	
1	Establish SuDS Approval Body
2	Water cycle strategy
3	Rhondda Cynon Taf Local Development Plan, Strategic Flood Consequence Assessment and Supplementary Planning Guidance
4	Planning Policy Wales and TAN15
Flood forecasting, warning and response	
5	Flood warning
6	Flood awareness
7	Emergency response plans
8	Community flood plans
9	Multi-Agency flood plans
Land, cultural and environmental management	
10	Land management
11	Environmental enhancement
12	Water level management plan
13	Habitat creation

Table 4 continued: Local Flood Risk Management Strategy Measures

LFRMS Measure	Measure Title
Asset management and maintenance	
14	System asset management plans
15	Enforcement of private surface water sewers
16	Power to request Information and civil sanctions
17	Assert register and records
18	Designation of structures
19	SuDS adoption
20	Consenting of structures to Ordinary Watercourses
21	Enforcement to maintain flow in watercourses
22	Enactment of Land Drainage Byelaws
23	Cause incidental flooding for purpose of flood risk management
24	Construction of flood defences
Studies, assessment and plans	
25	Investigation of flooding incidents
26	Local property-level flood mitigation – resilience
27	Local property- level flood mitigation – resistance
28	Pre-feasibility studies/project appraisals
29	Catchment Flood Risk Management Plans
30	Surface Water Flood Modelling
31	Reservoir Flood Plans
32	Flood Risk Management Plans
33	Flood Risk and Hazard Maps
High level awareness and engagement	
34	Partnership Working
35	Community/public engagement/consultation
Monitoring	
36	Habitat Monitoring
37	Weather pattern monitoring
38	Flow monitoring

The full summary of the 38no. measures are presented in Appendix B.

3.4 Who we work with to manage flood risk

Flood risk management should not be left solely to certain organisations; collaboration of all stakeholders, including residents and businesses, is required to manage flood risk. It is therefore vital that stakeholders know of what they can go along with and what they are expected to do to help manage flood risk.

3.4.1 Risk Management Authorities

'Risk Management Authorities' are certain organisations which have responsibilities around flooding, both new ones from the Flood and Water Management and longstanding ones from previous legislation. A list of the Risk Management Authorities is provided below.

Natural Resources Wales (Formerly the Environment Agency Wales)

The Lead Local Flood Authority (Rhondda Cynon Taf County Borough Council)

The Water Company (Dwr Cymru Welsh Water)

Additional Stakeholders - Internal Partners

- Spatial Planning Department
- Development Control
- Highways Infrastructure
- Streetcare
- Emergency Planning
- Countryside
- Public Health & Protection
- Building Control
- ICT
- Corporate Estates
- Customer Services

Additional Stakeholders - External Partners

- Flood Risk Management Wales (The Regional Flood and Coastal Committee [RFCC] in Wales)
- Emergency services
- Network Rail
- SWTRA – South Wales Trunk Road Agency
- CADW
- National Farmers Union
- Local Partnerships, forums and community groups
- Association of British Insurers
- Utility providers

- Land Owners/Estate Owners/Riparian Owners
- Country, Land and Business Association
- South East Wales Flood Risk Management Group (SEWFRMG)
- Housing Associations
- Natural Resources Wales (formerly Countryside Council for Wales, Forestry Commission Wales and Environment Agency Wales)
- Brecon Beacons Park Authority
- National Flood Forum
- Local Resilience Forum
- SuDS Working Group for Wales
- Cardiff University/Cardiff Metropolitan University/University of Glamorgan
- Association of Drainage Authorities
- Professional Institutions

3.4.2 Powers and Responsibilities of Risk Management Authorities

All of the Risk Management Authorities have the following duties and power:

- Duty to be subject to scrutiny from lead local flood authorities' democratic processes;
- Duty to co-operate with other risk management authorities in the exercise of their flood and coastal erosion risk management functions, including sharing flood risk management data;
- Power to take on flood and coastal erosion functions from another risk management authority when agreed by both sides;
- Duty to be subject to scrutiny from the Lead Local Flood Authorities' democratic processes. The key committee is the Safer and Stronger Communities Policy and Scrutiny Committee;
- Duty to inform their own Cabinets and Committees about the progress and implications of flood risk management work in the area.

Co-operation with other risk management authorities includes the following:

- Discuss with other risk management authorities before designating structures and features to ensure consistency;
- Report flood assets, as defined by agreed criteria, as and when they are revealed to officers;
- Assist with Flood Investigation Reports where required;
- Provide local knowledge to SuDS Approval Officers regarding applications in their area;
- Ensure that members of the public who are trying to contact another organisation are swiftly put through to the appropriate organisation;
- Easy sharing of information and data.

This list is not exhaustive but if there is any dispute about whether an activity can reasonably be expected from a Flood Risk Management Authority, the issue will be brought to 'Flood Risk Management Wales' (the RFCC).

3.5 Flood Risk Management Functions

3.5.1 Natural Resources Wales

Historically the Environment Agency (precursor to Natural Resources Wales) led on the management of the risks of flooding from main rivers and the sea. However, as a consequence of the Flood and Water Management Act 2010 certain changes have been made to their role and remit. In addition to flooding from rivers and the sea, Natural Resources Wales has new operational responsibilities in relation to coastal erosion and a wider oversight role for all flood and coastal erosion risk management in Wales.

This change means that Natural Resources Wales has a dual role:-

1 Operational responsibilities for flooding from main rivers, the sea and coastal erosion.

2 Oversight responsibilities in relation to all flood and coastal erosion risk management in Wales

The oversight change is integral to the delivery of national policy on flooding and coastal erosion risk management and has been taken forward to ensure that Natural Resources Wales has the remit to support the Welsh Government across the full range of flood and coastal erosion risks affecting Wales.

As part of their oversight role, Natural Resources Wales will lead on the provision of technical advice and support to other Risk Management Authorities. They will also lead on national initiatives such as Flood Awareness Wales, the national raising awareness programme, and be the single point of contact for enquiries and information on flood risk, currently being piloted via their new Floodline warning service.

The Flood and Water Management Act 2010 places a number of statutory duties on Natural Resources Wales including:

1 Co-operating with other authorities, including sharing data;
2 Reporting to the Minister on flood and coastal erosion risk in Wales including the application of the National Strategy; and
3 The establishment of Regional Flood and Coastal Committees.

In addition to their statutory duties, Natural Resources Wales has a number of what are called permissive powers. These are powers that allow them to do something, but do not compel them to and include:

1 Powers to request information
2 The ability to raise levies for local flood risk management works, via the Regional Flood and Coastal Committees
3 Powers to designate certain structures or features that affect flood or coastal erosion risk
4 The expansion of powers to undertake works to include broader risk management actions; and
5 The ability to cause flooding or coastal erosion under certain conditions.

This new allocation of responsibilities is also consistent with Natural Resources Wales' role in relation to the Flood Risk Regulations 2009, which allocates specific responsibility for conducting assessments in relation to mapping and planning the risks of flooding from main rivers, the sea and reservoirs to Natural Resources Wales, as well as providing guidance to Local Authorities on these matters for flooding from other sources.

Under the Regulations, Natural Resources Wales also takes on an assessment and coordination role at a national level, ensuring the correct information is passed back to the European Commission.

3.5.2 Lead Local Flood Authority – Rhondda Cynon Taf County Borough Council

Within the Flood and Water Management Act 2010, Rhondda Cynon Taf County Borough Council has been established as the Lead Local Flood Risk Authority for its administrative area.

As defined in the Flood and Water Management Act 2010, RCT is responsible for managing what is termed, its 'local flood risk'. This includes the risk of flooding from ordinary watercourses, surface runoff and groundwater.

Local Authorities have always had certain responsibilities in relation to ordinary watercourses, and in practice most Local Authorities took the lead in dealing with surface water flooding incidents prior to the changes contained within the Flood and Water Management 2010. This is, however, the first time responsibility for the risk of flooding from surface runoff has been allocated to anybody in law.

The Flood and Water Management Act 2010 places a number of statutory duties on Local Authorities in their new role as LLFAs including:

1 The preparation of local flood risk management strategies
2 A duty to comply with the National Strategy
3 To co-operate with other authorities, including sharing data
4 A duty to investigate all flooding within its area, insofar as a LLFA consider it necessary or appropriate
5 A duty to maintain a register of structures and features likely to affect flood risk;
6 A duty to contribute to sustainable development; and
7 Consenting powers on ordinary watercourses.

In addition to these each LLFA has a number of what are called permissive powers. These are powers that allow them to do something, but do not compel them to and include:

1 Powers to request information;
2 Powers to designate certain structures or features that affect flood or coastal erosion risk;
3 The expansion of powers to undertake works to include broader risk management actions; and
4 The ability to cause flooding or coastal erosion under certain conditions.

LLFA in Wales will also take on the role of the SuDS Adopting and Approving Body in relation to sustainable drainage systems. In this role they will be responsible for both approving the original design of the SuDS and adopting and maintaining the finished system.

3.5.3 Water Company – Dwr Cymru Welsh Water

Water companies, when exercising their flood or coastal erosion risk management functions in relation to an area within Wales, must have regard to the relevant Local Strategies and any associated guidance.

Water and sewerage companies are responsible not only for the provision of water, but also for making appropriate arrangements for the drainage of foul water, the treatment of waste, surface water sewers and combined sewers. They have primary responsibility for floods from water and sewerage systems, which can include sewer flooding, burst pipes or water mains or floods caused by system failures.

No changes have been made to the operational arrangements for water and sewerage companies in respect of flood risk.

The Flood and Water Management Act 2010 places a number of statutory duties on Water and Sewerage Companies including:

1 A duty to act consistently with the National Strategy;
2 A duty to have regard to the content of the relevant Local Strategy; and
3 Co-operation with other Authorities, including sharing data.

Water and sewerage companies often hold valuable information which could greatly aid the understanding of flood risks faced by communities across Wales.

4.0 WHY DO WE HAVE TO PRODUCE A FLOOD RISK MANAGEMENT PLAN?

As detailed within Section 2.3, we are currently in the first cycle of the Flood Risk Regulations 2009 and have already completed the Preliminary Flood Risk Assessment and published the updated Flood Maps for Surface Water. The Flood Risk Management Plans represent the final output of this cycle and must be published by December 2015.

4.1 Preliminary Flood Risk Assessment

The Preliminary Flood Risk Assessment (PFRA) is a high level screening exercise that compiled information on significant local flood risk from past and future floods, based on readily available information. The scope of the PFRA was to consider flooding from surface runoff, ground water and ordinary watercourses, and any interaction these sources have with main rivers with the aim of identifying flood risk areas as set out under the European Flood Directives (see section 3.6).

The PFRA used the Flood Map for Surface Water (FMfSW), a flood model containing two flood events (1 in 30 annual chance and 1 in 200 annual chance) and two depth bandings (greater than 0.1m and greater than 0.3m). These maps highlighted areas at risk of surface water flooding.

Using this dataset, the assessment was carried out based on 1km grid squares. DEFRA and WG identified significant criteria and thresholds to be used for defining flood risk areas. These criteria are presented in Table 5 below.

Table 5: Flood risk threshold used to identify future consequences of flooding

'Significant harmful consequences' defined as greater than….	Description
200 People or	Flooded to a depth of 0.3m during a rainfall event with a 1 in 200 chance of occurring (or 0.5%)
20 Non - Residential or	
1 critical service	

The methodology was based on using national flood risk information to identify 1km squares where local flood risk exceeded the defined threshold; called "blue" squares.

The indicative flood risk areas use clusters formed from all 3 km squares that contain 4 or more 1km square above the flood risk thresholds (blue squares), that are touching, which contain locations where there has been historical flooding or the data indicates that a flood could occur that satisfies the criteria for the flood risk thresholds.

Where a cluster of these grid squares leads to an area where flood risk is most concentrated, and over 5,000 people are predicted to be at risk of flooding, this area has been identified as an Indicative Flood Risk Area.

Initial counts for Rhondda Cynon Taf County Borough Council were undertaken by the Environment Agency and the key flood risk indicators for Rhondda Cynon Taf County Borough Council were calculated for the indicative flood risk area as follows:

- 34,838 people at risk;
- 2,529 non-residential properties at risk; and
- 84 pieces of critical infrastructure at risk.

Following a review of the counts by Rhondda Cynon Taf County Borough Council, four additional "blue" squares were added to the indicative flood risk area. The revised counts following the addition of the squares were:

- 37,805 people at risk;
- 2,890 non-residential properties at risk; and
- 96 pieces of critical infrastructure at risk.

The shape of the indicative flood risk area generally mirrors the valley topography of Rhondda Cynon Taf County Borough Council and generally follows the settlements. A plan displaying the EA Wales squares, additional squares added by the review by Rhondda Cynon Taf County Borough Council and the indicative flood risk area are presented in Figure 9.

As a result of the assessment, Rhondda Cynon Taf County Borough Council was identified as having a Flood Risk Area and are therefore required to undertake the production of the Flood Risk Management Plan under the Flood Risk Regulations 2009.

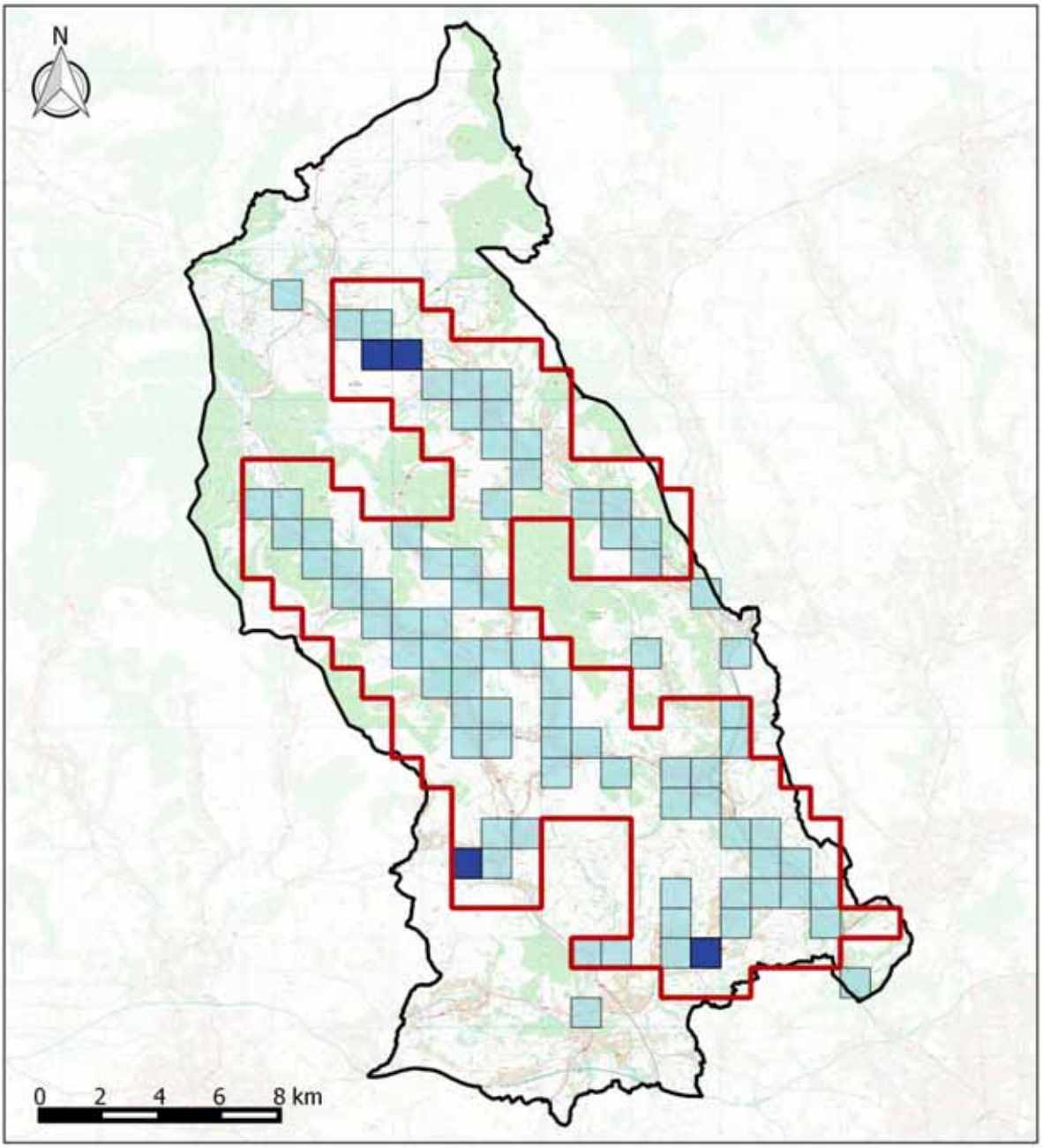
As part of the PFRA, significant historic flooding events within the Borough were considered. To determine what constitutes a significant flooding event, DEFRA, Welsh Government and the Environment Agency set key flood risk indicators which define a flood risk area in Wales as having 5,000 people at risk or an individual 1km square with at least 200 people (approximately 84 properties) or 20 businesses or 1 critical services at risk.

For the PFRA, RCTCBC determined that a locally significant event which has had harmful consequences is defined as one where 8 or more residential properties are flooded internally. This is approximately an order of magnitude below the flood risk thresholds used for future flood risk, 84 properties, which is considered as nationally significant.

37no. historic flood events have been considered to have had "locally significant harmful consequences" and of these, 7no. had nationally "significant harmful consequences".

For further information regarding the PFRA or to view the document please visit RCTCBC website at www.rctcbc.gov.uk/flooding.

Figure 9: Indicative Flood Risk Area within Rhondda Cynon Taf County Borough Council



4.2 Updated Flood Maps for Surface Water

As detailed within Section 2.3, under Part 3 of the Flood Risk Regulations 2009, Natural Resources Wales have a duty to prepare for each flood risk area Flood Hazard and Flood Risk maps related to risk of flooding from the sea, main rivers and reservoirs. LLFA's have a duty to prepare Flood Hazard and Flood Risk maps related to surface water flooding for the flood risk areas identified within the PFRA.

A service level agreement was signed between Welsh Government (WG), Natural Resources Wales (NRW) and the Environment Agency (EA) for the production of these maps. JBA Consultants were contracted to produce the maps. The maps were completed last autumn and published as required under the Flood Risk Regulations 2009 in December 2013. These can be viewed online at http://watermaps.environment-agency.gov.uk and following the link for Risk of Flooding from Surface Water.

The uFMfSW contain data including three flood events (1 in 30 (3.3%), 1 in 100 (1%) and 1 in 1000 (0.1%) in any given year), flood extents, flood depths, flow velocity, hazard rating and flow direction.

The extents of flooding for the three flood events have been used and represent the maximum flood extends shown on the depth, velocity and hazard maps. These maps provide information including detail about the level of risk. These are (annual probability is shown in brackets):

- High – each year, the area has a chance of flooding of greater than 1 in 30 (3.3%);
- Medium – each year, the area has a chance of flooding between 1 in 100 (1%) and 1 in 30 (3.3%); and
- Low – each year, the area has a chance of flooding of between 1 in 1000 (0.1%) and 1 in 100 (1%).

The risk maps have been generated from the uFMfSW and the National Receptors Dataset (NRD), with three types of map showing:

- Risk to People;
- Risk to Economic Activity; and
- Risk to Natural and Historic Environment.

To answer the question 'how many properties lie in areas at risk of flooding from surface water?', Rhondda Cynon Taf County Borough Council have counted properties where at least 50% of the external perimeter of that property (buffered by 2m) is in contact with any part of the mapped flood extent, regardless of depth (i.e. no depth threshold). It is considered that this will provide a good base line for considering the risk posed by flooding.

For further information on the production of the uFMfSW and associated datasets, please refer to the EA documents 'What is the updated Flood Map for Surface Water?' and 'The updated Flood Map for Surface Water (uFMfSW) Property Points dataset'.

4.3 How are we drawing conclusions from the uFMfSW?

For the purpose of this Flood Risk Management Plan, Rhondda Cynon Taf County Borough Council has been divided into 52no. community areas to aid in the assessment of flood risk within the authority.

Table 6: Community Areas within Rhondda Cynon Taf County Borough Council

Community Area	Area (Hectares)	Population*	Intersects with Flood Risk Area
Aberaman North	432	5,854	Yes
Aberaman South	1,255	5,172	Yes
Abercynon	917	6,723	Yes
Aberdare East	673	7,708	Yes
Aberdare West/Llwydcoed	2,183	9,797	Yes
Beddau	507	4,134	Yes
Brynna	1,242	3,776	Yes
Church Village	182	4,557	Yes
Cilfynydd	413	3,010	Yes
Cwm Clydach	487	3,135	Yes
Cwmbach	608	4,705	Yes
Cymmer	516	6,108	Yes
Ferndale	380	4,731	Yes
Gilfach Goch	603	3,541	Yes
Glyncoch	208	3,039	Yes
Graig	315	2,693	Yes
Hawthorn	453	3,988	Yes
Hirwaun	392	4,397	Yes
Llanharan	1,085	3,661	Yes
Llanharry	742	3,840	No
Llantrisant Town	968	4,792	Yes
Llantwit Fardre	990	5,896	Yes
Llwynypia	259	2,423	Yes
Maerdy	1,060	3,666	Yes
Mountain Ash East	850	3,243	Yes
Mountain Ash West	351	4,916	Yes
Penrhiwceiber	213	6,354	Yes
Pentre	578	5,877	Yes
Penygraig	484	5,920	Yes
Penywaun	373	3,097	Yes
Pontyclun	1,190	7,638	Yes
Pontypridd Town	234	3,046	Yes
Porth	370	6,481	Yes
Rhigos	7,416	1,774	Yes
Rhondda	689	4,949	Yes
Rhydfelin Central	372	4,728	Yes
Taffs Well	674	3,760	Yes
Talbot Green	205	2,895	Yes

Table 6 continued: Community Areas within Rhondda Cynon Taf County Borough Council

Community Area	Area (Hectares)	Population*	Intersects with Flood Risk Area
Tonteg	587	4,265	Yes
Tonypandy	334	4,004	Yes
Tonyrefail East	1,480	6,056	Yes
Tonyrefail West	976	5,929	Yes
Trallwng	226	4,124	Yes
Trealaw	286	4,373	Yes
Treforest	378	7,102	Yes
Treherbert	2,157	6,674	Yes
Treorchy	1,331	8,498	Yes
Tylorstown	590	5,323	Yes
Tyn-y-nant	92	3,464	Yes
Ynyshir	441	3,826	Yes
Ynysybwl	1,955	4,846	Yes
Ystrad	717	6,399	Yes

* NRD Residential dwellings multiplier 2.35

4.4 What is being counted?

To determine the risk posed to people, economic activity and the environment within RCTCBC, the following receptors have been considered when undertaking the counts.

Table 7: Summary list of receptors to be counted

RISK TO PEOPLE AND PROPERTIES
Number of People in area
Number of Services
ECONOMIC ACTIVITY
Number of Non Residential Properties
Number of Airports
Length of Roads (km)
Length of Railways (km)
Agricultural Land – grades 1, 2 and 3 (hectares)
RISK TO ENVIRONMENTAL RECEPTORS
Number of EU designated Bathing Waters within 50m
Number of EPR Installations within 50m
Area of Special Area of Conservation within area (ha)
Area of Special Areas of Protection within area (ha)
Area of Ramsar site within area (ha)
Area of World Heritage Sites within area (ha)
Area of Sites of Special Scientific Interest within area (ha)
Area of Parks and Gardens within area (ha)
Area of Scheduled Ancient Monuments within area (ha)
Number of Listed Buildings within area
Number of Licensed Abstractions within area

Table 8: Receptors within community areas

	Aberaman North	Aberaman South	Abercynon	Aberdare East	Aberdare West/ Llwydcoed	Beddau	Brynna	Church Village	Cilfynydd	Cwm Clydach	Cwmbach	Cymmer	Ferndale	Gilfach Goch
RISK TO PEOPLE AND PROPERTIES	**IN FLOOD RISK AREA**													
People (n) (multiplier 2.35)	5,854	5,172	6,723	7,708	9,797	4,134	3,776	4,557	3,010	3,135	4,705	6,108	4,731	3,541
Services	6	9	18	17	16	3	6	4	6	3	10	9	6	9
ECONOMIC ACTIVITY														
Non Residential Properties	289	469	550	815	799	286	394	296	222	196	356	365	312	210
Airports	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roads (km)	0	0	7	0	1	0	7	0	4	0	0	0	0	0
Railways (km)	0	2	6	1	4	1	3	0	0	0	2	0.6	0	0
Agricultural Land (hectares)	0	23	0	0	0	0	321	0	0	0	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS														
Bathing Waters	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EPR Installations	0	0	1	0	1	0	0	0	0	0	2	0	0	0
Special Area of Conservation (SAC)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ramsar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
World Heritage Sites	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0	25	12	30	0	0	0	0	6	0	0
Parks and Gardens	0	0	0	0	20	0	0	0	0	0	0	0	0	0
Scheduled Ancient Monuments	0	0.01	0	0.4	7	0.04	2	0	0.1	0	1	0	8	0
Listed Buildings	3	3	3	39	25	5	2	2	1	0	0	10	3	0
Licensed Abstractions	0	0	0	1	5	0	2	0	0	2	1	0	0	0

Table 8 continued: Receptors within community areas

	Glyncoch	Graig	Hawthorn	Hirwaun	Llanharan	Llantrisant Town	Llantwit Fardre	Llwynypia	Maerdy	Mountain Ash East	Mountain Ash West	Penrhiwceiber	Pentre	Penygraig
RISK TO PEOPLE AND PROPERTIES	**IN FLOOD RISK AREA**													
People (n) (multiplier 2.35)	3,039	2,693	3,988	4,397	3,661	4,792	5,896	2,423	3,666	3,243	4,916	6,354	5,877	5,920
Services	5	1	15	11	8	18	6	6	3	5	7	6	9	5
ECONOMIC ACTIVITY														
Non Residential Properties	110	246	522	321	516	688	657	272	296	278	335	254	368	438
Airports	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roads (km)	0	0	9	3	0	0	0	0	0	0	0	0	0	0
Railways (km)	2	1	0	3	3	2	0	1	0	0	2	2	1	0
Agricultural Land (hectares)	0	0	0	0	0.5	3	0	0	0	67	72	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS														
Bathing Waters	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EPR Installations	0	0	1	0	0	1	1	0	0	0	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	4	0	0	0	0	0	0	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ramsar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
World Heritage Sites	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	12	0	4	0	109	0	19	0	0	0	0	0	0
Parks and Gardens	0	0	0	0	21	0	0	0	0	0	0	0	0	0
Scheduled Ancient Monuments	0	16	0	3	0.04	9	0	0	1	0	0.02	0	1	0
Listed Buildings	4	8	3	4	18	13	2	3	0	5	2	4	5	1
Licensed Abstractions	0	0	1	0	3	2	0	0	2	1	0	0	0	0

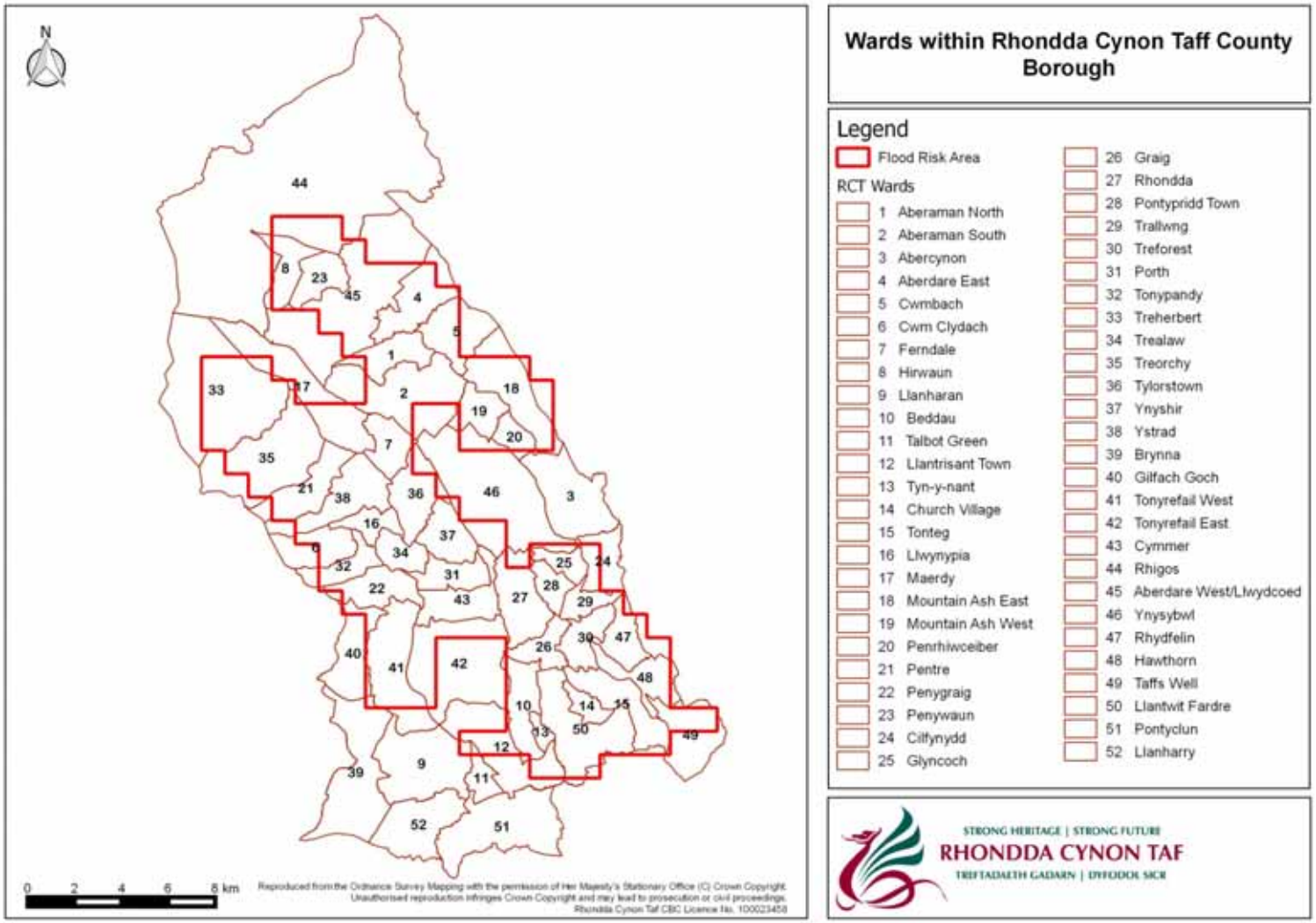
Table 8 continued: Receptors within community areas

	Penywaun	Pontypridd Town	Porth	Rhigos	Rhondda	Rhydfelin	Taffs Well	Talbot Green	Tonteg	Tonypandy	Tonyrefail East	Tonyrefail West	Tralwng	Trealaw
RISK TO PEOPLE AND PROPERTIES	**IN FLOOD RISK AREA**													
People (n) (multiplier 2.35)	3,097	3,046	6,481	1,774	4,949	4,728	3,760	2,895	4,265	4,004	6,056	5,929	4,124	4,373
Services	3	8	14	12	6	5	6	7	6	6	10	9	8	5
ECONOMIC ACTIVITY														
Non Residential Properties	157	521	478	969	477	154	606	352	496	379	613	506	289	277
Airports	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Roads (km)	0.5	0	0	14	0	0.3	8	0	0	0	0	0	5	0
Railways (km)	1	2	3	1	3	0	1	1	5	0	0	0	0	3
Agricultural Land (hectares)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS														
Bathing Waters	0	0	0	0	0	0	0	0	0	0	0	0	0	0
EPR Installations	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	243	0	0	1	0	0	0	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Ramsar	0	0	0	0	0	0	0	0	0	0	0	0	0	0
World Heritage Sites	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	977	0	0	1	0	0	0	151	80	0	0
Parks and Gardens	0	0	0	0	0	0	0	0	0	0	0	0	16	0
Scheduled Ancient Monuments	0.1	0.01	0.0004	92	0.2	0.4	0.2	0	0.2	0	1	0	1	0
Listed Buildings	0	28	16	13	9	0	15	1	0	4	6	5	9	4
Licensed Abstractions	0	0	0	8	0	0	1	0	1	0	0	0	0	0

Table 8 continued: Receptors within community areas

	Treforest	Treherbert	Treorchy	Tylorstown	Tyn-y-nant	Ynyshir	Ynysybwl	Ystrad	Llanharry	Pontyclun
RISK TO PEOPLE AND PROPERTIES	**IN FLOOD RISK AREA**								**NOT IN FLOOD RISK AREA**	
People (n) (multiplier 2.35)	7,102	6,674	8,498	5,323	3,464	3,826	4,846	6,399	3,840	7,638
Services	10	8	8	9	5	3	6	6	6	12
ECONOMIC ACTIVITY										
Non Residential Properties	556	444	791	326	131	211	451	393	446	990
Airports	0	0	0	0	0	0	0	0	0	0
Roads (km)	2	0	0	0	0	0	0	0	6	8
Railways (km)	3	1	3	0	0.2	0	0.5	2	2	3
Agricultural Land (hectares)	0	0	0	0	0	0	0	0	583	941
RISK TO ENVIRONMENTAL RECEPTORS										
Bathing Waters	0	0	0	0	0	0	0	0	0	0
EPR Installations	0	0	0	0	0	0	0	0	0	1
Special Area of Conservation (SAC)	0	0	0	0	0	0	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0	0	0	0	0	0	0
Ramsar	0	0	0	0	0	0	0	0	0	0
World Heritage Sites	0	0	0	0	0	0	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	192	156	0	0	0	0	0.2	0	9
Parks and Gardens	0	0	0	0	0	0	0	0	0	88
Scheduled Ancient Monuments	0.002	5	3	0	0	6	0	0.2	0.09	2
Listed Buildings	40	5	5	1	0	2	3	2	2	26
Licensed Abstractions	0	6	3	1	0	0	10	2	2	3

Figure 10: Location of community areas within Rhondda Cynon Taf County Borough Council



4.5 Flood Investigation Areas

Community areas have been introduced to assess flood risk within boundaries to provide understanding to the unitary authority; however, it is understood that flood risk does not respect administrative boundaries. To formally assess flood risk, 137no. flood investigation areas have been identified within the Borough. It is anticipated that these areas will allow more project specific measures to be implemented. The flood investigation areas are presented in Appendix A and the areas and their proposed measures are summarised within the community area overviews in Section 10, where relevant.

5.0 HOW WE WILL MANAGE FLOOD RISK

5.1 Flood Risk Management Plan Measures for Managing Flood Risk

The detailed objectives and measures outlined within the Rhondda Cynon Taf County Borough Council's LFRMS have been adopted by this FRMP to manage flood risk within the authority. These measures and the corresponding reference to the LFRMS detailed objectives are reiterated in Table 9.

Table 9: Rhondda Cynon Taf County Borough Council Flood Risk Management Plan Measures

FRMP Measure	Measure Title	Cross-reference to LFRMS objective
1	Establish SuDS Approval Body	1,2,5,6,7,8
2	Water cycle strategy	1,2,3,4,5,6, 7,8,9,10
3	Rhondda Cynon Taf Local Development Plan, Strategic Flood Consequence Assessment and Supplementary Planning Guidance	1, 2, 5, 6, 7, 8, 12
4	Planning Policy Wales and TAN15	1, 2, 3, 5, 6, 7, 8, 10, 11, 15
5	Flood warning	1, 2, 3, 4, 10, 11, 12
6	Flood awareness	1, 2, 3
7	Emergency response plans	10, 11, 13, 14
8	Community flood plans	10, 11, 12, 13, 14
9	Multi-Agency flood plans	4, 10, 11, 12, 13, 14
10	Land management	1, 2, 5, 6, 7, 7, 9, 10, 11, 15
11	Environmental enhancement	5, 6, 7, 8
12	Water level management plan	5, 6, 7, 8, 9, 11
13	Habitat creation	3, 4, 5, 6, 7, 8, 9
14	System asset management plans	1,2,3,4
15	Enforcement of private surface water sewers	1,2,3,4
16	Power to request Information and civil sanctions	1, 2, 3, 4, 11
17	Assert register and records	4, 10, 11
18	Designation of structures	1, 2, 3, 4, 10
19	SuDS adoption	1, 2, 3, 4, 5, 6, 7

Table 10 (continued): Rhondda Cynon Taf County Borough Council Flood Risk Management Plan Measures

FRMP Measure	Measure Title	Cross-reference to LFRMS objective
20	Consenting of structures to Ordinary Watercourses	1, 2, 3, 4, 5, 6, 7
21	Enforcement to maintain flow in watercourses	1, 2, 3, 4
22	Enactment of Land Drainage Byelaws	1, 2, 3, 4
23	Cause incidental flooding for purpose of flood risk management	1, 2, 3, 4
24	Construction of flood defences	1, 2, 3, 4, 7
25	Investigation of flooding incidents	11
26	Local property-level flood mitigation – resilience	12
27	Local property- level flood mitigation – resistance	12
28	Pre-feasibility studies/project appraisals	1, 2, 3, 4, 7, 9, 16
29	Catchment Flood Risk Management Plans	11,14
30	Surface Water Flood Modelling	11
31	Reservoir Flood Plans	4, 10, 12, 13, 14
32	Flood Risk Management Plans	1, 2, 3. 4, 5, 6, 8, 9, 15
33	Flood Risk and Hazard Maps	11, 15
34	Partnership Working	14
35	Community/public engagement/consultation	10,11
36	Habitat Monitoring	5, 6, 7, 8, 9
37	Weather pattern monitoring	11
38	Flow monitoring	11

5.2 Strategic Environmental Screening

A Strategic Environmental Assessment[1] has previously been undertaken as part of the implementation of the objectives detailed within the Local Flood Risk Management Strategy

The aim of the Strategic Environmental Assessment was to identify potentially significant environmental effects created as a result of the implementation of the Strategy upon issues such as “biodiversity, population, human health, fauna, flora, soil, water, air, climatic, material assets including architectural and archaeological heritage, landscape and the interrelationship between the above factors”, as required by the Environmental Assessment of Plans and Programmes (Wales) Regulations 2004 (The SEA Regulations).

[1] http://www.rctcbc.gov.uk/en/relateddocuments/publications/flooding/sea-assessment-environment-report-vol-1.pdf

As detailed in Section 5.1 of the report, the measures that were implemented within the strategy to deliver the objectives have been adopted for this Flood Risk Management Plan. Following a screening of the objectives and measures implemented within the Flood Risk Management Plan, it is considered that the objectives are the same and there are no amendments to receptors potentially influenced by the implementation of this plan. In conclusion, it is considered that the previous Strategic Environmental Assessment is still relevant for this plan and that there is no requirement to undertake a new Strategic Environmental Assessment.

The Flood Risk Management Plan seeks to identify site specific locations where the implementation of physical measures may be undertaken. Where site specific physical intervention is undertaken, the works will be subject to an Environmental Impact Assessment to ensure that there are no significant environmental effects of the works.

5.3 Flood Risk Management Plan Measures and EU reporting codes

It is a requirement of the European Floods Directive, that the Flood Risk Management Plan shall address four aspects of flood risk management, focusing on prevention, protection, preparedness and recovery and review.

Preventing: by avoiding putting people or the environment at risk of flooding, for example, one way of preventing risks arising would be by not building homes in areas that can be flooded.
Preparing: by taking actions that prepare people for flooding, for example, by improving awareness of flood risk, or by providing warning and forecasting for floods so that people can take precautions to safeguard their valuables.
Protecting: by protecting people from the risk of flooding. For example, by the maintenance or refurbishment of existing defences or using waterproof boards over doors and airbricks, people can protect their properties from the damage caused by flood water.
Recovery and review: by learning from when flooding happens and how to recover from it, for example, by improving the availability of recovery services such as providing temporary accommodation, after flooding gas occurred.

Table 10 details the four aspects and the European Union reporting codes.

In order to accord with the leglslative requirements Rhonnda Cynon Taf County Borough Council have attributed the 38no. adopted measures to the EU reporting codes and this is presented in Table 10.

Table 11: Required aspects of flood risk management and EU reporting codes

M1	No Measure	
M11		No Measure is proposed to reduce flood risk in the Area Potentially Susceptible to Flood Risk or other defined area.

M2	Prevention	
M21	Avoidance	Measure to prevent the location of new or additional receptors in flood prone areas, such as land use planning policies or regulation.
M22	Removal or relocation	Measures to remove receptors from flood prone areas, or to relocate receptors to areas of lower hazard
M23	Reduction	Measure to adapt receptors to reduce the adverse consequences in the event of a flood actions building, public networks, etc.
M24	Other prevention	Other measures to enhance flood risk prevention (may include, flood risk modelling and assessment, flood vulnerability assessment, maintenance programmes or policies, etc).

M3	Protection	
M31	Natural management / runoff and catchment management	Measures to reduce the flow into natural or artificial drainage systems, such as overland flow interceptors and or storage, enhancement of infiltration, etc and including in-channel, flood plain works and the reforestation of banks, that restore natural systems to help slow flow an store water
M32	Water flow regulation	Measures involving physical intervention to regulate flows, such as construction, modification or removal of water retaining structures (e.g. dams or other on-lone storage areas or development of existing flow regulation rules), and which have significant impact on the hydrological regime.
M33	Channel, Coastal and floodplain works	Measures involving physical interventions to freshwater channels, mountain streams estuaries coastal waters and flood prone areas of land, such construction, modifications or removal of structure or the alteration of channels, sediment dynamics management, dykes, etc.
M34	Surface Water Management	Measures involving physical interventions to reduce surface water flooding, typically, but not exclusively, in an urban environment, such as enhancing artificial drainage capacity or through sustainable drainage systems (SuDS).
	Other Protection	Other measures to enhance protection against flooding, which may include flood defences asset maintenance programmes or policies.

M4	Preparedness	
M41	Flood Forecasting and Warning	Measures to establish or enhance a flood forecasting or warning system.
M42	Emergency Event Response Planning/ Contingency Planning	Measures to establish or enhance flood event institutional emergency response planning.
M43	Public Awareness and Preparedness	Measures to establish the public awareness or preparedness for flood events.
M44	Other Preparedness	Other measures to establish or enhance preparedness for flood events to reduce adverse consequences.

M5	Recovery and Review	
M51	Individual and societal recovery	Clean up and restoration activities (buildings, infrastructure, etc) Health and mental health supporting action, inc. Managing stress Disaster financial assistance (grants, tax) inc. Disaster legal assistance, disaster unemployment assistance Temporary or permanent relocation, other.
M52	Environment recovery	Clean up and restoration activities (with several sub topics as mould protection, well-water safety and securing hazardous material containers).
M53	Other recovery and review	Lessons learnt from flood events Insurance polices Other

M6	Other	
M61	Other	

Table 12: Summary of Rhondda Cynon Taf County Borough Council FRMP Measures and attributed EU reporting code

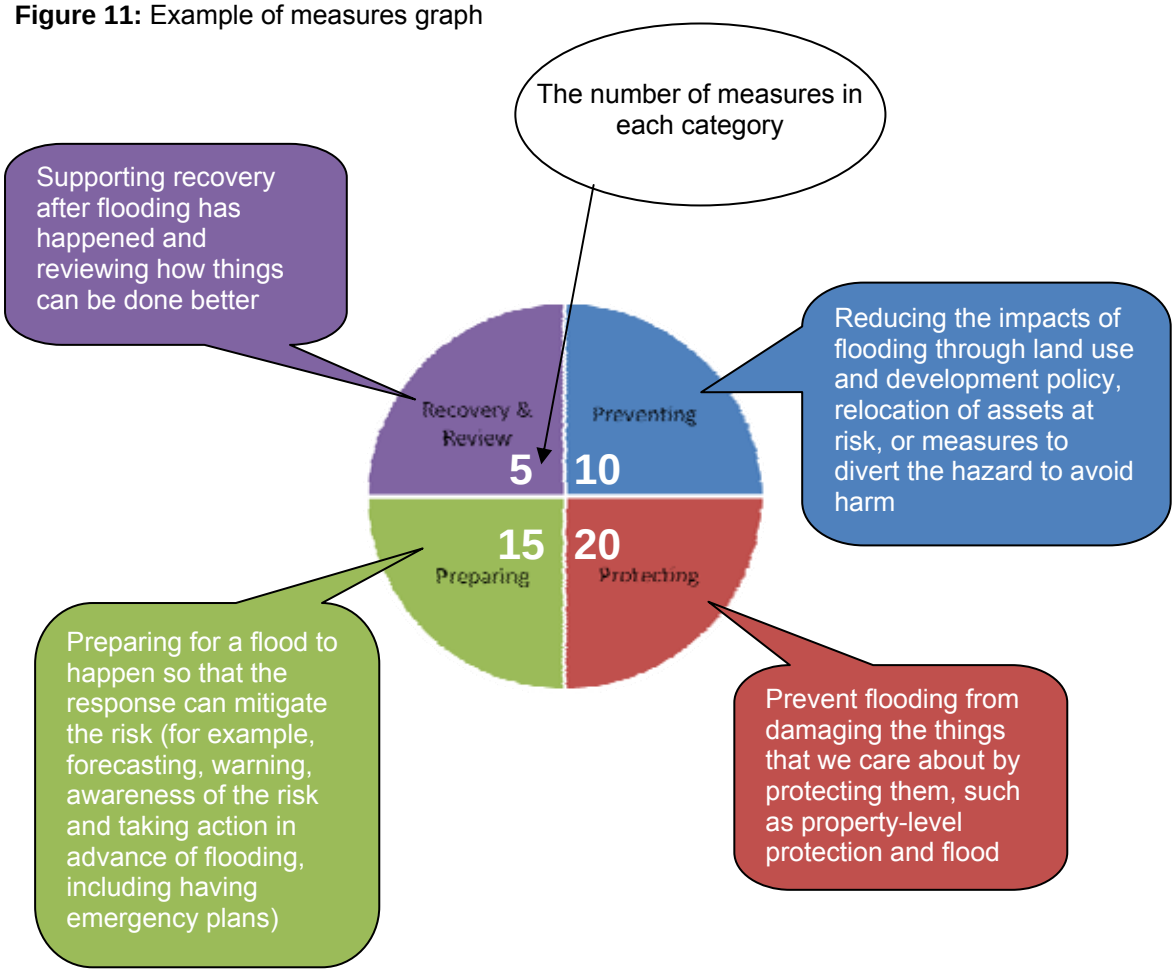
FRMP Measure No.	RCT Measure Name	EU reporting code
1	Establish SuDS Approval Body	M34 (Protection) Surface Water Management
2	Water Cycle Strategy	M31 (Protection) Natural flood management/run off and catchment management
3	Rhondda Cynon Taf Local Development Plan, Strategic Flood Consequences Assessment and Supplementary Planning Guidance	M21 (Prevention) Avoidance
4	Planning Policy Wales and TAN15	M21 (Prevention) Avoidance
5	Flood Awareness	M43 (Preparedness) Public Awareness and Preparedness
6	Flood Warning	M41 (Preparedness) Flood Forecasting and Warning
7	Emergency Response Plans	M42 (Preparedness) Emergency Event Response Planning/Contingency Planning
8	Community Flood Plans	M43 (Preparedness) Public Awareness and Preparedness
9	Multi-Agency Flood Plans	M42 (Preparedness) Emergency Event Response Planning/Contingency Plannnig
10	Land Management	M34 (Protection) Surface Water Management
11	Environmental Enhancement	M23 (Prevention) Reduction
12	Water Level Management Plan	M32 (Protection) Water Flow Regulation
13	Habitat Creation	M23 (Prevention) Reduction
14	Systems Asset Management Plans	M44 (Preparedness) Other Preparedness
15	Enforcement on Private Surface Water Sewers	M24 (Prevention) Other Prevention
16	Power to request information and civil sanctions	M44 (Preparedness) Other Preparedness
17	Asset Register and Records	M44 (Preparedness) Other Preparedness
18	Designation of Structures	M35 (Protection) Other Protection
19	SuDS Adoption	M34 (Protection) Surface Water Management
20	Consenting of Structures to Ordinary Watercourses	M21 (Prevention) Avoidance
21	Enforcement to maintain flow in watercourses	M21 (Prevention) Avoidance
22	Enactment of Land Drainage Byelaws	M21 (Prevention) Avoidance

Table 10 continued: Summary of Rhondda Cynon Taf County Borough Council FRMP Measures and attributed EU reporting code

FRMP Measure No.	RCT Measure Name	EU reporting code
23	Cause incidental flooding for purposes of flood risk management	M31 (Protection) Natural flood management/run off and catchment management
24	Construction of flood defences	M33 (Protection) Channel, Coastal and Floodplain Works
25	Investigation of Flooding Incidents	M44 (Preparedness) Other Preparedness
26	Local property-level flood mitigation - Resilience	M43 (Preparedness) Public Awareness and Preparedness
27	Local property-level flood mitigation - Resistance	M43 (Preparedness) Public Awareness and Preparedness
28	Pre-Feasibility Studies/Project Appraisals	M35 (Protection) Other Protection
29	Catchment Flood Risk Management Plan	M31 (Protection) Natural flood management/run off and catchment management
30	Surface Water Flood Modelling	M24 (Prevention) Other Prevention
31	Reservoir Flood Plans	M24 (Prevention) Other Prevention
32	Flood Risk Management Plans	M24 (Prevention) Other Prevention
33	Flood Risk and Hazard Maps	M24 (Prevention) Other Prevention
34	Partnership working	M44 (Preparedness) Other Preparedness
35	Community/Public Engagement/Consultation	M43 (Preparedness) Public Awareness and Preparedness
36	Habitats Monitoring	M53 (Recovery and Review) Other Recovery and Review
37	Weather Pattern Monitoring	M24 (Prevention) Other Prevention
38	Flow Monitoring	M24 (Prevention) Other Prevention

Following the assessment of the uFMfSW, a number of proposed or ongoing measures may be attributed to help manage flood risk. This enables accurate recording and monitoring of identified measures. Each plan enclosed within the following sections will have an associated graph providing ease of understanding for the number of measures attributed, as example of such a graph is presented in the figure below.

Figure 11: Example of measures graph



6.0 HOW THIS FLOOD RISK MANAGEMENT PLAN HAS BEEN CO-ORDINATED?

In order to ensure good co-ordination of the Flood Risk Management Plan, a number of existing and specifically organised groups were used.

6.1 Working Groups

6.1.1 The Flood Risk Management Plans Working Group

This group was established to ascertain what was required to be incorporated in the Flood Risk Management Plan by the Flood Risk Regulations 2009 and to provide direction for the implementation the plan. The group was attended by the 8no. local authorities in Wales who had a designated flood risk area under the PFRA, and other regulatory bodies who have a requirement under the Flood Risk Regulations to undertake the plan, these included:

- Blaenau Gwent County Borough Council;
- Caerphilly County Borough Council;
- Cardiff City Council;
- City and County of Swansea;
- Merthyr Tydfil County Borough Council;
- Natural Resources Wales;
- Neath Port Talbot County Borough Council;
- Rhondda Cynon Taf County Borough Council;
- Torfaen County Borough Council;
- Welsh Government; and
- Welsh Local Government Association.

The attendance of Natural Resources Wales at the group was crucial to ensure co-ordination between the lead local flood authorities and Natural Resources Wales Flood Risk Management Plans. The group also shared work programmes to ensure delivery of the respective Flood Risk Management plans within the timescales outlined in the Flood Risk Regulations 2009.

6.1.2 The Flood Risk Management Plan Task and Finish Group

The Flood Risk Management Plan working group was set up to discuss the technical requirements of the plans, notably how to draw conclusions from the updated Flood Maps for Surface Water. The group was attended by the following regulatory bodies:

- City and County of Swansea;
- Merthyr Tydfil County Borough Council;
- Natural Resources Wales;
- Neath Port Talbot County Borough Council;
- Rhondda Cynon Taf County Borough Council; and
- Welsh Local Government Association.

6.1.3 The South East Wales Regional Framework Group

This group was utilised to share best practise and to feed back to lead local flood authorities who were not designated as a flood risk area by their PFRA, from the Flood Risk Management Working Group and Task and Finish Group. This group is attended by:

- Blaenau Gwent County Borough Council;
- Caerphilly County Borough Council;
- Caldicot and Wentloog Levels IDB;
- Cardiff City Council;
- Dwr Cymru Welsh Water;
- Merthyr Tydfil County Borough Council;
- Monmouthshire County Borough Council;
- Natural Resources Wales;
- Newport City Council;
- Powys County Borough Council;
- Rhondda Cynon Taf County Borough Council;
- The Vale of Glamorgan Council;
- Torfaen County Borough Council; and
- Welsh Local Government Association.

6.1.4 Miscellaneous Collaboration

In addition to regular meetings with other regulatory bodies, internal collaboration was undertaken within Rhondda Cynon Taf County Borough Council to determine whether other departments were happy with the content of the Flood Risk Management Plan, throughout its conception.

In addition to the formal Flood Risk Management Plan Group meetings, a number of ad hoc independent meetings were held between lead local flood authorities, Welsh Local Government Association and Dwr Cymru Welsh Water were held. These meetings were undertaken to discuss more trivial matters regarding the Plans.

6.2 Co-ordination with River Basin District

Under the requirements of the Water Framework Directive, the Environment Agency and Natural Resources Wales have a duty to prepare River Basin Management Plans for each river basin district within England and Wales.

The Water Framework Directive requires measures to be taken to encourage the sustainable use of water and to protect and improve inland surface waters, groundwaters and coastal waters. Further information regarding the Water Framework Directive is provided in Section 2.5.

It is a requirement of the European Floods Directive (Directive 2007/60/EC) that flood risk management plans have a description of the co-ordination process with the Water Framework Directive.

A river basin district is an area of land, or catchment, which drains into a single major river system. In smaller countries, such as the UK, it can be a group of smaller river catchments that neighbour each other in a relatively distinct regional area. It is also common for the river basin districts to include proximate coastal waters within their designation. A catchment is an area with several, often interconnected water bodies (rivers, lakes, groundwater and coastal waters). Many of the problems facing our water environment are best understood and tackled at a catchment level.

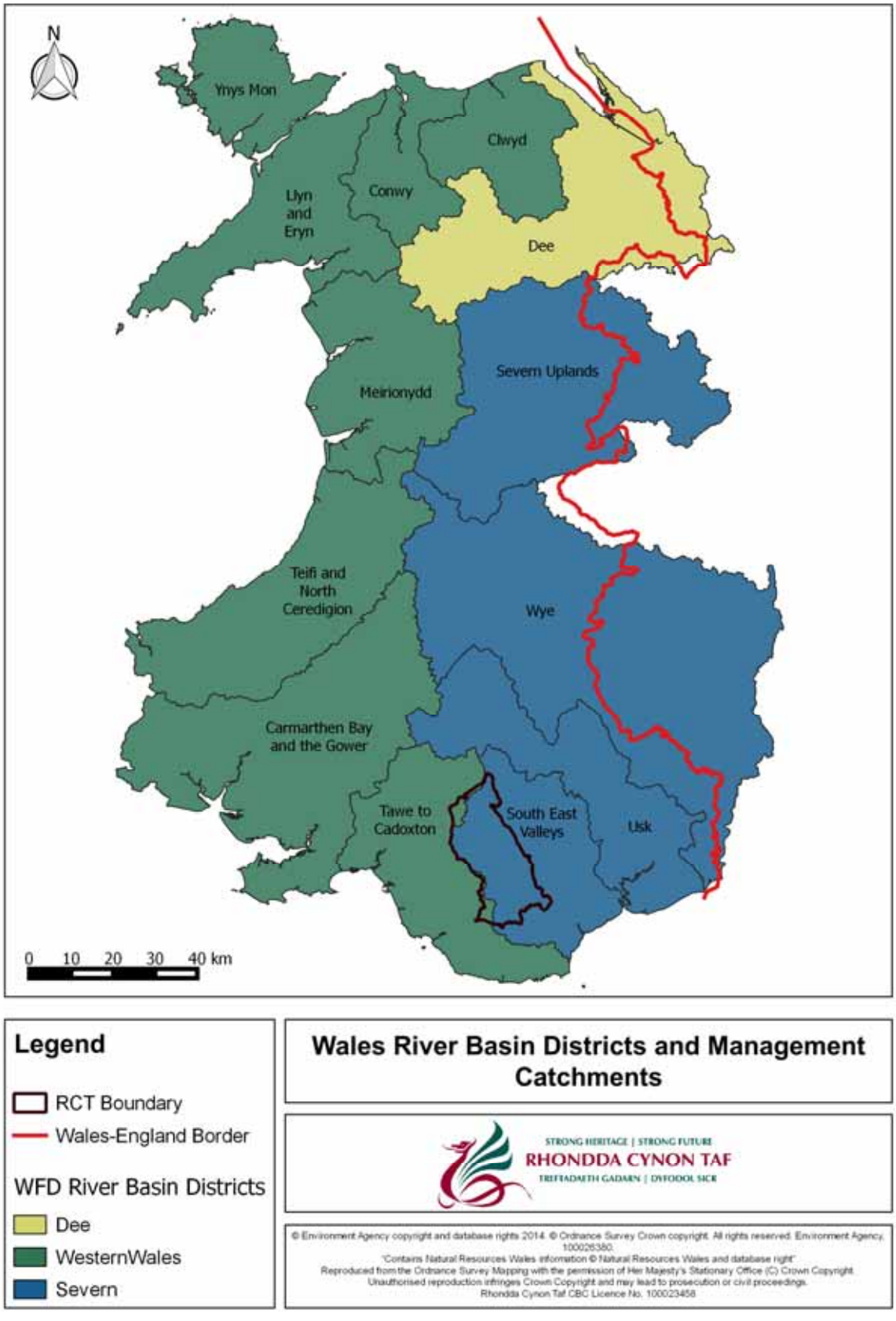
There are three River Basin Districts, either partly or fully within Wales, these are The Severn, Western Wales and Dee. Figure 12 shows the location of Rhondda Cynon Taf County Borough Council with reference to the river basin districts. Rhondda Cynon Taf County Borough Council is situated predominantly within the Severn River Basin District; however, two small areas of the authority fall within the Western Wales River Basin District.

To better understand and tackle the problems within the river basin districts, Natural Resources Wales operate at a management catchment level. This approach provides a more effective engagement at a local level. Rhondda Cynon Taf is situated almost entirely within the South East Wales Management Catchment of the Severn River basin District. Two small areas of land within Rhondda Cynon Taf County Borough Council, situated within the Western Wales River Basin District, fall within the within the Upper Neath Catchment and Ogmore to Tawe Catchment, in the northwest and southwest of the authority, respectively.

The Severn River Basin District Management Plan and the consideration of the measures proposed within the document are discussed further within Section 6.3. The Western Wales River Basin District Management Plan is not considered further within this document.

The Severn River Basin Flood Risk Management Plan and the consideration of the objectives within the document are discussed further in Section 6.4. The Western Wales Flood Risk Management Plan does not consider options within Rhondda Cynon Taf County Borough Council. Whilst an area of Rhondda Cynon Taf County Borough Council does fall within the Western Wales River Basin District, the boundary of the River Basin District does not intersect the Flood Risk Area within Rhondda Cynon Taf County Borough Council. Due to this, there is no information held regarding Rhondda Cynon Taf within the Western Wales Flood Risk Management Plan and no further consideration of the plan is given within this document.

Figure 12: Water Framework Directive River Basin Districts and Management Catchments within Wales

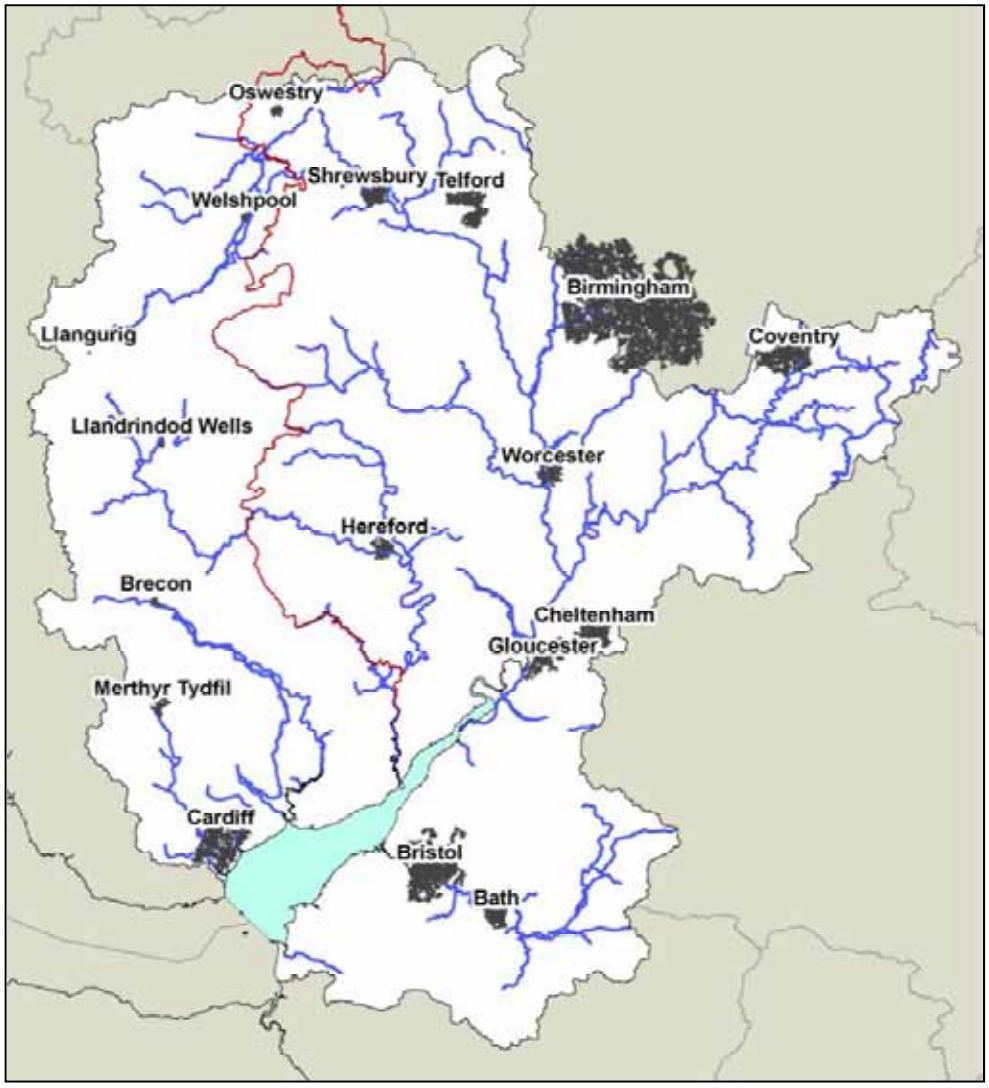


6.2.1 Severn River Basin District

The Severn River Basin District is home to over 5.3 million people and covers an area of 21,590km^2. One third of the district is located within Wales. The River Severn is the longest river in Britain and flows into the Severn Estuary. The district also includes the rivers of southeast Wales, including the Wye, Usk and Taff and those in the counties of Avon and Somerset that drain into the Severn Estuary.

There are a number of major urban centres within the district, including Bristol, Cardiff and Coventry. Much of the RBD, however, is rural in nature, particularly within the Welsh Borders. Approximately 80% of the land is managed for agriculture and forestry. Whilst agriculture dominates the landscape, it actually makes up a small part of the economy, with main sectors relating to business, transport, health and industry.

Figure 7: Severn River Basin Plan



6.3 The Severn River Basin District Management Plan

The first cycle of the Severn River Basin District River Basin Management Plan was published in 2009. The Water Framework Directive requires the plans to be reviewed and updated every 6 years. The updated River Basin Management Plan draft has been prepared in partnership between the Environment Agency and Natural Resources Wales.

The draft Severn River Basin District Management Plan is available via the Environment Agency website (www.gov.uk/government/organisations/environment-agency).

6.3.1 Measures within the Severn River Basin District Management Plan

To encourage the sustainable use of water and to protect and improve inland surface waters, groundwaters and coastal waters, the Severn River Basin District Management Plan has proposed a number of new measures under the following headings:

- Physical modifications;
- Manage pollution from waste water;
- Manage pollution from towns, cities and transport;
- Improve the natural flow and level of water;
- Manage invasive non-native species; and
- Manage pollution from rural areas.

A full breakdown of the proposed measures is presented in Table 11.

6.3.2 Co-ordination with the Severn River Basin District Management Plan

As part of the development of the Severn River Basin District Management Plan, a consultation commenced in October 2014 and ended in April 2015, providing an opportunity for comment. Rhondda Cynon Taf County Borough Council has previously responded to the consultation.

Rhondda Cynon Taf County Borough Council has sought to provide a co-ordinated approach by linking measures within this Flood Risk Management Plan to measures and objectives proposed within the Severn River Basin Management Plan. The table below provides an overview of the relevant measures where Rhondda Cynon Taf County Borough Council believes there is a potential for a co-ordinated approach.

Table 13: Link between Severn River Basin District Management Plan and Rhondda Cynon Taf County Borough Council Flood Risk Management Plan measures

Severn River Basin District Management Plan Measure title and category*	Linked Flood Risk Management Plan Measure title	FRMP Measure Number
Physical Modifications		
Removal or easement of barriers to fish migration	Environment Enhancement	11
Removal or modification of engineering structures	Environment Enhancement	11
Improvement to condition of channel/bed and/or banks/shoreline	*No proposed linked measure*	
Improvement to condition of riparian zone and /or wetland habitats	*No proposed linked measure*	
Changes to operation and maintenance	*No proposed linked measure*	
Vegetation management	Land Management	10
Dredging and silt management	*No proposed linked measure*	
Sustainable aggregate extraction	*No proposed linked measure*	
Sustainable marine development	*No proposed linked measure*	
Complete first cycle investigations	*No proposed linked measure*	
Manage Pollution from Waste Water		
Reduce diffuse pollution at source	Establish SuDS Approval Body	1
Reduce point source pollution pathways	Establish SuDS Approval Body	1
Mitigate/remediate point source impacts on receptor	Establish SuDS Approval Body	1
Reduce point source pollution at source	Establish SuDS Approval Body	1
Complete first cycle and new investigations	*No proposed linked measure*	
Develop and implement nutrient management plans	*No proposed linked measure*	
Manage pollution from towns, cities and transport		
Reduce diffuse pollution pathways	Establish SuDS Approval Body	1
Mitigate/remediate diffuse pollution impacts on receptor	*No proposed linked measure*	
Complete first cycle and new investigations	*No proposed linked measure*	
Improve natural flow and water level of water		
Water demand management	*No proposed linked measure*	
Control pattern/timing of abstraction	*No proposed linked measure*	
Improvement to condition of channel/bed and/or banks/shoreline	*No proposed linked measure*	
Use alternative source/relocate abstraction or discharge	*No proposed linked measure*	
Sustainable access and recreation management – reduce the impact of water based and terrestrial activities	*No proposed linked measure*	
Complete first cycle and new investigations	*No proposed linked measure*	

Table 11 continued: Link between Severn River Basin District Management Plan and Rhondda Cynon Taf County Borough Council Flood Risk Management Plan measures

Severn River Basin District Management Plan Measure title and category*	Linked Flood Risk Management Plan Measure title	FRMP Measure Number
Early detection, monitoring and rapid response (to reduce the risk of establishment)	Land Management	10
	Habitats Monitoring	36
Mitigation, control and eradication (to reduce extent)	Land Management	10
	Habitats Monitoring	36
Complete first cycle and new investigations	*No proposed linked measure*	
Reduce diffuse pollution at source	Establish SuDS Approval Body	1
Mitigate/remediate diffuse pollution impacts on the receptor	Establish SuDS Approval Body	1
Sustainable woodland and forestry management	Land Management	10
Complete first cycle and new investigations	*No proposed linked measure*	
Develop and implement nutrient management plans	*No proposed linked measure*	

***For further information regarding the Severn River Basin District River Management plan, reference should be made to the document "*Water for life and livelihoods, a consultation on the draft update to the river basin management plan for the Severn River Basin District*"**

6.4 The Severn River Basin District Flood Risk Management Plan

The completion of a River Basin District Flood Risk Management Plan is a requirement of the Flood Risk Regulations 2009 for flood risk from main rivers, the sea and reservoirs. As the Severn River Basin District is situated within both England and Wales, the draft Severn River Basin Flood Risk Management Plan was undertaken in partnership between the Environment Agency and Natural Resources Wales.

The Severn River Basin District consultation on the draft Flood Risk Management Plan is available via the Natural Resources Wales website (www.naturalresourceswales.gov.uk).

6.4.1 Objectives within the Severn River Basin District Management Plan

The objectives set out in the draft Severn River Basin District Flood Risk Management Plan are consistent with the welsh Government National Flood and Coastal Erosion Risk Management Strategy objectives and these have been used to set the framework for flood and coastal erosion risk management work within Wales.

- **Reducing the consequences** for individuals, communities, businesses and the environment from flooding and coastal erosion;
- **Raising awareness of and engaging people in the response** to flood and coastal erosion risk;
- **Providing an effective and sustained response** to flood and coastal erosion events; and
- **Prioritising investment** in the most at risk communities.

Natural Resources Wales has detailed seven objectives to help manage flood risk from main rivers, seas and reservoirs and these are presented in the table 12. The objectives were considered by taking into account the three main aspects of sustainable flood risk management:

Social: people and communities;
Economic: Potential cost and economic benefit;
Environment: cultural heritage, landscape and habitat diversity.

The draft Severn River Basin District Flood Risk Management Plan has used the same receptors for their consideration of flood risk as those detailed within Section 5.4 of this document.

Table 14: Wales FRMP Objectives

FRMP Objective Number	Wales FRMP Objective	Link to Welsh Government National Flood and Coastal Erosion Risk Management Strategy Objectives	Principles of sustainability		
			People	Environment	Economy
Objective 1	Reduce the risk of harm to life from flooding to people and communities from main rivers and the sea	1, 3	Y		Y
Objective 2	Increase resilience of services, assets and infrastructure to the risk of flooding	1, 3	Y		Y
Objective 3	Improve understanding of flood risk so that decisions are based upon the best available information	1, 3	Y	Y	Y
Objective 4	Improve community awareness and resilience to flooding	2	Y		Y
Objective 5	Provide an effective and sustained response to flood events	3	Y		Y
Objective 6	Allocate funding and resources for all sources of flooding on a risk	4	Y	Y	Y
Objective 7	Incorporate the ecosystem approach into the delivery of flood risk management	1, 4	Y	Y	Y

6.4.2 Co-ordination with the Severn Flood Risk Management Plan

As part of the development of the Severn Flood Risk Management Plan a consultation ran between October 2014 to April 2015 and provided an opportunity for comment. Rhondda Cynon Taf County Borough Council has previously responded to the consultation.

Rhondda Cynon Taf County Borough Council has sought to provide a co-ordinated approach considering the measures proposed within the Severn River Basin District Flood Risk Management Plan within Rhondda Cynon Taf County Borough Council. The table below provides an overview of the relevant objectives and measures where Rhondda Cynon Taf County Borough Council believes there is a potential for a co-ordinated approach.

The Severn River Basin Flood Risk Management Plan has proposed a delivery plan to help manage the risk of flooding within the South East Wales catchment. Within the boundary of Rhondda Cynon Taf County Borough Council, there are three communities that have measures attributed to them and these are provided in the table below.

Table 15: Summary of Natural Wales Resources ongoing and proposed measures within Rhondda Cynon Taf County Borough Council

Location	Source	Measures	Measure Type	Link to SRBD FRMP objective*	Timing	Priority	Measure Status	Responsible Authority
Treorchy	Main River	Undertake initial assessment and feasibility work for reducing flood risk	M3 – Protection	1, 2	Current	Very High	Not Started Proposed	Natural Resources Wales
		Update Hydraulic Model	M3 – Protection	3	Current	Very High	On-going	Natural Resources Wales
Rhondda	Main River	Undertake initial assessment and feasibility work for reducing flood risk	M3 – Protection	1, 2	Current	Very High	Not Started Proposed	Natural Resources Wales
		Update Hydraulic Model	M3 – Protection	3	Current	Very High	On-going	Natural Resources Wales
Trehafod	Main River	Undertake initial assessment and feasibility work for reducing flood risk	M3 – Protection	1, 2	Current	Very High	Not Started Proposed	Natural Resources Wales
		Update Hydraulic Model	M3 – Protection	3	Current	Very High	On-going	Natural Resources Wales
		Maintain completed community flood plan	M4 – Preparedness	1, 4, 5	Current	Very High	On-going	Natural Resources Wales

*This FRMP objective link is specific to the Severn River Basin District Flood Risk Management Plan

7.0 RHONDDA CYNON TAF COUNTY BOROUGH COUNCIL – BOROUGH WIDE

This section looks at the flood risk posed to the whole of Rhondda Cynon Taf County Borough Council.

7.1 Overview

Rhondda Cynon Taf County Borough Council is Unitary Authority situated within the valleys of South East Wales and is the second largest authority in Wales, formed in 1996 from former Borough of Rhondda, Cynon Valley and Taff Ely, excluding the areas of Pentyrch and Creigiau, which were incorporated into Cardiff City Council. Rhondda Cynon Taff covers an area of approximately 42,400 Hectares with a population of 234,300 (census 2011).

The borough is situated within the South East Valleys management catchment of the Severn River Basin District and is comprised of four main catchments, the Rhondda, Cynon, Taf and Ely situated in the west centre and east, respectively. The catchments of Rhondda Cynon Taf are characterised by steep and narrow valleys with development reserved to the gentler gradients at the valley floor.

7.2 Conclusions from the uFMfSW

There are 250,907 people and 406 services within Rhondda Cynon Taf County Borough Council. Of these 7,623 and 57 services are at risk of flooding (considering the maximum extent of flooding). The highest areas of risk are confined to the valley floors of the Rhondda, Cynon and Taf valleys and those areas adjacent to watercourses.

Generally, the uFMfSW show flooding to areas that is coincidental with historic flooding incidents reported to Rhondda Cynon Taf County Borough Council. The highest risk is associated with ordinary watercourses and the breaching of banks due to the lack of capacity.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is a worst case scenario.

A summary of the counts for Rhondda Cynon Taf County Borough Council are presented below.

Table 16: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Rhondda Cynon Taf County Borough Council

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	250,907	7,623	6,559	26,682
Services	406	57	10	12
RISK TO ECONOMIC ACTIVITY				
Non Residential Properties	21,905	850	638	2,216
Airports	0	0	0	0
Roads (km)	217	8	2	14
Railways (km)	69	4	3	3
Agricultural Land (hectares)	2,013	38	31	82
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	8	5	0	0
Special Area of Conservation (SAC)	248	6	1	21
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	1,183	35	23	57
Parks and Gardens	144	3	1	5
Scheduled Ancient Monuments	163	2	1	57
Listed Buildings	368	27	5	27
Licensed Abstractions	57	14	1	7
HISTORIC FLOOD INCIDENTS				
Internal	229			
External	829			
Highway	1468			

Table 17: Summary of Flood Risk Management Plan Measures for Rhondda Cynon Taf County Borough Council – Borough wide

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status
Rhondda Cynon Taf County Borough Council – Borough Wide	Local	1	Establish SUDs Approval Body	M3 – Protection	2015-2021	Ongoing
		2	Water Cycle Strategy	M3 – Protection	2015-2021	Ongoing
		3	RCTCBC Local Development Plan	M2 – Prevention	2015-2021	Ongoing
		4	Planning Policy Wales	M2 – Prevention	2015-2021	Ongoing
		5	Flood Awareness	M4 – Preparedness	2015-2021	Ongoing
		14	System Asset Management Plans	M4 – Preparedness	2015-2021	Ongoing
		15	Enforcement of private water sewers	M2 – Prevention	2015-2021	Ongoing
		16	Power to request information and civil sanctions	M4 – Preparedness	2015-2021	Ongoing
		17	Asset register and records	M4 – Preparedness	2015-2021	Ongoing
		20	Consenting on ordinary watercourses	M2 – Prevention	2015-2021	Ongoing
		21	Enforcement to maintain flow in watercourses	M2 – Prevention	2015-2021	Ongoing
		22	Enactment of Land Drainage Byelaws	M2 – Prevention	2015-2021	Ongoing
		25	Investigation of Flooding incidents	M4 – Preparedness	2015-2021	Ongoing
		32	Flood Risk Management Plans	M4 – Preparedness	2015-2021	Ongoing
		33	Flood Risk and Hazard Maps	M2 – Prevention	2015-2021	Complete
		34	Partnership Working	M4 – Preparedness	2015-2021	Ongoing
		37	Weather pattern monitoring	M2 - Prevention	2015-2021	Ongoing

Figure 13: Rhondda Cynon Taf County Borough Council uFMfSW: Risk to people

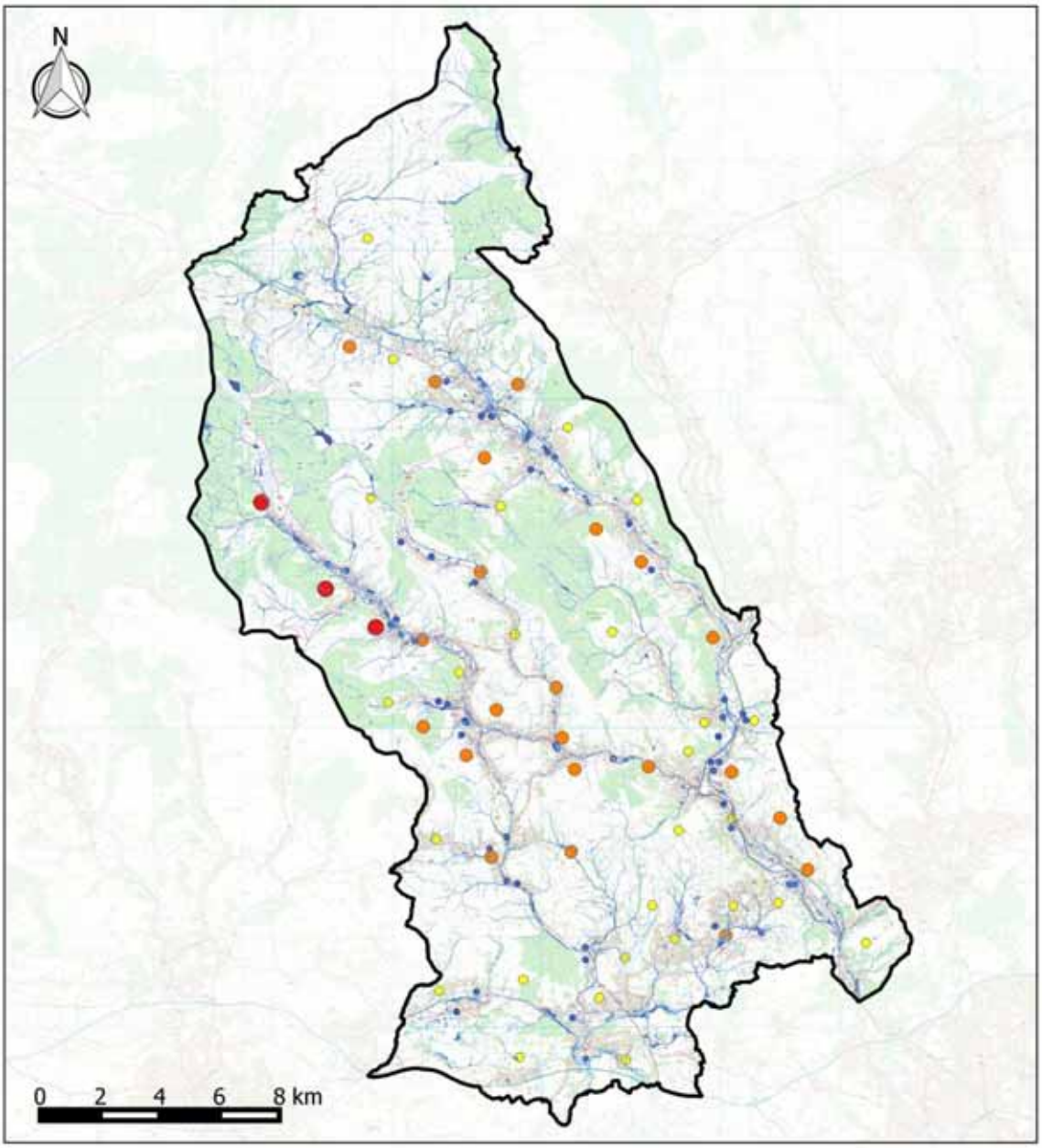


Figure 14: Rhondda Cynon Taf County Borough Council uFMfSW: Risk to economic activity

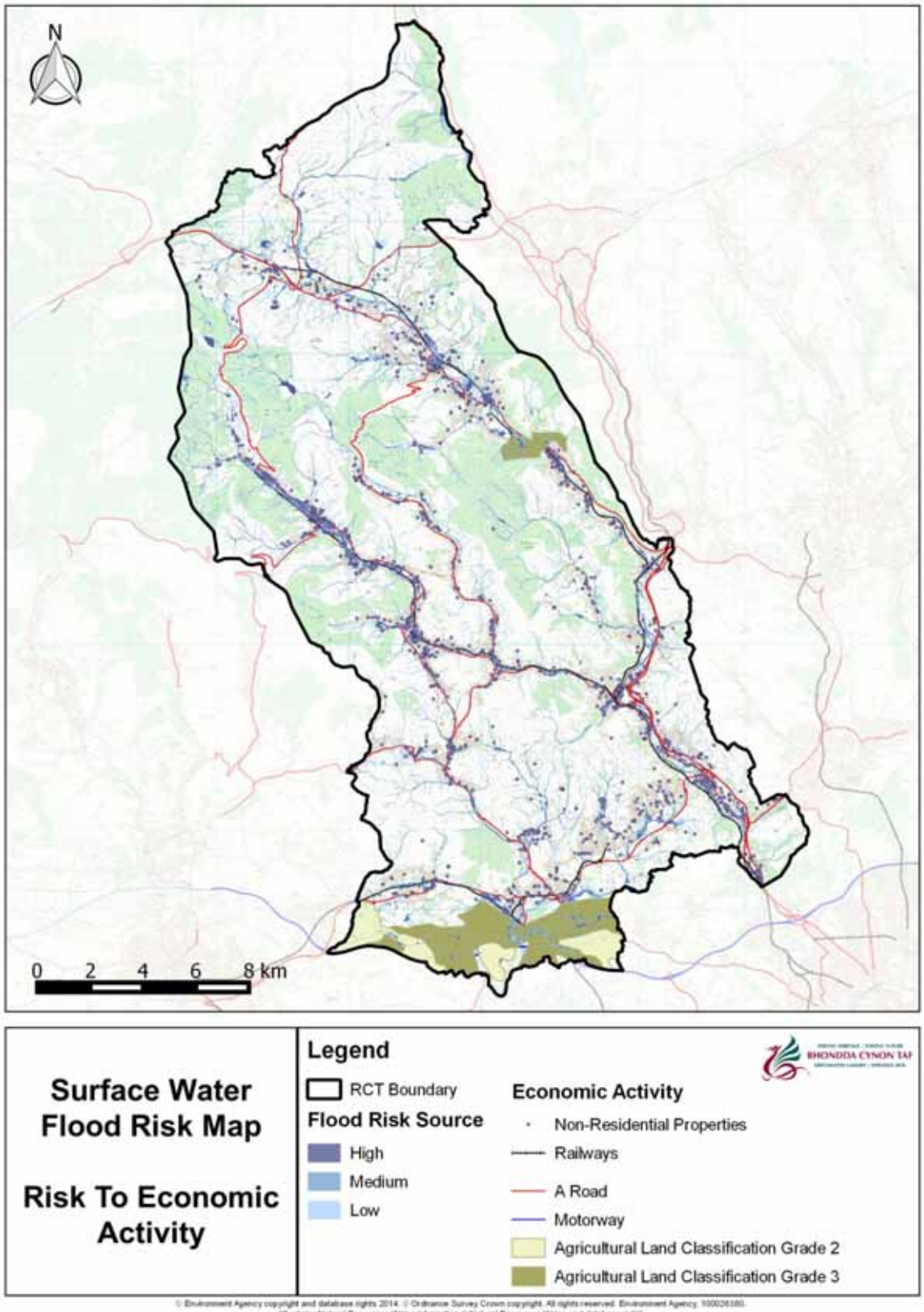
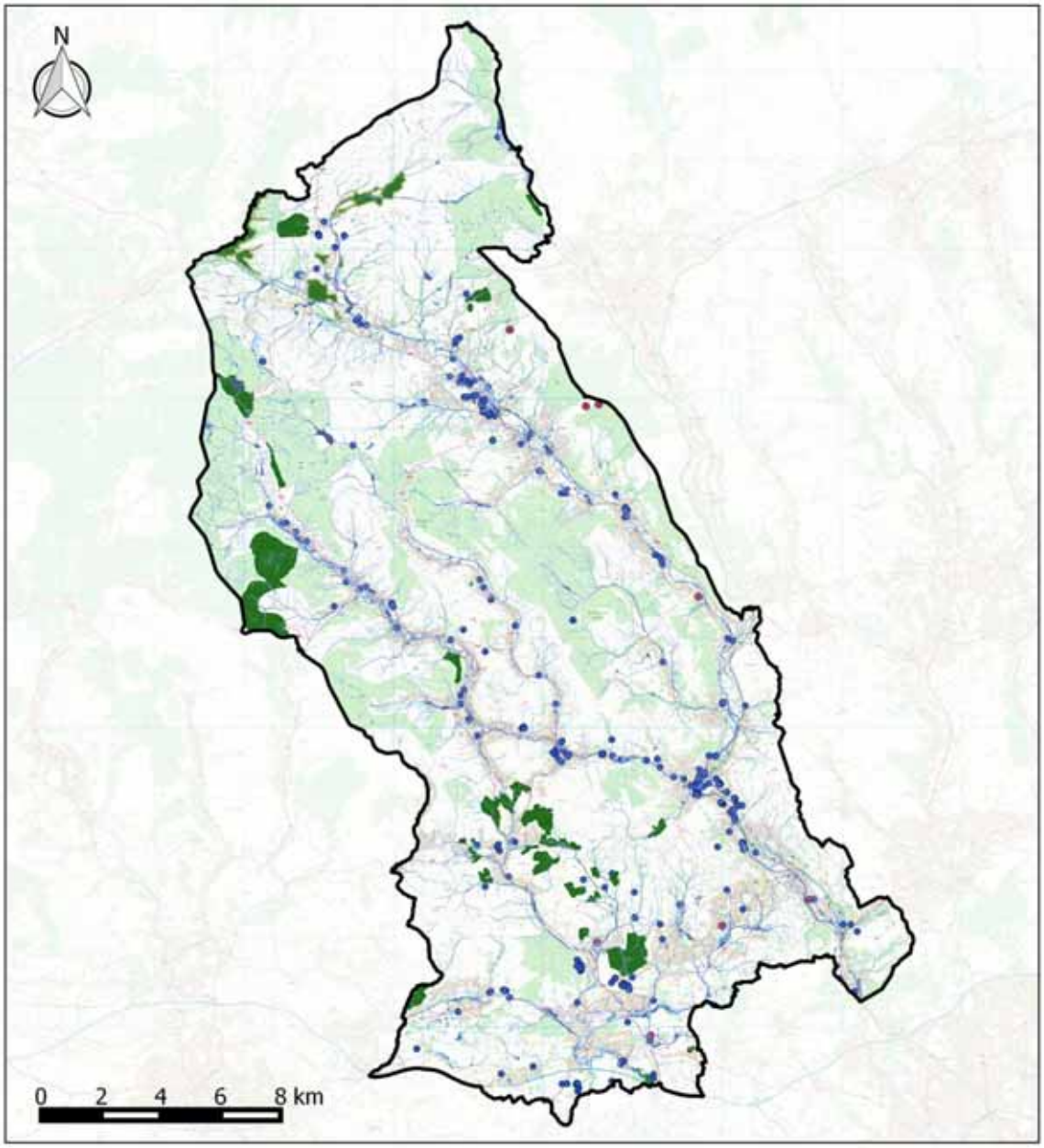


Figure 15: Rhondda Cynon Taf County Borough Council uFMfSW: Risk to the natural and historical environment



8.0 RHONDDA CYNON TAF COUNTY BOROUGH COUNCIL – FLOOD RISK AREA

8.1 Overview

This section looks at the flood risk posed within Rhondda Cynon Taf County Borough Council's Indicative Flood Risk Area.

The Flood Risk Area is situated within the unitary authority of Rhondda Cynon Taf County Borough Council and is discussed in detail within Section 5.1. The Flood Risk Area covers approximately 21,175 Ha and has a population of approximately.

The Flood Risk Area broadly covers the valley floors of the Rhondda, Cynon and Taf Catchments but does not extend to cover much the upper Rhondda catchment, principally excluding the community area of Rhigos, and a large proportion the Ely River catchment in the southwest of the authority.

8.2 Conclusions from the uFMfSW

There are 205,385 people and 298 services within Rhondda Cynon Taf County Borough Council's Flood Risk Area. Of these 7.024 and 6 services are at risk of flooding (considering the maximum extent of flooding). The highest areas of risk are confined to the valley floors of the Rhondda, Cynon and Taf valleys and those areas adjacent to watercourses.

Generally, the uFMfSW show flooding to areas that is coincidental with historic flooding incidents reported to Rhondda Cynon Taf County Borough Council. The highest risk is associated with ordinary watercourse and the breaching of banks due to the lack of capacity within the valley floors.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is a worst case scenario.

A summary of the counts for Rhondda Cynon Taf County Borough Council's Flood Risk Area are presented below.

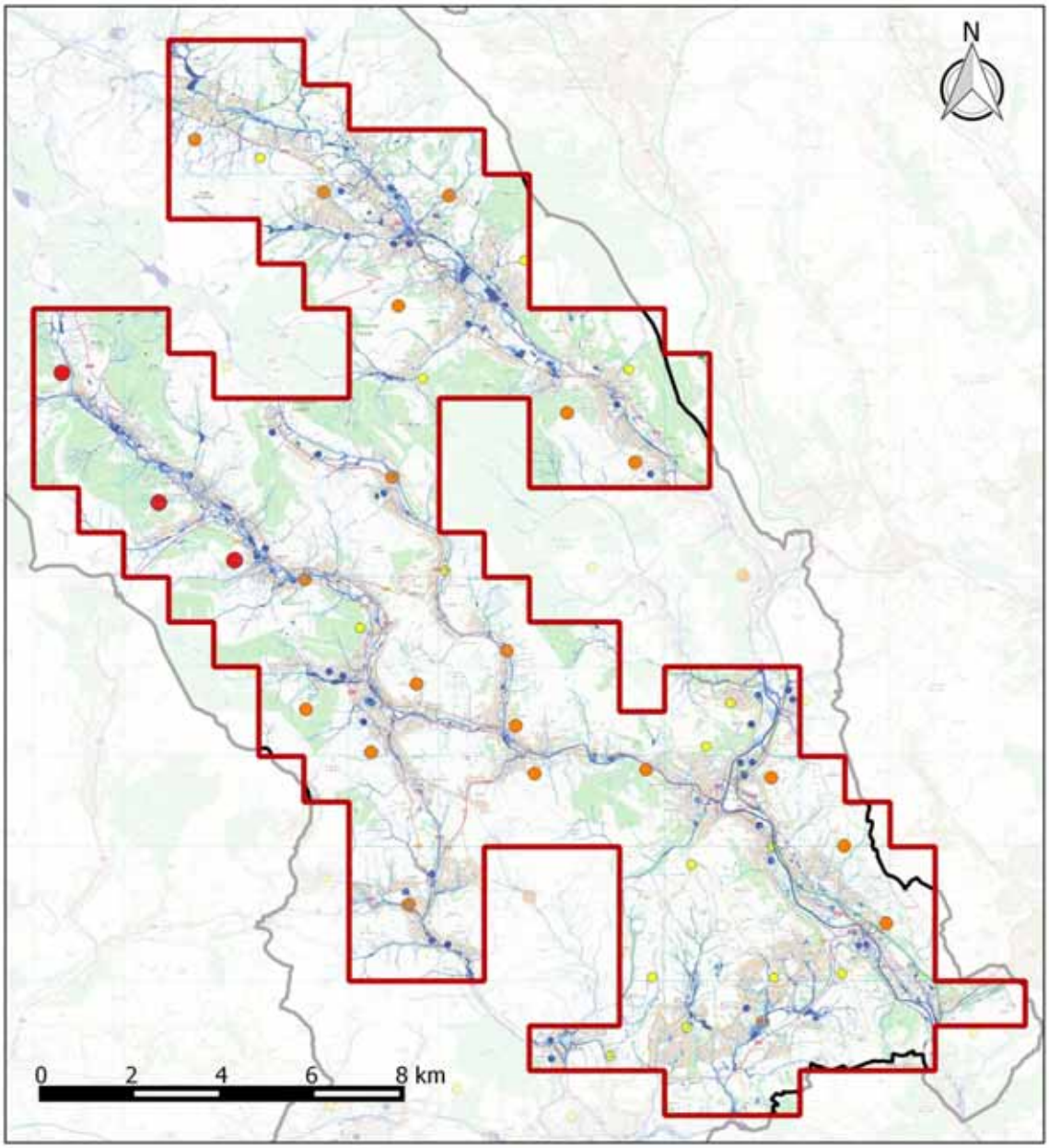
Table 18: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Rhondda Cynon Taf County Borough Council's Flood Risk Area

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	205,385	7,024	6,141	24,005
Services	298	6	9	52
RISK TO ECONOMIC ACTIVITY				
Non Residential Properties	15,822	726	554	1,853
Airports	0	0	0	0
Roads (km)	29	3	1	6
Railways (km)	46	3	2	2
Agricultural Land (hectares)	163	7	5	15
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	3	3	0	0
Special Area of Conservation (SAC)	7	0	0	1
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	473	7	4	19
Parks and Gardens	36	1	1	3
Scheduled Ancient Monuments	53	1	1	2
Listed Buildings	277	25	5	22
Licensed Abstractions	24	5	0	2
HISTORIC FLOOD INCIDENTS				
Internal	201			
External	727			
Highway	1232			

Table 19: Summary of Flood Risk Management Plan Measures for Rhondda Cynon Taf County Borough Council – Flood Risk Area

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status
Rhondda Cynon Taf County Borough Council – Borough Wide	Local	1	Establish SUDs Approval Body	M3 – Protection	2015-2021	Ongoing
		2	Water Cycle Strategy	M3 – Protection	2015-2021	Ongoing
		3	RCTCBC Local Development Plan	M2 – Prevention	2015-2021	Ongoing
		4	Planning Policy Wales	M2 – Prevention	2015-2021	Ongoing
		5	Flood Awareness	M4 – Preparedness	2015-2021	Ongoing
		14	System Asset Management Plans	M4 – Preparedness	2015-2021	Ongoing
		15	Enforcement of private water sewers	M2 – Prevention	2015-2021	Ongoing
		16	Power to request information and civil sanctions	M4 – Preparedness	2015-2021	Ongoing
		17	Asset register and records	M4 – Preparedness	2015-2021	Ongoing
		20	Consenting on ordinary watercourses	M2 – Prevention	2015-2021	Ongoing
		21	Enforcement to maintain flow in watercourses	M2 – Prevention	2015-2021	Ongoing
		22	Enactment of Land Drainage Byelaws	M2 – Prevention	2015-2021	Ongoing
		25	Investigation of Flooding incidents	M4 – Preparedness	2015-2021	Ongoing
		32	Flood Risk Management Plans	M4 – Preparedness	2015-2021	Ongoing
		33	Flood Risk and Hazard Maps	M2 – Prevention	2015-2021	Complete
		34	Partnership Working	M4 – Preparedness	2015-2021	Ongoing
		37	Weather pattern monitoring	M2 - Prevention	2015-2021	Ongoing

Figure 16: Rhondda Cynon Taf County Borough Council Indicative Flood Risk Area uFMfSW: Risk to people



Surface Water Flood Risk Map

Risk to People

Legend

RCT Boundary
Flood Risk Area

Flood Risk Source

High
Medium
Low

People at Risk

0-200
201-500
500+
Services at Risk

Figure 17: Rhondda Cynon Taf County Borough Council Indicative Flood Risk Area uFMfSW: Risk to economic activitv

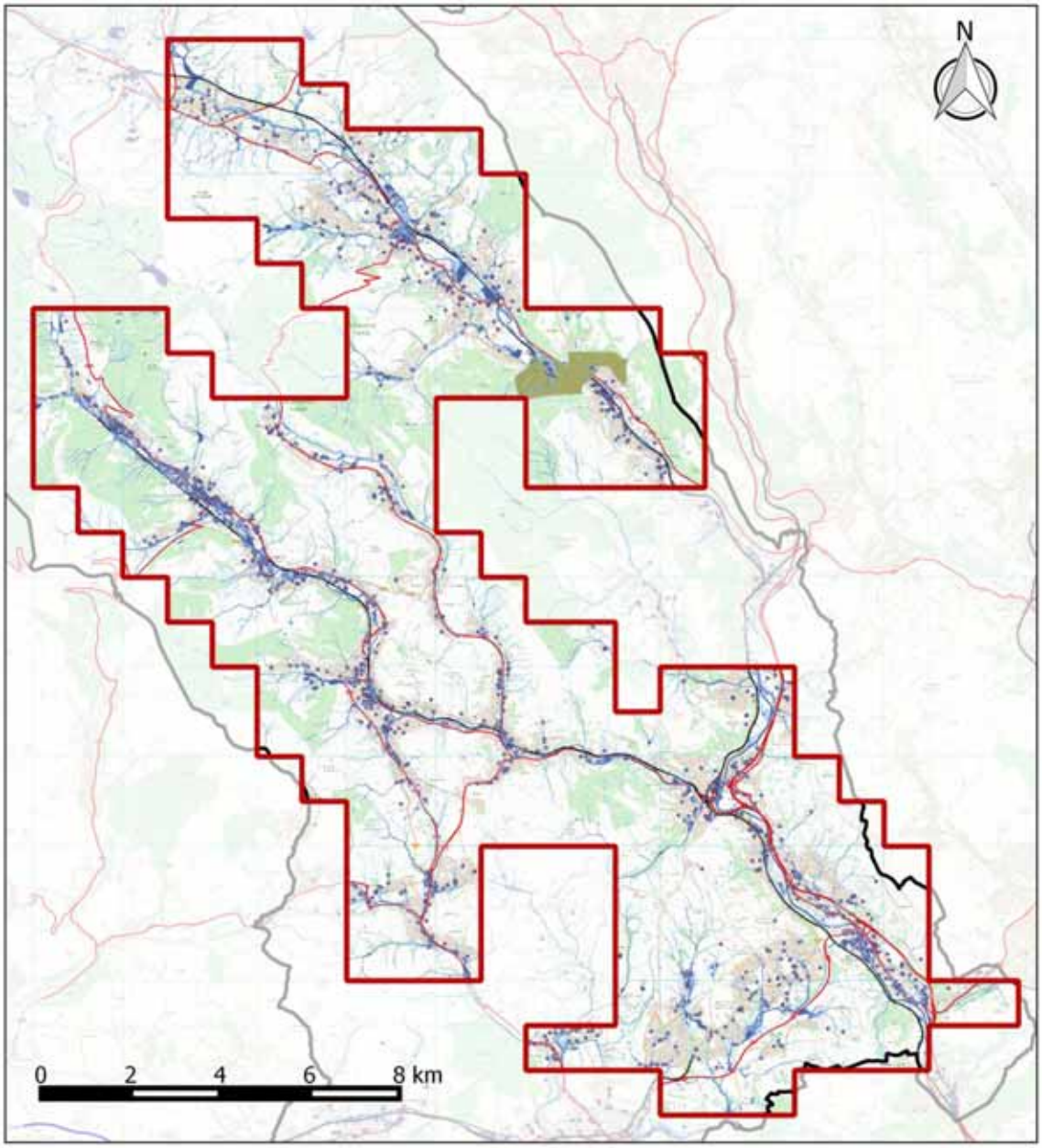
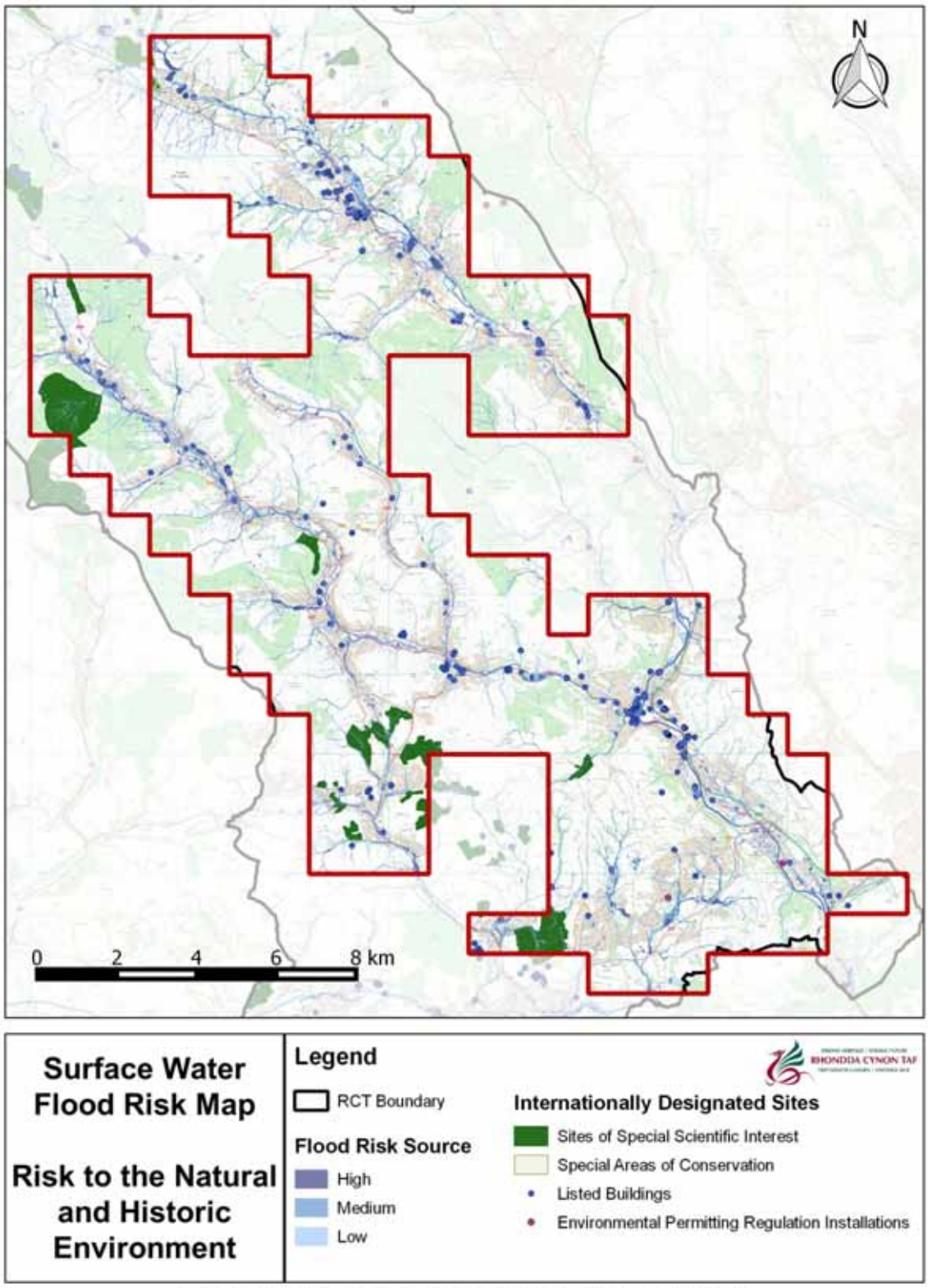


Figure 18: Rhondda Cynon Taf County Borough Council Indicative Flood Risk Area uFMfSW: Risk to the natural and historical environment



9.0 COMMUNITY AREAS

This section looks at the flood risk posed to individual community areas. Further information on the community areas can be found in Section 5.3.

9.1 Aberaman North

9.1.1 Overview

Aberaman North is situated in the northern sector of Rhondda Cynon Taf County Borough Council to the south of Aberdare. Aberaman North covers an area of 432Ha and the maximum elevation is 350m AOD. The area contains approximately 2,491 residential dwellings and a population of 5,854.

The majority of the Aberaman North has remained in a natural state, owing to the steep topography, and proximate areas have remained undeveloped. Residential development is situated in the east of Aberaman North, with the town of Aberaman. St Gwynno Forest is located in the west of the area.

Aberaman North is situated within the Afon Cynon Catchment. Aberaman North is drained to the east by the Nant Gwawr with its catchment covering the vast majority of the area. The Nant Gwawr flows west to east and is partly culverted through the town of Aberaman, discharging into the River Cynon. Aberaman North is bounded by the Afon Cynon in the east.

Several minor watercourses also issue within the Nant Gwawr catchment and are culverted through Aberaman.

The west of the site is a steep catchment that drains into the River Aman Fach and is fed by minor watercourses. The River Aman Fach runs along the western boundary of the community area. Aberaman North is also bounded by the River Aman Fach in the west.

The underlying Geology of the site is the Rhondda Beds Upper Carboniferous Coal Measures, comprising sandstones and mudstones and coal. Glacial Till is present along the major watercourses and Alluvial Deposits are present along the Afon Cynon.

9.1.2 Conclusions for the UFMfSW

Aberaman North covers approximately 432Ha with a total population of 5,854. Just over 3% of the population of Aberaman North are at high risk of surface water flooding.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

The updated Maps for Surface Water Flooding indicate that the highest risk posed to people and properties within Aberaman North is broadly associated with the Nant Gwawr with flood risk observed along the length of the watercourse. The flooding is likely sourced from culvert inlets and potential bank breaches. Commonly, the flow path is along roads with risk noted along sections of Gwawr Street, Cardiff Road, Curre Street and Cardiff Road.

The flood risk presented within the uFMfSW correlates with historic external and highway flooding incidents reported to Rhondda Cynon Taf within the area of the Nant Gwawr.

A low to high risk is noted within the town of Aberaman and Godreaman, in particular surface runoff noted along Brook Street, Mount Street and Hill Street. A separate flow path is also noted to pose a low to high risk at the junction of Park Road and Lewis Street, Cynon Street and Wyndham Crescent.

A low to high flood risk is represented along Llanddewi Street, Brecon Street, Brecon Place, Lower Station Street and Lower Street.

An average correlation between the uFMfSW and historic flood incidents is noted away from the Nant Gwawr.

Significant flooding is noted to occur to the east of the A4059, downstream of the Nant Gwawr, within the flood plain of the Afon Cynon. This flooding may also have contributions from Main River flooding. No properties, economic or environmental receptors are affected by this flooding.

The historic flooding incidents reported broadly correlate with requests for gulley clearance with minimal incidents of highway flooding associated with the areas of high risk.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is a worst case scenario.

A summary of the counts for Aberaman North are presented in the table below.

Table 20: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Aberaman North

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	5,854	202	164	766
Services	6	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	289	7	8	33
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	3	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	4			
External	19			
Highway	38			

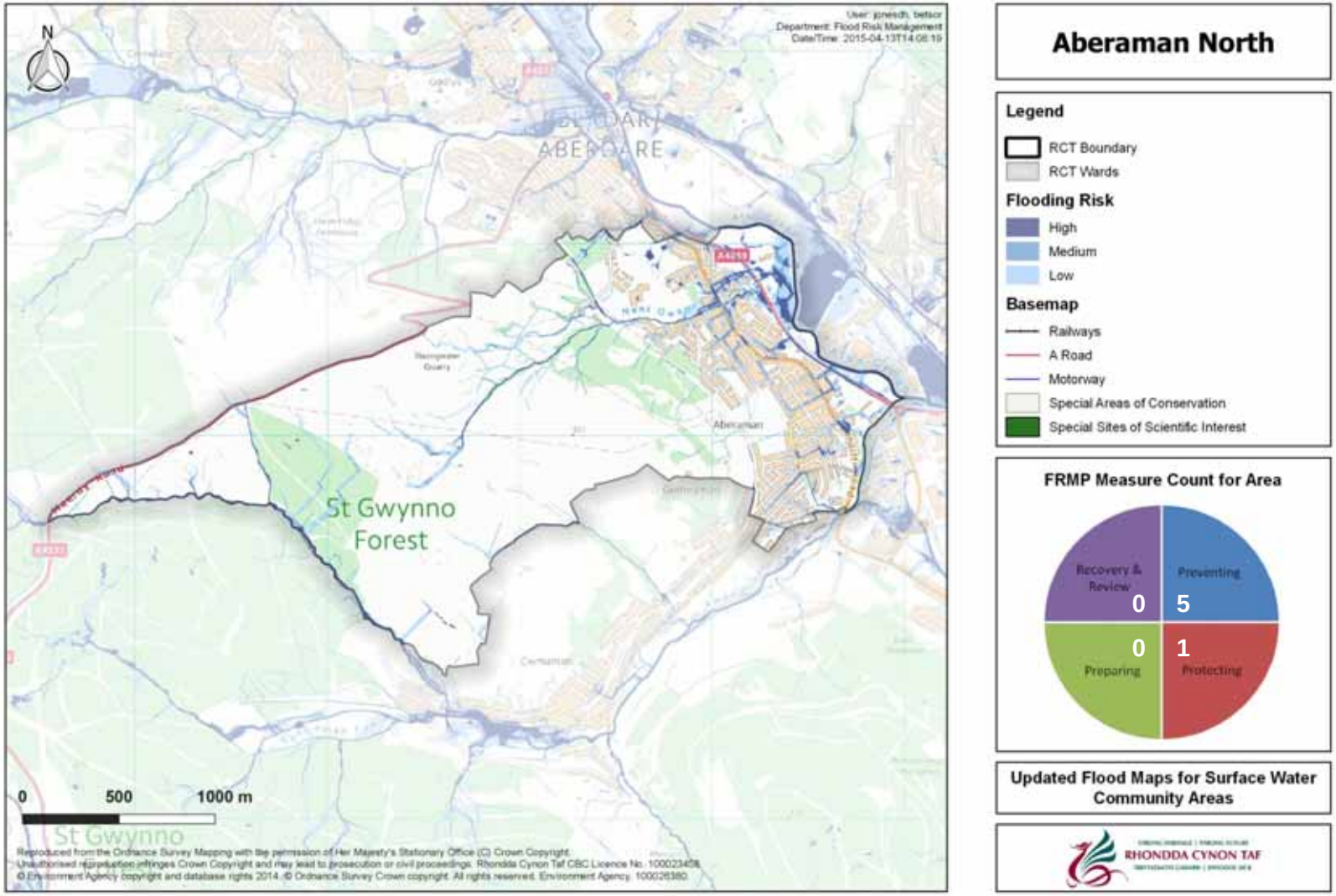
Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Aberaman North and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 21: Summary of Flood Risk Management Plan Measures for Aberaman North

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0001	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0002	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Ongoing/Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Completed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0003	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0004	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 19: Aberaman North uFMfSW. Risk to people, economic activity and environmental receptors



9.2 Aberaman South

9.2.1 Overview

Aberaman South is situated in the centre of Rhondda Cynon Taf County Borough Council with the towns of Abercwmboi and Cwmaman. Aberaman South covers an area of and has a maximum elevation of approximately 436m AOD. The area has a population of approximately 5,172.

Aberaman South is predominately a rural environment with the highlands to the west and south of the site comprising part of Saint Gwynno Forest. Residential development is situated within the valley floors of the Aman River and the Afon Cynon. A small industrial estate is located adjacent to the Afon Cynon in the east of the area.

Aberaman South is situated within the Afon Cynon Catchment and is drained by the Aman River. The vast majority of the area forms the steep sided catchment of the Aman River, which is fed by three significant tributaries of the Ffyrnant, Nant Aman Fawr and the Nant Aman Fach. The Aman River is culverted in sections beneath Cwmaman.

The underlying Geology of the site is the Rhondda, Hughes and Llynfi Beds of the Upper Carboniferous Coal Measures, comprising sandstones and mudstones and coal. Glacial Till is present along the valley floors of major watercourses and Alluvial Deposits are present along the Afon Cynon in the west of the area. Peat is present in the highlands, within Saint Gwynno Forrest in the northwest.

The characteristics of the area create a “flashy” response to storm events, with short intense summer rainfall being critical for the area.

9.2.2 Conclusions for the UFMfSW

Aberaman South covers approximately 1,254Ha with a total population of 5,172. Just over 9% of the population of Aberaman South are at high risk of surface water flooding.

The most significant risk of flooding is noted within Cwmaman, with a low to high flood risk contributable to area at the confluence of the Nant Aman Fawr and Nant Aman Fach.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Aberaman South are presented in the table below.

Table 22: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Aberaman South

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People	5,172	463	94	940
Services	9	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	469	8	7	16
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	2	0.007	0.004	0
Agricultural Land (hectares)	23	1	0.3	2
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0.01	0	0	0
Listed Buildings	3	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	6			
External	22			
Highway	55			

Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Aberaman South and their proposed Flood Risk Management Plan measures are presented in the table below.

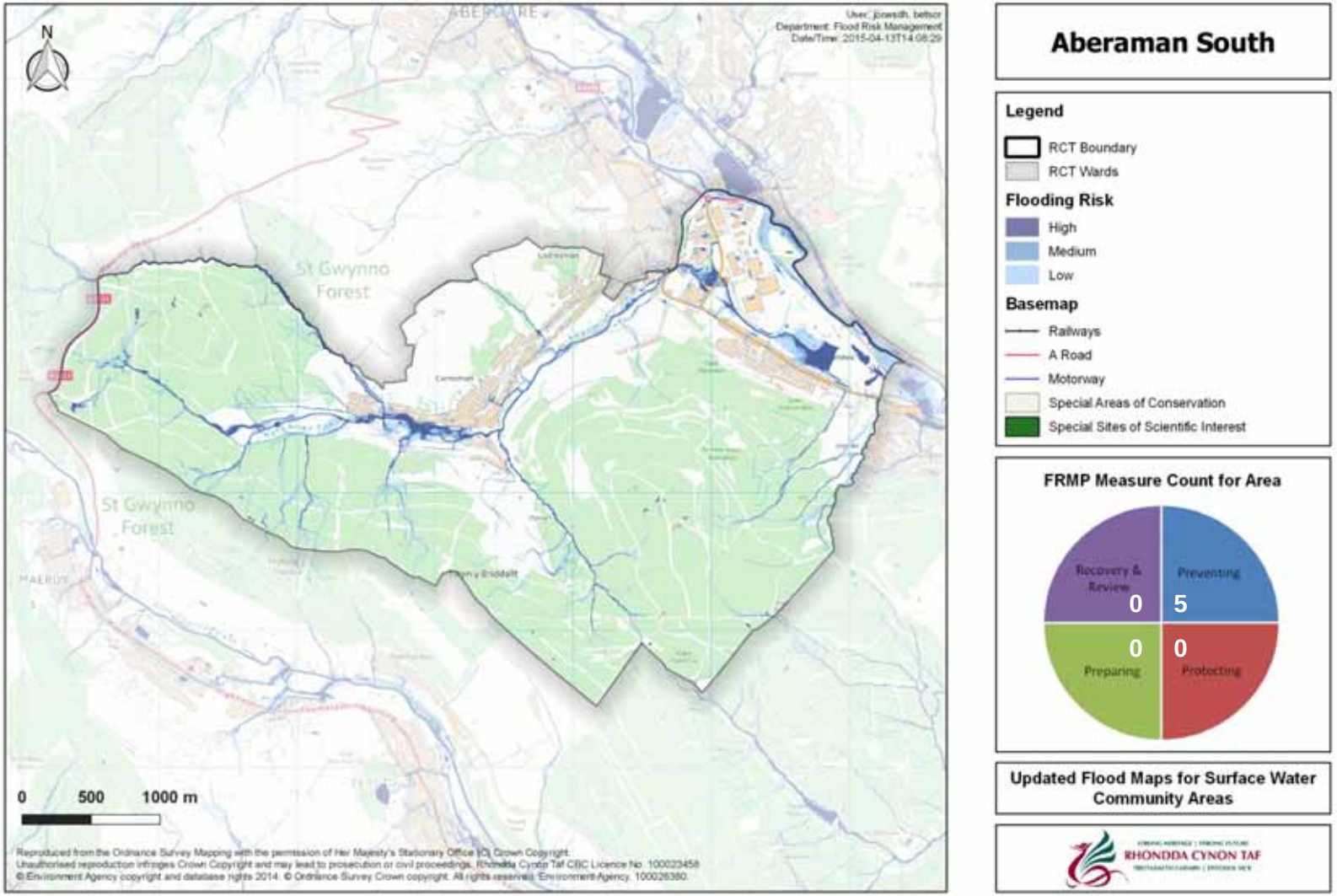
Further information regarding the flood investigation area is presented in Appendix A.

Table 23: Flood Risk Management Plan Measures for Aberaman South

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0004	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0005	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0006	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0007	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural resources Wales
RCT0008	Surface Runoff	30	Surface Water Modelling	M24 (Prevention)			Proposed

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 20: Aberaman South uFMfSW. Risk to people, economic activity and environmental receptors



9.3 Abercynon

9.3.1 Overview

Abercynon is situated in the centre of Rhondda Cynon Taf County Borough Council to the south of Mountain Ash. The site covers an area of approximately 917Ha and has a maximum elevation of 282m AOD. Abercynon contains approximately 2,861 residential dwellings and has a population of approximately 6,723.

Abercynon is predominantly rural due to the steep topography of the highlands in the west, which comprise primarily of forested areas. Residential areas are confined to the valley floor of the Afon Taf and the Afon Cynon. A large section of the south of Abercynon is comprised of the Craig-Evan-Leyshon Common with a number of farms located here, but is largely uninhabited.

Abercynon is located within two Catchments; the Afon Cynon and the Afon Taf. Much of Abercynon is situated around the confluence of the Afon Cynon and the Afon Taf. Afon Cynon is fed by the Nant y Fedw and other unnamed watercourses in the north of the site, many of which are culverted in sections beneath Ynysboeth.

There are several minor unnamed watercourses also culverted through Abercynon and Ynysboeth.

The underlying geology of Abercynon is the Hughes and Brithdir Beds of the Upper Carboniferous Coal Measures which is comprised of coal, sandstones and mudstones. Alluvial deposits are found along the Afon Cynon and the southern section of the Afon Taf. Glaciofluvial deposits and Glacial Till are present along the valley floor of major watercourses, with Glacial Till extending up onto the Craig-Evan-Leyshon common.

9.3.2 Conclusions for the UFMfSW

Abercynon covers an area of approximately 917Ha and has a total population of 6,723. About 3% of Abercynon are at high risk of surface water flooding.

The UFMfSW indicates that the highest risk posed to people and properties within Abercynon is broadly associated with the Nant-Y-Fedw within Ynysboeth. The flooding is sourced from the culvert inlet with the flow path beginning here. The flow path is predominantly along roads with significant risk to streets just below the culvert inlet of the Nant-Y-Fedw.

There is also a significant risk of flooding in the centre of the community area. To the east of the railway line and railway station, there are a number of properties at medium to high risk of flooding.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Abercynon are presented in the table below.

Table 24: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Abercynon

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	6,723	228	113	569
Services	18	2	1	1
ECONOMIC ACTIVITY				
Non Residential Properties	550	15	10	25
Airports	0	0	0	0
Roads (km)	7	1	0.4	1
Railways (km)	6	0	0.5	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	1	1	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	3	1	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	3			
External	17			
Highway	39			

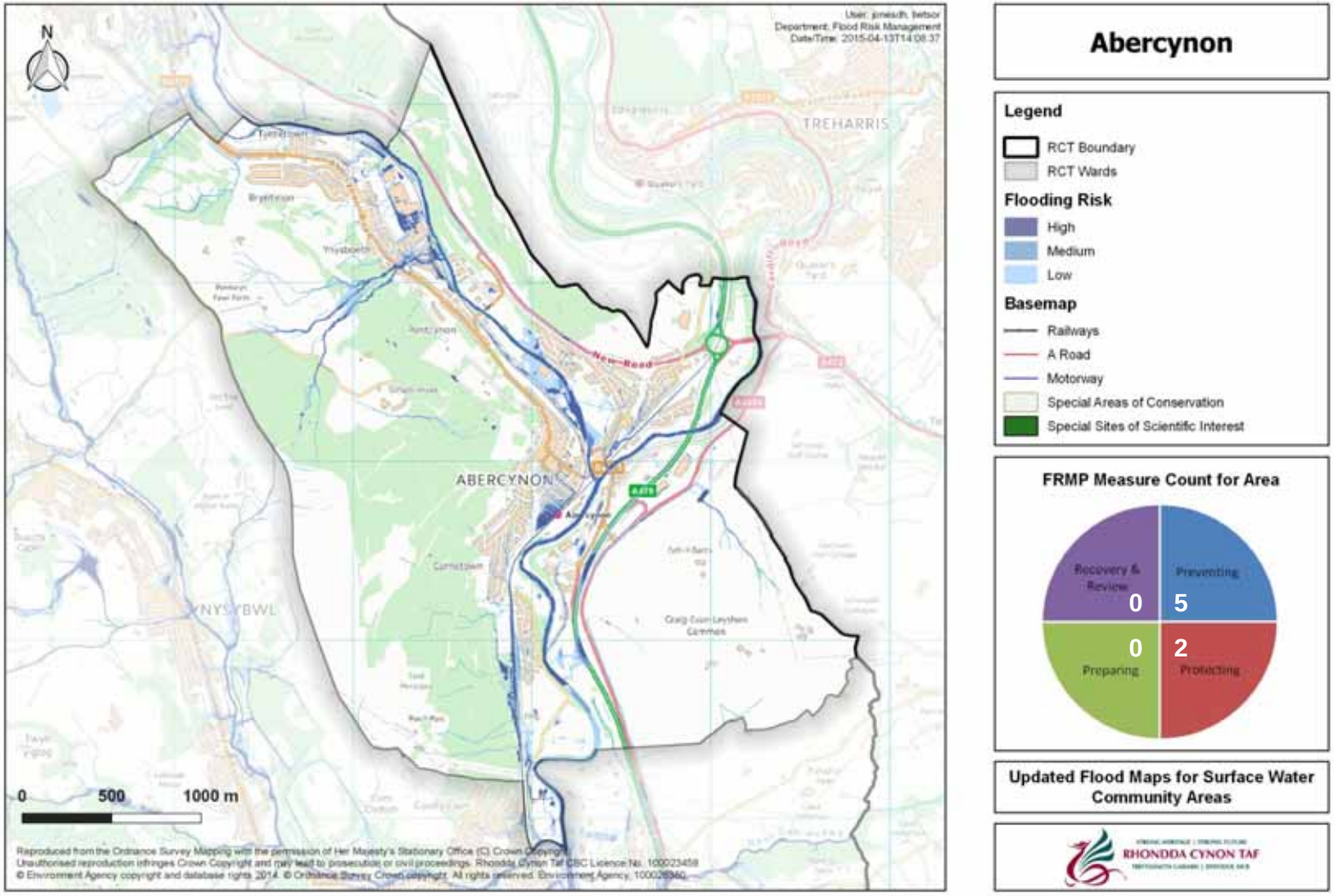
Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Abercynon and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 25: Summary of Flood Risk Management Plan Measures for Abercynon

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0009	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Ongoing	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Completed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0010	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0011	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0129	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 21: Abercynon uFMfSW. Risk to people, economic activity and environmental receptors



9.4 Aberdare East

9.4.1 Overview

Aberdare East is situated in the north of Rhondda Cynon Taf County Borough Council with the town of Aberdare situated in the west of the community area. Aberdare East covers an area of approximately 673Ha and a maximum elevation of 429m AOD. The area contains approximately 3,280 residential dwellings and has a population of approximately 7,708.

Aberdare East is predominantly rural with residential areas confined to the valley floor of the Afon Cynon owing to the steep topography of the valley sides. The main residential area is the town of Aberdare, situated upon the banks of the Afon Cynon. The small, linear residential community of Aberrant has developed along Abernant Road, which is parallel to the Nant y Wenallt.

Aberdare East is located within the Afon Cynon Catchment, with the northeast boundary broadly following the line of the watershed shared with the Afon Taf. The community area is drained by the Nant y Wenallt with its catchment covering the majority of the eastern side of the area, discharging into the Afon Cynon at Aberdare. The Afon Dare drains the western area and is partially culverted beneath Aberdare, discharging into the Afon Cynon a short distance downstream of the Nant y Wenallt.

The south east of the community area is drained by a separate network of minor watercourses that eventually drain into the Aberdare Canal.

The underlying geology of Aberdare East consists predominantly of the Middle Carboniferous Coal Measures consisting of Coal, Mudstone, Siltstone and Sandstone. Also present are the Rhondda and Llynfi beds of the Upper Carboniferous Coal Measures. Alluvial Deposits are found along the Afon Cynon and partially along the Dare River. Glacial Till is present across much of the valley.

9.4.2 Conclusions for the UFMfSW

Aberdare East covers an area of approximately 673Ha and has a total population of 7,708. About 7% of Aberdare East is at high risk of surface water flooding.

The most apparent source of flooding is noted to be ordinary watercourse flooding, sourced from culvert inlets and the breach of watercourse embankments. Flow paths within the community area are commonly linear and are consistent with ordinary watercourse alignment.

A low to high surface water flood risk is observed within the centre of Aberdare's residential development. The source of flooding is anticipated to be associated with the culvert inlets upon the Main River designated Dare River and an unnamed ordinary watercourse situated to the north of the Dare River. The flow path generally follows the roads with a number of streets at medium to high risk of flooding.

The area of Gadlys is also at a low to high risk of flooding from surface water, anticipated to be associated with the culvert inlet of the unnamed watercourse situated adjacent to Glan Road, running through the residential development.

Surface water flood risk is also presented in the south of Aberdare town centre, with flood flows notably associated with both Monk Street and Elizabeth Street. A low to high flood risk is also noted along Abernant Road and in the area of Wenallt Road.

There is reasonable correlation between the extents of the uFMfSW and historic flooding events, notably historic highway flooding reported to Rhondda Cynon Taf in Aberdare town centre.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is a worst case scenario.

A summary of the counts for Aberdare East are presented in the table below.

Table 26: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Aberdare East

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	7,708	566	435	980
Services	17	2	2	3
ECONOMIC ACTIVITY				
Non Residential Properties	815	138	74	100
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.02	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0.4	0	0	0
Listed Buildings	39	3	2	12
Licensed Abstractions	1	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	10			
External	23			
Highway	44			

Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Aberdare East and their proposed Flood Risk Management Plan measures are presented in the table below.

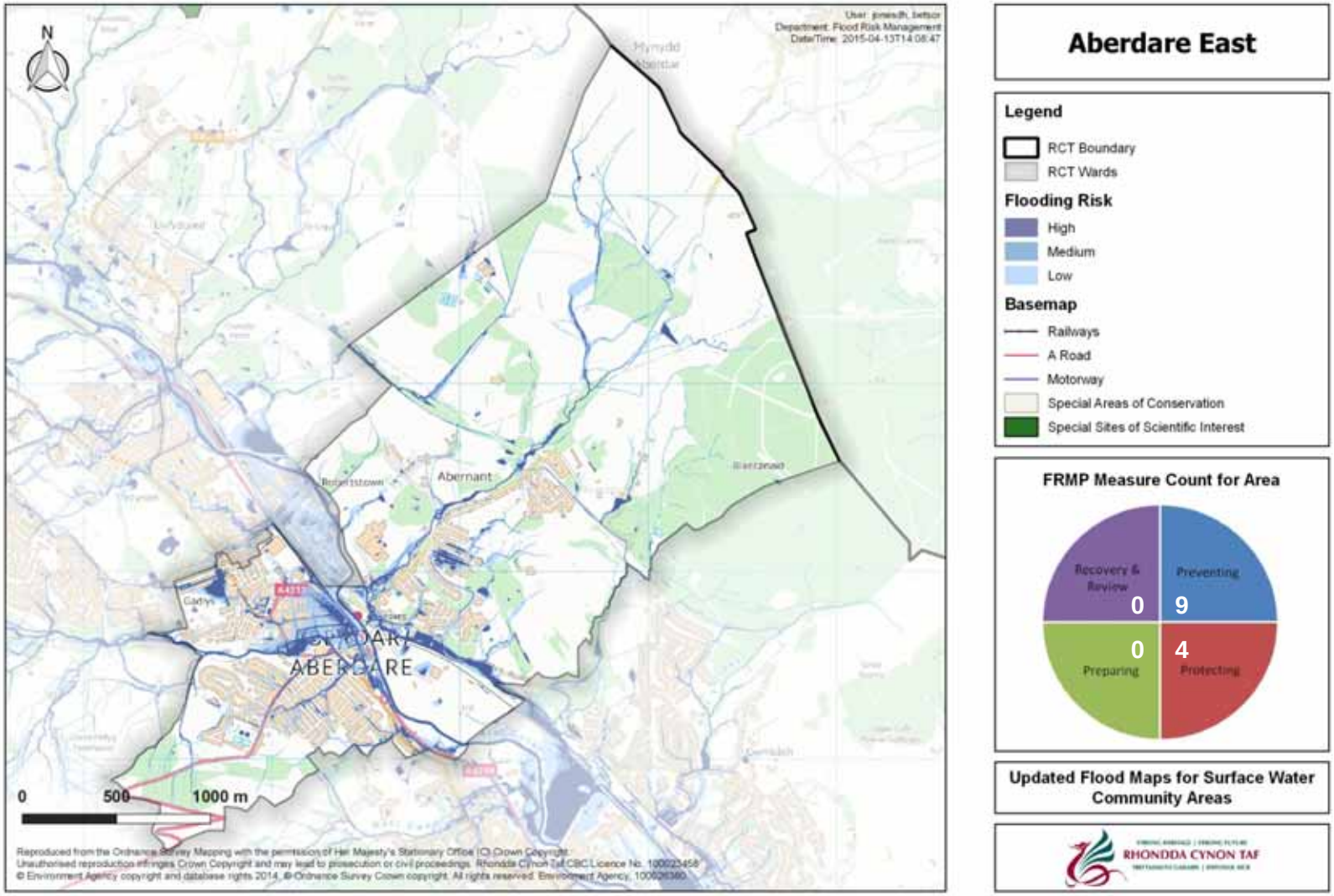
Further information regarding the flood investigation area is presented in Appendix A.

Table 27: Summary of Flood Risk Management Plan Measures for Aberdare East

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0001	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0012	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0013	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0014	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0016	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0031	Local / Main River*	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0032	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 22: Aberdare East uFMfSW. Risk to people, economic activity and environmental receptors



9.5 Aberdare West/Llwydcoed

9.5.1 Overview

Aberdare West/Llwydcoed is located in the north of Rhondda Cynon Taf County Borough Council, immediately to the north of Aberdare East. Aberdare West/Llwydcoed covers an area of approximately 2183Ha and has a maximum elevation of 393m AOD. The area contains approximately 4,169 residential dwellings and a population of approximately 9,797.

The majority of Aberdare West/Llwydcoed has remained in a natural state with highlands remaining in a rural setting. Residential development is located adjacent to two main rivers in the central area of the Aberdare West/Llwydcoed. The residential areas of Llwydcoed and Trecynon are situated to the north and south of the Afon Cynon, respectively, whilst Cwmdare is located to the north of the Afon Dare.

The community area is broadly situated within the WFD management catchment of the Cynon and is drained by two Main Rivers, the Afon Cynon itself in the north and the Afon Dare in the south, which discharges into the Afon Cynon south of the area in the town of Aberdare. The northeast community area boundary is broadly consistent with the watershed of the Afon Taff catchment. The southwest of the community area forms part of the Afon Rhondda Fach catchment.

The Dare Valley Country Park covers the majority of the west of Aberdare West/Llwydcoed and two special sites of scientific interest are located in the north. A large landfill site is situated to the west of Llwydcoed in the east. There is also a small industrial estate to the north of Robertstown.

There are a number of minor ordinary watercourses which drain the west of Aberdare West/Llwydcoed, including the Nant y Gwyddel and the Nant y Derlwyn. The Afon Rhondda Fach and the Nant Rhydfelin form part of the boundary between the community areas of Aberdare West/Llwydcoed and Maerdy.

The underlying geology of the area consists of Llynfi Beds of the Lower, Middle and Upper Carboniferous Coal Measures, comprising Coal, Mudstone, Siltstone and Sandstone. Alluvial Deposits are found along the Afon Cynon and partially along the Dale River. Glacial Till is present across much of the valley.

9.5.2 Conclusions for the UFMfSW

Aberdare West/Llwydcoed covers an area of approximately 2,183Ha and has a total population of 9,797. About 3% of Aberdare West/Llwydcoed is at high risk of surface water flooding.

The uFMfSW indicate that flooding within Aberdare West/Llwydcoed is most commonly associated with ordinary watercourse inlets or breach of banking, notably the area around Cemetery Road and Trefelin in Trecynon.

Flood risk is noted in the area of Cwmdare Road and Cherry Drive in Cwmdare and Mill Street, Harriet Street, Broniestyn Terrace and Tudor Terrace in Trecynon, with accumulations upon the highway network. This flood risk is noted to also cause flooding to a length of the A4509, contributing to the flooding observed in Robertstown. The flood risk in Robertstown is likely a combination of flooding from both local and Main River sources.

A risk of flooding is presented at the roundabout of the A4509, which has sources attributed to both surface water and Main River flooding. This is consistent with historic flooding events reported to Rhondda Cynon Taf County Borough Council.

The UFMfSW indicated that there is also a high risk of flooding associated with the culvert inlets along the length of Bwlfa Road, notably the Nant Melyn and two unnamed ordinary watercourses.

The historic flooding events reported to Rhondda Cynon Taf County Borough Council have a good correlation with the flood risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is a worst case scenario.

A summary of the counts for Aberdare West/Llwydcoed are presented in the table below.

Table 28: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Aberdare West/Llwydcoed

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	9,797	303	282	1,112
Services	16	0	1	3
ECONOMIC ACTIVITY				
Non Residential Properties	799	23	20	82
Airports	0	0	0	0
Roads (km)	1	0.4	0.06	0.2
Railways (km)	4	0.007	0.08	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	1	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	25	0	2	2
Parks and Gardens	20	1	0.3	1
Scheduled Ancient Monuments	7	0.2	0.07	0.3
Listed Buildings	25	6	1	0
Licensed Abstractions	5	4	0	1
HISTORIC FLOOD INCIDENTS				
Internal	12			
External	47			
Highway	46			

Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Aberdare West/Llwydcoed and their proposed Flood Risk Management Plan measures are presented in the table below.

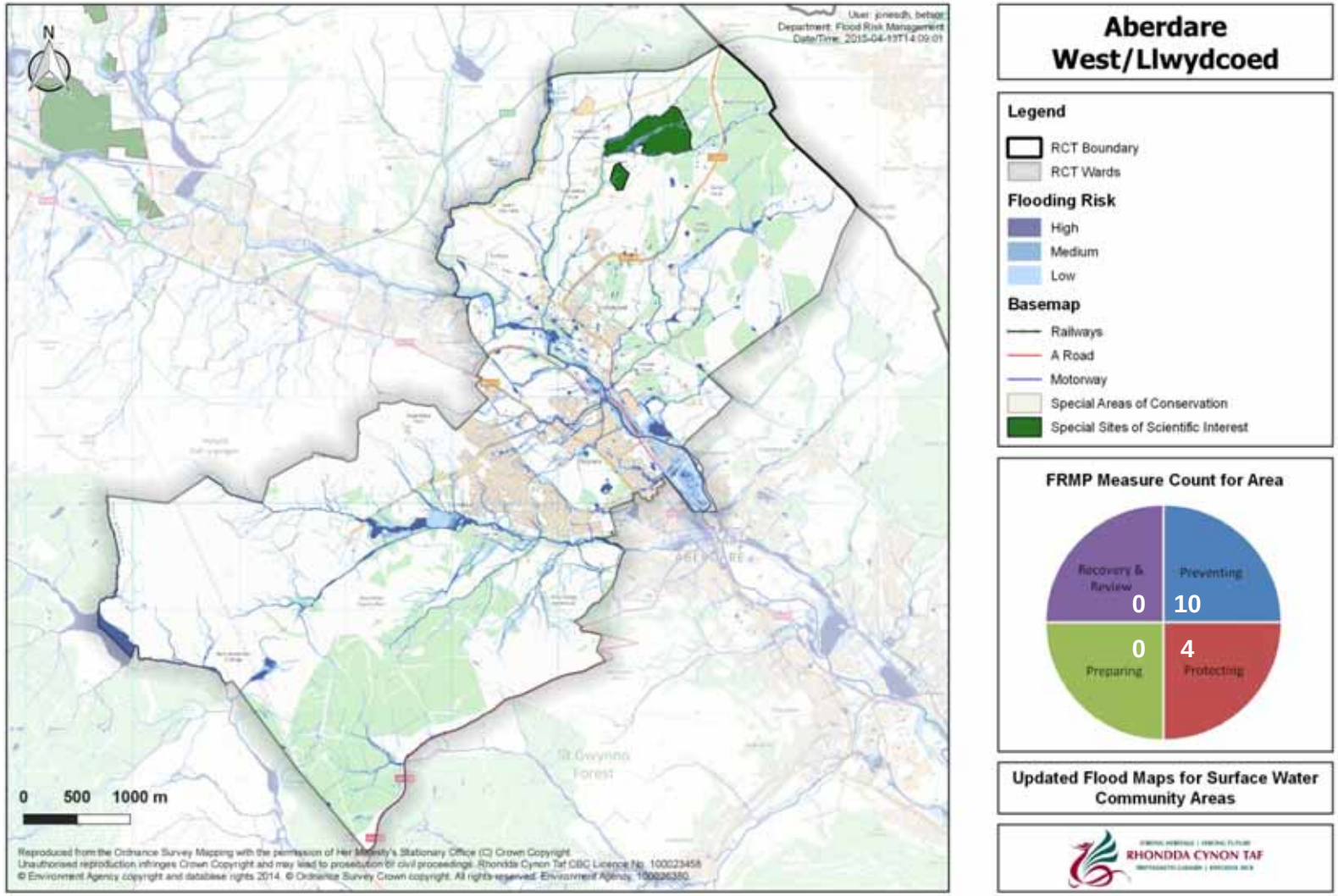
Further information regarding the flood investigation area is presented in Appendix A.

Table 29: Summary of Flood Risk Management Plan Measures for Aberdare West/Llwydcoed

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0012	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0015	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0016	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0017	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0018	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0019	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0126	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Ongoing	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Ongoing	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Ongoing	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Ongoing	RCTCBC
RCT0127	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Ongoing	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Ongoing	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Ongoing	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Ongoing	RCTCBC

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 23: Aberdare West/Llwydcoed uFMfSW. Risk to people, economic activity and environmental receptors



9.6 Beddau

9.6.1 Overview

Beddau is located in the south of Rhondda Cynon Taf County Borough Council, to the north of Llantrisant. It covers an area of 507Ha and has a maximum elevation of 253m AOD. Beddau has a population of approximately 4,134 and has approximately 1,759 residential dwellings.

Beddau is a predominantly rural community area with the town of Beddau situated in the south of the community ward, which is divided between Beddau community area in the west and Tyn-y-Nant community area in the east, along the length of Gwaun Miskin Road. Residential areas within Beddau include Tynant and Brynteg.

Rural areas are comprised of agricultural farm land with a Site of Special Scientific Interest located in the southwest of the area.

The Majority of Beddau is situated within the Afon Elai Catchment; however, the north includes a small section of the Afon Rhondda Catchment, draining to the north. A number of minor ordinary watercourses drain the north of Beddau, notably the Nant Castellau, which flows to the west and discharges into the Nant Muchudd to the southwest of Beddau. Two unnamed watercourses are sourced within the residential area, which discharge into the Nant Cymdda-Bach at the southern boundary of the community area.

The underlying geology consists of Brithdir and Hughes Beds of the Upper Carboniferous Coal Measures, which are formed of Coal, Mudstone, Siltstone and Sandstone. Also present is the Grovesend Formation, also formed of Mudstone, Siltstone and Sandstone. Glacial Till is present across much of Beddau.

9.6.2 Conclusions for the UFMfSW

Beddau covers an area of approximately 507Ha and has a total population of 4,314. About 2% of Beddau are at high risk of surface water flooding.

The UFMfSW indicate Beddau is at risk from surface water flooding in the areas of Beddau town, to the west of Gwaun Miskin Road, adjacent to Heol Seward and Manor Chase. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

A high flood risk is noted at Brynteg Lane, sourced from the culvert inlet of an unnamed watercourse.

There are few historic reports of flooding reported to Rhondda Cynon Taf County Borough Council within Beddau; however, a reasonable correlation between the uFMfSW and historic flood events is noted.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is a worst case scenario.

A summary of the counts for Beddau are presented in the table below.

Table 30: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Beddau

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	4,134	78	59	289
Services	3	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	286	1	6	18
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.05	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	12	0.2	0.2	0.4
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0.04	0	0	0
Listed Buildings	5	1	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	0			
External	7			
Highway	9			

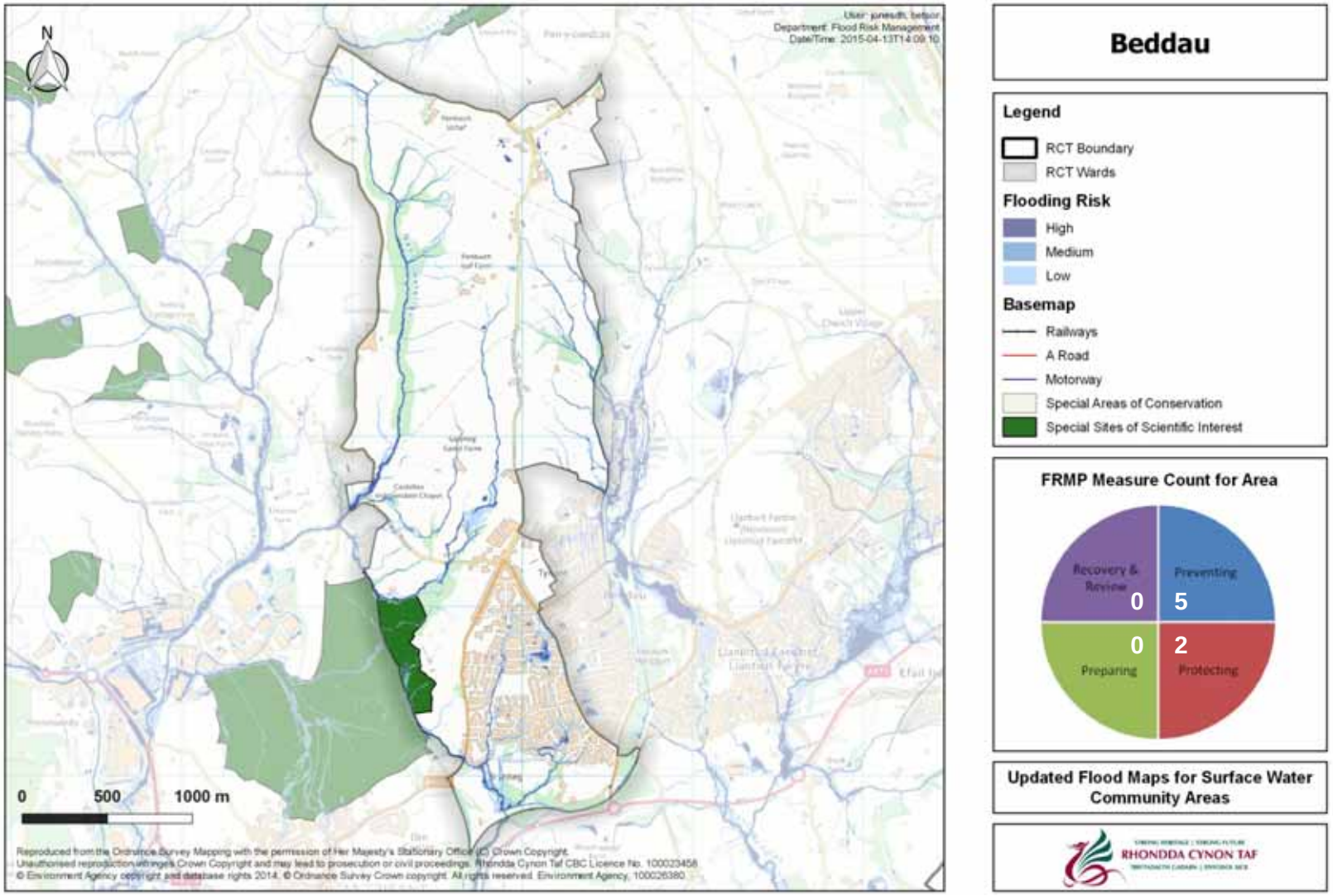
Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Beddau and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 31: Summary of Flood Risk Management Plan Measures for Beddau

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure status	Responsible Authority
RCT0020	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0051	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0114	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0115	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 24: Beddau uFMfSW. Risk to people, economic activity and environmental receptors



9.7 Brynna

9.7.1 Overview

Brynna is located in the south west of Rhondda Cynon Taf County Borough Council, covering an area of approximately 1242Ha and has a maximum elevation of 277m AOD. Brynna has a population of approximately 3,776 and approximately 1,607 residential dwellings.

The area is predominantly rural with a SSSI site in the west and a large area of Agricultural Land Classification (ALC) Grades 2 and 3. The extent of the ALC in the south is most likely a result of the low lying land in this area; most under 65m AOD. The north of the community area is comprised of forestry and is undeveloped, owing to its steep topography.

Residential development is situated on either side of the Ewenni Fach, with Bryncae to the south and Brynna to the north.

Brynna is situated primarily within the Ogmore catchment of the Tawe to Cadaxton WFD management catchment of the West Wales River Basin District. Mynydd Maendy marks the watershed between the Ogmore catchment and the Ely catchment of the South East Valleys WFD management catchment in the northeast of Brynna, situated within the Severn River Basin District.

There are two Main Rivers within Brynna, the Nant Ciwc and the Ewenni Fach. The Nant Ciwc flows north to south and forms the western boundary of Brynna, discharging into the Ewenni Fach, to the west of Rhondda Cynon Taf County Borough Council. The slopes of the Mynydd Maendy are drained by the tributaries of the Nant Llanbad, which discharges into the Nant Ciwc in the west. .

The Ewenni Fach flows in an east-west direction through the middle of Brynna community area. Unnamed tributaries of short length are sourced within residential areas.

The underlying geology of Brynna consists of Llynfi, Rhondda and Brithdir beds of the Carboniferous Coal Measures. Also present are the Mercia Mudstone Group, and the Marros Group, consisting of Mudstone, Siltstone and Sandstone. The Oxwich Head Limestone Formation is also present in the south of the area. Alluvial Deposits are present along the watercourses of the Ewenni Face and The Nant Ciwc. Glacial Till is present across most of the valley, with sporadic patches of Peat also present.

9.7.2 Conclusions for the UFMfSW

Brynna covers an area of approximately 1,242Ha and has a total population of 3,776. About 1% of Brynna are at high risk of surface water flooding.

The UFMfSW indicate that there are few concentrated areas where risk posed to people and properties is situated. The flooding is sourced from surface runoff, notably along Williams Street and Gellifedi Road in Brynna and the A473 and Trenos Gardens in Bryncae.

There is a low to high risk of flooding across large sections of rural land within Brynna to the south of the A473, with no properties or environmental receptors affected by this flooding. Small areas of Agricultural Land Classification Grades 2 and 3 are at low to high risk of surface water flooding.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is a worst case scenario.

A summary of the counts for Brynna are presented in the table below.

Table 32: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Brynna

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	3,776	38	24	110
Services	6	0	0	2
ECONOMIC ACTIVITY				
Non Residential Properties	394	5	11	25
Airports	0	0	0	0
Roads (km)	7	0.01	0	0.004
Railways (km)	3	0.007	0.03	0.02
Agricultural Land (hectares)	321	5	4	4
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	30	0	2	0.4
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	2	0	0	0.01
Listed Buildings	2	0	0	0
Licensed Abstractions	2	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	6			
External	8			
Highway	16			

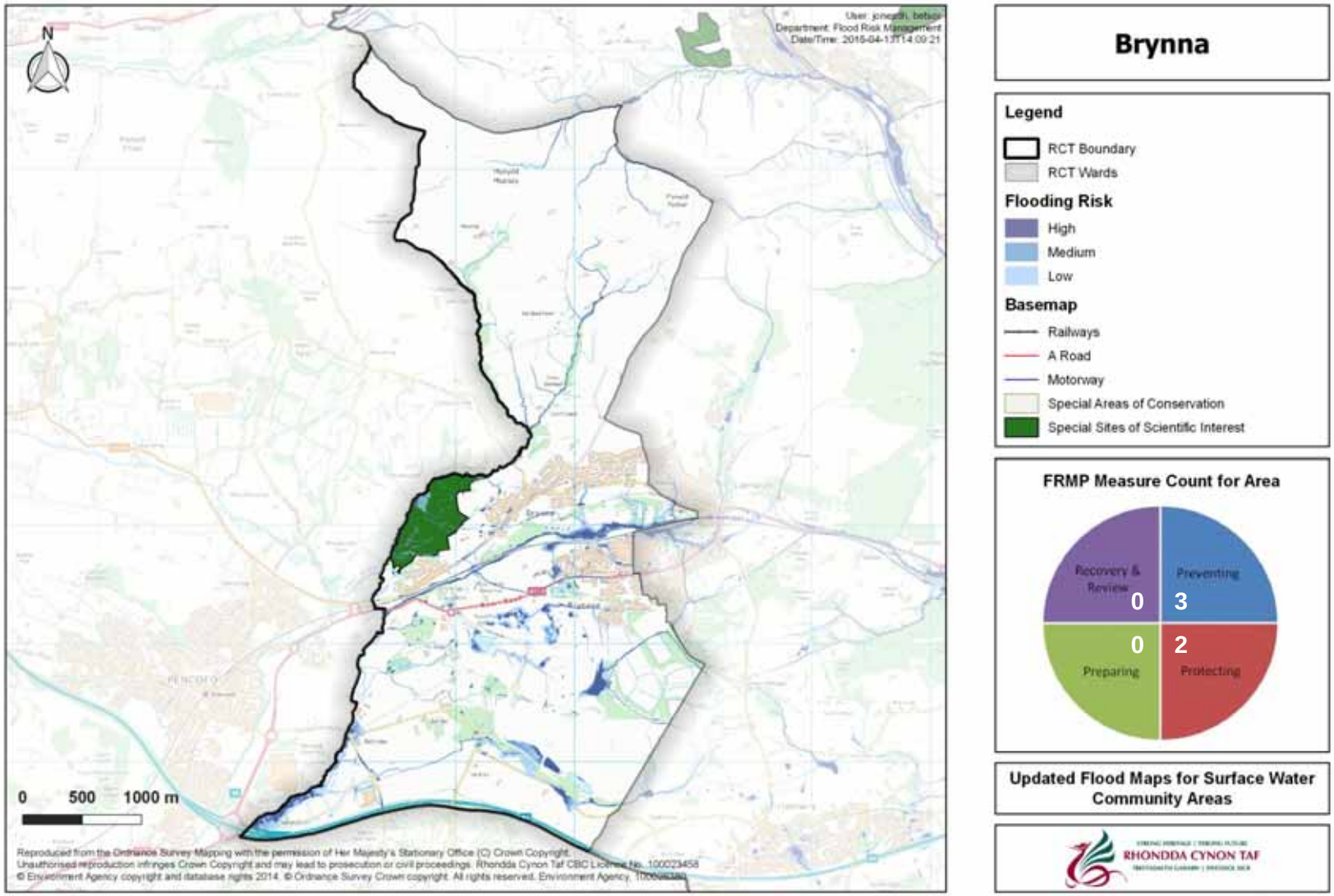
Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Brynna and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 33: Summary of Flood Risk Management Plan Measures for Brynna

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0021	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0022	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 25: Brynna uFMfSW. Risk to people, economic activity and environmental receptors



9.8 Church Village

9.8.1 Overview

Church Village is located in the south east of Rhondda Cynon Taf County Borough Council with the towns of Upper Church Village, Dyffryn Dowlais and Tonteg. Church Village covers an area of approximately 182Ha and has a maximum elevation of 198m AOD. The area has approximately 1,939 residential dwellings and a population of approximately 4,557.

The relatively small community area is predominantly an urban environment with rural areas confined to the northern and southern extremities of the site.

Church Village lies wholly within the Ely Catchment. The site is drained from north to south by the Nant Ty-Crwyn through the centre of the area and the Nant yr Arian to the east. An unnamed watercourse issues within Dyffryn Dowlais with all three ordinary watercourse discharging into the Nant Dowlais Main River, which also forms the southern boundary of the community area.

The underlying geology consists of Hughes and Brithdir beds of the Upper Carboniferous Coal Measures, which are formed of Coal, Mudstone, Siltstone and Sandstone. Also present is the Grovesend Formation, also formed of Mudstone, Siltstone and Sandstone. Alluvial deposits are found along the Nant Dowlais and Glacial Till is present across much of the site.

9.8.2 Conclusions for the UFMfSW

Church Village covers an area of approximately 182Ha and has a total population of 4,557. About 1% of Church Village are at high risk of surface water flooding.

Surface water flood risk risk posed to people and properties within Church Village is anticipated to be sourced from ordinary watercourse and surface runoff. A low to high flood risk is noted at the culvert inlet of the Nant Ty-Crwyn, where it crosses under Brynhill Terrace. Flood flow paths are noted along St Illtyd's Road Pen-Yr-Eglwys and Heol Draw and onto the fields of Ysgol Gyfun Garth Olwg, before returning to the channel of the Nant Ty-Crwyn.

South of Ysgol Gyfun Garth Olwg, flood risk is anticipated to be from ordinary watercourse breaching of banks. Flood risk is presented by uFMfSW to land and residential properties to the south of Coed Dowlais, discharging into the Nant Dowlais.

A separate flow path presents flow risk along the Parade, Butterfly Close and Lan Y Cadno, combining in the area to the south of Coed Dowlais, detailed above.

The uFMfSW are noted to pose a flood risk to people and properties sourced from the culvert inlet of the Nant Yr Arian, where it crosses under Brynhill Terrace. Flood flow paths are noted along and adjacent to Wellfield Court and Cae Fardre.

A low to high flood risk is noted at the culvert inlet of the Nant Yr Arian where it is culverted beneath Main Road and under Brookdale Court. The anticipated flood flow path poses a risk to people and properties adjacent to Brookdale Court and Heol Celyn. The uFMfSW also indicate a significant amount of flooding in the south of the community area, within the floodplain of the Nant Dowlais. No properties, economic or environmental receptors are affected by this flooding.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is a worst case scenario.

A summary of the counts for Church Village are presented in the table below.

Table 34: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Church Village

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	4,557	45	110	451
Services	4	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	296	5	7	23
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	2	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	4			
External	10			
Highway	7			

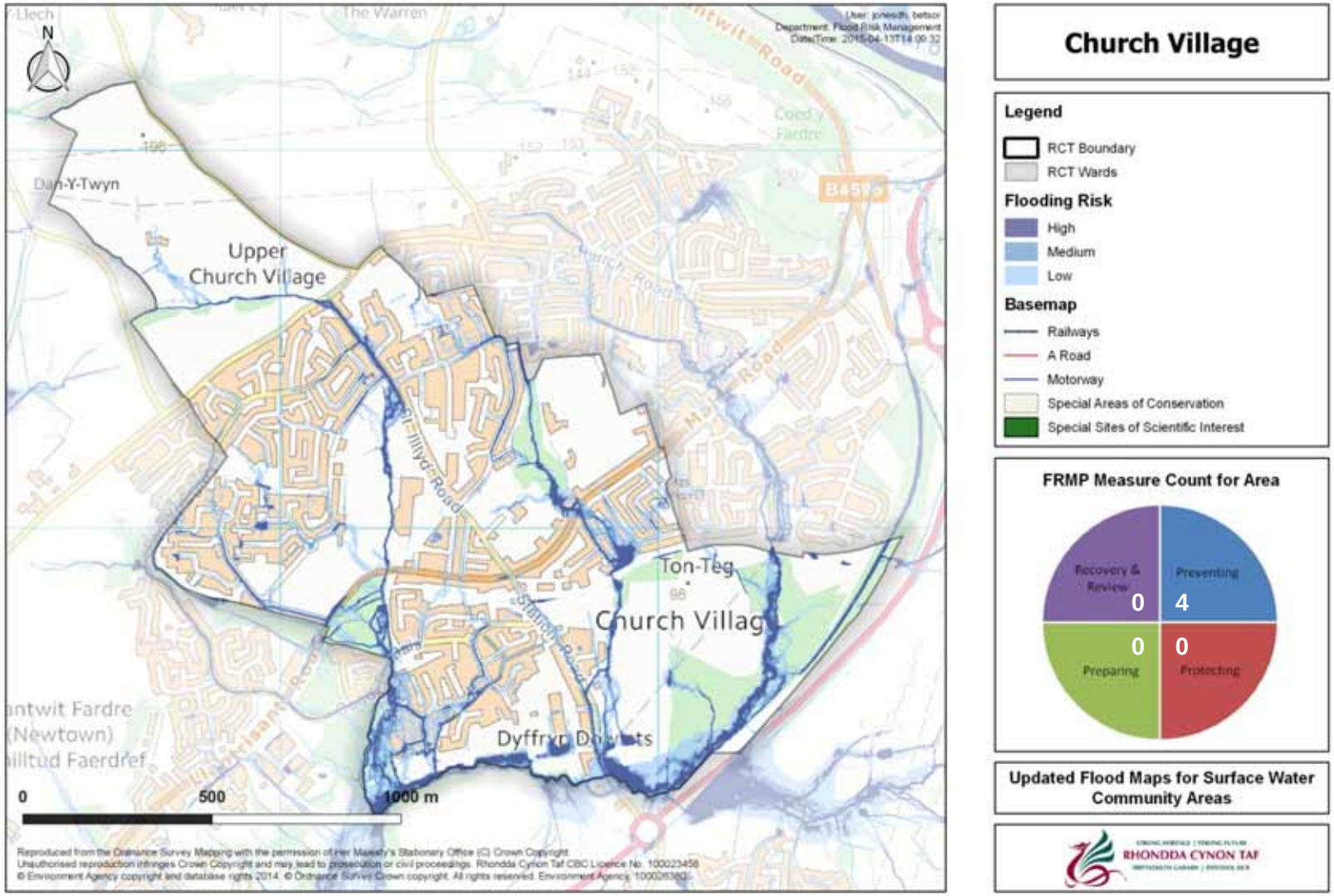
Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Church Village and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 35: Summary of Flood Risk Management Plan Measures for Church Village

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0023	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0024	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0025	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0080	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 26: Church Village uFMfSW. Risk to people, economic activity and environmental receptors



9.9 Cilfynydd

9.9.1 Overview

Cilfynydd is located in the east of Rhondda Cynon Taf County Borough Council, situated to the north of Pontypridd. Cilfynydd covers an area of 413Ha and has a maximum elevation of 382m AOD. The area has approximately 1,280 residential dwellings and a population of approximately 3,010.

Cilfynydd is predominantly a rural environment owing to the steep topography of the higher elevations in the west, consisting of exposed moorland and areas of forested land.

The residential area of Cilfynydd is situated in the central western portion of the community area and is built back from Cilfynydd Road. The A470 runs parallel to the west of Cilfynydd Road and the Afon Taf lies further west again, broadly forming the western boundary of the community area.

Cilfynydd is primarily located within the Afon Taf Catchment, with the east of the area broadly following the highest elevations forming the watershed with the Rhymney catchment. The most significant watercourse within Cilfynydd is the Nant Cae-Dudwg which drains the north-east of the site and discharges into the Afon Taf. There are also a number of smaller unnamed watercourses which drain the slopes in the west and discharge into Nant Cae-Dudwg and the Afon Taf, which are culverted beneath development.

The underlying geology of Cilfynydd is the Hughes and Brithdir Beds of the Upper Carboniferous Coal Measures, which consist of Coal, Mudstone, Siltstone and Sandstone. Glacial Till follows the channel of Nant Cae-Dudwg and Glaciofluvial deposits are present along the western edge of the site.

9.9.2 Conclusions for the UFMfSW

Cilfynydd covers an area of approximately 413Ha and has a total population of 3,010. About 2% of Cilfynydd are at high risk of surface water flooding.

The highest risk posed to people and properties within Cilfynydd is broadly associated with the culvert inlet of the Nant Cae-Dudwg where it crosses under Cilfynydd Road. A high flood risk is presented to properties in this locality, adjacent to the Nant Cae-Dudwg and along Cilfynydd Road.

Flooding anticipated to be sourced from the 3no. unnamed watercourses culverted underneath Cilfynydd. Commonly, the flow path is along roads with a low to high risk associated along sections of Heol Cronfa, Heol Nant, Oakland Crescent, Silverhill Close, Bodwenarth Road, Jones Street, Mary Street, Park Place, Pant-Du Road and the A4054. Risk to people and property is noted adjacent to the road network.

A low to high risk of flooding is present within the floodplains of the Afon Taf; a result of breaching of the banks of the main river. No properties, economic or environmental receptors are affected by this flooding.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is a worst case scenario.

A summary of the counts for Cilfynydd are presented in the table below.

Table 36: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Cilfynydd

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	3,010	56	68	291
Services	6	0	0	2
ECONOMIC ACTIVITY				
Non Residential Properties	222	7	4	22
Airports	0	0	0	0
Roads (km)	4	0.4	0.2	1
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0.1	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	3			
External	10			
Highway	9			

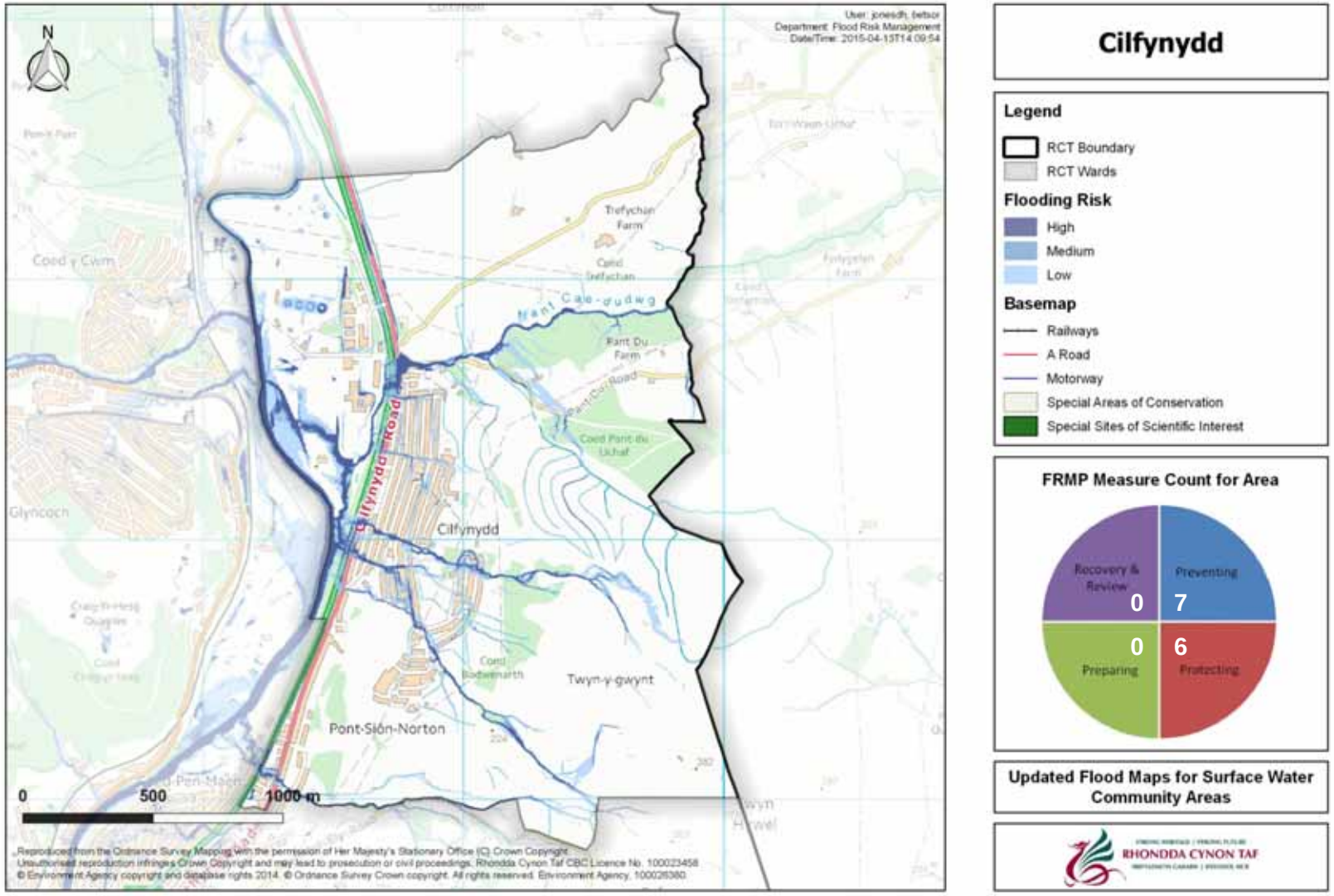
Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Cilfynydd and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 37: Summary of Flood Risk Management Plan Measures for Cilfynydd

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0026	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0027	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0095	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0130	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Completed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Completed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Completed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Completed	RCTCBC

Figure 27: Cilfynydd uFMfSW. Risk to people, economic activity and environmental receptors



9.10 Cwm Clydach

9.10.1 Overview

Cwm Clydach is located in the west of Rhondda Cynon Taf County Borough Council with the towns of Clydach Vale and Blaen Clydach. The site covers an area of 487Ha and has a maximum elevation of 455m AOD. Cwm Clydach has a population of approximately 3,135 and approximately 1,334 residential properties.

Cwm Clydach has remained in a natural state owing to the steep topography. The residential areas of Clydach Vale and Blaen Clydach are confined to the valley floor of the Nant Clydach. Areas surrounding these towns are predominantly a mixture of forestry and rough pasture.

The majority of the site is situated within the Afon Rhondda Catchment of the South East Valleys WFD management catchment of the River Severn River Basin District. However, the south and west boundary of the Cwm Clydach falls over the watershed into the Ogmore catchment of the Tawe to Cadaxton WFD management catchment of the Western Wales River Basin District.

The primary watercourse in Cwm Clydach is the Nant Clydach, flowing west to east, together with its tributaries, drains the steep catchment. The Nant Clydach discharges into the Afon Rhondda to the west of the community area in Tonypandy.

Networks of ordinary watercourses serve as the tributaries of the Nant Clydach, notably the Nant Caedafydd that broadly separates the residential areas of Clydach Vale and Blaen Clydach. Ordinary watercourses are noted to be culverted beneath residential development.

The underlying geology of Cwm Clydach is the Rhondda and Llynfi beds of the Upper Carboniferous Coal Measures which consist of Coal, Mudstone, Siltstone and Sandstone. Glacial Till follows the primary watercourses of the Nant Clydach and the Nant Caedafydd. Intermittent patches of Peat are also present across the highlands, within the forested areas.

9.10.2 Conclusions for the UFMfSW

Cwm Clydach covers an area of approximately 487Ha and has a total population of 3,135. About 2% of Cwm Clydach is at high risk of surface water flooding.

The most notable risk posed to people and properties within Cwm Clydach is broadly associated with the flood risk posed from the culvert inlet of the Nant Caedafydd. Flood flow paths follow the highway network, with risk posed to Clydach Road, Taff Terrace, Brynheulog Terrace and Glan-y-Llyn, eventually discharging into the lake within Nant Clydach. People and properties are at risk from low to high flooding adjacent to these roads.

A low to high surface water flood risk is also posed to Morton Terrace, Wern Street and High Street.

The UFMfSW also indicates a low to medium risk of flooding along the floodplain of the Nant Clydach. No properties, economic or environmental receptors are affected by this flooding.

There is a good correlation between historic flood incidents reported to Rhondda Cynon Taf County Borough Council and the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is a worst case scenario.

A summary of the counts for Cwm Clydach are presented in the table below.

Table 38: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Cwm Clydach

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	3,135	63	56	228
Services	3	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	196	5	5	14
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	2	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	4			
External	10			
Highway	13			

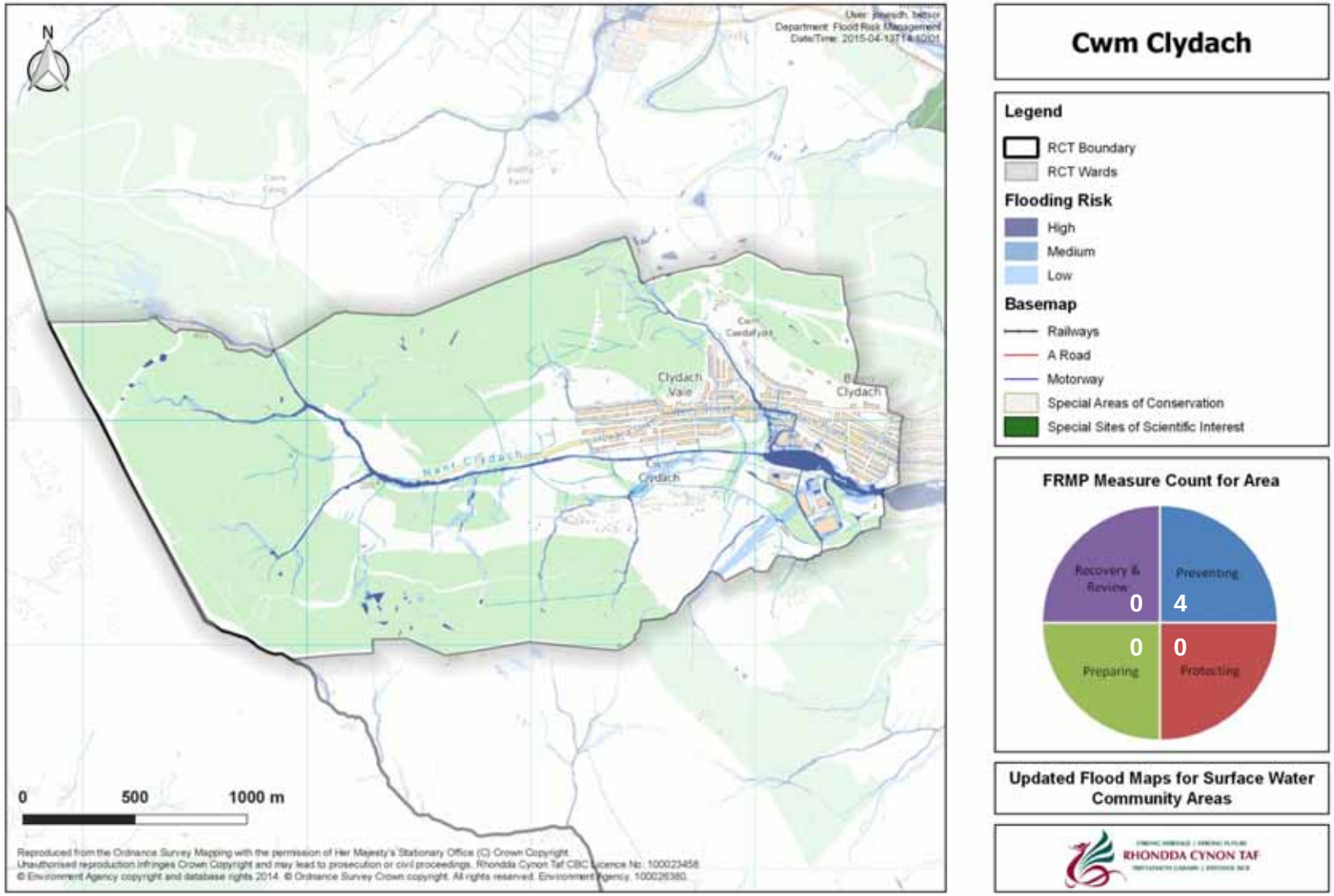
Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Cwm Clydach and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 39: Summary of Flood Risk Management Plan Measures for Cwm Clydach

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0028	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0029	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0085	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0136	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 28: Cwm Clydach uFMfSW. Risk to people, economic activity and environmental receptors



9.11 Cwmbach

9.11.1 Overview

Cwmbach is located in the east of Rhondda Cynon Taf County Borough Council and covers an area of approximately 608Ha, with a maximum elevation of approximately 470m AOD. Cwmbach has a population of approximately 4,705 and 2,002 residential properties.

Cwmbach is predominantly a rural environment, owing to the steep topography and the higher elevations in the east. The residential area of Cwmbach is confined within the valley of the Afon Cynon. A small industrial estate is located between the Aberdare Canal and the Afon Cynon, in the west of the site.

Cwmbach is primarily located within the Afon Cynon Catchment, with its eastern catchment broadly consistent with the watershed with the Taff Valley. Cwmbach is situated within the South East Valleys WFD management catchment within the Severn River Basin District.

The Afon Cynon is the primary river, bordering the west of the site.

The Aberdare Canal, designated a Main River through Cwmbach, flows parallel to the Afon Cynon and discharges into it just south of Cwmbach train station. The southwest slopes of within Cwmbach are drained by several ordinary watercourse that drain into the Aberdare Canal, notably the Nant y Geugarn and the Nant y Groes. The ordinary watercourses are commonly culverted through residential development.

The northwest area of Cwmbach is drained by the Nant Pennar, discharging into the Afon Cynon in the adjacent community area of Mountain Ash East.

The underlying geology is the Rhondda and Llynfi beds of the Upper Carboniferous Coal Measures and the Middle Carboniferous Coal Measures, which all consist of Mudstone, Coal, Siltstone and Sandstone. Alluvial Deposits are present along the Afon Cynon, and Glacial Till is present across much of the valley.

9.11.2 Conclusions for the uFMfSW

Cwmbach covers an area of approximately 608Ha and has a total population of 4,705. About 4% of Cilfynydd are at high risk of surface water flooding.

The UFMfSW indicates the most significant flooding is largely associated with the floodplain of the two designated Main Rivers, the Afon Cynon and the Aberdare Canal, notably the area to the east of Cwmbach industrial estate. No properties, economic or environmental receptors are affected by this flooding.

Generally, flood risk is associated with ordinary watercourses within Cwmbach, notably from culvert inlets and bank breach. A high flood risk is presented associated with the Nant y Groes watercourse, with flood flows from the culvert inlet adjacent to Cwmbach Road. The flood flow path presents a high risk to Cwmbach Road and Tre Gwilym and a separate flow path over open space, joins at the hammerhead of Tre Gwilym. Canal Road has a high flood risk. Property is a risk of flooding adjacent to these roads and in the residential development at Cerdin.

A low to medium risk of flooding is present in along Craig-Y-Llyn Crescent, associated with the culvert inlet at the top of the road, on a tributary of the Nant u Geugarn. The flow path continues to pose a low flood risk to the length of Pinecroft Avenue and Kendal Close. At this location, the flow path splits with a low to medium flood risk along Ynyscynon Road and a high flood risk at Parkfield Road, Bracken Rise and Well Place.

A high flood risk, sourced from an ordinary watercourse, is noted to pool at the convergence of Cwmbach Road and Canal Road with properties adjacent to the highway at risk. A low to high flood risk is noted along Llangorse Road and is anticipated to be sourced from a bank breach from an unnamed watercourse to the north of the road.

Broadly, historic flood incidents to the highway reported to the council show good correlation with the uFMfSW. The correlation between the maps and internal and external flooding do not present a good correlation.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is a worst case scenario.

A summary of the counts for Cwmbach are presented in the table below.

Table 40: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Cwmbach

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	4,705	172	71	435
Services	10	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	356	5	8	23
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	2	0.01	0.01	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	2	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	1	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	1	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	7			
External	23			
Highway	29			

Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Cwmbach and their proposed Flood Risk Management Plan measures are presented in the table below.

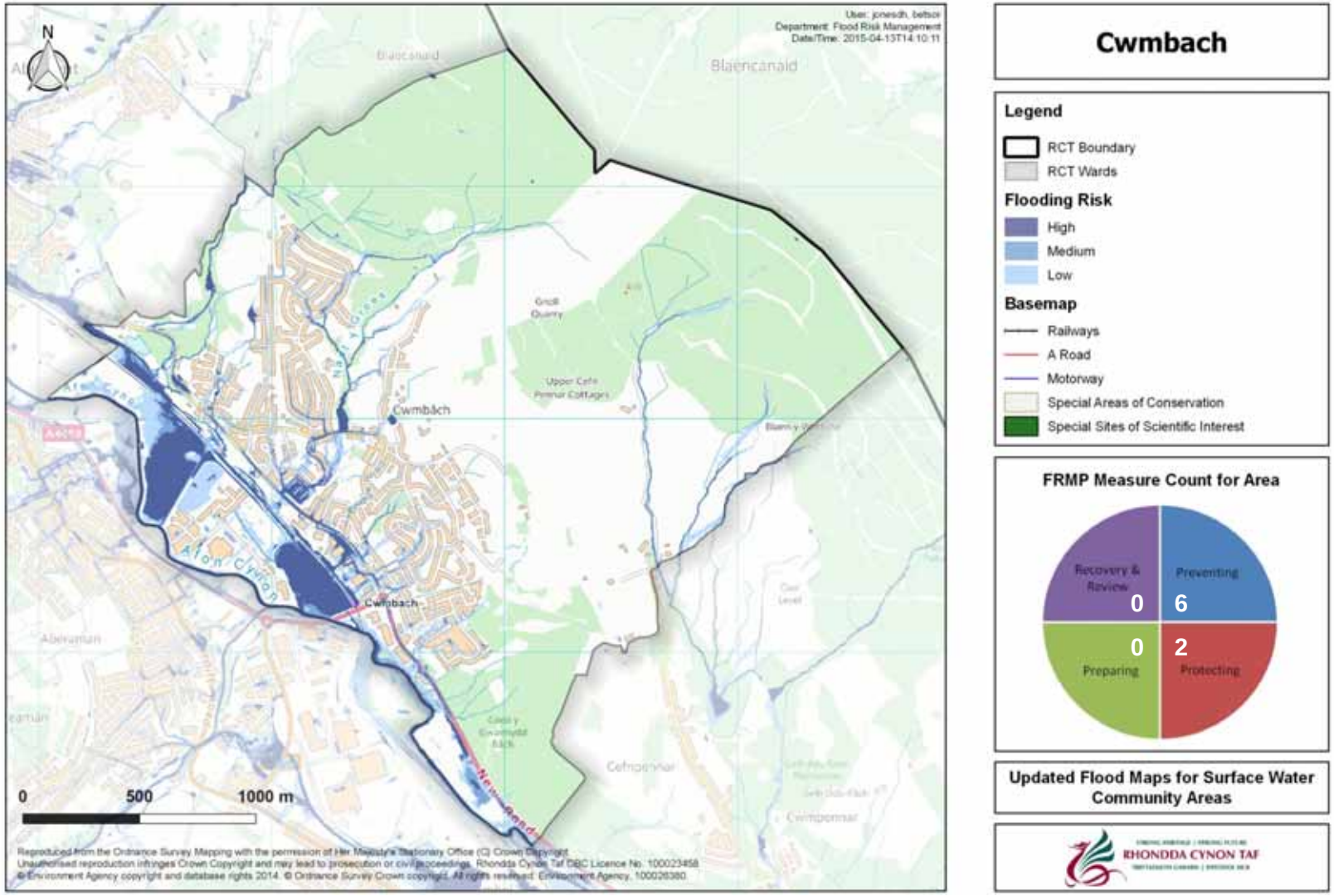
Further information regarding the flood investigation area is presented in Appendix A.

Table 41: Summary of Flood Risk Management Plan Measures for Cwmbach

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0030	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0031	Local / Main River*	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0032	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0033	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0128	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 29: Cwmbach uFMfSW. Risk to people, economic activity and environmental receptors



9.12 Cymmer

9.12.1 Overview

Cymmer is situated in the centre of Rhondda Cynon Taf County Borough Council. The site covers an area of approximately 516Ha with a maximum elevation of approximately 350m AOD. Cymmer has 2,599 residential properties and a population of approximately 6,108.

Cymmer is predominantly a rural environment with residential development confined within the valley of the Afon Rhondda, including the south area of the town of Porth in the centre of the area. Other towns include Trehafod in the east, which is split between the community areas of Cymmer and Rhondda and Trebanog, situated in the southwest of the community area.

A part of the Rhos Tonyrefail Site of Special Scientific Interest is situated in the south eastern corner of Cymmer. Much of the area south of Porth is open moorland, forming the side of the Mynydd y Glyn and the area of the west of Porth forming the slopes of the Mynydd y Cymmer.

A thin finger of Cymmer stretches of the northeast of the community area along the slopes draining into the Nant Hafod, a tributary of the Afon Rhondda discharging into the Main River at Trehafod.

The site lies predominantly within the Rhondda catchment, with the Main River, Afon Rhondda, flowing along the northern boundary of Cymmer. The finger in the northeast expands into the catchment of the Afon Cynon for a short distance over the mountain. Finally, Trebanog sits on the watershed between the Afon Rhondda in the north and the Afon Elai in the south, with Edmondstown Road broadly following the crest. The community area of Cymmer is situated within the South East Valleys WFD management catchment and is within the Severn River Basin District.

There is an extensive network of minor unnamed watercourses which drain the Mynydd y Glyn, flowing north, that discharge into the Afon Rhondda. These ordinary watercourses are culverted under residential development, such as Trehafod, Britannia and Glynfach.

The underlying geology consists of the Rhondda and Llynfi beds of the Upper Carboniferous Coal Measures which are formed of Coal, Sandstone, Siltstone and Mudstone. Alluvial and Glaciofluvial Deposits are present along the Afon Rhondda. Glacial Till is present throughout the valley.

9.12.2 Conclusions for the uFMfSW

Cymmer covers an area of approximately 516Ha and has a total population of 6,108. About 1% of Cymmer are at high risk of surface water flooding.

A low to high surface water flood risk noted to the A4233 from Trebanog to Porth with a sporadic low risk presented to properties. A low to high flood risk within Porth is presented along High Street with risk to properties at High Street, St John's Street, Glynfach Road, Bedw Close and Lincoln Street.

There is a high risk to properties and highways in Trehafod resulting from Main River flooding, with the properties of Lewis Street and Wayne Street with the highest risk.

A group of properties adjacent to the Phillips Terrace are at medium to high risk of surface water flooding, resulting from the culvert inlet of an unnamed watercourse.

Properties within the area of Britannia are of a low risk from surface water flooding, with properties adjacent to Kensington Drive, sourced from a breach of a bank of an unnamed ordinary watercourse. The flood flow path from the breach contributes to a low flood risk to property at Brook Street, Eirw Road and Britannia Street. The source of flooding is anticipated to be a combination of surface water and Main River flooding.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is a worst case scenario.

A summary of the counts for Cymmer are presented in the table below.

Table 42: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Cymmer

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	6,108	47	96	555
Services	9	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	365	1	5	21
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0.6	0.03	0.06	0.08
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	6	0.01	0.02	0.02
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	10	1	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	6			
External	21			
Highway	37			

Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Cymmer and their proposed Flood Risk Management Plan measures are presented in the table below.

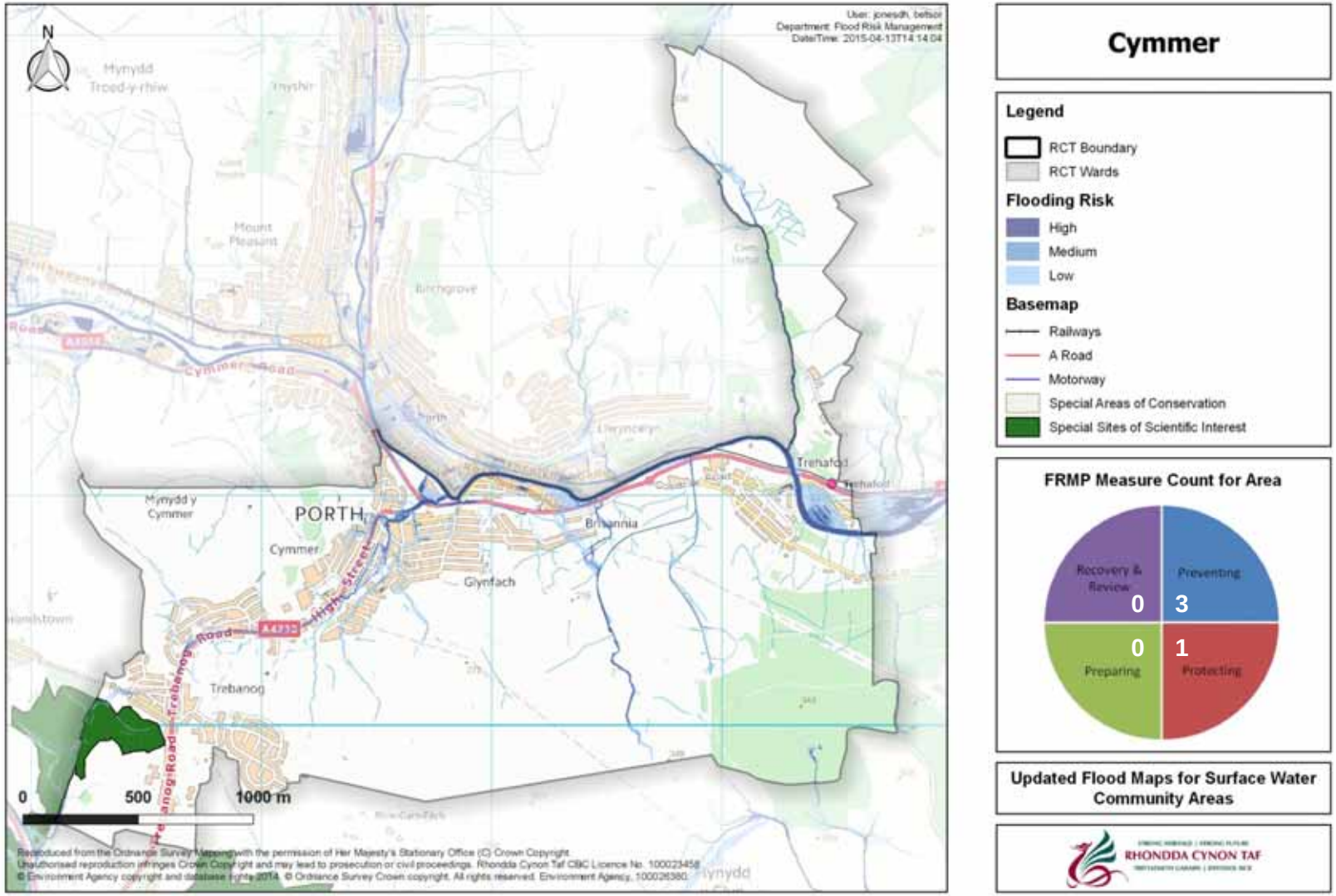
Further information regarding the flood investigation area is presented in Appendix A.

Table 43: Summary of Flood Risk Management Plan Measures for Cymmer

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0034	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0071	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0074	Local / Main River*	10	Land Management	M34 (Protection)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 30: Cymmer uFMfSW. Risk to people, economic activity and environmental receptors



9.13 Ferndale

9.13.1 Overview

Ferndale is situated in the central region of Rhondda Cynon Taf County Borough Council with the towns of Ferndale and Blaenllechau. The site covers an area of 380Ha and has a maximum elevation of 432m AOD. Ferndale has a population of approximately 4,731 and approximately 2,013 residential properties.

The majority of Ferndale has remained in a natural state owing to the steep topography. Ferndale's residential development is confined to the base of the Afon Rhondda Fach valley between Mynydd y Ffaldau and Mynydd Ty'n-tyle, to the north and south respectively.

The Afon Rhondda Fach dissects the site through its centre, with Ferndale to the south and Blaenllechau to the north of the Main River. Oaklands Business Park is located in the southeast of the community area. Darran Park is located immediately to the south of Ferndale, notably with Llyn y Forwyn boating lake and associated recreational facilities.

Ferndale is situated almost exclusively in the Afon Rhondda Catchment; however, the north includes a small section that drains to the north into the Afon Cynon Catchment. The Main River within Ferndale is the Afon Rhondda Fach, flowing from the north-west to south-east of the site. The slopes of the Mynydd y Ffaldau and the Mynydd Ty'n-tyle form the part of the catchment of the Afon Rhondda Fach and a network of unnamed ordinary watercourse drain the hillsides, discharging into the Afon Rhondda Fach. Many of these watercourses are culverted beneath Ferndale's residential areas.

The underlying geology consists of the Rhondda Bed of the Upper Carboniferous Coal Measures which are formed of Coal Mudstone, Siltstone and Sandstone. Alluvial Deposits are present along the Afon Rhondda Fach with Glacial Till following the topography of the valley. Intermittent patches of peat are present across the highlands within forested areas.

9.13.2 Conclusions for the UFMfSW

Ferndale covers an area of approximately 380Ha and has a total population of 4,731. About 2% of Ferndale is at high risk of surface water flooding.

The UFMfSW indicates the risk posed to people and properties are noted within the southern area of Blaenllechau and central and southern areas of Ferndale. The source of flooding is broadly associated with the Afon Rhondda Fach and the Llyn Y Forwyn. The flow path is generally along roads.

A high risk of flooding sourced from surface water runoff with a flood flow path affecting the highway network and property along Llyn Crescent, Brook Street, Union Street, Dyffryn Street, New Street, Brown Street and Albany Street. This flooding combines with ordinary watercourse flooding at the valley floor, posing a risk to the Oaklands Business Park, finally discharging into the Afon Rhondda Fach to the southeast of the business park.

A high risk of surface water flooding is noted to the highway network and properties at Lake Street and Station Road. The source of the flooding is an amalgamation of surface runoff from the breach of the Llyn Y Forwyn Lake and the culvert inlet of an unnamed watercourse adjacent to Lake Street.

There is a low to medium flood risk within the centre of Blaenllechau, with properties at risk along Mountain Row and Long Row, sourced from surface runoff.

The maps indicate that there is also a high risk of flooding in the south of Blaenllechau associated with breached banks of the Afon Rhondda Fach. The flow path also follows the roads, particularly along Taff Street and Walter Street.

There is a reasonable correlation between historic flooding incidents and the uFMfSW, notably within the southern area of Ferndale.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is a worst case scenario.

A summary of the counts for Ferndale are presented in the table below.

Table 44: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Ferndale

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	4,731	118	219	545
Services	6	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	312	18	13	32
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	8	0	0	0
Listed Buildings	3	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	4			
External	17			
Highway	30			

Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Ferndale and their proposed Flood Risk Management Plan measures are presented in the table below.

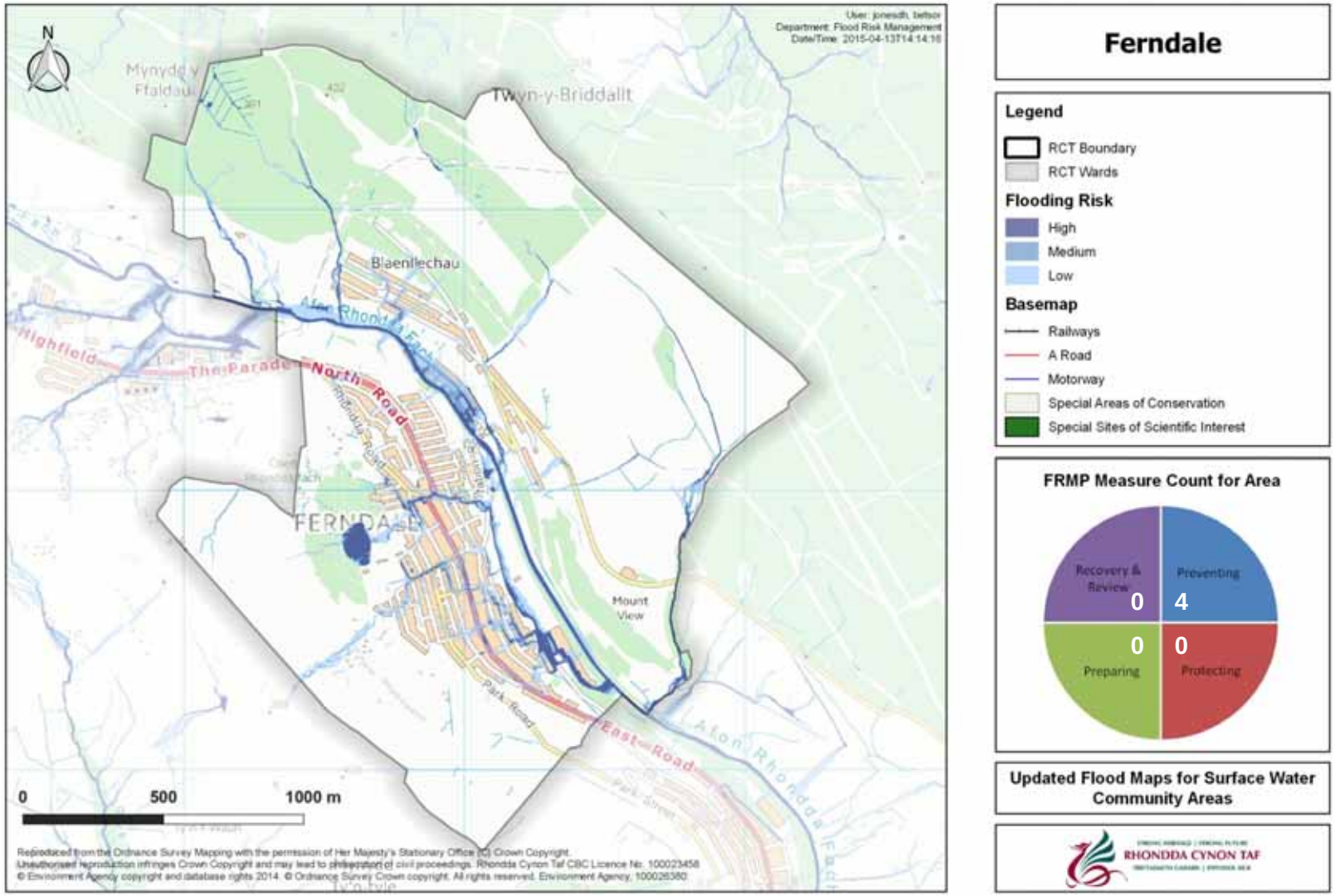
Further information regarding the flood investigation area is presented in Appendix A.

Table 45: Summary of Flood Risk Management Plan Measures for Ferndale

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0035	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0036	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0037	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0038	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 31: Ferndale uFMfSW. Risk to people, economic activity and environmental receptors



9.14 Gilfach Goch

9.14.1 Overview

Gilfach Goch is located in the west of Rhondda Cynon Taf County Borough Council. The site covers an area of 603Ha with a maximum elevation of 348m AOD. Gilfach Goch has a population of approximately 3,541 and approximately 1,507 residential properties.

Gilfach Goch is predominantly a rural environment with much of the residential development situated along the western edge and central sector of the community area. This is in part due to the steep topography, but is also a result of the expanse of agricultural land reserved for the shallow gradients in the south. Hendreforgan has developed across the centre of the community area, and the western area of Gilfach Goch is situated along the northwest boundary of the community area.

Gilfach Goch community area is split north-south between the Tawe to Cadaxton WFD management catchment of the Western Wales River Basin District, draining into the Ogmore catchment, in the west and the South East Valleys WFD management catchment, draining into the Afon Elai catchment, of Severn River Basin District in the east.

The west of Gilfach Goch community area is bounded by the Ogwr Fach, flowing north to south, which also marks the boundary between Rhondda Cynon Taf County Borough Council and Bridgend County Borough Council. There is an extensive network of smaller unnamed watercourse throughout Gilfach Goch community area. The west of the site is drained by a network of unnamed watercourse discharging into the Ogwr Fach whilst the east drains to the Nant Erin Main River, feeding into the neighbouring community area of Tonyrefail West.

The underlying geology is the Hughes, Rhondda, Llynfi and Brithdir beds of the Upper Carboniferous Coal Measures, formed of Coal, Mudstone, Siltstone and Sandstone. Glacial Till covers a large section of the central sector of Gilfach Goch. Alluvial Deposits are present along the Ogwr Fach. There are also intermittent patches of Peat across the site.

9.14.2 Conclusions for the UFMfSW

Gilfach Goch covers approximately 603Ha with a total population of 3,541. Just under 1% of the population of Gilfach Goch are at high risk of surface water flooding.

Surface water flood risk within Gilfach Goch is a combination of surface runoff and ordinary watercourse. A low high flood risk is posed the centre of Hendreforgan along the Heathlands and Alfred Street, with a predominantly low risk posed to property.

Commonly, roads are at risk from flooding at culvert inlets, where ordinary watercourses are culverted beneath the road, notably along Gelli Arael Road and High Street.

A low risk of flooding is noted to occur in the east of Hendreforgan, along at Bryn-Hedd, Heol-Y-Bryn, Heol-Y-Mynydd, Heol Glyncoch and Heol-Y-Grug. Properties are at a low risk of flooding at the merging of Heol- Y-Mynydd and Bryn-Hedd.

Flood risk within agricultural land is contained to the watercourse channels.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is a worst case scenario.

A summary of the counts for Gilfach Goch are presented in the table below.

Table 46: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Gilfach Goch

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	3,541	5	12	148
Services	9	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	210	1	0	5
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	4			
External	12			
Highway	19			

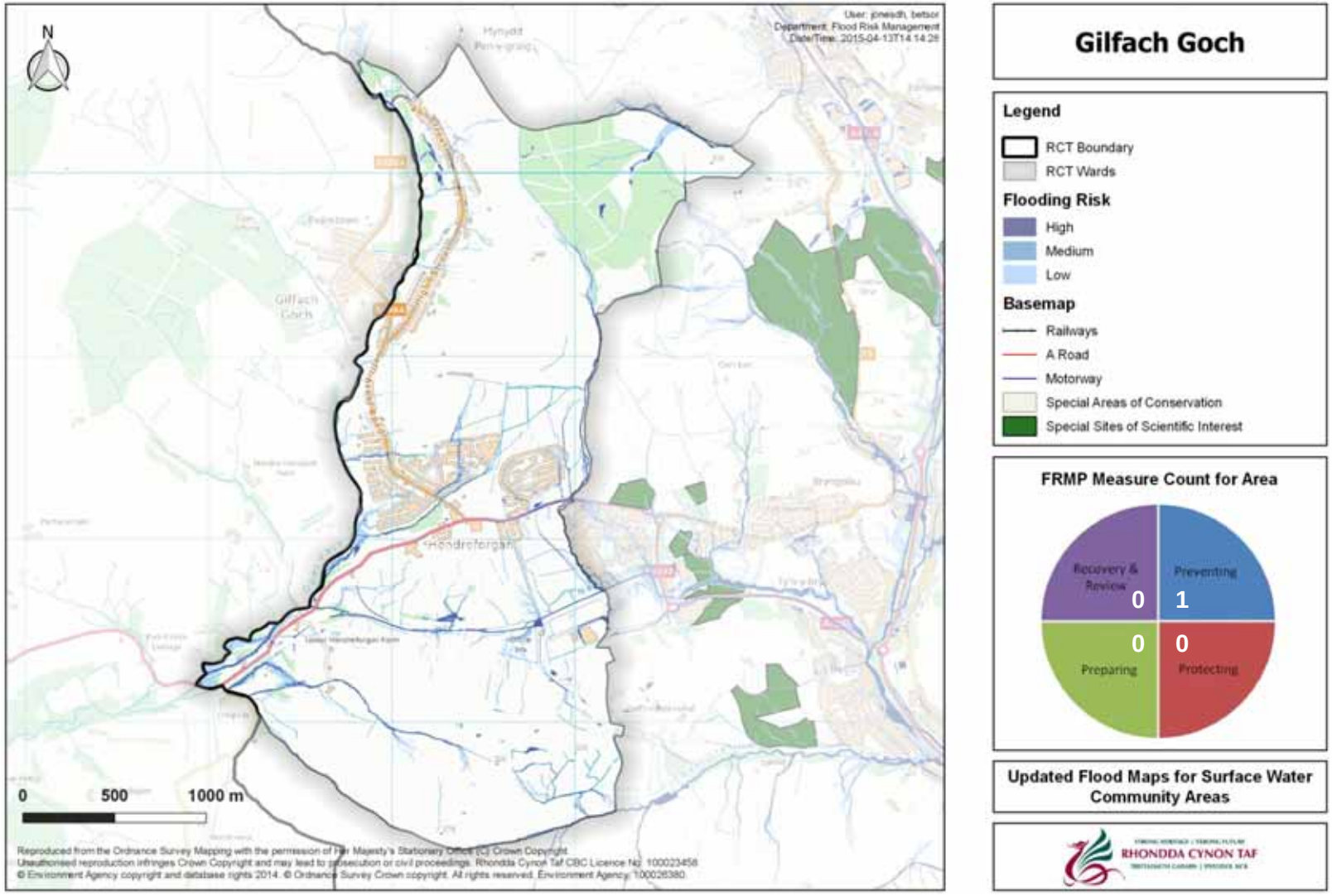
Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Gilfach Goch and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 47: Summary of Flood Risk Management Plan Measures for Gilfach Goch

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0090	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 32: Gilfach Goch uFMfSW. Risk to people, economic activity and environmental receptors



9.15 Glyncoch

9.15.1 Overview

Glyncoch is situated in the east of Rhondda Cynon Taf County Borough Council with the town of Glyncoch situated in the centre of the community area. The site covers an area of 208Ha and has a maximum elevation of approximately 100m AOD. Glyncoch has approximately 1,293 residential properties and a population of approximately 3,039.

The majority of the west of Glyncoch has remained in a natural state, owing to the steep topography. The large Craig-Yr-Hesg quarry is situated in the southern area of Glyncoch community area. Residential development is located on the valley floor. Remaining land is primarily forested, including Coed Craig-Yr-Hesg in the south of Glyncoch.

Glyncoch is split between the Catchments of the Afon Taf in the east and Afon Cynon in the west. The two Main Rivers within Glyncoch are the Nant Clydach, which flows west-east along the northern boundary of the community area, discharging into the Afon Taf in its north-eastern corner, which flows north-south, along Glyncoch's eastern boundary.

The Llys-Nant and Nant Tai'rheol, along with a number of smaller unnamed watercourses drain the catchment to the north and the west.

The underlying geology of Glyncoch is the Hughes and Brithdir beds of the Upper Carboniferous Coal Measures. These are formed of Coal, Mudstone, Siltstone and Sandstone. Glaciofluvial deposits and alluvial deposits are present along the major watercourses and River Terrace deposits are located along the Afon Taf. Glacial Till is also present along the major watercourses.

9.15.2 Conclusions for the UFMfSW

Glyncoch covers approximately 208Ha with a total population of 3,039. Just under 1% of the population of Glyncoch are at high risk of surface water flooding.

The highest risk posed to people and properties within Glyncoch is broadly associated with surface runoff within the town of Glyncoch. Roads most at risk of flooding are Pearson Crescent, High View Way, Porcher Avenue, Cefn Lane, Grovers Close, Garth Avenue and Ynysybwl Road. Properties adjacent to these roads are commonly a low to medium risk of flooding.

A low to high risk of flooding is noted to occur to the east of Ynysybwl Road within the flood plain of the Afon Taf. This flooding may also have contributions from Main River flooding. No properties or environmental receptors are affected by this flooding; however, it is likely that the railway is affected by this source.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is a worst case scenario.

A summary of the counts for Glyncoch are presented in the table below.

Table 48: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Glyncoch

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	3,039	14	26	345
Services	5	0	0	2
ECONOMIC ACTIVITY				
Non Residential Properties	110	1	1	13
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	2	0	0.04	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	4	4	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	2			
External	8			
Highway	11			

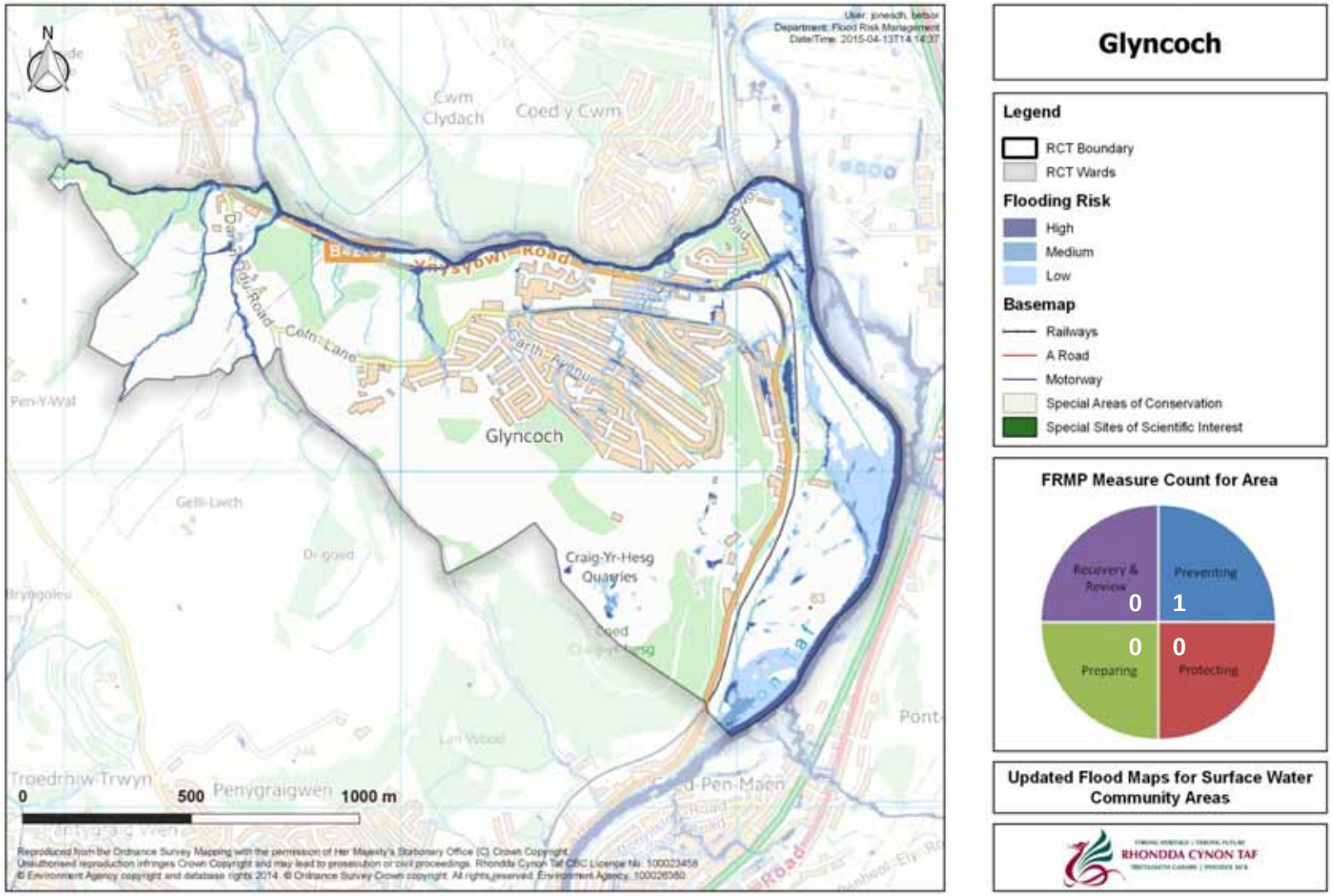
Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Glynoch and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 49: Summary of Flood Risk Management Plan Measures for Glyncoch

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0118	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 33: Glyncoch uFMfSW. Risk to people, economic activity and environmental receptors



9.16 Graig

9.16.1 Overview

Graig is situated in the central sector of Rhondda Cynon Taf County Borough Council. The site covers an area of 315Ha and has a maximum elevation of approximately 240m AOD. Graig has a population of approximately 2,693 and approximately 1,146 residential dwellings.

Graig has remained in a natural state due to historic land use. Of significance, Graig encompasses the residential area of Graig, part of the town of Pontypridd. Within the centre of the community area is the small residential community of Pen-y-coedcae. A large SSSI is present along the bank of the Nant Gelliwion, which is located in the northwest of Graig. Land use is predominantly agricultural, with a number of farms located in Graig. Forested areas are also present, largely found along the bank of the primary watercourse.

Graig is split between three WFD management catchments, the Afon Taf to the northeast, the Afon Ely to the south and the Afon Rhondda to the northwest. Graig is primarily between the Afon Taf and the Afon Rhondda Catchments.

The Main River, the Afon Taf, bounds the north of Graig and is predominately drained by the Nant Gelliwion, and its tributaries, which flows to southwest-northeast, discharging into the Afon Taf near Pontypridd town centre.

Few watercourses are present in the east and southeast of the site as this area forms the higher elevations that are the watershed between the catchments with the Afon Taf to the east and Afon Elai to the south.

The underlying geology is comprised of the Rhondda, Hughes and Brithdir beds of the Upper Carboniferous Coal Measures, which are formed of Sandstone, Coal, Siltstone and Mudstone. Glacial Till is present along the main watercourses. Glaciofluvial Deposits and Alluvial Deposits are also present along the Afon Taf, as well as River Terrace Deposits.

9.16.2 Conclusions for the UFMfSW

Graig covers approximately 315Ha with a total population of 2,693. Just under 1% of the population of Graig are at high risk of surface water flooding.

Within Graig, flood risk is associated with surface water runoff. A low to high flood risk is noted along lengths of High Street, Rickards Street, Rickards Terrace and Phillip Street. Properties adjacent to Rickards Street and Rickards Terrace are at a low to high risk from surface water flooding.

A high risk is posed to the valleys railway line, adjacent to Pontypridd railway station. Surface water flooding is then noted to flow onto Broadway, before discharging into the Afon Taf. A high risk of surface water flooding is noted near the railway underpass of High Street onto Broadway; however, it is likely that the underpass has not been modelled and the risk posed to this and the railway is overstated.

A reasonable correlation between historic flooding incidents reported to Rhondda Cynon Taf County Borough Council and the uFMfSW is noted.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is a worst case scenario.

A summary of the counts for Graig are presented in the table below.

Table 50: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Graig

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	2,693	7	96	52
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	246	1	1	9
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0	0.03	0.01
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	12	1	0.2	1
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	16	0.03	0.02	0.1
Listed Buildings	8	1	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	5			
External	10			
Highway	14			

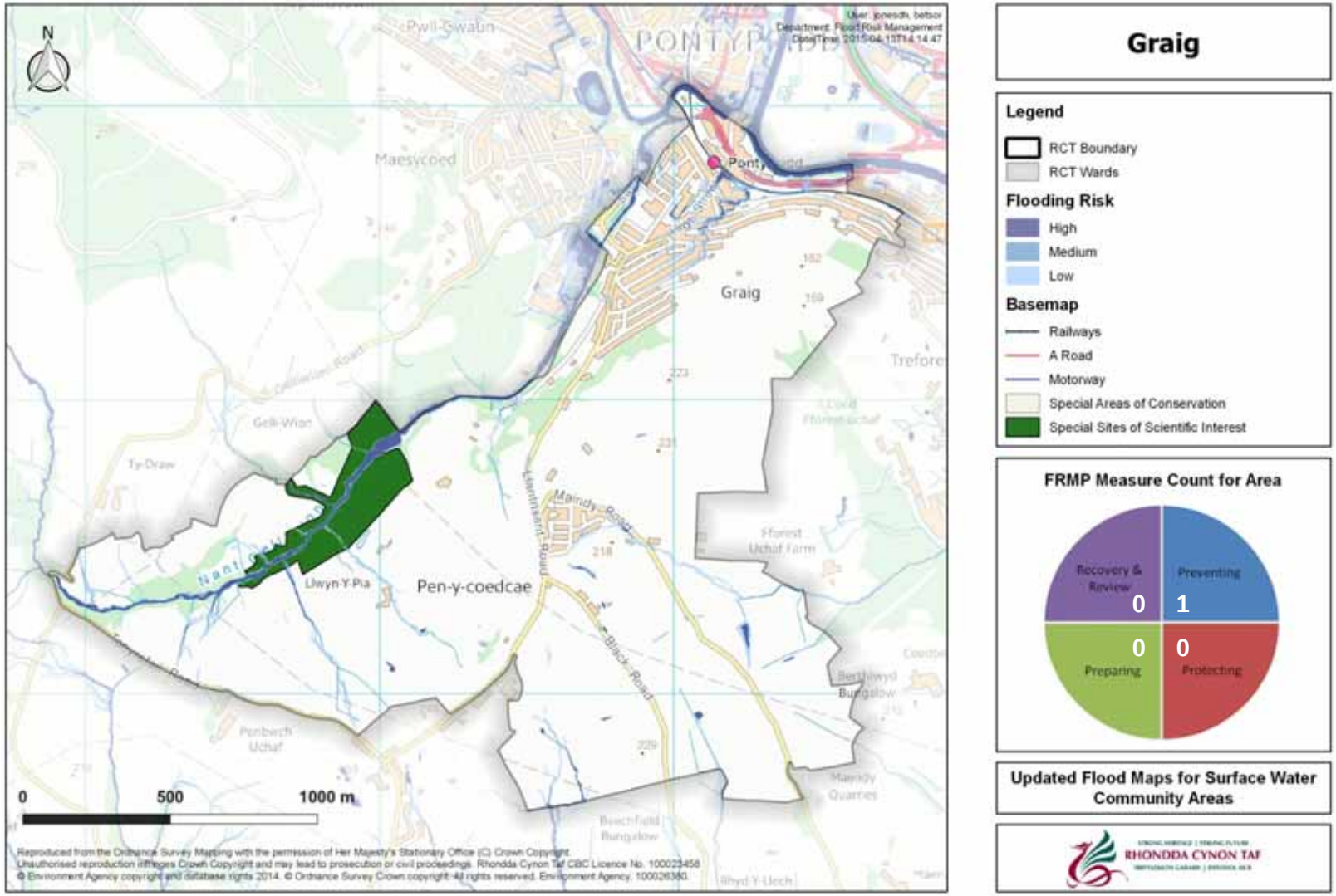
Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Graig and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 51: Summary of Flood Risk Management Plan Measures for Graig

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0039	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 34: Graig uFMfSW. Risk to people, economic activity and environmental receptors



9.17 Hawthorn

9.17.1 Overview

The community area of Hawthorn is situated in the southeast of Rhondda Cynon Taf County Borough Council. The site covers an area of 453Ha, with a maximum elevation of approximately 250m AOD. Hawthorn has approximately 1,697 residential properties and a population of approximately 3,988.

Hawthorn has an irregular shape, with an elongate section stretching from the south of Glyntaff in the north to Treforest Industrial Estate in the south. The southeast of the community area extrudes to the northeast to encapsulate Upper Boat and the slopes of Mynydd Meio above.

The area of the extrusion is relatively rural, owing to its steep topography, with few farm houses and residential properties dotted on the hill side. The development of Hawthorn is reserved to the valley floor of the Afon Taf, which bounds the western edge. The A470 is located through the west of the site, running parallel with the Afon Taf. A large section of the Treforest industrial estate is present in the south of the site. The residential area of Hawthorn is located along the elongated section of the community area in the north.

Hawthorn is situated within the Afon Taf Catchment; with the higher elevations along the east of the community area following the watershed with the Afon Rhymney catchment.

Hawthorn is bound in the west by the Afon Taf; the only Main River in the community area. There is an extensive network of smaller unnamed watercourses, flowing east to west, draining the slopes of Mynydd Meio which discharge into the Afon Taf. A number of the minor watercourses are culverted and run beneath Upper Boat.

The underlying geology is the Brithdir and Hughes beds of the Upper Carboniferous Coal Measures, formed of Coal, Mudstone, Siltstone and Sandstone. The Grovesend Formation is also present, also formed of Mudstone, Siltstone and Sandstone. Glacial Till covers a large proportion of the valley floor.

9.17.2 Conclusions for the UFMfSW

Hawthorn covers approximately 453Ha with a total population of 3,988. Approximately 5% of the population of Hawthorn are at high risk of surface water flooding.

The UFMfSW indicates that the highest risk posed to people and properties within Hawthorn is broadly associated with surface runoff and culvert inlets with flood risk observed across much of the residential area of Hawthorn.

A high risk of flooding to the properties at Cae Nant Flats, sourced from a bank breach of an unnamed watercourse to the north of the site. Flooding to Cardiff Road and discharging into the Afon Taf.

To the north of the A470, areas of high risk are present along Ceiriog Crescent, Glyn-Dwr Avenue, Ash Square, Sycamore Street, Poplar Road, Maple Street and Warren Close. Properties adjacent to these roads are at risk from surface water flood flow running around the perimeter of the properties.

To the south of the A470, a low to medium flood risk to people and properties is noted adjacent to the Nant Lonydd, to the rear of Hawthorn Crescent. This flood risk is associated with the exceedance of the ordinary watercourse channel.

A combination of ordinary watercourse and surface water flood risk is posed to Laurel Avenue, Ynyslyn Road, Spencer Place, Fairfield Lane and Cardiff Road.

This flooding extends down with significant risk present along sections of Fairfield Lane and Cardiff Road, Ynyslyn Road, Laurel Avenue and Ynyscorrwg Road. It is possible that this flood risk also has contributions from the culvert inlet on the Nant Lonydd, beneath the A470.

Treforest Industrial estate is at a low to high risk of surface water flooding, anticipated to be sourced from both ordinary watercourse and surface runoff.

A low to high flood risk is noted along sections of the A470, of note is the Upper Boat roundabout on and off slip roads and a section of the road to the northwest of the roundabout.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is a worst case scenario.

A summary of the counts for Hawthorn are presented in the table below.

Table 52: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Hawthorn

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	3,988	183	266	506
Services	15	0	1	0
ECONOMIC ACTIVITY				
Non Residential Properties	522	7	37	78
Airports	0	0	0	0
Roads (km)	9	0.6	0.4	2
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	1	1	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	3	0	0	0
Licensed Abstractions	1	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	2			
External	12			
Highway	19			

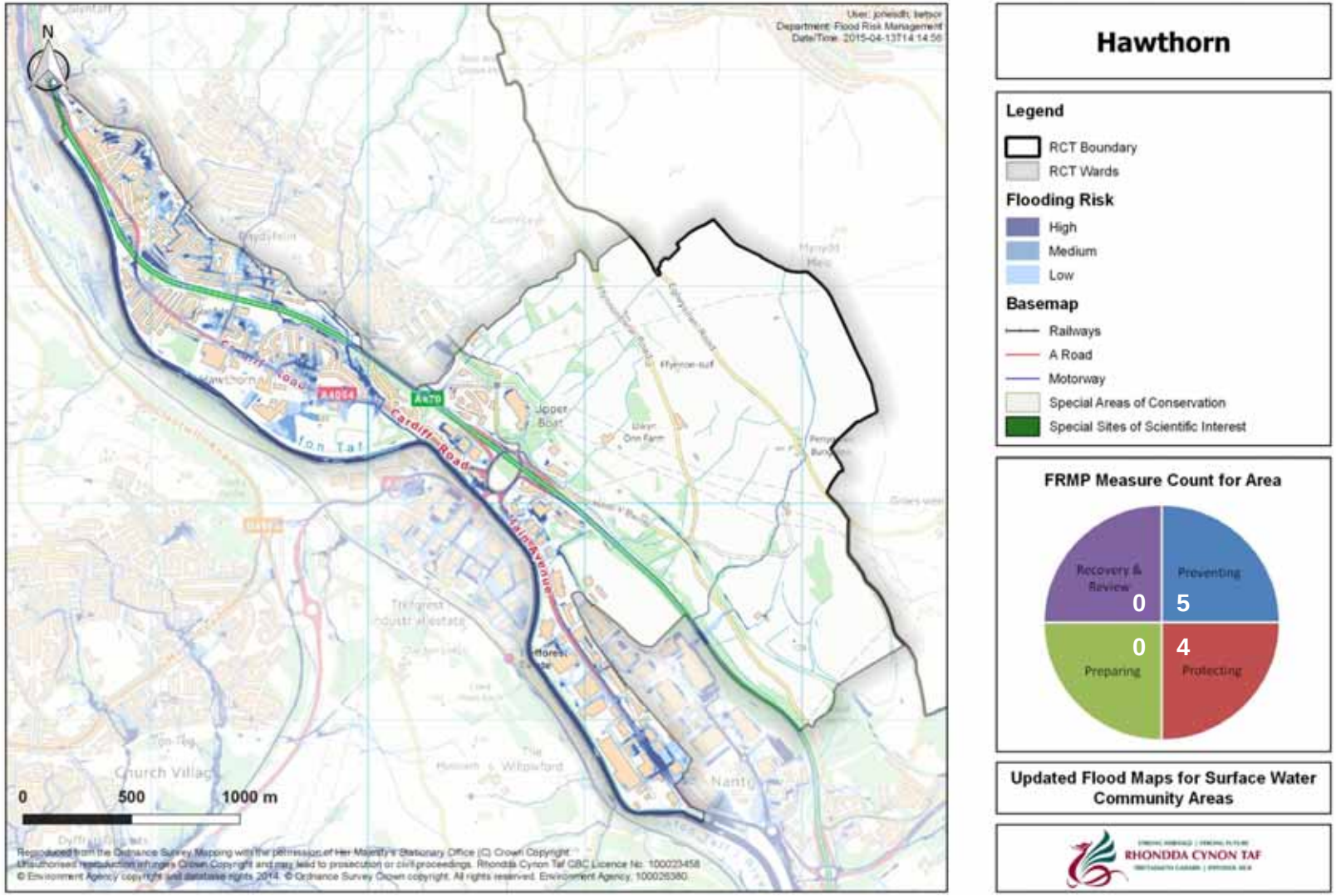
Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Hawthorn and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 53: Summary of Flood Risk Management Plan Measures for Hawthorn

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0075	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0076	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Completed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Completed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Completed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Completed	RCTCBC
RCT0132	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 35: Hawthorn uFMfSW. Risk to people, economic activity and environmental receptors



9.18 Hirwaun

9.18.1 Overview

Hirwaun is situated in the north of Rhondda Cynon Taf County Borough Council, located to the north of Aberdare. The site covers an area of 392Ha and has a maximum elevation of approximately 512m AOD. Hirwaun has a population of approximately 4,397 and approximately 1,871 residential properties.

Hirwaun is predominantly a rural environment owing the steep topography in the south. The primary road, the A465, acts as a boundary between the residential developments in the north of Hirwaun and the rural southern areas. Hirwaun's rural area is not confined to the south; there is a SSSI site present to the east of the residential developments. A large quarry is present south of the A465 which also extends into the community area of Rhigos.

Hirwaun is situated primarily within the Afon Cynon Catchment. The site also extends to include a small section of the Afon Rhondda Catchment in the south and the Ogmore to Tawe Catchment of the West Wales River Basin District in the north-west. The Afon Cynon is the primary watercourse in Hirwaun and flows north to east. The Nant y Bwlch drains the higher elevations in the south and discharges into the Afon Cynon.

There are a number of minor unnamed watercourses which also drain the highlands in the south and discharge into the Afon Cynon. Many are partially culverted beneath Hirwaun's residential developments.

The underlying geology of Hirwaun are the Llynfi and Rhondda beds of the Upper Carboniferous Coal Measures, and the Middle and Lower Carboniferous Coal Measures, all consisting of Coal, Sandstone, Siltstone and Mudstone. Also present is the Bishopston Mudstone Formation. Glacial Till is present across much of the valley floor. Alluvial Deposits are present along the Afon Cynon. Intermittent patches of Peat are present on the summits of the southern highlands.

9.18.2 Conclusions for the UFMfSW

Hirwaun covers an area of approximately 392Ha with a total population of 4,397. Approximately 2% of the population of Hirwaun are at high risk of surface water flooding.

The uFMfSW indicate that the highest risk posed to people and properties within Hirwaun is broadly associated with the Afon Cynon with a significant flood risk observed across the length of the watercourse. There is a risk of flooding sourced from the culvert inlet on the Afon Cynon, in the north of the site. There is no discernible flow pattern here, with a ponding effect covering the roads of Richmond Drive and Devonshire Drive, and the surrounding wooded area.

A low to high risk of flooding is noted in the east of the site, to the north of the Afon Cynon. The flooding source is largely associated with potential bank breaches of the Afon Cynon; however, it is likely to have contributions from the culvert inlet to the north. The flow path generally follows the roads, with a significant risk along sections of Cae Felin Parc and Llys Cynon.

The map indicates a low to high risk of flooding along Station Road, Elm Grove and Cefndon Terrace. The flow path of this flood risk is similar to flood risks across the site, with a channel of water connecting a culvert inlet to the Main River.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Hirwaun are presented in the table below.

Table 54: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Hirwaun

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	4,397	75	129	578
Services	11	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	321	4	7	26
Airports	0	0	0	0
Roads (km)	3	0.7	0.08	1
Railways (km)	3	0	0	0.9
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	4	0	0.01	1
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	4	0	0.05	1
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	3	0.2	0.4	1
Listed Buildings	4	1	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	0			
External	12			
Highway	18			

Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Hirwaun and their proposed Flood Risk Management Plan measures are presented in the table below.

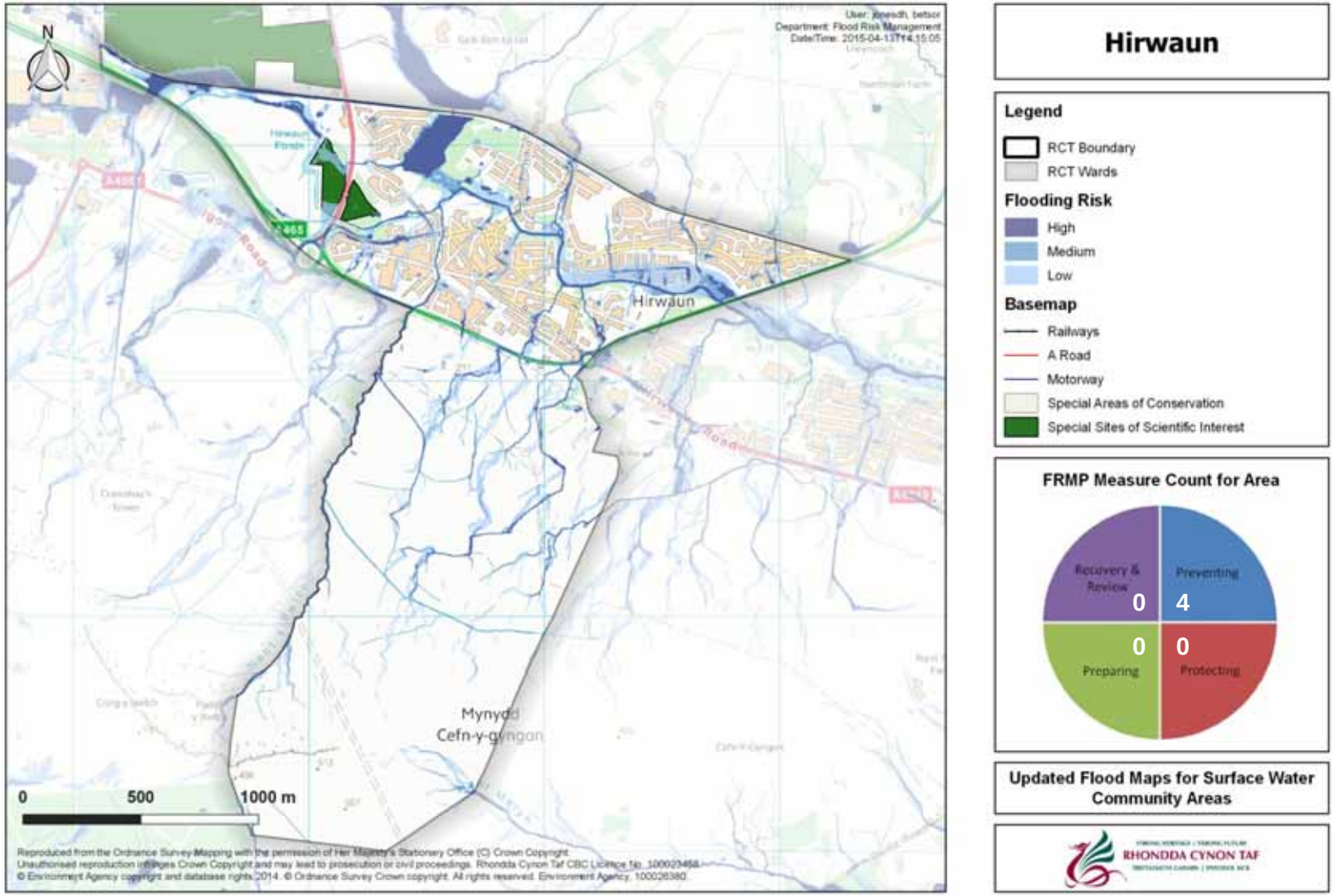
Further information regarding the flood investigation area is presented in Appendix A.

Table 55: Summary of Flood Risk Management Plan Measures for Hirwaun

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0040	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0041	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0042	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC /Natural Resources Wales
RCT0072	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 36: Hirwaun uFMfSW. Risk to people, economic activity and environmental receptors



9.19 Llanharan

9.19.1 Overview

Llanharan is located in the south Rhondda Cynon Taf County Borough Council, to the east of Llantrisant, with the towns of Llanharan, Dolau and Ynysmaerdy. The site covers an area of 1085Ha and has a maximum elevation of 266m AOD. Hirwaun has a population of approximately 3,661 and approximately 1,558 residential properties.

The majority of Llanharan has remained in a natural state owing to the presence of Mynydd Garthmaelwg in the north. Much of Llanharan is composed of agricultural land with a number of farms situated on the lowlands of the south. Llanharan is also heavily forested, especially in the north. Residential development is primarily located in the south-east and south-west of the site.

Llanharan is predominantly situated within the Afon Elai Catchment; however, a large section of the Ogmore to Tawe Catchment of the West Wales River Basin District is included in the west of Llanharan. There are two primary watercourses within Llanharan; the Afon Elai and the Ewenni Fach. Llanharan is bound to the east by the Afon Elai.

The highlands in the north are drained by a number of minor unnamed watercourses, discharging into both the Afon Elai in the north and Nant Melyn in the south.

The underlying geology of Llanharan is the Rhondda and Llynfi beds of the Upper Carboniferous Coal Measures and the Middle Carboniferous Coal Measures, all formed of Mudstone, Siltstone, Coal and Sandstone. Also present is the Mercia Mudstone Group. Glacial Till is present along the paths of major watercourses and along the lowlands in the south. Alluvial deposits are present along the Ewenni Fach and the Afon Elai.

9.19.2 Conclusions for the UFMfSW

Llanharan covers an area of approximately 1085Ha with a total population of 3,661. Just over 1% of the population of Llanharan are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Llanharan is broadly associated with the Ewenni Fach with a significant flood risk observed in the south-west of the site, and the Nant Melyn with a significant flood risk in the east of Llanharan.

There is a low to high flood risk across much of the floodplain in Dolau. The flooding source is largely associated with potential bank breaches of the Ewenni Fach. Also contributing to the flood risk here is the culvert inlet, causing a significant amount of flooding along sections of Llanharry Road. There are a number of properties at a low to high risk of flooding along sections of Bridgend Road and Jubilee Street which extends up on Talyfan Road.

There is a low to high flood risk noted on the floodplain of the Ewenni Fach in the north of Llanharan and the floodplain of the Nant Melyn in the east.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Llanharan are presented in the table below.

Table 56: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Llanharan

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	3,661	28	7	216
Services	8	0	0	2
ECONOMIC ACTIVITY				
Non Residential Properties	516	16	15	42
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	3	0.6	0.4	0.7
Agricultural Land (hectares)	0.5	0.09	0.04	0.1
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	21	0	0.2	1
Scheduled Ancient Monuments	0.04	0	0	0
Listed Buildings	18	0	0	3
Licensed Abstractions	3	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	0			
External	5			
Highway	15			

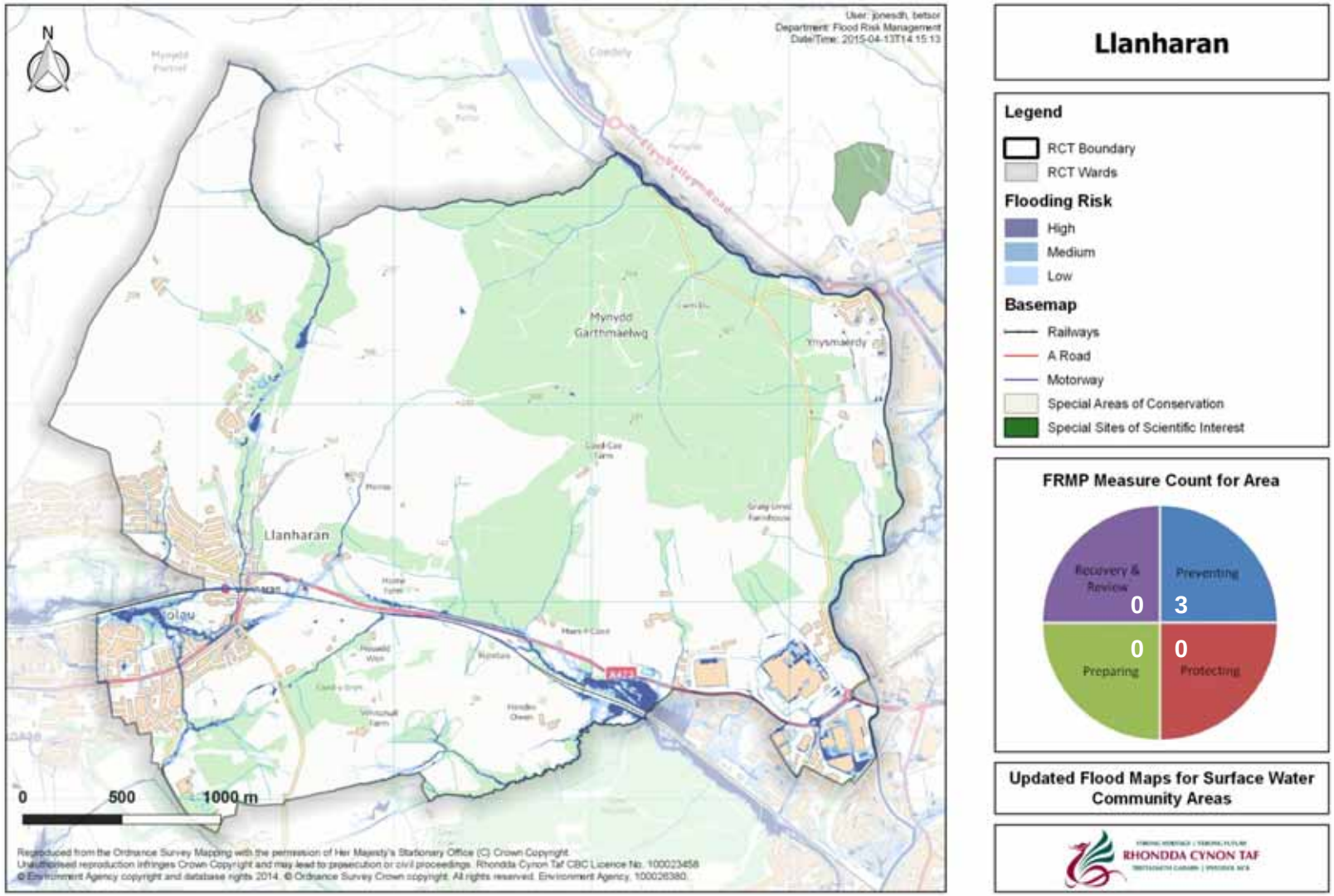
Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Llanharan and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 57: Summary of Flood Risk Management Plan Measures for Llanharan

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0043	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0047	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0137	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 37: Llanharan uFMfSW. Risk to people, economic activity and environmental receptors



9.20 Llanharry

9.20.1 Overview

Llanharry is located in the south of Rhondda Cynon Taf County Borough Council, to the east of Pontyclun. The site covers an area of 742Ha and has a maximum elevation of 113m AOD. Llanharry has a population of approximately 3,840 and approximately 1,634 residential properties.

Llanharry is predominantly a rural environment, owing the extent of agricultural land present within the site. Residential development of the town Llanharry is situated within close proximity of the primary road, the M4. The highlands in the north form part of the Coed Trecastell. A large quarry is present in the southern sector of Llanharry.

The majority of Llanharry is located within the Afon Elai Catchment; however, the Ogmore to Tawe Catchment of the West Wales River Basin District is also included in the west of the site. The site is drained by Nant Melyn in the east and Nant Felin-Fach in the south. Llanharry is bound to the north by Nant Graean which drains the highlands in the north and discharges into Nant Melyn

There are a number of minor unnamed watercourses which drain the east of Llanharry.

The underlying geology consists of the Mercia Mudstone Group, the Marros Group, the Oxwich Head Limestone Formation, the Stormy Limestone Formation, the Cornelly Oolite Formation, the High Tor Limestone Formation, and the Caswell Bay Mudstone Formation. Glacial Till is present across the majority of Llanharry. Glaciolacustrine and Head Deposits are present along the Nant Rhydhalog and Nant Felin-Fach.

9.20.2 Conclusions for the UFMfSW

Llanharry covers an area of approximately 742Ha with a total population of 3,840. Just over 2% of the population of Llanharry are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Llanharry is broadly associated with the Nant Felin-Fach. It should be noted, however, that the flow path is not always discernible. There is a low to medium flood risk along sections of Beech Road, Ash Grovem Heol Pant Gwyn and Heol Ysgawen.

There is also a significant flood risk associated with the Nant Melyn along sections of Ash Grove, Meadow Drive, Llwyn On and Coedcae Lane. A significant proportion of the flood risk from the Nant Melyn, however, has little impact on residential or economic receptors. The majority of Llanharry is Agricultural Land Classification Grade Two and Three. A large proportion of the central sector of this land is at low to high risk of flooding which is associated to an unnamed minor watercourse.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Llanharry are presented in the table below.

Table 58: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Llanharry

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	3,840	78	42	155
Services	6	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	446	3	3	38
Airports	0	0	0	0
Roads (km)	6	0	0.004	0.6
Railways (km)	2	0.03	0.006	0.04
Agricultural Land (hectares)	583	5	5	16
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0.09	0	0	0
Listed Buildings	2	0	0	0
Licensed Abstractions	2	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	0			
External	3			
Highway	17			

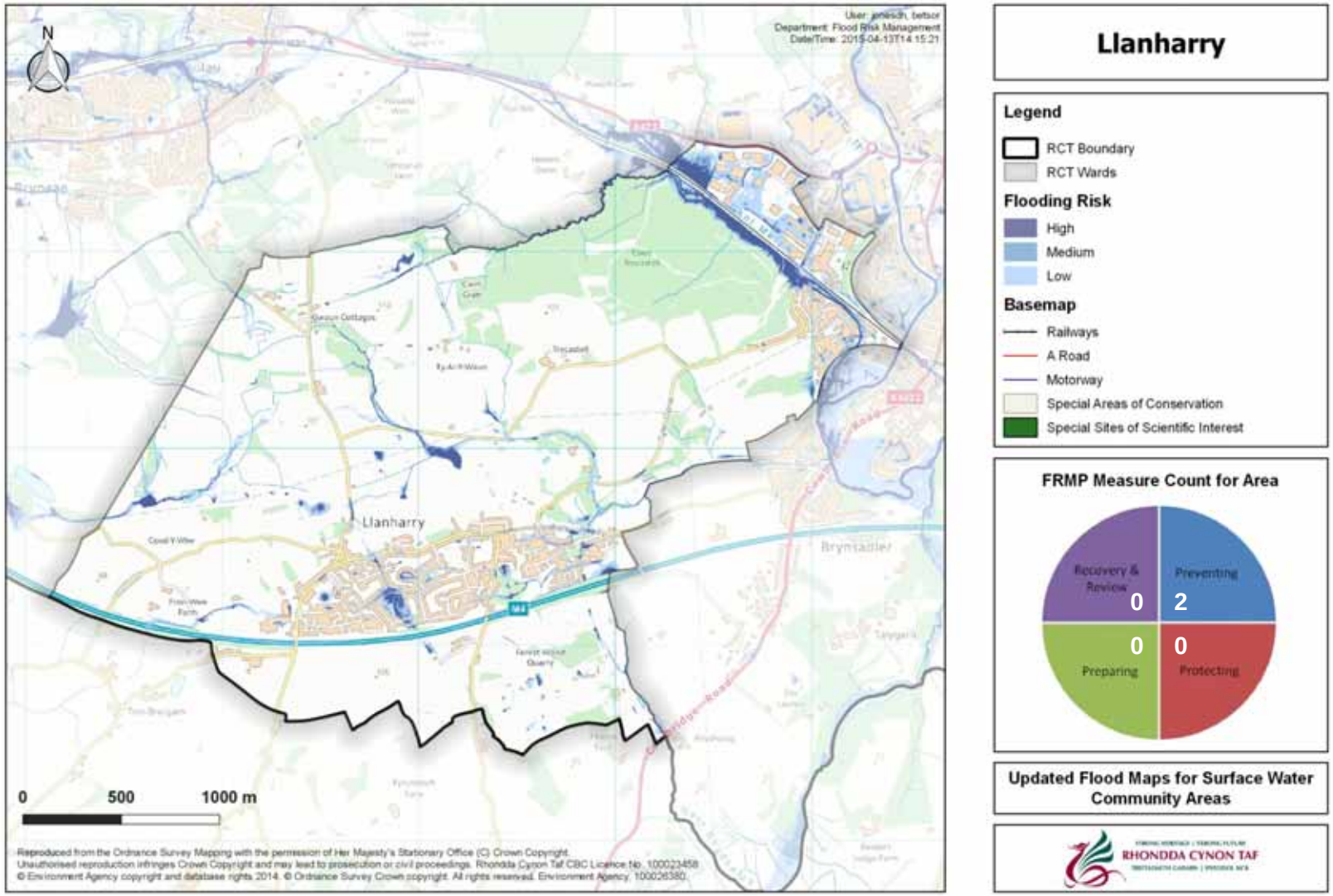
Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Llanharry and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 59: Summary of Flood Risk Management Plan Measures for Llanharry

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0044	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0137	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 38: Llanharry uFMfSW. Risk to people, economic activity and environmental receptors



9.21 Llantrisant Town

9.21.1 Overview

Llantrisant Town is situated in the south of Rhondda Cynon Taf County Borough Council, to the north of Pontyclun. The site covers an area of 968Ha and has a maximum elevation of approximately 174m AOD. Llantrisant Town has a population of approximately 4,792 and approximately 2,039 residential properties.

The majority of Llantrisant Town has remained in a natural state with residential developments located primarily on the edge of major watercourses. A large industrial estate is located to the east of Ynysmaedy in the west of Llantrisant Town. The south east of the site is dominated by agricultural land.

Llantrisant is located within the Afon Elai Catchment and is drained to the north by Nant Muchudd and in the south by Nant Myddlyn and Afon Clun, which also acts as a boundary between Llantrisant Town and Pontyclun community area. There is an extensive network of minor unnamed watercourses which drain the Llantrisant Common in the centre of the site, which discharge into Nant Muchudd.

The underlying geology of Llantrisant Town is the Rhonnda, Hughes and Brithdir beds of the Upper Carboniferous Coal Measures comprising Sandstone, Siltstone, Coal and Mudstone. Also present is the Grovesend Formation, the Middle Carboniferous Coal Measures and the Mercia Mudstone Group. Glacial Till is present across much of the valleys of major watercourses. Glaciofluvial and alluvial deposits are present along the Afon Elai and Nant Muchudd and Afon Clun. Intermittent patches of Peat are present across the forested areas of Llantrisant Town.

9.21.2 Conclusions for the UFMfSW

Llantrisant Town covers approximately 968Ha with a total population of 4,792. Just over 2% of the population of Llantrisant Town are at high risk of surface water flooding.

The highest risk posed to people and properties within Llantrisant Town is broadly associated with the Afon Clun and Nant Muchudd with flood risk observed along large sections of both watercourses. The flooding is sourced from potential bank breaches and culvert inlets. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

There is a low to high flood risk along sections of Cardiff Road, Fairland Close, Summerfield Drive, Greenlands Road, Southgate Avenue, Cottesmore Way, Silverton Drive, Grafton Drive, Cross Inn Road and the A473.

The UFMfSW indicates that there is a significant risk of flooding within the large industrial estate to the north of Llantrisant Common. The flood source is largely associated with potential bank breaches of the Nant Muchudd but also culvert inlets.

There is a low risk of flooding noted to occur across the SSSI of Llantrisant Common. The flood source is associated with the minor watercourses within the Common. No properties or economic receptors are affected by this flooding.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Llantrisant Town are presented in the table below.

Table 60: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Llantrisant Town

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	4,792	80	85	383
Services	18	1	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	688	27	27	62
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	2	0.03	0	0
Agricultural Land (hectares)	3	0	0	0.06
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	1	1	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	109	0.2	4	6
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	9	0.1	0.02	0.07
Listed Buildings	13	0	0	1
Licensed Abstractions	2	0	0	1
HISTORIC FLOOD INCIDENTS				
Internal	1			
External	9			
Highway	26			

Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Llantrisant Town and their proposed Flood Risk Management Plan measures are presented in the table below.

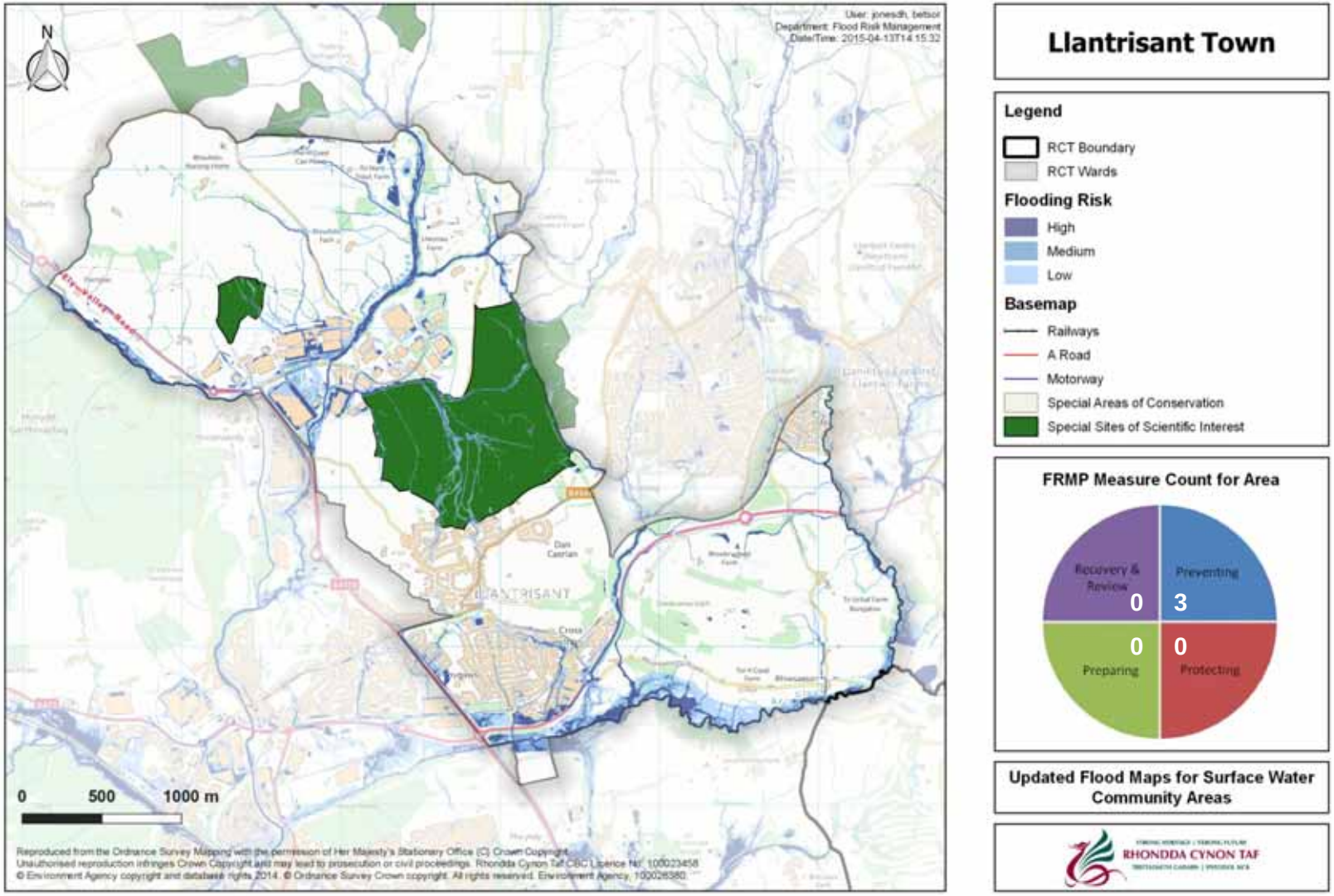
Further information regarding the flood investigation area is presented in Appendix A.

Table 61: Summary of Flood Risk Management Plan Measures for Llantrisant Town

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0045	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0046	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0047	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 39: Llantrisant Town uFMfSW. Risk to people, economic activity and environmental receptors



9.22 Llantwit Fardre

9.22.1 Overview

Llantwit Fardre is situated in the southern sector of Rhondda Cynon Taf County Borough Council with the towns of Llantwit Fardre and Efail Isaf. The site covers an area of 990Ha with a maximum elevation of 200m AOD. Llantwit Fardre has approximately 2,509 residential properties and a population of approximately 5,896.

Llantwit Fardre is predominantly a rural environment owing to the extent of agricultural land within the site. The main residential development of Llantwit Fardre is situated primarily on the bank of Nant Dowlais in the centre of the site. With the exception of Efail Isaf, there are few other residential developments in Llantwit Fardre. An old Coking Plant, Cwm Works, remains on the north-western border.

The majority of Llantwit Fardre is located within the Afon Elai Catchment; however, a small section of the Afon Taf Catchment is included in the east of the site. The site is drained to the north by Nant Ty'rarlwydd which feeds into the primary watercourse, Nant Myddlyn. The Catchment of Nant Ty'rarlwydd covers much of the northern sector of the site. The east of Llantwit Fardre is drained by Nant y Felin and Nant Dowlais. Nant Dowlais discharges into Nant Myddlyn in the south-east of the site.

There are a number of minor unnamed watercourses which are partially culverted beneath the town of Llantwit Fardre.

The underlying geology of Llantwit Fardre consists of Brithdir and Hughes beds of the Upper Carboniferous Coal Measures and the Middle Carboniferous Coal Measures comprising Sandstone, Siltstone, Mudstone and Coal. Also present is the Grovesend Formation, also comprising Sandstone, Siltstone and Mudstone. Glacial Till is present across much of Llantwit Fardre. Alluvial Deposits are also present along Nant Dowlais and Nant Myddlyn.

9.22.2 Conclusions for the UFMfSW

Llantwit Fardre covers approximately 990Ha with a total population of 5,896. Approximately 1% of the population of Llantwit Fardre are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Llantwit Fardre is broadly associated with the Nant Dowlais with flood risk observed along the length of the watercourse. The flooding is sourced from culvert inlets and potential bank breaches. The flow path is generally along roads with significant risk associated along sections of Queens Drive, Lancaster Drive, St Annes Drive, Crown Hill and York Drive. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

A low to high risk is noted across the old Cwm Works just north of Llantwit Fardre. The flood source here is largely attributed to the culvert inlets situated across the work's site.

A low to high flood risk is represented along the floodplain of the Nant Dowlais, to the north of the A473 attributed to potential bank breaches of the primary watercourse. No properties, economic or environmental receptors are affected by this flooding

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Llantwit Fardre are presented in the table below.

Table 62: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Llantwit Fardre

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	5,896	35	92	531
Services	6	0	0	2
ECONOMIC ACTIVITY				
Non Residential Properties	657	20	12	52
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	1	1	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	2	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	6			
External	27			
Highway	31			

Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Llantwit Fardre and their proposed Flood Risk Management Plan measures are presented in the table below.

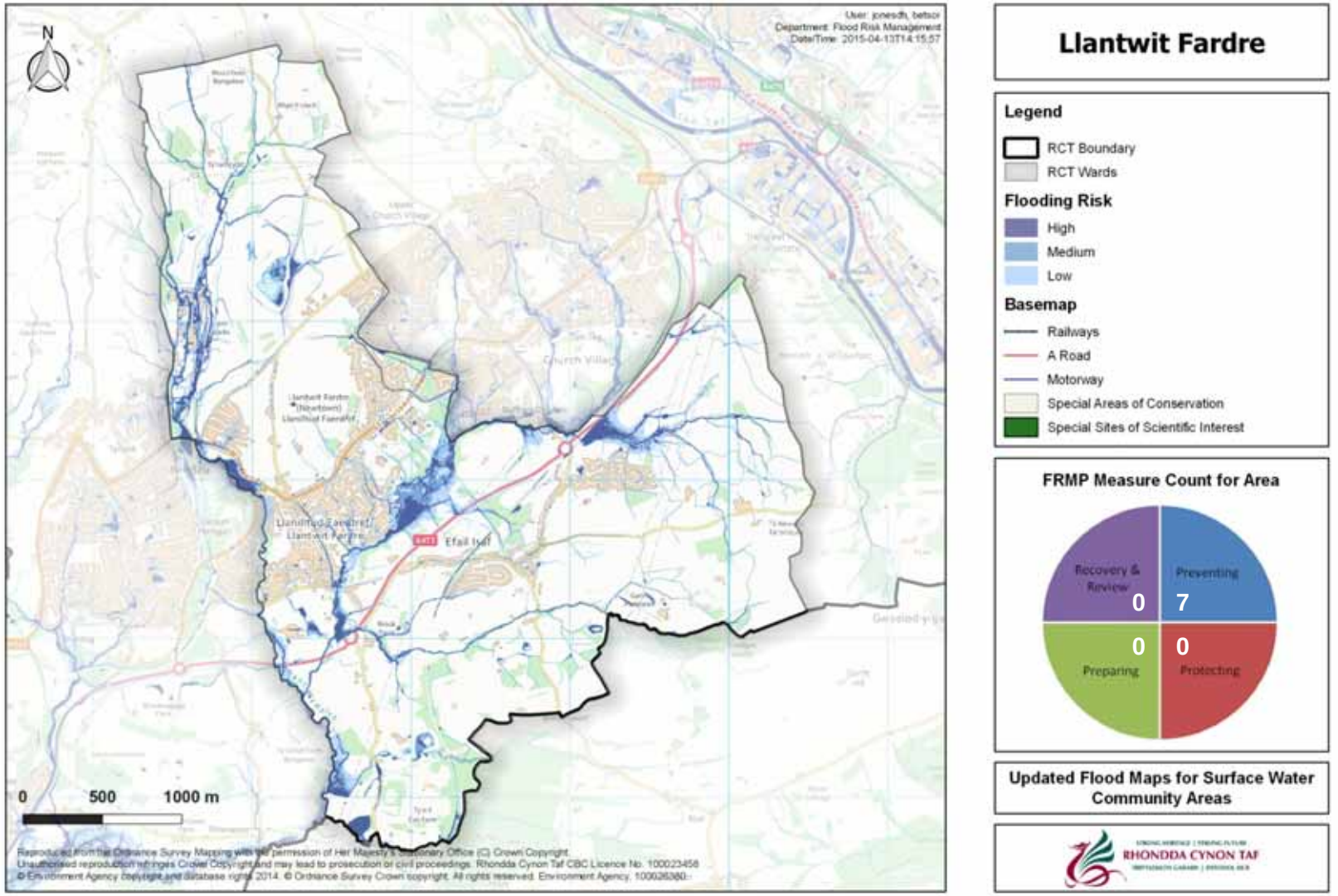
Further information regarding the flood investigation area is presented in Appendix A.

Table 63: Summary of Flood Risk Management Plan Measures for Llantwit Fardre

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0023	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0024	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0048	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0049	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0050	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Rescores Wales
RCT0051	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0116	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 40; Llantwit Fardre uFMfSW. Risk to people, economic activity and environmental receptors



9.23 Llwynypia

9.23.1 Overview

Llwynypia is situated in the central sector of Rhondda Cynon Taf County Borough Council, to the north of Tonypandy. The site covers an area of 259Ha with a maximum elevation of 351m AOD. Llwynypia has a population of approximately 2,423 and approximately 1,031 residential properties.

The majority of Llwynypia has remained in a natural state, owing to the steep topography of the highlands in the east and west and, as a result, proximate areas have remained undeveloped. A large SSSI is located on the highlands in the west. Residential development is confined to the base of the Afon Rhondda valley, present on both banks of the Afon Rhondda. There is a small industrial estate situated in the centre of Llwynypia.

Llwynypia is situated within the Afon Rhondda Catchment. Llwynypia is drained to the north by Nant y Gwiddon and to the south by Nant Clydach Fach. All watercourses discharge into the Afon Rhondda.

A number of unnamed watercourses also drain the western slopes and discharge into the Afon Rhondda. Most are culverted beneath Llwynypia.

The underlying geology is the Rhondda and Llynfi beds of the Upper Carboniferous Coal Measures comprising Mudstone, Coal, Sandstone and Siltstone. Glacial Till is present along the Afon Rhondda valley. Glaciofluvial and Alluvial Deposits are present along the Afon Rhondda. Peat is present on the highlands in the west, within forested areas.

9.23.2 Conclusions for the UFMfSW

Llwynypia covers approximately 259Ha with a total population of 2,423. Just over 2% of the population of Lwynypia are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Llantwit Fardre is broadly associated with the Afon Rhondda with flood risk observed along a number of sections of the watercourse. The flooding is sourced from culvert inlets and potential bank breaches. Commonly, the flow path is along roads with significant risk associated along sections of Pontrhondda Avenue and Ponthrondda Road, Sherwood Street, Oakfield Terrace and Turberville Street. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The flood risk presented within the UFMfSW correlates with historic external and internal flooding incidents reported to Rhondda Cynon Taf.

A low to high risk is noted along the length of the railway line within Llwynypia. A low to high flood risk is also represented across the northern edge of the SSSI within Llwynypia. The flood risk is sourced from potential bank breaches of the Nant Y Gwiddon.

The map also indicates a low to high flood risk in the south of the site, along Llwynypia Road and the Terraces to the east. This flood source is largely associated with the culver inlets within this area but it is likely there is also contribution from potential bank breaches of the Afon Rhondda.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Llwynypia are presented in the table below.

Table 64: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Llwynypia

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	2,423	56	108	343
Services	6	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	272	18	8	30
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.4	0.2	0.3
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	19	0.07	0.03	0.3
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	3	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	5			
External	29			
Highway	44			

Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Llwynypia and their proposed Flood Risk Management Plan measures are presented in the table below.

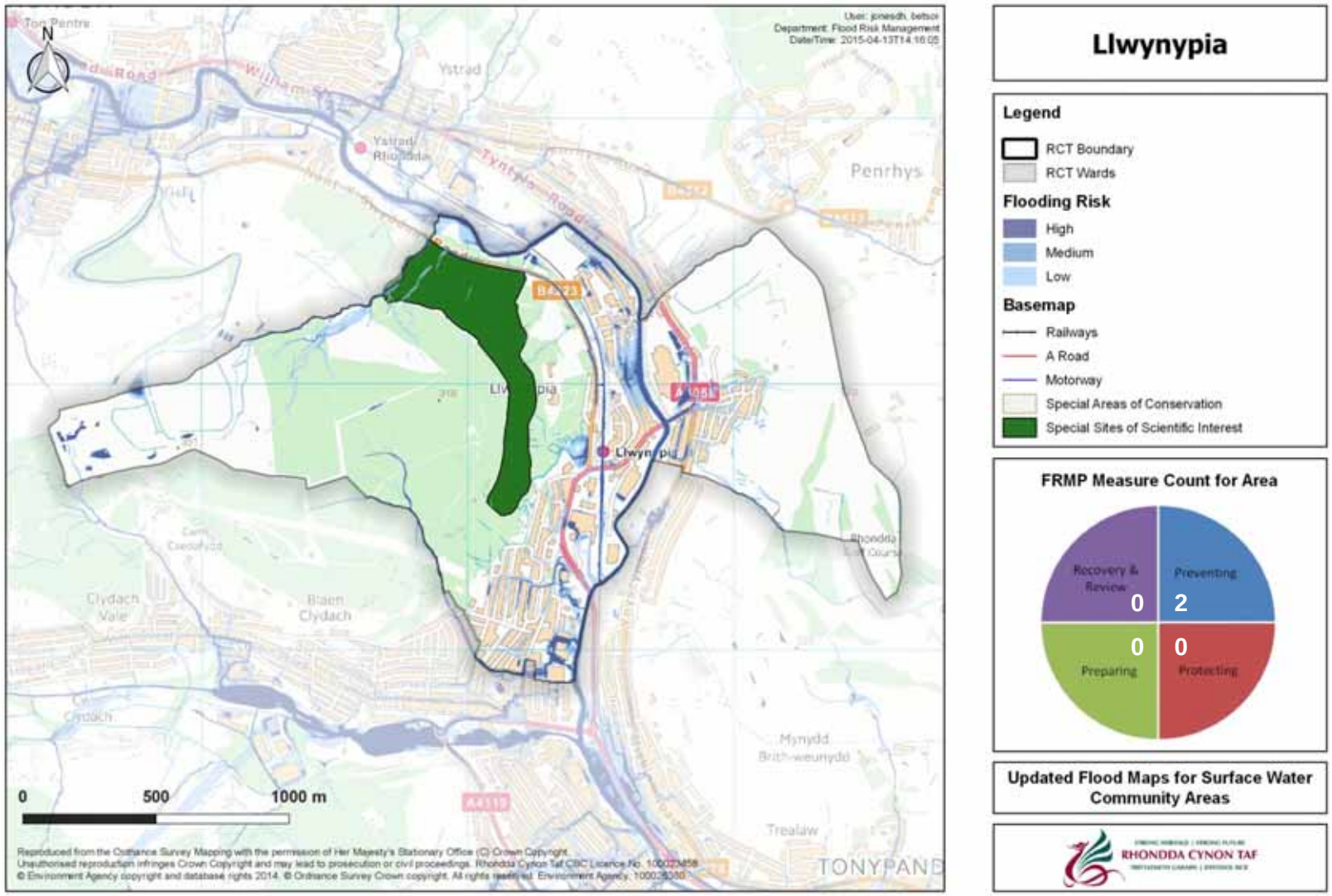
Further information regarding the flood investigation area is presented in Appendix A.

Table 65: Summary of Flood Risk Management Plan Measures for Llwynypia

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0052	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0085	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 41: Llwynypia uFMfSW. Risk to people, economic activity and environmental receptors



9.24 Maerdy

9.24.1 Overview

The community area of Maerdy is situated in the northern sector of Rhondda Cynon Taf County Borough Council, to the east of Treorchy. The site covers an area of 1,060Ha with a maximum elevation of approximately 500m AOD. Maerdy has approximately 1,560 residential properties and a population of approximately 3,666.

The majority of Maerdy has remained in a natural state with residential development confined to the southern corner of the site. This is due to the steep topography of the highlands covering the whole of the northern sector of Maerdy. There are no residential developments across the northern sector of the site. St Gwynno Forest is located along the south-eastern edge of Maerdy. There is a small industrial estate located north of the residential development of Maerdy.

Maerdy is primarily located within the Afon Rhondda Catchment with a small section of the Afon Cynon Catchment included in the east. The primary watercourse, the Afon Rhondda Fach, flows from north to south through the centre of the site. Maerdy is drained to the north by a number of unnamed watercourses which discharge into the Afon Rhondda Fach. Nant Brynygelli drains the western slopes and discharges into the Lluest-wen Reservoir.

A number of minor unnamed watercourses discharge into the Afon Rhondda Fach, in the south of the site, which are partially culverted beneath Maerdy.

The underlying geology of Maerdy is the Rhondda bed of the Upper Carboniferous Coal Measures comprising Sandstone, Siltstone, Mudstone and Coal. Glacial Till is present throughout the valley and up into the highlands in the north. Alluvial Deposits are present along much of the Afon Rhondda Fach.

9.24.2 Conclusions for the UFMfSW

Maerdy covers an area of approximately 1,060Ha and has a total population of 3,666. About 5% of Maerdy are at high risk of surface water flooding.

The most significant risk posed to people and properties within Maerdy is largely attributed to the Afon Rhondda Fach, but is also likely to be associated with culvert inlets. The flooding is sourced from breached banks and surface runoff. Commonly, the flow path is along roads with a high risk associated along sections of Park Road, School Street, Oxford Street and Maerdy Road.

The UFMfSW also indicate a significant amount of flooding in the east of the site, along the floodplain of the Afon Rhondda Fach and the industrial estates located here.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Maerdy are presented in the table below.

Table 66: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Maerdy

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	3,666	172	71	435
Services	3	0	0	2
ECONOMIC ACTIVITY				
Non Residential Properties	296	7	1	31
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	1	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	2	2	0	0
HISTORIC FLOOD INCIDENTS				
Internal	8			
External	22			
Highway	17			

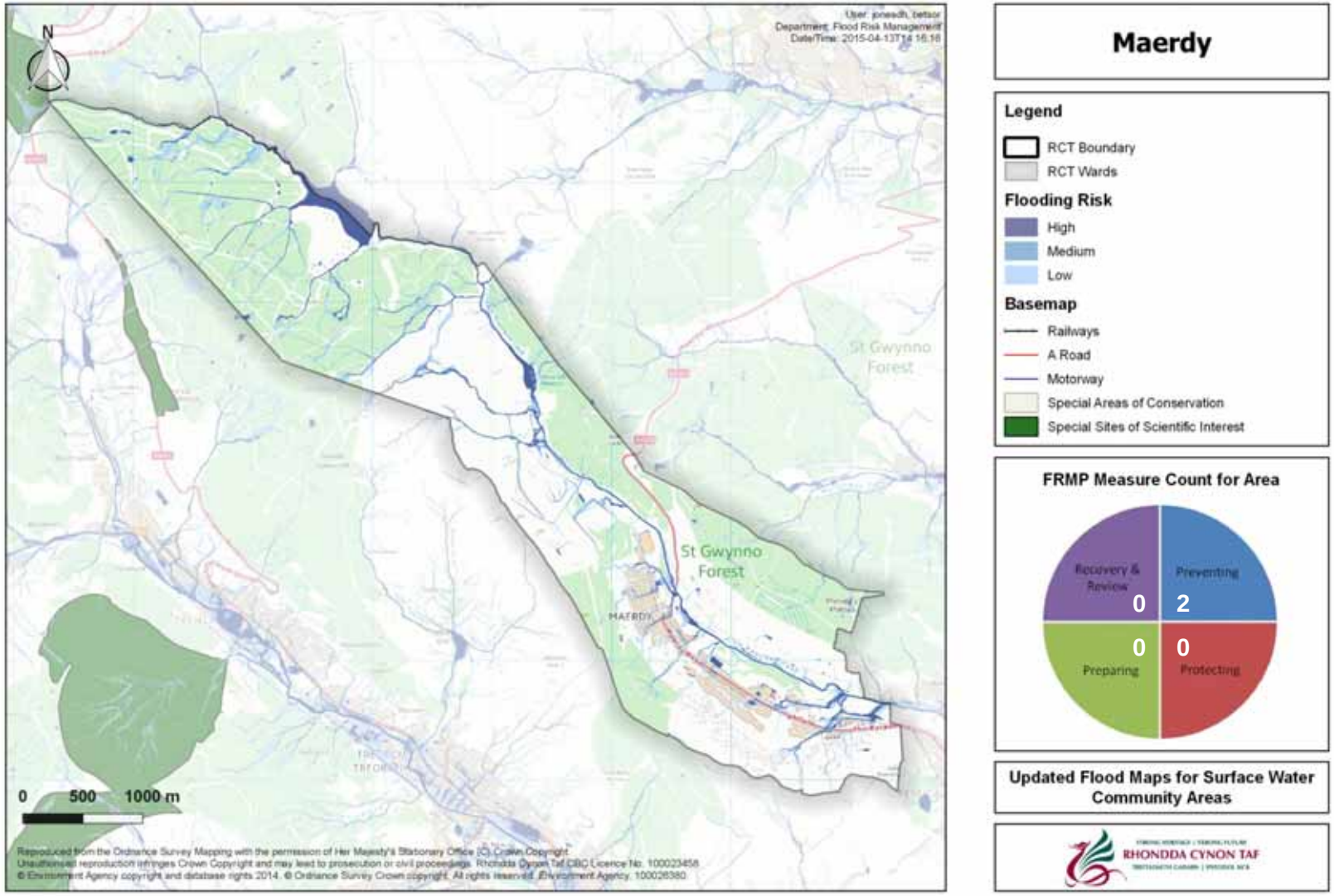
Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Maerdy and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 67: Summary of Flood Risk Management Plan Measures for Maerdy

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0053	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0054	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 42: Maerdy uFMfSW. Risk to people, economic activity and environmental receptors



9.25 Mountain Ash East

9.25.1 Overview

Mountain Ash East is situated in the eastern sector of Rhondda Cynon Taf County Borough Council, with the town of Mountain Ash. The site covers an area of 850Ha and has a maximum elevation of 487m AOD. Mountain Ash East has a population of approximately 3,243 and approximately 1,380 residential properties.

Mountain Ash East is predominantly a rural environment owing to the steep topography of the highlands in the east. Residential development is confined to the Afon Cynon valley, along the west of the site. Coed Fforest-Uchaf and Coed Fforest-Isaf are located in the south. Aber-ffrŵd Plantation and Gelli-ddu-fawr Plantation are located in the north. Both forests and plantations are adjacent to residential areas.

The majority of Mountain Ash East is situated within the Afon Cynon catchment; however, a small section of the Afon Taf catchment is included in the east. Mountain Ash East is bounded to the west by the Afon Cynon. The site is drained in the north and east by Nant Gelli-ddu and Nant y Ffrwd, respectively. All watercourses drain the eastern highlands and discharge into the Afon Cynon. Many minor watercourses are partially culverted beneath Mountain Ash.

The underlying geology is the Rhondda and Hughes Beds of the Upper Carboniferous Coal Measures comprising Coal, Sandstone, Siltstone and Mudstone. Glacial Till is present along major watercourses. Glaciofluvial and Alluvial Deposits are present along the Afon Cynon. Peat is also present on the highlands in the east.

9.25.2 Conclusions for the UFMfSW

Mountain Ash East covers approximately 850Ha with a total population of 3,243. Just over 2% of the population of Mountain Ash East are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Mountain Ash East is broadly associated with the Afon Cynon with flood risk noted along sections of the watercourse. The flooding is sourced from culvert inlets and potential bank breaches. The flow path is generally along roads with significant risk associated along sections of the A4059, Jeffery Street, Dyffryn Road and Allen Street. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

A low to high risk is observed along Trem Y Dyffryn. The flooding here is most likely sourced from the culvert inlet located to the north of the residential street. A significant number of properties are at risk of flooding from this source.

A low to high flood risk is represented along small sections of the floodplain of the Afon Cynon, to the south of the A4059, as well as along sections of the highlands in the east of the site. The flooding is largely attributed to culvert inlets, but also potential bank breaches of the primary watercourse. No properties, economic or environmental receptors are affected by this flooding.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Mountain Ash East are presented in the table below.

Table 68: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Mountain Ash East

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	3,243	49	42	176
Services	5	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	278	8	7	7
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	67	1	1	4
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	5	0	0	0
Licensed Abstractions	1	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	8			
External	5			
Highway	23			

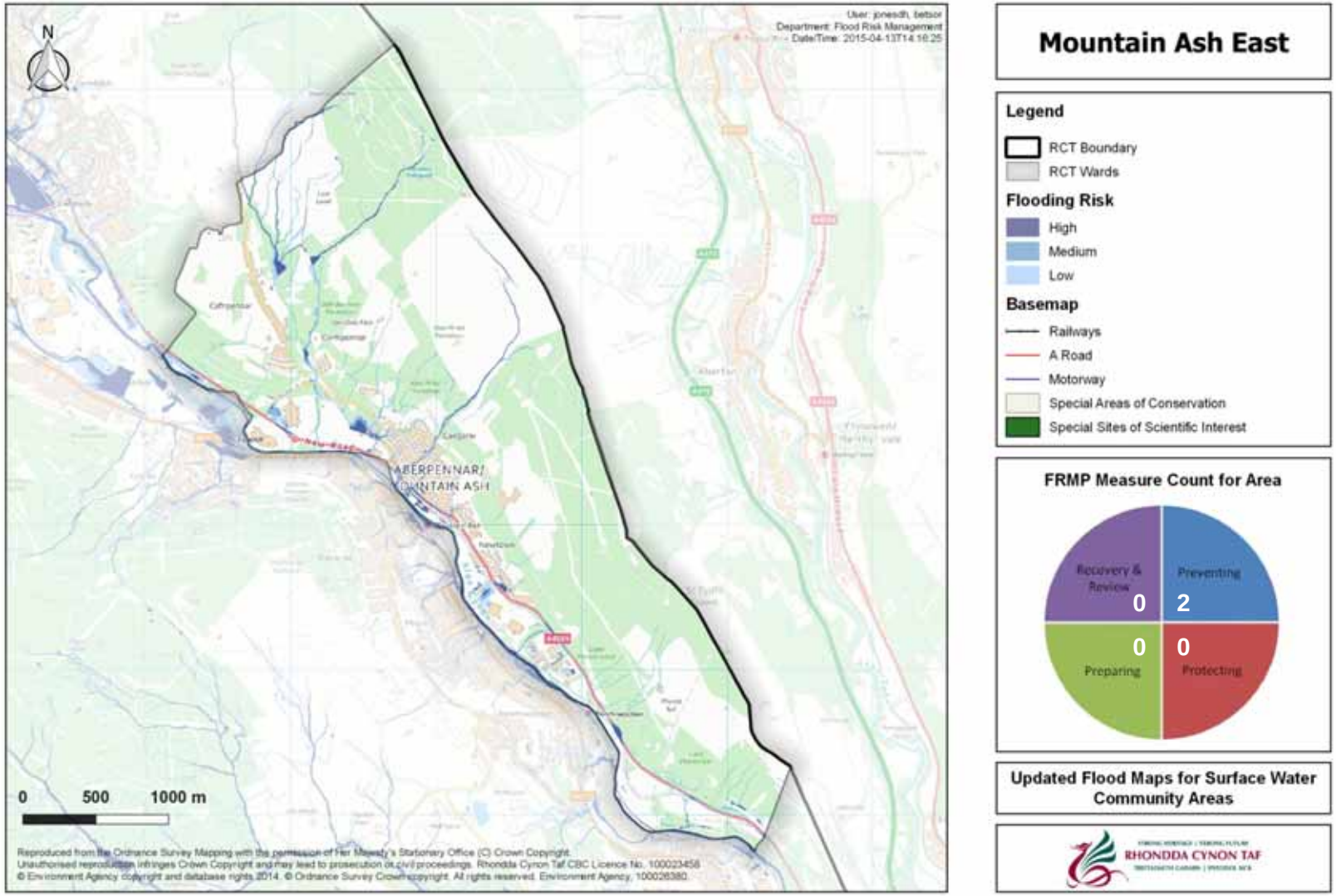
Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Mountain Ash East and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 69: Summary of Flood Risk Management Plan Measures for Mountain Ash East

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0055	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0056	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 43: Mountain Ash East uFMfSW. Risk to people, economic activity and environmental receptors



9.26 Mountain Ash West

9.26.1 Overview

Mountain Ash West is situated in the eastern sector of Rhondda Cynon Taf County Borough Council with the towns of Mountain Ash and Fernhill. The site covers an area of 351Ha and has a maximum elevation of 406m AOD. Mountain Ash West has a population of approximately 4,916 and approximately 2,092 residential properties.

The majority of Mountain Ash West has remained in a natural state owing to the steep topography of the highlands in the south-west. Residential properties are confined to the valley floor of the Afon Cynon. The highlands in the south-west are mostly forested with the Penrhiw-fer Plantation located in the centre of Mountain Ash West.

Mountain Ash West is situated within the Afon Cynon Catchment. The site is bounded to the north by the Afon Cynon, acting as a boundary between Mountain Ash East and Mountain Ash West. The highlands in the south-west are drained by Nant Cwm Boi and a number of minor unnamed watercourses. All watercourses flow from south-west to north-east and discharge into the Afon Cynon. Minor watercourses are partially culverted beneath Fernhill, Miskin and Darranlas.

The underlying geology of Mountain Ash West is the Rhondda and Hughes Beds of the Upper Carboniferous Coal Measures comprising Coal, Sandstone, Mudstone and Siltstone. Glacial Till is present along major watercourses. Alluvial and Glaciofluvial Deposits are present along the Afon Cynon. Peat is present on the highlands within forested areas.

9.26.2 Conclusions for the UFMfSW

Mountain Ash West covers approximately 351Ha with a total population of 4,916. Just over 2% of the population of Mountain Ash West are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Mountain Ash West is broadly associated with the Afon Cynon with flood risk noted along a number of sections of the watercourse. The flooding is sourced from potential bank breaches. The flow path is generally along roads with significant risk associated along sections of the Oxford Street, High Street, Woodland Street, Dyffryn Street. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

A low to high risk is observed within the town of Fernhill. The flooding is sourced primarily from culvert inlets. However Main River contribution is also likely. As before, the flow pattern is along roads with significant risk along sections of Glenboi, Fernhill and Aberdare Road. This flooding also extends across the floodplain of the Afon Cynon, flooding a small section of the Railway line.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Mountain Ash West are presented in the table below.

Table 70: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Mountain Ash West

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	4,916	118	118	557
Services	7	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	335	10	5	64
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	2	0.1	0.06	0.05
Agricultural Land (hectares)	72	5	3	9
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0.02	0	0	0
Listed Buildings	2	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	5			
External	16			
Highway	18			

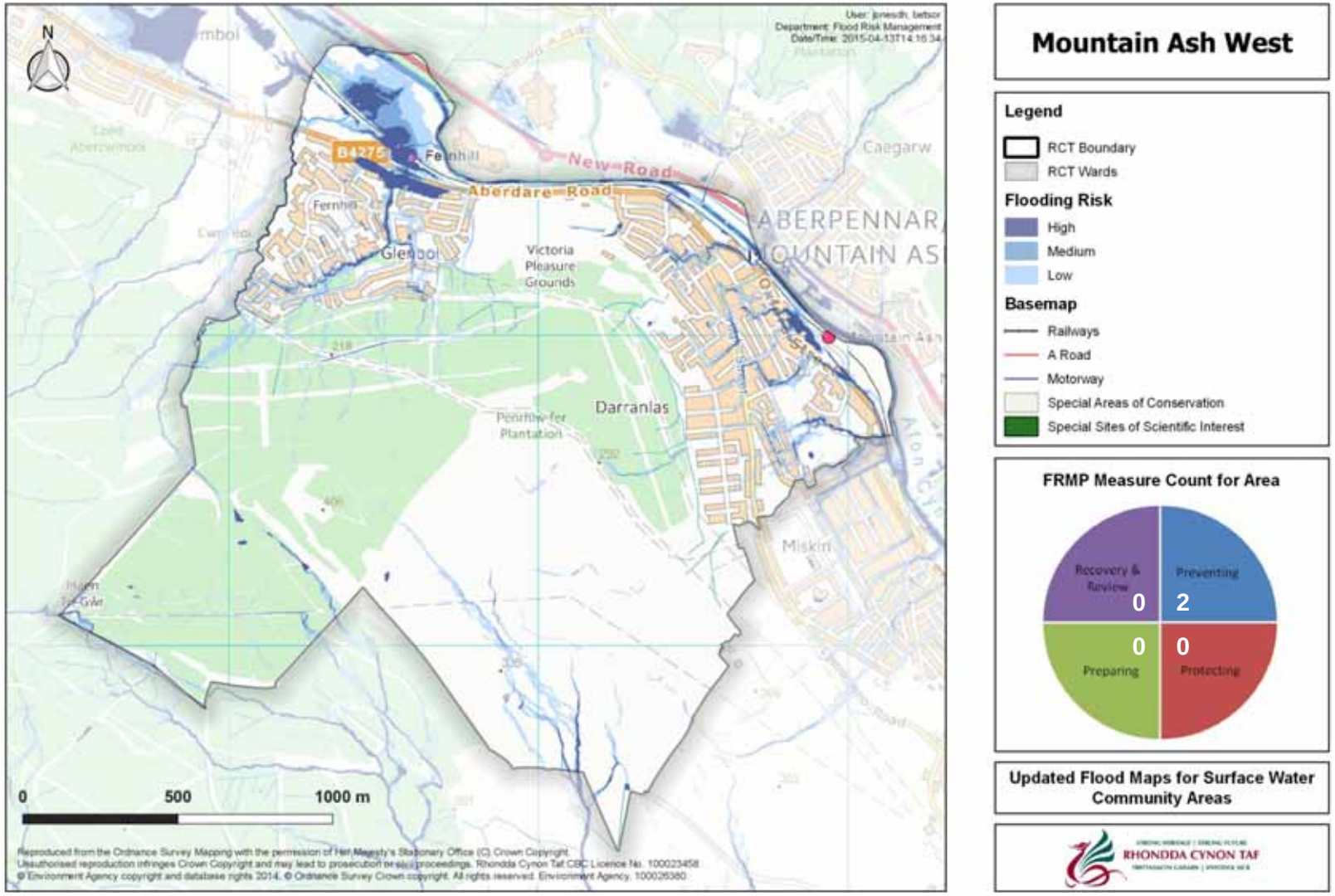
Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Mountain Ash West and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 71: Summary of Flood Risk Management Plan Measures for Mountain Ash West

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Priority	Type of Measure
RCT0057	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0059	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 44: Mountain Ash West uFMfSW. Risk to people, economic activity and environmental receptors



9.27 Penrhiwceiber

9.27.1 Overview

Penrhiwceiber is located in the east of Rhondda Cynon Taf County Borough Council, to the south of Mountain Ash. The site covers an area of 213Ha and has a maximum elevation of 302m AOD. Penrhiwceiber has approximately 2,704 residential properties and a population of approximately 6,354.

The majority of Penrhiwceiber is residential development with rural areas reserved for the highlands in the west. Residential development is confined within the valley on the banks of the Afon Cynon.

Penrhiwceiber is situated within the Afon Cynon Catchment with the Afon Cynon acting as a boundary between the community areas of Penrhiwceiber and Mountain Ash East. The highlands in the south-east are drained by a number of minor unnamed watercourses which are partially culverted beneath Miskin and Penrhiwceiber. All watercourses discharge into the Afon Cynon.

The underlying geology is the Rhondda, Brithdir and Hughes Beds of the Upper Carboniferous Coal Measures comprising Coal, Sandstone, Siltstone and Mudstone. Glacial Till is present along major watercourses. Glaciofluvial and Alluvial Deposits are present along the Afon Cynon.

9.27.2 Conclusions for the UFMfSW

Penrhiwceiber covers approximately 213Ha with a total population of 6,354. Just over 1% of the population of Penrhiwceiber are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Penrhiwceiber is broadly associated with the Afon Cynon with flood risk noted along sections of the watercourse. The flooding is sourced from culvert inlets and potential bank breaches. The flow path generally follows the roads with significant risk along sections of Bailey Street, Victoria Street, Miskin Road and Penrhiwceiber Road. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The flood risk presented within the UFMfSW correlates with historic flooding incidents reported to Rhondda Cynon Taf. Internal properties have previously been flooded along Penrhiwceiber Road, commonly associated with blocked inlets.

A low to high risk is observed in the south of Penrhiwceiber. The flood risk here is largely associated with culvert inlets and it is likely that there are contributions from potential bank breaches of minor watercourses.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Penrhiwceiber are presented in the table below.

Table 72: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Penrhiwceiber

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	6,354	38	92	780
Services	6	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	254	4	5	31
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	2	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	4	0	0	1
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	5			
External	15			
Highway	46			

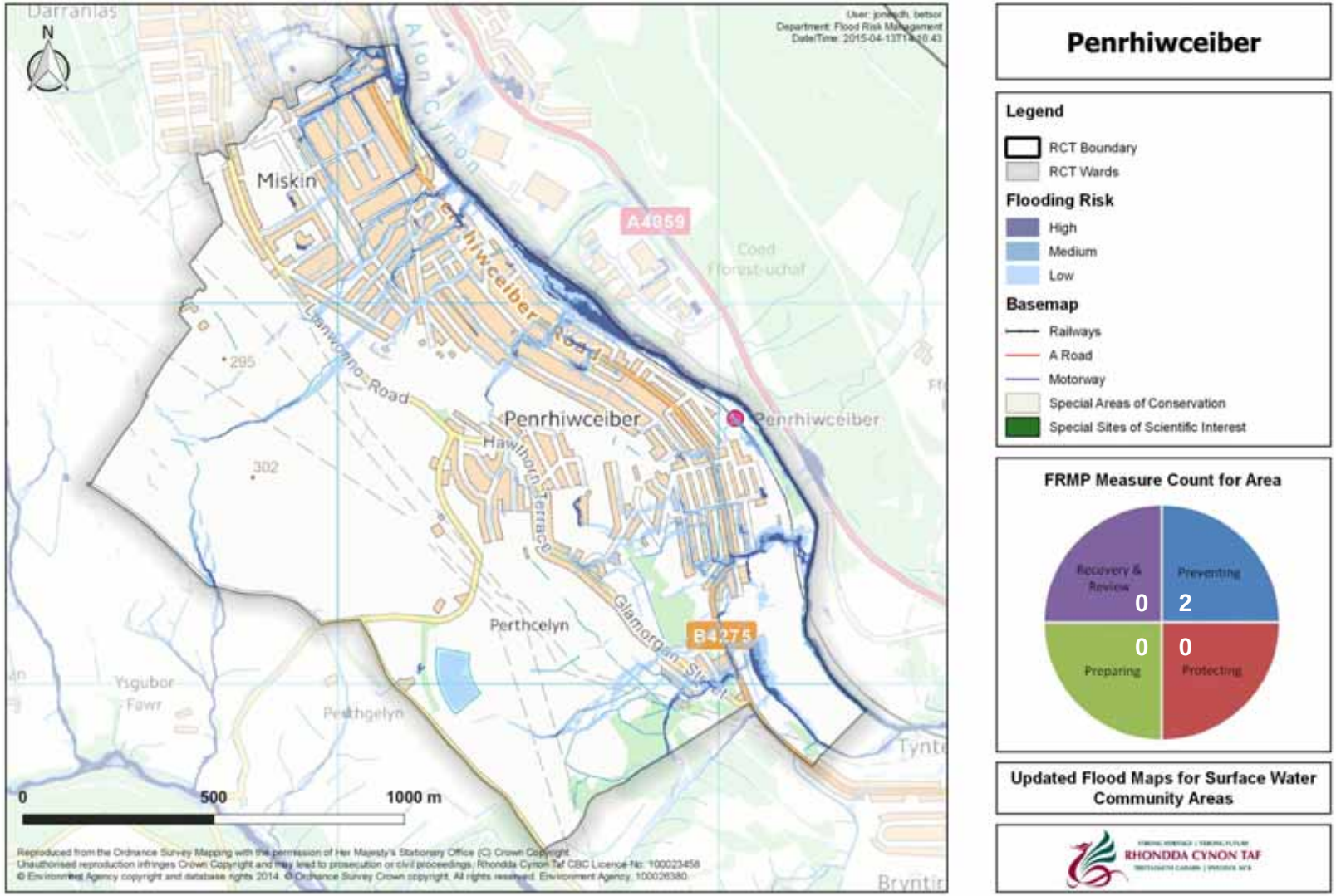
Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Penrhiwceiber and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 73: Summary of Flood Risk Management Plan Measures for Penrhiwceiber

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0058	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0059	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 45: Penrhiwceiber uFMfSW. Risk to people, economic activity and environmental receptors



9.28 Pentre

9.28.1 Overview

The community area of Pentre is situated in the western sector of Rhondda Cynon Taf County Borough Council with the towns of Ton Pentre and Pentre, to the south of Treorchy. The site covers an area of 578Ha with a maximum elevation of 386m AOD. Pentre has a population of approximately 5,877 and approximately 2,501 residential properties.

The majority of Pentre is a rural environment with residential developments confined to the base of the Afon Rhondda valley. The surrounding highlands have a steep topography and are primarily forested. A small industrial estate is located adjacent to the Afon Rhondda

Pentre is primarily located within the Afon Rhondda Catchment. A small section of the Ogmore to Tawe Catchment of the Western Wales River Basin District is also included in the western edge of Pentre. The Afon Rhondda flows from north to south through the centre of Pentre.

The highlands to the west of the residential areas are drained by Nant lân which discharges into the Afon Rhondda. The catchment of Nant lân covers much of the east of Pentre. The highlands to the east are drained by Nant y Pentre which also discharges into the Afon Rhondda.

A number of minor unnamed watercourses also discharge into the Afon Rhondda, which are partially culverted beneath Ton Pentre and Pentre.

The underlying geology of Pentre is the Llynfi Beds of the Upper Carboniferous Coal Measures and the Middle Carboniferous Coal Measures comprising Coal, Siltstone, Sandstone and Mudstone. Glacial Till is present along major watercourses. Glaciofluvial and Alluvial Deposits are present along the Afon Rhondda. Peat is also present on the highlands within forested areas.

9.28.2 Conclusions for the UFMfSW

Pentre covers approximately 578Ha with a total population of 5,877. Just over 1% of the population of Pentre are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Pentre is broadly associated with the Afon Rhondda with flood risk noted along the length of the watercourse. The flooding is sourced from culvert inlets and potential bank breaches.

The flow path generally follows the roads with significant risk across much of central Pentre. Streets on the north bank of the Afon Rhondda, which are at significant risk, include Lewis Street, Pleasant Street, Treharne Street and Volunteer Street. On the southern bank of the Afon Rhondda, there is significant risk along sections of Bailey Street, Maindy Road, Queen Street, Augusta Street, Crawshay Street, Church Street and Chapel Street. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The flood risk presented within the UFMfSW correlates with historic flooding incidents reported to Rhondda Cynon Taf. Internal flooding incidents have previously been reported across central Pentre, commonly associated with blocked inlets.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Pentre are presented in the table below.

Table 74: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Pentre

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	5,877	87	355	1389
Services	9	1	1	3
ECONOMIC ACTIVITY				
Non Residential Properties	368	43	18	80
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.08	0.06	0.4
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	1	0	0	0.03
Listed Buildings	5	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	16			
External	28			
Highway	48			

Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Pentre and their proposed Flood Risk Management Plan measures are presented in the table below.

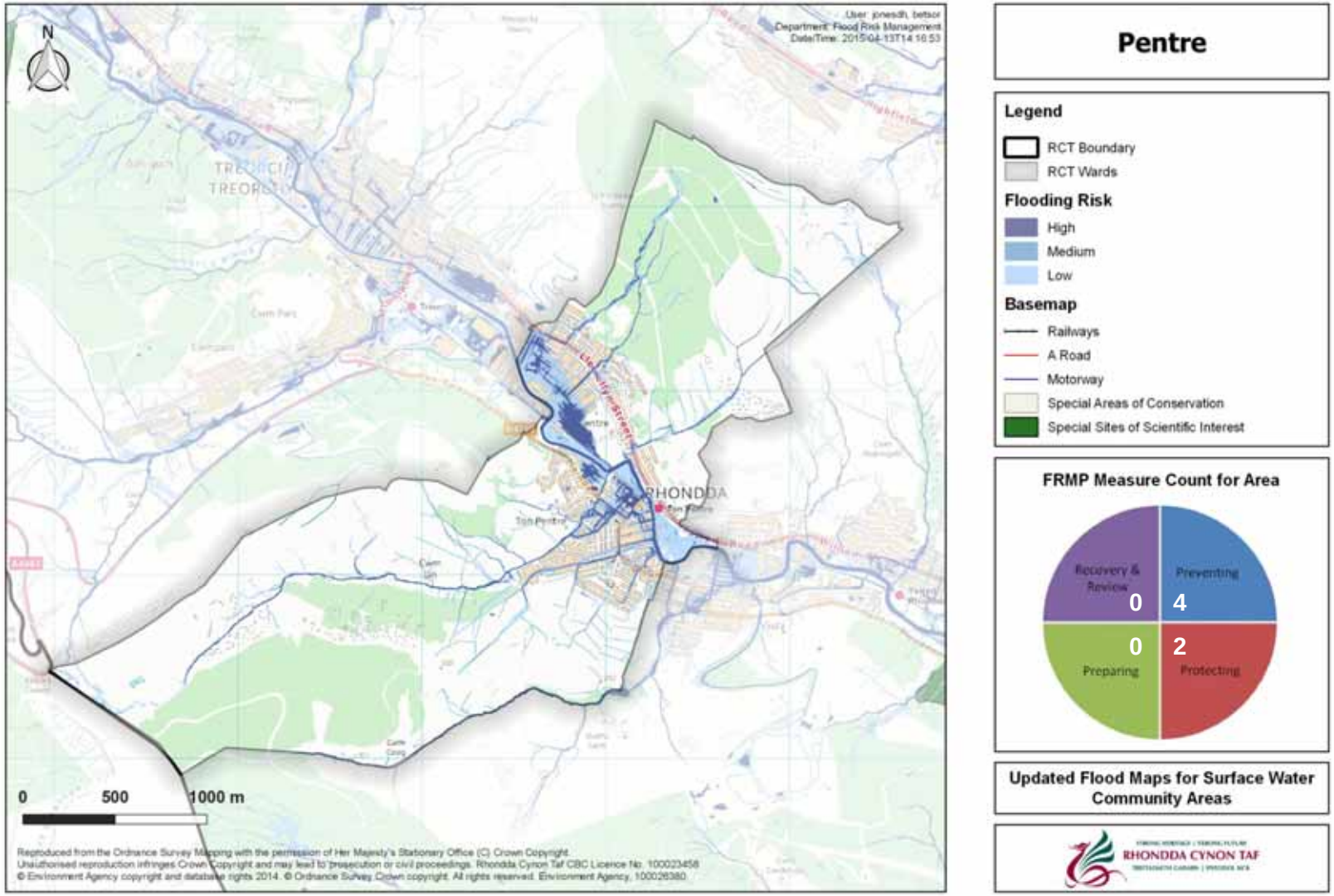
Further information regarding the flood investigation area is presented in Appendix A.

Table 75: Summary of Flood Risk Management Plan Measures for Pentre

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0060	Local / Main River*	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0061	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0121	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 46: Pentre uFMfSW. Risk to people, economic activity and environmental receptors



9.29 Penygraig

9.29.1 Overview

Penygraig is located within the western sector of Rhondda Cynon Taf County Borough Council to the west of Tonypandy. The site covers an area of 484Ha and has a maximum elevation of approximately 400m AOD. Penygraig has a population of approximately 5,920 and approximately 2,519 residential properties.

Penygraig is predominantly a rural environment owing the steep topography of the highlands in the east and west, including Mynydd Pen-y-Graig and Mynydd Dinas. Residential development is confined to the base of the valley, adjacent to the Afon Rhondda.

Penygraig is situated within three catchments; primarily the Afon Rhondda Catchment, but also includes small sections of the Afon Elai Catchment and the Ogmore to Tawe Catchment of the West Wales River Basin District. The site is drained to the north by Nant Gwyn, which discharges into the Afon Rhondda. The south of Penygraig is drained by Nant Ffrwdamws which is partially culverted beneath Williamstown and Penygraig and discharges into Nant Gwyn.

The underlying geology of Penygraig is the Rhondda and Llynfi Beds of the Upper Carboniferous Coal Measures comprising Coal, Sandstone, Siltstone and Mudstone. Glacial Till is present along primary watercourses and intermittent patches are present on Mynydd Pen-y-Graig. Peat is also present on the highlands.

9.29.2 Conclusions for the UFMfSW

Penygraig covers approximately 484Ha with a total population of 5920. Just over 2% of the population of Penygraig are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Penygraig is broadly associated with Surface Runoff with flooding primarily sourced from culvert inlets. The flow path generally follows the roads with significant risk across much of central Penygraig. There is significant risk along sections of Dinas Road, Penygraig Road, the A4119, Middle Street, Balaclava Court and Cross Street.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Penygraig are presented in the table below.

Table 76: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Penygraig

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	5,920	143	143	590
Services	5	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	438	20	18	46
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	4			
External	16			
Highway	27			

Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Penygraig and their proposed Flood Risk Management Plan measures are presented in the table below.

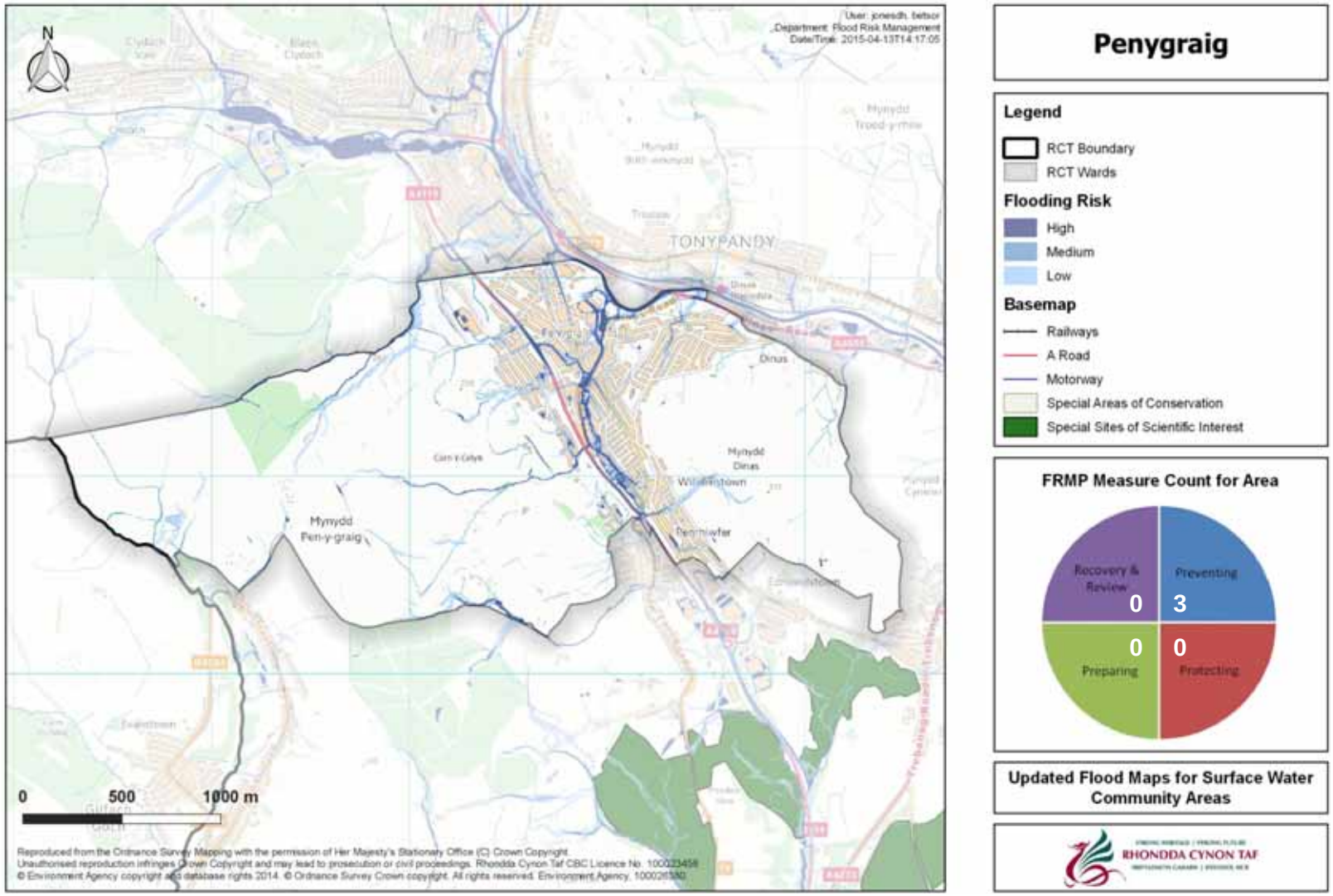
Further information regarding the flood investigation area is presented in Appendix A.

Table 77: Summary of Flood Risk Management Plan Measures for Penygraig

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0062	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0063	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0091	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 47: Penygraig uFMfSW. Risk to people, economic activity and environmental receptors



9.30 Penywaun

9.30.1 Overview

The community are of Penywaun is situated within the northern sector of Rhondda Cynon Taf County Borough Council, to the north of Aberdare. Penywaun covers an area of 373Ha and has a maximum elevation of approximately 405m AOD. The site has a population of approximately 3,097 and approximately 1,318 residential properties.

Penywaun is predominantly a rural environment, owing to the steep topography of the highlands in the south, including Mynydd Cefn-y-Gyngon. Residential development is confined to the base of the valley, adjacent to the Afon Cynon.

Penywaun is situated within the northern sector of the Afon Cynon Catchment. The Afon Cynon flows west to east across the north of the site. Penywaun is drained to the north by Nant Hir which flows from north to south and discharges into the Afon Cynon. The southern highlands are drained by Nant y Wernddu which also discharges into the Afon Cynon.

The underlying geology is the Llynfi Bed of the Upper Carboniferous Coal Measures, and the Middle and Lower Carboniferous Coal Measures, all comprising of Sandstone, Mudstone, Coal and Siltstone. Glacial Till is present across much of the site. Alluvial Deposits are present along the Afon Cynon.

9.30.2 Conclusions for the UFMfSW

Penywaun covers an area of approximately 373Ha with a total population of 3,097. Approximately 4% of the population of Penywaun are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Penywaun is broadly associated with the Afon Cynon with flood risk noted along the length of the watercourse. The flooding is sourced from blocked inlets and potential bank breaches. The flow path generally follows the roads with significant risk along sections of Dan-Yr-Heol, Arfryn, Heol Caradoc and Hirwaun Road. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The map indicates that there is significant risk within the small residential estate in the east of the site, along sections of Trenant. The flood risk here is largely associated with a blocked culvert to the south of Hirwaun Road. However, contributions from Main River flooding are also likely.

There is evidence of bank breaching along the length of the Afon Cynon, within the floodplain. No properties, economic or environmental receptors are affected by this flooding.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Penywaun are presented in the table below.

Table 78: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Penywaun

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	3,097	115	125	458
Services	3	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	157	2	3	19
Airports	0	0	0	0
Roads (km)	0.5	0.08	0.01	0.05
Railways (km)	1	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0.1	0.05	0.01	0.02
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	1			
External	19			
Highway	21			

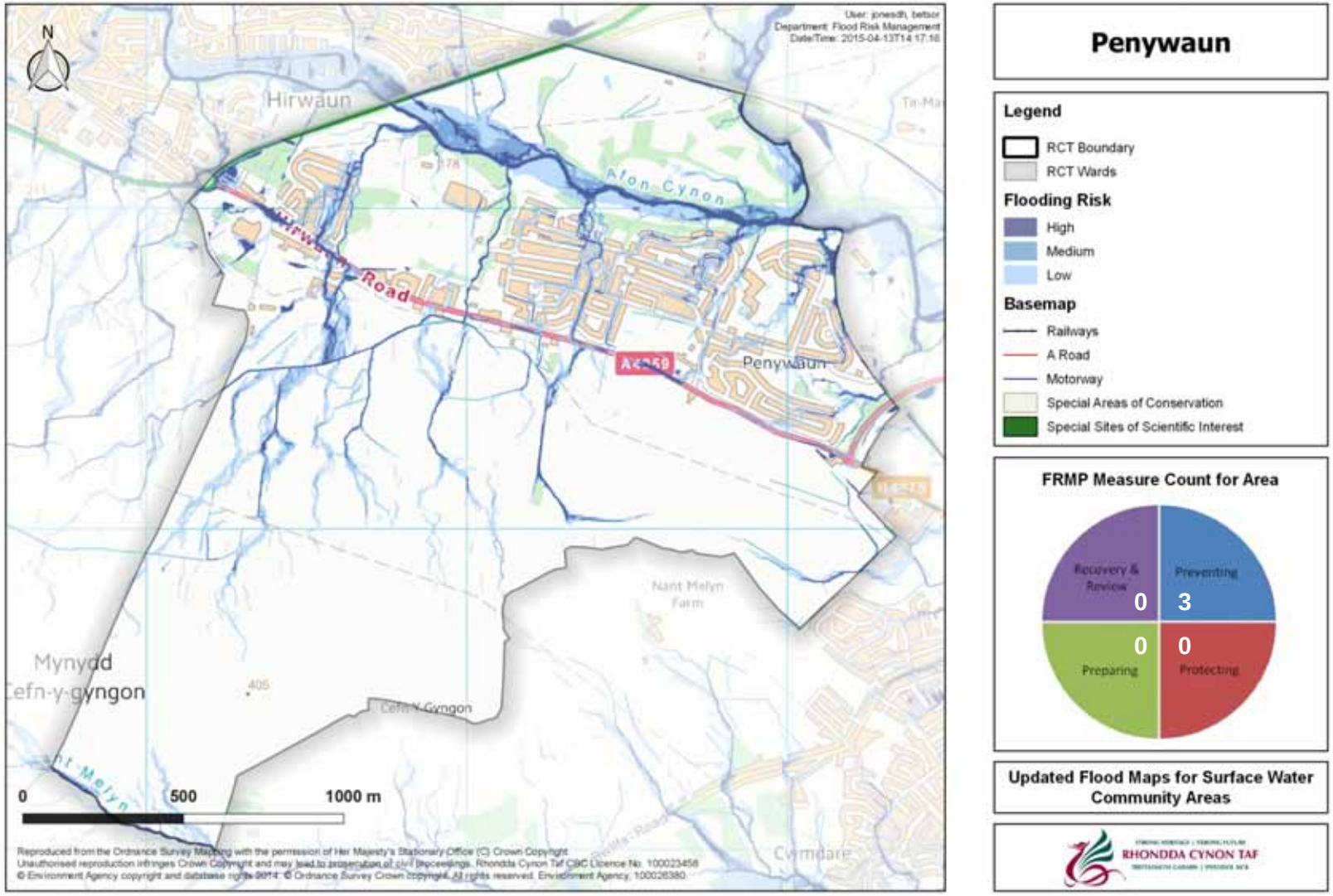
Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Penywaun and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 79: Summary of Flood Risk Management Plan Measures for Penywaun

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0064	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0065	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0066	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 48: Penywaun uFMfSW. Risk to people, economic activity and environmental receptors



9.31 Pontyclun

9.31.1 Overview

Pontyclun is located in the southern sector of Rhondda Cynon Taf County Borough Council, to the south of Llantrisant. The site covers an area of 1,190Ha and has a maximum elevation of 86m AOD. Pontyclun has approximately 3,250 residential properties and a population of approximately 7,638.

The majority of Pontyclun is a rural environment owing to the extent of agricultural land, grades 2 and 3, present across much of the site. Residential development is primarily located within the central northern sector of Pontyclun, with intermittent residential and industrial developments present across the site. There are two SSSIs within Pontyclun.

Pontyclun lies within the Afon Elai Catchment. The Afon Elai flows from north to south, through the centre of the site. Pontyclun is bound to the north by the Afon Clun. The confluence between the Afon Clun and Afon Elai is located in the northern sector, adjacent to the town of Pontyclun. A number of minor unnamed watercourses drain the site to the south-east and discharge into the Afon Clun.

The underlying geology of Pontyclun is the Lower Carboniferous Coal Measures, the Mercia Mudstone Group, the Marros Group, the Hunts Bay Oolite Subgroup, the Cefnyrhendy Oolite Member the High Tor Limestone Formation, the Oxwich Head Limestone Formation, the Stormy Limestone Formation, the Cornelly Oolite Formation, the Caswell Bay Mudstone Formation, the Gully Oolite Formation, the Friars Point Limestone Formation, the Brofiscin Oolite Formation and the Barry Harbour Limestone Formation. Also present is the Castell Coch Limestone Formation, the Quartz Conglomerate Group, Cwrt-yr-Ala Formation, the Brownstones Formation and the Llanishen Conglomerate.

Glacial Till is present across much of the site. Alluvial Deposits are present along the Afon Clun and Afon Elai.

9.31.2 Conclusions for the UFMfSW

Pontyclun covers an area of approximately 1,190Ha with a total population of 7,638. Just under 1% of the population of Pontyclun are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Pontyclun is broadly associated with the Afon Elai with flood risk noted along the length of the watercourse. The flooding is sourced from potential bank breaches with flood risk confined largely within the floodplain. Where flood risk is evident within residential areas, the flow path generally follows the roads with low to high risk along sections of School Road, Heol Miskin, Tegfan and Ynysddu.

There is evidence of bank breaching along the length of the Afon Elai, and along sections of the Afon Clun and a minor tributary within the floodplains of each respective watercourse. No properties are affected by this flooding. Within the floodplain of the lower Afon Elai, there is a small SSSI which is impacted by flood risk. Agricultural Land Classification grades two and three cover the majority of Pontyclun and therefore is at significant flood risk across the floodplains.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Pontyclun are presented in the table below.

Table 80: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Pontyclun

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	7,638	14	40	461
Services	12	0	0	2
ECONOMIC ACTIVITY				
Non Residential Properties	990	3	7	45
Airports	0	0	0	0
Roads (km)	8	0.03	0.02	0.5
Railways (km)	3	0.1	0.2	0.07
Agricultural Land (hectares)	941	22	17	45
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	1	1	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	9	0	2	2
Parks and Gardens	88	1	0.3	1
Scheduled Ancient Monuments	2	0	0	0
Listed Buildings	26	0	0	1
Licensed Abstractions	3	0	0	2
HISTORIC FLOOD INCIDENTS				
Internal	0			
External	13			
Highway	11			

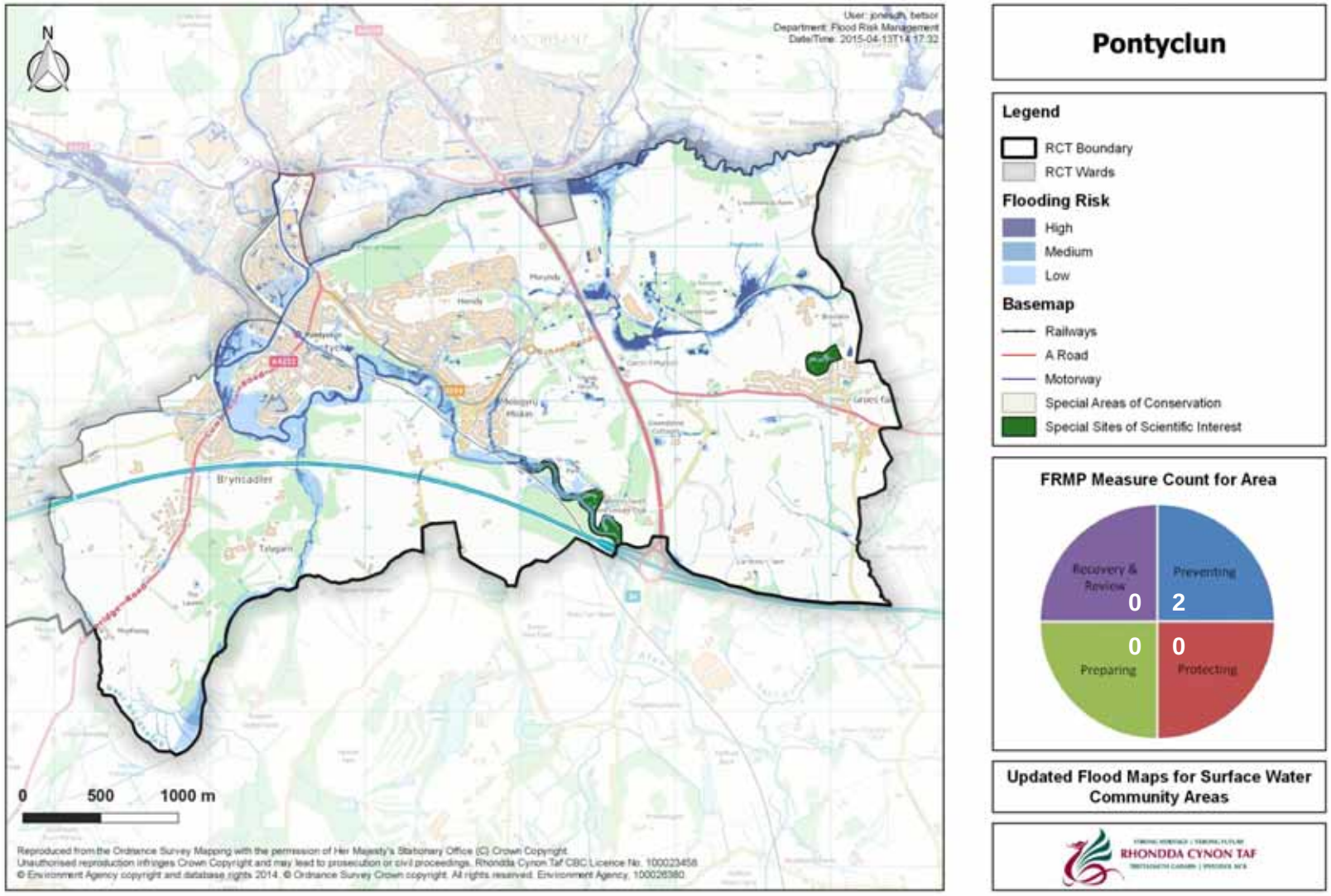
Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Pontyclun and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 81: Summary of Flood Risk Management Plan Measures for Pontyclun

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Priority	Type of Measure
RCT0067	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0068	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

Figure 49: Pontyclun uFMfSW. Risk to people, economic activity and environmental receptors



9.32 Pontypridd Town

9.32.1 Overview

Pontypridd Town is situated in the central sector of Rhondda Cynon Taf County Borough Council to the south of Abercynon. The site covers an area of 234Ha and has a maximum elevation of 244m AOD. Pontypridd Town has a population of approximately 3,046 and approximately 1,296 residential properties.

Pontypridd Town is predominantly a rural environment owing to the steep topography of the highlands in the northern sector. Residential development is confined to the base of the valley, adjacent to the confluence of the Afon Rhondda and Afon Taf. There are a number of forests present on the highlands in the north, including Di-Goed, Lan Wood and Coed Graig-yr-Hesg.

Pontypridd Town is split between the catchments of the Afon Taf, the Afon Cynon and the Afon Rhondda. The site is bound by the Afon Taf in the east. The confluence of the Afon Taf and Afon Rhondda is located at the southern point of the site. The north is drained by Nant Tai-rheol which discharges into Nant Clydach in the neighbouring community area of Glynoch.

A number of minor unnamed watercourses drain the highlands in the north and discharge into the Afon Taf, which are partially culverted beneath Pontypridd.

Pontypridd Town's underlying geology is the Hughes, Brithdir and Rhondda beds of the Upper Carboniferous Coal Measures comprising Sandstone, Siltstone, Coal and Mudstone. Glacial Till is present along major watercourses. Alluvial, Glaciofluvial and River Terrace Deposits are present along the Afon Rhondda and the Afon Taf. Peat is present on the highlands in the north.

9.32.2 Conclusions for the UFMfSW

Pontypridd Town covers approximately 234Ha with a total population of 3,046. Just over 1% of the population of Pontypridd Town are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Pontypridd Town is largely associated with the Afon Taf and Afon Rhondda with flood risk noted at the confluence. The flooding is sourced potential bank breaches. The flow path generally follows the roads with significant risk along sections of Mill Street and Taff Street. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The map also indicated a low to high flood risk throughout the town with no discernible source. It is therefore appropriate to associate this risk with surface runoff from the steep slopes to the north of Penygraigwen.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Pontypridd Town are presented in the table below.

Table 82: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Pontypridd Town

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	3,046	45	28	174
Services	8	1	2	0
ECONOMIC ACTIVITY				
Non Residential Properties	521	55	25	63
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	2	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0.01	0.01	0	0
Listed Buildings	28	2	0	1
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	3			
External	17			
Highway	22			

Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Pontypridd Town and their proposed Flood Risk Management Plan measures are presented in the table below.

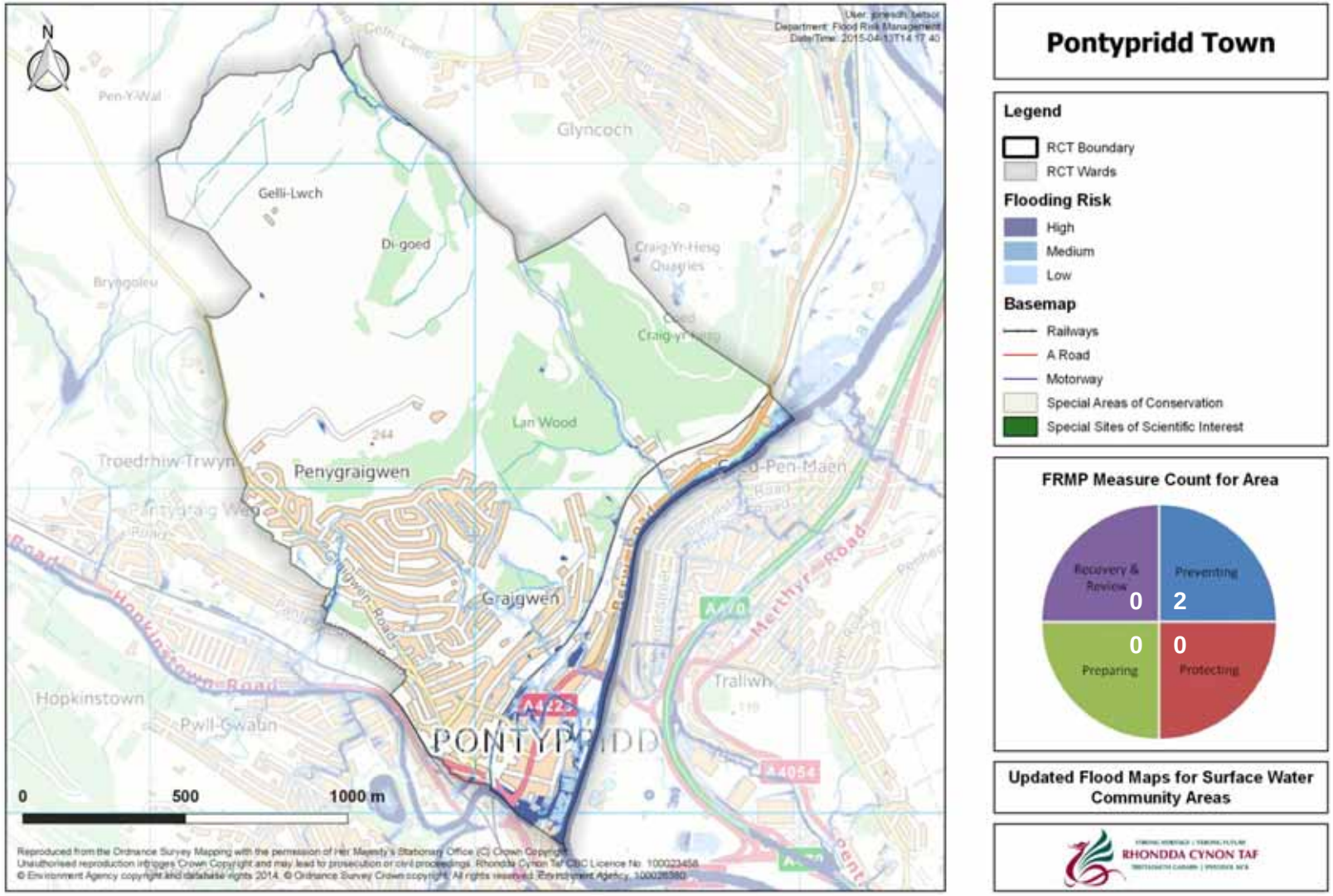
Further information regarding the flood investigation area is presented in Appendix A.

Table 83: Summary of Flood Risk Management Plan Measures for Pontypridd Town

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0069	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Rescores Wales
RCT0073	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 50: Pontypridd Town uFMfSW. Risk to people, economic activity and environmental receptors



9.33 Porth

9.33.1 Overview

Porth is located in the central sector of Rhondda Cynon Taf County Borough Council to the east of Tonypandy. The site covers an area of approximately 370Ha and has a maximum elevation of 336m AOD. Porth has a population of approximately 6,481 and has approximately 2,758 residential properties.

The majority of Porth is a rural environment. The highlands in the east and west of the site confine residential development to the base of the Afon Rhondda valley. A small industrial estate is present in the east of Porth, adjacent to the Afon Rhondda, and in the east, adjacent to Nant Graig Ddu.

Porth is located within the Afon Rhondda Catchment with the Afon Rhondda flowing north to south through the centre of the site. The site is drained in the west by Nant Graig Ddu which flows from west to east and discharges into the Afon Rhondda. The confluence of these primary watercourses is located at the centre Porths residential development.

A number of minor unnamed watercourses drain the highlands in the east and west and discharge into the Afon Rhondda and Nant Graig Ddu, which are partially culverted beneath residential areas.

The underlying geology of Porth is the Rhondda bed of the Upper Carboniferous Coal Measure comprising Sandstone, Siltstone, Mudstone and Coal. Glacial Till is present across the valleys of major watercourses. Glaciofluvial and Alluvial Deposits are present along the Afon Rhondda and Nant Graig Ddu.

9.33.2 Conclusions for the UFMfSW

Porth covers an area of approximately 370Ha with a total population of 6,481. Just over 1% of the population of Porth are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Porth is broadly associated with the Afon Rhondda and Afon Rhondda Fach with flood risk noted at the confluence. The flooding is sourced from potential bank breaches. The flow path generally follows the roads with a low to high risk along sections of Porth Street, Syphon, Mary Street, Cemetery Road, Aberrhondda road and North Road. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The map also indicates that there is a low to high flood risk in the east of the site. This flood risk is largely associated with the culvert inlets in the area. The flow path here, as before, follows the roads with significant risk along sections of Llwnycelyn Road, Lewis Terrace and Nythbran Terrace.

There is a low to high risk of flooding noted within the residential area surrounding the A4058. It is likely this flood risk is also associated with culvert inlets.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Porth are presented in the table below.

Table 84: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Porth

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	6,481	85	56	510
Services	14	0	0	2
ECONOMIC ACTIVITY				
Non Residential Properties	478	8	8	69
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	3	0.7	0.3	0.5
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0.0004	0	0	0
Listed Buildings	16	2	1	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	14			
External	37			
Highway	55			

Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Porth and their proposed Flood Risk Management Plan measures are presented in the table below.

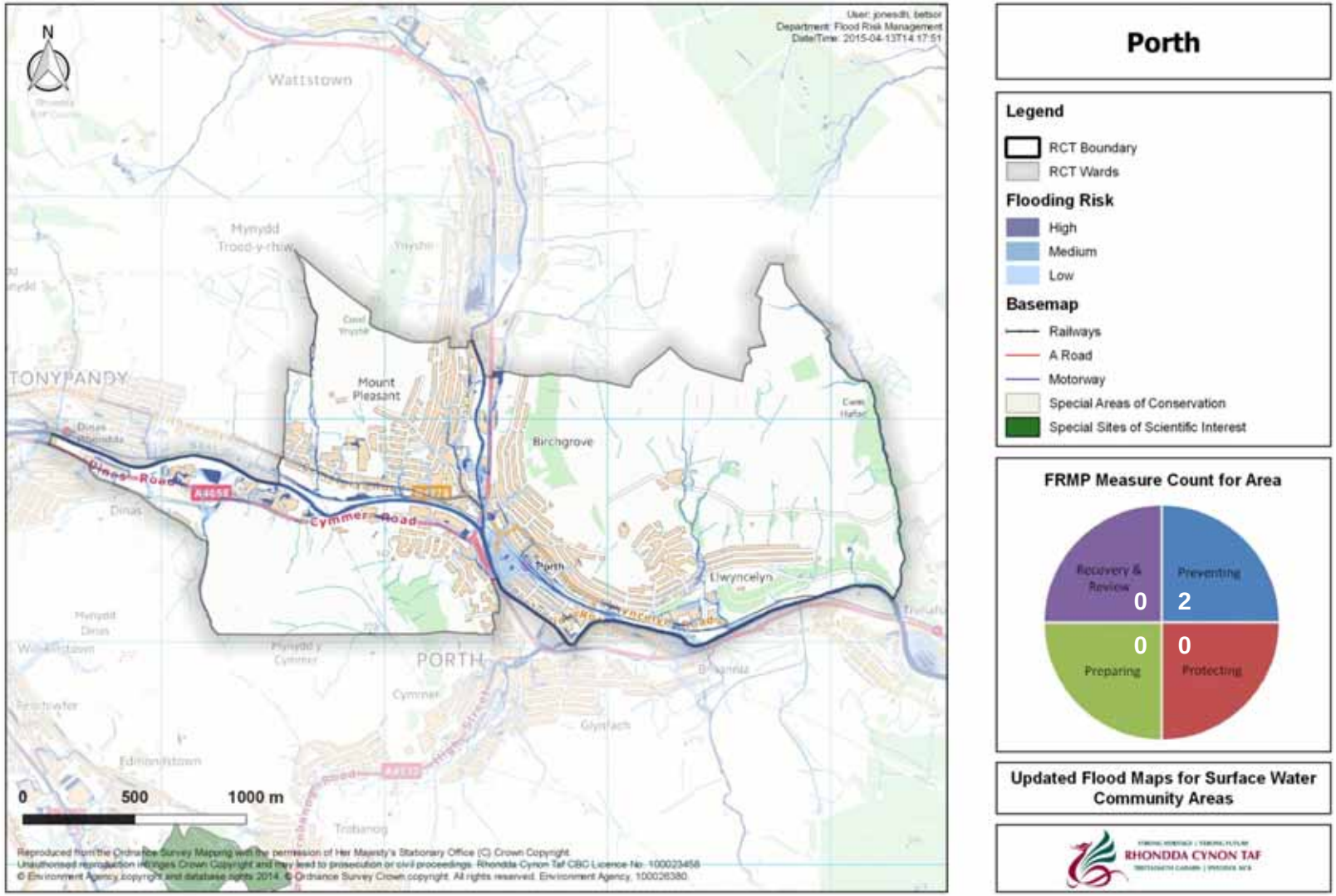
Further information regarding the flood investigation area is presented in Appendix A.

Table 85: Summary of Flood Risk Management Plan Measures for Porth

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Priority	Type of Measure
RCT0070	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0071	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 51: Porth uFMfSW. Risk to people, economic activity and environmental receptors



9.34 Rhigos

9.34.1 Overview

Rhigos is located in the north of Rhondda Cynon Taf County Borough Council, to the north of Hirwaun. The site is the largest of RCT, covering 7,416Ha and has a maximum elevation of 586m AOD. The site also has the lowest population at approximately 1,774 and approximately 755 residential properties.

The majority of Rhigos is a rural environment owing to the steep topography across the site. There are nine SSSIs within Rhigos. Residential development is located primarily within the centre of the site, adjacent to primary watercourses. There is a large industrial estate located in the south of Rhigos and a large quarry in the central sector.

Rhigos is split between the Afon Cynon, Afon Taf and Ogmore to Tawe catchments; the latter belonging to the West Wales River Basin District. The site is covered in minor unnamed watercourses draining the extensive highlands. There are three primary watercourses. Sychryd drains the north, flowing south to north and discharging into Afon Mellte which acts as a boundary between RCT and Powys. The east is drained by Nant Cadlan which drains into the Afon Cynon downstream.

The underlying geology of Rhigos is the Rhondda Bed of the Upper Carboniferous Coal Measure, and the Middle and Lower Carboniferous Coal Measures, comprising Sandstone, Siltstone, Coal and Mudstone. Also present is the Bishopston Mudstone Formation, the Oyestermouth Formation, the Oxwich Head Limestone Formation, the Penderyn Oolite Member, the Dowlais Limestone Formation, the Abercribon Oolite Subgroup, the Grey Grits Formation, the Twrch Sandstone Formation, the Brownstone Formation and the Plateau Beds.

Glacial Till is present across much of the site. Alluvial Deposits are present along the Afon Cynon. Intermittent patches of Peat are present across the highlands.

9.34.2 Conclusions for the UFMfSW

Rhigos covers an area of approximately 7,416Ha with a total population of 1,774. Just under 1% of the population of Rhigos are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Rhigos is broadly associated with the Sychryd, the Afon Mellte and the Nant Cadlan with flood risk noted along sections of these watercourses. The flooding is sourced from culvert inlets and potential bank breaches of Main Rivers and the extensive network of minor tributaries. Due to the low number of residential developments within Rhigos, the flow path for many of the flood risks are not confined with roads, rather, they tend to follow the topography of the area.

Where flood risk is present within residential areas, the flow path generally does follow the roads with significant risk along sections of Rhigos Road, Fifth Avenue, Main Avenue and the A465. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

There is a very limited risk to residential properties within Rhigos with the site presenting the lowest count for residential properties at medium and high risk. There is, however, a low to high flood risk within many of the SSSIs across Rhigos.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Rhigos are presented in the table below.

Table 86: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Rhigos

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1,774	5	7	82
Services	12	1	1	0
ECONOMIC ACTIVITY				
Non Residential Properties	969	44	19	65
Airports	0	0	0	0
Roads (km)	14	3	0.4	5
Railways (km)	1	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	243	6	5	19
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	977	0	13	21
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	92	1	1	5
Listed Buildings	13	0	0	0
Licensed Abstractions	8	3	0	1
HISTORIC FLOOD INCIDENTS				
Internal	3			
External	10			
Highway	28			

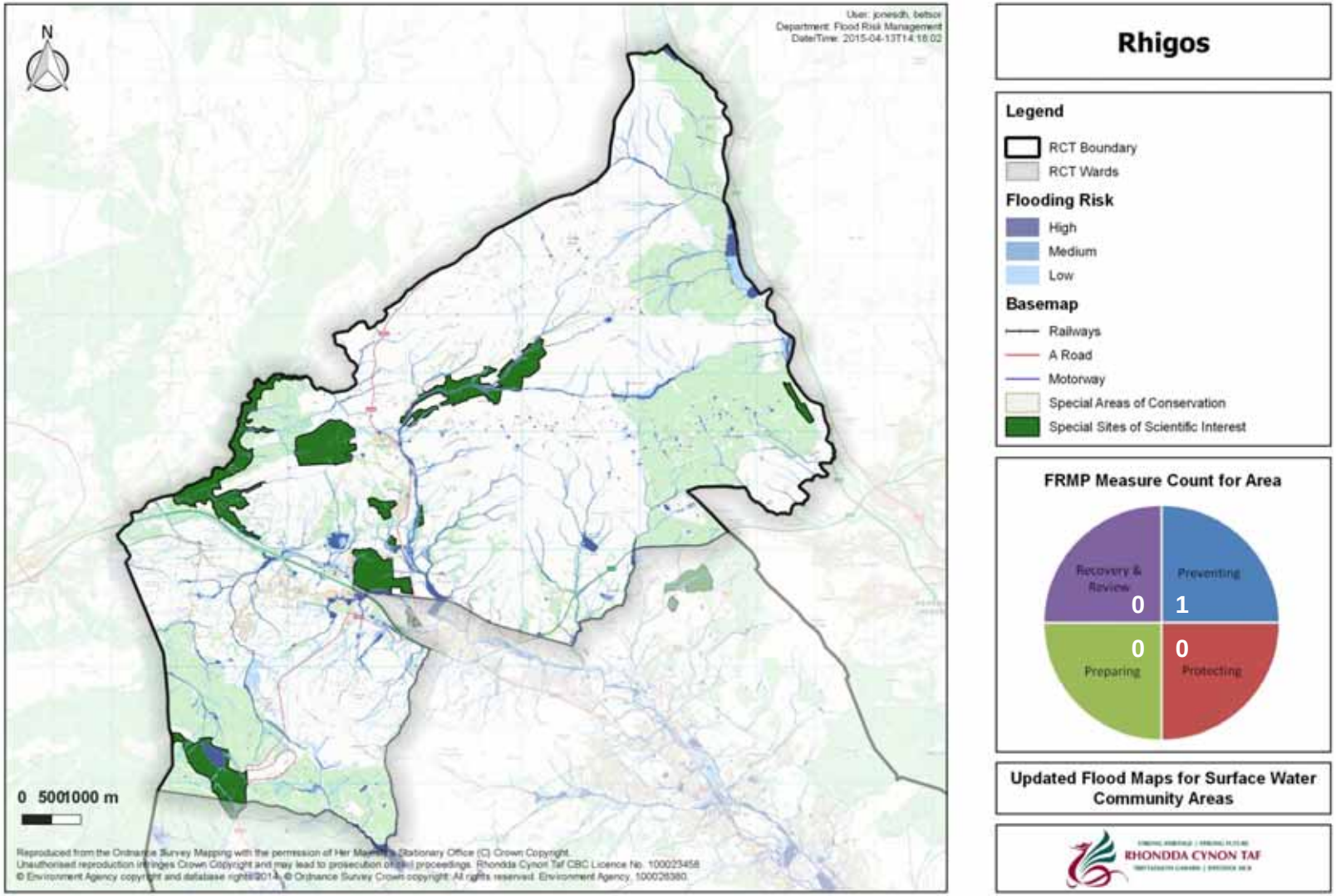
Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Rhigos and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 87: Summary of Flood Risk Management Plan Measures for Rhigos

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0072	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 52: Rhigos uFMfSW. Risk to people, economic activity and environmental receptors



9.35 Rhondda

9.35.1 Overview

The community area of Rhondda is located within the central sector of Rhondda Cynon Taf County Borough Council to the west of Pontypridd. The site covers an area of 689Ha and has a maximum elevation of 328m AOD. Rhondda has approximately 2,106 residential properties and a population of approximately 4,949.

Rhondda is predominantly a rural environment owing to the steep topography of the highlands in the north and south. Residential development is located primarily in the east, confined within the Afon Rhondda valley. There is a small industrial estate located in the centre of Rhondda, adjacent to the Afon Rhondda.

Rhondda is predominantly located within the Afon Rhondda Catchment; however, a small section of the Afon Cynon Catchment is included in the north. The Afon Rhondda flows from west to east across the centre of Rhondda. The site is bound by Nant Gwelliwion in the east. The highlands in the north are drained by Nant Blaenhenwysg which discharges into the Afon Rhondda.

A number of minor unnamed watercourses also drain the highlands in both the south and the north and are partially culverted beneath Trehafod, Hopkinstown and Maesycoed. All watercourses discharge into the Afon Rhondda.

The underlying geology is the Rhondda and Hughes Beds of the Upper Carboniferous Coal Measures comprising Coal, Sandstone, Siltstone and Mudstone. Glacial till is present along the valleys of major watercourses. Glaciofluvial and Alluvial Deposits are present along the Afon Rhondda. Intermittent patches of Peat are present across the highlands in the south, within forested areas.

9.35.2 Conclusions for the UFMfSW

Rhondda covers an area of approximately 689Ha with a total population of 4,949. About 4% of the population of Rhondda are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Rhondda is broadly associated with the Afon Rhondda with flood risk observed along the length of the watercourse. The flooding is sourced from culvert inlets and potential bank breaches. Commonly, the flow path is along roads with significant risk associated along sections of the A4058 Sardis Road, Jenkins Street, Maesycoed Road, Upper Vaughan Street and Lee Street. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The flood risk presented within the UFMfSW correlates with historic flooding incidents reported to Rhondda Cynon Taf. A large number of highway flooding incidents have been noted within Rhondda, commonly associated with culvert inlets.

A low to high risk is noted within the town of Trehafod, in particular surface runoff noted along Trehafod Road, Colliery Street and Fountain Street. The flooding here is sources from blocked inlets and potential bank breaches.

The historic flooding incidents reported broadly correlate with requests for gulley clearance with minimal incidents of highway flooding associated with the areas of high risk.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Rhondda are presented in the table below.

Table 88: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Rhondda

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	4,949	179	155	573
Services	6	0	1	0
ECONOMIC ACTIVITY				
Non Residential Properties	477	15	16	56
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	3	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0.2	0	0	0
Listed Buildings	9	0	1	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	4			
External	18			
Highway	48			

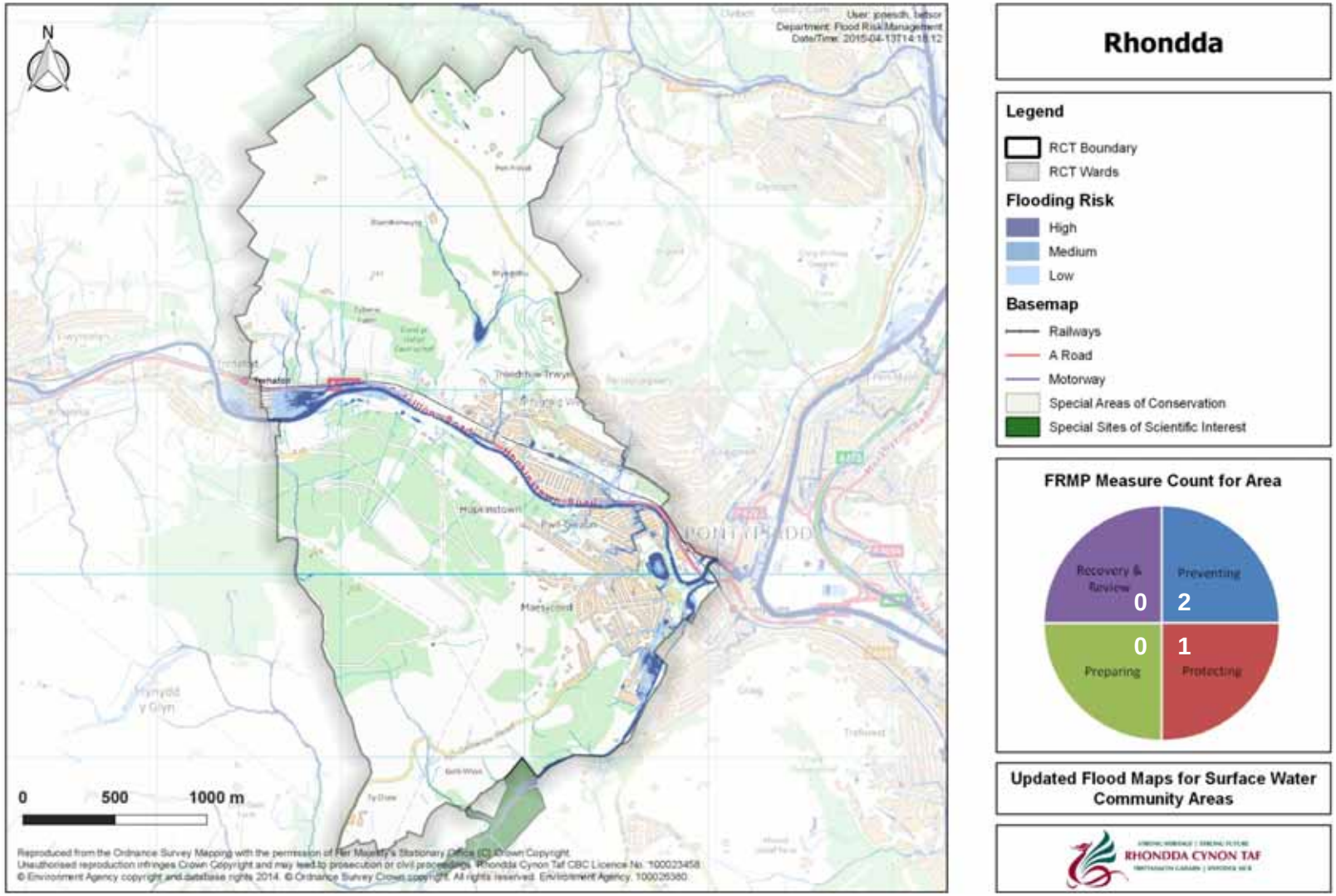
Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Rhondda and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 89: Summary of Flood Risk Management Plan Measures for Rhondda

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0073	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0074	Local / Main River*	10	Land Management	M34 (Protection)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

Figure 53: Rhondda uFMfSW. Risk to people, economic activity and environmental receptors



9.36 Rhydfelin

9.36.1 Overview

Rhydfelin is situated in the east of Rhondda Cynon Taf County Borough Council, to the south-east of Pontypridd. The site covers an area of 372Ha and has a maximum elevation of approximately 378m AOD. Rhydfelin has a population of approximately 4,728 and approximately 2,012 residential properties.

The majority of Rhydfelin is a rural environment owing to the steep topography of the highlands in the north. Residential development is located in the east of Rhydfelin, confined to the base of the valley. The highlands are predominantly used for agricultural purposes with a number of farms located here.

Rhydfelin is predominantly located within the Afon Taf catchment; however, a small section of the Rhymney catchment is located in the east. All watercourses within Rhydfelin drain the highlands in the east, discharging into the Afon Taf. A number of minor unnamed watercourses are partially culverted beneath the town of Rhydfelin.

The underlying geology is the Brithdir Bed of the Upper Carboniferous Coal Measure comprising Sandstone, Siltstone, Coal and Mudstone. Glacial Till is present across much of the site. Glaciofluvial, Alluvial and River Terrace Deposits are present along the Afon Cynon.

9.36.2 Conclusions for the UFMfSW

Rhydfelin covers an area of approximately 372Ha with a total population of 4,728. Just over 1% of the population of Rhydfelin are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Rhydfelin is broadly associated with minor watercourses and culvert inlets with flood risk observed along sections of the unnamed watercourses. The flooding is sourced from culvert inlets and potential bank breaches. Commonly, the flow path is along roads with significant risk associated along sections of Beechwood Street, Dynea Road, Shakespeare Rise and Poets Close. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The flood risk presented within the UFMfSW correlates with historic flooding incidents reported to Rhondda Cynon Taf. Internal properties have previously been flooded within Rhydfelin, commonly associated with blocked culverts.

The historic flooding incidents reported broadly correlate with requests for gulley clearance with minimal incidents of highway flooding associated with the areas of high risk.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Rhydfelin are presented in the table below.

Table 90: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Rhydfelin

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	4,728	26	56	489
Services	5	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	154	6	1	7
Airports	0	0	0	0
Roads (km)	0.3	0.1	0.05	0.1
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0.4	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	1			
External	13			
Highway	9			

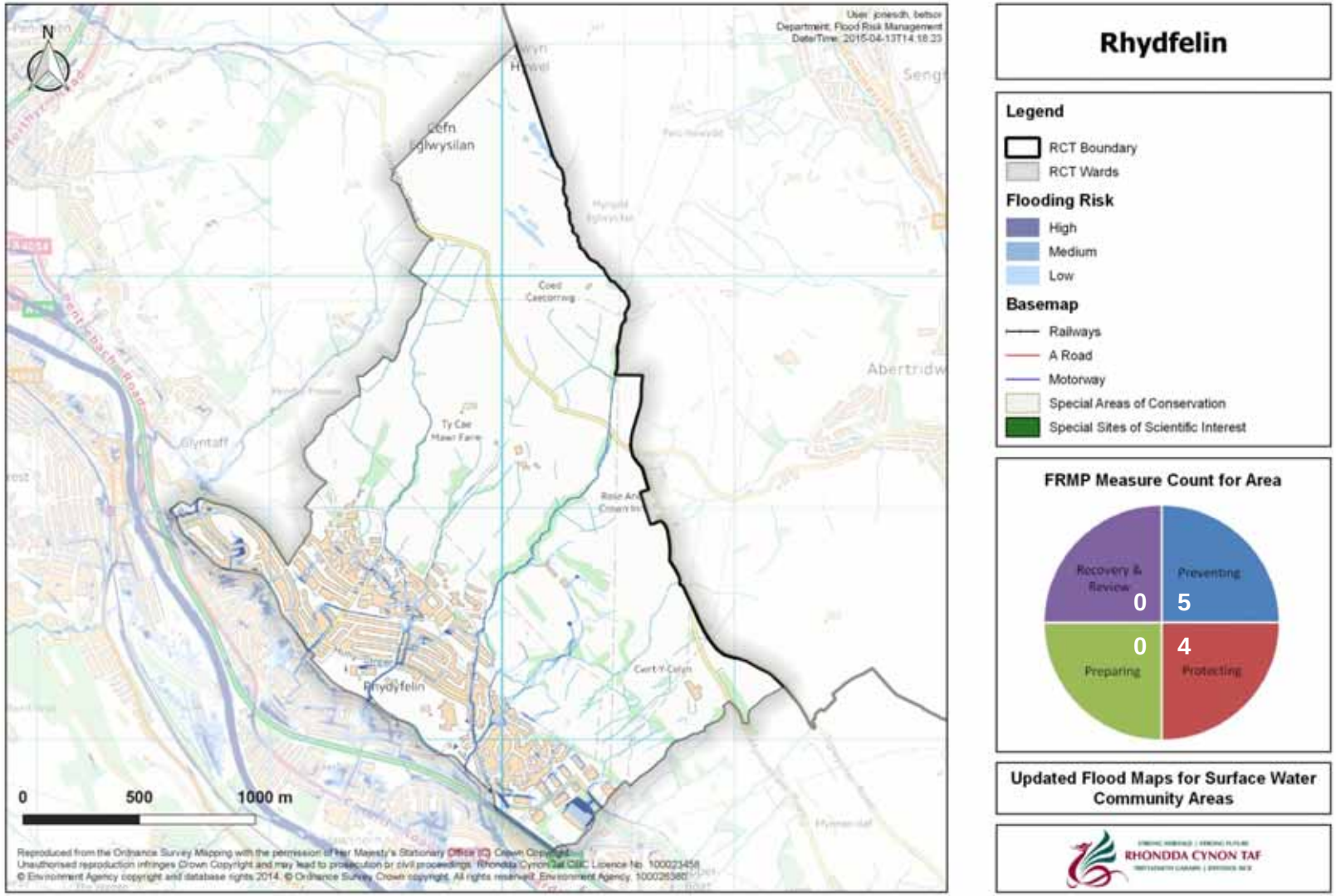
Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Rhydfelin and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 91: Summary of Flood Risk Management Plan Measures for Rhydfelin

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0075	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0076	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Completed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Completed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Completed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Completed	RCTCBC
RCT0132	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 54: Rhydyfelin uFMfSW. Risk to people, economic activity and environmental receptors



9.37 Taffs Well

9.37.1 Overview

The community area of Taffs Well is located in the south-east of Rhondda Cynon Taf County Borough Council, to the south of Treforest. The site covers an area of 674Ha and has a maximum elevation of 273m AOD. Taffs Well has a population of approximately 3,760 and approximately 1,600 residential properties.

The majority of Taffs Well has remained in a natural state owing to the steep topography of the highlands in the centre of the site. Residential development is confined to the base of the Afon Taf and Nant Garw valleys. The centre of the site is dominated by the Craig yr Allt. There is a large industrial estate to the east of Nantgarw, adjacent to the Nant Garw.

Taffs Well lies predominantly within the Afon Taf Catchment. A small section of the Afon Rhymney is included in the east of the site. Taffs Well is partially bounded to the west by the Afon Taf. The south is drained by the catchment of the Nant y Brynau. The Nant y Brynau is partially culverted beneath Taffs Well and discharges into the Afon Taf. The north of Taffs Well is drained by the catchment of the Nant Garw.

There are several minor watercourses which are partially culverted beneath the industrial estate in Nantgarw which discharge into the Nant Garw.

The underlying geology of Taffs Well is the Hughes and Brithdir Beds of the Upper Carboniferous Coal Measure, and the Middle and Lower Carboniferous Coal Measure, all comprising Coal, Sandstone, Siltstone and Mudstone. Also present is the Marros Group, the Hunts Bay Oolite Subgroup and the Pembroke Limestone Group. Alluvial, Glaciofluvial and River Terrace Deposits are present along the Afon Taf. Glacial Till is present along major watercourses.

9.37.2 Conclusions for the UFMfSW

Taffs Well covers an area of approximately 674Ha with a total population of 3,760. Just over 1% of the population of Taffs Well are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Taffs Well is largely associated with culvert inlets with the flooding sourced from culvert inlets. Commonly, the flow path is along roads with significant risk within the town of Nantgarw associated along sections of the A468, Heol Crochendy, Oxford Street and Old Nantgarw Road. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

A low to high risk is noted within the town of Taffs Well, in particular surface runoff noted along the A470, Cemetery Road, Forest Road and Brynau Road. The flooding here is sources from culvert inlets and potential bank breaches.

The historic flooding incidents reported broadly correlate with requests for gulley clearance with a number of highway flooding incidents associated with the areas of high risk.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Taffs Well are presented in the table below.

Table 92: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Taffs Well

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	3,760	38	89	313
Services	6	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	606	37	16	65
Airports	0	0	0	0
Roads (km)	8	2	0.1	2
Railways (km)	1	0.1	0	0.3
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	1	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	1	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0.2	0	0	0
Listed Buildings	15	0	0	0
Licensed Abstractions	1	1	0	0
HISTORIC FLOOD INCIDENTS				
Internal	5			
External	11			
Highway	23			

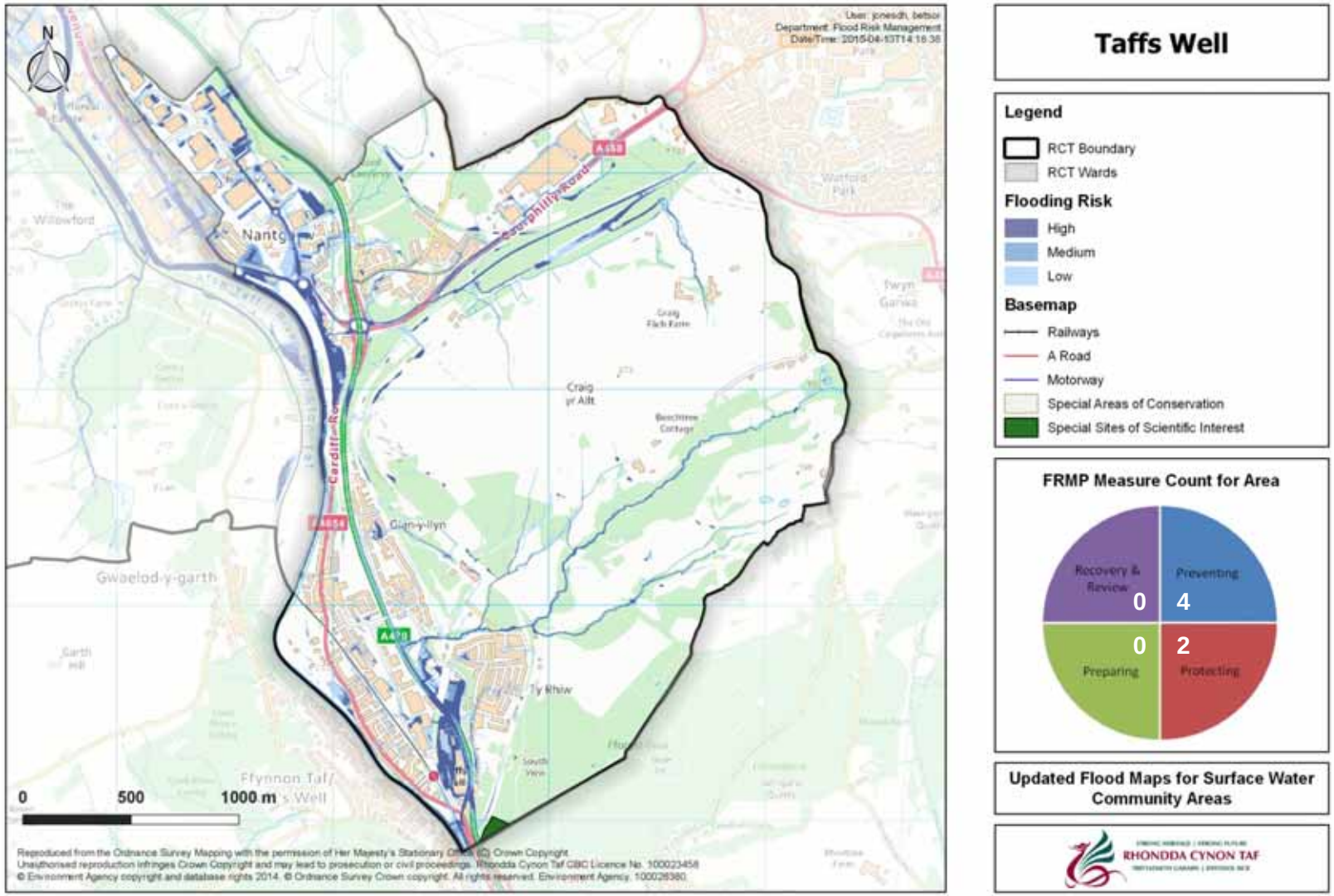
Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Taffs Well and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 93: Summary of Flood Risk Management Plan Measures for Taffs Well

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0077	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0078	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0124	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 55: Taffs Well uFMfSW. Risk to people, economic activity and environmental receptors



9.38 Talbot Green

9.38.1 Overview

Talbot Green is situated in the southern sector of Rhondda Cynon Taf County Borough Council, to the west of Llantrisant. The site covers an area of 205Ha and has a maximum elevation of approximately 150m AOD. Talbot Green has a population of approximately 2,895 and approximately 1,232 residential properties.

The majority of Talbot Green is an urban environment with residential development dominating the site. The majority of the south-eastern edge of the site is comprised of a large retail park. There is a large golf course which forms the majority of the rural area in the north.

Talbot Green is situated within the Afon Elai Catchment. The Afon Elai bounds the site in the west, forming a border between Talbot Green and Llanharan. Talbot Green is bounded to the south by the Afon Clun. The north of the site is drained by the Nant Muchudd which discharges into the Afon Elai.

The underlying geology of Talbot Green is the Rhondda Bed of the Upper Carboniferous Coal Measure, and the Middle Carboniferous Coal Measure, all comprising Sandstone, Siltstone, Coal and Mudstone. Glacial Till is present across much of the site. Alluvial, Glaciofluvial and River Terrace Deposits are present along the Afon Elai and the Afon Clun.

9.38.2 Conclusions for the UFMfSW

Talbot Green covers an area of approximately 205Ha with a total population of 2,895. About 1% of the population of Talbot Green are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Talbot Green is broadly associated with the Afon Elai and the Afon Clun with flood risk observed along sections of each watercourse. The flooding is sourced from culvert inlets and potential bank breaches.

Where flood risk occurs within residential areas, commonly, the flow path is along roads with significant risk associated along sections of Talbot Road, Lanelay Road, Cowbridge Road, Heol Y Gyfraith and Bronhaul. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The flood risk presented within the UFMfSW correlates with historic flooding incidents reported to Rhondda Cynon Taf. Highways in the area have previously been flooded, commonly associated with culvert inlets.

A low to high risk is noted across sections of the Llantrisant and Pontyclun Golf Club and south of the A473, within the floodplains of the Afon Elai and Afon Clun, respectively. The flooding here is sourced potential bank breaches.

The map also indicates a low to high flood risk in the north of Talbot Green with significant risk along sections of the A4119 and the road within the Royal Glamorgan Hospital. This flooding is sourced from potential bank breaches of the Nant Muchudd and blocked inlets.

The historic flooding incidents reported broadly correlate with requests for gulley clearance with minimal incidents of highway flooding associated with the areas of high risk.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Talbot Green are presented in the table below

Table 94: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Talbot Green

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	2,895	42	35	113
Services	7	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	352	5	5	19
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.0004	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	1			
External	3			
Highway	10			

Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Talbot Green and their proposed Flood Risk Management Plan measures are presented in the table below.

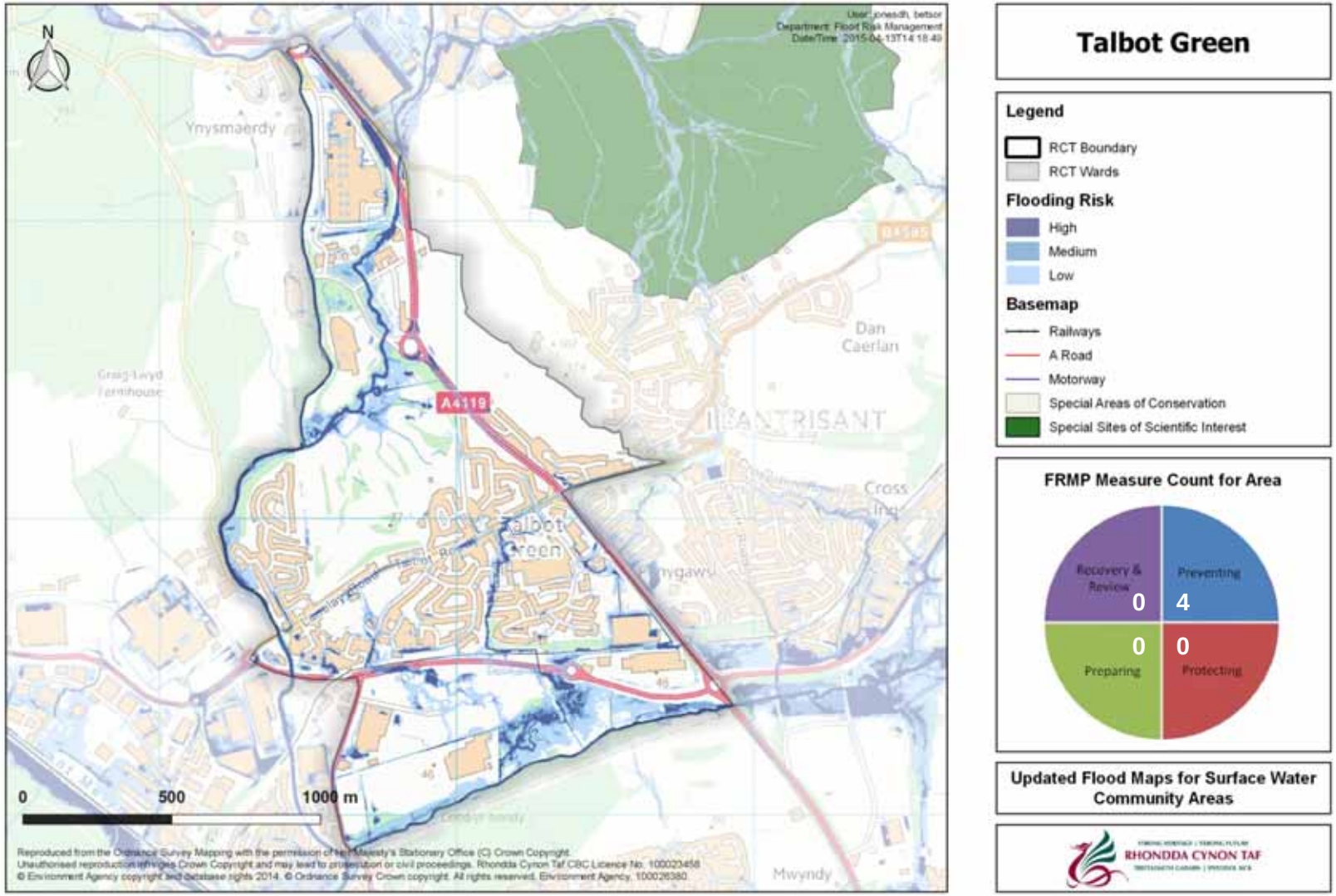
Further information regarding the flood investigation area is presented in Appendix A.

Table 95: Summary of Flood Risk Management Plan Measures for Talbot Green

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0046	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0047	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0068	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0079	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 56: Talbot Green uFMfSW. Risk to people, economic activity and environmental receptors



9.39 Tonteg

9.39.1 Overview

The community area of Tonteg is located in the southern sector of Rhondda Cynon Taf County Borough Council to the east of Llantwit Fardre. The site covers an area of 587Ha and has a maximum elevation of 173m AOD. Tonteg has approximately 1,815 residential properties and a population of approximately 4,265.

The majority of Tonteg is a rural environment owing to the extent of both agricultural and forestry land. Residential area is located primarily in the west. The large Treforest industrial estate is located in the western sector of the site, on the bank of the Afon Taf. Coed y Gedrys is located in the south of the Tonteg.

Tonteg lies within the catchments of the Afon Taf and the Afon Ely. The site is bound to the east by the Afon Taf. Nant y Dall drains the site in the north, flowing west to east. Nant y Gedrys drains the site in the south, flowing west to east. All watercourses discharge into the Afon Taf.

There are a number of minor unnamed watercourses which are partially culverted beneath Tonteg and Treforest Industrial Estate and discharge into the Afon Taf.

The underlying geology is the Brithdir and Hughes Beds of the Upper Carboniferous Coal Measure, and the Middle Carboniferous Coal Measure, all comprising Sandstone, Siltstone, Coal and Mudstone. Also present is the Grovesend Formation, comprising Mudstone, Siltstone and Sandstone. Glacial Till is present across much of the south of the site. Glaciofluvial, Alluvial and River Terrace Deposits are present along the Afon Taf.

9.39.2 Conclusions for the UFMfSW

Tonteg covers an area of approximately 587Ha with a total population of 4,265. Just over 3% of the population of Tonteg are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Tonteg is broadly associated with the Afon Taf with significant flood risk observed along sections of the watercourse. The flooding is sourced from culvert inlets and potential bank breaches of Main River and other minor watercourses. Flood risk commonly follows the flow path is along roads with significant risk associated along sections of Gwaelod-Y-Garth Road, Taffs Mead Road, Tonteg Road, Taffs Fall Road, Ford Road and Bridge Road.

The flood risk presented within the UFMfSW correlates with historic flooding incidents reported to Rhondda Cynon Taf. Highways in the area have previously been flooded, commonly associated with blocked culverts.

The map also indicates a low to high flood risk within the town of Tonteg, with significant risk along sections of Radnor Drive, The Rise, Ffordd Gerdinan, Ruthin Way and Ffordd-Y-Gollen. This Runoff extends down, across Main Road and along sections of Underhill Drive and Briar Way. The flooding is sourced from blocked inlets and surface runoff.

The historic flooding incidents reported broadly correlate with requests for gulley clearance with minimal incidents of highway flooding associated with the areas of high risk.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Tonteg are presented in the table below

Table 96: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Tonteg

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	4,265	127	129	437
Services	6	0	1	2
ECONOMIC ACTIVITY				
Non Residential Properties	496	7	13	86
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	5	0.09	0.07	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0.2	0.02	0	0.01
Listed Buildings	0	0	0	0
Licensed Abstractions	1	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	2			
External	12			
Highway	9			

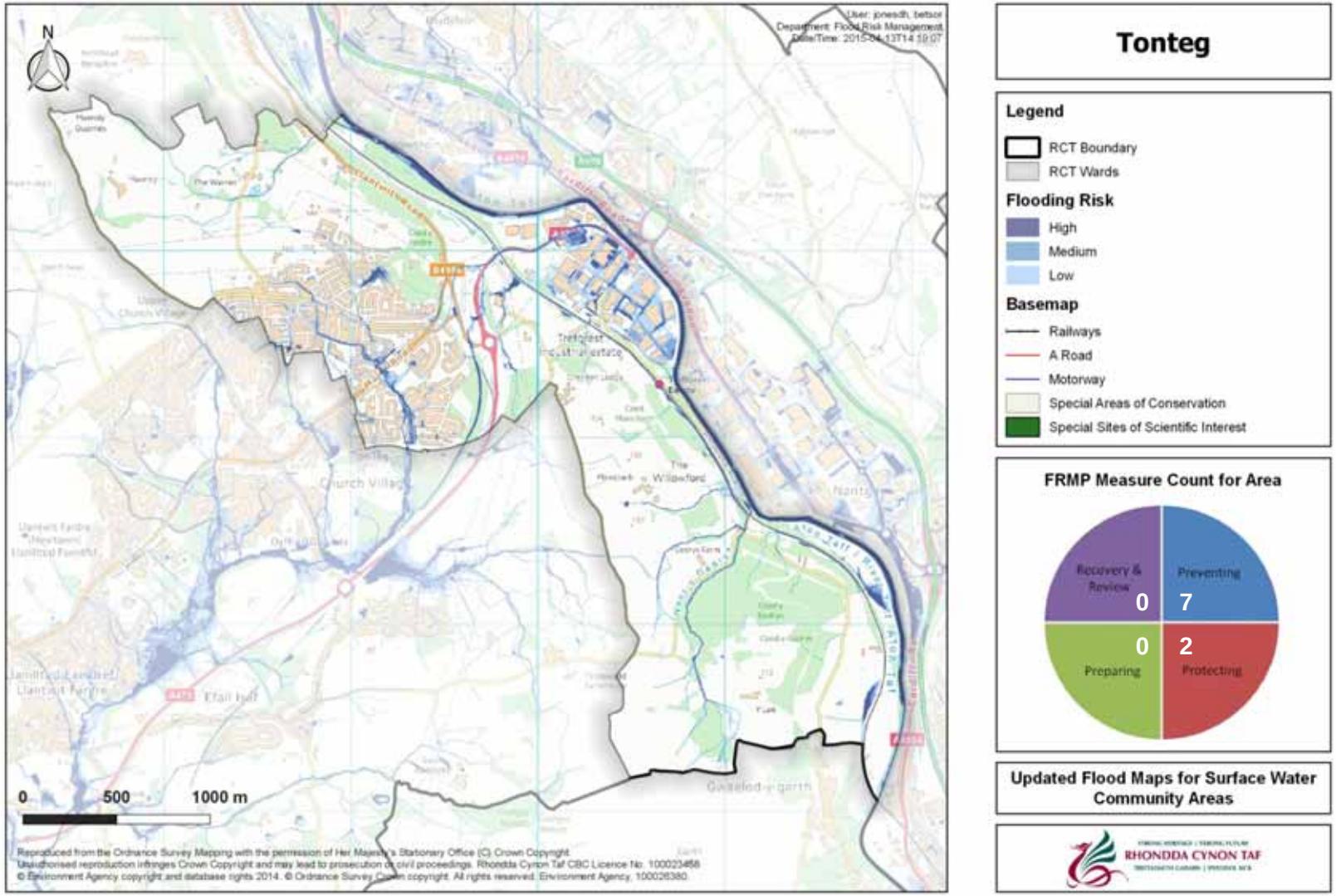
Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Tonteg and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 97: Summary of Flood Risk Management Plan Measures for Tonteg

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0025	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0078	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0080	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0081	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0082	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0083	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 57: Tonteg uFMfSW. Risk to people, economic activity and environmental receptors



9.40 Tonypandy

9.40.1 Overview

Tonypandy is located in the western sector of Rhondda Cynon Taf County Borough Council to the south of Llwynypia. The site covers an area of 334Ha with a maximum elevation of 435m AOD. Tonypandy has approximately 1,704 residential properties and a population of approximately 4,004.

Tonypandy is predominantly a rural environment owing to the steep topography in the west and north, limiting the amount of development. Residential development is confined to the valley floors of the Afon Rhondda. The central and northern sectors of the site are predominantly forested. There is a small industrial estate located in the north on the bank of the Afon Rhondda.

The site is located predominantly within the Afon Rhondda Catchment. The western edge of the site, however, is located within the Ogmore to Tawe Catchment of the West Wales River Basin District. The site is bound to the east by the Afon Rhondda. The site is drained in the north by Nant Clydach which flows west to east and discharges into the Afon Rhondda. The highlands in the south are drained by Nant Gwyn which flows from west to east and also discharges into the Afon Rhondda.

The underlying geology is the Llynfi and Rhondda Beds of the Upper Carboniferous Coal Measure comprising Coal, Sandstone, Siltstone and Mudstone. Glacial Till is present across much of the site, both within the valley and on the highlands in the west. Intermitted patches of Peat are present on the highlands. Alluvial and Glaciofluvial Deposits are present along the Afon Rhondda.

9.40.2 Conclusions for the UFMfSW

Tonypandy covers an area of approximately 334Ha with a total population of 4,004. Just over 2% of the population of Tonypandy are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Tonypandy is broadly associated with the Afon Rhondda and Nant Clydach, with flood risk observed along sections of each watercourse. The flooding is sourced from culvert inlets and potential bank breaches.

Commonly the flow path is along roads with significant risk associated along sections of the A4119, Gelli Road, Trinity Road, Parc Gellifaelog, Parc Place and Dunraven Street. Surface runoff is also present along sections of Court Street, Llwynypia Road, Church Street and Old Street. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The flood risk presented within the UFMfSW correlates with historic flooding incidents reported to Rhondda Cynon Taf. Internal and Highway incidents have previously been reported commonly associated with blocked culverts.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Tonypandy are presented in the table below

Table 98: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Tonypandy

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	4,004	75	162	505
Services	6	0	0	4
ECONOMIC ACTIVITY				
Non Residential Properties	379	16	20	71
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	4	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	5			
External	5			
Highway	17			

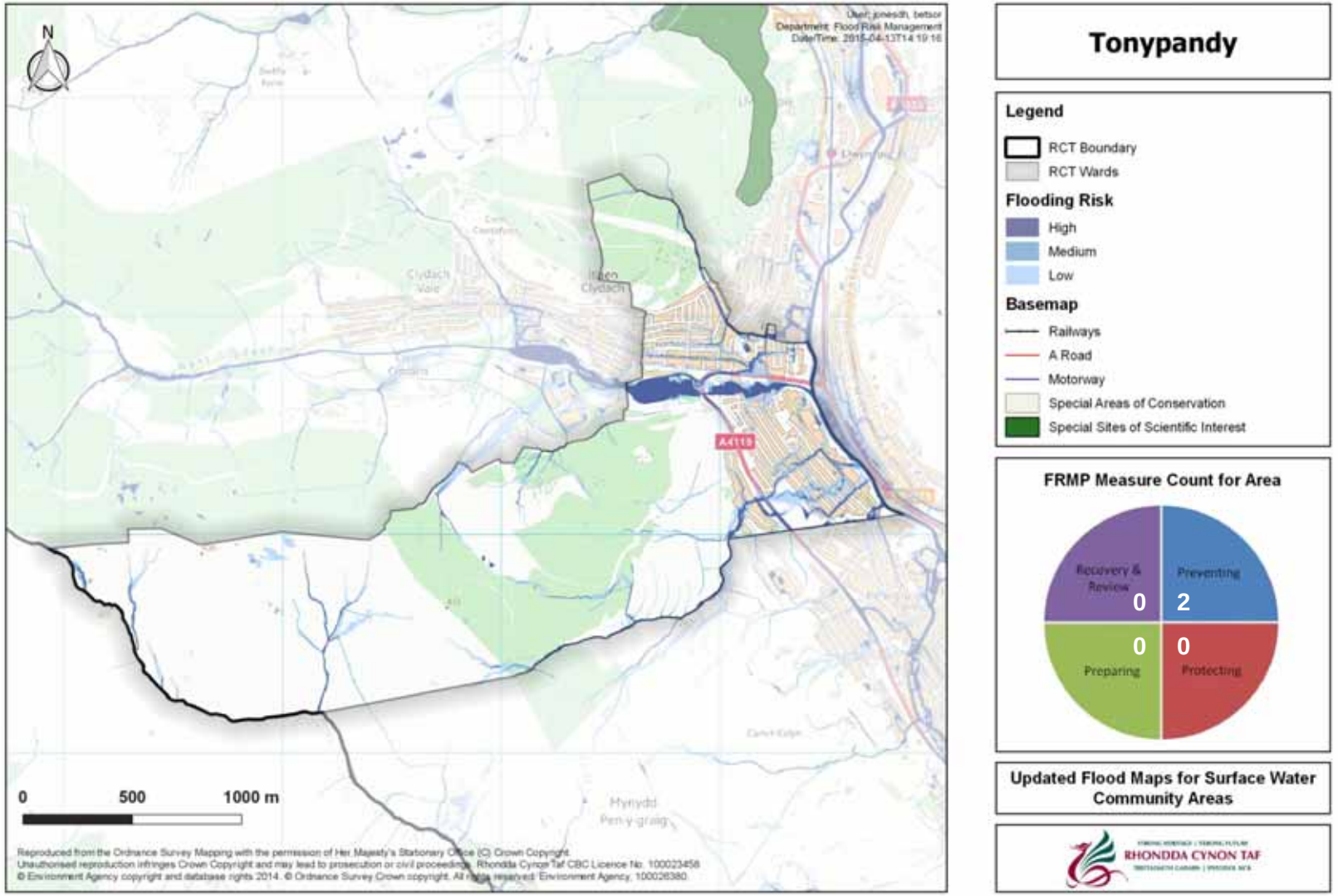
Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Tonypandy and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 99: Summary of Flood Risk Management Plan Measures for Tonypandy

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0085	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0086	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 58: Tonypandy uFMfSW. Risk to people, economic activity and environmental receptors



9.41 Tonyrefail East

9.41.1 Overview

Tonyrefail East is located in the central sector of Rhondda Cynon Taf County Borough Council with the towns of Tonyrefail and Thomastown. The site covers an area of 1,480Ha and has a maximum elevation of 377m AOD. Tonyrefail East has approximately 2,577 residential properties and a population of approximately 6,056.

Tonyrefail East is predominantly a rural environment owing to the vast extent of agricultural land. Residential development is located primarily in the west of the site, along the bank of the Afon Elai. There are a number of farms located across the rest of the site. There are 10 SSSIs across Tonyrefail East.

Tonyrefail East is situated within the catchments of the Afon Elai and Afon Rhondda. The Afon Elai is located along the western edge of the site, flowing north to south. The north of the catchment is drained by the Nant Muchudd with its catchment covering much of the site. The Nant Muchudd flows from north to south. Mynydd y Glyn, located in the north-east, is drained by the Nant Gwelliwion, flowing from west to east.

There are a number of unnamed minor watercourses which drain the highlands in the north and feed into the Nant Muchudd and Nant Gwelliwion.

The underlying geology is the Brithdir, Llynfi, Hughes and Rhondda Beds of the Upper Carboniferous Coal Measure, and the Middle Carboniferous Coal Measure, all comprising Coal, Sandstone, Siltstone and Mudstone. Glacial Till is present across much of the site. Intermittent patches of Peat are present across the site. Alluvial and Glaciofluvial Deposits are present along the Afon Elai.

9.41.2 Conclusions for the UFMfSW

Tonyrefail East covers an area of approximately 1,480Ha with a total population of 6,056. Approximately 1% of the population of Tonyrefail East are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Tonyrefail East is broadly associated with the Afon Elai with flood risk observed along sections of the watercourse. The flooding is sourced from culvert inlets and potential bank breaches.

Where flood risk occurs within residential areas, commonly, the flow path is along roads with significant risk associated along sections of St John's Road, Mill Street, Collenna Road, Pritchard Street, Parkland Road and Station Road. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The flood risk presented within the UFMfSW correlates with historic flooding incidents reported to Rhondda Cynon Taf. Highways in the area have previously been flooded, commonly associated with blocked culverts.

A low to high risk is noted within the town of Thomastown. The flooding here is sourced potential bank breaches and blocked inlets. The flow path commonly follows the roads with flood risk along sections of Heol Isaf, Gwern Heulog, Tylcha Ganol and the A4119.

The maps indicate a significant flood risk across several of the SSSIs within Tonyrefail East; broadly associated with the Nant Muchudd.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Tonyrefail East are presented in the table below

Table 100: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Tonyrefail East

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	6,056	47	118	524
Services	10	0	1	1
ECONOMIC ACTIVITY				
Non Residential Properties	613	11	11	35
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	151	0.3	4	5
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	1	0	0	0
Listed Buildings	6	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	5			
External	18			
Highway	40			

Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Tonyrefail East and their proposed Flood Risk Management Plan measures are presented in the table below.

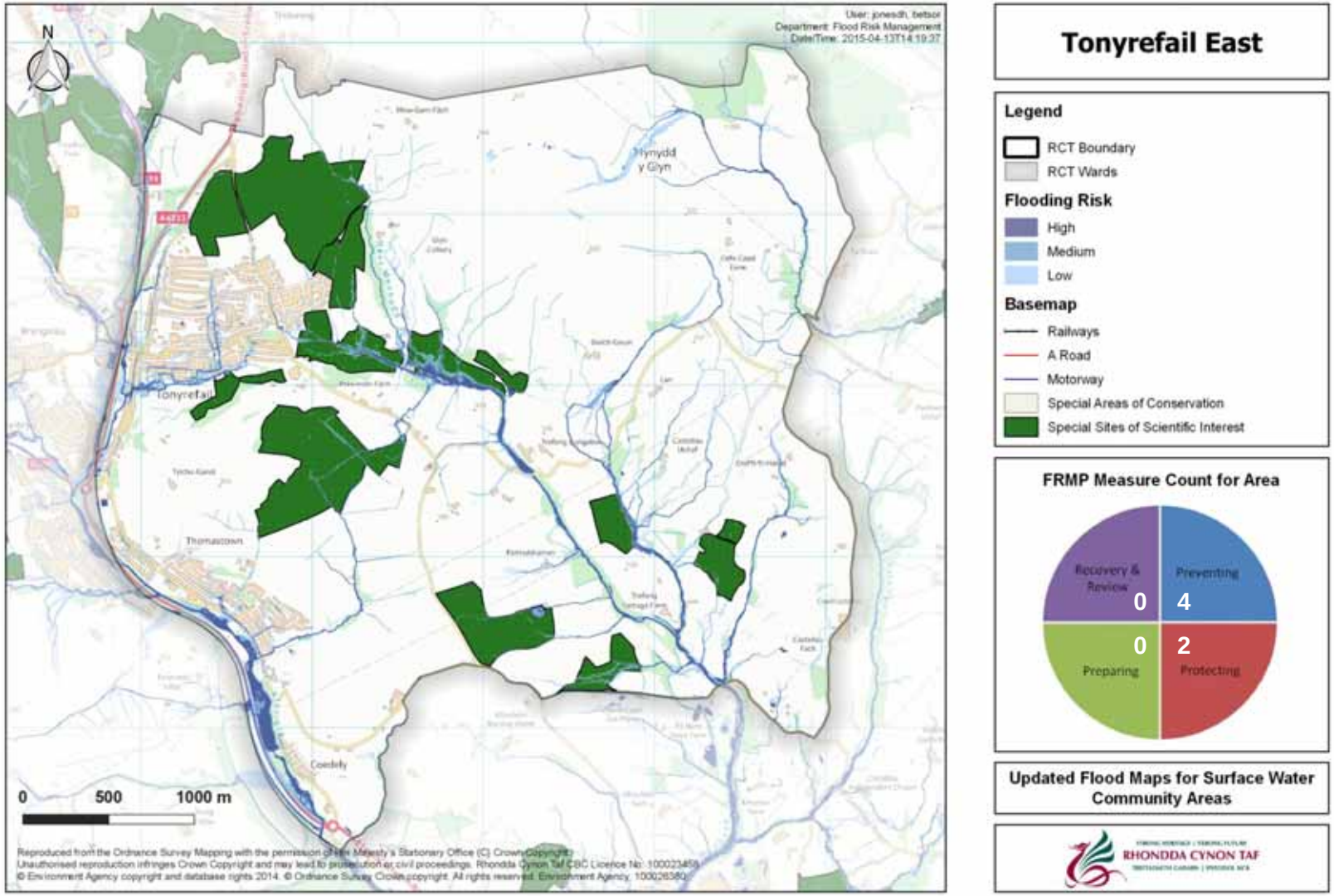
Further information regarding the flood investigation area is presented in Appendix A.

Table 101: Summary of Flood Risk Management Plan Measures for Tonyrefail East

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0087	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0088	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0092	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 59: Tonyrefail East uFMfSW. Risk to people, economic activity and environmental receptors



9.42 Tonyrefail West

9.42.1 Overview

Tonyrefail West is situated within the central sector of Rhondda Cynon Taf County Borough Council to the south of Porth. The site covers an area of 976Ha and has a maximum elevation of approximately 300m AOD. Tonyrefail West has a population of approximately 5,929 and approximately 2,523 residential properties.

Tonyrefail West is primarily a rural environment owing to the extent of agricultural land, and the highlands in the north. Residential development is located across the centre of the site, on the banks of the Nant Erin. There is a small industrial estate located in the southern sector of the residential development. There are also 4 SSSIs across Tonyrefail West.

Tonyrefail West is situated primarily within the Afon Elai Catchment; however, a small section in the north includes the Afon Rhondda Catchment and a small section in the south includes the Ogmore to Tawe Catchments on the West Wales River Basin District.

The Afon Elai borders the west of the site flowing north to south. The west of the site is drained by a number of major watercourses, including the Nant Cae'rgwerlas in the north, the Nant Erin in the central sector, and the Nant Llanilid in the south. All watercourses discharge into the Afon Elai in the west.

The underlying geology is the Brithdir, Llynfi, Hughes and Rhondda Beds of the Upper Carboniferous Coal Measure, and the Middle Carboniferous Coal Measure, all comprising Coal, Sandstone, Siltstone and Mudstone. Glacial Till is present across much of the site. Intermittent patches of Peat are present across the site. Alluvial and Glaciofluvial Deposits are present along the major watercourses.

9.42.2 Conclusions for the UFMfSW

Tonyrefail West covers an area of approximately 976Ha with a total population of 5,929. Just over 1% of the population of Tonyrefail West are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Tonyrefail West is broadly associated with the Afon Elai and the Nant Erin with flood risk observed along sections of each watercourse. The flooding is sourced from culvert inlets and potential bank breaches.

Where flood risk occurs within residential areas, commonly, the flow path is along roads with significant risk associated along sections of Gilfach Road, Nant Erin, the A4093, Penrhiwfer Road, Arthur Street and Bryn Rhedyn and Pembroke Street. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The flood risk presented within the UFMfSW correlates with historic flooding incidents reported to Rhondda Cynon Taf. Highways in the area have previously been flooded, commonly associated with blocked culverts.

The maps indicate a significant flood risk across several of the SSSIs within Tonyrefail West; broadly associated with the Afon Elai, the Nant Cae'rgwerlas and the Nant Erin

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Tonyrefail West are presented in the table below

Table 102: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Tonyrefail West

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	5,929	71	103	632
Services	9	0	0	7
ECONOMIC ACTIVITY				
Non Residential Properties	506	20	10	60
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	80	2	1	5
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	5	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	4			
External	23			
Highway	50			

Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Tonyrefail West and their proposed Flood Risk Management Plan measures are presented in the table below.

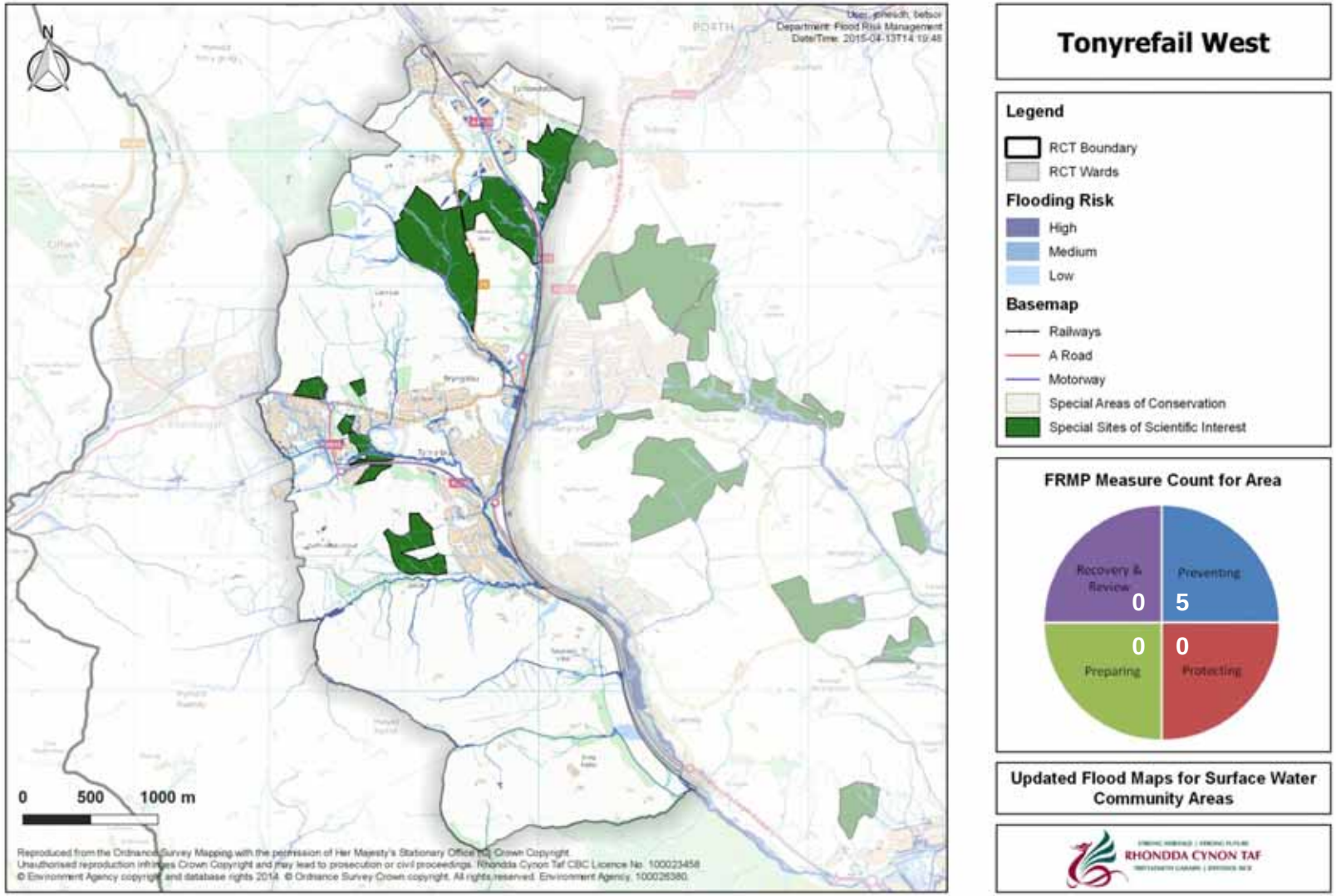
Further information regarding the flood investigation area is presented in Appendix A.

Table 103: Summary of Flood Risk Management Plan Measures for Tonyrefail West

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0089	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0090	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0091	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0092	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0093	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 60: Tonyrefail West uFMfSW. Risk to people, economic activity and environmental receptors



9.43 Trallwng

9.43.1 Overview

Trallwng is located in the eastern sector of Rhondda Cynon Taf County Borough Council, to the east of Pontypridd. The site covers an area of 226Ha and has a maximum elevation of 378m AOD. Trallwng has a population of approximately 4,124 and approximately 1,755 residential properties.

The relatively small site is split between urbanised and rural areas. Residential development is situated within the valley floor of the Afon Taf. Land in the east has remained largely undeveloped, with the exception of a large golf course and a number of agricultural fields, owing to the steep topography of Cefn Eglwysilan.

Trallwng lies within the Afon Taf Catchment. The Afon Taf bounds the site to the west, flowing north to south. The highlands in the east are drained by the Ely Brook and a number of unnamed minor watercourses, flowing from east to west, which are partially culverted beneath the residential development of Trallwng. All watercourses discharge into the Afon Taf.

The underlying geology is the Hughes and Brithdir Beds of the Upper Carboniferous Coal Measure comprising Sandstone, Siltstone, Coal and Mudstone. Glacial Till is present along major watercourses. Alluvial, Glaciofluvial and River Terrace Deposits are present along the Afon Taf.

9.43.2 Conclusions for the UFMfSW

Trallwng covers an area of approximately 226Ha with a total population of 4,124. Approximately 4% of the population of Trallwng are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Trallwng is broadly associated with culvert inlets across the east of the residential development and inlets and surface runoff.

Commonly, the flow path is along roads with significant risk associated along sections of the A470, Coedpenmaen Road, Basset Street, Thurston Road, Bonvilston Road, East Street, North Street and West Street. This flood risk also extends down along Ynysangharad Road and Pentrebach Road. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The flood risk presented within the UFMfSW correlates with historic flooding incidents reported to Rhondda Cynon Taf. A large number of Highway incidents have previously been reported, commonly associated with culvert inlets.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Trallwng are presented in the table below

Table 104: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Trallwng

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	4,124	183	118	479
Services	8	0	0	3
ECONOMIC ACTIVITY				
Non Residential Properties	289	11	3	24
Airports	0	0	0	0
Roads (km)	5	1	0.1	1
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	16	0.3	0.3	2
Scheduled Ancient Monuments	1	0.01	0.01	0.01
Listed Buildings	9	3	0	2
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	6			
External	8			
Highway	26			

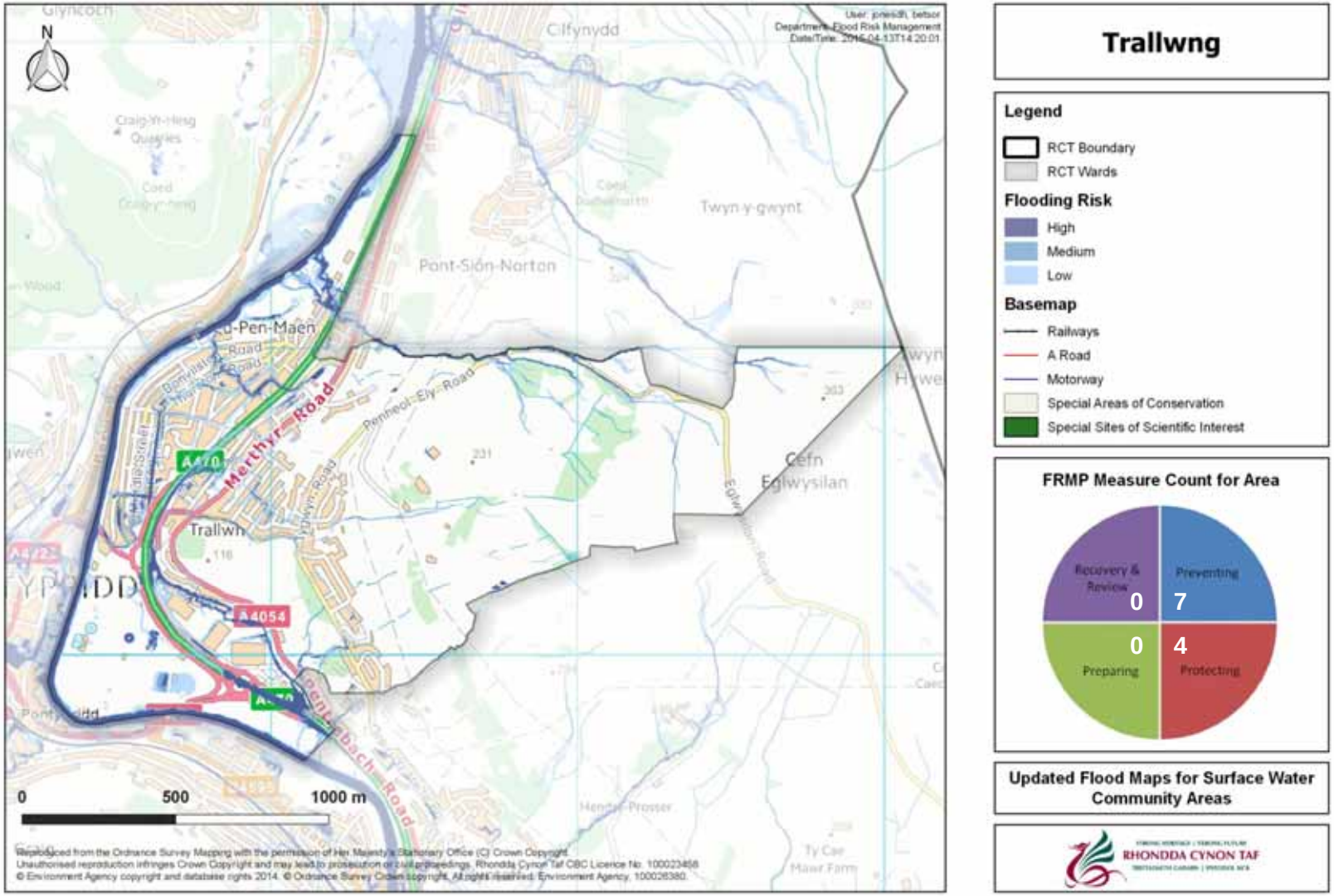
Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Trallwng and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 105: Summary of Flood Risk Management Plan Measures for Trallwng

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0094	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0095	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0096	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0097	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0131	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 61: Trallwng uFMfSW. Risk to people, economic activity and environmental receptors



9.44 Trealaw

9.44.1 Overview

Trealaw is located in the central sector of Rhondda Cynon Taf County Borough Council with the town of Tonypandy. The site covers an area of 286Ha and has a maximum elevation of 328m AOD. Trealaw has approximately 1,861 residential properties and a population of approximately 4,373.

The majority of Trealaw is a rural environment owing to the steep topography in the northern sector. Residential development is confined to the valley floor of the Afon Rhondda. The highlands in the north have remained largely undeveloped, with the exception of Rhondda Golf Course.

Trealaw is situated within the catchment of the Afon Rhondda. The site is bounded to the south and west by the Afon Rhondda. The highlands in the north are drained by the Nant Brithweunydd and a number of minor unnamed watercourses which are partially culverted beneath Tonypandy. All watercourses discharge into the Afon Rhondda.

The underlying geology is the Rhondda and Llynfi Beds of the Upper Carboniferous Coal Measure comprising Coal, Mudstone, Siltstone and Sandstone. Glacial Till is present along major watercourses. Peat is also present on the highland within forested land. Glaciofluvial and Alluvial Deposits are present along Afon Rhondda.

9.44.2 Conclusions for the UFMfSW

Trealaw covers an area of approximately 286Ha with a total population of 4,373. Just over 3% of the population of Trealaw are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Trealaw is broadly associated with the Afon Rhondda with flood risk observed along sections of the watercourse. The flooding is sourced from culvert inlets and potential bank breaches.

Commonly, the flow path is along roads with significant risk associated along sections of Brithweunydd Road, Brynteg Terrace, Nile Road, Miskin Road, Trealaw Road, Heather Close and the A4058. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The flood risk presented within the UFMfSW correlates with historic flooding incidents reported to Rhondda Cynon Taf. Highways in the area have previously been flooded, commonly associated with culvert inlets.

The map also indicates a low to high risk of flooding in the northern edge of the site. The flooding is sourced from culvert inlets and generally, the flow path is along roads with sections at risk along Ynyscynon Road.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Trealaw are presented in the table below.

Table 106: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Trealaw

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	4,373	110	66	512
Services	5	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	277	21	10	19
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	3	1	0.5	0.5
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	4	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	4			
External	18			
Highway	44			

Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Trealaw and their proposed Flood Risk Management Plan measures are presented in the table below.

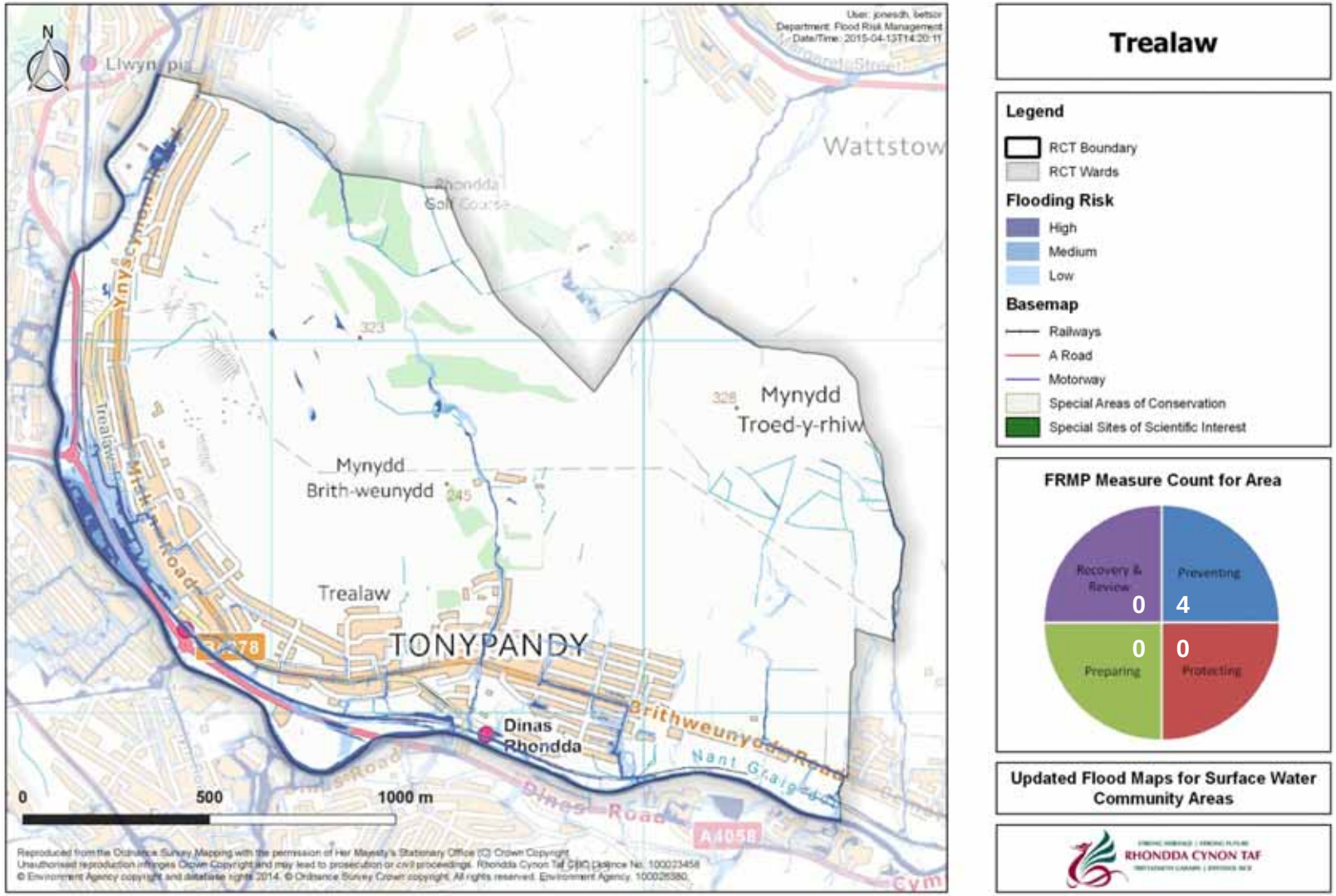
Further information regarding the flood investigation area is presented in Appendix A.

Table 107: Summary of Flood Risk Management Plan Measures for Trealaw

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Priority	Type of Measure
RCT0052	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0098	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0099	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0100	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 62: Trealaw uFMfSW. Risk to people, economic activity and environmental receptors



9.45 Treforest

9.45.1 Overview

The community area of Treforest is located in the southern sector of Rhondda Cynon Taf County Borough Council, to the south of Pontypridd. The site covers an area of 378Ha and has a maximum elevation of 309m AOD. Treforest has a population of approximately 7,102 and approximately 3,022 residential properties.

Treforest is split between rural areas to the east and west, and residential development through the centre of the site, owing to the relatively wide floodplain of the Afon Taf in this area and subsequent gentle topography. The University of South Wales is present in the west of Treforest; however, the campus spreads across the entire site.

Treforest is situated within the Afon Taf catchment. The site is drained through the centre by the Afon Taf, which flows from north to south. The highlands of the east are drained by a number of minor watercourses which are partially culverted beneath residential developments.

The highlands in the west are drained by the Nant y Fforest which discharges into the Afon Taf and is partially culverted beneath residential development.

The underlying geology is the Brithdir, Rhondda and Hughes Beds of the Upper Carboniferous Coal Measure which is formed of Sandstone, Coal, Siltstone and Mudstone. Glacial Till is present along major watercourses. Intermittent patches of Peat are present on the highlands, within forested areas. Alluvial, Glaciofluvial and River Terrace Deposits are present along the Afon Taf.

9.45.2 Conclusions for the UFMfSW

Treforest covers an area of approximately 378Ha with a total population of 7,102. Just under 1% of the population of Treforest are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Treforest is broadly associated with the Afon Taf with flood risk observed along sections of the watercourse. The flooding is sourced from culvert inlets and potential bank breaches.

In general, the flow path is along roads with significant risk associated along sections of the A473, Meadow Street, New Park Terrace, Collins Terrace and Broadway. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The flood risk presented within the UFMfSW correlates with historic flooding incidents reported to Rhondda Cynon Taf. Highways in the area have previously been flooded, commonly associated with blocked culverts.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Treforest are presented in the table below

Table 108: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Treforest

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	7,102	33	52	338
Services	10	0	0	2
ECONOMIC ACTIVITY				
Non Residential Properties	556	7	13	51
Airports	0	0	0	0
Roads (km)	2	0.06	0.08	0.3
Railways (km)	3	0.03	0.03	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0.002	0	0	0
Listed Buildings	40	2	0	3
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	1			
External	9			
Highway	31			

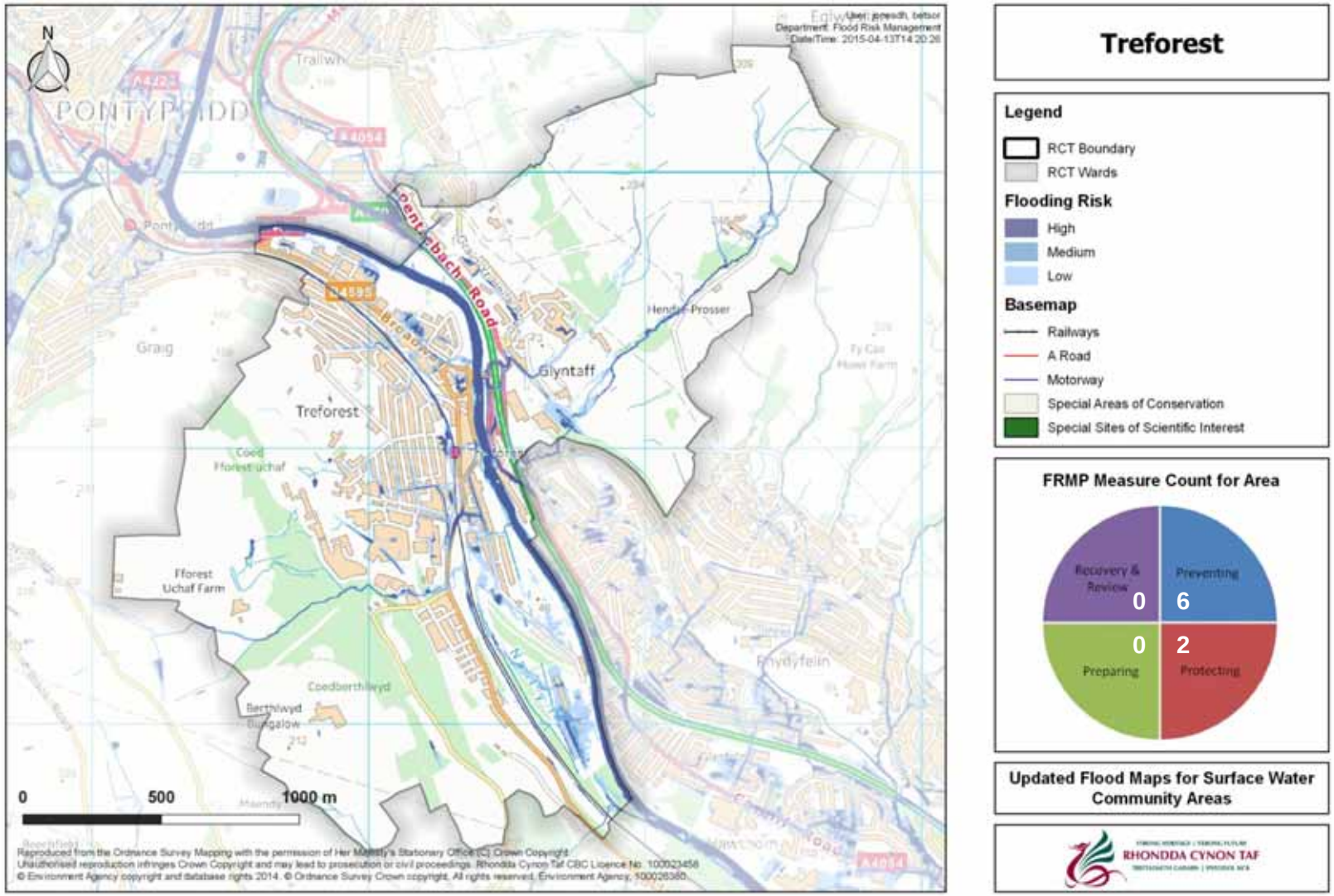
Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Treforest and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 109: Summary of Flood Risk Management Plan Measures for Treforest

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0094	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0101	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0102	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0125	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0132	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 63: Treforest uFMfSW. Risk to people, economic activity and environmental receptors



9.46 Treherbert

9.46.1 Overview

Treherbert is situated in the north-western sector of Rhondda Cynon Taf County Borough Council, to the north of Treorchy. The site covers an area of 2,157Ha and has a maximum elevation of 534m AOD. Treherbert has a population of approximately 6,674 and approximately 2,840 residential properties.

The majority of Treherbert is a rural environment owing to the steep topography of the highlands which surround the site. Residential development is confined to the valley floor of the Afon Rhondda and is surrounded by Mynydd Tynewydd, Mynydd Blaenrhondda and Mynydd Ystradffernol. Treherbert has some of the steepest topography in RCT and as a result, the highlands have remained undeveloped. There is a small industrial estate in the south. A large SSSI is present in the south which crosses the border into the community area of Treorchy.

Treherbert is situated primarily within the Afon Rhondda Catchment; however, the western edge of the site includes a small section of the Ogmore to Tawe catchment of the West Wales River Basin District. The source of the Afon Rhondda is located in the highlands in the north of Treherbert, which is fed by the Nant Melyn, Nant Carnfoesen and Nant Garreg-lwyd. The highlands in the west are drained by the Nant Selsig. The catchment of the Nant Selsig covers much of the western sector of the site.

The surrounding highlands are drained by a large network of minor unnamed watercourses which discharge into the major watercourses.

The underlying geology of Treherbert is the Rhondda and Llynfi Beds of the Upper Carboniferous Coal Measure comprising Coal, Sandstone, Siltstone and Mudstone. Also present is the Middle Carboniferous Coal Measure, also comprising Sandstone, Siltstone, Coal and Mudstone. Glacial Till is present along major watercourses and across the highlands. Large sections of Peat are also present across the highlands. Alluvial and Glaciofluvial Deposits are present along the Nant Selsig and Afon Rhondda.

9.46.2 Conclusions for the UFMfSW

Treherbert covers an area of approximately 2,157Ha with a total population of 6,674. Approximately 10% of the population of Treherbert are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Treherbert is largely associated with the Afon Rhondda with significant flood risk observed along the length of the watercourse. The flooding is sourced from potential bank breaches and blocked inlets.

Commonly, the flow path is along roads; however, the risk is so great in certain areas that there is no discernible flow path. There is significant risk associated along sections of the B4522, Baglan Street and Margaret Street. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The flood risk presented within the UFMfSW correlates with historic flooding incidents reported to Rhondda Cynon Taf. Highways and internal properties in the area have previously been flooded, commonly associated with blocked culverts.

A significant risk is noted within the area surrounding Treherbert Railway Station. There is a high flood risk associated along sections of Station Road, Taff Street, Emmanuel Close and David Street.

The maps indicate a significant flood risk across the three SSSIs within Treherbert. The flood risk is sourced from potential bank breaches and culvert inlets.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Treherbert are presented in the table below

Table 110: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Treherbert

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	6,674	667	609	1833
Services	8	2	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	444	58	78	73
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.001	0.03	0.1
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	192	2	2	8
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	5	0.02	0	0.2
Listed Buildings	5	0	0	1
Licensed Abstractions	6	2	0	1
HISTORIC FLOOD INCIDENTS				
Internal	5			
External	23			
Highway	30			

Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Treherbert and their proposed Flood Risk Management Plan measures are presented in the table below.

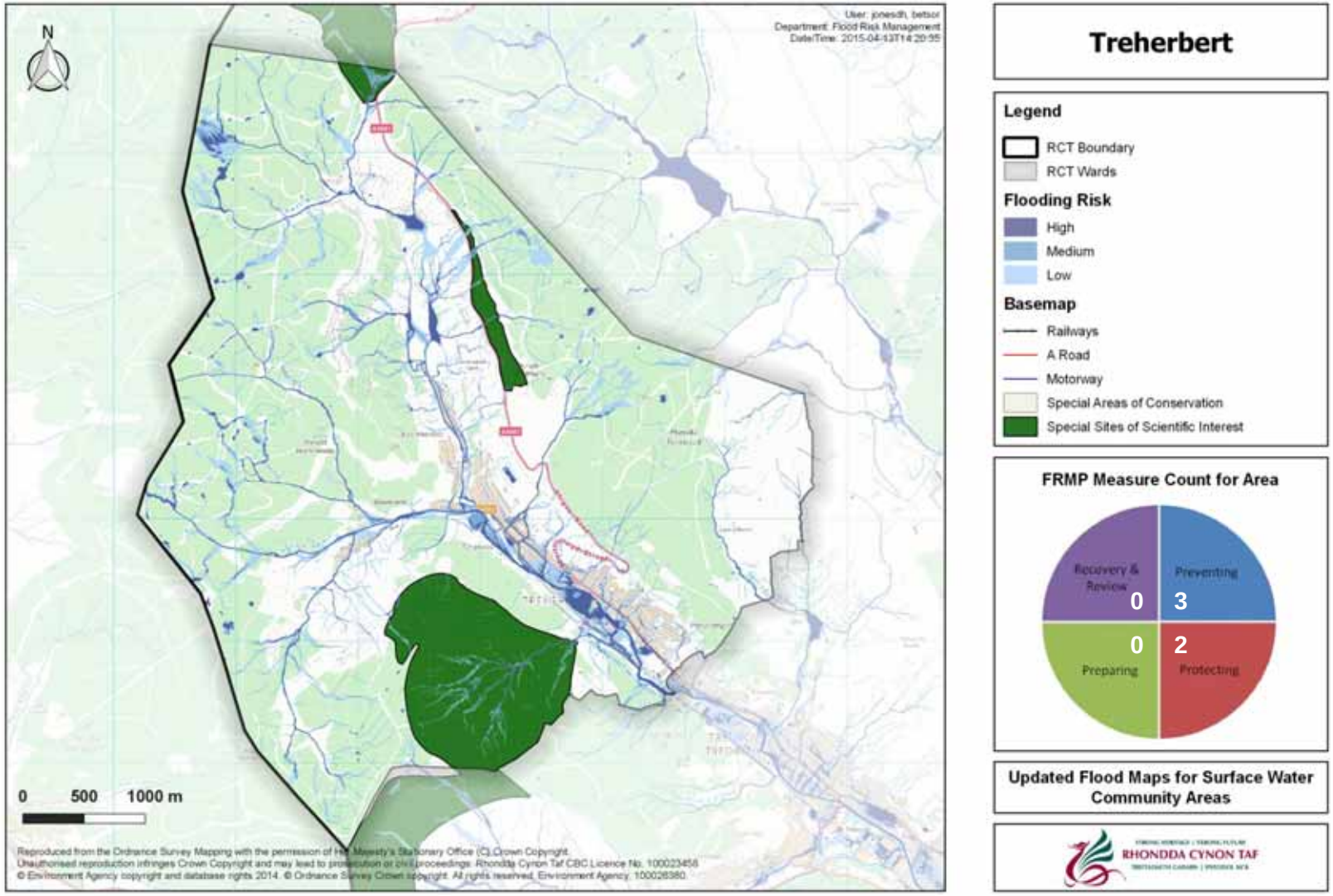
Further information regarding the flood investigation area is presented in Appendix A.

Table 111: Summary of Flood Risk Management Plan Measures for Treherbert

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Priority	Type of Measure
RCT0103	Local / Main River*	10	Land Management	M34 (Protection)	2016-2021	Proposed	
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0104	Local / Main River*	10	Land Management	M34 (Protection)	2016-2021	Proposed	
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0105	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 64: Treherbert uFMfSW. Risk to people, economic activity and environmental receptors



9.47 Treorchy

9.47.1 Overview

The community area of Treorchy is located in the western sector of Rhondda Cynon Taf County Borough Council, to the south of Treherbert. The site covers an area of 1,331Ha and has a maximum elevation of 559m AOD. Treorchy has approximately 3,616 residential properties and a population of approximately 8,498.

Treorchy is predominantly a rural environment which is a result of the steep topography in both the west and the east. Residential development is confined to the base of the Afon Rhondda valley. There is a large industrial estate in the town of Ynyswen, on the bank of the Afon Rhondda, and another in the south of Treorchy, also on the bank of the Afon Rhondda. There is a large SSSI in the north which crosses the border into the community area of Treherbert.

The majority of Treorchy is situated within the Afon Rhondda Catchment; however, the west of the site includes a small section of the Ogmore to Tawe catchment of the West Wales River Basin District. The Afon Rhondda flows through the centre of the site, from north to south. The highlands in the west are drained by the Nant Cwm-Parc; a heavily modified channel which discharges into the Afon Rhondda. The highlands in the east are drained by the Nant Orci. The catchment of the Nant Orci covers much of the north-eastern sector of the site.

There are a number of minor unnamed watercourses which drain the highlands and discharge into the Afon Rhondda.

The underlying geology is the Llynfi and Rhondda Beds of the Upper Carboniferous Coal Measure, comprising Sandstone, Siltstone, Coal and Mudstone. Also present is the Middle Carboniferous Coal Measure, also comprising Sandstone, Mudstone, Coal and Siltstone. Glacial Till is present along major watercourses and across the highlands. Peat is also present on the highlands. Alluvial and Glaciofluvial Deposits are present along the Afon Rhondda. An Alluvial Fan Deposit is present in the centre of Treorchy, adjacent to the Afon Rhondda.

9.47.2 Conclusions for the UFMfSW

Treorchy covers an area of approximately 1,331Ha with a total population of 8,498. Approximately 10% of the population of Treorchy are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Treorchy is broadly associated with the Afon Rhondda with significant flood risk observed along the length of the watercourse. The flooding is sourced from culvert inlets and potential bank breaches.

Commonly, the flow path pattern follows the roads with significant risk associated along sections of Ynyswen Road, Bute Street, Dumfries Street, Stuart Street, Howard Street, Senghenydd Street, Herbert Street, Clark Street and Cardiff Street. There is also a lower risk across much of the site. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The flood risk presented within the UFMfSW correlates with historic flooding incidents reported to Rhondda Cynon Taf. Highways in the area have previously been flooded, commonly associated with culvert inlets.

Surface runoff is also noted along sections of High Street and Regent Street. There is a low to high risk across an old industrial estate on the northern side of the Railway line. The flooding for both risks is sourced from potential bank breaches and culvert inlets.

The map also indicates a significant flood risk associated with the Nant Cwm-Parc. As before, the flow path pattern commonly follows the roads with significant risk along sections of Station Road, Clare Road, Park Crescent and Lower Terrace.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Treorchy are presented in the table below

Table 112: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Treorchy

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	8,498	865	543	1831
Services	8	0	0	2
ECONOMIC ACTIVITY				
Non Residential Properties	791	60	46	220
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	3	0.5	0.4	0.2
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	156	0	3	6
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	3	0.05	0.006	0.06
Listed Buildings	5	0	0	1
Licensed Abstractions	3	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	9			
External	29			
Highway	77			

Review of the community area has highlighted additional ‘flood investigation areas’. A summary of the flood investigation areas that lie within Treorchy and their proposed Flood Risk Management Plan measures are presented in the table below.

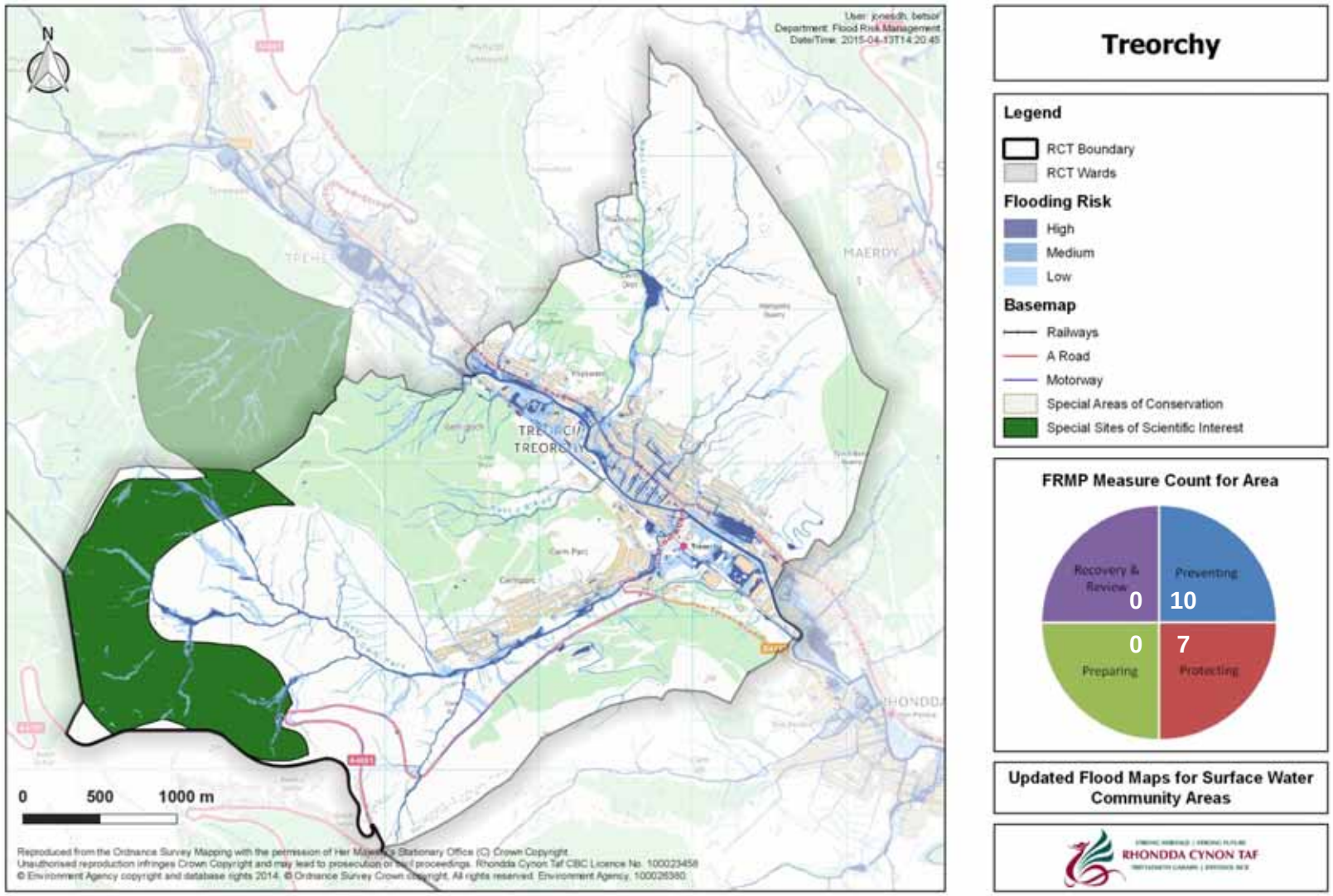
Further information regarding the flood investigation area is presented in Appendix A.

Table 113: Summary of Flood Risk Management Plan Measures for Treorchy

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0060	Local / Main River*	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT084	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0106	Local / Main River*	10	Land Management	M34 (Protection)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0107	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0108	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0109	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0133	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0134	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 65: Treorchy uFMfSW. Risk to people, economic activity and environmental receptors



9.48 Tylorstown

9.48.1 Overview

Tylorstown is located in the central sector of Rhondda Cynon Taf County Borough Council, to the north of Tonypandy. The site covers an area of 590Ha and has a maximum elevation of 402m AOD. Tylorstown has a population of approximately 5,323 and approximately 2,265 residential properties.

The majority of Tylorstown is a rural environment. This is due to the steep topography of the highlands in the east and west. Therefore, residential development is confined mostly to the floor of the Afon Rhondda Valley, with the exception of the Village of Penrhys, which is situated on the highlands in the west. The forest in the north of the site forms part of the St Gwynno Forest.

Tylorstown is primarily located within the Afon Rhondda Catchment. There is, however, a small section in the east which includes the Afon Cynon Catchment. The Afon Rhondda Fach flows from north to south through the centre of the site.

The highlands are drained by a number of small unnamed watercourses. All watercourses discharge into the Afon Rhondda Fach.

The underlying geology of Tylorstown is the Rhondda and Brithdir Beds of the Upper Carboniferous Coal Measure, which is formed of Siltstone, Sandstone, Mudstone and Coal. Glacial Till is present along major watercourses and across the western highlands. Peat is present on the eastern highlands, within forested land. Glaciofluvial and Alluvial Deposits are present along the Afon Rhondda Fach.

9.48.2 Conclusions for the UFMfSW

Tylorstown covers an area of approximately 590Ha with a total population of 5,323. Just over 3% of the population of Tylorstown are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Tylorstown is broadly associated with the Afon Rhondda Fach. The flooding is sourced from potential bank breaches and blocked inlets. Commonly, the flow path is along roads with significant risk associated along sections of the A4233, Llewellyn Street and Grove House Court. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The flood risk presented within the UFMfSW correlates with historic flooding incidents reported to Rhondda Cynon Taf. Highways in the area have previously been flooded, commonly associated with culvert inlets.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Tylorstown are presented in the table below

Table 114: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Tylorstown

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	5,323	134	73	447
Services	9	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	326	6	1	12
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	1	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	2			
External	19			
Highway	24			

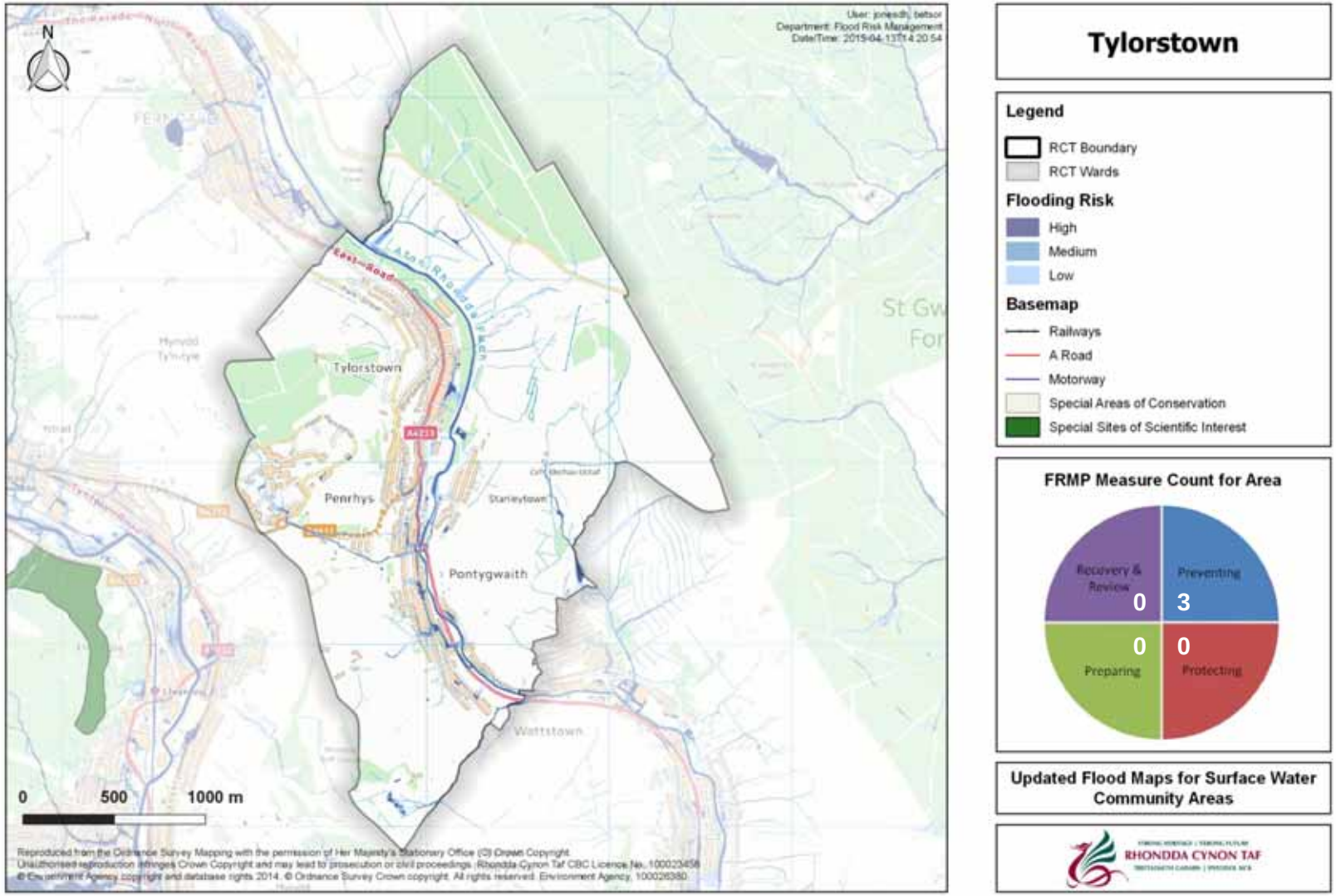
Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Tylorstown and their proposed Flood Risk Management Plan measures are presented in the table below.

Further information regarding the flood investigation area is presented in Appendix A.

Table 115: Summary of Flood Risk Management Plan Measures for Tylorstown

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0110	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0111	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0112	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

Figure 66: Tylorstown uFMfSW. Risk to people, economic activity and environmental receptors



9.49 Tyn-Y-Nant

9.49.1 Overview

Tyn-y-Nant is situated in the southern sector of Rhondda Cynon Taf County Borough Council, with the towns of Beddau, Tynant and Gwaun Meisgyn. The site has a maximum elevation of 102m AOD covers an area of 92Ha and is therefore the smallest community area within RCT. Tyn-y-Nant has approximately 1,474 residential properties and a population of approximately 3,646.

The majority of Tyn-y-Nant is an urban environment owing to the relatively small area the site covers, as well as the relatively shallow topography of the area. Residential development covers the majority of the site. The northern rural area is predominantly agricultural. There is a small forested area in the south-east.

Tyn-y-Nant is situated within the Afon Elai Catchment. The site is bounded to the east by the Nant Myddlyn which is partially culverted beneath Tynant. The only other watercourse within the site is an unnamed minor watercourse which discharges into the Nant Myddlyn.

The underlying geology of Tyn-y-Nant is the Grovesend Formation of the Upper Carboniferous Coal Measure comprising Mudstone, Siltstone and Sandstone. Glacial Till is present across much of the site. Alluvial Deposits are present along the Nant Myddlyn. Peat is also present in the centre of the site.

9.49.2 Conclusions for the UFMfSW

Tyn-y-Nant covers an area of approximately 92Ha with a total population of 3,646. Approximately 2% of the population of Tyn-y-Nant are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Tyn-y-Nant is broadly associated with the Nant Myddlyn with significant flood risk observed along the sections of the watercourse. The flooding is sourced from potential bank breaches and surface runoff.

Commonly, the flow path pattern follows the roads with a low to high risk associated along sections of Heol-Y-Beddau, Commercial Street, Mildred Street, the B4595, Fairview and Woodland Road. There is also a low risk across much of the site. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The flood risk presented within the UFMfSW correlates with historic flooding incidents reported to Rhondda Cynon Taf. Highways in the area have previously been flooded, commonly associated with culvert inlets.

The map also indicates a low to high flood risk in the south of Tyn-y-Nant. The flooding is largely associated with culvert inlets and is sourced from surface runoff. There is a low to high risk along sections of Caldicott Close, Caldwell Close, Calderton Road and Colbourne Road.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Tyn-Y-Nant are presented in the table below

Table 116: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Tyn-Y-Nant

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	3,464	61	71	334
Services	5	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	131	2	0	5
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0.2	0.04	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	0			
External	6			
Highway	11			

Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Tyn-Y-Nant and their proposed Flood Risk Management Plan measures are presented in the table below.

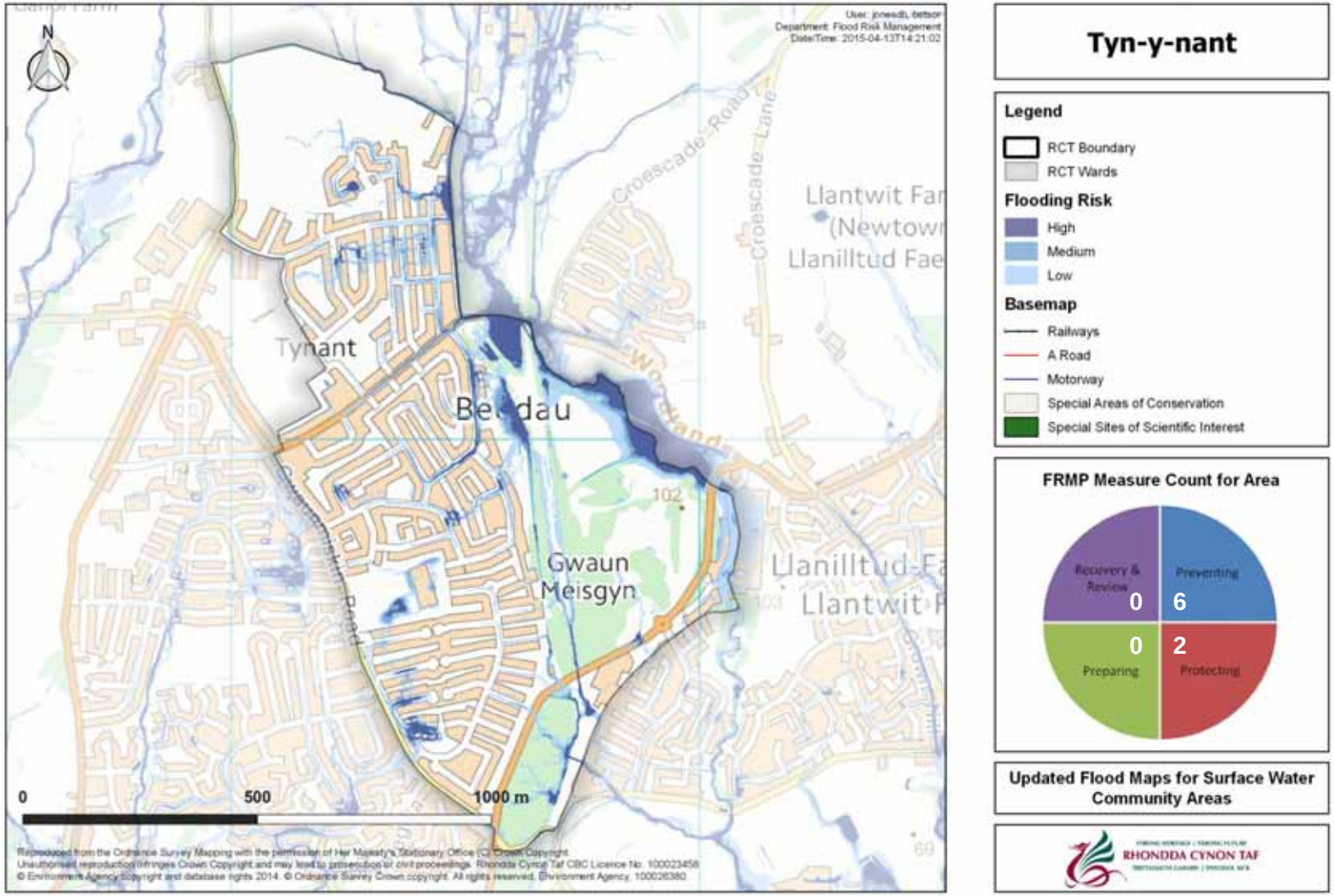
Further information regarding the flood investigation area is presented in Appendix A.

Table 117: Summary of Flood Risk Management Plan Measures for Tyn-Y-Nant

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0051	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0113	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0114	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0115	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0116	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 67: Tyn-y-nant uFMfSW. Risk to people, economic activity and environmental receptors



9.50 Ynyshir

9.50.1 Overview

The community area of Ynyshir is located in the central sector of Rhondda Cynon Taf County Borough Council, with the towns of Ynyshir and Wattstown. The site covers an area of 441Ha and has a maximum elevation of 362m AOD. Ynyshir has a population of approximately 3,826 and approximately 1,628 residential properties.

The majority of Ynyshir is a rural environment owing to the steep topography of the highlands in the west and east. Residential development is confined to the base of the Afon Rhondda Fach valley. There is a small industrial estate in the northern sector of the site, adjacent to the Afon Rhondda Fach.

Ynyshir is situated primarily within the Afon Rhondda Catchment. In the east, however, there is a small section which includes the Afon Cynon Catchment. The Afon Rhondda Fach meanders from the west of the site to the south of the site. The northern highlands are drained by the Nant Llechau, which flows from north to south and discharges into the Afon Rhondda Fach.

Several minor watercourses drain the western highlands and are partially culverted beneath residential development. All watercourses discharge into the Afon Rhondda Fach.

The underlying geology of Ynyshir is the Rhondda bed of the Upper Carboniferous Coal Measure comprising Sandstone, Coal, Siltstone and Mudstone. Glacial Till is present along major watercourses. Glaciofluvial, Alluvial and River Terrace Deposits are present along the Afon Rhondda Fach.

9.50.2 Conclusions for the UFMfSW

Ynyshir covers an area of approximately 441Ha with a total population of 3,826. Just over 4% of the population of Ynyshir are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Ynyshir is broadly associated with the Afon Rhondda Fach with significant flood risk observed along the length of the watercourse. The flooding is sourced from culvert inlets and potential bank breaches. Commonly, the flow path pattern follows the roads with significant risk associated along sections of the A4233, Ynyshir Road, Whitting Terrace and James Terrace. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The flood risk presented within the UFMfSW correlates with historic flooding incidents reported to Rhondda Cynon Taf. Highways in the area have previously been flooded, commonly associated with culvert inlets.

The map also indicates a flood risk in the north of the site, along sections of Hillside Terrace and Victoria Terrace. This flood risk extends south across the industrial estates on the northern edge of the A4233. The flood risk is largely associated with the Afon Rhondda Fach, but also the Nant Llechau. The flooding is sourced from potential bank breaches.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Ynyshir are presented in the table below

Table 118: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Ynyshir

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	3,826	153	82	475
Services	3	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	211	7	3	29
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	6	0	0	0.007
Listed Buildings	2	0	0	0
Licensed Abstractions	0	0	0	0
HISTORIC FLOOD INCIDENTS				
Internal	3			
External	14			
Highway	16			

Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Ynyshir and their proposed Flood Risk Management Plan measures are presented in the table below.

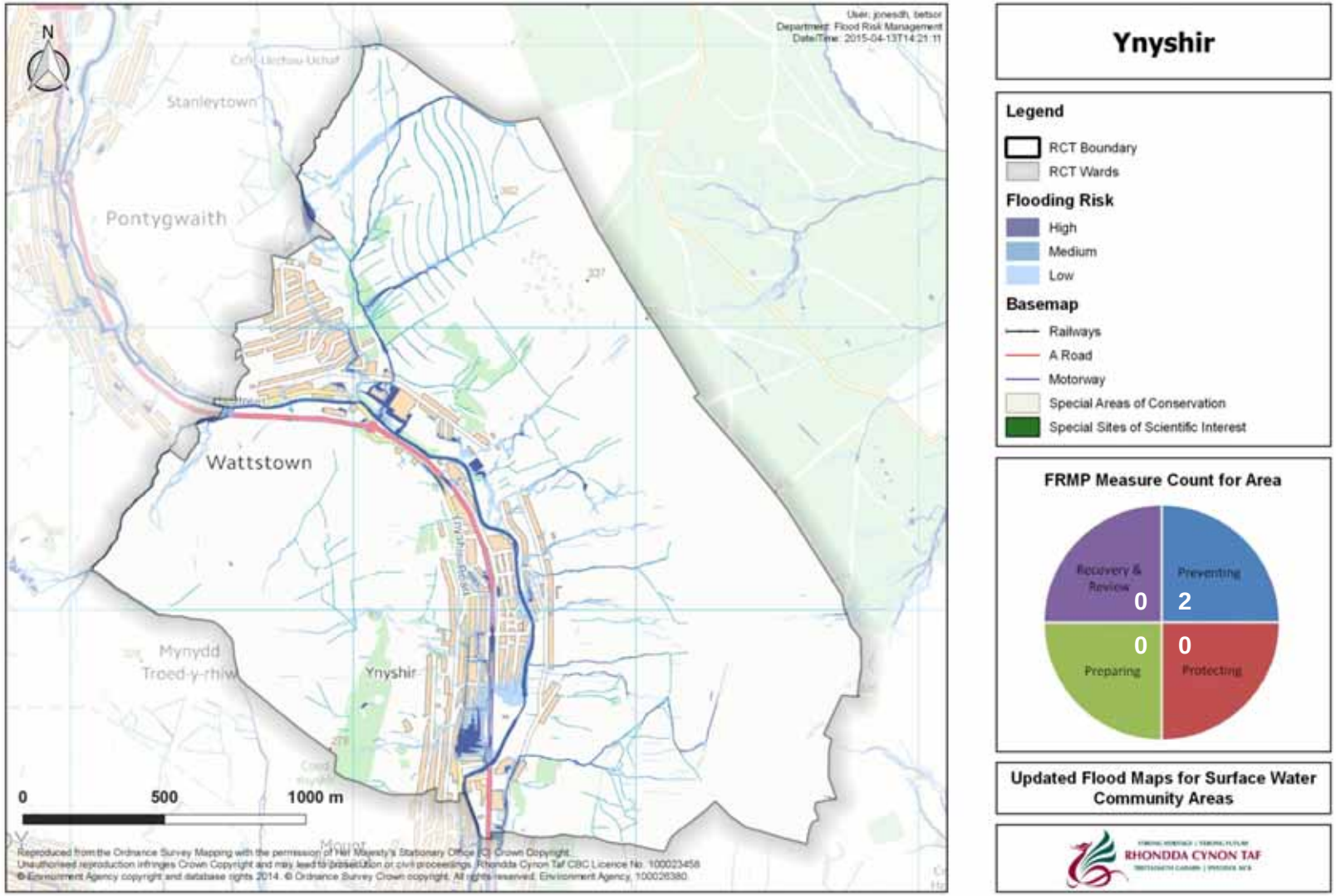
Further information regarding the flood investigation area is presented in Appendix A.

Table 119: Summary of Flood Risk Management Plan Measures for Ynyshir

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0071	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0117	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 68: Ynyshir uFMfSW. Risk to people, economic activity and environmental receptors



9.51 Ynysybwl

9.51.1 Overview

The community area of Ynysybwl is located within the central sector of Rhondda Cynon Taf County Borough Council, to the east of Abercynon. Ynysybwl covers an area of 1,955Ha and has a maximum elevation of 402m AOD. The site has approximately 2,062 residential properties and a population of approximately 4,846.

Ynysybwl is predominantly a rural environment with the highlands in the north comprising the St Gwynno Forest. Residential development is confined to the floor of the Nant Clydach valley. The south-west of the site is comprised of agricultural land.

The majority of Ynysybwl lies within the Afon Cynon Catchment; however, a small section in the west includes the Afon Rhondda Catchment. The catchment of the Nant Clydach covers much of the site. The Nant Clydach drains the highlands in the north and flows from north to south through the entirety of the site, discharging into the Afon Taf.

The underlying geology of Ynysybwl is the Brithdir and Hughes Beds of the Upper Carboniferous Coal Measure, which are formed of Sandstone, Siltstone, Mudstone and Coal. Glacial Till is present along major watercourses. Glaciofluvial and Alluvial deposits are present along the Nant Clydach.

9.51.2 Conclusions for the UFMfSW

Ynysybwl covers an area of approximately 1,955Ha with a total population of 4,846. Just over 1% of the population of Ynysybwl are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Ynysybwl is broadly associated with the Nant Clydach with significant flood risk observed along sections of the watercourse. The flooding is sourced from culvert inlets and potential bank breaches.

The flow path pattern generally follows the roads with a low to high risk associated along sections of Clydach Road, Robert Street and New Road. There is also a lower risk across much of the site. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The flood risk presented within the UFMfSW correlates with historic flooding incidents reported to Rhondda Cynon Taf. Highways in the area have previously been flooded, commonly associated with culvert inlets.

The map also indicates a significant amount of flood risk across rural areas within the community area of Ynysybwl. This flooding may also have contributions from Main River flooding. No properties, economic or environmental receptors are affected by this flooding

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Ynysybwl are presented in the table below

Table 120: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Ynysybwl

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	4,846	71	33	306
Services	6	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	451	4	2	25
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0.4	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	3	0	0	0
Licensed Abstractions	10	1	1	1
HISTORIC FLOOD INCIDENTS				
Internal	4			
External	15			
Highway	42			

Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Ynysybwl and their proposed Flood Risk Management Plan measures are presented in the table below.

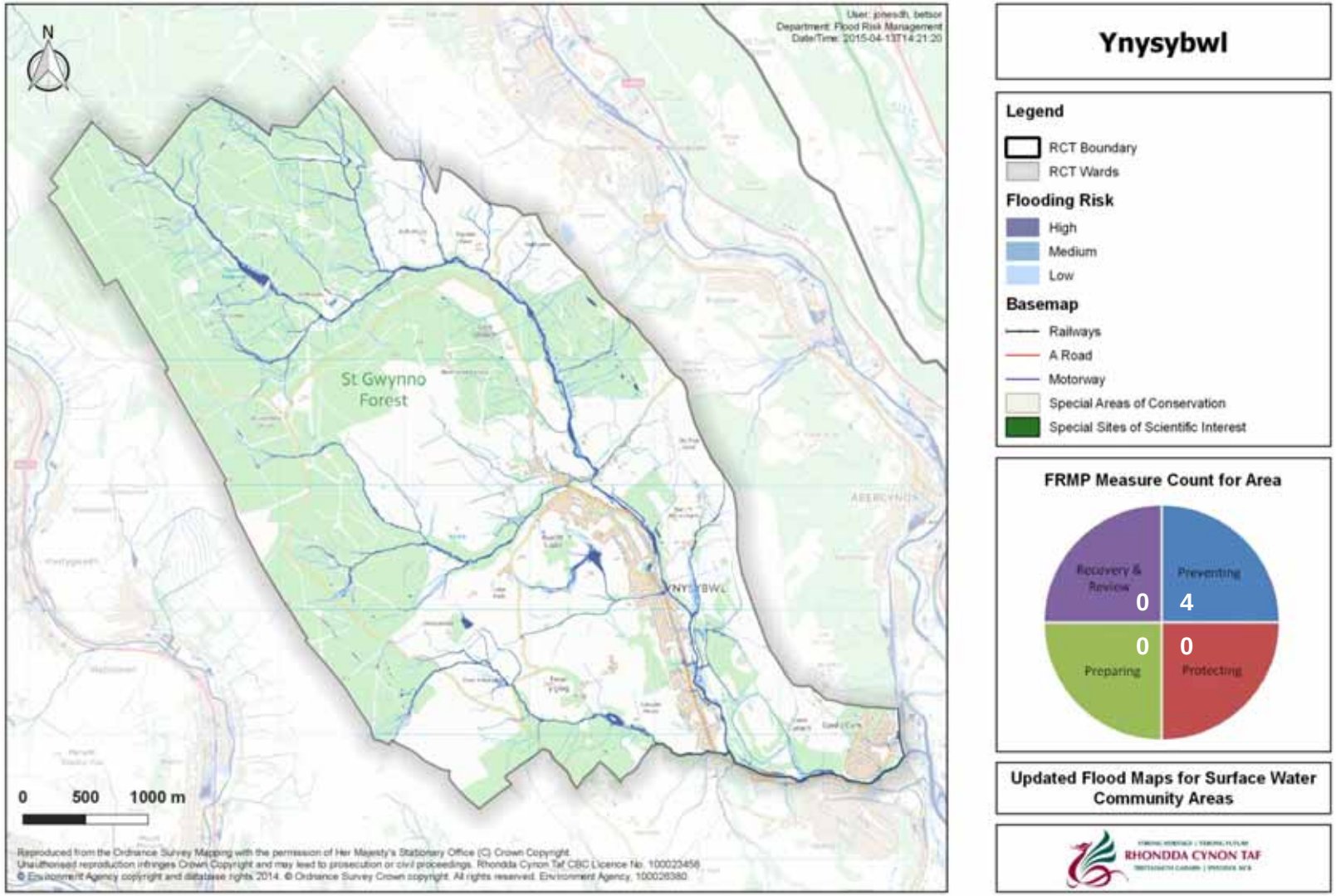
Further information regarding the flood investigation area is presented in Appendix A.

Table 121: Summary of Flood Risk Management Plan Measures for Ynysybwl

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0118	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0119	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0120	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0135	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 69: Ynysybwl uFMfSW. Risk to people, economic activity and environmental receptors



9.52 Ystrad

9.52.1 Overview

The community area of Ystrad is located in the western sector of Rhondda Cynon Taf County Borough Council with the towns of Gelli, Ystrad Rhondda and Ystrad. The site covers an area of 717Ha and has a maximum elevation of 455m AOD. Ystrad has a population of approximately 6,399 and approximately 2,723 residential properties.

Ystrad is predominantly a rural environment with highlands in the west and east remaining largely undeveloped. Residential development is confined to the valley floor of the Afon Rhondda. There is a small industrial estate located in the centre of the site, adjacent to the Afon Rhondda.

Ystrad lies within the Afon Rhondda Catchment. The Afon Rhondda is relatively dynamic within the site, with a number of large meanders allowing for more development across the valley floor. The highlands in the east are drained by the catchment of the Nant-y-Lamb. The highlands in the west are drained by the Nant y Gelli, which also forms the border between the community areas of Ystrad and Pentre.

Several minor unnamed watercourses also drain the highlands and are partially culverted beneath residential developments. All watercourses discharge into the Afon Rhondda.

The underlying geology of Ystrad is the Llynfi and Rhondda Beds of the Upper Carboniferous Coal Measure, and the Middle Carboniferous Coal Measure. All comprise Sandstone, Siltstone, Coal and Mudstone. Glacial Till is present along major watercourses. Glaciofluvial, Alluvial and Alluvial Fan Deposits are present along the Afon Rhondda.

9.52.2 Conclusions for the UFMfSW

Ystrad covers an area of approximately 717Ha with a total population of 6,399. Just over 7% of the population of Ystrad are at high risk of surface water flooding.

The UFMfSW indicate that the highest risk posed to people and properties within Ystrad is broadly associated with the Afon Rhondda with significant flood risk observed along the length of the watercourse. The flooding is sourced from culvert inlets and potential bank breaches.

Commonly, the flow path pattern follows the roads with significant risk associated along sections of Gelli Road, Smith Street, Avondale Road, Rees Street, Farm Road, Oak Street, Lloyd Street, Park View, Taff Street and Union Street. There is also a lower risk across much of this area. Flood risk is posed to property where the capacity of the roads is exceeded, flowing through properties.

The flood risk presented within the UFMfSW correlates with historic flooding incidents reported to Rhondda Cynon Taf. Highways in the area have previously been flooded, commonly associated with culvert inlets.

Surface runoff is also noted along sections of Shady Road and Princess Street, William Street, River Street, Cross Street, Victoria Street, Penrhys Road, Tyntyla Road and Sherwood Street. The flood risk is sourced from culvert inlets. It is likely that it also has Main River contributions.

The map also indicates a significant amount of flood risk across within the floodplain of the Afon Rhondda, along the southern border of the site. This flooding is predominantly associated with Main River flooding. No properties or environmental receptors are affected by this flooding.

In some circumstances people may be at risk from a combination of sources including both surface runoff and ordinary watercourse. Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A summary of the counts for Ystrad are presented in the table below

Table 122: Summary flood risk from surface water to people, economic activity and the natural and historic environment within Ystrad

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	6,399	449	385	1067
Services	6	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	393	17	15	50
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	2	0.03	0.1	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0.2	0.06	0.01	0.02
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0.2	0	0	0
Listed Buildings	2	0	0	1
Licensed Abstractions	2	1	0	0
HISTORIC FLOOD INCIDENTS				
Internal	6			
External	27			
Highway	57			

Review of the community area has highlighted additional 'flood investigation areas'. A summary of the flood investigation areas that lie within Ystrad and their proposed Flood Risk Management Plan measures are presented in the table below.

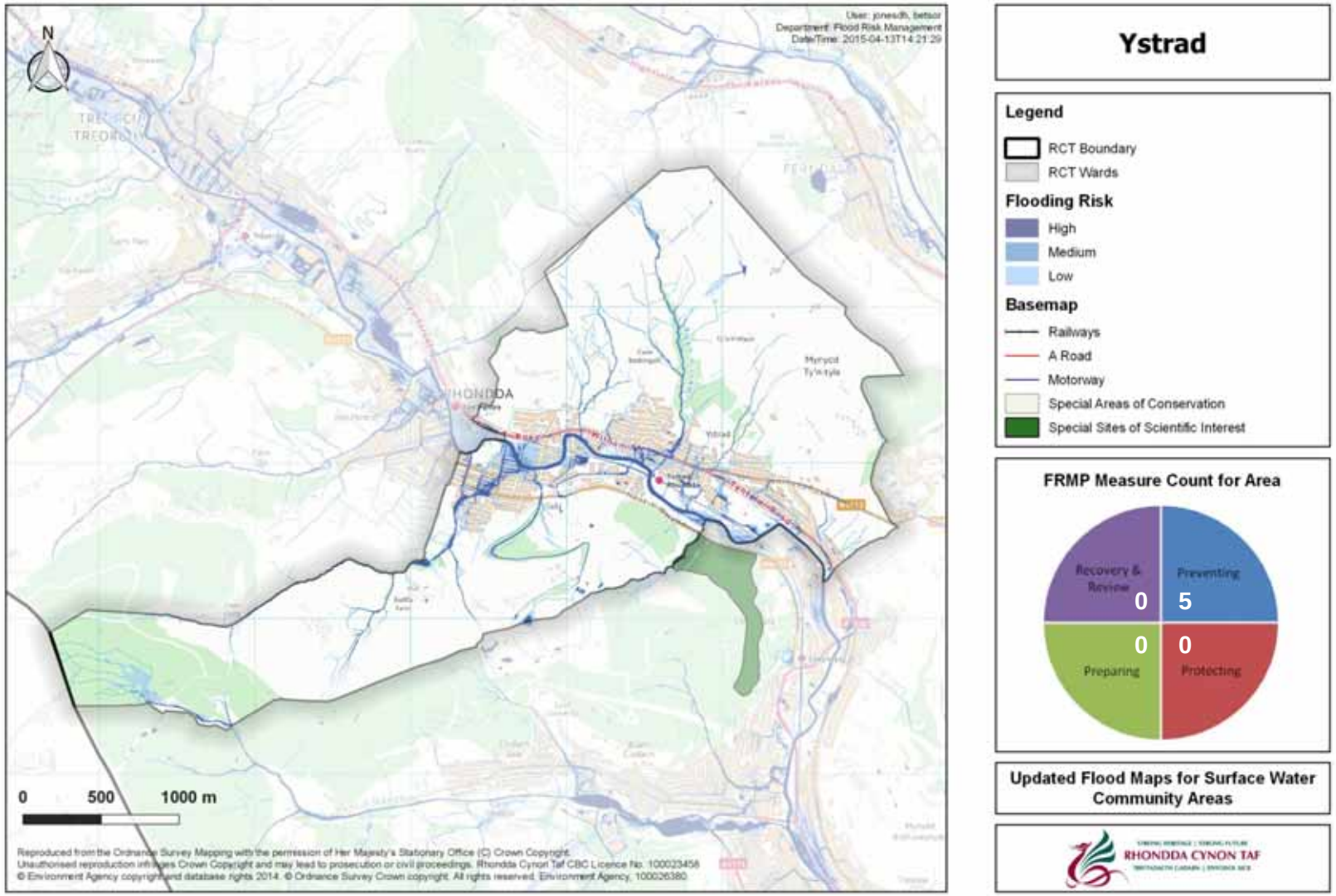
Further information regarding the flood investigation area is presented in Appendix A.

Table 123: Summary of Flood Risk Management Plan Measures for Ystrad

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0052	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0061	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0121	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
RCT0122	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
RCT0123	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

Figure 70: Ystrad uFMfSW. Risk to people, economic activity and environmental receptors



10.0 COST BENEFIT OF PROPOSED MEASURES

10.1 Implementation of Measures

It is a requirement of the Flood Risk Regulations 2009 that a cost benefit methodology is attributed to the plan, when available. Previously, Rhondda Cynon Taf County Borough Council have benefitted from revenue grant funding from the Welsh Government in order to undertake the requirements of legislation and other flood risk management operations.

From April 2015, a new grant covering the full range of the Environment and Sustainable Development Directorate has been introduced. The work undertaken using this funding must fall within the remit of the Environment and Sustainable Development Directorate and complement the minister's priorities. It is the intention of Rhondda Cynon Taf County Borough Council to continue to bid for revenue grant funding in order to maintain the flood risk status quo, via the implementation of the measures attributed to the whole borough and Rhondda Cynon Taf County Borough Council and within the indicative flood risk area, as detailed in Section 7 and Section 8.

There is also the potential for funding to be sourced from the application for project funding from a third party to the Welsh Government. In these circumstances, Rhondda Cynon Taf County Borough Council would look to work in partnership to third party applicants.

Physical measures implemented as a result of a need highlighted within this document within Flood Investigation Areas will be screened and implemented in accordance with the requirements and with reference to Environment Agency publication 'Flood and Coastal Erosion Risk Management Appraisal Guidance (FCERM-AG), and the 'Handbook for Economical Appraisal 2014', prepared by the Flood Hazard Research Centre.

The Welsh Government is responsible for development of policy on flood and coastal erosion risk management in Wales and sets priority for funding to ensure investment is targeted in a sustainable way. Where applicable, Rhondda Cynon Taf County Borough Council will seek alternative funding from Welsh Government. These potential funding avenues are further discussed below.

10.2 Funding Mechanisms

The majority of funding for flood and coastal erosion risk management in Wales come from the Welsh Government. *As the level and nature of risk changes in the future, Welsh Risk Management Authorities will need to find other sources of funding to ensure that communities across Wales receive he levels of funding they need to manage the risks they face (Welsh Government, FCERM, 2011*).

Due to increasing funding constraints the Welsh Government has proposed a number of actions within its NFRMS to enable more efficient and effective spending on flood and coastal erosion risk management in Wales, namely:-

- Prioritisation of investment and the funding of projects set out in a long term investment plan;
- Joint funding for multiple benefits (particularly with regard to regeneration and transport investment) will be maximised;
- Beyond 2015, other sources of European funding will be sought;
- Contributions from the private sector will be expected to contribute to project costs where private assets are being protected;
- The levy raising powers of Flood Risk Management Wales (Natural Resources Wales' Regional Flood and Coastal Committee for Wales) may need to be exercised; and
- When setting future budgets, Local Authorities may need to factor in additional expenditure on flood risk management within their area.

The following sections outline the current and future potential funding streams which could be utilised to pay for measures contained within the LFRMS.

10.2.1 Flood Defence Grant in Aid (FDGiA)

The Welsh Government is responsible for development of policy on flood and coastal erosion risk management in Wales and sets priority for funding to ensure investment is targeted in a sustainable way. The Welsh Government provides the mainstream funding for LLFAs in Wales in the form of Flood Defence Grant In Aid (FDGiA) funding. Flood Defence Grant in Aid is allocated on the basis of project appraisal outcomes where these identify the most cost beneficial solution to the problem and provide the justification for the for the most appropriate and preferred option.

10.2.2 Community Infrastructure Levy

The Community Infrastructure Levy (CIL) allows Local Planning Authorities to raise funds from certain types of development to pay for the strategic infrastructure required to support the delivery of the Local Development Plan.

CIL could support infrastructure including transport, schools, libraries and flood defences (amongst others). The Council will determine in due course through the CIL process what infrastructure will be funded through CIL.

10.2.3 European Funding

Funding from the European Union is designed to align the economic prosperity of the various regions of Europe. Of particular relevance to Rhondda Cynon Taf County Borough Council is the European Regional Development Fund (ERDF).

10.2.4 Section 106 Funding – Developer Contributions

Local Authorities can potentially require developers to carry out works on sites (including flood and coastal erosion risk management works) under Section 106 of the Town and Country Planning Act 1990.

10.2.5 Local Fundraising

Partnership funding between public and private sectors and local communities could be adopted as a means of funding projects which are mutually beneficial to all groups.

10.2.6 Other Possible Sources of Funding

Partnership working/funding between Risk Management Authorities will also be considered as a way of achieving flood risk management objectives which are of mutual interest to parties

11.0 CONSULTATION

To accord with the requirements of the Flood Risk Regulations 2009, Rhondda Cynon Taf County Borough Council has undertaken a period of consultation on the FRMP - between the 14th September 2015 and the 30th October 2015.

The FRMP has been advertised to the public via appropriate media streams, such as the Rhondda Cynon Taf County Borough Council website, and has also been placed in council buildings across the borough.

In addition to the public consultation, the document has been advertised on digital formats for other risk management authorities to access.

To allow contributions and opinions to be recorded, the FRMP document was accompanied by a summary document and questionnaire. A summary of the consultation responses receive; and subsequent amendments to the FRMP that were deemed appropriate to address these comments, is provided in an accompanying consultation report.

12.0 MONITORING AND REVIEW

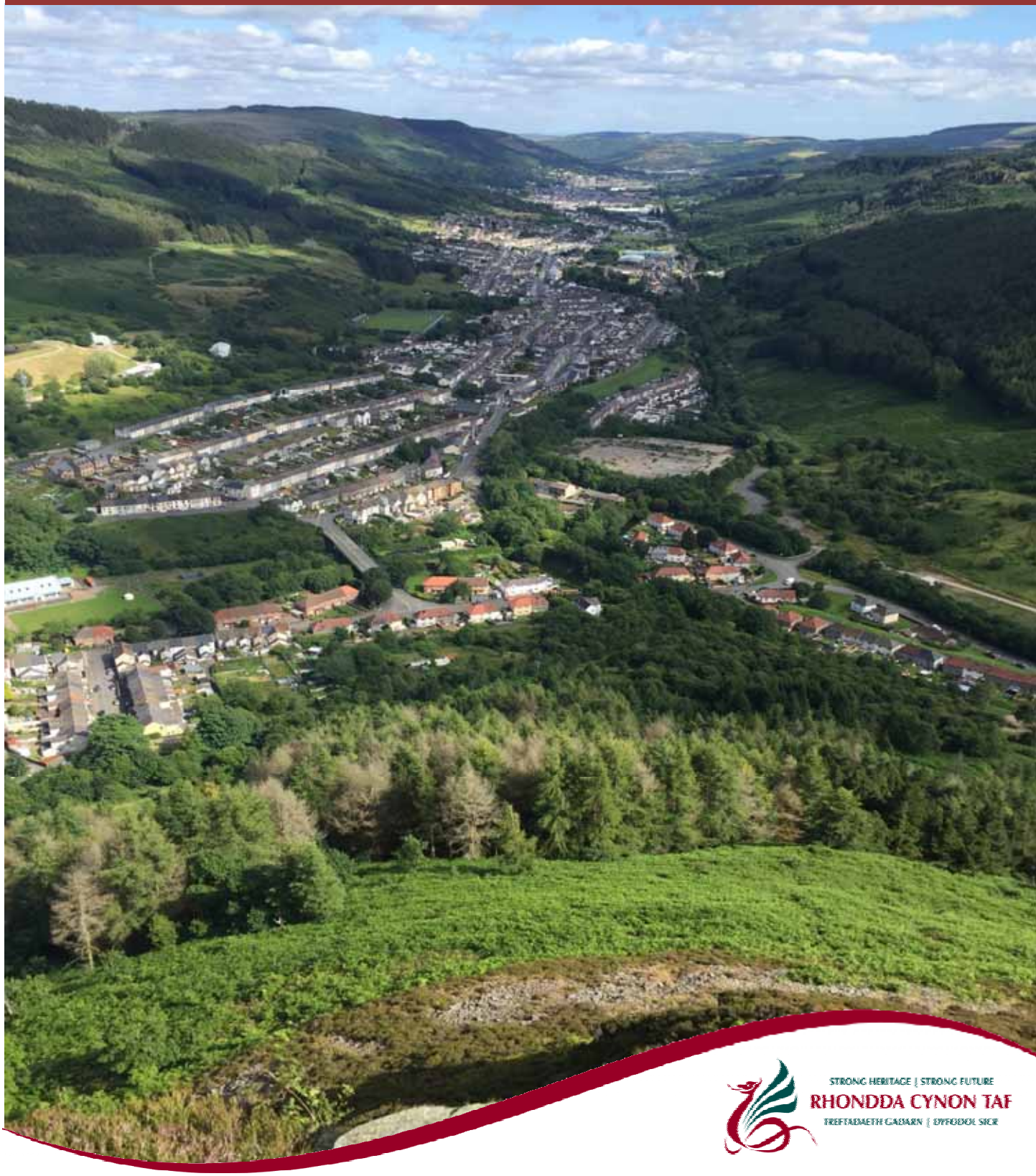
Natural Resources Wales will undertake a formal review of this document prior to its publication on the 22nd December 2015. The Flood Risk Regulations 2009 require review to be undertaken on a six year cycle. Following the reviews, the document will be updated to reflect the amendments required, notably an assessment on the impact of climate change on the implemented measures.

This Flood Risk Management Plan will undergo review on an annual basis to assess the measures implemented. This will allow adequate action to be taken to address any shortcomings and ensure that the measures implemented within this document are completed.

RHONDDA CYNON TAF COUNTY BOROUGH COUNCIL

Flood Risk Management Plan

VOLUME 2



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RHONDDA CYNON TAF

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APPENDIX A

FLOOD INVESTIGATION AREAS

Flood Investigation Area - RCT0001

Flood Investigation Area RCT0001 is situated in the community areas of Aberdare East and Aberaman North. The flood risk is likely associated with an unnamed watercourse and is likely attributed to culvert inlets.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between historic flood events and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

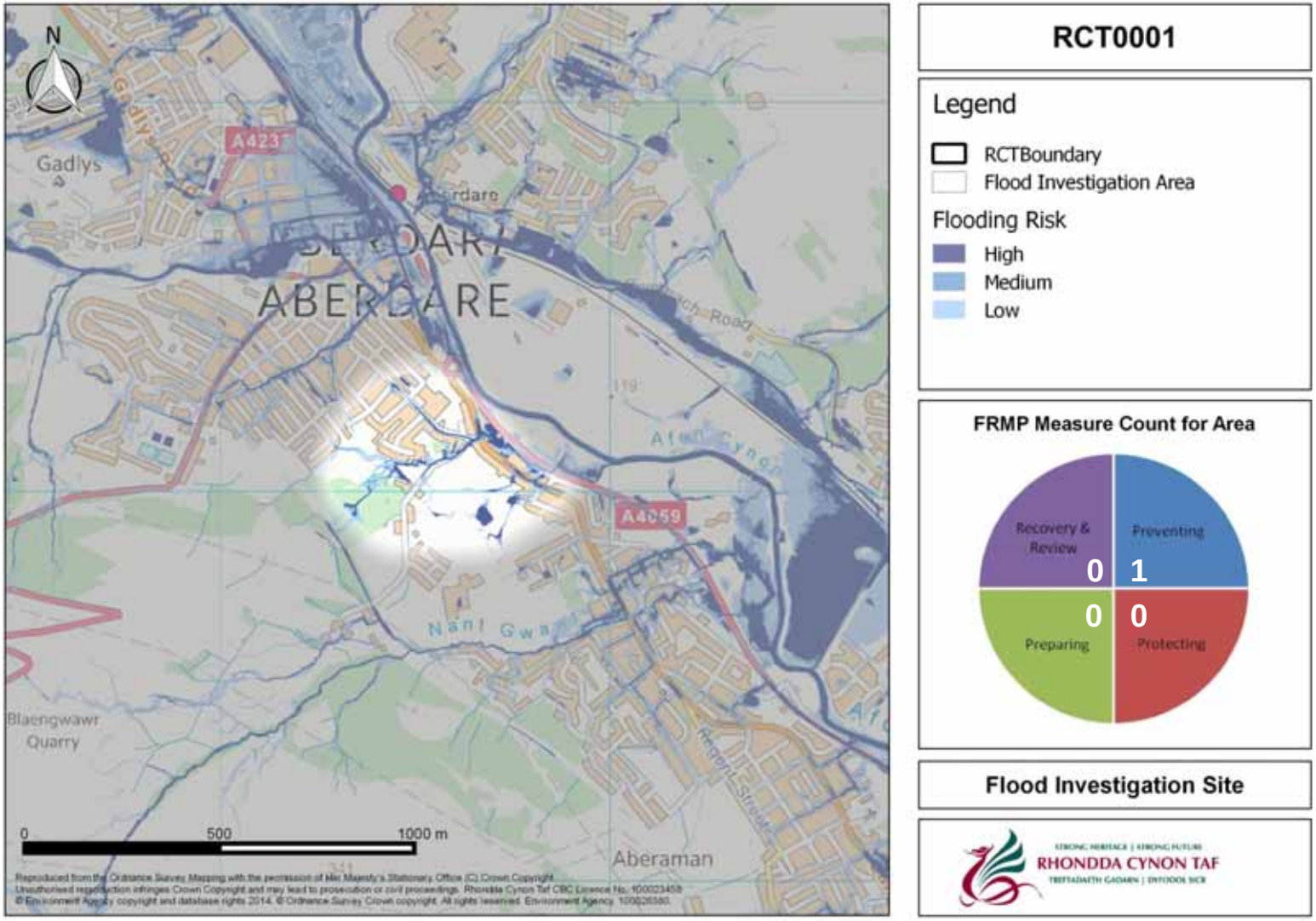
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0001

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People	719	33	28	113
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	46	4	1	6
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	1			
Highway	4			

Summary of Flood Risk Management Plan Measures for RCT0001

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0001	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0001



Flood Investigation Area - RCT0002

Flood Investigation Area RCT0002 is situated within Aberaman North with a small section incorporating Cwmbach in the northeast. A low to high risk is identified along the length of the Nant Gwawr, particularly along Gwawr Street, Cardiff Road, Curre Street and Holford Street. It is anticipated that this is associated with the culvert inlet adjacent to the junction of Cardiff Road and Gwawr Street. A high risk of flooding is noted in the fields to the east of the Aberdare bypass.

Surface Runoff flood risk is noted to the south of the Nant Gwawr at Brook Street, Hill Street and Kind Street.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between reported flood incidents and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

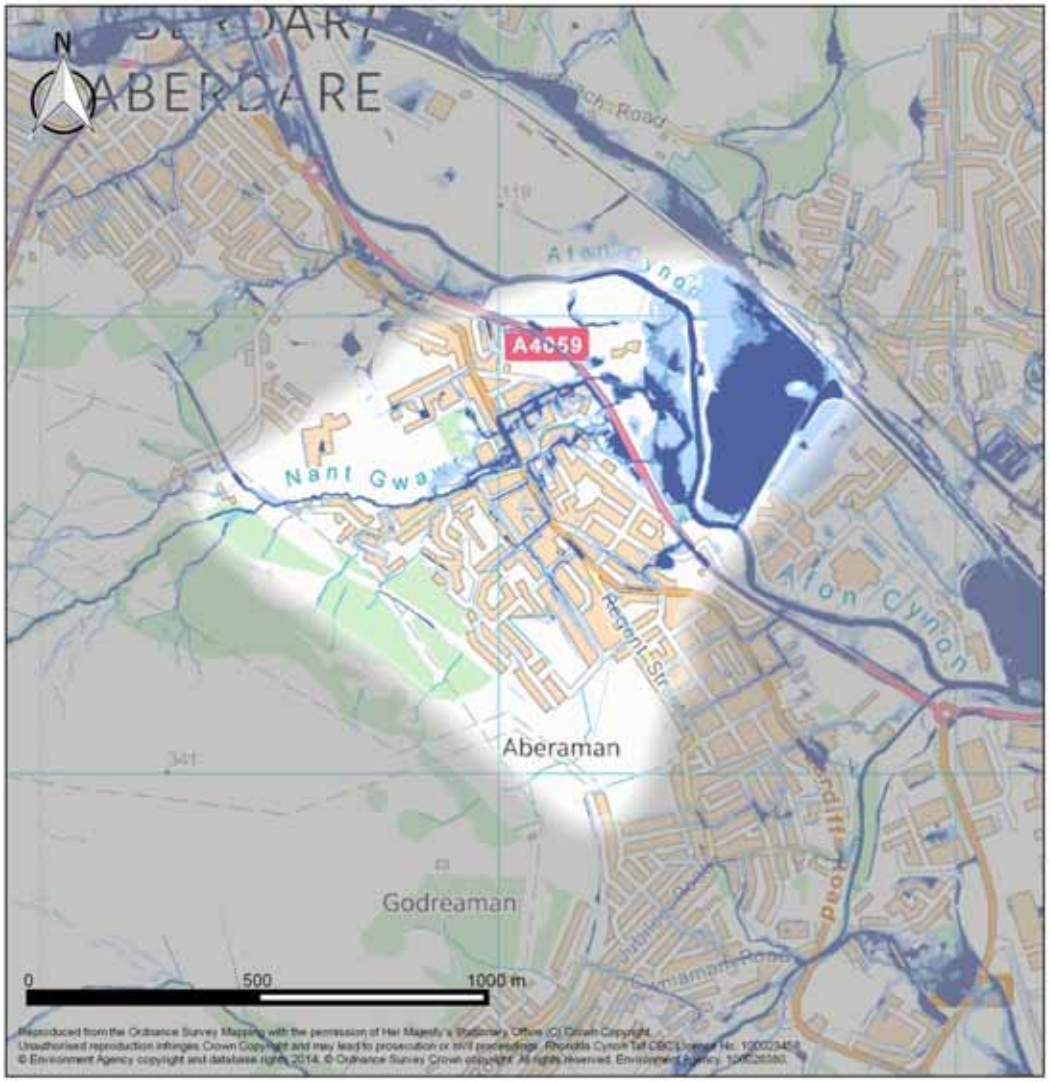
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0002

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People	2099	139	115	454
Services	2	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	124	4	6	17
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0.1	0	0	0.09
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	12			
Highway	17			

Summary of Flood Risk Management Plan Measures for RCT0002

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0002	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Ongoing/Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Completed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0002



RCT0002

Legend

- RCTBoundary
- Flood Investigation Area

Flooding Risk

- High
- Medium
- Low

FRMP Measure Count for Area

Flood Investigation Site

Flood Investigation Area - RCT0003

Flood Investigation Area RCT0003 is located in the community area of Aberaman North with low to high risk indicated at Llanddewi Street, Cardiff Road, Brecon Street, Lower Station Street and Lower Street. Low to high flood risk is also indicated at Margaret Street and Cynon Street and Clifton Crescent.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is an average correlation between the locations of flood incidents and areas identified as at a risk of surface water flooding with flooding incidents of note relating to the flooding of the highway.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

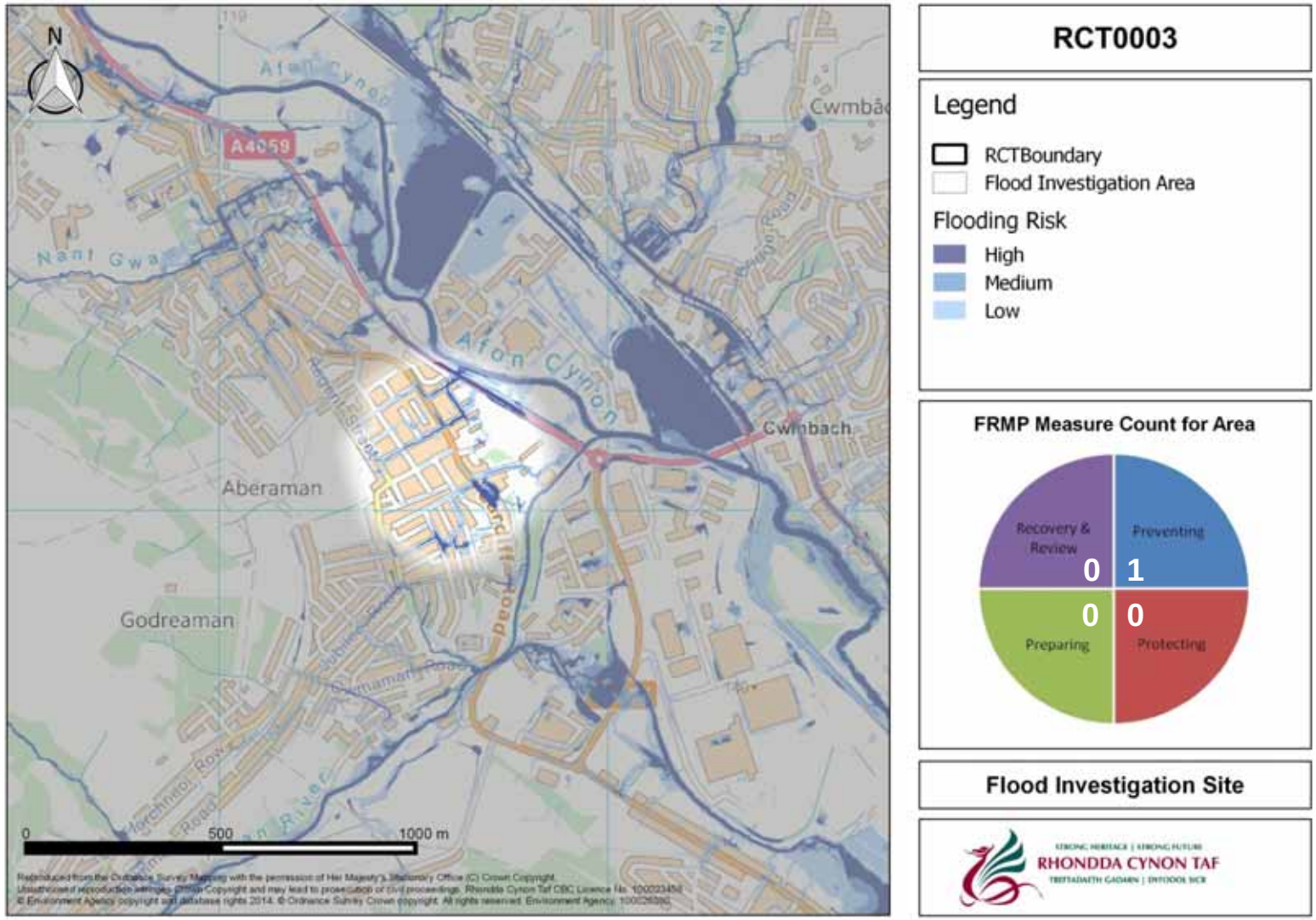
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0003

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1408	160	31	54
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	50	3	0	5
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	2			
Highway	4			

Flood Risk Management Plan Measures for RCT0003

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0003	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0003



Flood Investigation Area - RCT0004

Flood Investigation Area RCT0004 is situated within the community areas of Aberaman North and Aberaman south. A low to high risk indicated at Cwmaman Road, Jubilee Road and Ffrwd Street. It is anticipated that this flood risk is Surface Runoff.

A low to high flood risk is also identified at the culvert inlet on an unnamed watercourse to the south of Oaklands Primary School; no significant receptors are adversely affected by this flooding.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

Historic highway flooding incidents broadly correlate with those areas of highway identified as being at a risk of low to high flood risk. Historic flooding incidents regarding culverts relate to the reporting of culvert inlet blockages rather than capacity issues.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

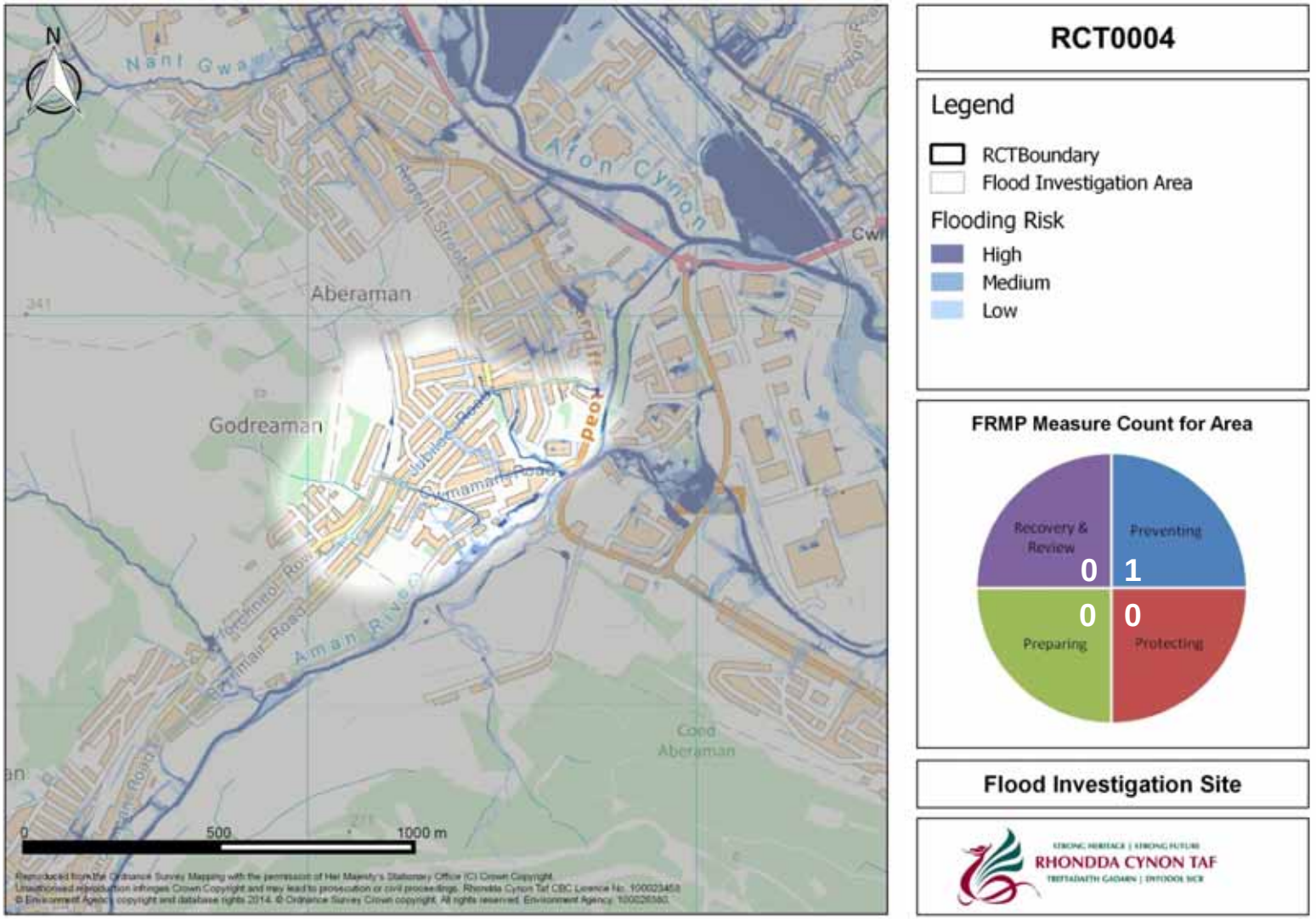
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0004

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1915	2	2	115
Services	1	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	75	0	0	3
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	3			
External	7			
Highway	27			

Flood Risk Management Plan Measures for RCT0004

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0004	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0004



Flood Investigation Area - RCT0005

Flood investigation Area RCTCBC 0005 is situated within the community area of Aberaman South. A low to high flood risk is indicated from the culvert inlet of the Nant Neol, adjacent to Cwmneol Bridge. The flood flow path flows through property before discharging into the Nant Neol at its confluence with the Aman River.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between highway flooding events reported to the authority and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

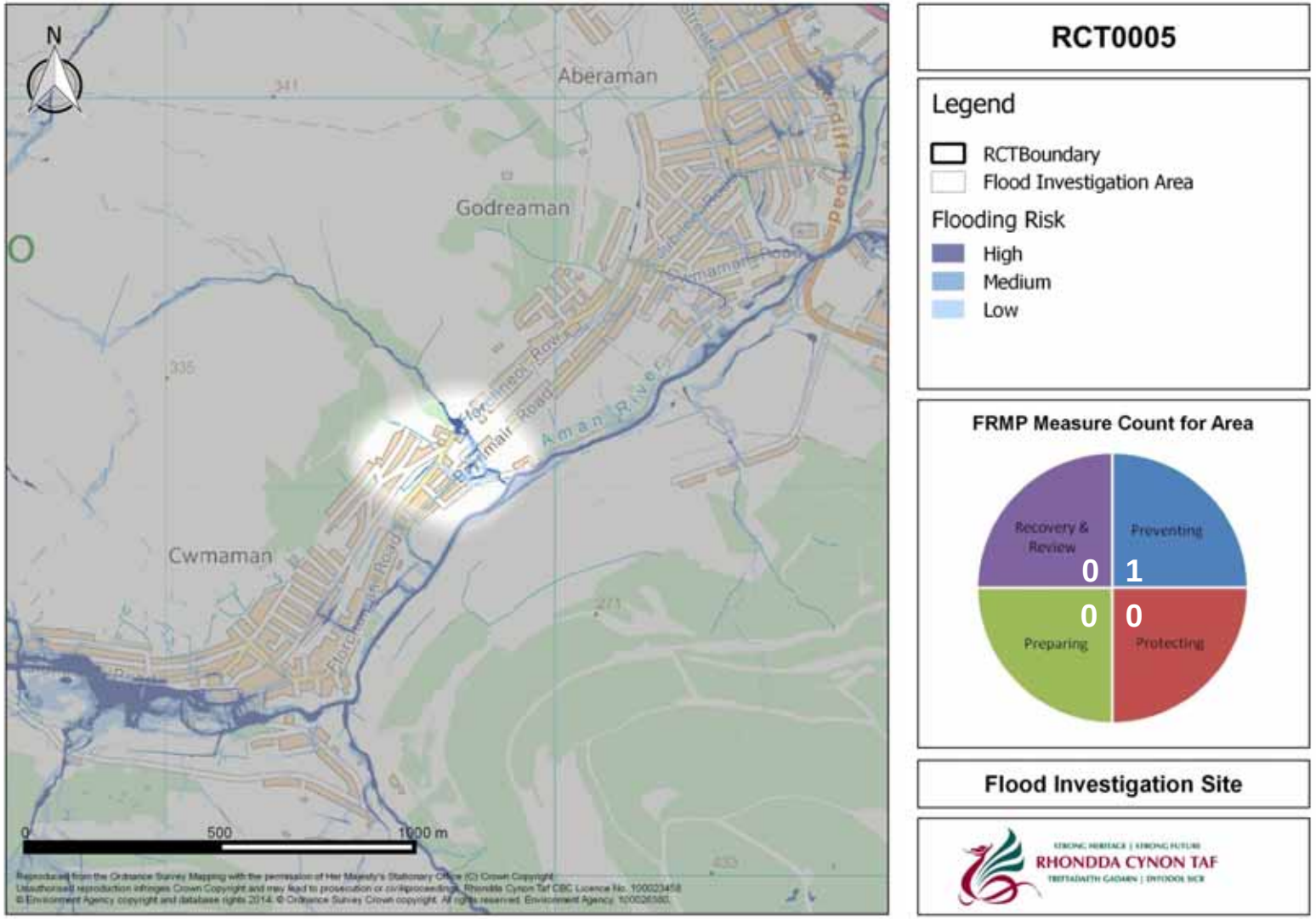
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0005

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	294	7	0	9
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	20	0	0	1
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	2			
Highway	4			

Flood Risk Management Plan Measures for RCT0005

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0005	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0005



Flood Investigation Area - RCT0006

Flood Investigation Area RCT0006 is situated within the community area of Aberaman South. The uFMfSW identifies a low to high risk of surface runoff at Milton Street, Cwmneol Street and Fforchaman Road.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

The reported incident of external flooding to property is consistent with the risk posed within the uFMfSW; however, the reported incidents to highways show a poor correlation with the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

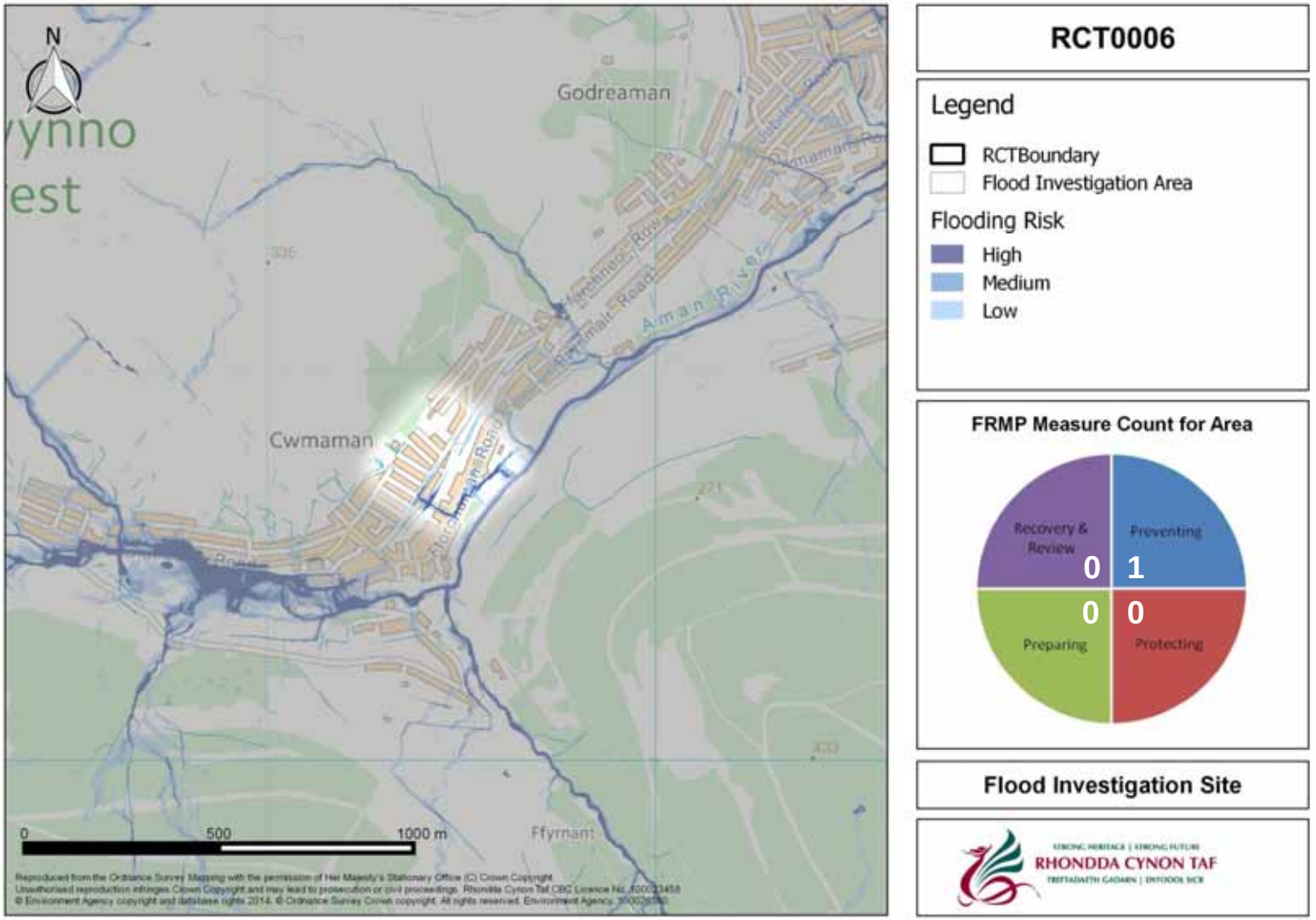
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0006

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	531	56	14	5
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	19	0	0	1
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	1			
Highway	2			

Flood Risk Management Plan Measures for RCT0006

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0006	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0006



Flood Investigation Area - RCT0007

Flood Investigation Area RCT0007 is situated in the community area of Aberaman South. Flood risk presented in the Flood Investigation Area is likely attributed to a combination of surface water and main river flooding. Flood risk is noted along the length of Glanrhyd Street, Glanaman Road and Aman Street along with sections of Glanhafod Street. The flood flow path then flows west to east across the Aman River flood plain before returning to the channel south of Aman Street.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

Relevant historic flood events relate to highway flooding and show a good correlation with the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0007

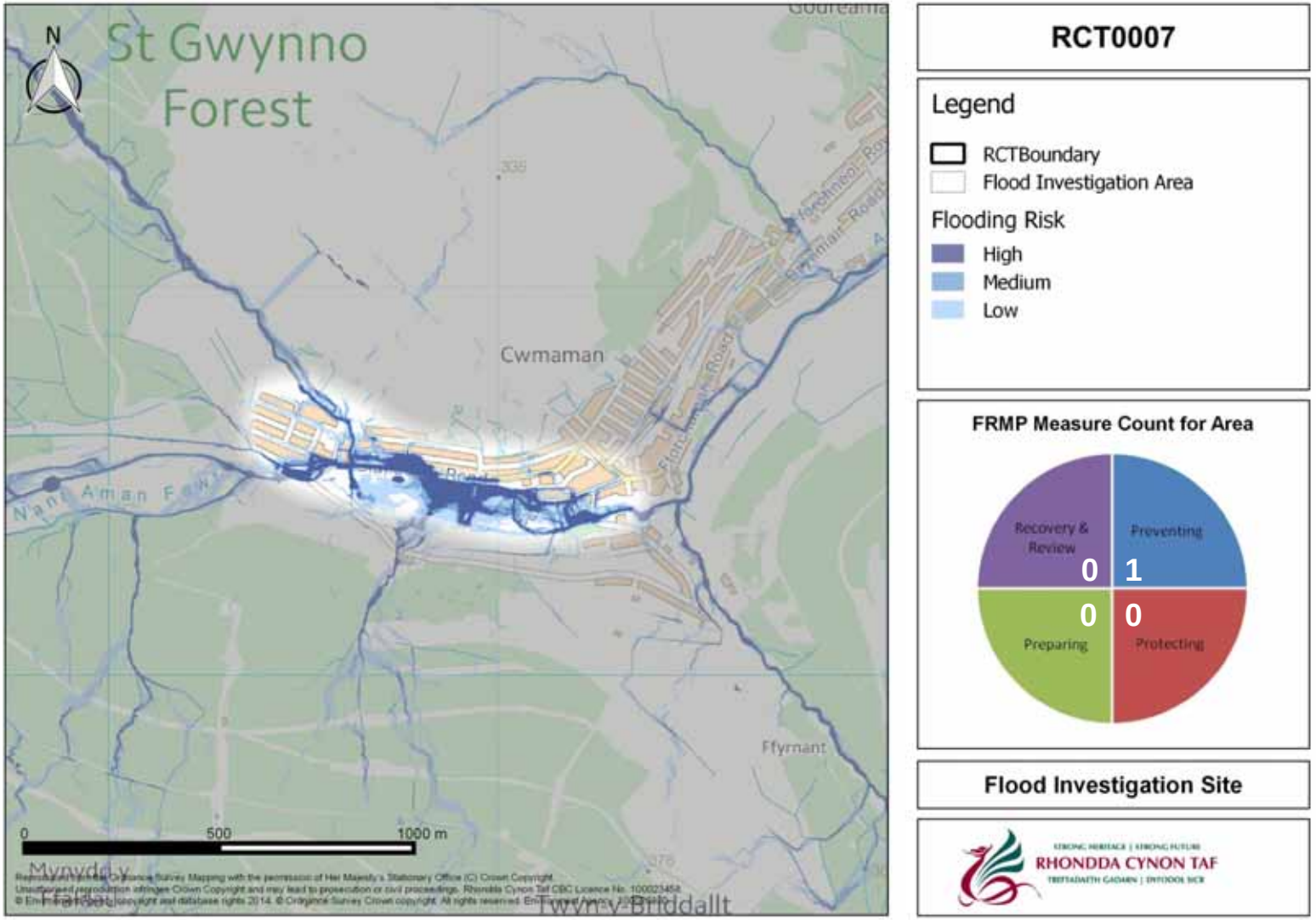
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1088	183	16	169
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	44	5	5	4
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	3			
Highway	13			

Flood Risk Management Plan Measures for RCT0007

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0007	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0007



Flood Investigation Area - RCT0008

Flood Investigation Area RCT0008 is situated within the community area of Aberaman South. The flood risk is considered to be sourced from surface runoff and ordinary watercourse flooding. A low to medium risk is identified at Graig Avenue, Cromer Street, Mary Street, John Street and Tanycoed Terrace. The low to high flood risk identified at Bronallt Terrace is anticipated to be associated with the culvert inlet of the drain to the south of the street.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

No flood incidents indentified within the area relate to property flooding and there is a poor correlation between recorded flooding to the highway and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

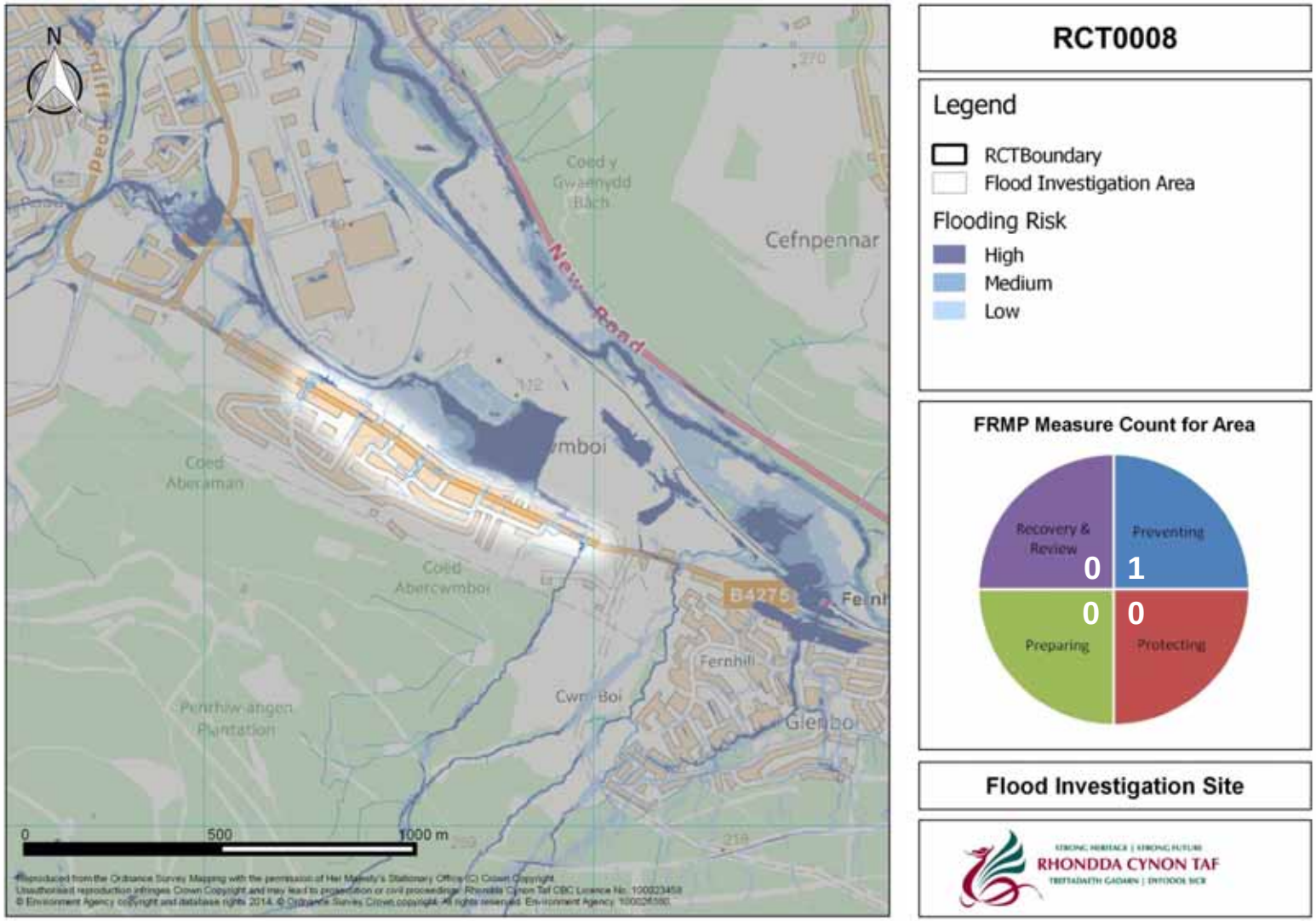
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0008

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	846	0	7	96
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	28	1	0	1
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	2	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	4			
Highway	10			

Flood Risk Management Plan Measures for RCT0008

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0008	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0008



Flood Investigation Area - RCT0009

Flood Investigation Area RCT0009 is situated within the community are of Abercynon and the flood risk presented within the uFMfSW is considered to be sourced from a culvert inlet. A low to high risk is noted in the area surrounding Nant Y Fedw.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a poor correlation with reported external flooding incidents to property and the uFMfSW and there is a poor correlation between recorded flooding incidents to the highway and the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

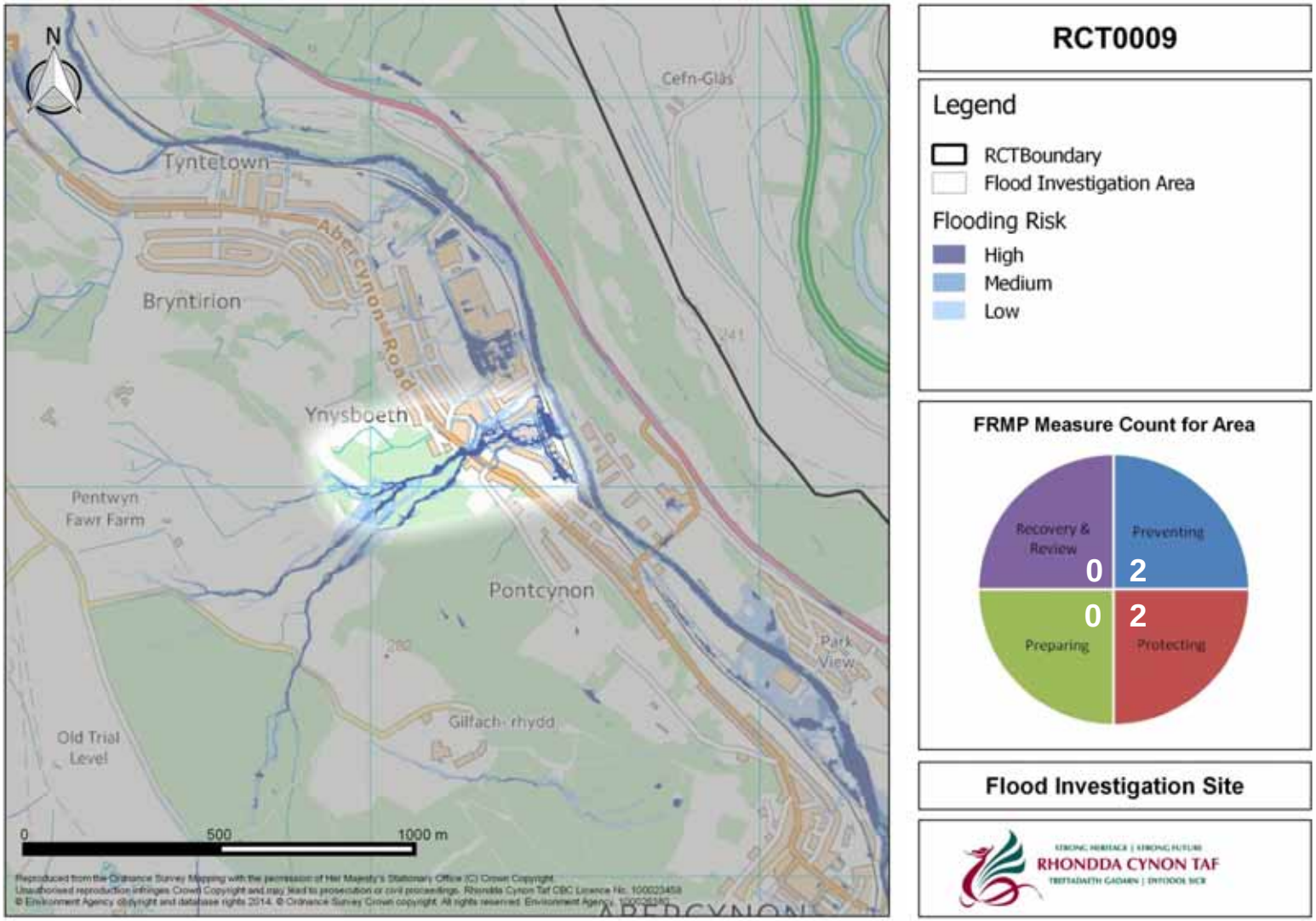
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0009

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	872	130	35	136
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	40	7	2	3
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0.2	0.05	0.03	0.01
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	1	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	2			
Highway	1			

Flood Risk Management Plan Measures for RCT0009

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0009	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Ongoing	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Completed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0009



Flood Investigation Area - RCT0010

Flood Investigation Area RCT0010 is situated within the community area of Abercynon and the flood risk is considered to be sourced from surface runoff. An area of high risk is noted in the south of the Flood Investigation Area, surrounding Station Road, anticipated to be due to ponding adjacent to the railway embankment.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between reported flooding incidents to the highway and the risk presented within the uFMfSW. The two reported incidents of internal flooding show a reasonable correlation with areas of potential flood risk.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

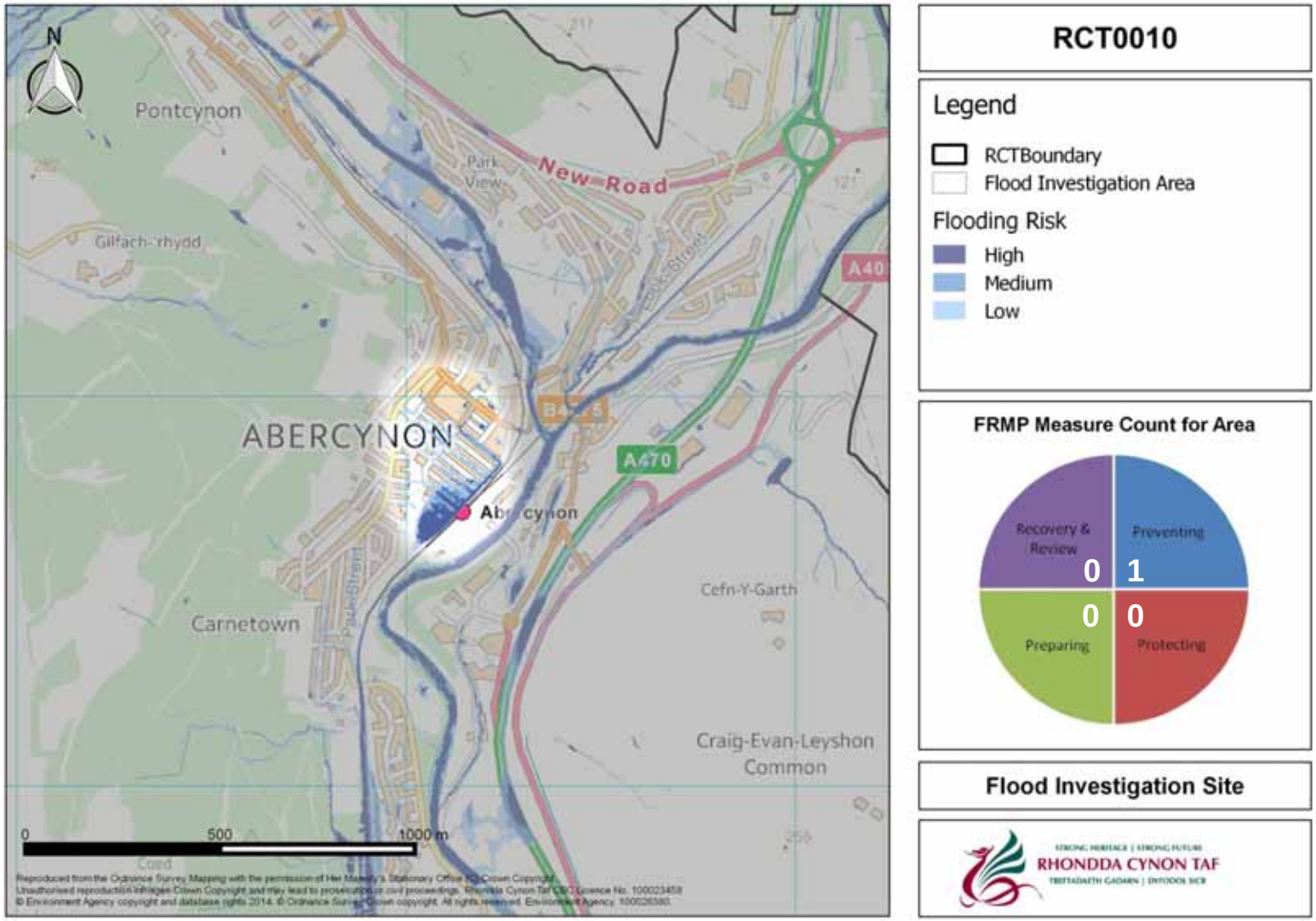
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0010

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	947	89	40	176
Services	4	2	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	56	6	2	4
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0.5	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	3			
External	1			
Highway	10			

Flood Risk Management Plan Measures for RCT0010

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0010	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0010



Flood Investigation Area - RCT0011

Flood Investigation Area RCT0011 is situated within the community area of Abercynon. The flood risk presented within the uFMfSW is considered to be attributed to local sources of flood risk. A low to high risk is noted in the area of Lock Street and the lower section of Glancynon Terrace.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

No flood incidents indentified within the area relate to property flooding; however, there is a good correlation between recorded flooding to the highway and flood incident reports.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

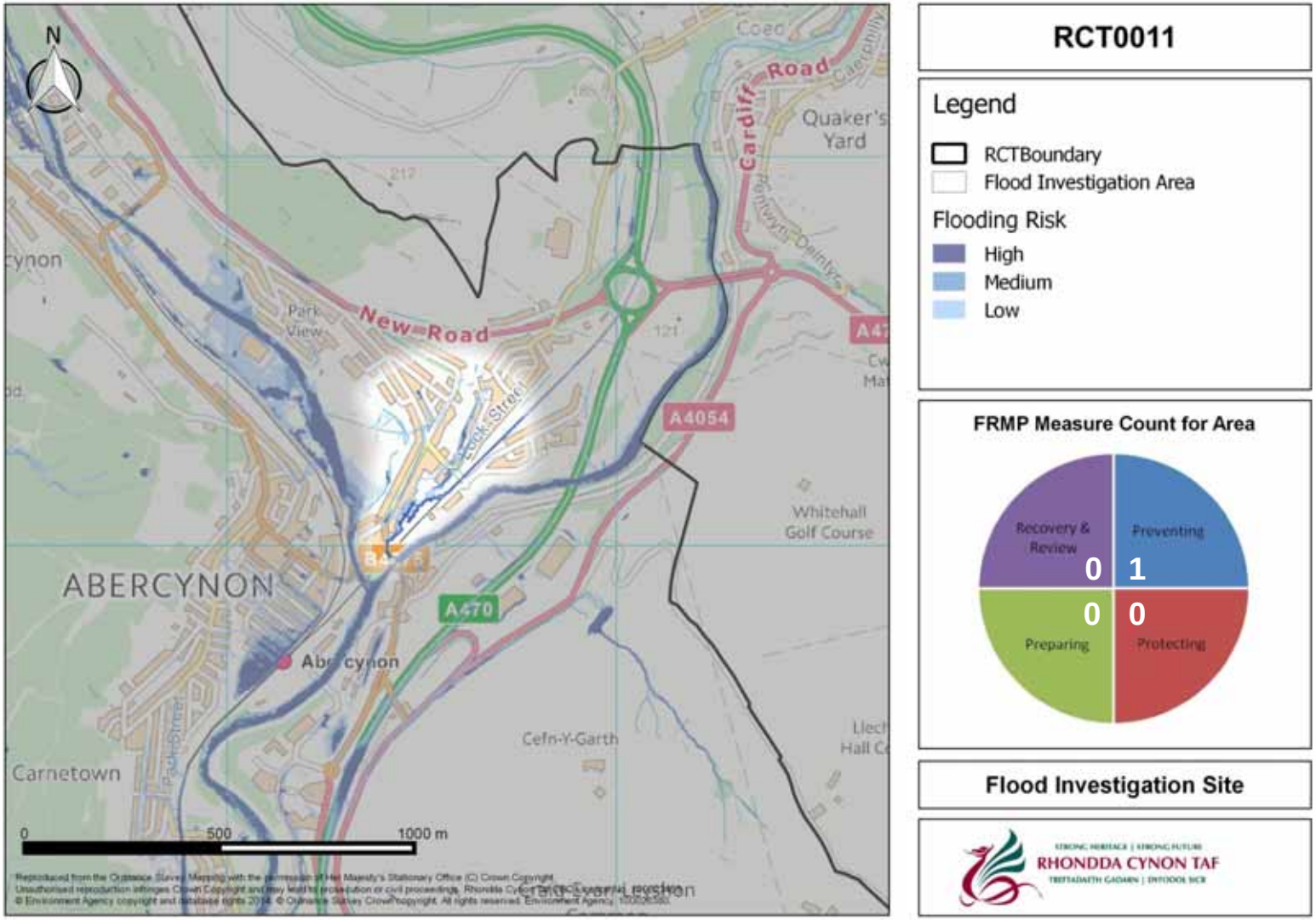
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0011

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	895	9	21	89
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	56	1	4	4
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.08	0.08	0.08
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	1	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	3			

Flood Risk Management Plan Measures for RCT0011

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0011	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0011



Flood Investigation Area - RCT0012

Flood Investigation Area RCT0012 is situated within both Aberdare West/Llwydcoed and Aberdare East and is considered to be sourced from an ordinary watercourse, notably the culvert inlets within the area. A risk is present in the Gadlys area of Aberdare.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between recorded flooding to the highway and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

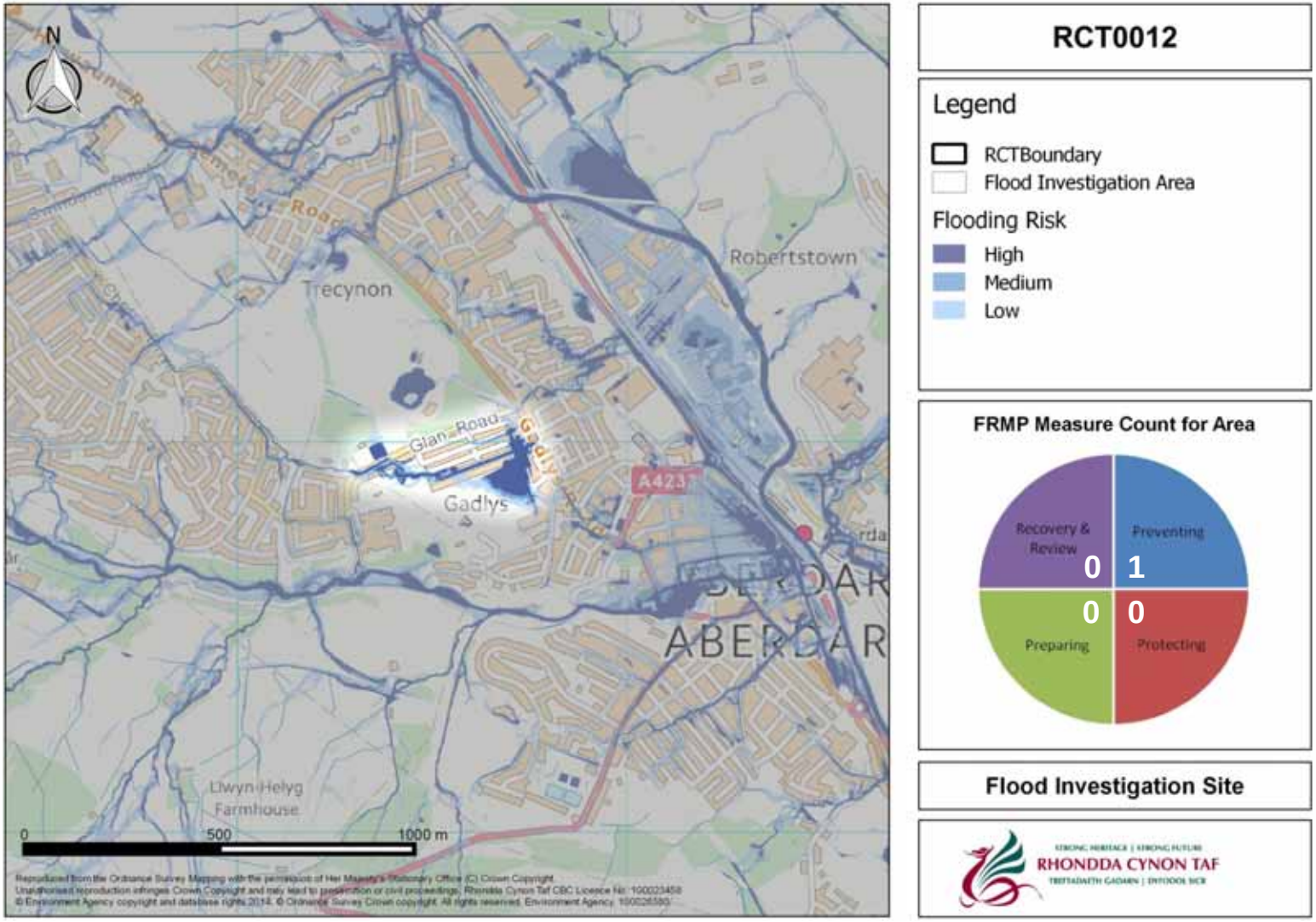
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0012

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	644	141	24	71
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	17	2	1	3
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	1	0.1	0.007	0.05
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	1			
Highway	7			

Flood Risk Management Plan Measures for RCT0012

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0012	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0012



Flood Investigation Area - RCT0013

Flood Investigation Area RCT0013 is situated within the community area of Aberdare East and the flood risk is considered to be contributed to local sources of flood risk and main river flooding, notably the Dare River culvert inlet adjacent to High Street. Additional flood risk from an unnamed watercourse is posed to Gloucester Street. A surface water flood risk is also posed to the northwest and south of the flood investigation area.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between flooding incidents to internal property and to the highway and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0013

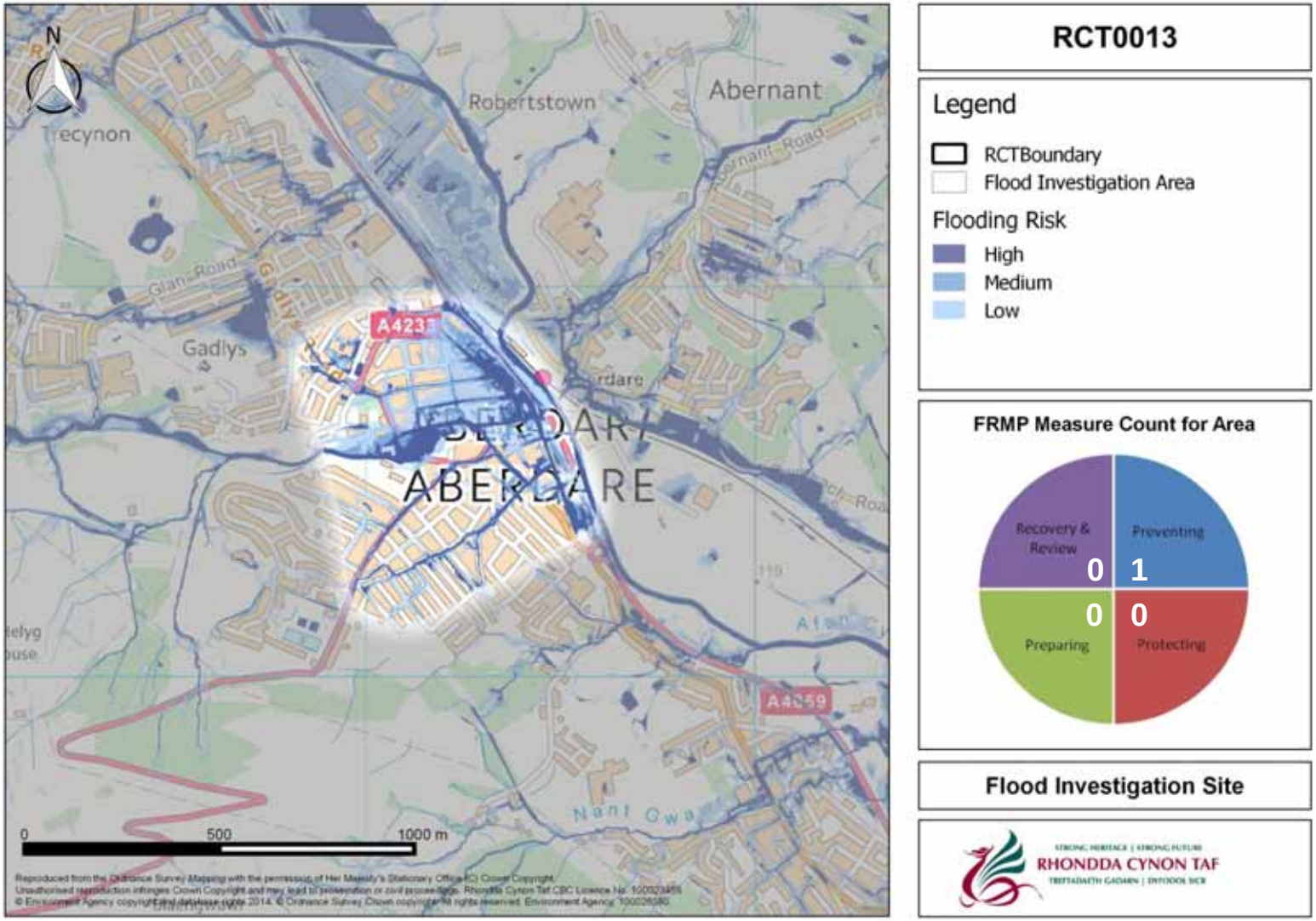
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	3389	259	348	590
Services	8	1	1	3
ECONOMIC ACTIVITY				
Non Residential Properties	424	151	62	74
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0.2	0.02	0	0.07
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	37	3	2	12
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	5			
External	7			
Highway	20			

Flood Risk Management Plan Measures for RCT0013

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0013	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0013



Flood Investigation Area - RCT0014

Flood Investigation Area RCT0014 is situated within the community area of Aberdare East. The flood risk is considered to be sourced from breaching of the banks of the Nant y Wenallt and culverts of unnamed watercourses. The flood risk observed in the area of Wenallt Road is considered to have a contribution from surface runoff flows observed from the northeast of the flood investigation area. A low to high risk is identified across residential areas off Abernant Road and Cwmbach Road.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between recorded flooding to the highway and flood incident reports.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

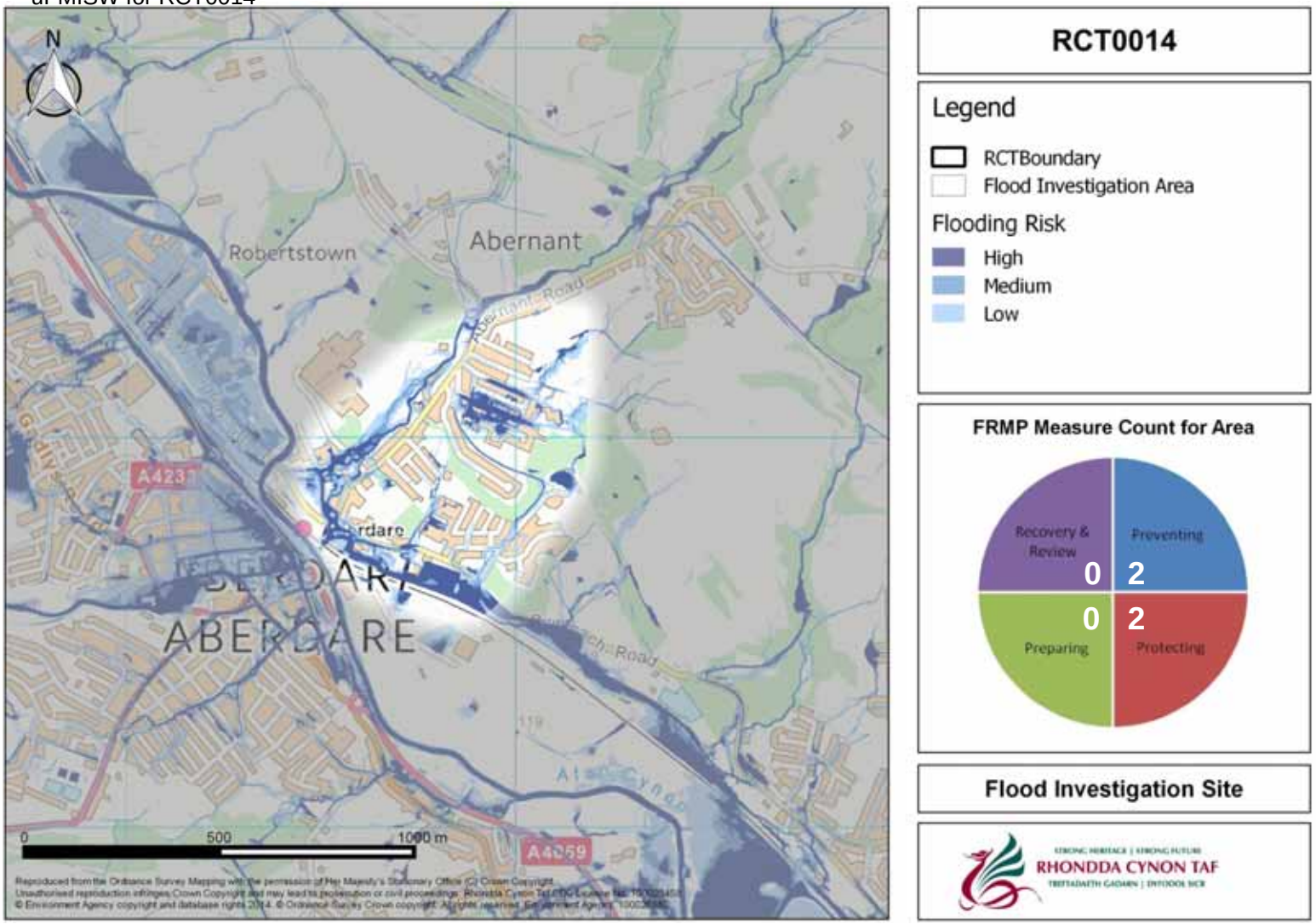
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0014

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1050	150	42	188
Services	2	0	1	0
ECONOMIC ACTIVITY				
Non Residential Properties	82	11	9	12
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0.4	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	2			
Highway	9			

Flood Risk Management Plan Measures for RCT0014

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0014	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0014



Flood Investigation Area - RCT0015

Flood Investigation Area RCT0015 is situated within Aberdare West/Llwydcoed and is considered to be sourced from the Nant y Gwyddel, other unnamed ordinary watercourses and surface runoff. The flood risk posed to this flood investigation area is sporadic and also associated with the areas to the north of the railway line in the south of the area, dissecting the site east-west. Sections of the road network at risk of flooding are along Llwydcoed Road and Merthyr Road.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There are few internal property flooding incidents within the flood investigation area and these do not correlate with the risk posed by the uFMfSW; however, there is a good correlation between flood risk presented within the uFMfSW and reported flooding to the highway.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

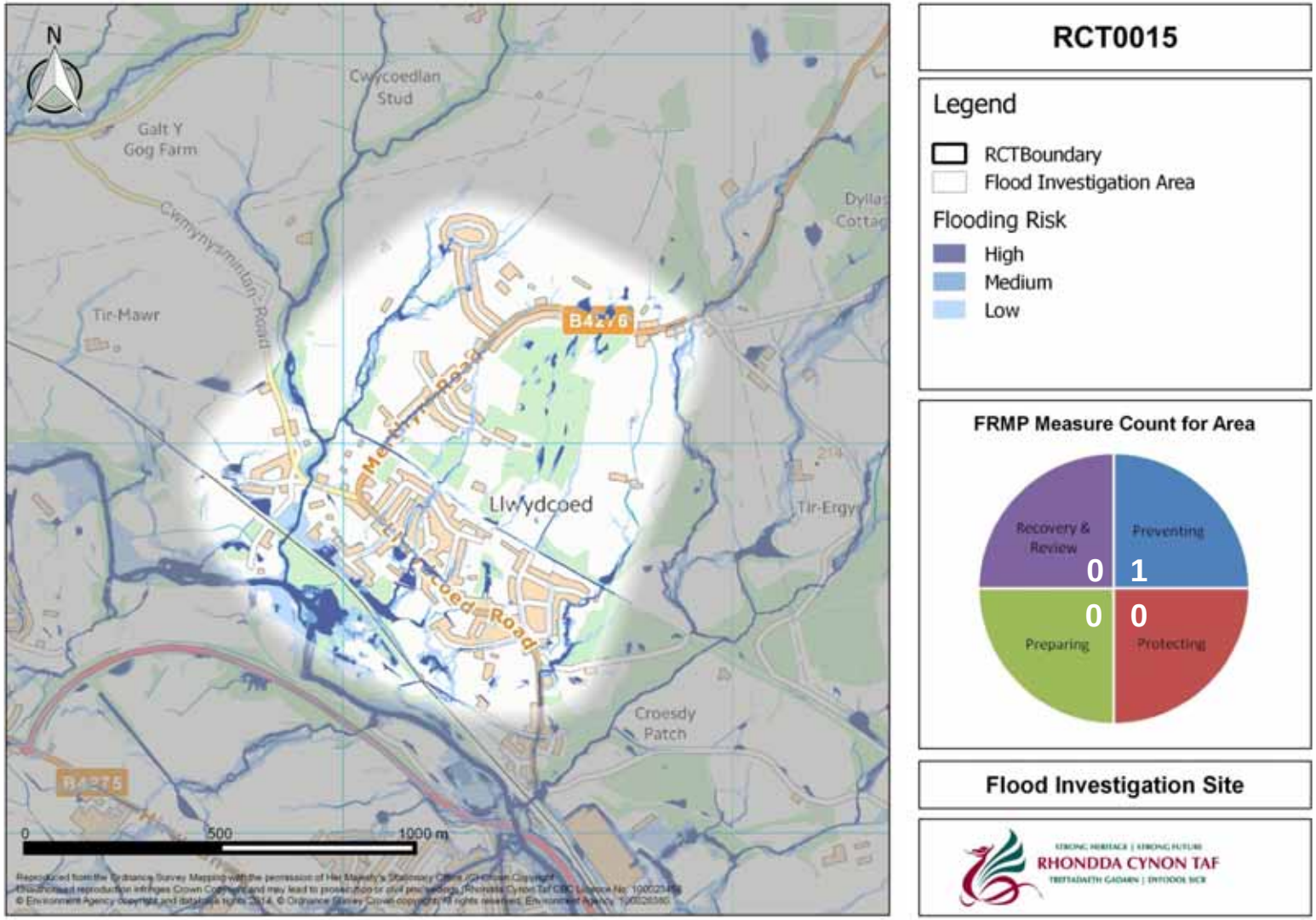
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0015

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1297	9	40	75
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	130	2	1	7
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.01	0.003	0.05
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	3	1	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	3			
External	10			
Highway	12			

Flood Risk Management Plan Measures for RCT0015

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0015	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0015



Flood Investigation Area - RCT0016

Flood Investigation Area RCT0016 is situated within the community areas of Aberdare West/Llwydcoed and Aberdare East. The flood risk is considered to be sourced from surface runoff and an interaction with the Afon Cynon (Main River). To the east of the railway, flood risk is anticipated to be a combination of local sources and Main River flooding with a low risk posed to a widespread area (Aberdare Business Park). A low to high risk of flooding is posed to the area of Robertstown. To the west of the railway, the flood risk is posed around the areas of Broniestyn Terrace and Tudor Terrace and is considered to be sourced from surface runoff.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between historic flood incidents to property and highway and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

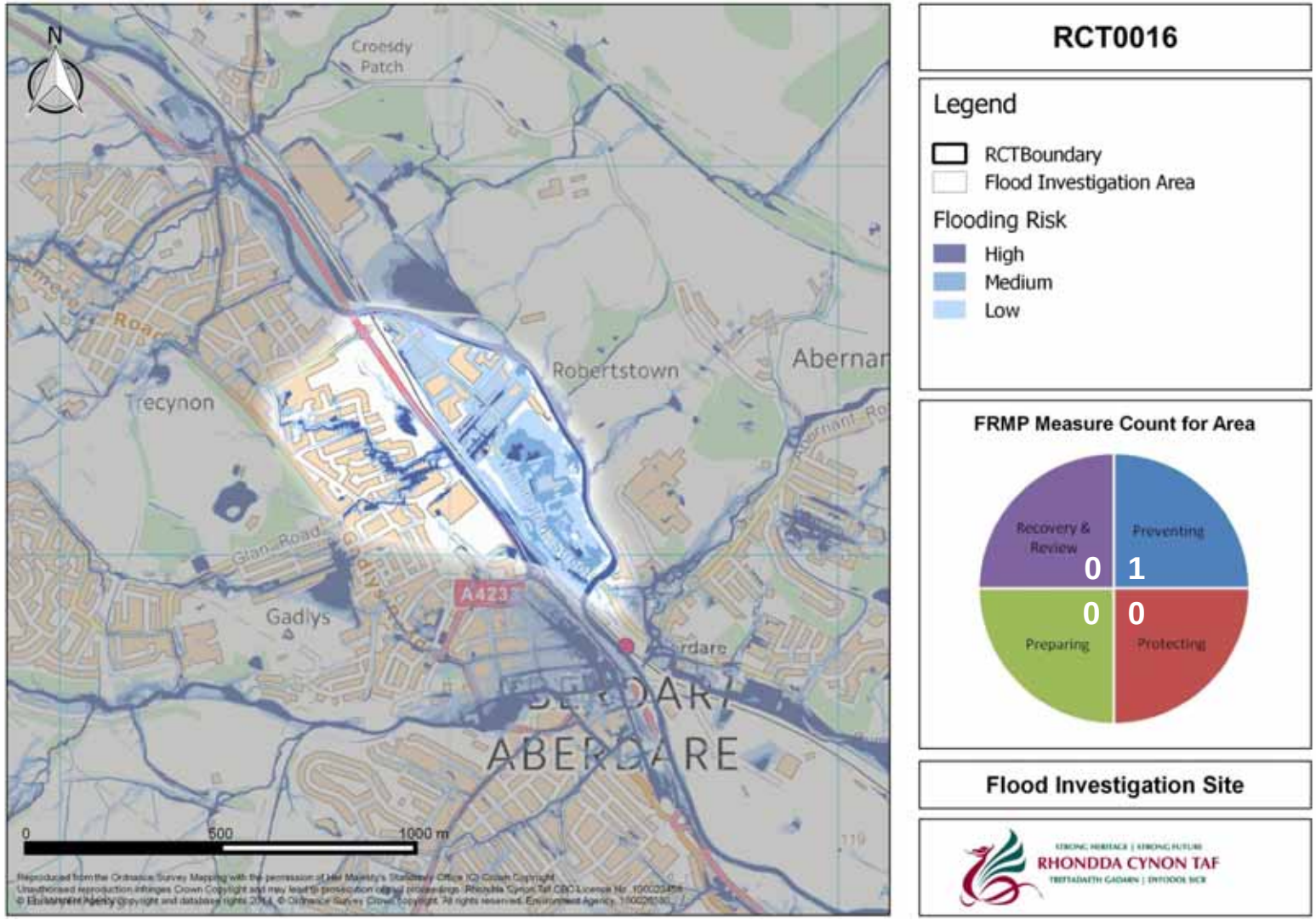
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0016

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1048	176	80	256
Services	2	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	71	6	3	25
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.02	0.08	0.3
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	3	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	2			
External	6			
Highway	5			

Flood Risk Management Plan Measures for RCT0016

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0016	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

uFMfSW for RCT0016



Flood Investigation Area - RCT0017

Flood Investigation Area RCT0017 is situated within the community area of Aberdare West/Llwydcoed and the flood risk is considered to be a combination of flooding from culvert inlets within the Cwm Sian and surface runoff. A low to high risk is broadly correlated along the length of the Cwm Sian. An area of high risk to the east of Aberdare High School is also noted, anticipated to be sourced from surface runoff.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between flooding incidents to internal and external property and the risk presented within the uFMfSW. An excellent correlation is presented between the uFMfSW and reported flooding to the highway.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

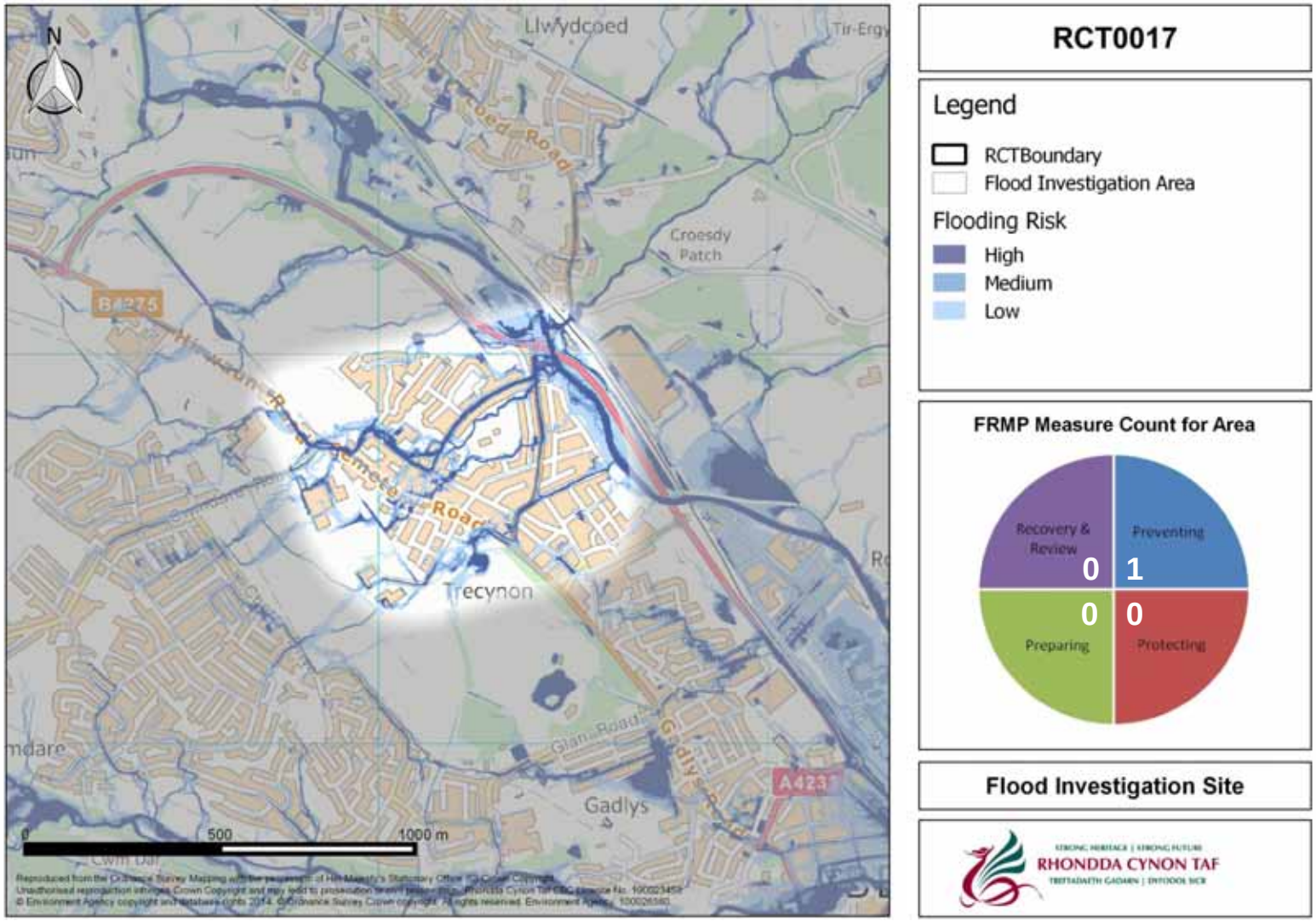
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0017

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	2460	75	96	428
Services	3	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	145	9	8	17
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0.1	0.09	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	1	0.2	0.2	0.7
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	10	1	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	4			
External	10			
Highway	15			

Flood Risk Management Plan Measures for RCT0017

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0017	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0017



Flood Investigation Area - RCT0018

Flood Investigation Area RCT0018 is situated within Aberdare West/Llwydcoed and is considered to be sourced from surface runoff. A low to high is presented to the highway network and surrounding areas, particularly along Cwmdare Road and Cherry Drive.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between property flooding incidents reported to the authority and the risk presented within the uFMfSW. The reported flooding incidents to highways have a good correlation with the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

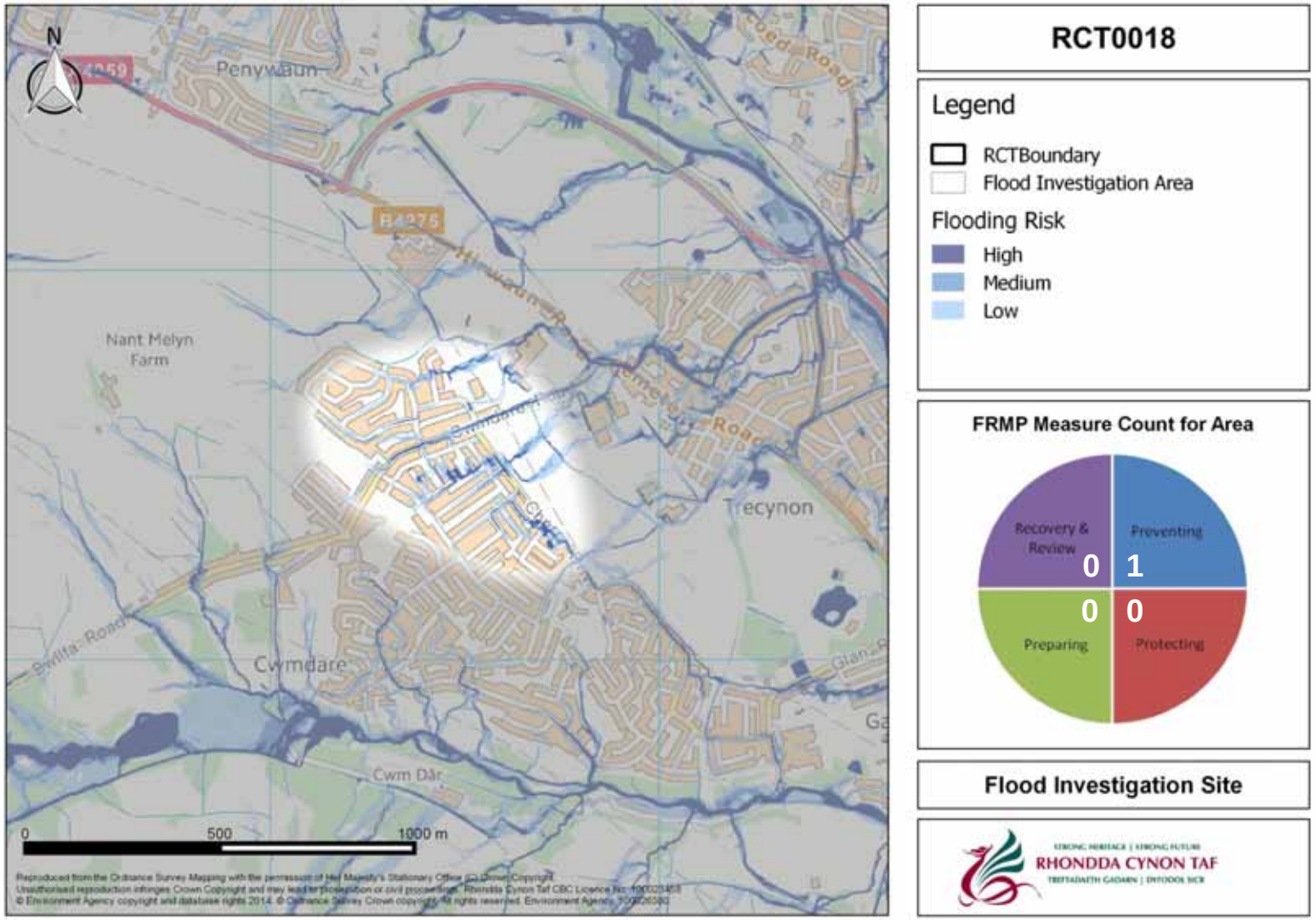
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0018

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1502	14	28	153
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	21	1	1	0
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	4			
Highway	5			

Flood Risk Management Plan Measures for RCT0018

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0018	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0018



Flood Investigation Area - RCT0019

Flood Investigation Area RCT0019 is situated within the community area of Aberdare West/Llwydcoed and the flood risk is considered to be sourced predominantly from surface runoff. A potential contribution from culvert inlets within ordinary watercourses is noted in the south of the Flood Investigation Area. A low to high is presented to the highway network, particularly along The Ridings and Bryn Derwen.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a fair correlation between reported flooding to external property and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

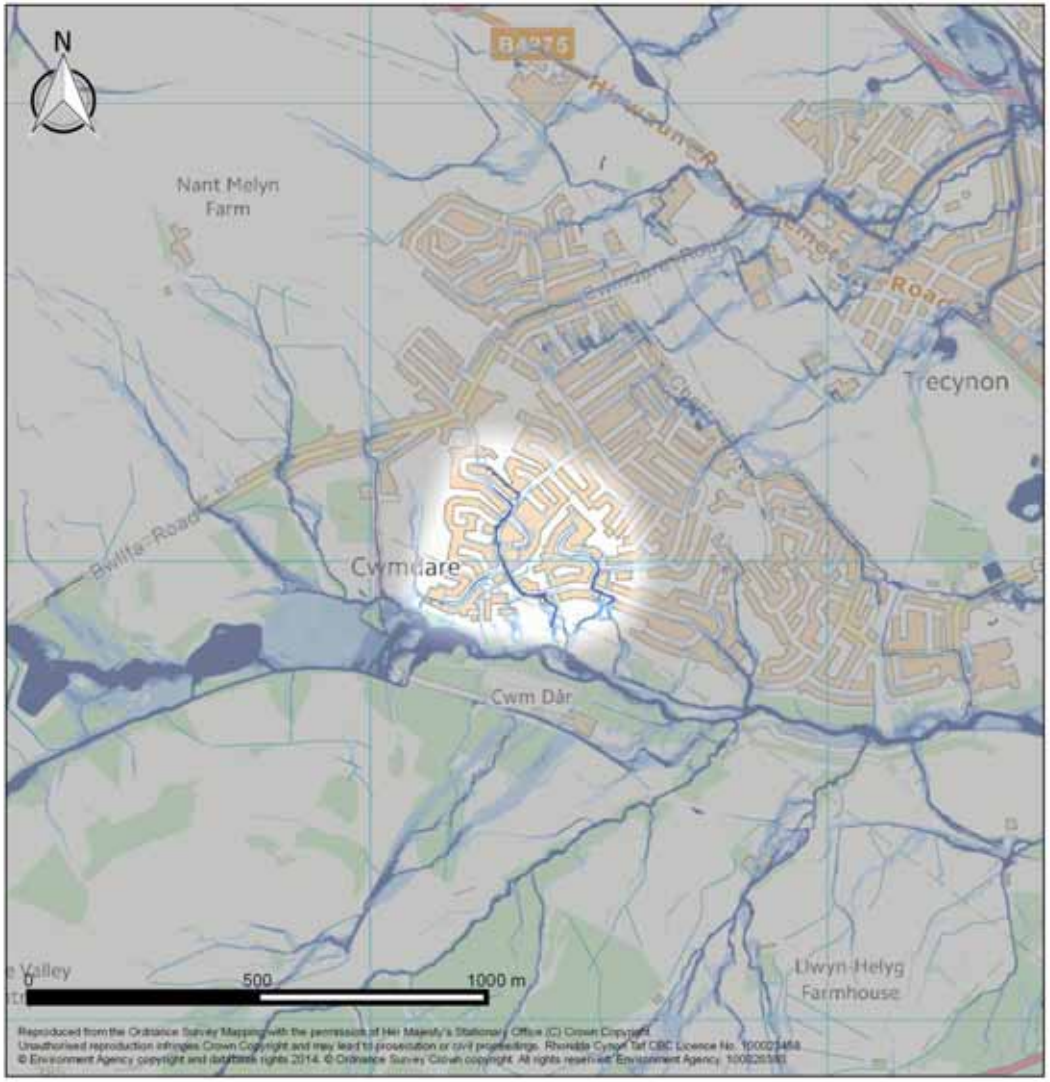
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0019

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1140	12	33	118
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	77	1	0	6
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	1	0	0
Licensed Abstractions	2	2	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	4			
Highway	0			

Flood Risk Management Plan Measures for RCT0019

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0019	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0019



RCT0019

Legend

- RCTBoundary
- Flood Investigation Area

Flooding Risk

- High
- Medium
- Low

FRMP Measure Count for Area

Flood Investigation Site

Flood Investigation Area - RCT0020

Flood Investigation Area RCT0020 is situated within the community area of Beddau. The flood risk is considered to be sourced from surface runoff. A low to high risk of flooding is posed to areas surrounding Heol Gelynog and Heol Ap Pryce and also adjacent to Heol Seward, such as Heol Ddeusant and Heol Y Coed.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between flooding incidents to external property reported to the authority and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

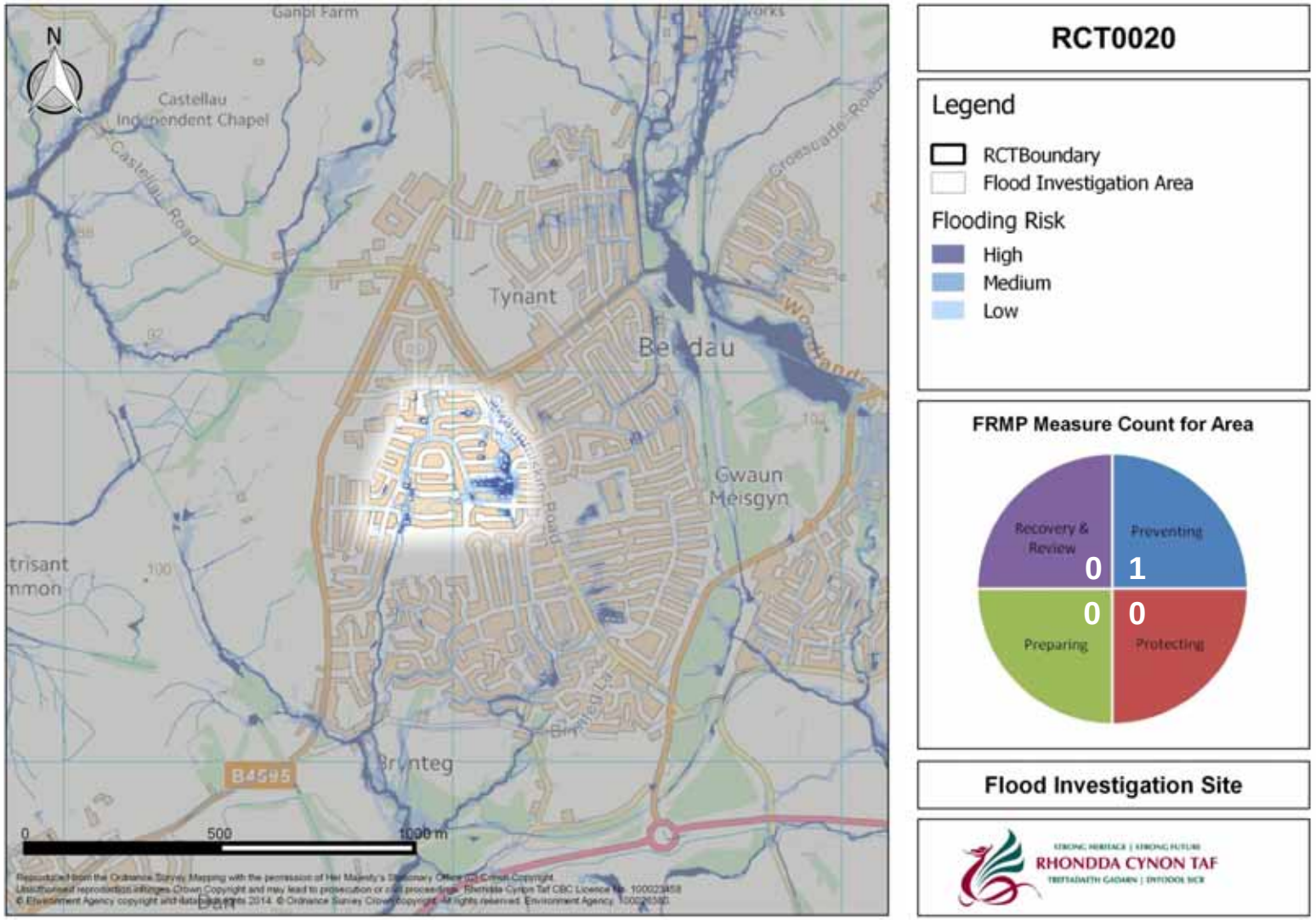
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0020

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	819	68	45	108
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	33	0	1	4
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	4			
Highway	0			

Flood Risk Management Plan Measures for RCT0020

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0020	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0020



Flood Investigation Area - RCT0021

Flood Investigation Area RCT0021 is situated within the community area of Brynna and the food risk is likely to be surface runoff. Whilst a low to high risk is associated with the highway network, the area surrounding Trenos Gardens is at a low to high risk from local sources of flooding. A low to high flood risk is noted at Bryncae Industrial Estate.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

The one instance of flooding to external property in the area is not consistent with the risk presented within the uFMfSW; however, there is good correlation with the reported flooding to highways and the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

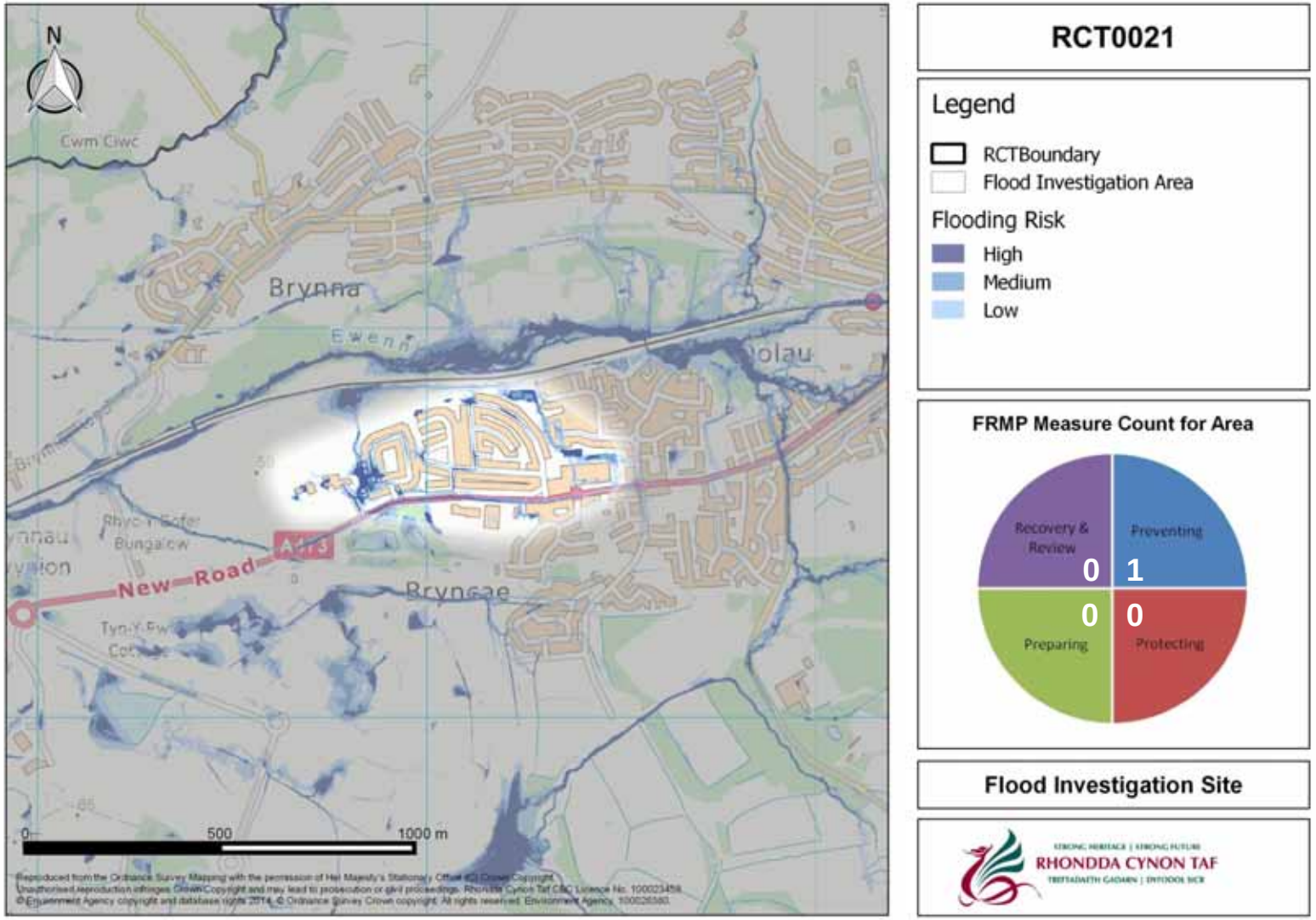
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0021

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	761	28	5	52
Services	1	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	51	3	1	10
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	1			
Highway	2			

Flood Risk Management Plan Measures for RCT0021

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0021	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0021



Flood Investigation Area - RCT0022

Flood Investigation Area RCT0022 is situated within the community area of Brynna and the flood risk is considered to be sourced from surface runoff. A risk of surface water flooding is posed to the highways network, notably Williams Street, Southall Street and Gellifedi Road.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

The recorded incidents of external and internal flooding to property within the flood investigation area are not consistent with the uFMfSW; however, there is a good correlation between risk posed to the highway within the uFMfSW and historic flood incident reports.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

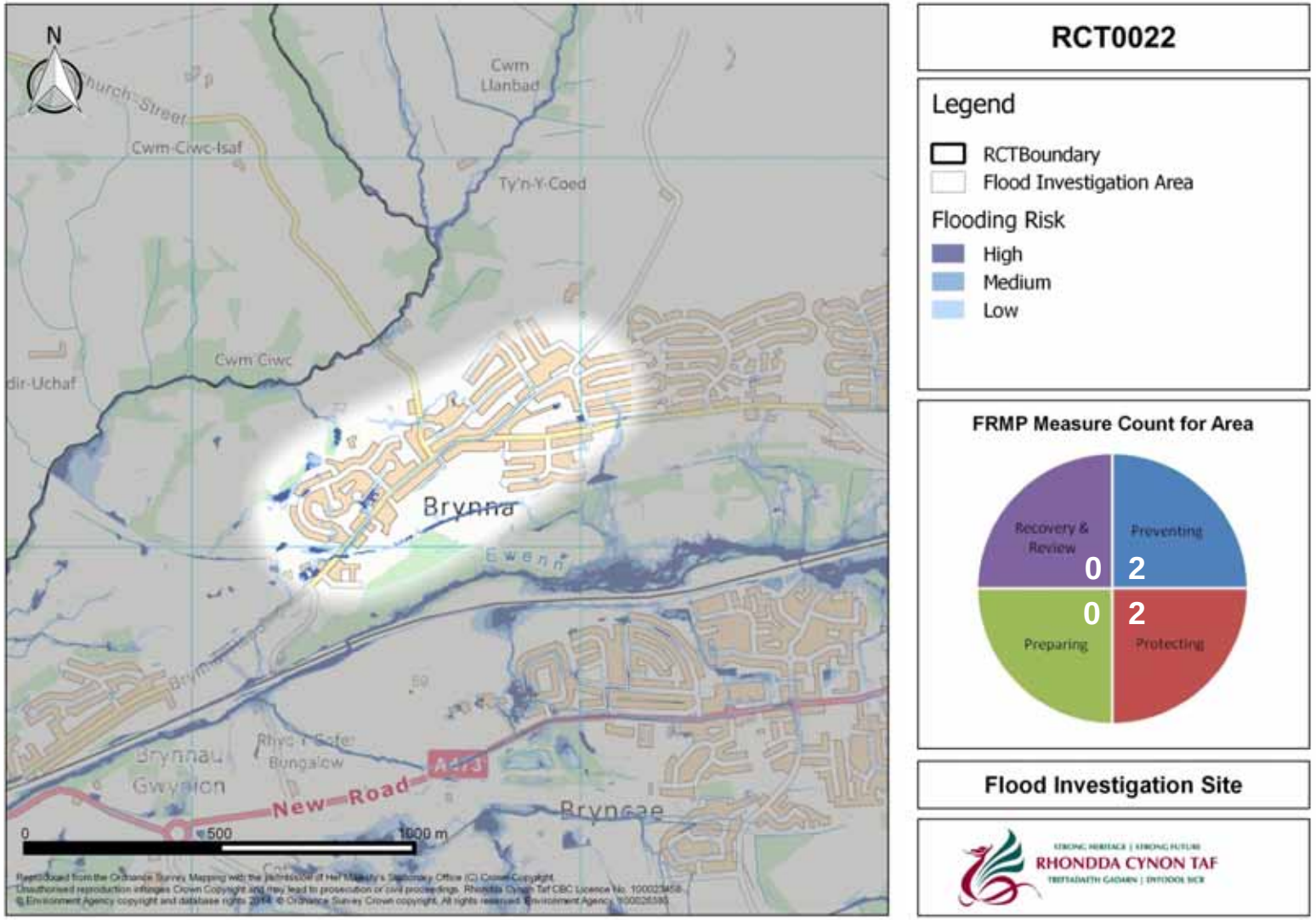
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0022

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	848	7	5	26
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	55	0	1	5
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	3			
External	3			
Highway	9			

Flood Risk Management Plan Measures for RCT0022

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0022	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0022



Flood Investigation Area - RCT0023

Flood Investigation Area RCT0023 is situated within the community areas of Church Village and Llantwit Fardre. The flood risk is considered to be sourced from surface runoff, notably posing a risk to the highway network along Meadow Hill and Pen-Yr-Eglwys.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

Only one instance of reported external flooding has been reported to the authority historically and this is not consistent with the risk posed by the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

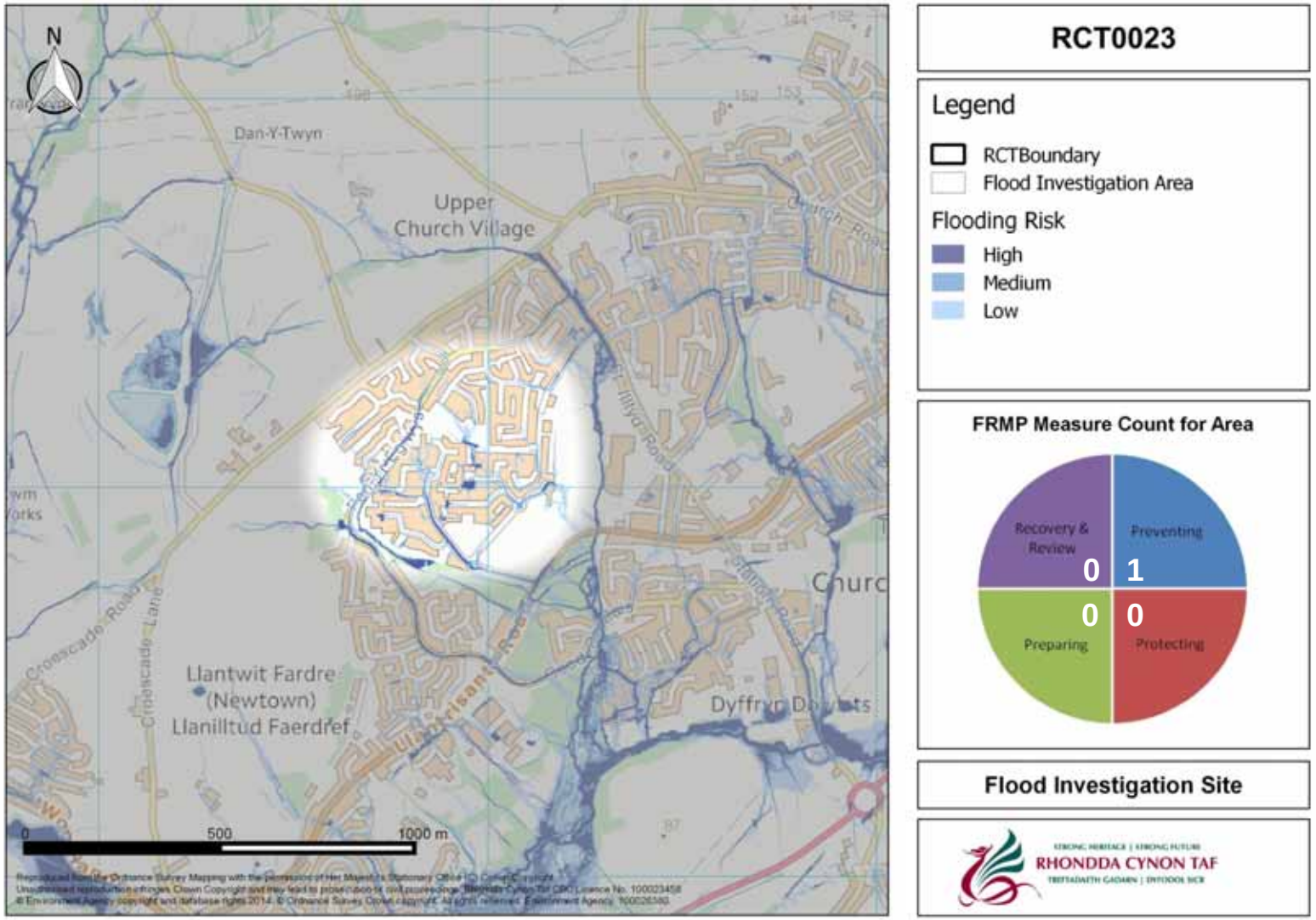
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0023

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1513	2	19	106
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	54	0	2	4
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	1			
Highway	1			

Flood Risk Management Plan Measures for RCT0023

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0023	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0023



Flood Investigation Area - RCT0024

Flood Investigation Area RCT0024 is situated within Church Village and Llantwit Fardre and is likely to be sourced from a combination of ordinary watercourse and surface runoff with the most significant risk noted to the east of the Nant Ty-crywn and an unnamed watercourse. This flood risk is anticipated to be associated with the capacity of the watercourses in the flood investigation area.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

Internal flooding incidents reported to the authority are noted to be fairly consistent with the flood risk posed by the uFMfSW with regard to those areas at risk from surface runoff.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

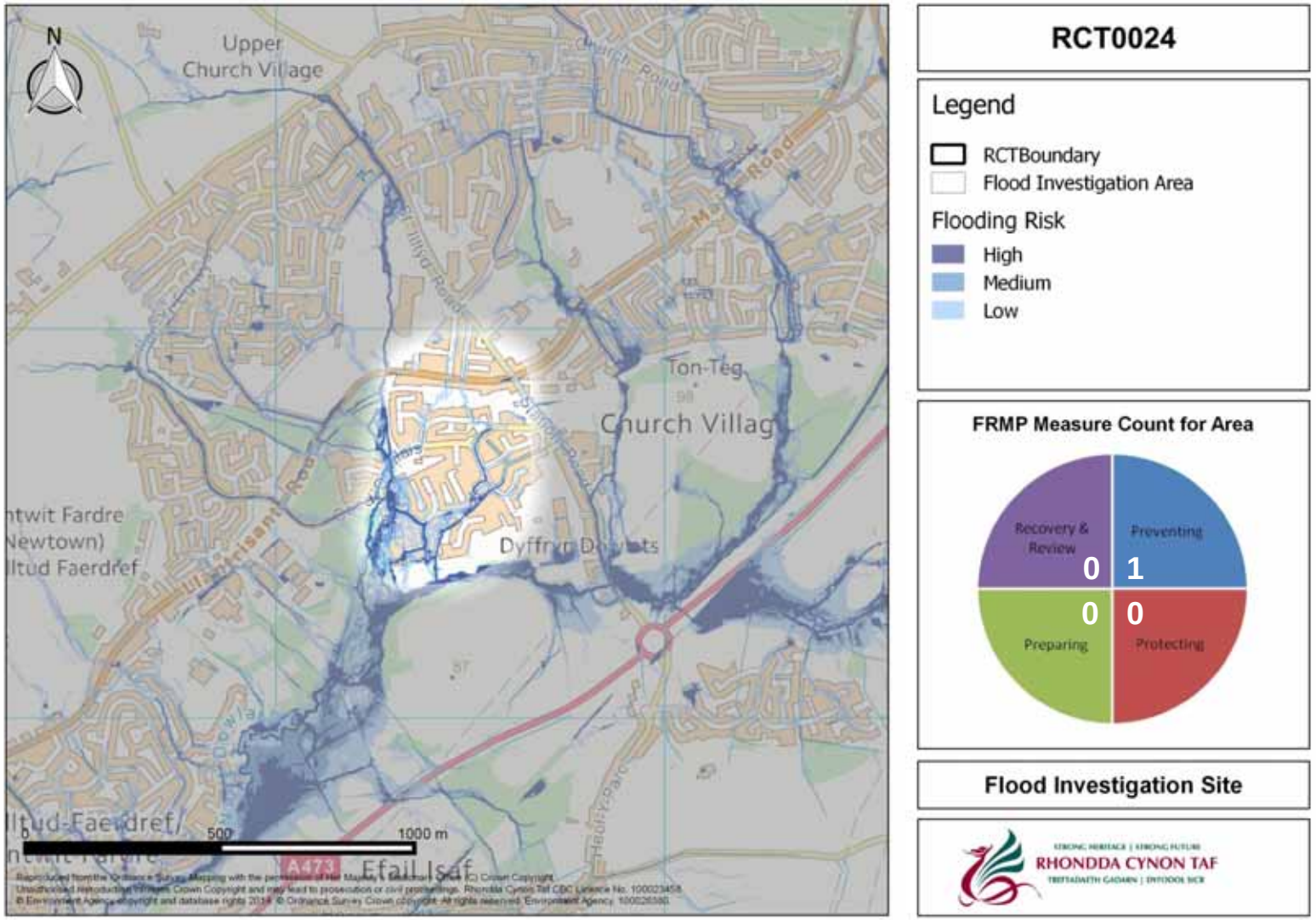
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0024

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1001	19	52	148
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	78	2	1	7
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	3			
External	2			
Highway	1			

Flood Risk Management Plan Measures for RCT0024

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0024	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0024



Flood Investigation Area - RCT0025

Flood Investigation Area RCT0025 is situated within the community areas of Church Village and Tonteg. Flood risk posed to this investigation area is anticipated to due to a culvert inlet of the Nant Y Arian where it is culverted under Main Road in the west of the area and surface runoff in the east, notably in the vicinity of Broomfield Close, Heol Mynydd and Heol Nant.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A reasonable correlation exists between reported flood incidents to the authority and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

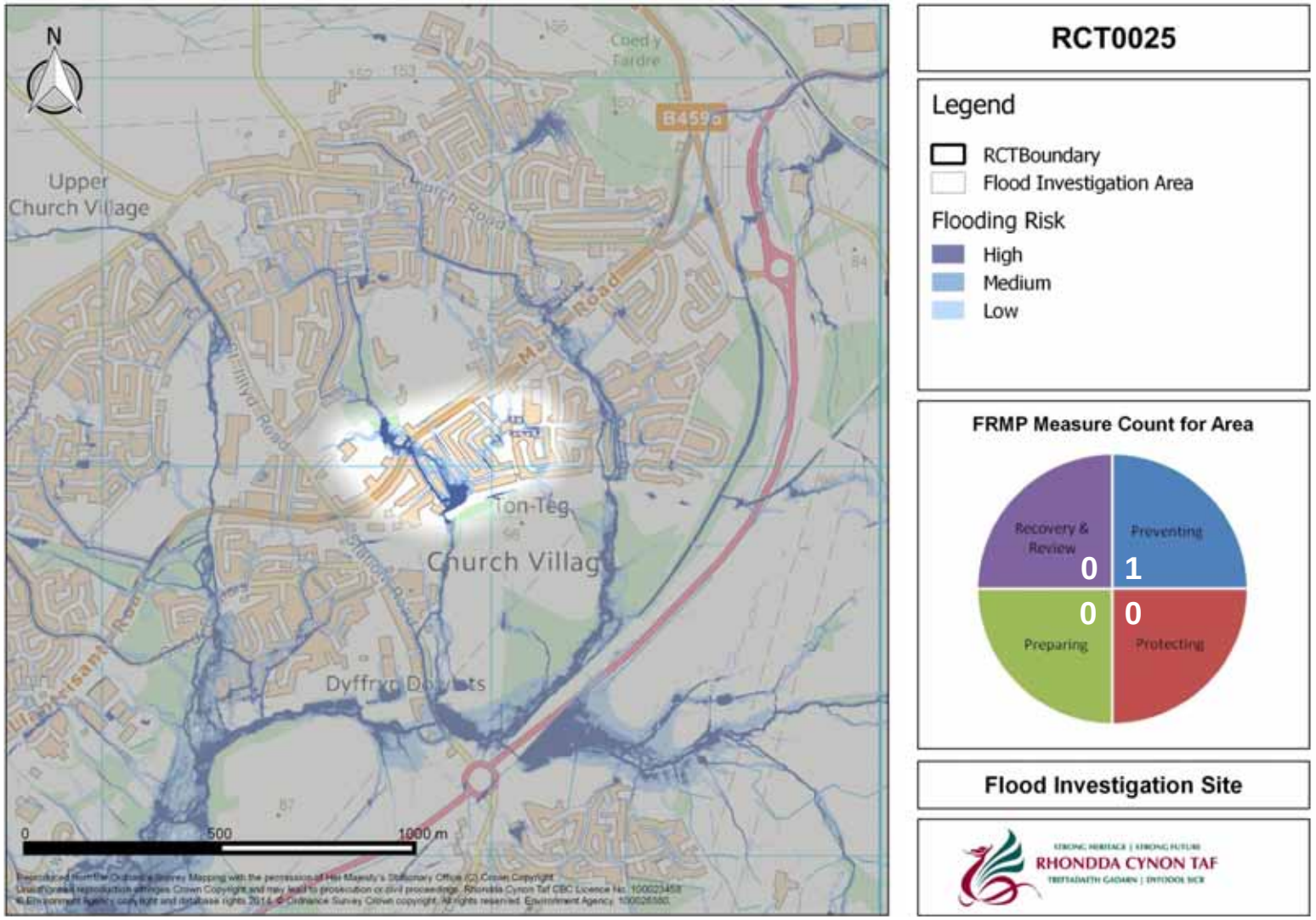
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0025

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	606	33	49	103
Services	2	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	33	2	0	7
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	2			
External	3			
Highway	0			

Flood Risk Management Plan Measures for RCT0025

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0025	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0025



Flood Investigation Area - RCT0026

Flood Investigation Area RCT0026 is situated within the community area of Cilfynydd and the flood risk is considered to be sourced from both ordinary watercourse and surface runoff. The highest risk is noted along wood Street and Cross Street.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A reasonable correlation exists between reported flood incidents to the authority and the flood risk posed by the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

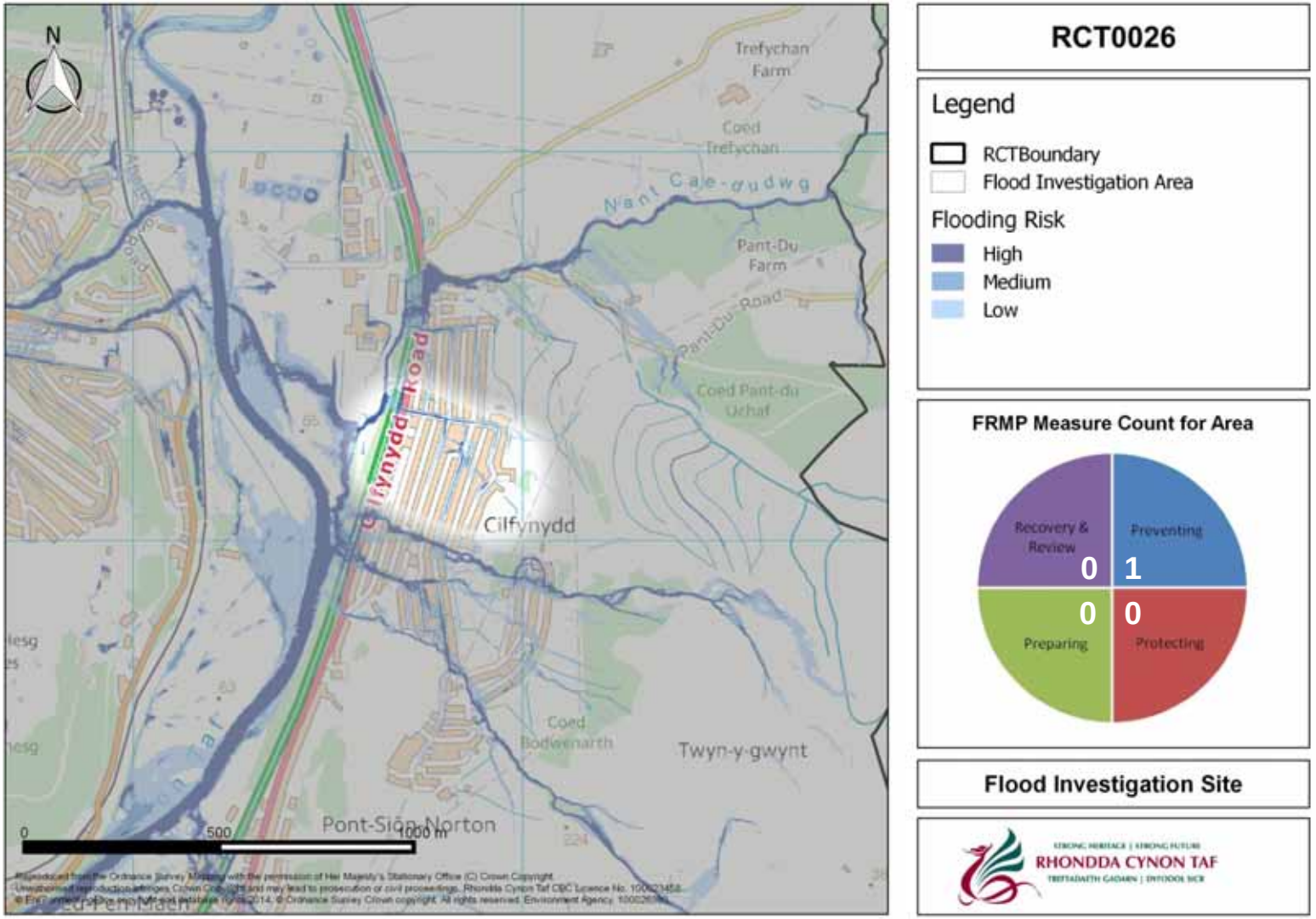
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0026

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1363	21	24	115
Services	2	0	0	2
ECONOMIC ACTIVITY				
Non Residential Properties	51	3	1	6
Airports	0	0	0	0
Roads (km)	1	0.1	0.1	0.5
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	3			
External	1			
Highway	2			

Flood Risk Management Plan Measures for RCT0026

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0026	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0026



Flood Investigation Area - RCT0027

Flood Investigation Area RCT0027 is situated within Cilfynydd and is considered to be sourced from culvert inlets situated upon the three unnamed ordinary watercourses traversing the flood investigation area. Flood flow paths from the culvert inlets are to the northwest, posing a flood risk to areas downstream of the culvert inlets.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There are no historic internal flood events reported to the authority within the flood investigation area; however, reported external property flooding and flooding to the highway are broadly consistent with the risk posed within the uFMfSW. The reported flooding to external properties shows a reasonable correlation with the uFMfSW.
Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

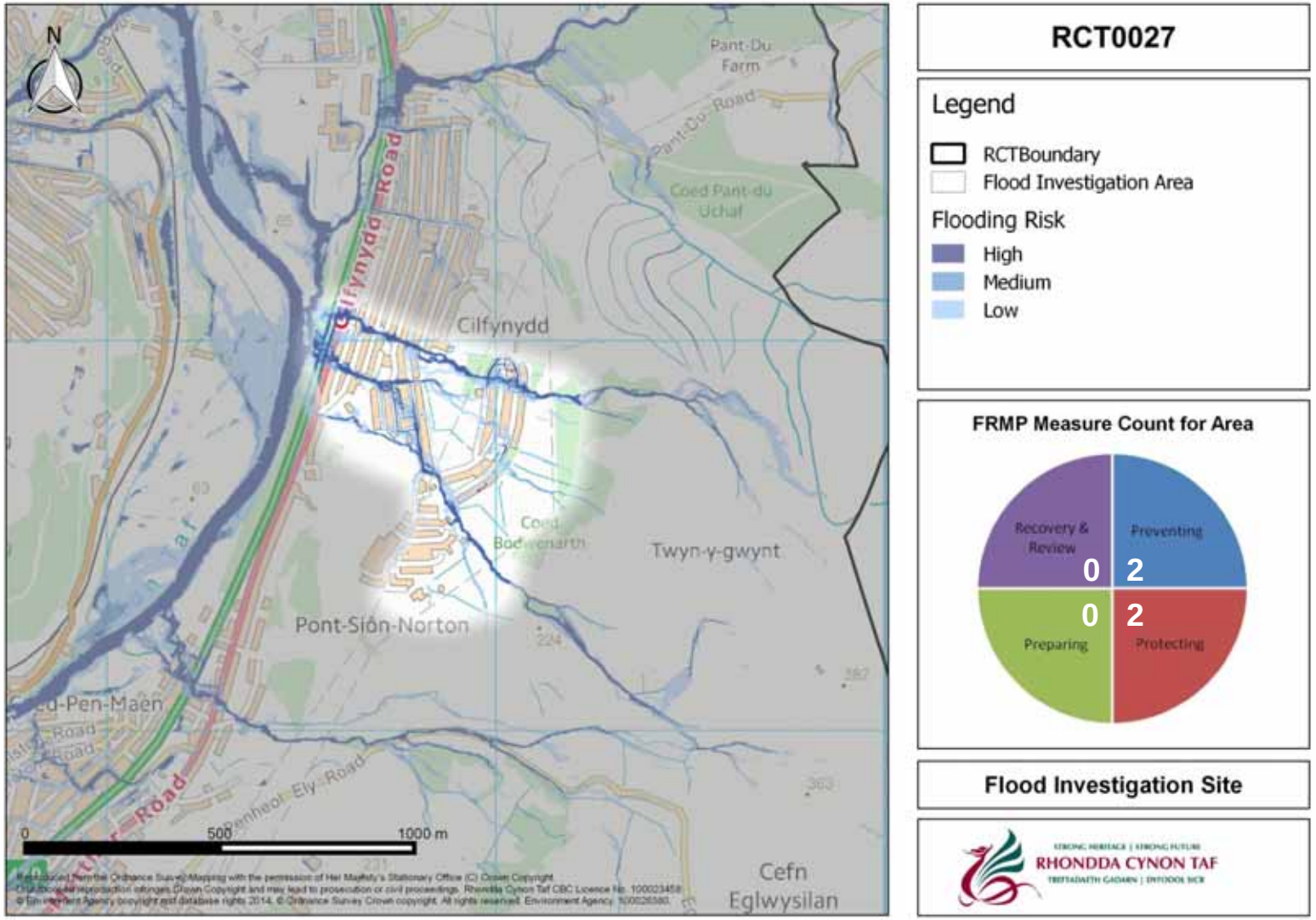
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0027

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	914	32	42	167
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	22	2	2	1
Airports	0	0	0	0
Roads (km)	0.4	0.1	0.03	0.3
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	4			
Highway	3			

Flood Risk Management Plan Measures for RCT0027

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0027	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0027



Flood Investigation Area - RCT0028

Flood Investigation Area RCT0028 is situated within the community are of Cwm Clydach and the flood risk is considered to be sourced from the culvert inlet of the Nant Caedafydd (main river) and surface water. The highest risk is posed to the area surrounding Clydach Road.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between reported flooding incidents to the authority and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

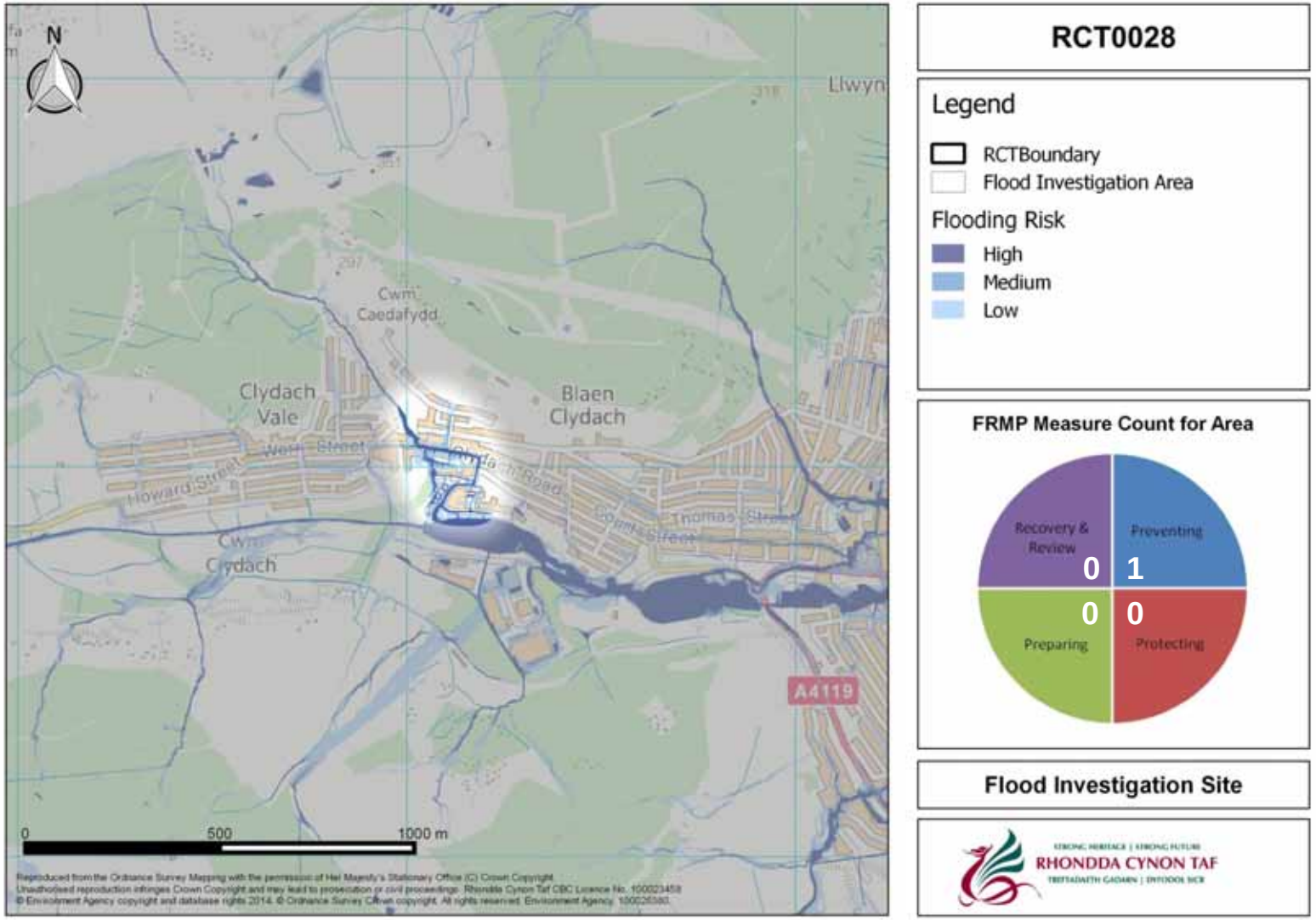
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0028

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	362	49	40	63
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	22	0	0	2
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	3			
Highway	8			

Flood Risk Management Plan Measures for RCT0028

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0028	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0028



Flood Investigation Area - RCT0029

Flood Investigation Area RCT0029 is situated within the community area of Cwm Clydach and the flood risk is considered to be sourced from culvert inlets situated upon several unnamed watercourse, at the rear of the residential development. A low to high risk is noted along the length of Morton Terrace. In addition to this flood risk, surface runoff from the north of the flood investigation area is noted to contribute to the potential flood risk noted at Wern Street and High Street.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a poor correlation between historic flooding incidents reported to the authority and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

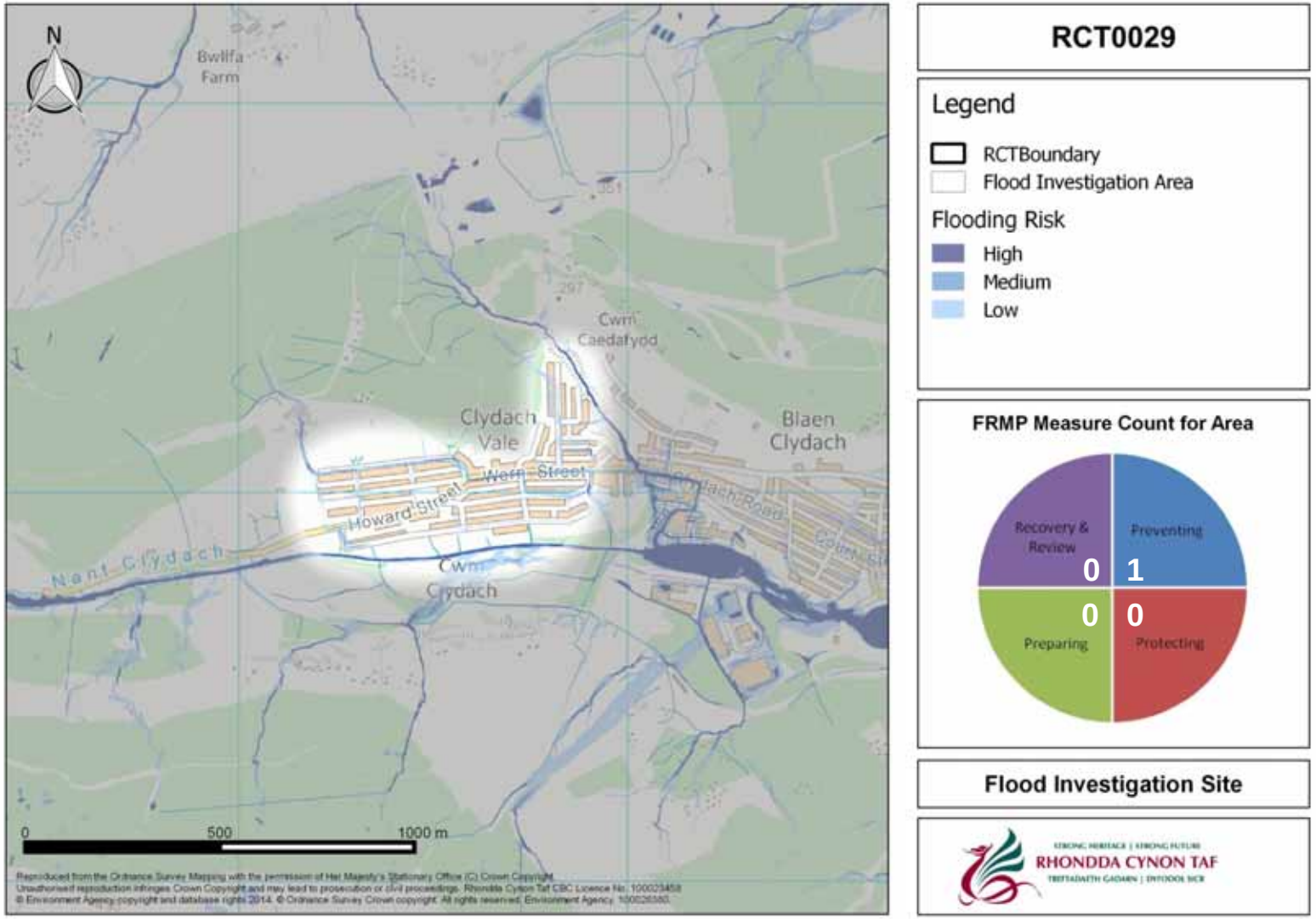
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0029

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1605	9	14	122
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	41	0	1	3
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	2			
Highway	0			

Flood Risk Management Plan Measures for RCT0029

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0029	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0029



Flood Investigation Area - RCT0030

Flood Investigation Area RCT0030 is situated within the community are of Cwmbach. The flood risk is anticipated to be attributed to culvert inlets of several unnamed ordinary watercourse in the flood investigation area and also surface runoff. Flood risk is noted to broadly follow the highways network, with the most significant flood risk noted along Canal Road.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between reported internal, external and highway flooding incidents and the flood risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

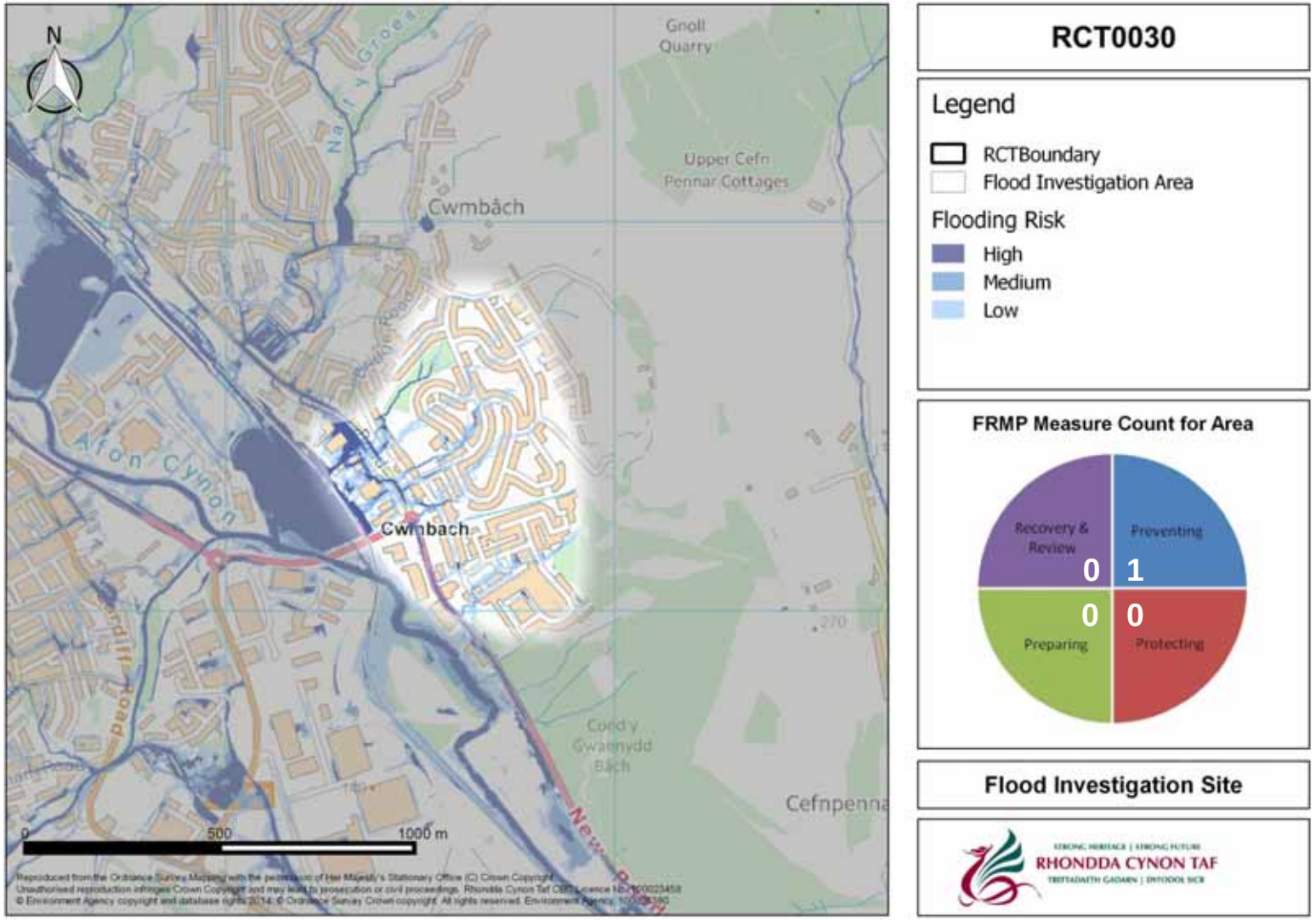
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0030

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1335	5	16	179
Services	4	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	106	5	6	14
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0.5	0.02	0.03	0.2
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	5			
External	9			
Highway	6			

Flood Risk Management Plan Measures for RCT0030

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0030	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0030



Flood Investigation Area - RCT0031

Flood Investigation Area RCT0031 is situated within the community area of Cwmbach and Aberdare East. The flood risk within is considered to be sourced from a combination of Main River and culvert inlets of unnamed watercourses. A low to high risk is identified along Cwmbach Road, adjacent to the access with the tow path.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There are no reported property flood incidents indentified within the area; however, there is a good correlation between highway flooding incidents and the flood risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0031

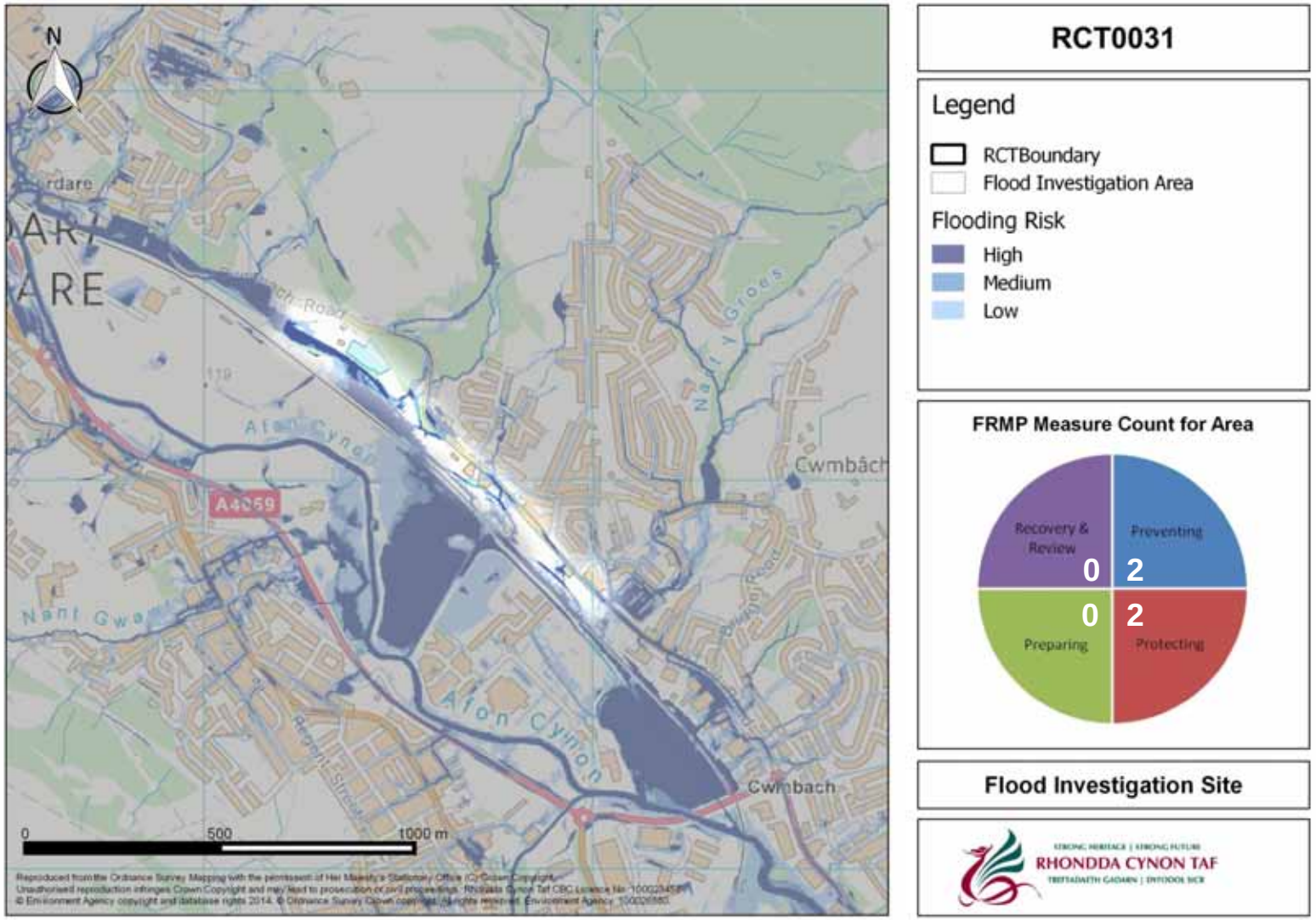
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	251	19	7	42
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	12	0	0	1
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	1			
Highway	4			

Flood Risk Management Plan Measures for RCT0031

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0031	Local / Main River	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0031



Flood Investigation Area - RCT0032

Flood Investigation Area RCT0032 is situated within the community area of Cwmbach and the flood risk is considered to be sourced from a lack of capacity and a culvert inlet of unnamed ordinary watercourse. A low to high risk is identified along surrounding streets of Kendal Close, Llangorse Road and Graig-y-Llyn Crescent.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between historic flooding incidents reported to the authority and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

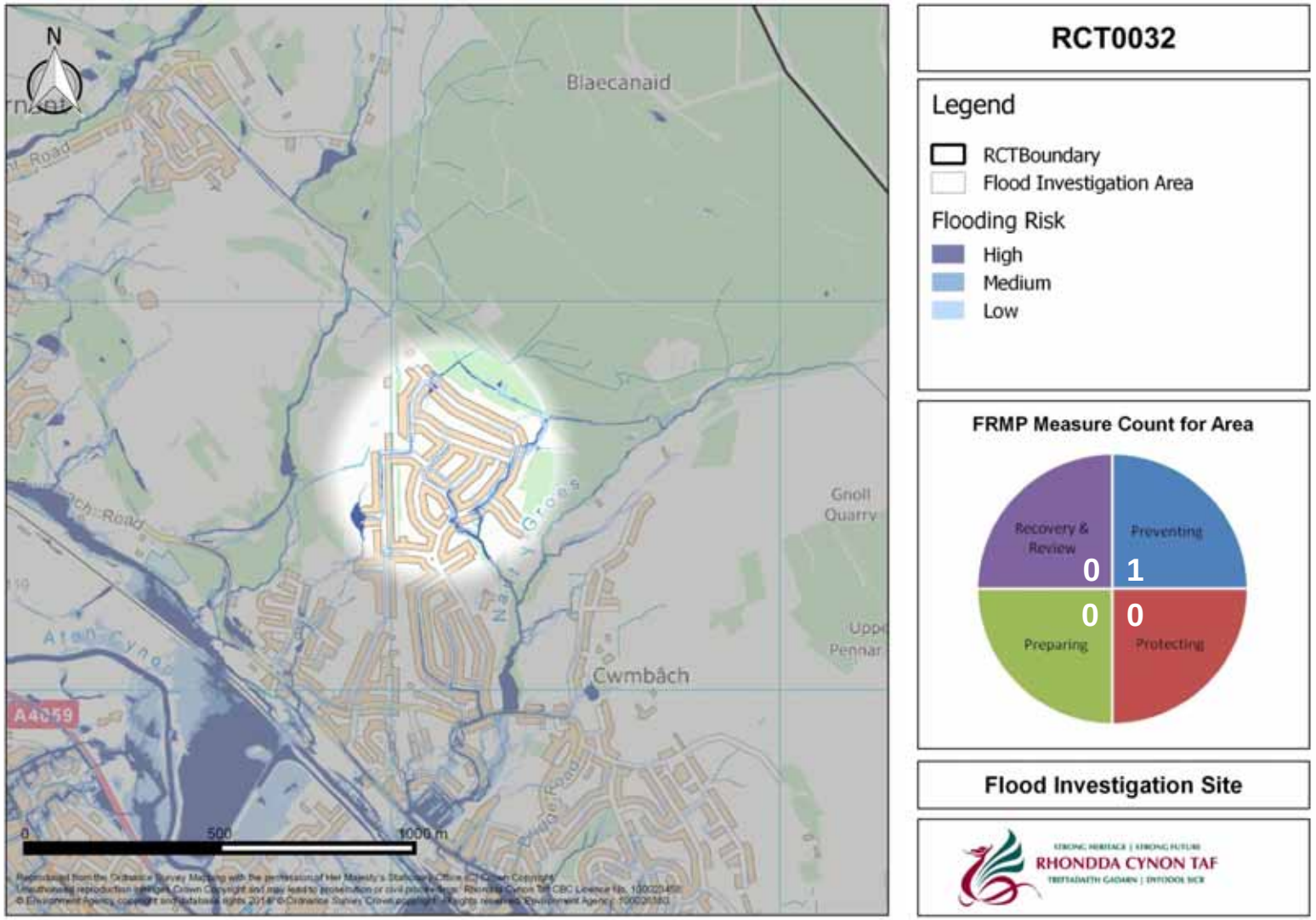
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0032

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	801	9	5	63
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	15	0	1	1
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	3			
Highway	2			

Flood Risk Management Plan Measures for RCT0032

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0032	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0032



Flood Investigation Area - RCT0033

Flood Investigation Area RCT0033 is situated within the community area of Cwmbach and the most significant contribution to flood risk is anticipated to be associated with culvert inlets of the Nant y Groes, with a minor contribution from surface runoff. A high risk is posed to the area surround Pant-y-Cerdin.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a poor correlation between external flooding incidents reported to the council and the risk posed by the uFMfSW; however, there is a good correlation between reported highway flooding and the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

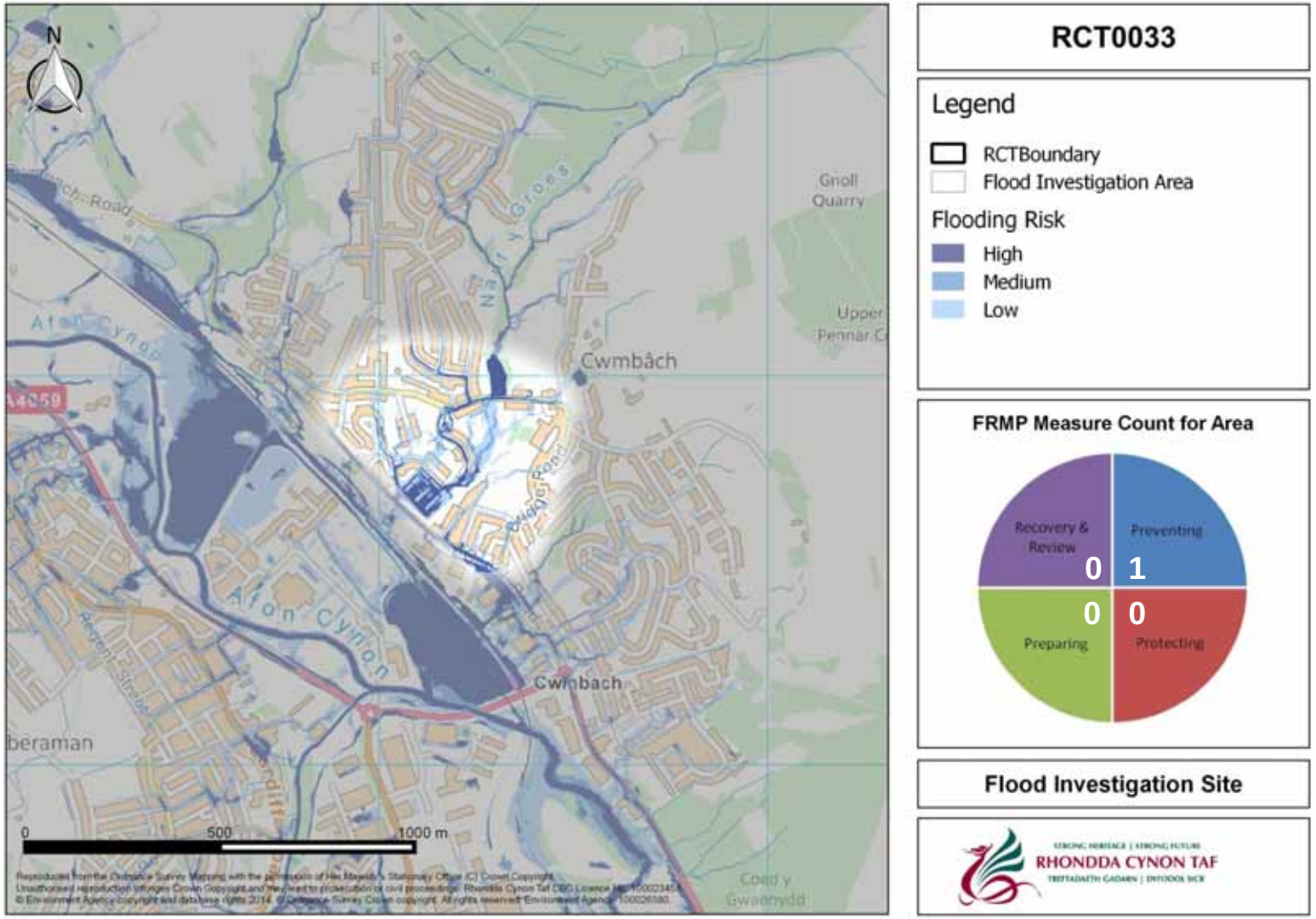
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0033

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1191	139	42	120
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	62	0	1	4
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	5			
Highway	6			

Flood Risk Management Plan Measures for RCT0033

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0033	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0033



Flood Investigation Area - RCT0034

Flood Investigation Area RCT0034 is situated within the community area of Cymmer and the flood risk is considered to be sourced from surface runoff, notably affecting the length of High Street.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between reported flood incidents and the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

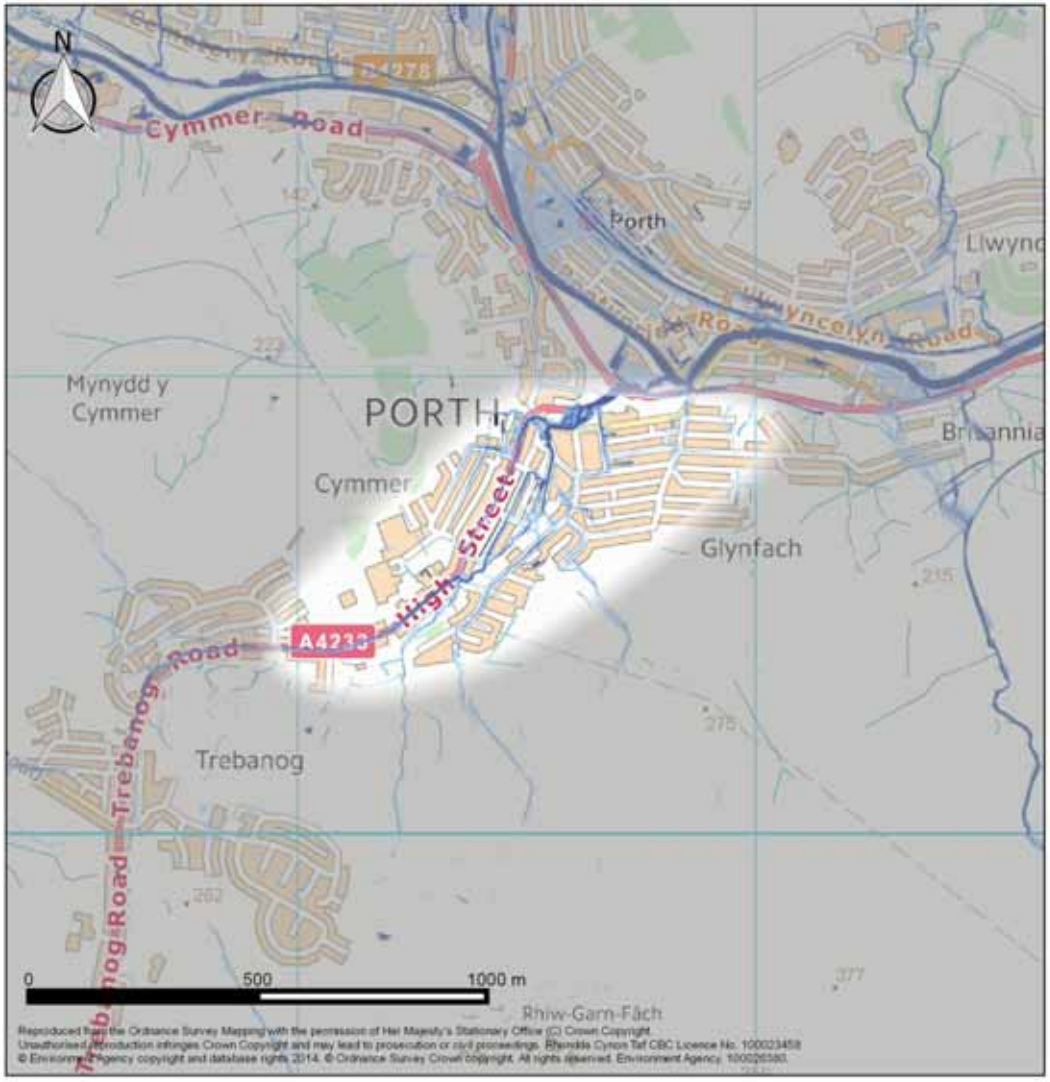
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0034

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	2256	7	16	181
Services	3	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	109	0	2	11
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	2	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	6			
External	5			
Highway	13			

Flood Risk Management Plan Measures for RCT0034

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0034	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0034



RCT0034

Legend

- RCTBoundary
- Flood Investigation Area

Flooding Risk

- High
- Medium
- Low

FRMP Measure Count for Area

Flood Investigation Site

Flood Investigation Area - RCT0035

Flood Investigation Area RCT0035 is situated within the community area of Ferndale and the flood risk is considered to be sourced from surface runoff, with a high risk in the areas of Long Row and School Street.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

Of the few reported flood incidents within the Flood Investigation Area, there is a reasonable correlation with the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

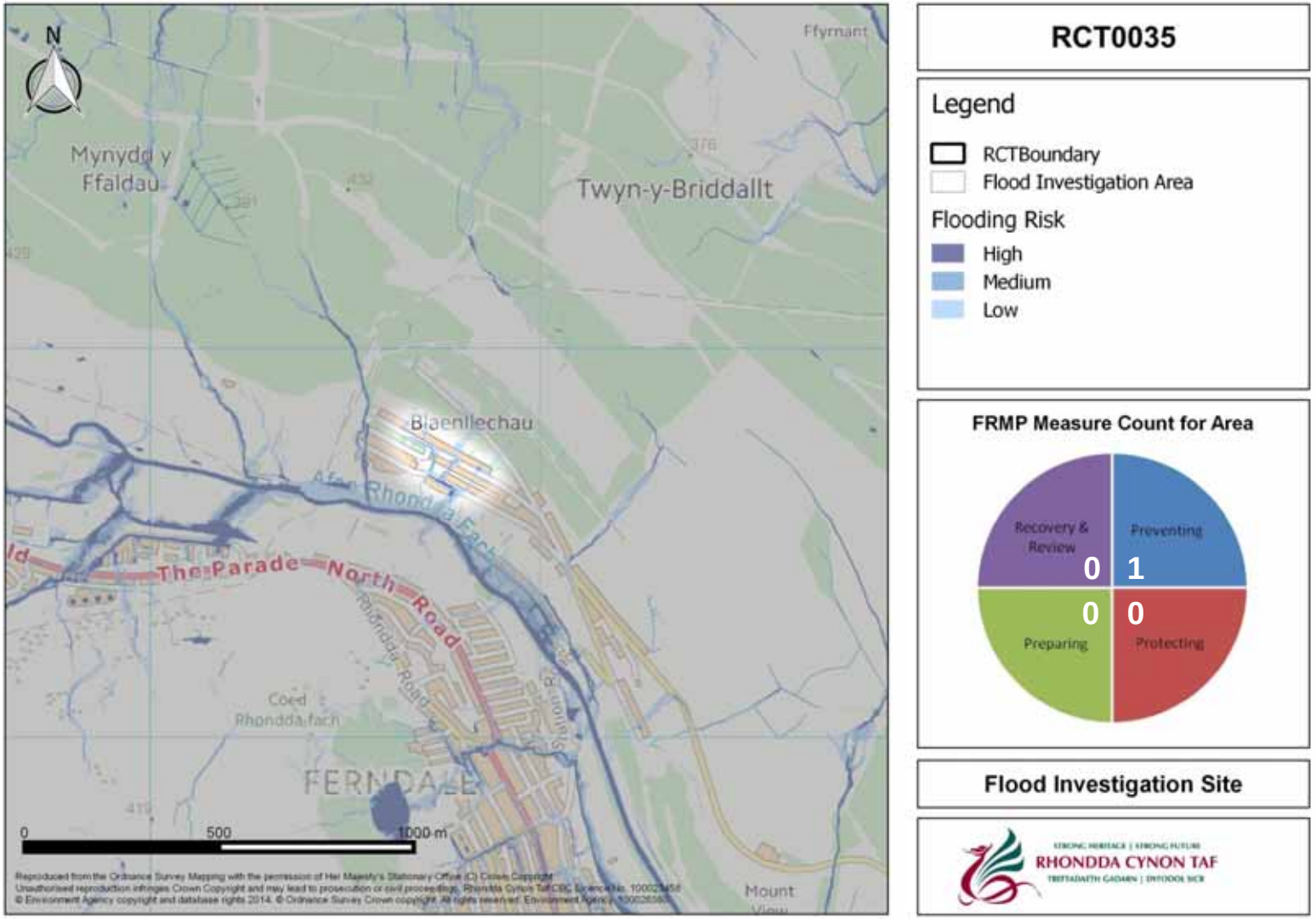
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0035

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	204	0	5	42
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	11	0	0	3
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	2			
Highway	1			

Flood Risk Management Plan Measures for RCT0035

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0035	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0035



Flood Investigation Area - RCT0036

Flood Investigation Area RCT0036 is situated within the community area of Ferndale and the flood risk is considered to be sourced from an unnamed watercourse, surface runoff and a breach of the Llyn y Forwyn boating lake. A low to high risk is identified along Frederick Street.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a poor correlation between flood incidents reported to the authority and the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

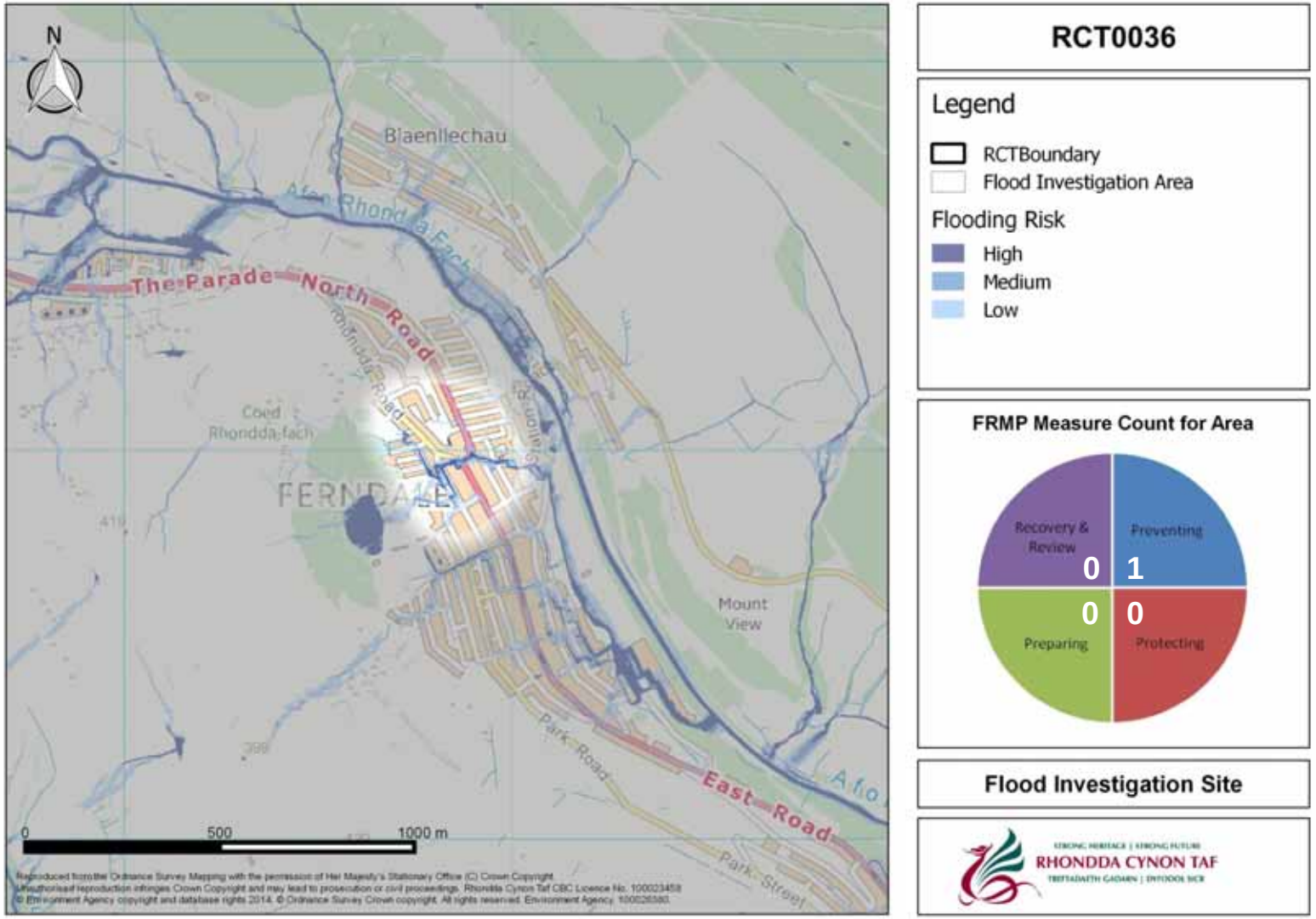
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0036

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	855	56	14	92
Services	2	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	90	6	3	10
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	2			
External	2			
Highway	6			

Flood Risk Management Plan Measures for RCT0036

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0036	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0036



Flood Investigation Area - RCT0037

Flood Investigation Area RCT0037 is situated within the community area of Ferndale and the flood risk is considered to be sourced from an interaction between surface runoff and Main River flooding. A low to high risk is identified across the whole of the site.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

Only one highway flooding incident has been reported to the authority and it is consistent with an area of flood risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0037

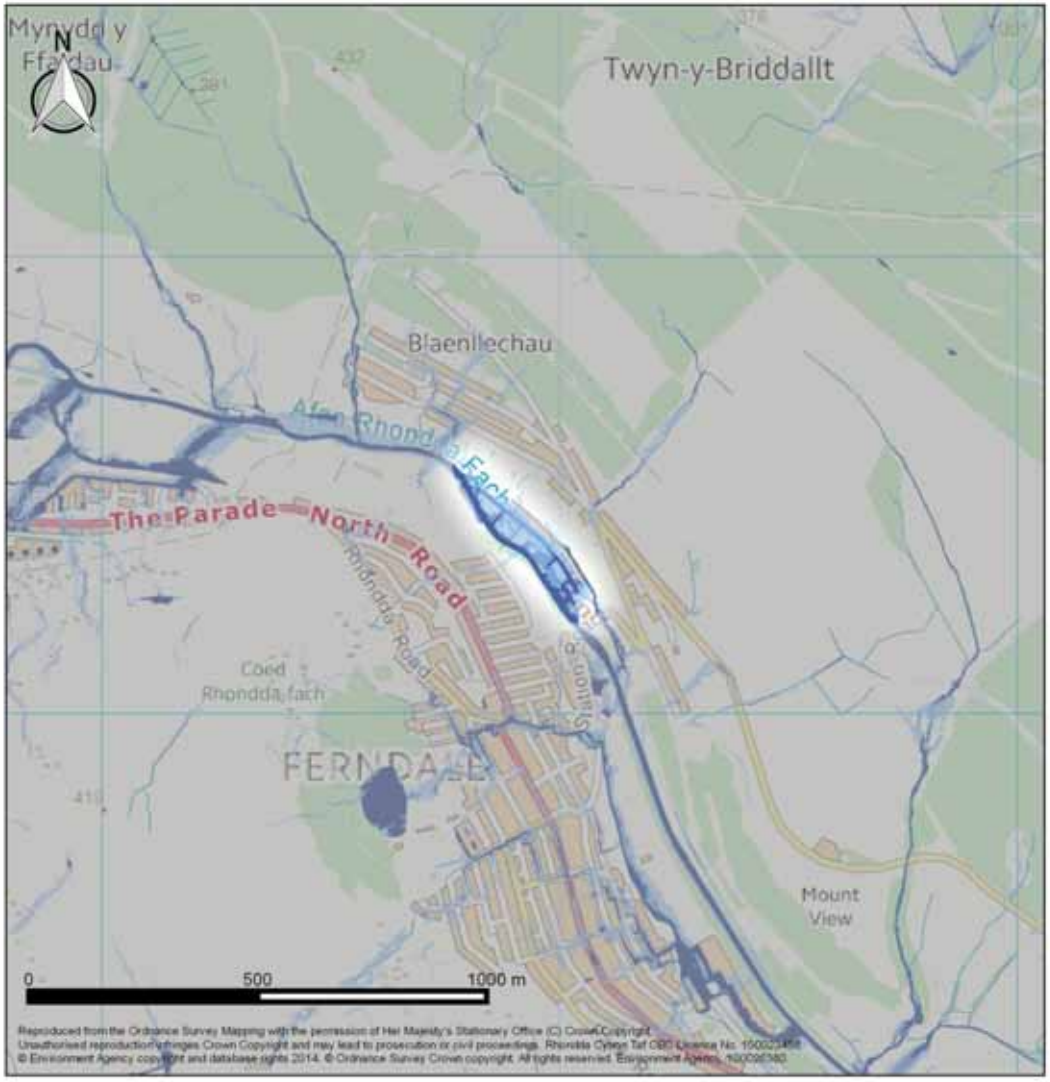
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	237	33	129	68
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	14	3	8	2
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	1			

Flood Risk Management Plan Measures for RCT0037

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0037	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0037



RCT0037

Legend

RCTBoundary
Flood Investigation Area

Flooding Risk

High
Medium
Low

FRMP Measure Count for Area

Flood Investigation Site

Flood Investigation Area - RCT0038

Flood Investigation Area RCT0038 is situated within the community area of Ferndale and the flood risk is considered to be sourced from surface runoff. Notable risk is posed to the areas along the length of Brook Street, Union Street, Brown Street and Albany Street.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A good correlation exists between reported flooding incidents and the flood risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0038

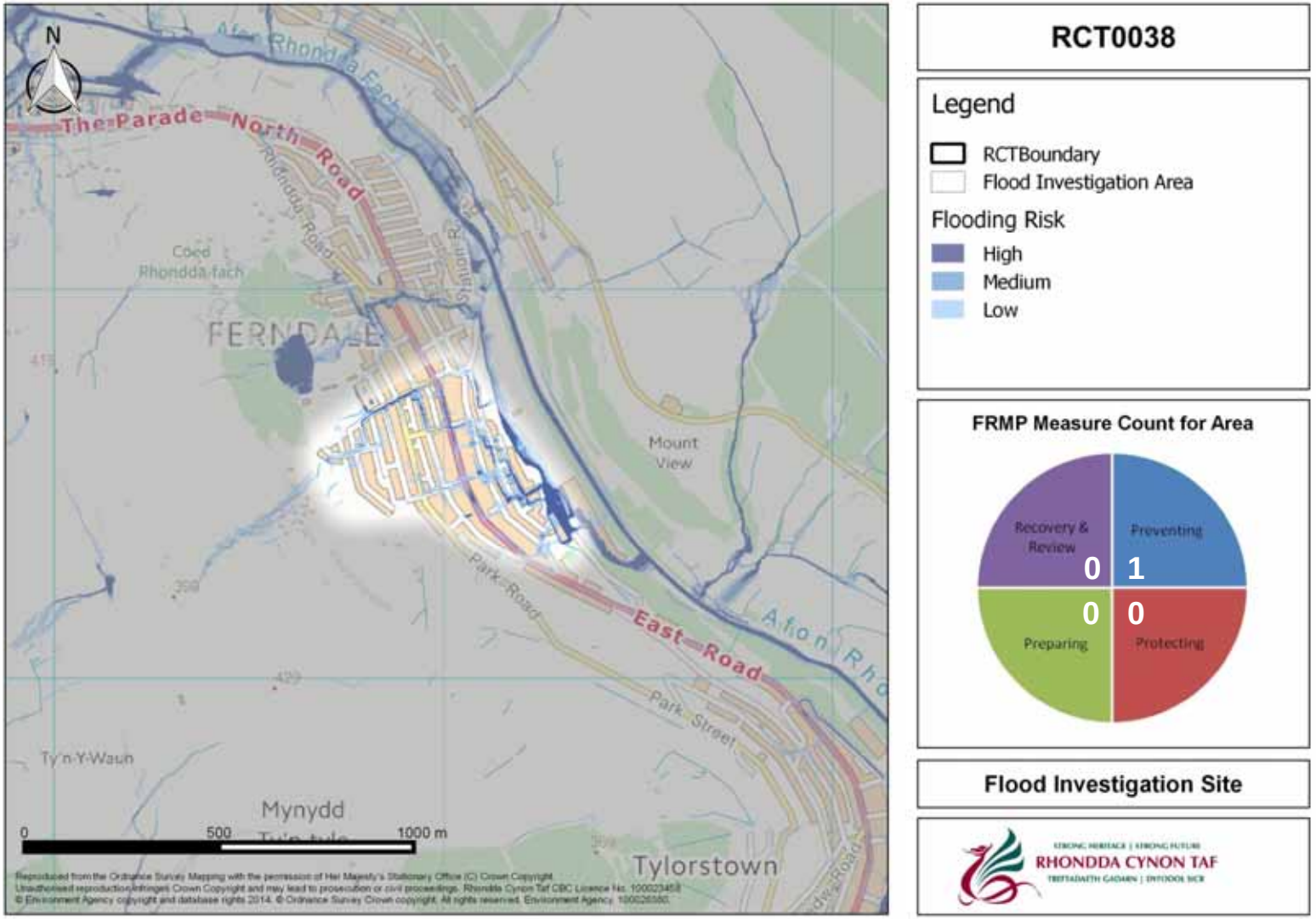
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1854	28	71	308
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	77	7	2	8
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	2			
External	9			
Highway	5			

Flood Risk Management Plan Measures for RCT0038

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0038	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0038



Flood Investigation Area - RCT0039

Flood Investigation Area RCT0039 is situated within the community area of Graig and the flood risk is considered to be sourced from surface runoff with the risk observed along the highways network, notably High Street and Rickards Street.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between flood incidents reported to the authority and the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

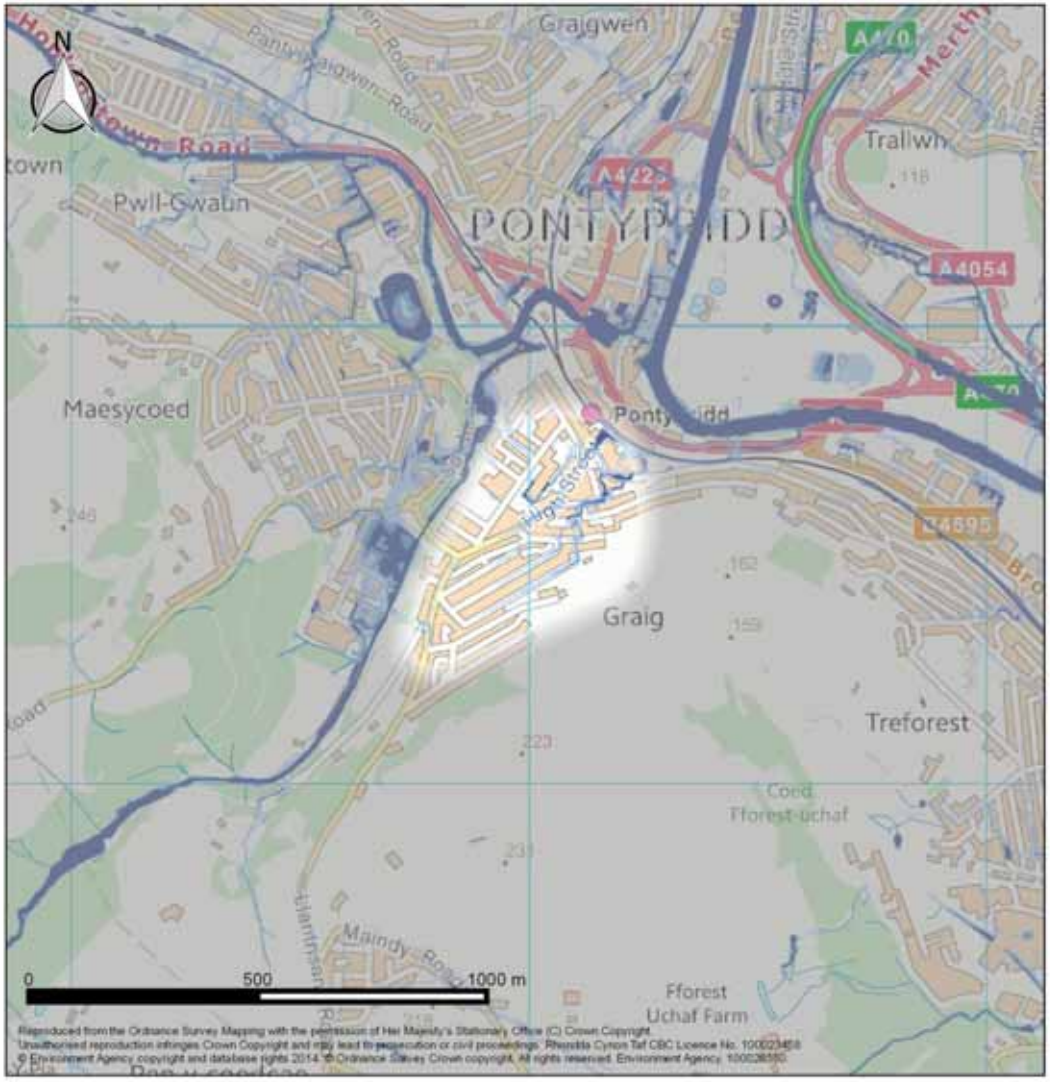
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0039

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1694	7	94	42
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	65	0	1	6
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	5			
External	6			
Highway	7			

Flood Risk Management Plan Measures for RCT0039

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0039	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0039



RCT0039

Legend

RCTBoundary
Flood Investigation Area

Flooding Risk

High
Medium
Low

FRMP Measure Count for Area

Flood Investigation Site

RHONDDA CYNON TAF

Flood Investigation Area - RCT0040

Flood Investigation Area RCT0040 is situated within the community area of Hirwaun. The flood risk is considered to be sourced from the interaction between local sources of flood risk (surface runoff and ordinary watercourse) and Main River. Commonly, flood risk is observed in the areas of Cae Felyn Parc, Llys Cynon and the areas to the south of these streets.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is reasonable correlation between reported flood incidents and the risk posed by the uFMfSW. No incidents of flooding have been reported to the authority in the vicinity of the Main River.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0040

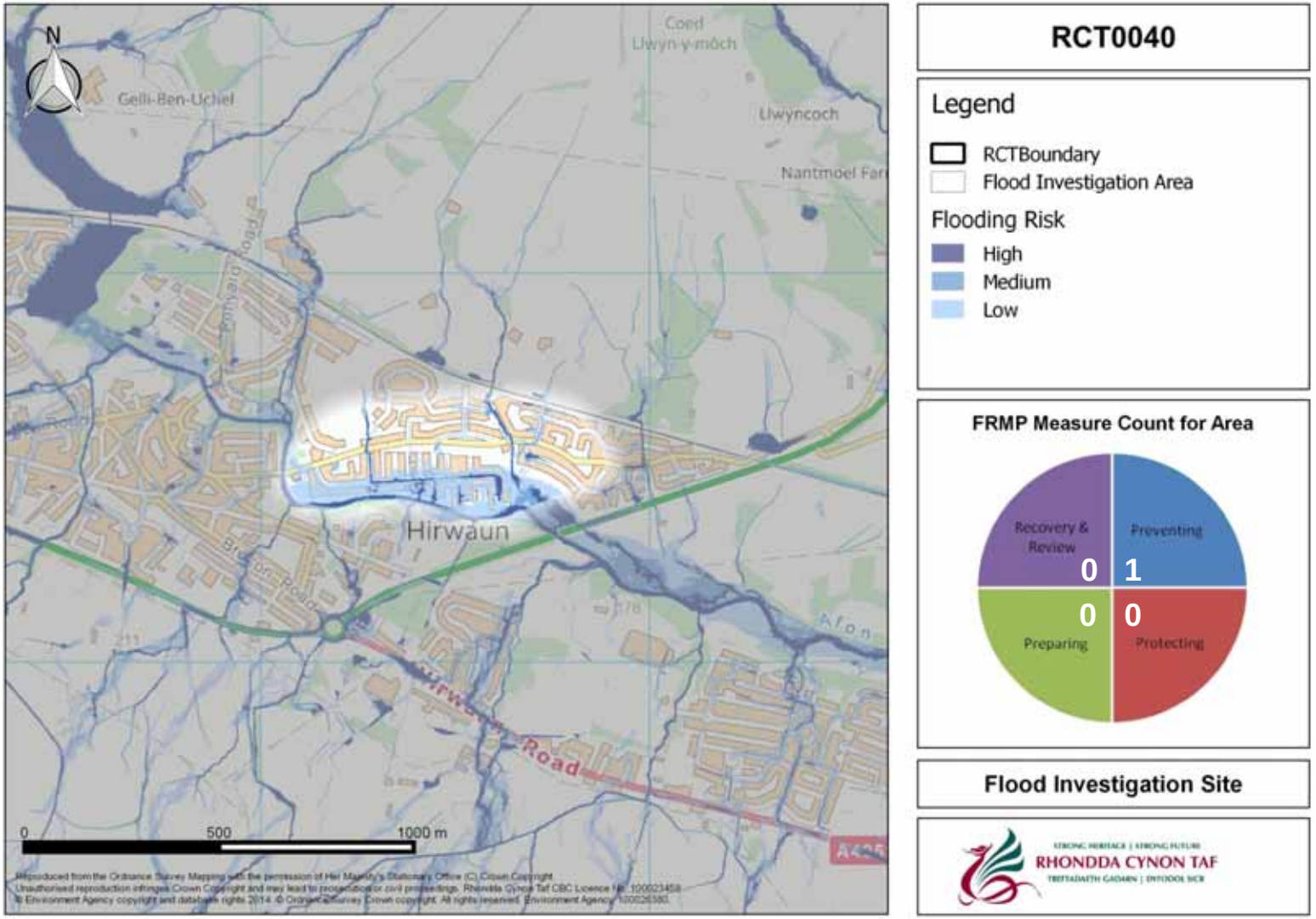
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	917	9	38	284
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	29	0	1	4
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	3			
Highway	2			

Flood Risk Management Plan Measures for RCT0040

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0040	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0040



Flood Investigation Area - RCT0041

Flood Investigation Area RCT0041 is situated within the community area of Hirwaun and the flood risk is considered to be sourced from surface water, notably the Nant y Bwlch in the west and the unnamed watercourse in the east. Surface runoff is noted within the central portion of the Flood Investigation Area.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable to poor correlation between reported flooding incidents and the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

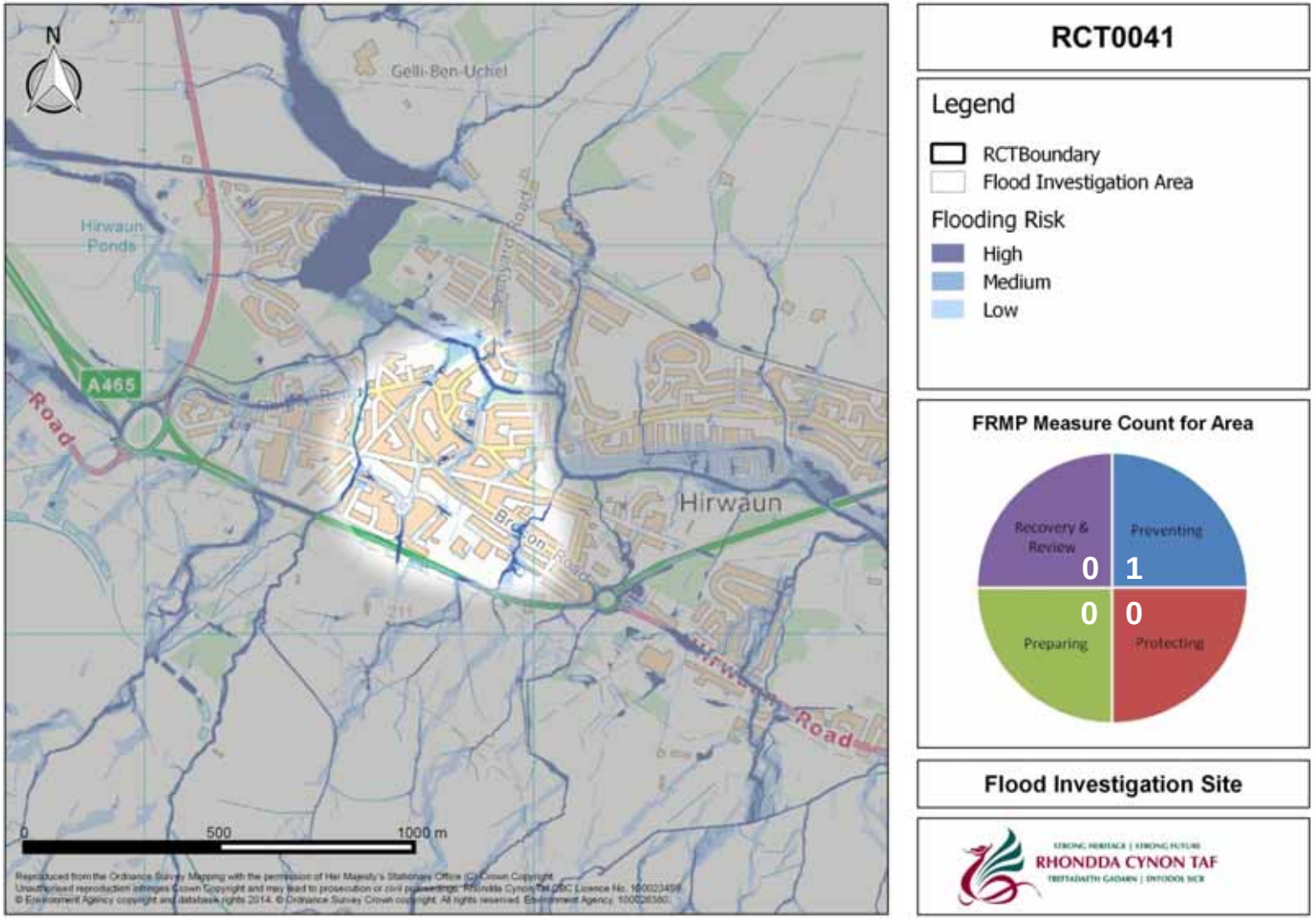
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0041

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1335	14	54	143
Services	4	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	123	1	2	9
Airports	0	0	0	0
Roads (km)	0.3	0.04	0	0.2
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0.3	0.02	0.01	0.2
Listed Buildings	3	1	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	6			
Highway	10			

Flood Risk Management Plan Measures for RCT0041

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0041	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0041



Flood Investigation Area - RCT0042

Flood Investigation Area RCT0042 is situated within the community area of Hirwaun and the flood risk is considered to be sourced from the confluence between an unnamed ordinary watercourse and the Afon Cynon (Main River). It is important to note that the Afon Cynon is culverted beneath the railway line in the north of the Flood Investigation Area and the extent of flooding shown within the uFMfSW may be attributable to the culvert inlet.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between reported flooding incidents and the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0042

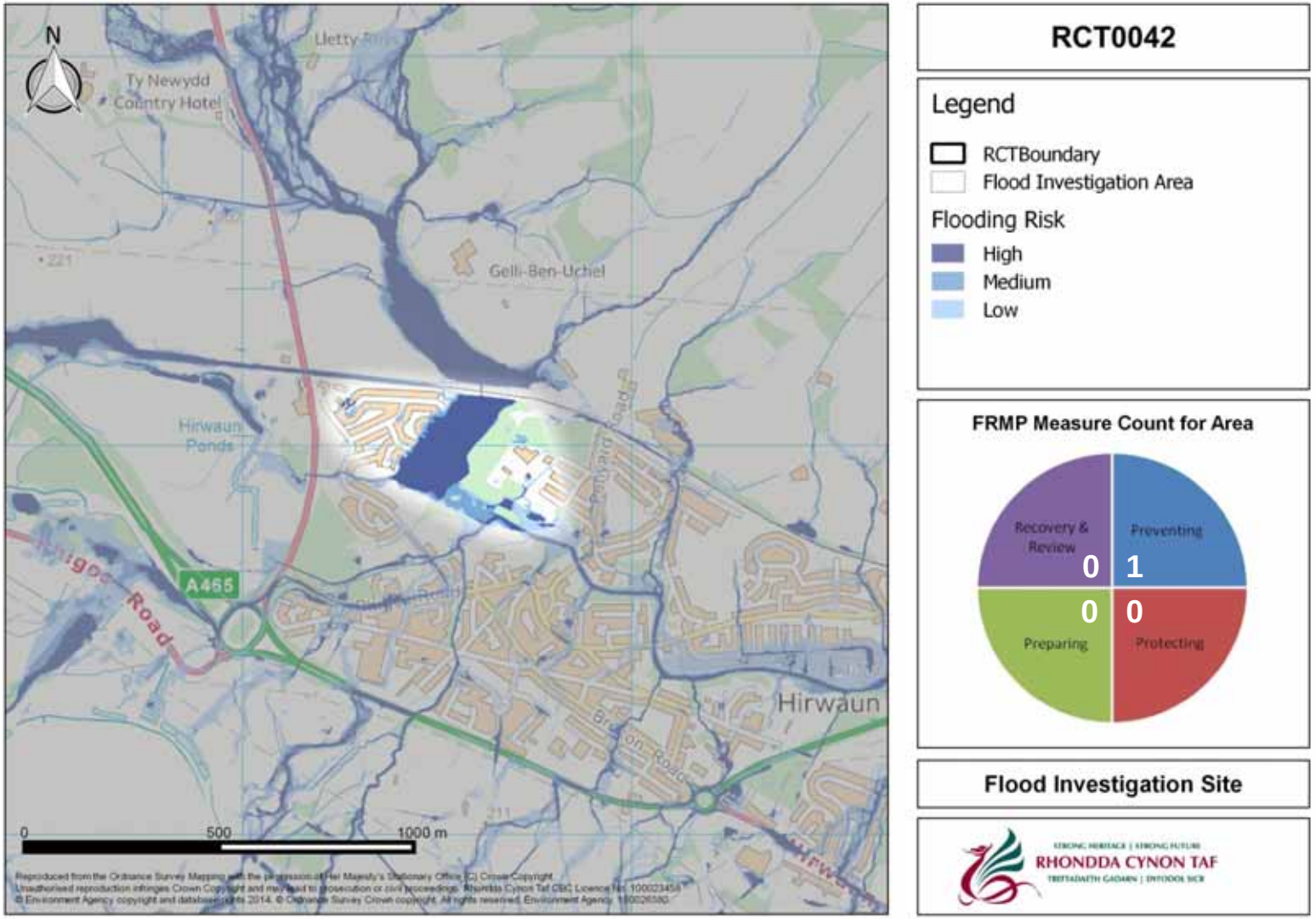
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	317	49	5	16
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	18	0	1	1
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	2	0.2	0.4	1
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	1			
Highway	1			

Flood Risk Management Plan Measures for RCT0042

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0042	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC /Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0042



Flood Investigation Area - RCT0043

Flood Investigation Area RCT0043 is situated within the community area of Llanharan and the flood risk is considered to be a combination from both Main River and Surface water flooding. The railway line is at risk of flooding with the area, as the properties adjacent to Bridgend Road.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between reported flooding incidents and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0043

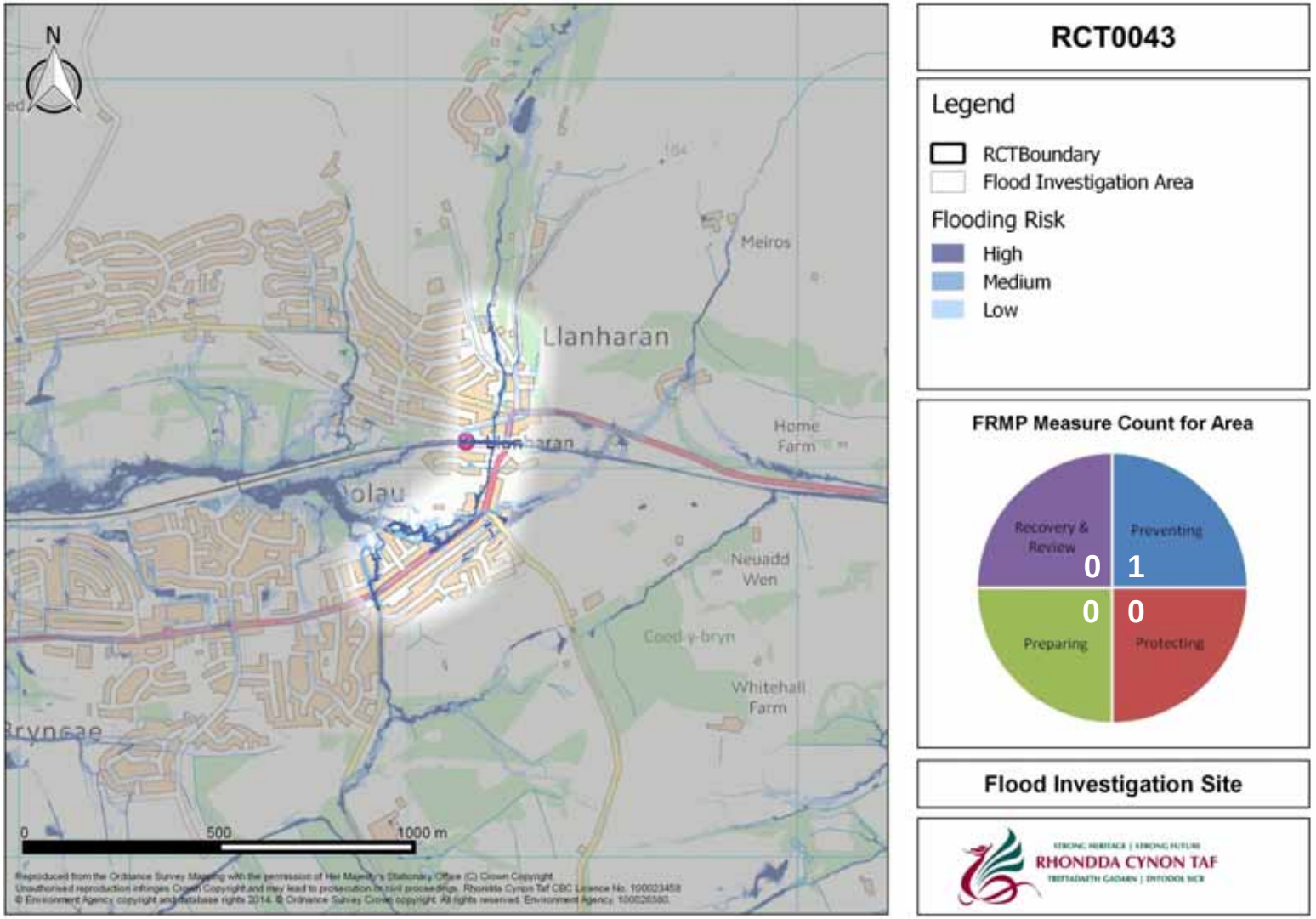
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	985	28	5	87
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	87	4	2	15
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0.2	0.1	0.03	0.005
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	2	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	2			
Highway	7			

Flood Risk Management Plan Measures for RCT0043

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0043	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0043



Flood Investigation Area - RCT0044

Flood Investigation Area RCT0044 is situated within the community area of Llanharry and the flood risk is considered to be sourced from a surface runoff, notably along Sycamore Road and the area to the south of the street.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

No flooding incidents have previously been reported to the authority within this Flood Investigation Area.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

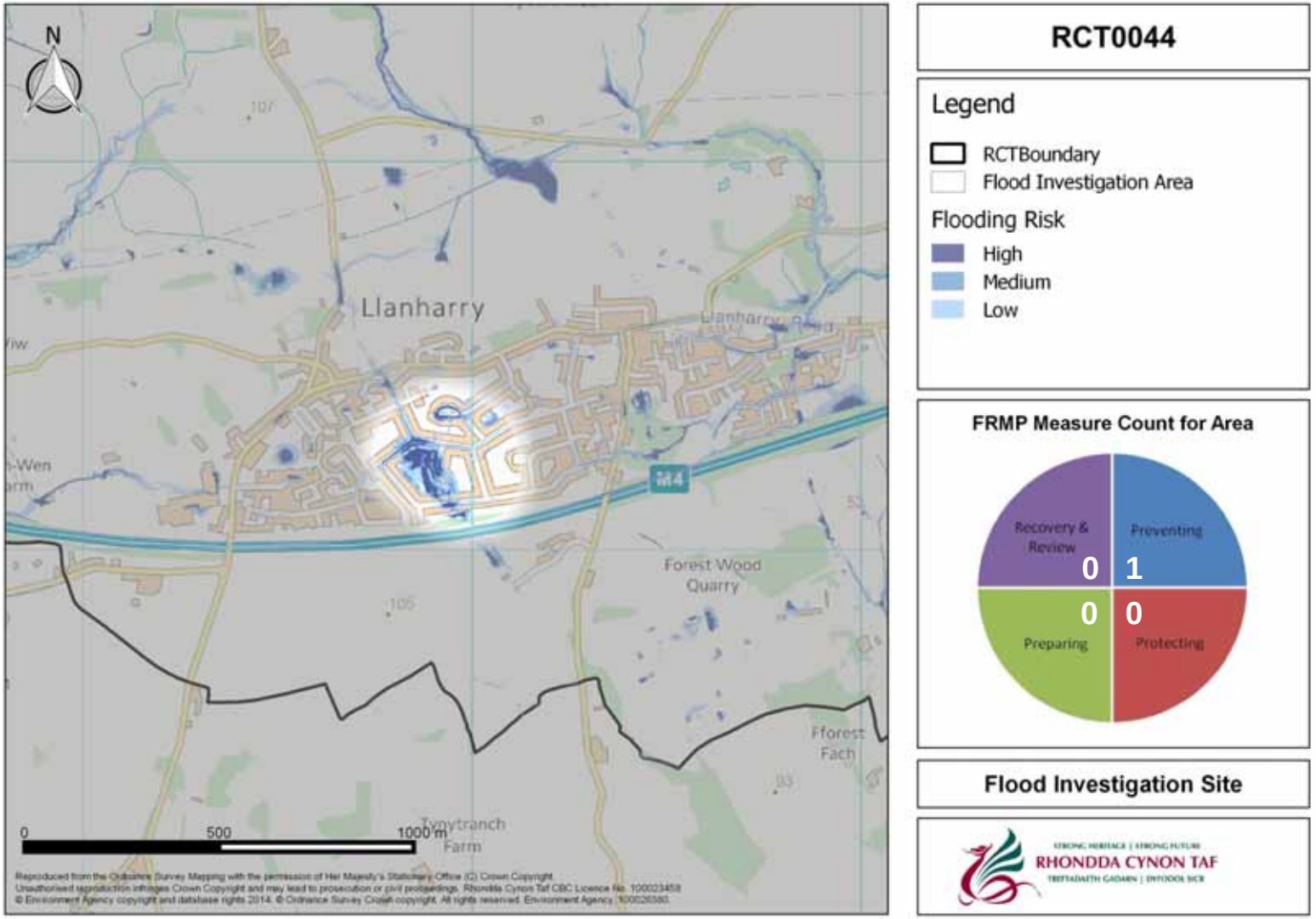
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0044

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	517	40	24	56
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	4	1	0	0
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	10	1	1	1
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	0			

Flood Risk Management Plan Measures for RCT0044

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0044	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0044



Flood Investigation Area - RCT0045

Flood Investigation Area RCT0045 is situated within the community area of Llantrisant Town and the flood risk observed is considered to be sourced from surface runoff, notably along the highway network in the north (Southgate, Greenlands, and Summerfield Drive) and within the area of Beaufort Court and Tan-Yr-Allt in the south of the area.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a poor correlation between flood incidents reported to the authority and the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

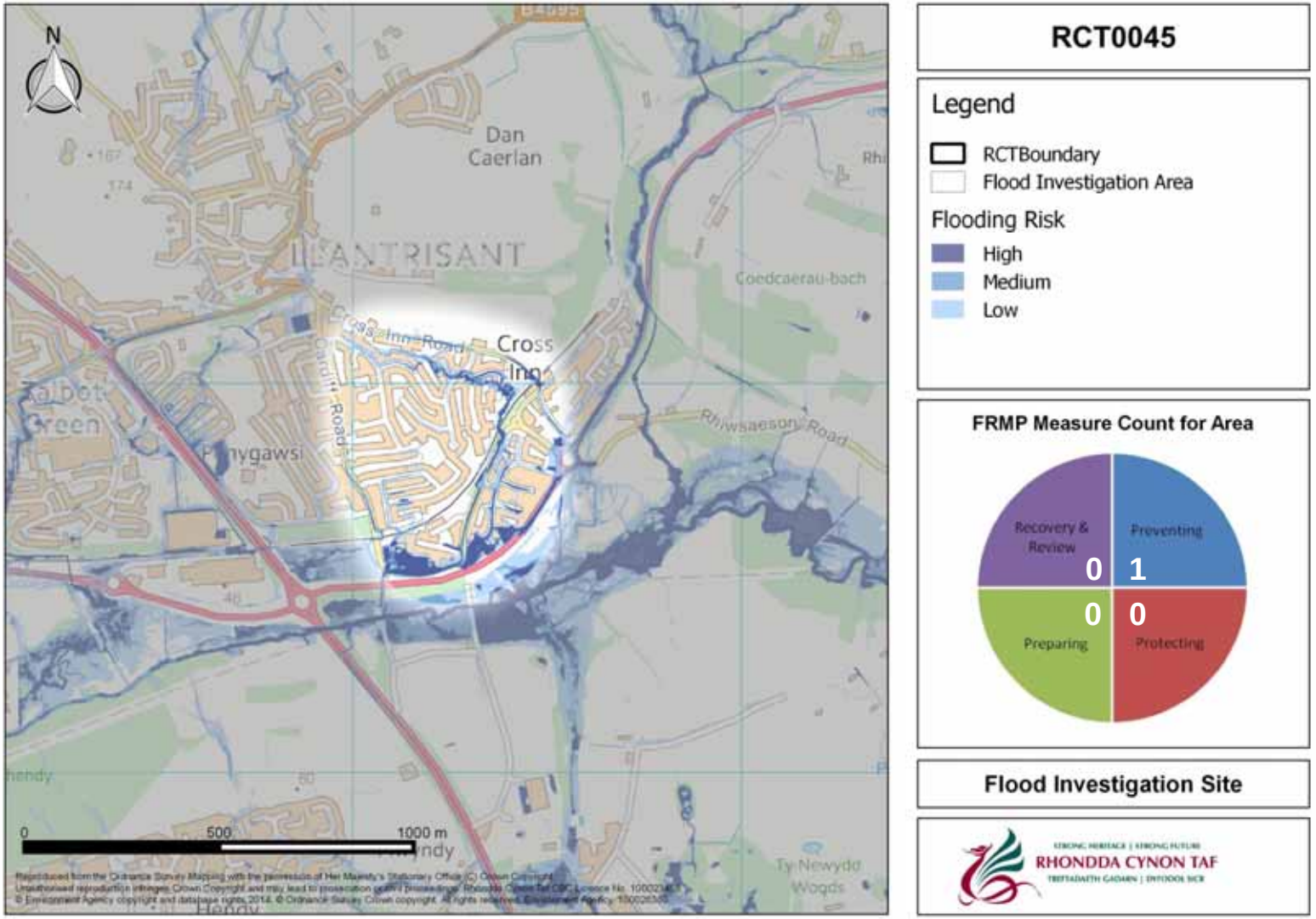
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0045

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1614	73	32	141
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	75	3	2	8
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.03	0.02	0.06
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	4			
Highway	4			

Flood Risk Management Plan Measures for RCT0045

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0045	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0045



Flood Investigation Area - RCT0046

Flood Investigation Area RCT0046 is situated within the community areas of Llantrisant Town and Talbot Green. The flood risk is considered to be sourced from a surface runoff, with risk posed in areas adjacent to Clos Lancaster, Clos Hereford, Clos Leland and Chartis Road..

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

Only one incident of flooding to the Highway has been reported to the authority and this is not consistent with the flood risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

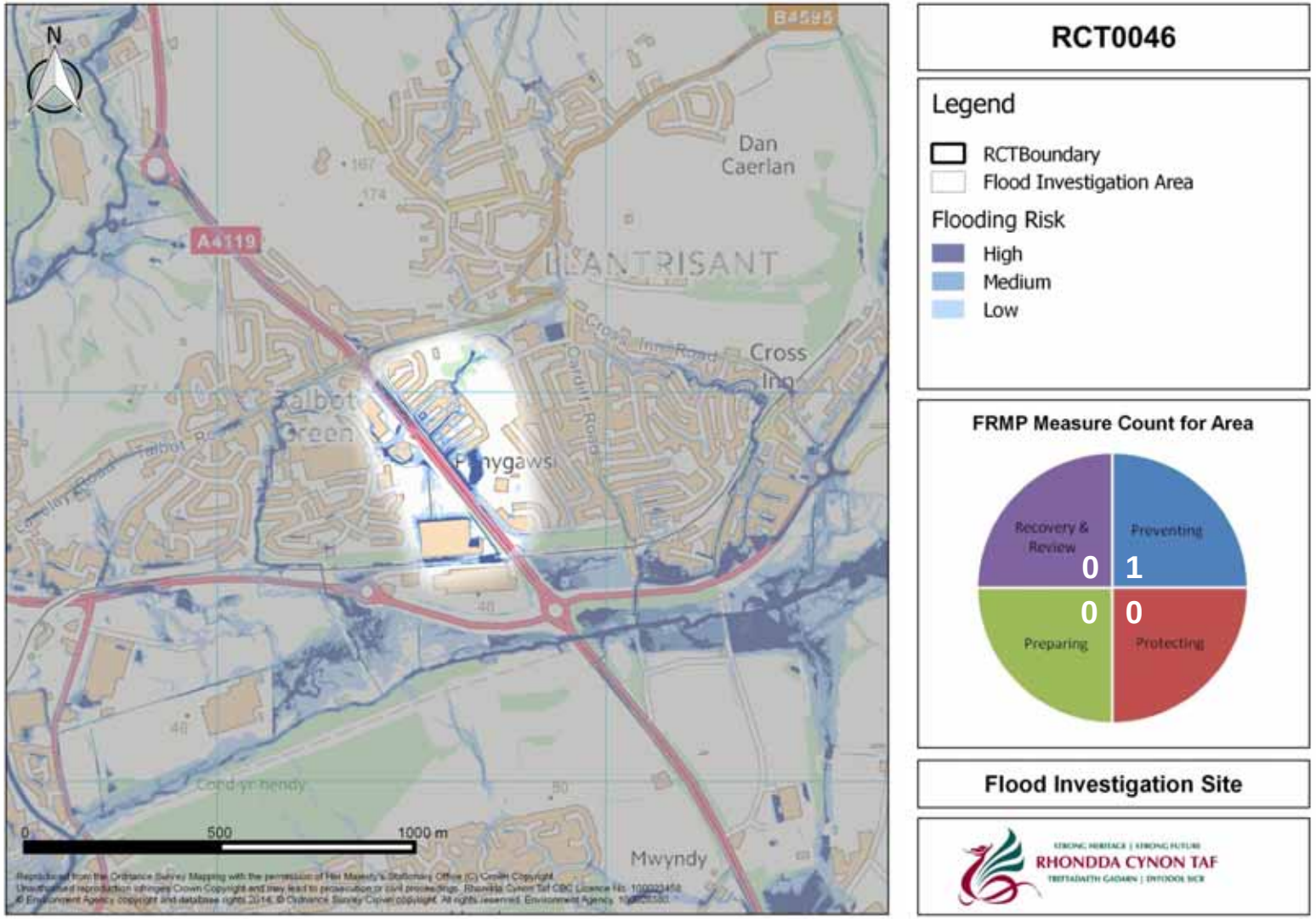
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0046

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	282	5	24	68
Services	2	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	30	2	0	4
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0.2	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	1			

Flood Risk Management Plan Measures for RCT0046

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0046	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0046



Flood Investigation Area - RCT0047

Flood Investigation Area RCT0047 is situated within the community areas of Llantrisant Town, Llanharan and Talbot Green. The flood risk is considered to be sourced from culvert inlets of unnamed watercourses and Main River. Flood risk is noted to industrial units throughout Llantrisant Business Park.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

Of the few flood incidents reported to the authority, there is a reasonable correlation between flood incidents reported to the authority and risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0047

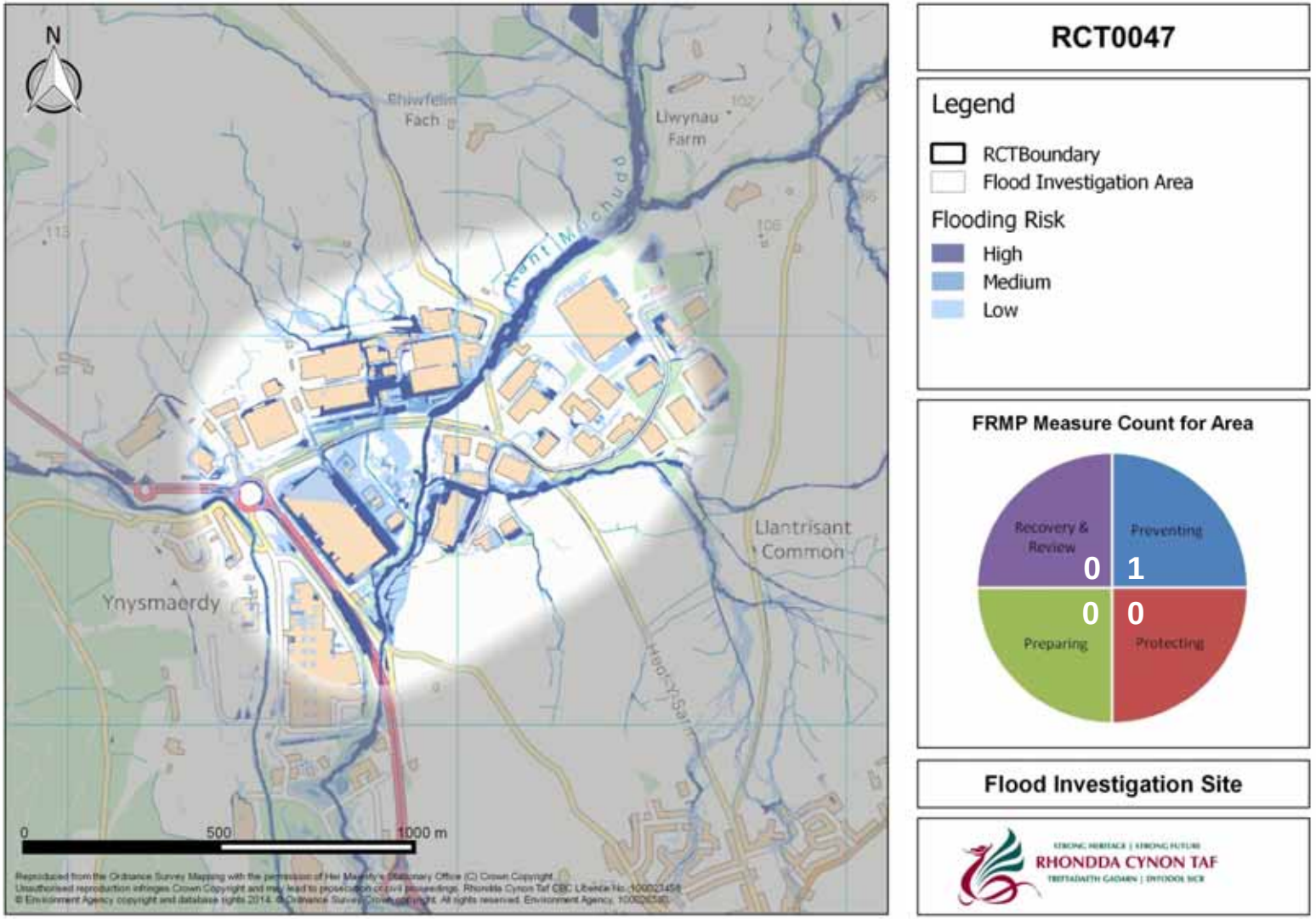
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	216	2	0	63
Services	2	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	212	19	21	34
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	1	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	9	0.5	0.2	0.4
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	1	0	0	1
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	2			
Highway	4			

Flood Risk Management Plan Measures for RCT0047

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0047	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0047



Flood Investigation Area - RCT0048

Flood Investigation Area RCT0048 is situated within the community are of Llantwit Fardre and the flood risk is considered to be sourced from surface runoff. The risk presented cascades through the residential area in the vicinity of Cwrt-Y-Goedwig, Heol Dyhewydd and Woodlands.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a poor correlation between reported flood incidents to property and the flood risk posed by the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

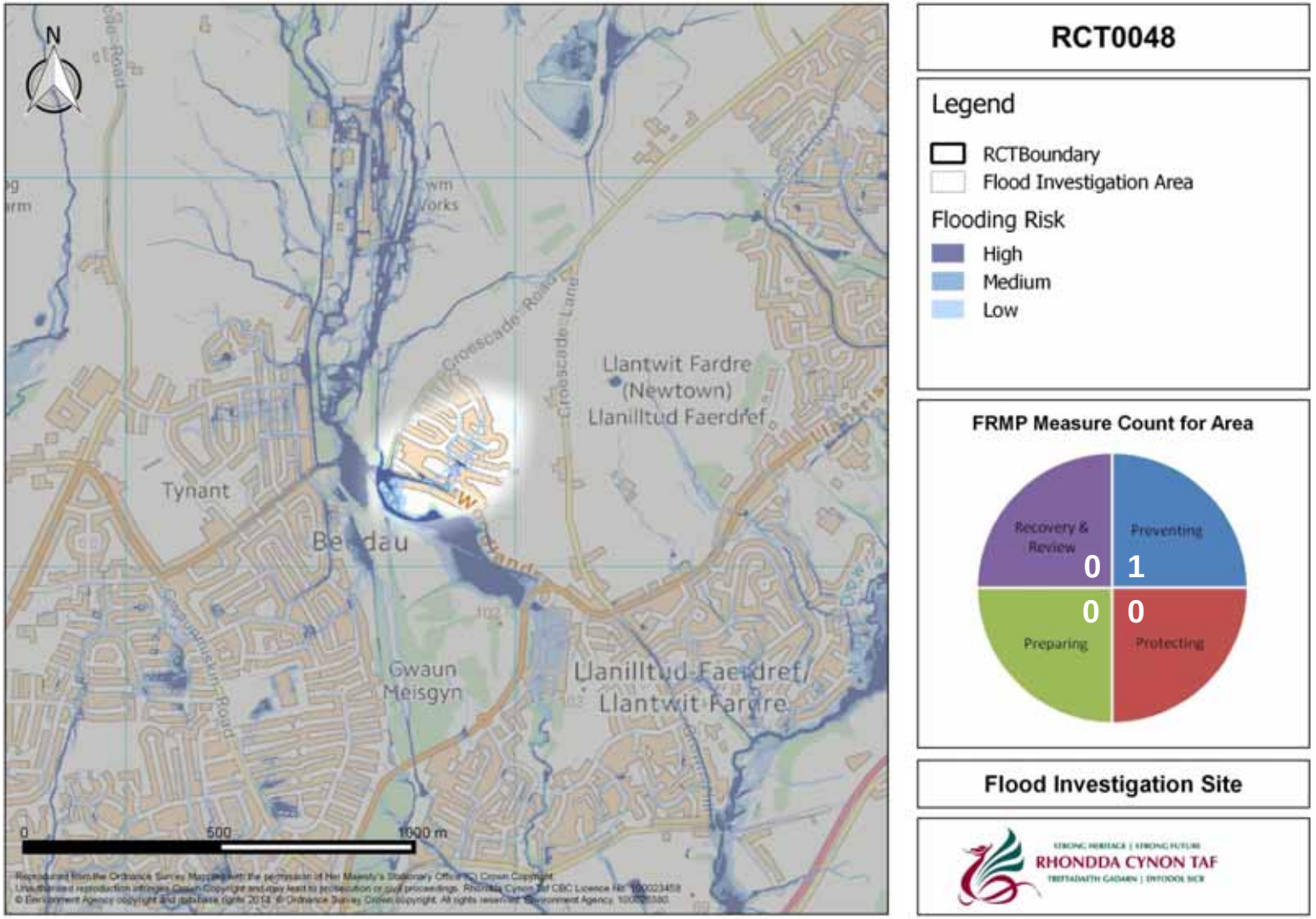
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0048

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	395	2	21	54
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	18	0	1	4
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	3			
Highway	2			

Flood Risk Management Plan Measures for RCT0048

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0048	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0048



Flood Investigation Area - RCT0049

Flood Investigation Area RCT0049 is situated within the community area of Llantwit Fardre and the flood risk is considered to be sourced from a surface runoff. A low to high risk is identified along Heol-Y-Parc.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between flood incidents reported to the council and the risk posed by the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

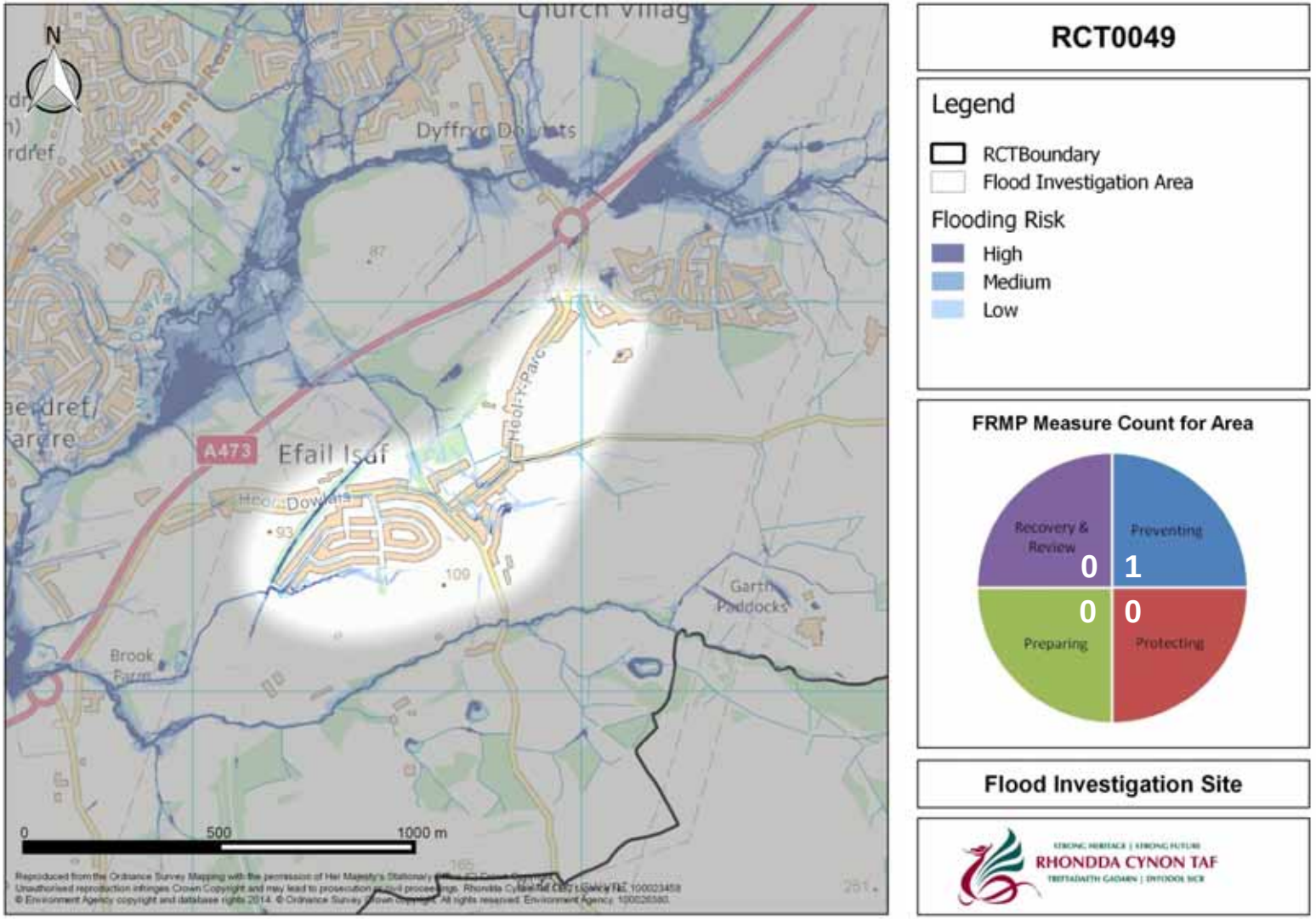
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0049

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	705	9	2	63
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	84	0	0	4
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	8			
Highway	6			

Flood Risk Management Plan Measures for RCT0049

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0049	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0049



Flood Investigation Area - RCT0050

Flood Investigation Area RCT0050 is situated within the community area of Llantwit Fardre. The flood risk posed to the flood investigation area is attributed to a combination of surface runoff and ordinary watercourse, with often linear stretches of flood risk in depressions/valleys in the higher elevations and reserved to sections of the road network throughout the residential development. A significant flood risk is posed from the Main River in the southeast of the Flood Investigation Area.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A reasonable correlation exists between reported flood incidents to the authority and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0050

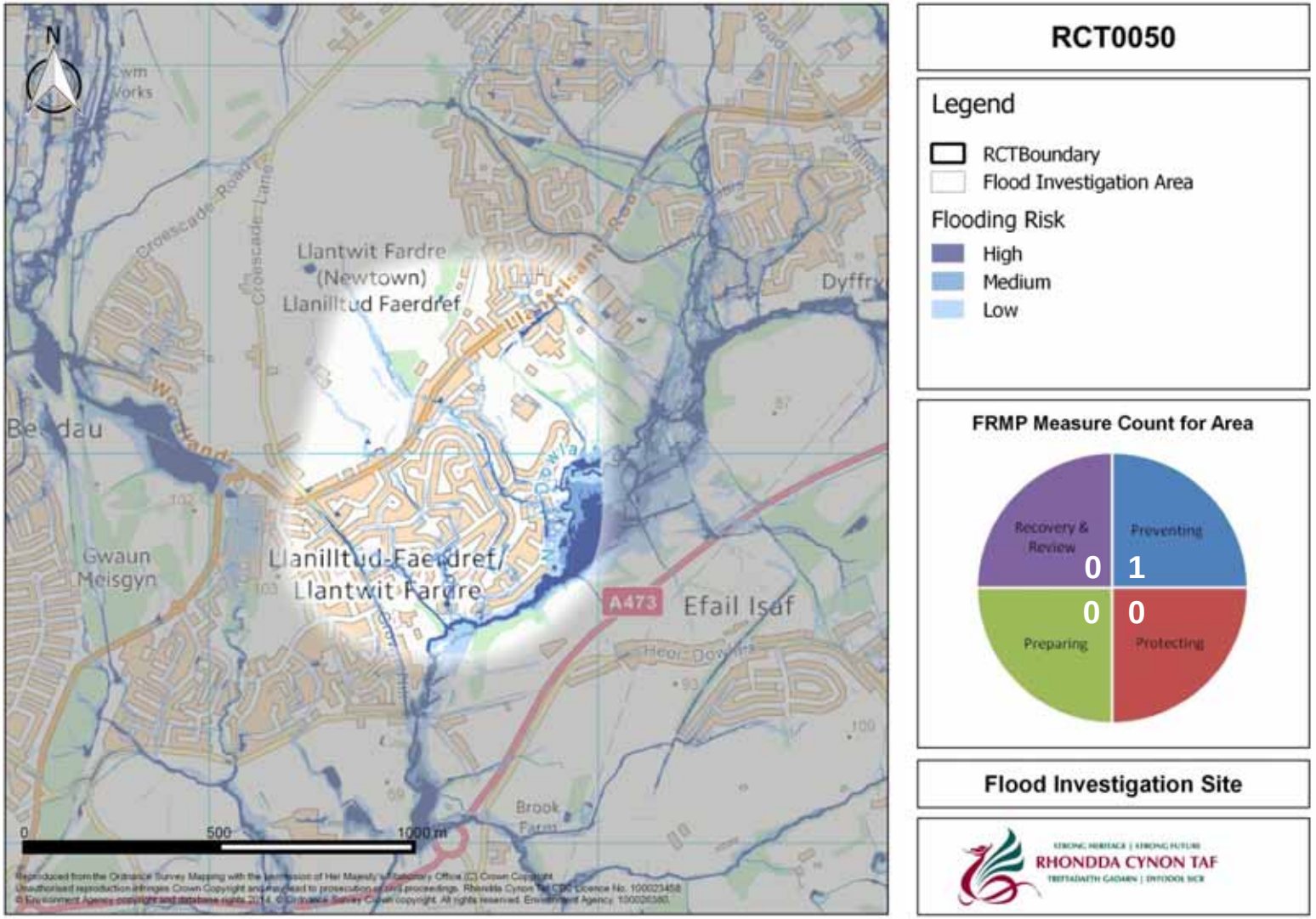
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	2171	21	59	247
Services	2	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	136	0	6	9
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	4			
External	13			
Highway	12			

Flood Risk Management Plan Measures for RCT0050

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0050	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Rescores Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0050



Flood Investigation Area - RCT0051

Flood Investigation Area RCT0051 is situated within the community area of Llantwit Fardre, Beddau and Tyn-y-nant. The flood risk is considered to be mostly attributed to the Nant Ty'rarlwydd and its tributaries, including locations at culvert inlets. A contribution from surface runoff is noted from the steep valley sides. The flood risk is posed throughout the disused Cwm Coke works.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There are no flood incidents reported within the Flood Investigation Area.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

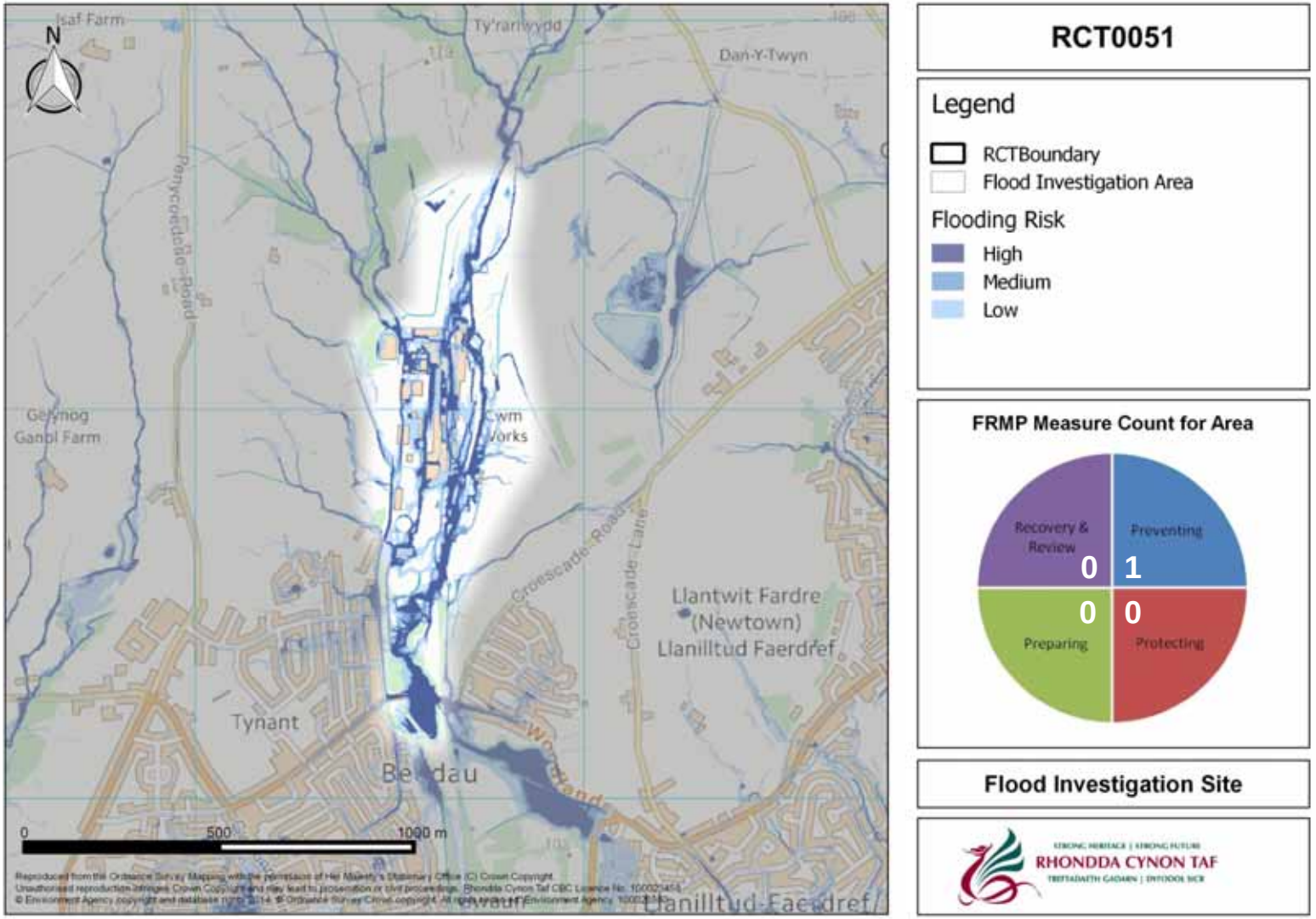
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0051

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	0	0	0	0
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	118	18	5	21
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	2	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	0			

Flood Risk Management Plan Measures for RCT0051

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0051	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0051



Flood Investigation Area - RCT0052

Flood Investigation Area RCT0052 is situated within the community areas of Llwynypia, Ystrad and Trealaw. The flood risk is considered to be sourced from surface water (ordinary watercourse and surface runoff) and Main River. The highest risk is noted to be situated along the western banks of the Afon Rhondda (Main River).

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between the flood incidents reported to the authority and the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0052

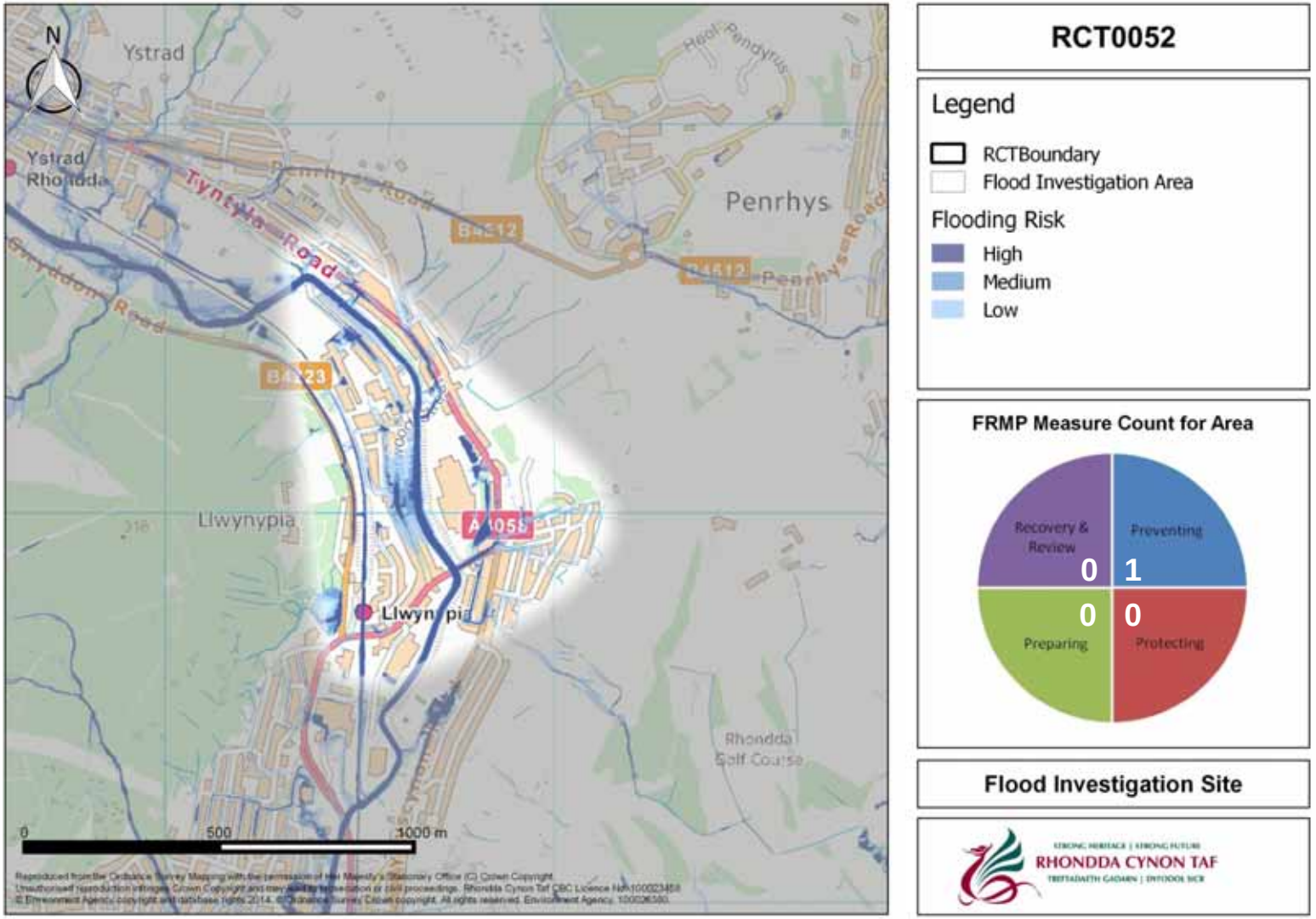
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1882	63	101	355
Services	3	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	141	4	5	19
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.3	0.03	0.2
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	4			
External	24			
Highway	35			

Flood Risk Management Plan Measures for RCT0052

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0052	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0052



Flood Investigation Area - RCT0053

Flood Investigation Area RCT0053 is situated within the community area of Maerdy and the flood risk is considered to be sourced from a combination of ordinary watercourse and surface runoff. Of note is the flood risk posed from the culvert inlet of unnamed watercourses to areas in the vicinity of Glanville Terrace and Oxford Street. The area surrounding School Street is noted to be at risk from surface runoff. The possibility of surface water and Main River interaction is noted in the north of the Flood Investigation Area.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between flood incidents reported to the authority and the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

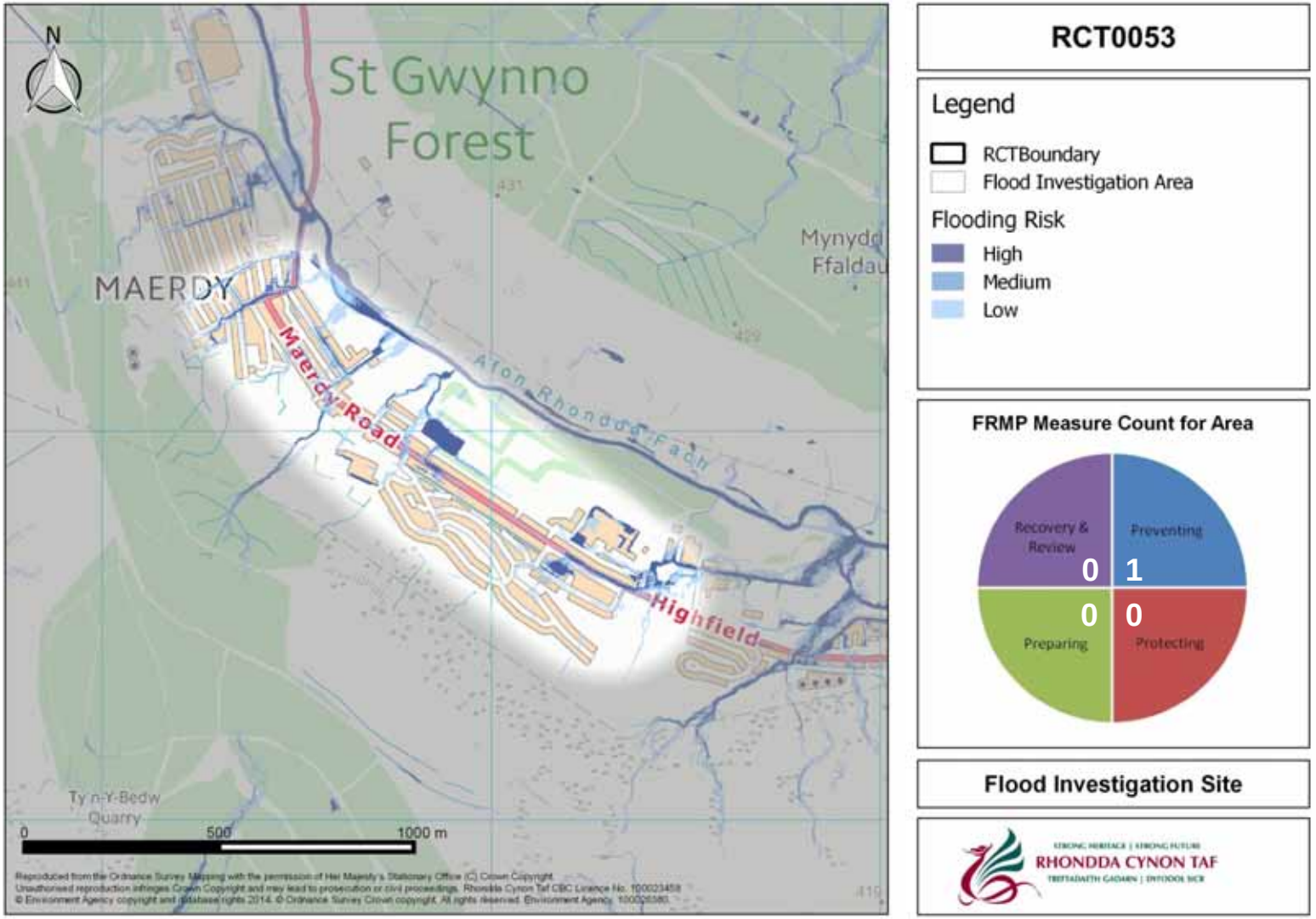
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0053

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	2352	16	49	214
Services	2	0	0	2
ECONOMIC ACTIVITY				
Non Residential Properties	128	4	1	16
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	2			
External	17			
Highway	13			

Flood Risk Management Plan Measures for RCT0053

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0053	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0053



Flood Investigation Area - RCT0054

Flood Investigation Area RCT0054 is situated within the community area of Maerdy and the flood risk is considered to be sourced surface runoff. There are two principle flow paths noted to pose a risk to the highways network, particularly in the area of the Maerdy Filtration Plant (Water Works) in the north of the area and Park Road and North Terrace in the south of the area.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between flood incidents reported to the authority and the risl posed by the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

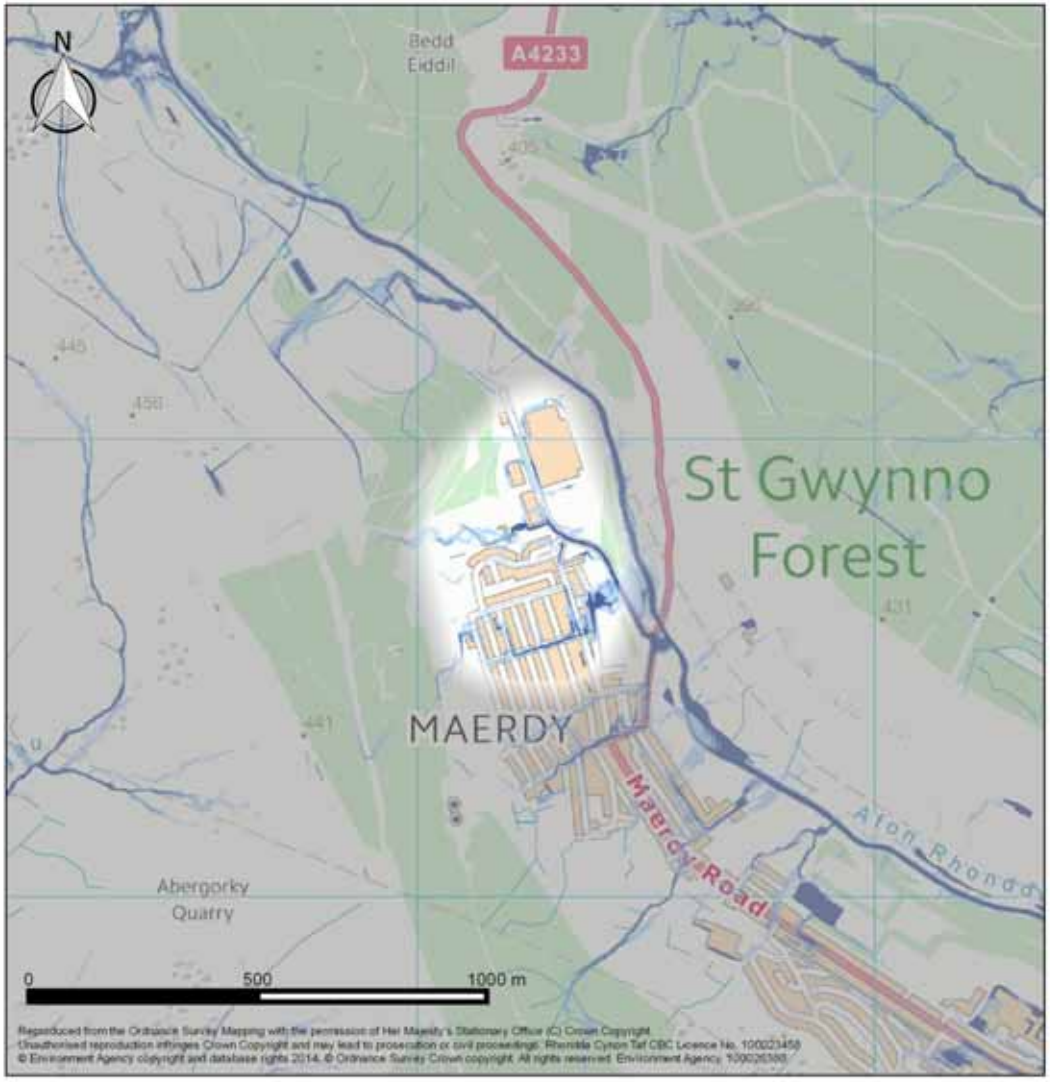
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0054

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	632	19	16	78
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	49	2	0	5
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	2			
Highway	2			

Flood Risk Management Plan Measures for RCT0054

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0054	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0054



RCT0054

Legend

RCTBoundary
Flood Investigation Area

Flooding Risk

High
Medium
Low

FRMP Measure Count for Area

Flood Investigation Site

Flood Investigation Area - RCT0055

Flood Investigation Area RCT0055 is situated within the community area of Mountain Ash East. The flood risk is likely to be attributed to two sources; the culvert inlet of Nant y Ffrwd and surface runoff. The risk of flooding is broadly noted along the highways network, with the highest risk observed along New Road, in the south of the Flood Investigation Area.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a poor correlation between reported incidents of property flooding and the risk posed within the uFMfSW; however, there is a good correlation of reported highway flooding and the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

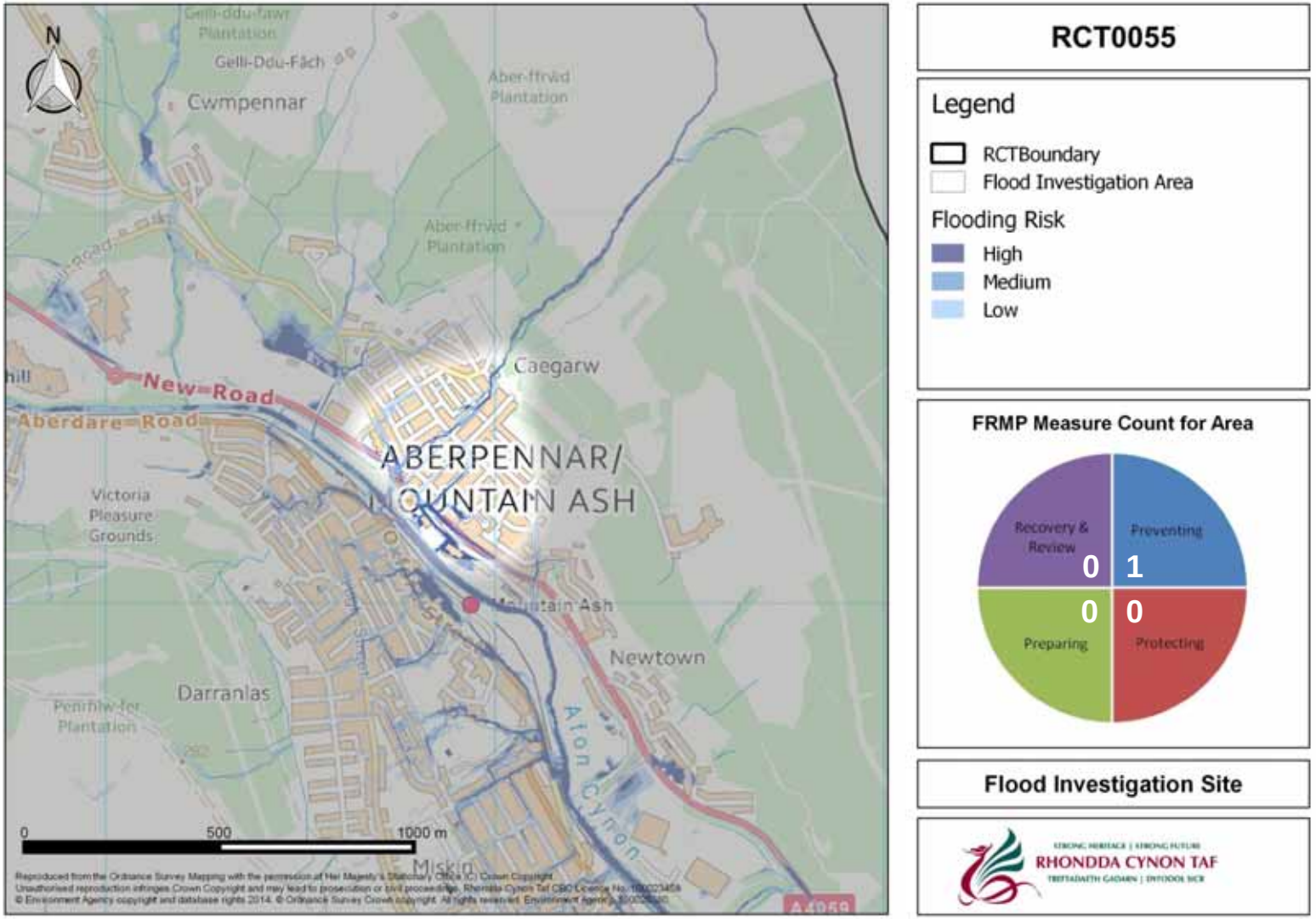
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0055

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1377	7	23	75
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	55	4	55	2
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	2	0.1	0.02	0.05
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	4	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	2			
External	2			
Highway	6			

Flood Risk Management Plan Measures for RCT0055

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0055	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0055



Flood Investigation Area - RCT0056

Flood Investigation Area RCT0056 is situated within Mountain Ash East. The flood risk presented within the uFMfSW is likely attributed to the culvert inlets of the Nant Geli-ddu-fach and confluence of two unnamed watercourse. A high flood risk is presented to the area surrounding Trem y Dyffryn.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is only one incident of property flooding with the area and this is not coincidental with the extents presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

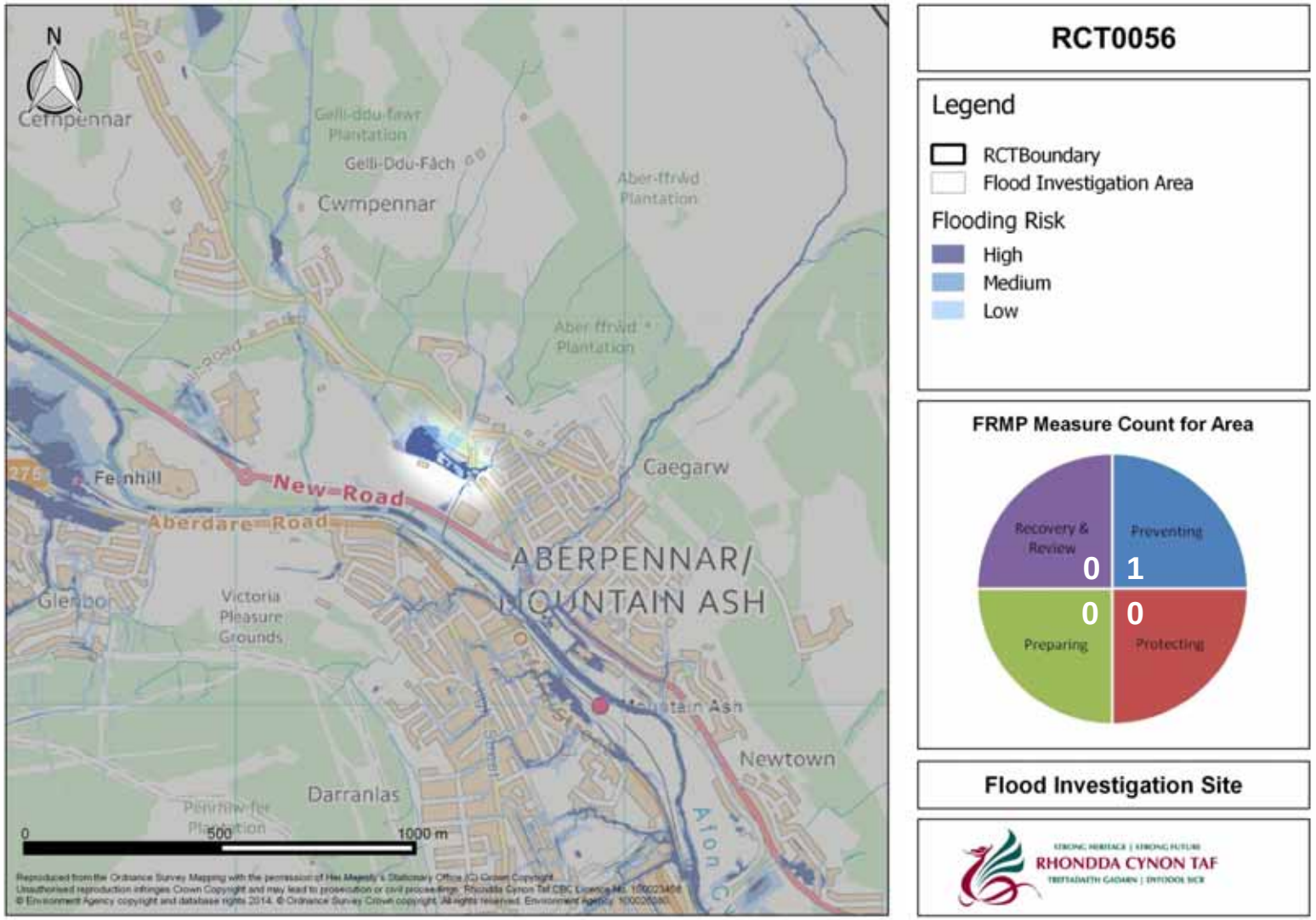
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0056

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	73	35	16	21
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	6	1	1	0
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	2	1	0.2	0.3
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	0			
Highway	0			

Flood Risk Management Plan Measures for RCT0056

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0056	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0056



Flood Investigation Area - RCT0057

Flood Investigation Area RCT0057 is situated within the community are of Mountain Ash West and the flood risk is considered to be sourced from ordinary watercourse within the area, notably the Cwm Boi and two unnamed watercourse (capacity and inlet). A large are of high risk is noted in the north of the Flood Investigation Area and it is anticipated that this linked to the culvert under the residential development and Aberdare Road.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation of flood incidents reported to the authority and the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

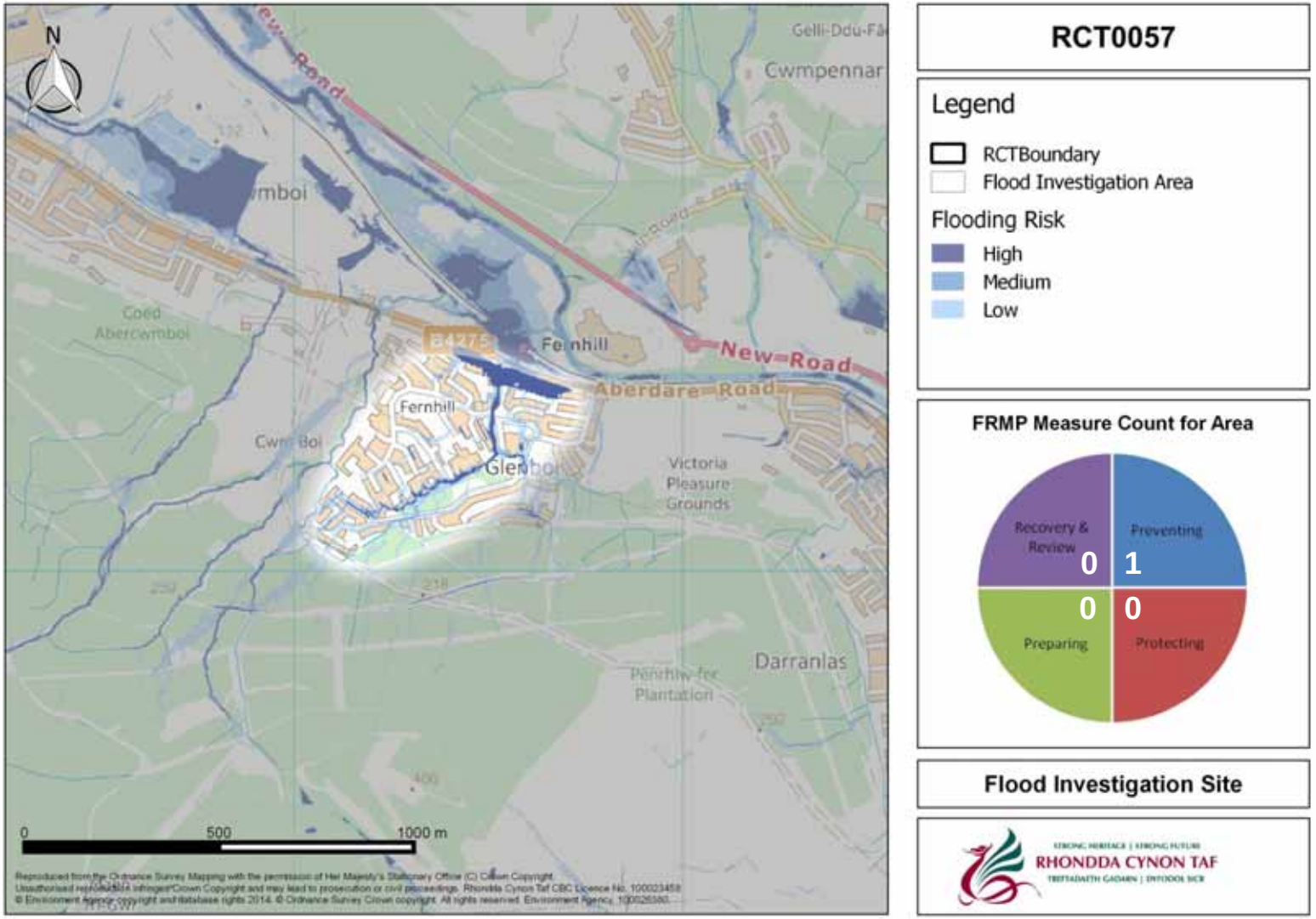
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0057

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1114	73	28	165
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	29	1	0	7
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	23	2	1	3
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	4			
Highway	4			

Flood Risk Management Plan Measures for RCT0057

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0057	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0057



Flood Investigation Area - RCT0058

Flood Investigation Area RCT0058 is situated within the community area of Penrhiwceiber and the flood risk is considered to be sourced from surface runoff, notably in the area of Glanlay Street, Vaughan Terrace and Glasbrook Terrace, also posing a flood risk to the football ground and the railway line.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between flooding incidents reported to the authority and the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

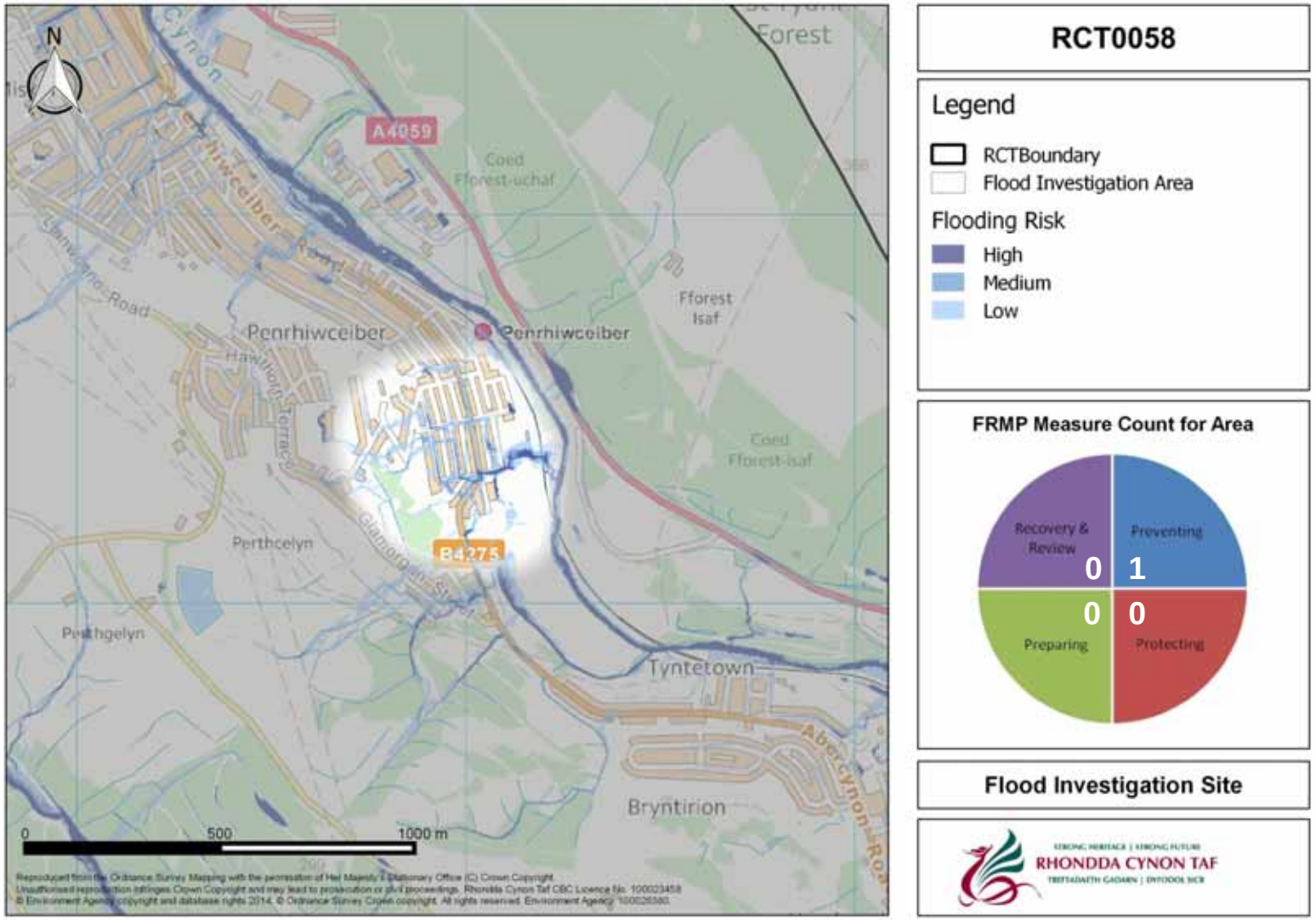
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0058

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1022	5	31	249
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	49	0	2	13
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0.3	0.005	0.02	0.05
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	2	0	0	1
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	2			
Highway	10			

Flood Risk Management Plan Measures for RCT0058

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0058	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0058



Flood Investigation Area - RCT0059

Flood Investigation Area RCT0059 is situated within the community areas of Penrhiwceiber and Mountain Ash West. The flood risk is considered to be sourced surface runoff. A low to high risk is identified in the area of Miskin and Darranlas.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between flood incidents to the highway reported to the authority and the risk posed within the uFMfSW.

There is a good correlation between reported flood incidents to property and the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

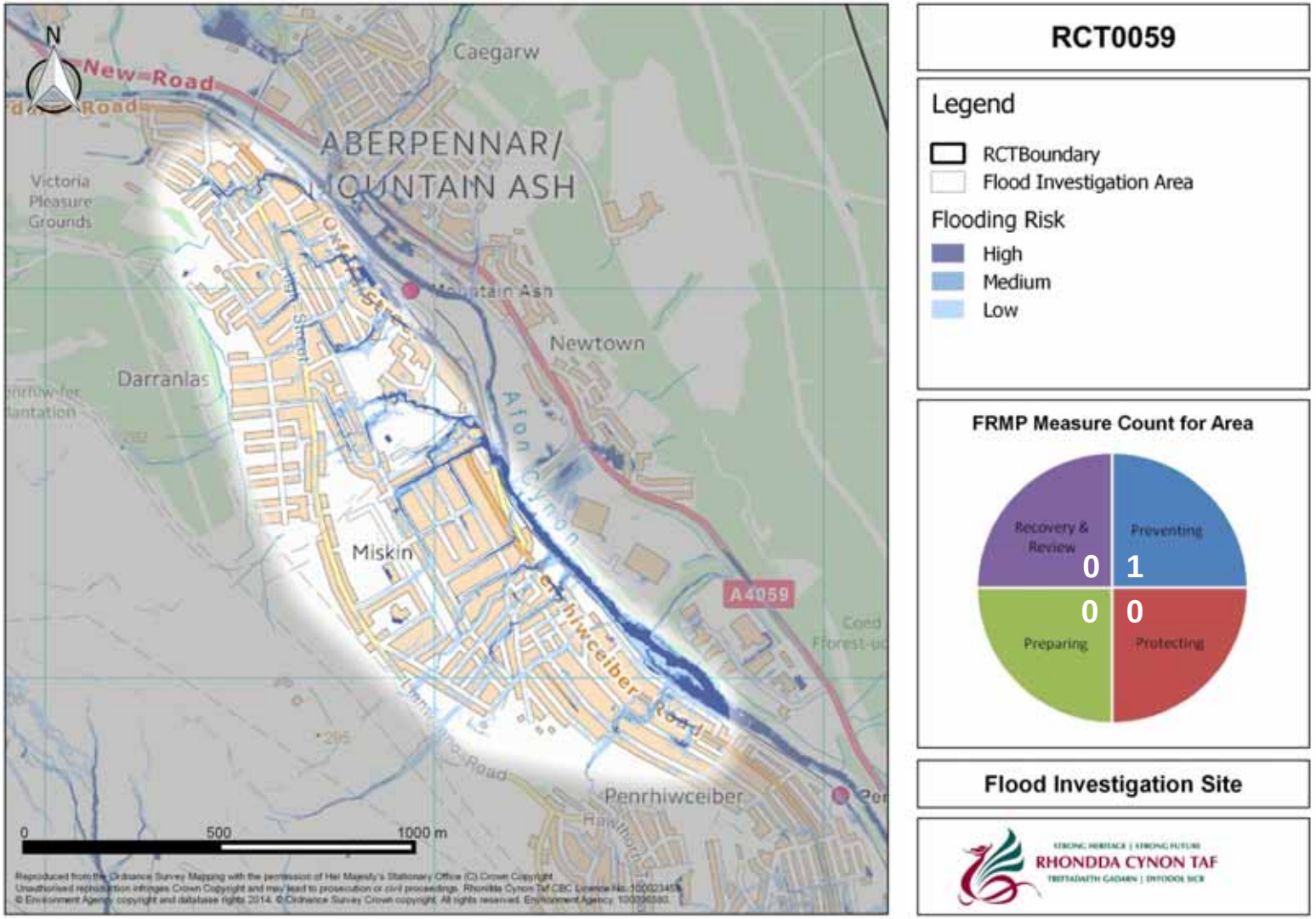
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0059

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	7160	75	139	837
Services	7	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	348	12	8	69
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.1	0.07	0.5
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	2	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	8			
External	19			
Highway	36			

Flood Risk Management Plan Measures for RCT0059

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0059	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0059



Flood Investigation Area - RCT0060

Flood Investigation Area RCT0060 is situated within the community areas of Pentre and Treorchy and the flood risk is considered to be attributed to two ordinary watercourses, sourced in the northeast at the top of the catchment. The highest risk of flooding is noted in the area of Volunteer Street, Baglan Street and Lewis Street. Much of the flood risk observed within the residential area is likely attributed to the water being held back by the railway embankment. Flood risk posed to the south of the railway is anticipated to be a combination of surface water and main river flooding.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

A good correlation between reported property and highway flood incidents and the risk posed within the uFMfSW is noted.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0060

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	2430	531	193	705
Services	2	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	146	15	8	32
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0.4	0.03	0.003	0.1
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	3	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	6			
External	11			
Highway	18			

Flood Risk Management Plan Measures for RCT0060

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0060	Local / Main River	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

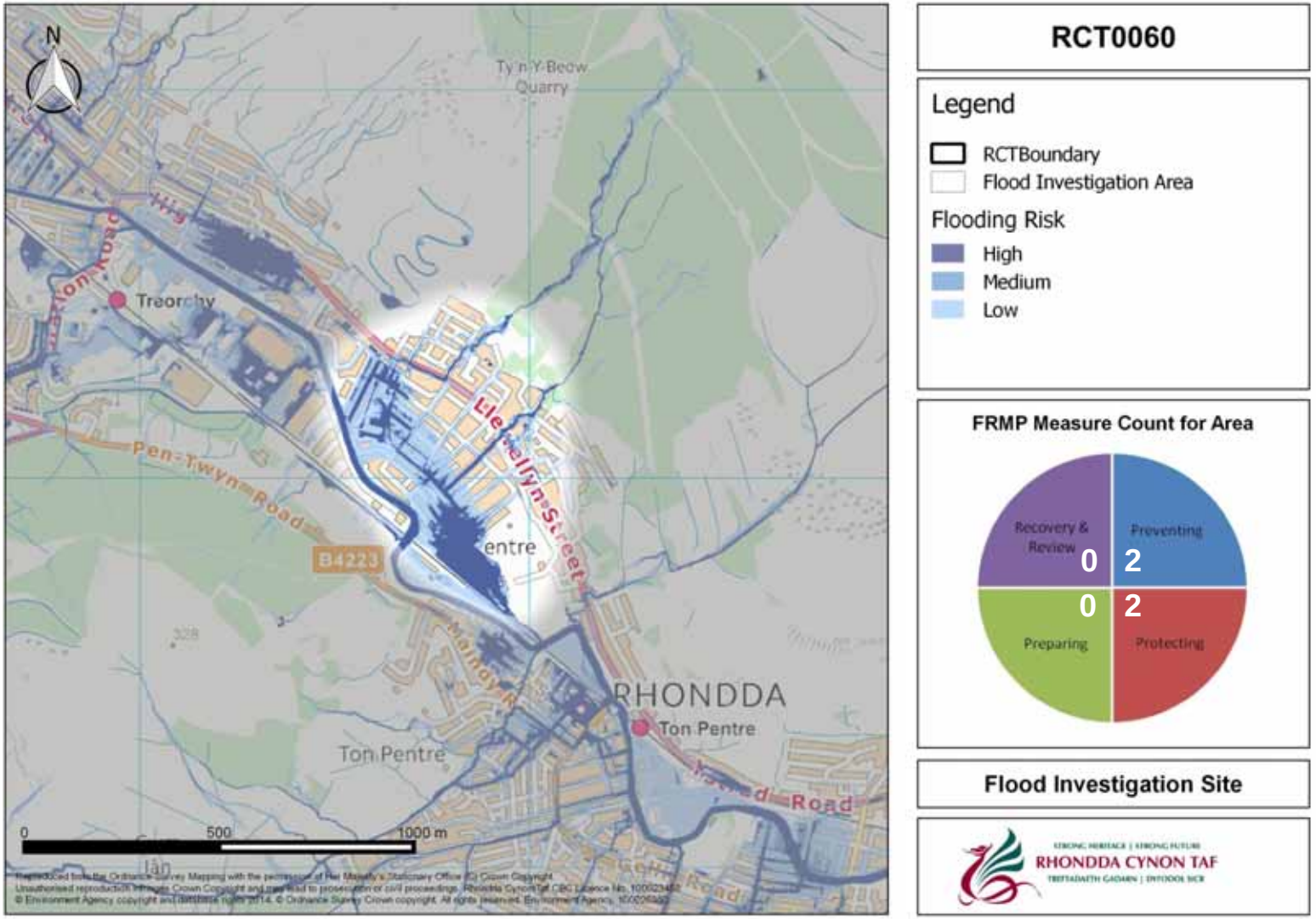
The draft Flood Risk Management Plan for the Severn River Basin District has proposed measures for the flood risk from main rivers that may provide an opportunity for collaborative working. The table below provides an excerpt from the Severn River Basin draft Flood Risk Management Plan.

Summary of Natural Wales Resources ongoing and proposed measures within Flood Investigation Area RCT0108

Location	Source	Measures	Measure Type	Link to SRBD FRMP objective*	Timing	Priority	Measure Status	Responsible Authority
Treorchy	Main River	Undertake initial assessment and feasibility work for reducing flood risk	M3 – Protection	1, 2	Current	Very High	Not Started Proposed	Natural Resources Wales
		Update Hydraulic Model	M3 – Protection	3	Current	Very High	On-going	Natural Resources Wales

*This FRMP objective link is specific to the Severn River Basin District Flood Risk Management Plan

uFMfSW for RCT0060



Flood Investigation Area - RCT0061

Flood Investigation Area RCT0061 is situated within the communities of Pentre and Ystrad and the flood risk is likely attributed to surface water (surface runoff and ordinary watercourse), notably the Nant Ia'n to the north and an unnamed watercourse to the south. There is the likelihood that a flood risk is posed from an interaction between surface water and Main River in the east of the area. A notable risk is identified in the area of Bailey Street, Queen Street and the area surrounding the church of St John the Baptist.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a very good correlation between flood incidents reported to the authority and the flood risk posed within the uFMfSW.
Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0061

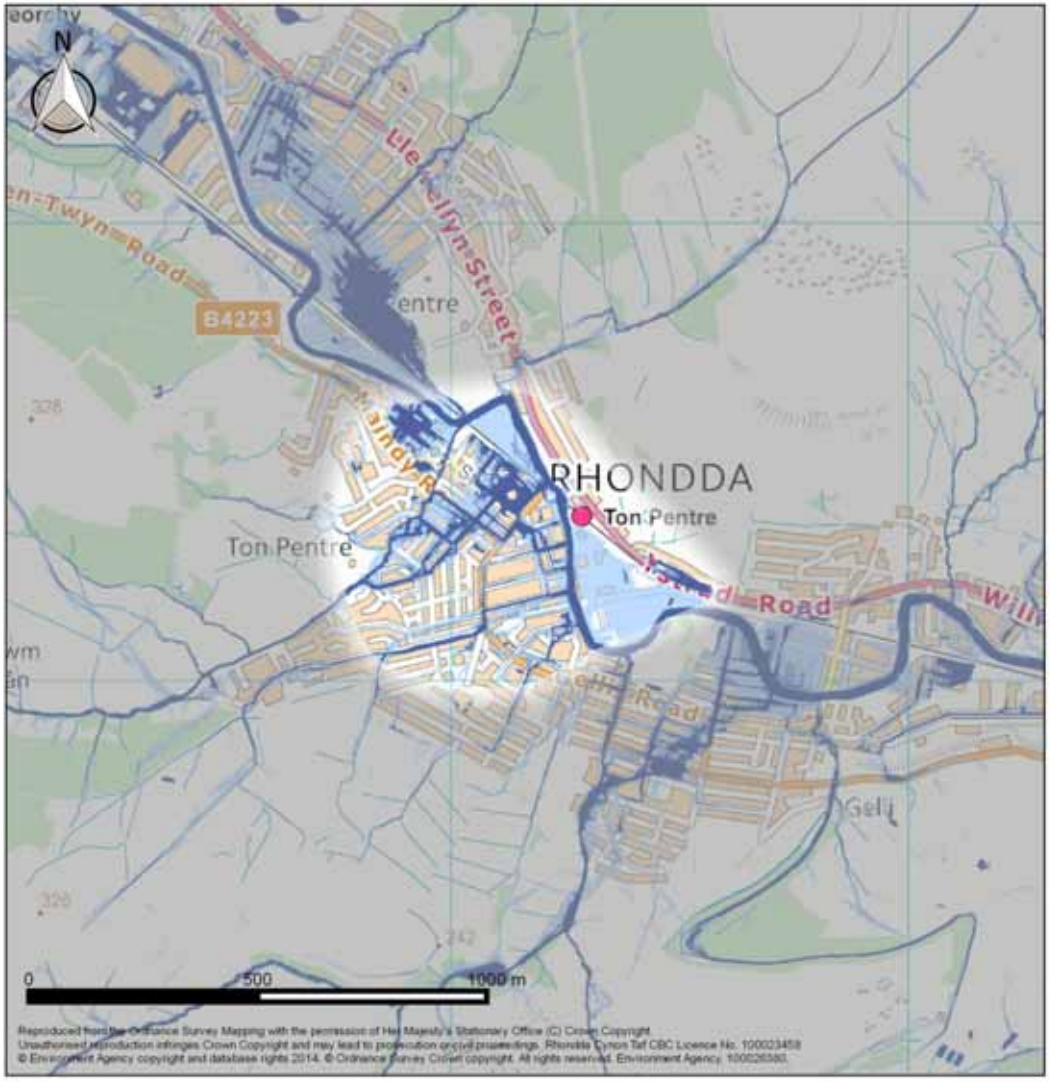
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	2369	336	165	517
Services	5	1	1	2
ECONOMIC ACTIVITY				
Non Residential Properties	158	27	10	41
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.07	0.01	0.1
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	2	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	4			
External	9			
Highway	18			

Flood Risk Management Plan Measures for RCT0061

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0061	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0061



RCT0061

Legend

- RCTBoundary
- Flood Investigation Area

Flooding Risk

- High
- Medium
- Low

FRMP Measure Count for Area

Flood Investigation Site

Flood Investigation Area - RCT0062

Flood Investigation Area RCT0062 is situated within the community area of Penygraig and the flood risk is considered to be attributed to several unnamed ordinary watercourse situated in the west of the area. The most notable flood risk is posed to the area surrounding Mikado Street and the A4119.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There are no flood incidents reported to the authority within this flood investigation area.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

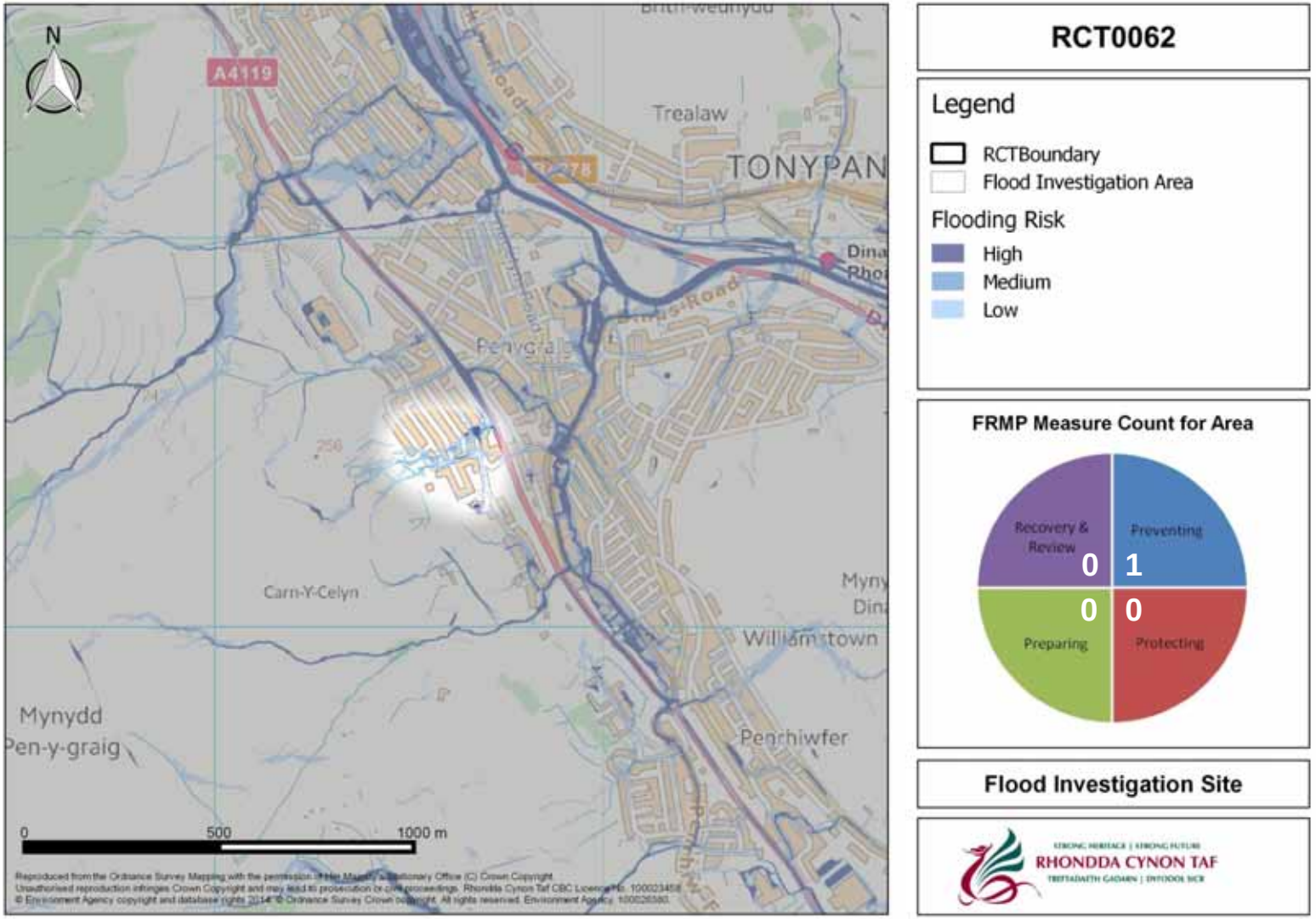
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0062

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	367	5	12	71
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	8	0	0	1
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	0			

Flood Risk Management Plan Measures for RCT0062

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0062	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0062



Flood Investigation Area - RCT0063

Flood Investigation Area RCT0063 is situated within Penygraig and the flood risk is considered to be attributed to a combination of surface water and main river flooding. The highest risk noted within the area is posed to areas surrounding Grovefield Terrace and Ffrwd Amos Industrial Estate in the north, Swan Terrace and Brook Street in the south and the A4119 and Middle Avenue in the northwest.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between reported flooding to the highway and the risk presented within the uFMfSW; however, a poor correlation exists between flooding observed to property and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0063

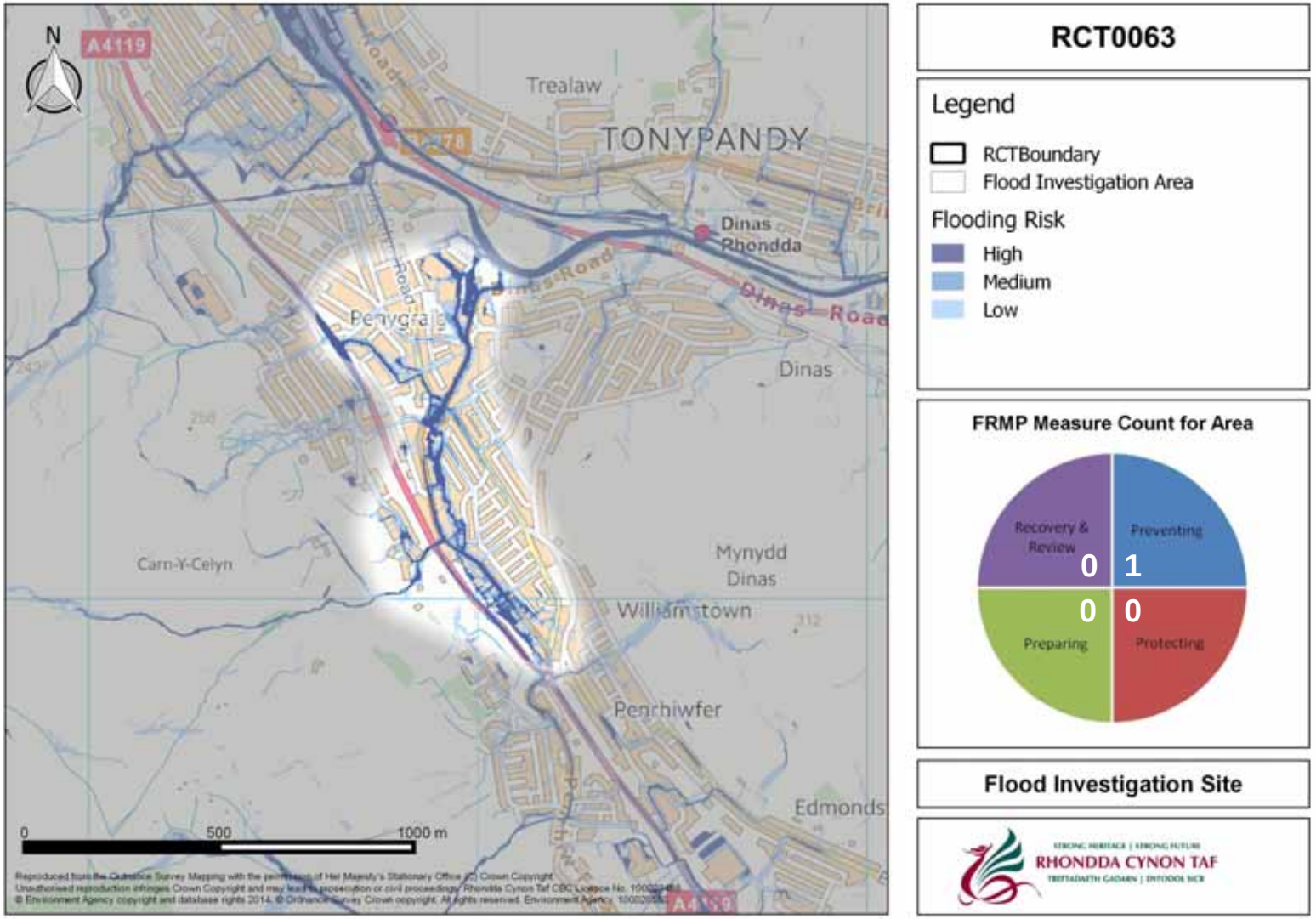
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	2712	230	125	327
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	202	18	18	32
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	2			
External	7			
Highway	7			

Flood Risk Management Plan Measures for RCT0063

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0063	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0063



Flood Investigation Area - RCT0064

Flood Investigation Area RCT0064 is situated within Penywaun and the flood risk is likely to be attributed to an ordinary watercourse. The risk is most notable in the area of Trenant, with a high risk noted to pond on Hirwaun Road.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There are few flood incidents reported to the area; however, a reasonable correlation exists between those reported and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

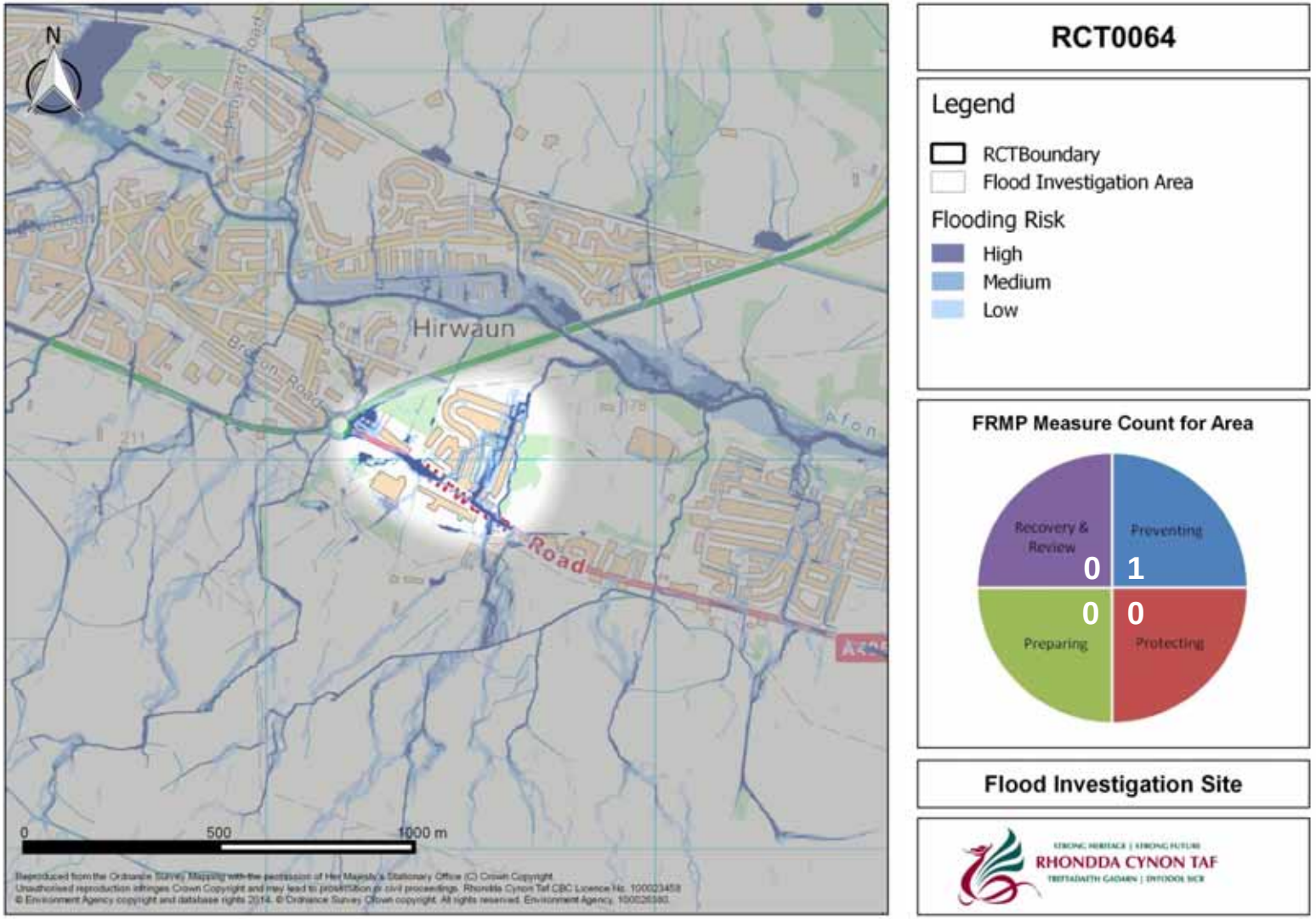
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0064

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	479	19	47	94
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	21	0	0	2
Airports	0	0	0	0
Roads (km)	0.09	0.03	0.0009	0.06
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	5			
Highway	5			

Flood Risk Management Plan Measures for RCT0064

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0064	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0064



Flood Investigation Area - RCT0065

Flood Investigation Area RCT0065 is situated within the community area of Penywaun and the flood risk is considered to be sourced from surface runoff. A low to high risk is identified across the residential, notably in the area surrounding Erw Las.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

No flood incidents indentified within the area relate to internal property flooding; however, there is a good correlation between recorded flooding to the highway and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

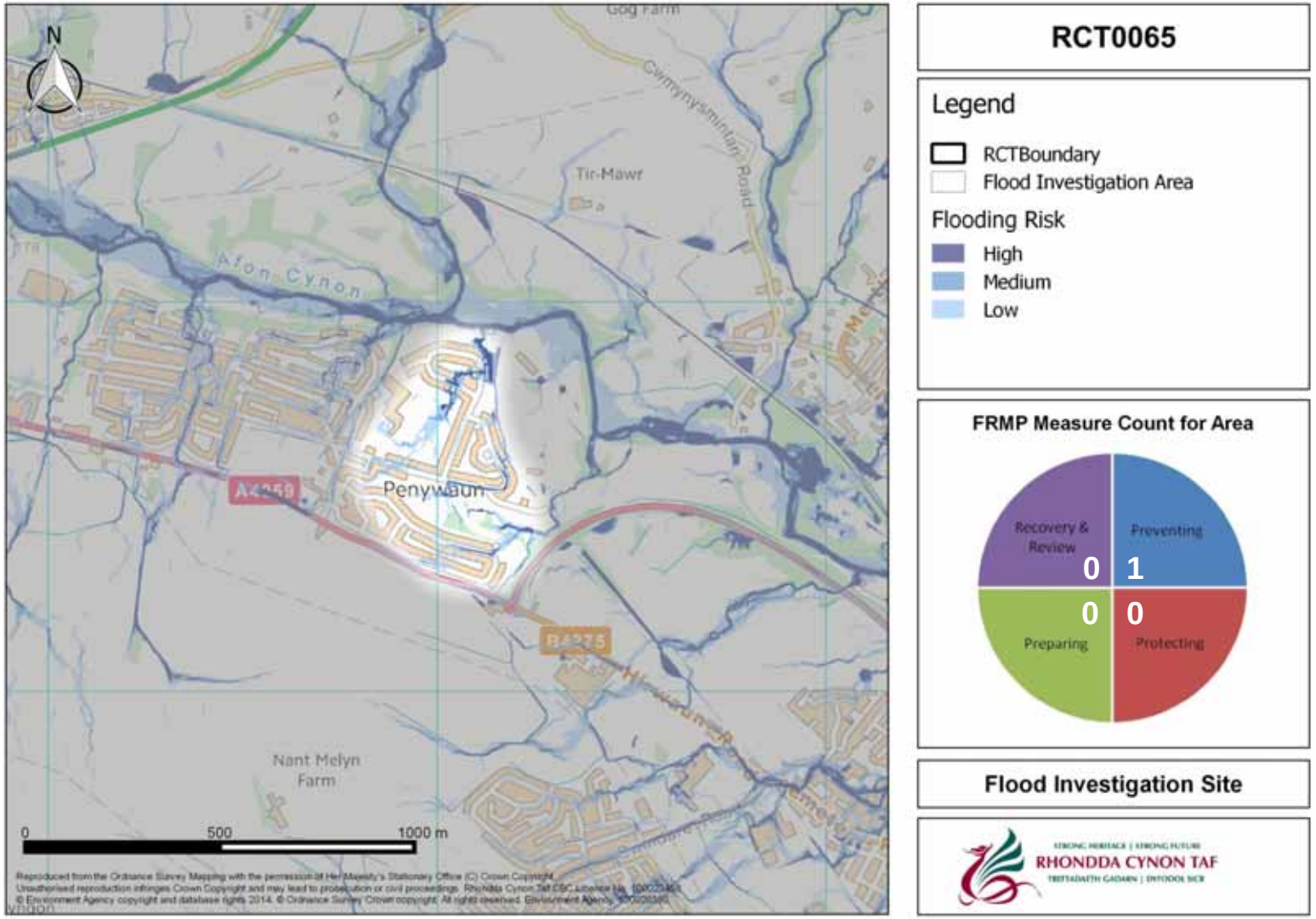
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0065

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	764	38	21	101
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	21	1	0	1
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	3			
Highway	6			

Flood Risk Management Plan Measures for RCT0065

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0065	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0065



Flood Investigation Area - RCT0066

Flood Investigation Area RCT0066 is situated within Penywaun and the flood risk is considered to be sourced from surface runoff. The flood risk sourced from surface runoff is observed through the residential development, notably along the highways network. The highest risk is observed in the area surrounding Heol Bryn Gwyn, adjacent to the shopping centre, and sections of Dan-Yr-Heol and Pen-Yr-Heol.

Flooding from the Afon Cynon is observed within the flood plain and is not considered to pose a risk to people or property within the Flood Investigation Area.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between flood incidents reported to the authority and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

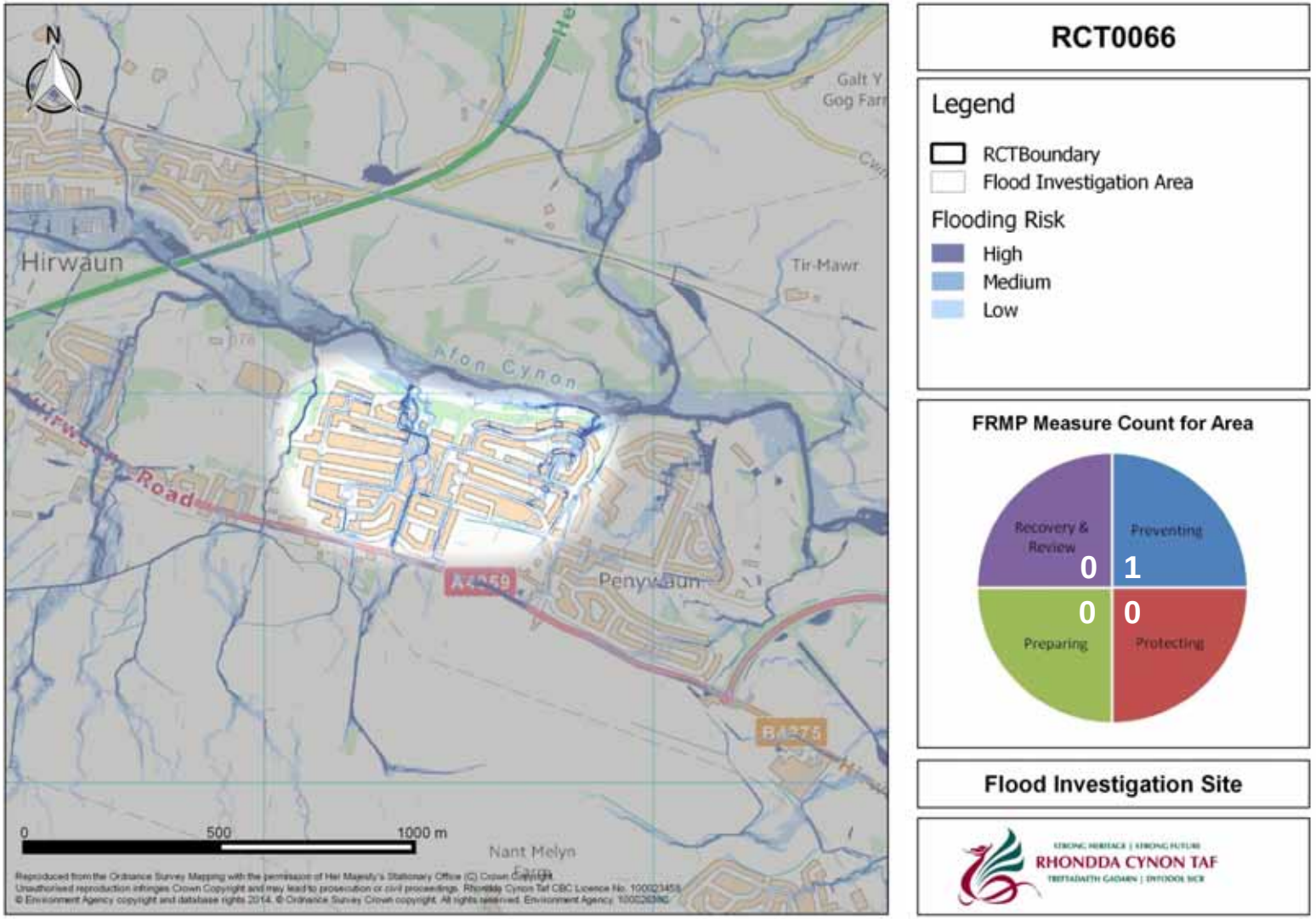
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0066

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1412	56	54	249
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	33	0	3	8
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	11			
Highway	7			

Flood Risk Management Plan Measures for RCT0066

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0066	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0066



Flood Investigation Area - RCT0067

Flood Investigation Area RCT0067 is situated within the community area of Pontyclun and the flood risk is considered to be sourced from surface runoff. The highest flood risk is noted along School Road and St David's Road, both of which are situated within a depression.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There are no flood incidents reported to the authority within the area.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

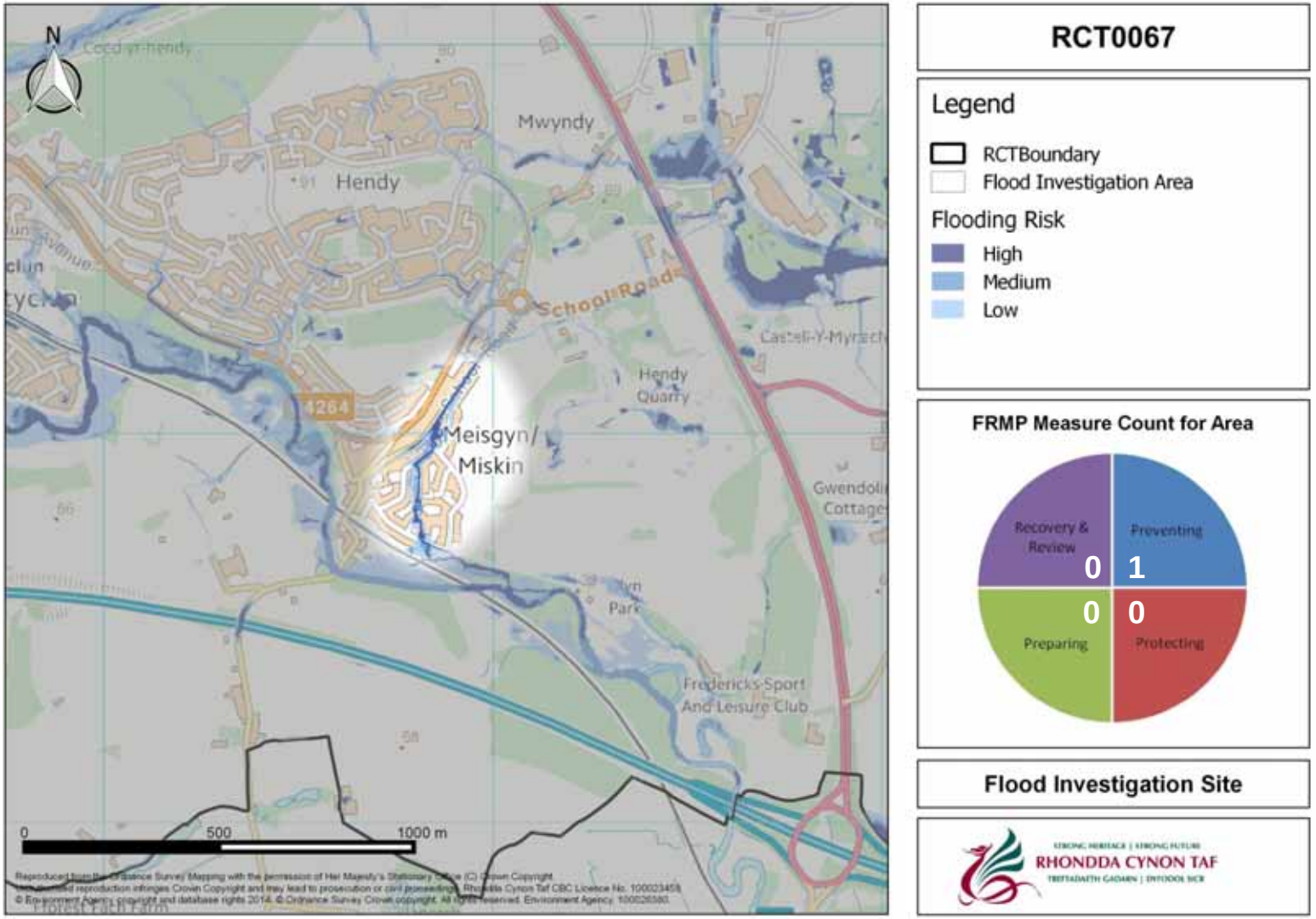
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0067

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	289	12	12	33
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	14	1	0	1
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	13	1	0.4	1
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0.4	0.03	0.02	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	0			

Flood Risk Management Plan Measures for RCT0067

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0067	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0067



Flood Investigation Area - RCT0068

Flood Investigation Area RCT0068 is situated within the community areas of Pontyclun and Talbot Green. It is considered that the flood risk is attributed to an interaction between surface runoff and Main River flooding. The risk is commonly along the highway network.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There are no flood incidents reported to the authority within this area.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0068

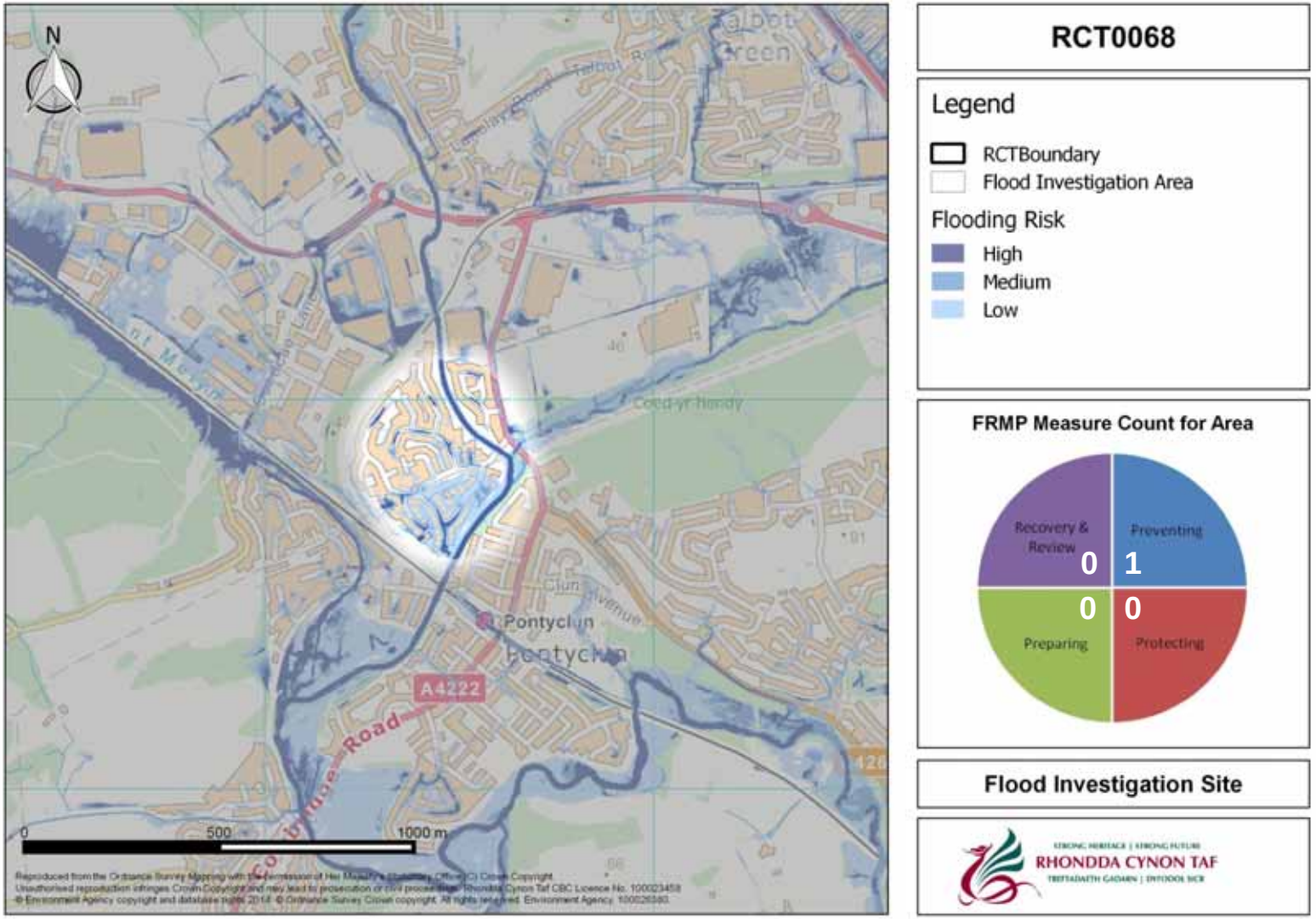
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	700	2	20	219
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	20	0	0	3
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	1			

Flood Risk Management Plan Measures for RCT0068

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0068	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0068



Flood Investigation Area - RCT0069

Flood Investigation Area RCT0069 is situated within the community are of Pontypridd Town. It is likely that the flood risk posed to the higher elevations is attributed to surface runoff, whilst the flood risk posed to the commercial properties along the southerly section of Taff Street are attributed to a combination of Main River and surface runoff. It is likely that the main risk posed by surface runoff is the area surrounding St David's Presbyterian Church and parts of Taff Street in the north of the area.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between reported flood incidents and the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0069

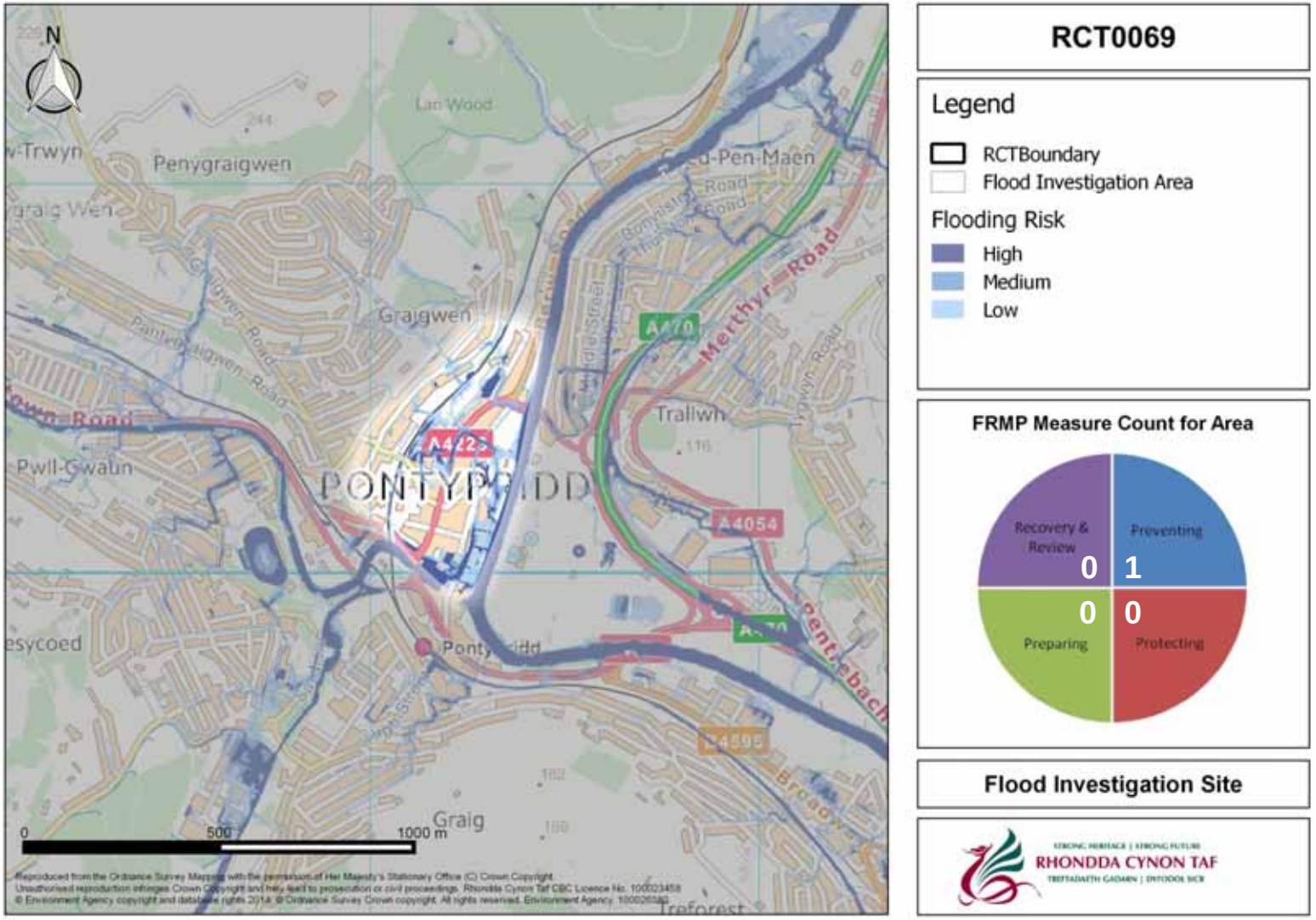
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	463	45	24	71
Services	4	1	2	0
ECONOMIC ACTIVITY				
Non Residential Properties	385	54	21	59
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.04	0.02	0.1
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0.004	0.003	0.00006	0.0002
Listed Buildings	25	0	0	1
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	2			
External	5			
Highway	7			

Flood Risk Management Plan Measures for RCT0069

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0069	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Rescores Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0069



Flood Investigation Area - RCT0070

Flood Investigation Area RCT0070 is situated within the community are of Porth. The flood risk posed to the area is likely sourced from a combination of surface runoff and ordinary watercourse, notably the Nant Graig-ddu and a network of unnamed watercourse. The highest risk is associated with the area surrounding Cymmer Road and Appletree Road in the east and the junction of Dinas Road and Parc Afon in the west. Dinas Park is noted to be at a high risk of flooding.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

The one instance of highway flooding reported to the authority is consistent with the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

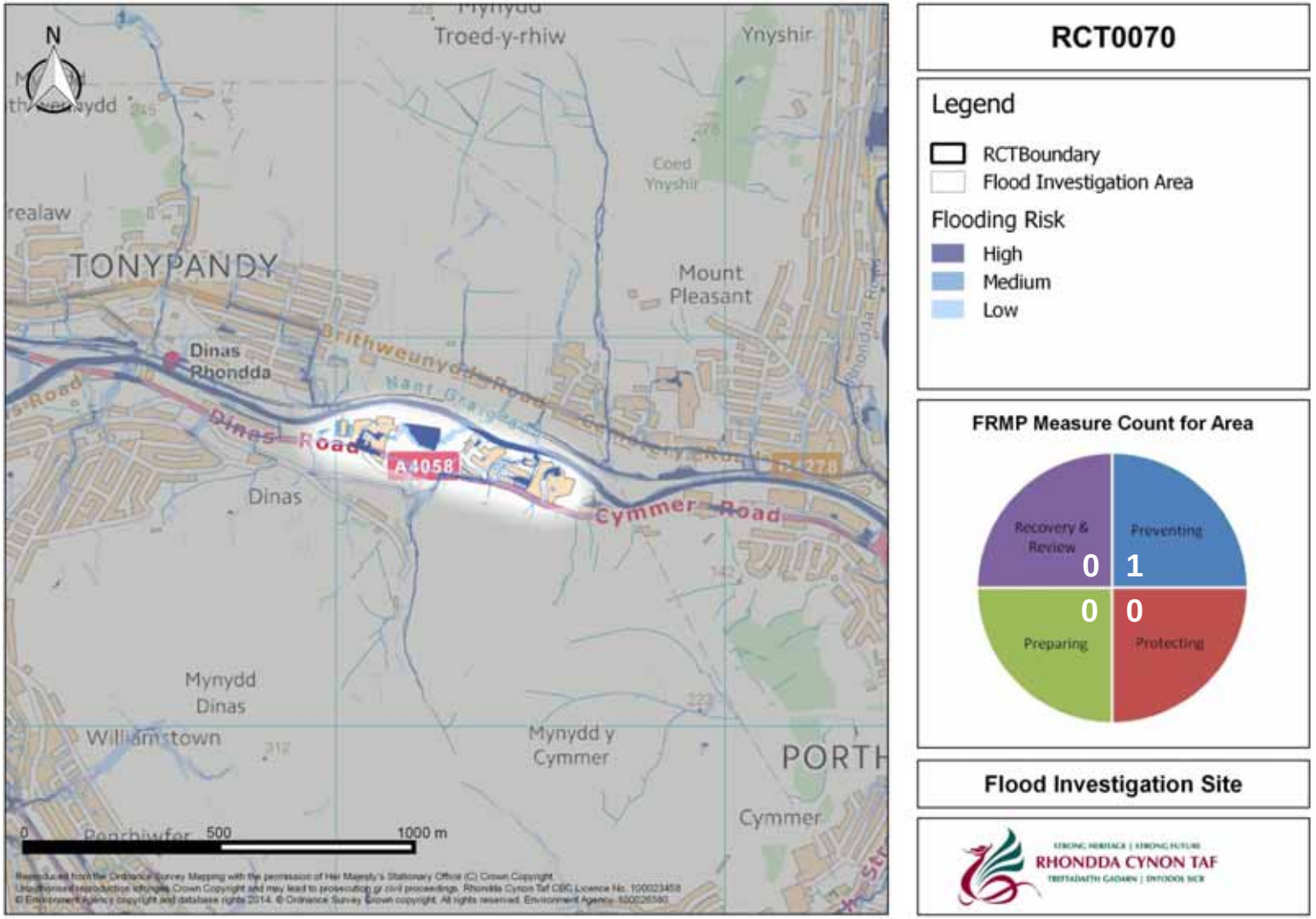
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0070

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	343	24	16	73
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	22	2	1	1
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	0			
Highway	3			

Flood Risk Management Plan Measures for RCT0070

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0070	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0070



RCT0070

Legend

- RCTBoundary
- Flood Investigation Area

Flooding Risk

- High
- Medium
- Low

FRMP Measure Count for Area

Flood Investigation Site

Flood Investigation Area - RCT0071

Flood Investigation Area RCT0071 is situated within the community areas of Porth, Cymmer and Ynyshir. The highest risk of flooding observed within the town of Porth is likely attributed to a combination between surface runoff and main river flooding, notably the confluence of the Rhondda River and the Afon Rhondda Fawr.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a poor correlation between reported flood incidents to the highway and to properties and the flood risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0071

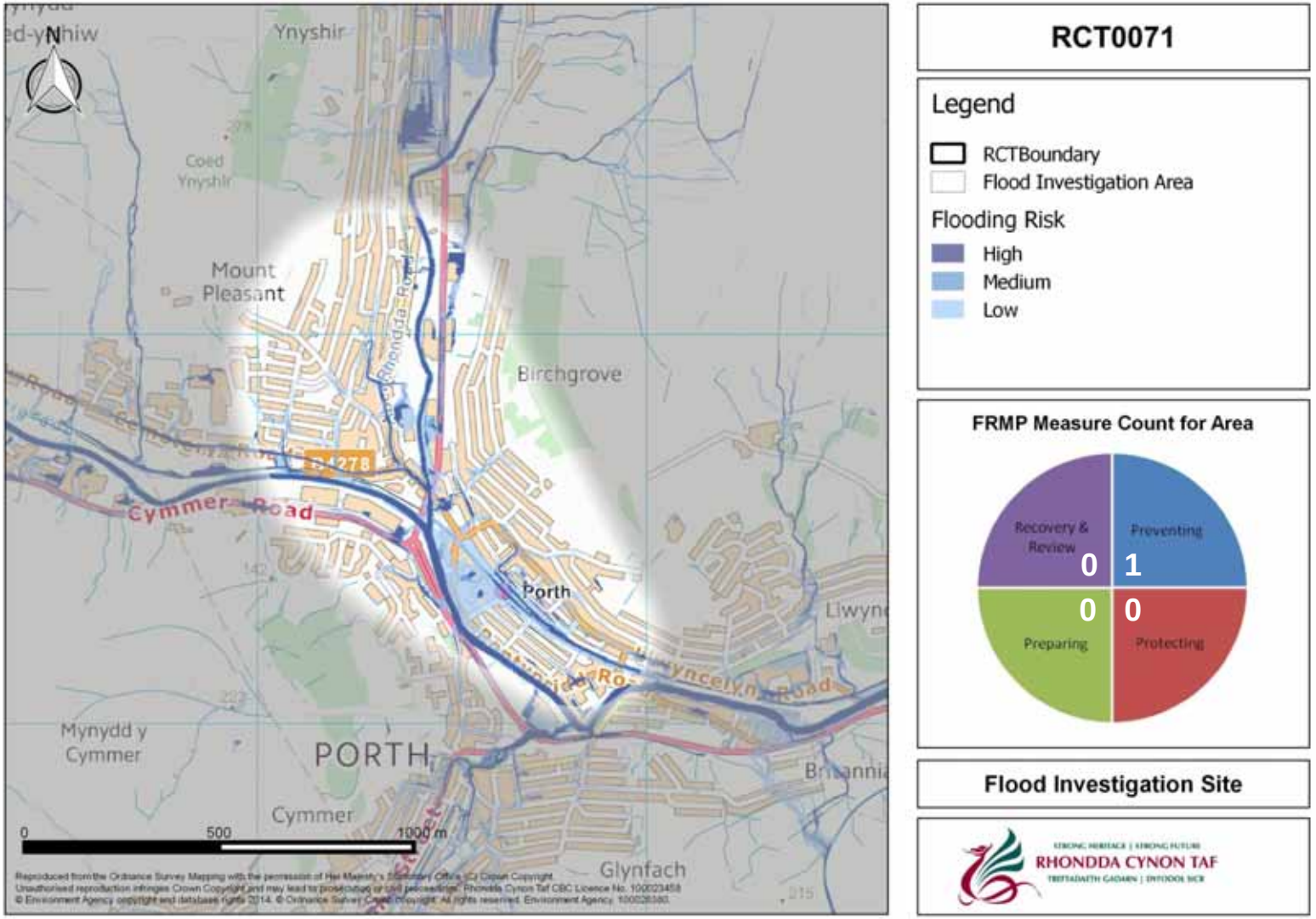
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	4105	56	35	357
Services	8	0	0	2
ECONOMIC ACTIVITY				
Non Residential Properties	286	3	3	57
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.4	0.1	0.3
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	10	0	1	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	11			
External	27			
Highway	43			

Flood Risk Management Plan Measures for RCT0071

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0071	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0071



Flood Investigation Area - RCT0072

Flood Investigation Area RCT0072 is situated within the community areas of Rhigos and Hirwaun. The flood risk, which poses a high risk to Hirwaun Industrial Estate, is likely attributed to ordinary watercourse flooding. Sections of the A495 are at a high risk from surface water flooding. A risk is also posed to Tower Mineral Railway.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between reported flood incidents and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

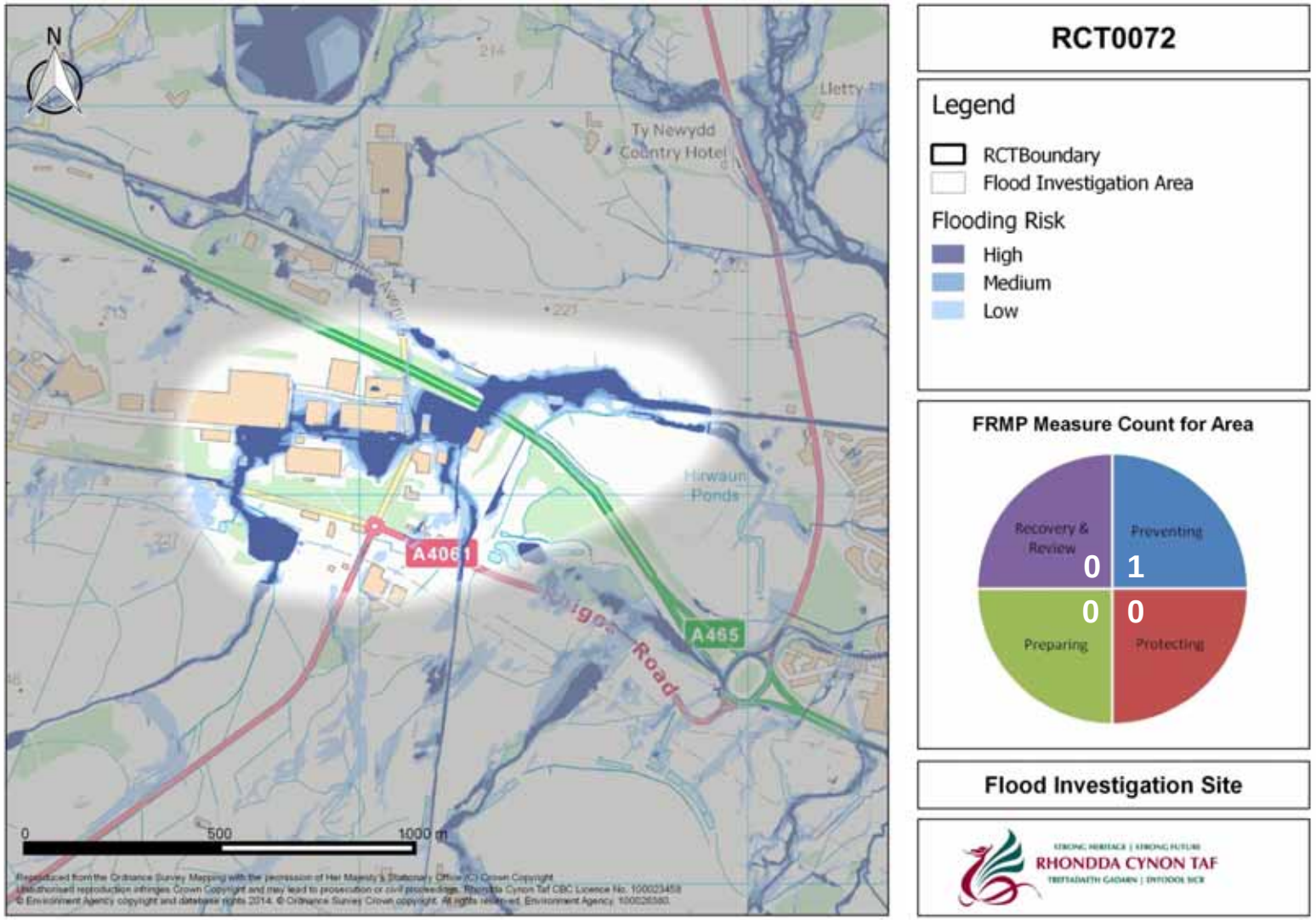
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0072

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	9	0	0	2
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	80	16	5	15
Airports	0	0	0	0
Roads (km)	2	0.05	0.03	1
Railways (km)	1	0.5	0.02	0.1
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	7	0	1.4	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	7	1	0.3	0.5
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	1			
Highway	2			

Flood Risk Management Plan Measures for RCT0072

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0072	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0072



Flood Investigation Area - RCT0073

Flood Investigation Area RCT0073 is situated within the community areas of Rhondda and Pontypridd Town. The risk posed to the Flood Investigation Area is considered to be a combination of surface runoff and ordinary watercourse. The risk posed to Sardis Road is anticipated to be from the culvert inlet of the Nant Gelliwion. A high risk is posed to Sardis Road rugby club and this may be attributed to the lack of modelling of the culvert in the area. Within the centre of the Flood Investigation Area, the flood risk posed to the areas surrounding Seaton Street and Pwllgwaun Road is likely attributed to surface runoff; however, there may be the potential for interaction from Main River flooding.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a very poor correlation between reported highway and property flooding and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

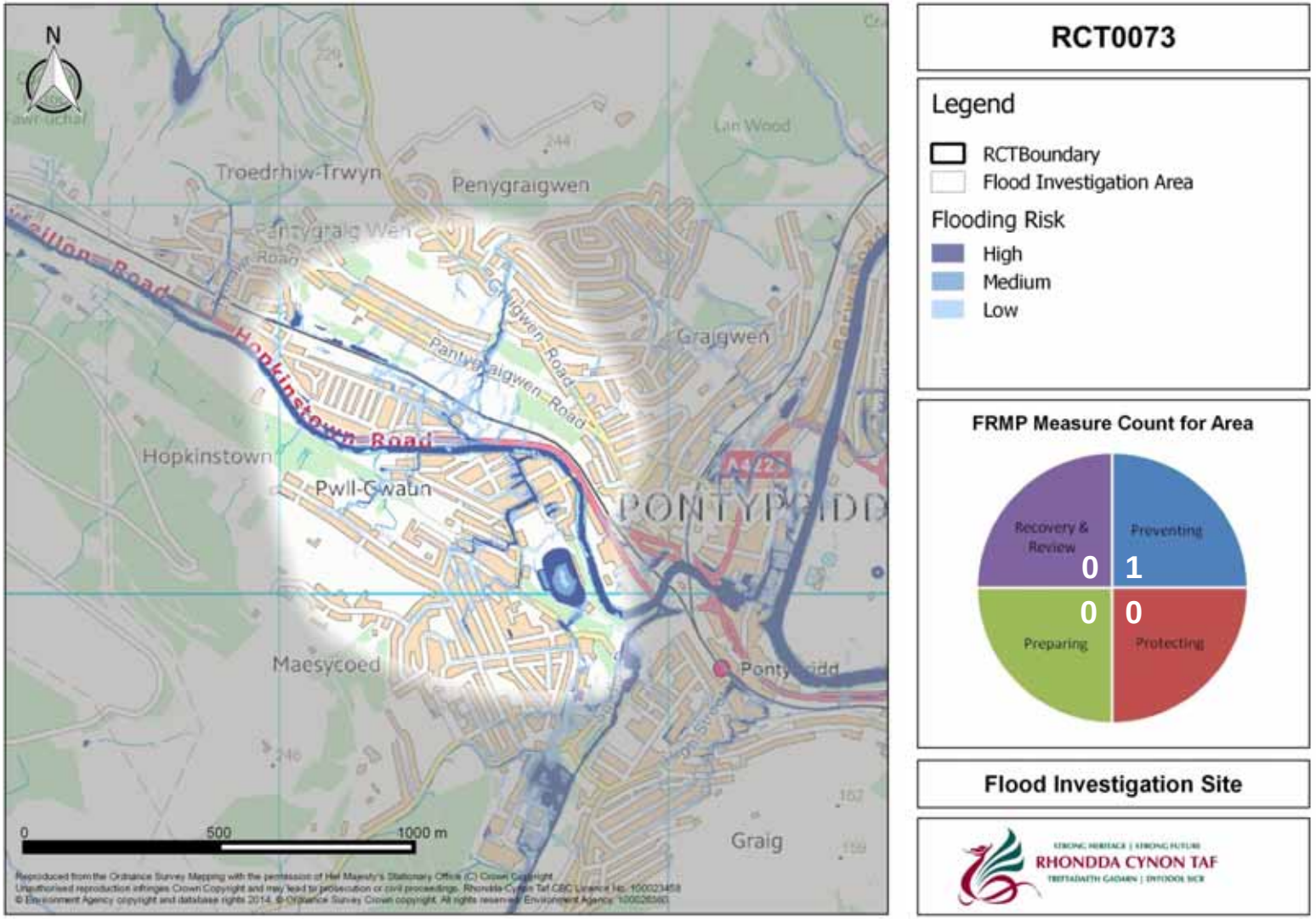
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0073

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	4246	52	75	364
Services	3	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	210	6	2	27
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0	0.02	0.1
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	2	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	4			
External	16			
Highway	33			

Flood Risk Management Plan Measures for RCT0073

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0073	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0073



Flood Investigation Area - RCT0074

Flood Investigation Area RCT0074 sits within the community areas of Rhondda in the east and Cymmer in the west. It is considered that the risk posed to the area is predominantly the interaction of surface water flooding and Main River. The highest risk is posed to areas of residential development, the highways network and railway line, where it is situated beneath sections of ordinary watercourse culverted beneath the railway line, the A4058 and the residential development itself.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a broad correlation between flood incidents reported to the authority and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0074

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	881	165	150	392
Services	1	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	34	2	2	12
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0.5	0.03	0.1	0.1
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	2	1	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	7			
Highway	11			

Flood Risk Management Plan Measures for RCT0074

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0074	Local / Main River*	10	Land Management	M34 (Protection)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

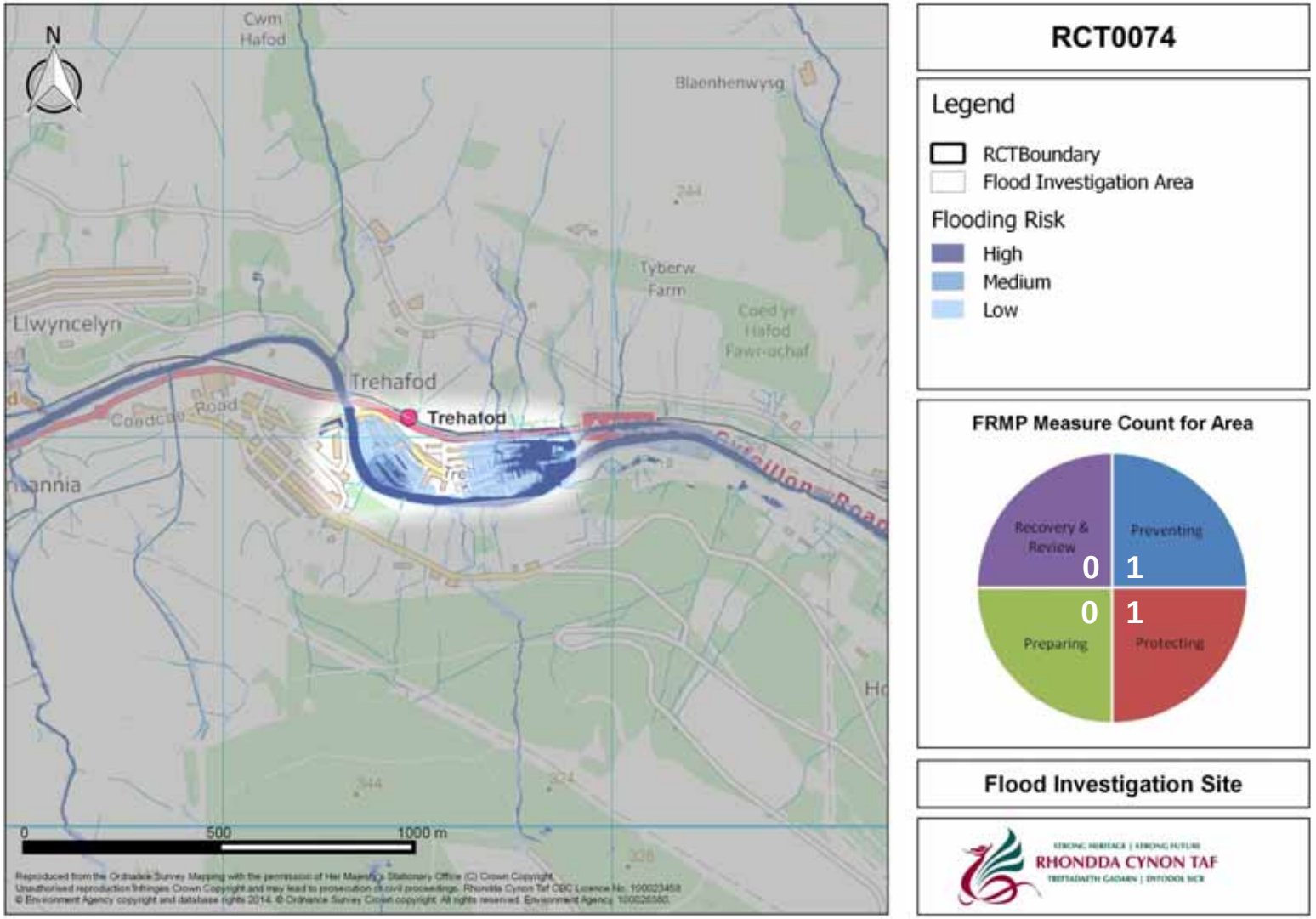
The draft Flood Risk Management Plan for the Severn River Basin District has proposed measures for the flood risk from main rivers that may provide an opportunity for collaborative working. The table below provides an excerpt from the Severn River Basin draft Flood Risk Management Plan.

Summary of Natural Wales Resources ongoing and proposed measures within Flood Investigation Area RCT0074

Location	Source	Measures	Measure Type	Link to SRBD FRMP objective*	Timing	Priority	Measure Status	Responsible Authority
Trehafod	Main River	Undertake initial assessment and feasibility work for reducing flood risk	M3 – Protection	1, 2	Current	Very High	Not Started Proposed	Natural Resources Wales
		Update Hydraulic Model	M3 – Protection	3	Current	Very High	On-going	Natural Resources Wales
		Maintain completed community flood plan	M4 – Preparedness	1, 4, 5	Current	Very High	On-going	Natural Resources Wales

*This FRMP objective link is specific to the Severn River Basin District Flood Risk Management Plan

uFMfSW for RCT0074



Flood Investigation Area - RCT0075

Flood Investigation Area RCT0075 is situated within the community areas of Rhydfelin and Hawthorn. The flood risk is considered to be sourced from ordinary watercourse. A risk of flooding is posed to Gelli Hirion Industrial Estate and stretches of the A470 are also at risk of flooding.

A risk of flooding is posed along sections of the Taff Trail in the north of the Flood Investigation Area.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a very poor correlation between reported external flooding to property and the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

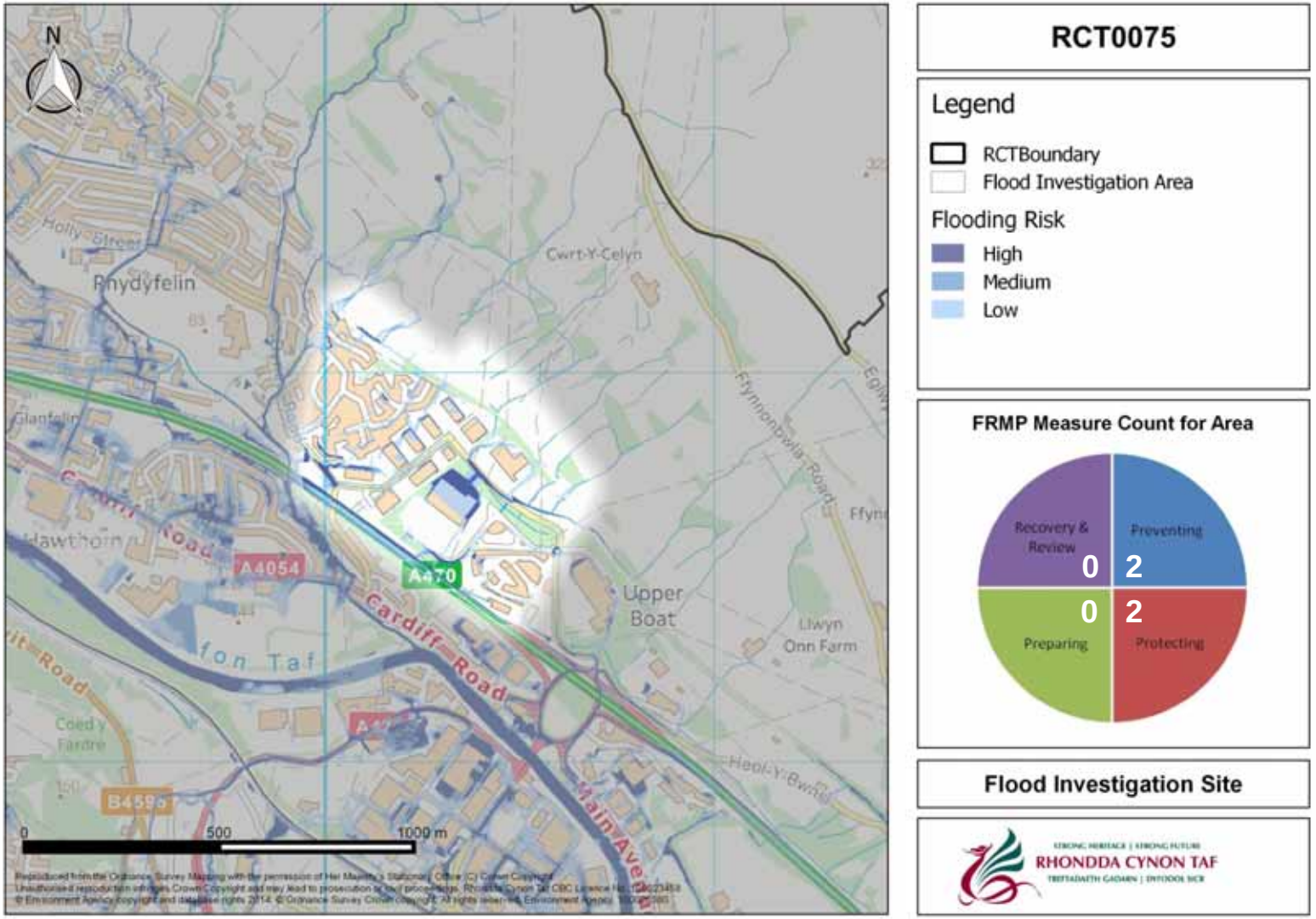
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0075

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	966	2	2	153
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	51	6	0	7
Airports	0	0	0	0
Roads (km)	1	0.1	0.4	0.4
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	1			
Highway	0			

Flood Risk Management Plan Measures for RCT0075

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0075	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0075



Flood Investigation Area - RCT0076

Flood Investigation Area RCT0076 is situated within the community areas of Rhydfelin and Hawthorn and the flood risk is considered to be sourced from a combination of ordinary watercourse and surface runoff. A high flood risk is posed in the area of Shakespeare Rise in the north and Sycamore Street in the south.

The area of Rhydyfelin has previously benefitted from a flood alleviation scheme. The benefits of this scheme have not been incorporated into the uFMfSW and the risk posed to the area is considered to be overstated.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between reported flood incidents and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

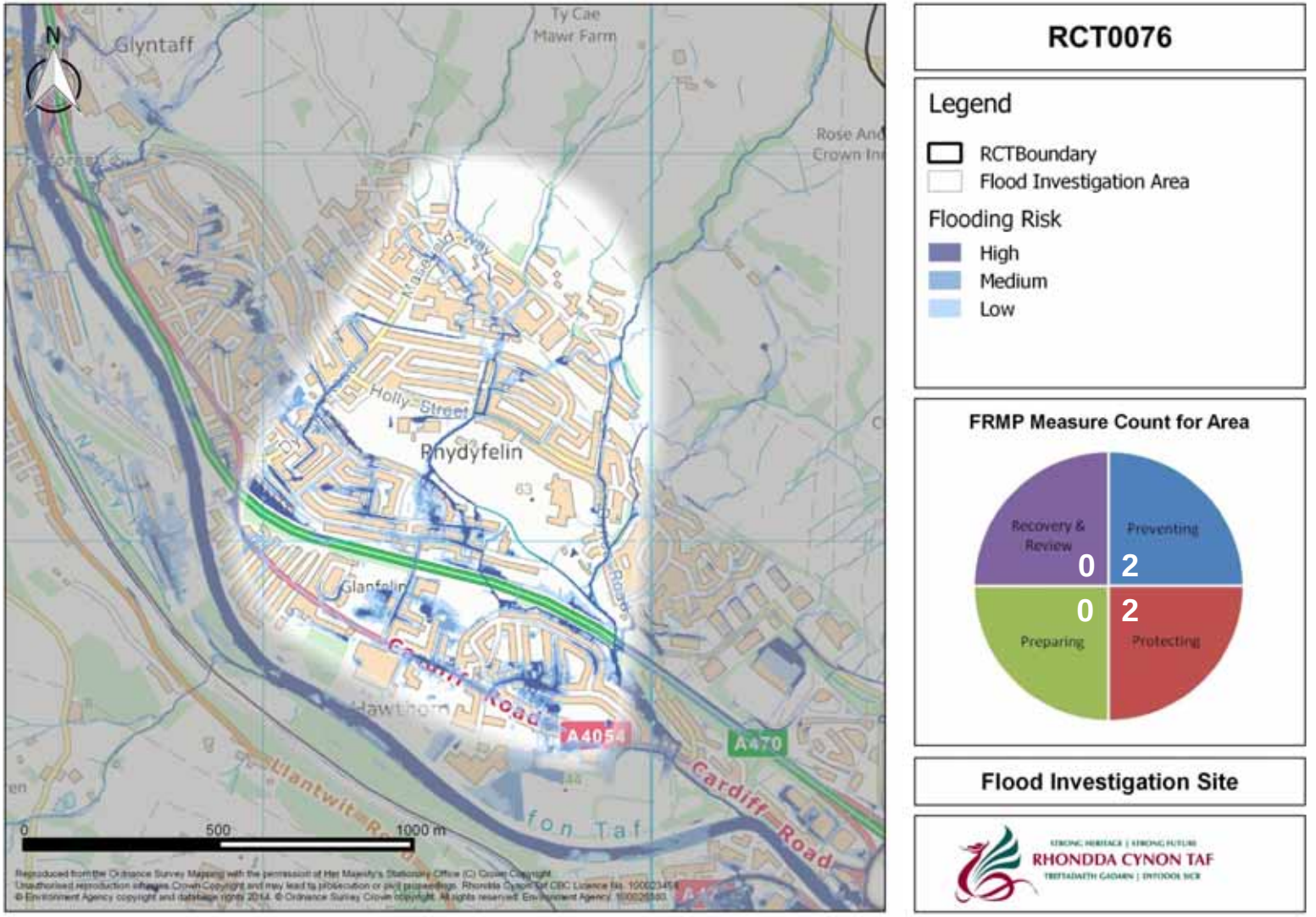
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0076

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	5024	136	270	651
Services	6	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	166	2	9	24
Airports	0	0	0	0
Roads (km)	2	0.05	0.03	0.09
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	12			
Highway	13			

Flood Risk Management Plan Measures for RCT0076

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0076	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Completed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Completed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Completed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Completed	RCTCBC

uFMfSW for RCT0076



Flood Investigation Area - RCT0077

Flood Investigation Area RCT0077 is situated within the community area of Taffs Well and the risk posed within the uFMfSW is considered to be sourced from ordinary watercourse and surface runoff. The most significant flood risk observed within the Flood Investigation Area is likely to be attributed to the Nant y Brynau, posing a risk of flooding to the A470 and the Garth Works Industrial Estate. A low risk of flooding is posed to the railway line. The risk from surface runoff is noted within residential development.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between recorded flood incidents and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

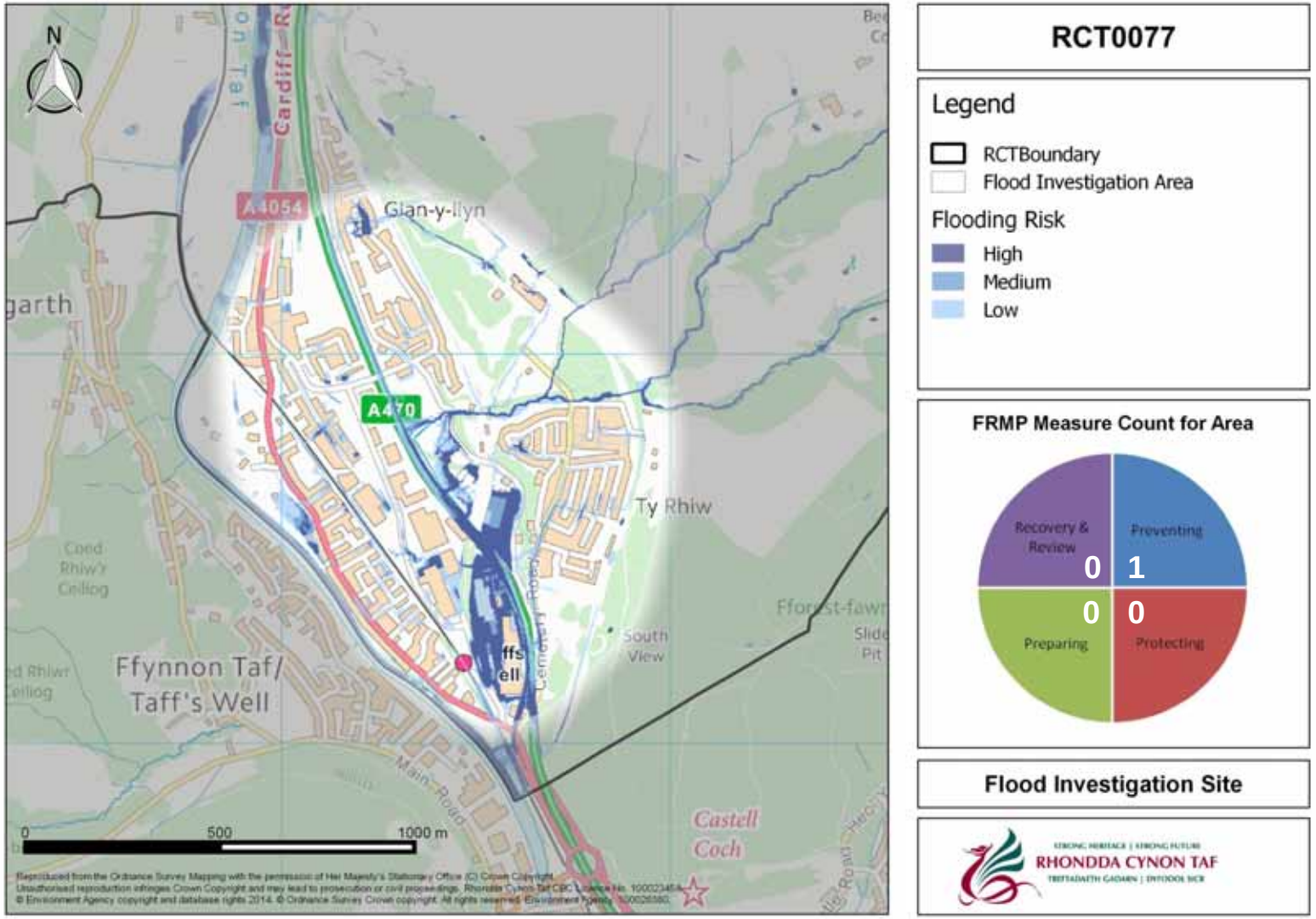
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0077

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	2573	9	19	214
Services	2	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	260	17	5	31
Airports	0	0	0	0
Roads (km)	3	2	0.5	1.5
Railways (km)	1	0	0	0.2
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	12	0	0	0
Licensed Abstractions	1	1	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	2			
External	3			
Highway	12			

Flood Risk Management Plan Measures for RCT0077

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0077	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0077



Flood Investigation Area - RCT0078

Flood Investigation Area RCT0078 is situated within the community area of Taffs Well and Tonteg and the flood risk is considered to be sourced from Main River and Surface Runoff. The flood risk posed from an unnamed watercourse to the north of the Flood Investigation, likely interacts with surface runoff influences a large area of Treforest Industrial Estate. The flood risk presented in the area of the residential properties at Oxford Street and Rhyd-Yr-Helyg is anticipated to be sources from Main River. Sections of the A470 are at a high risk of flooding and a considerable amount of the Highways network is anticipated to be at a high risk of flooding.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between reported flood incidents and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

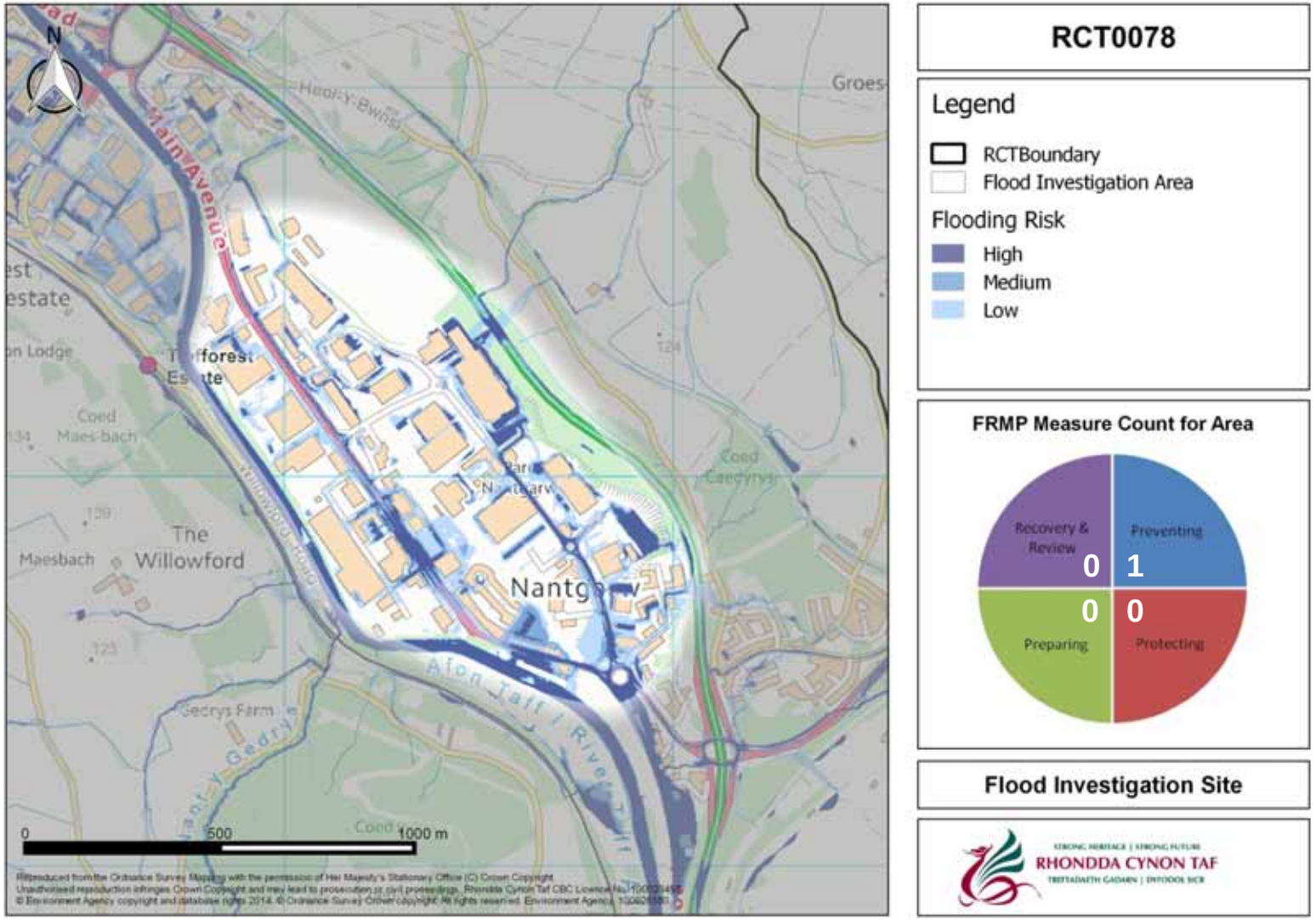
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0078

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	289	12	71	45
Services	6	0	1	0
ECONOMIC ACTIVITY				
Non Residential Properties	281	12	23	41
Airports	0	0	0	0
Roads (km)	1	0.3	0.01	0.1
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	1	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	2	0	0	0
Licensed Abstractions	1	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	3			
Highway	4			

Flood Risk Management Plan Measures for RCT0078

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0078	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0078



Flood Investigation Area - RCT0079

Flood Investigation Area RCT0079 is situated within the community area of Talbot Green and the flood risk presented is considered to be sourced from surface runoff. There is a low to high flood risk along Heol Y Gyfraith, to the west of the library.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

No flood incidents indentified within the area relate to internal property flooding; however, there is a reasonable correlation between reported highway flooding incidents and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

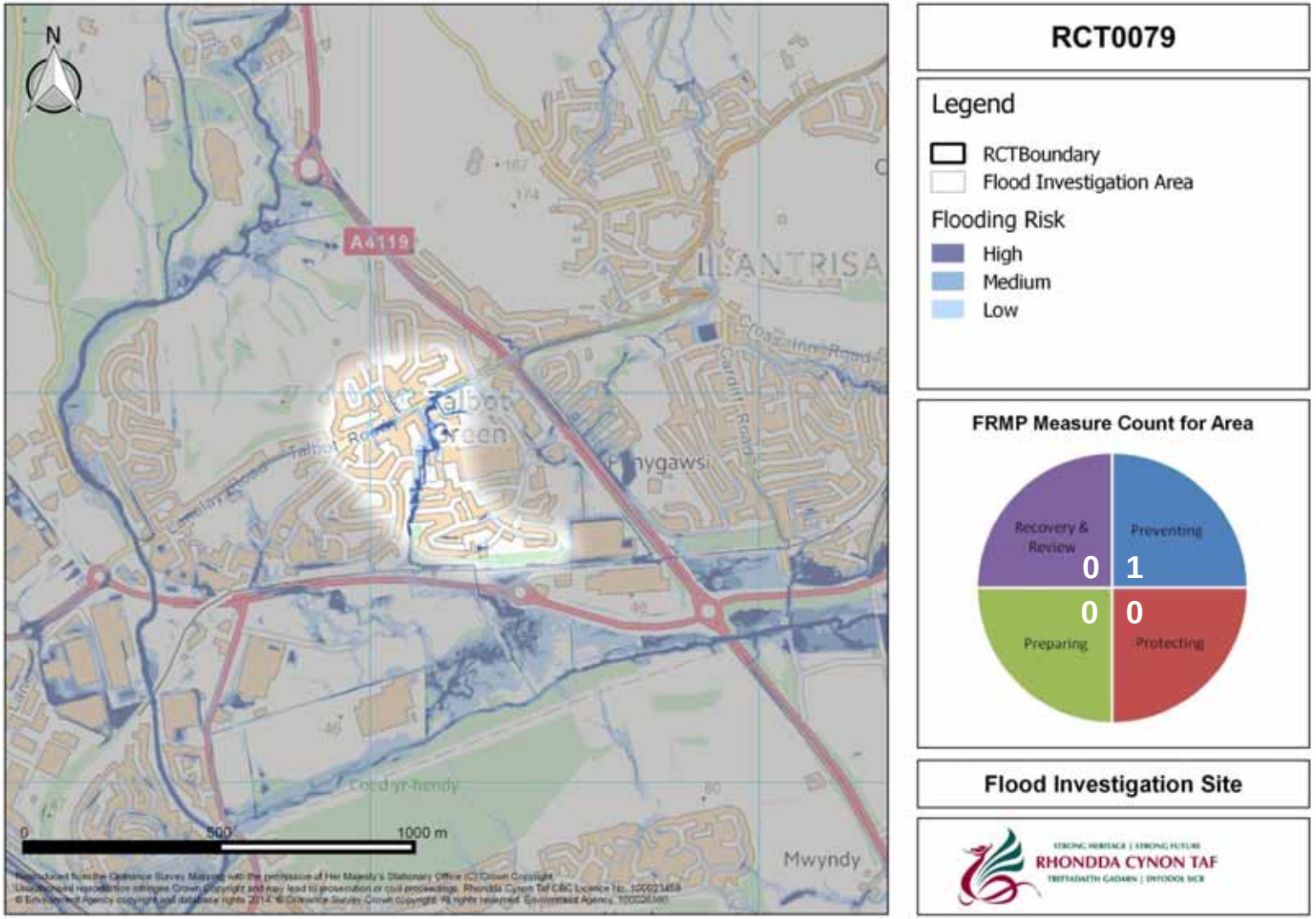
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0079

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	830	40	14	42
Services	2	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	124	2	1	4
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	3			
Highway	5			

Flood Risk Management Plan Measures for RCT0079

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0079	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0079



Flood Investigation Area - RCT0080

Flood Investigation Area RCT0080 is situated within the community areas of Church Village and Tonteg and the flood risk is considered to be sourced predominately from surface runoff; however, there is an anticipated contribution from the culvert inlet of the unnamed watercourse in the northwest of the Flood Investigation Area. A low to high risk is noted on the highways network, particularly in the area of Cae Fardre and Carmarthen Drive.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a poor correlation between reported flood incidents and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

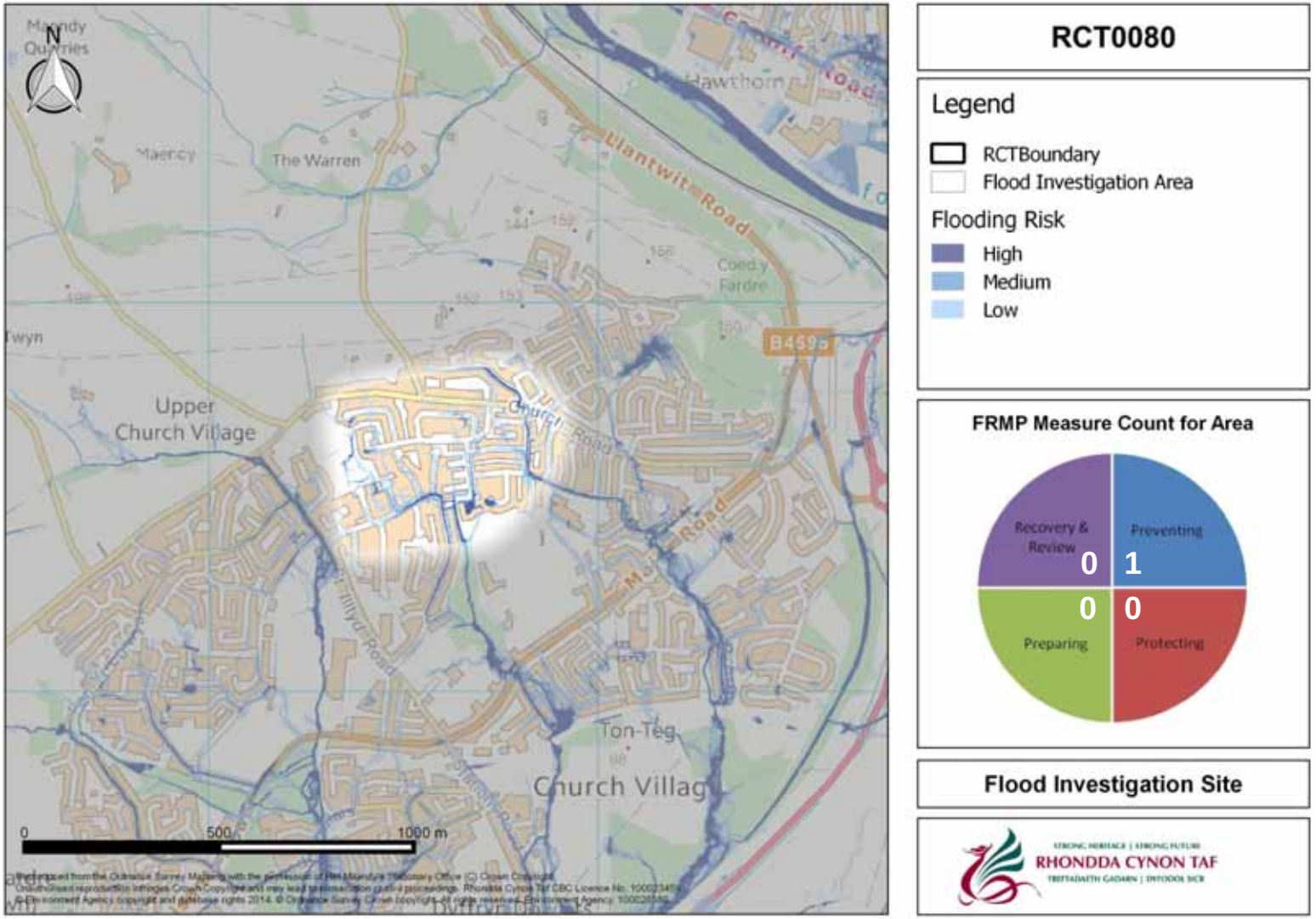
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0080

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1523	7	56	301
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	37	0	0	4
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	5			
Highway	2			

Flood Risk Management Plan Measures for RCT0080

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0080	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0080



Flood Investigation Area - RCT0081

Flood Investigation Area RCT0081 is situated within the community area of Tonteg. The flood risk presented within the uFMfSW is anticipated to be sources from an unnamed ordinary water course with a contribution from the surface water sourced from RCT0080. It is likely that these two Flood Investigation Areas will be considered together. The highest risk is noted along the highway network, notably Radnor Drive, Ffordd Gerdinan and Main Road, before flowing through the recreational fields and finally posing a low to high risk to the area surrounding Underhill Drive.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between the flooding of properties reported to the authority and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

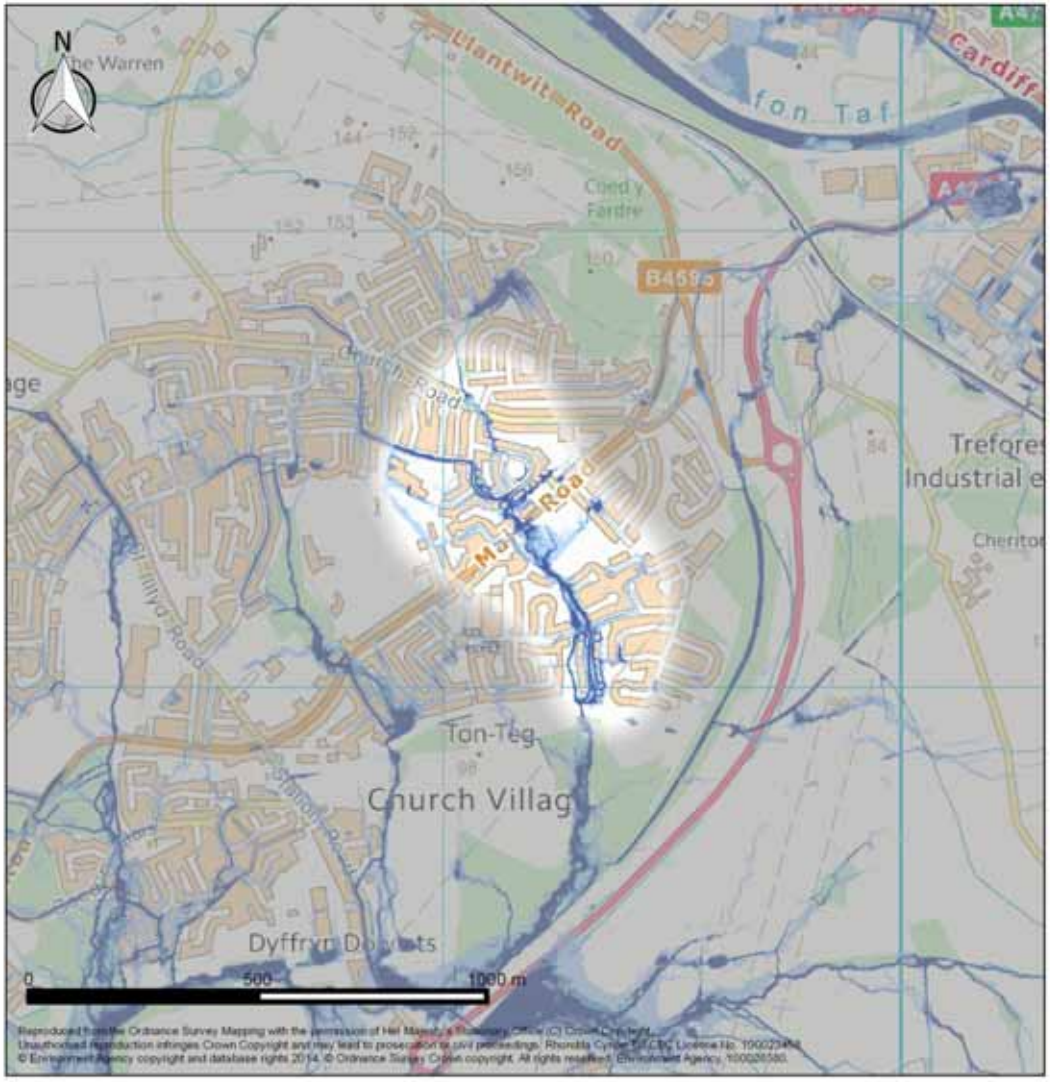
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0081

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1201	80	26	125
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	65	3	2	8
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0.2	0.02	0.0005	0.008
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	4			
Highway	0			

Flood Risk Management Plan Measures for RCT0081

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0081	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0081



RCT0081

Legend

- RCTBoundary
- Flood Investigation Area

Flooding Risk

- High
- Medium
- Low

FRMP Measure Count for Area

Flood Investigation Site

Flood Investigation Area - RCT0082

Flood Investigation Area RCT0082 is situated within the community area of Tonteg and the flood risk presented within the uFMfSW is considered to be sourced from an unnamed ordinary watercourse, posing a low to high risk to the area surrounding Ruthin Way.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There are no reported flood incidents within the Flood Investigation Area.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

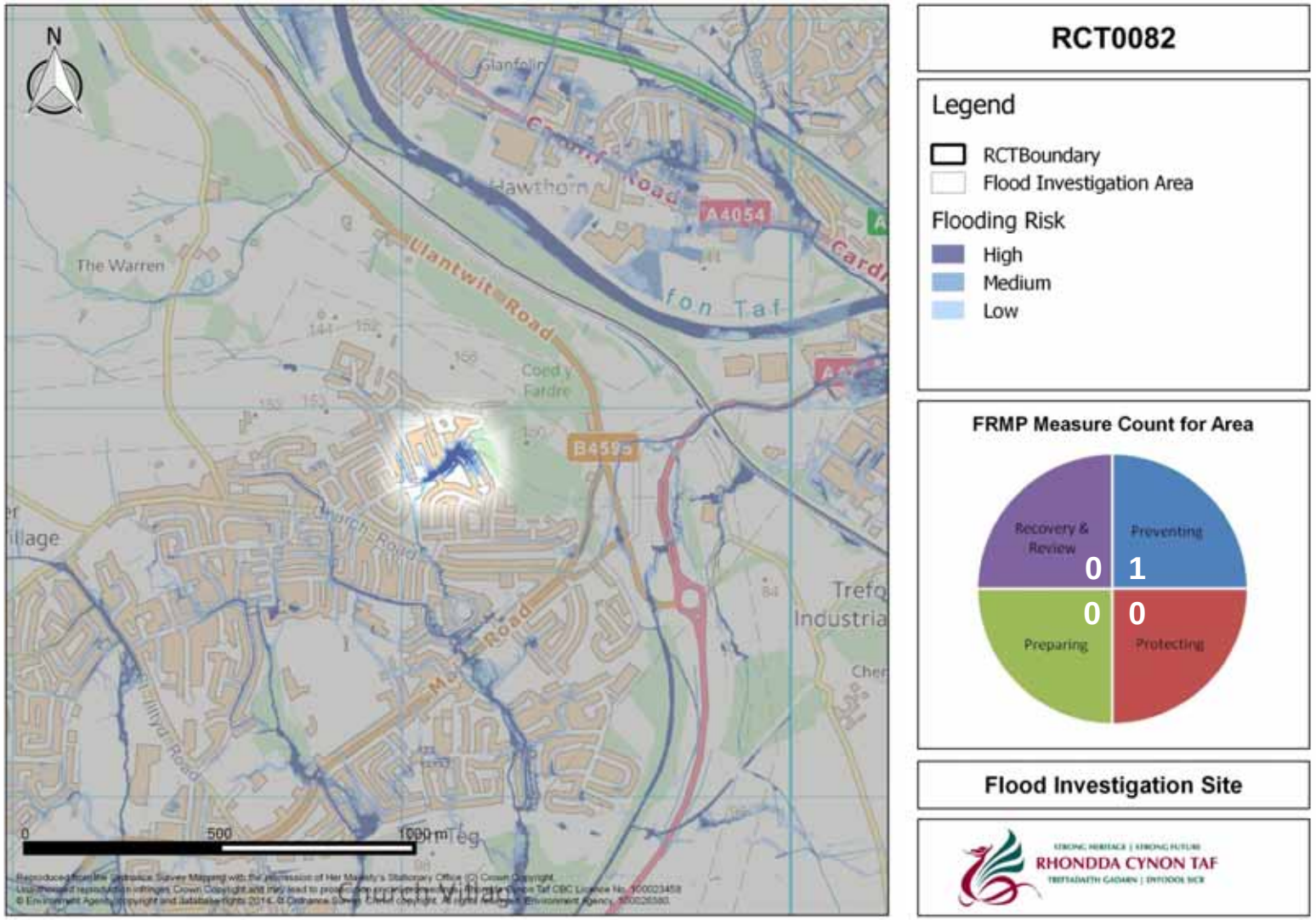
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0082

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	266	26	28	49
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	5	0	0	1
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	0			

Flood Risk Management Plan Measures for RCT0082

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0082	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0082



Flood Investigation Area - RCT0083

Flood Investigation Area RCT0083 is situated within the community area of Tonteg and it is considered that the risk presented within the uFMfSW is attributed to several unnamed ordinary watercourse. It is likely that the flood risk is a result of the culvert inlets underneath the railway line. It is anticipated that the flood waters breach the railway embankment at several locations posing a low to high flood risk to Treforest Industrial Estate.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between reported flood incidents and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

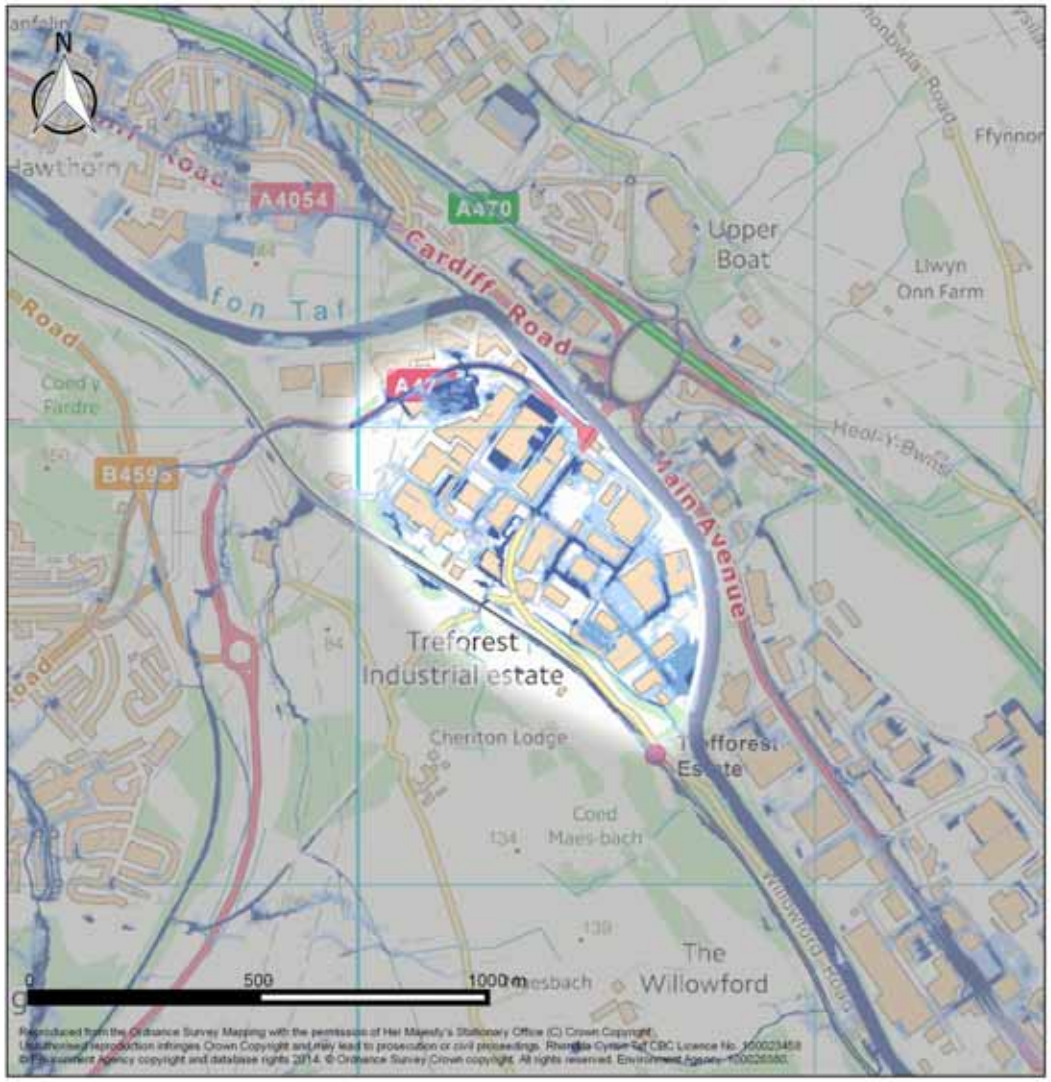
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0083

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	16	0	0	5
Services	4	0	1	2
ECONOMIC ACTIVITY				
Non Residential Properties	154	4	7	65
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.1	0.02	0.02
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	1	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	2			
Highway	0			

Flood Risk Management Plan Measures for RCT0083

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0083	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0083



RCT0083

Legend

- RCTBoundary
- Flood Investigation Area

Flooding Risk

- High
- Medium
- Low

FRMP Measure Count for Area

Flood Investigation Site

Flood Investigation Area - RCT0084

Flood Investigation Area RCT0084 is situated within the community area of Treorchy and it is considered that the risk presented within the uFMfSW is attributed to two unnamed ordinary watercourses, likely sourced from the culverts underneath the railway line. The flood risk posed by the culverts is noted to flow over the railway line and pose a low to high risk, before presenting a low to high flood risk is noted across Ynyswen Industrial Estate. There is a potential for interaction with flooding from the main river.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There are no reported flood incidents to property in the area; however, a good correlation is noted between the reported flooding to highways and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0084

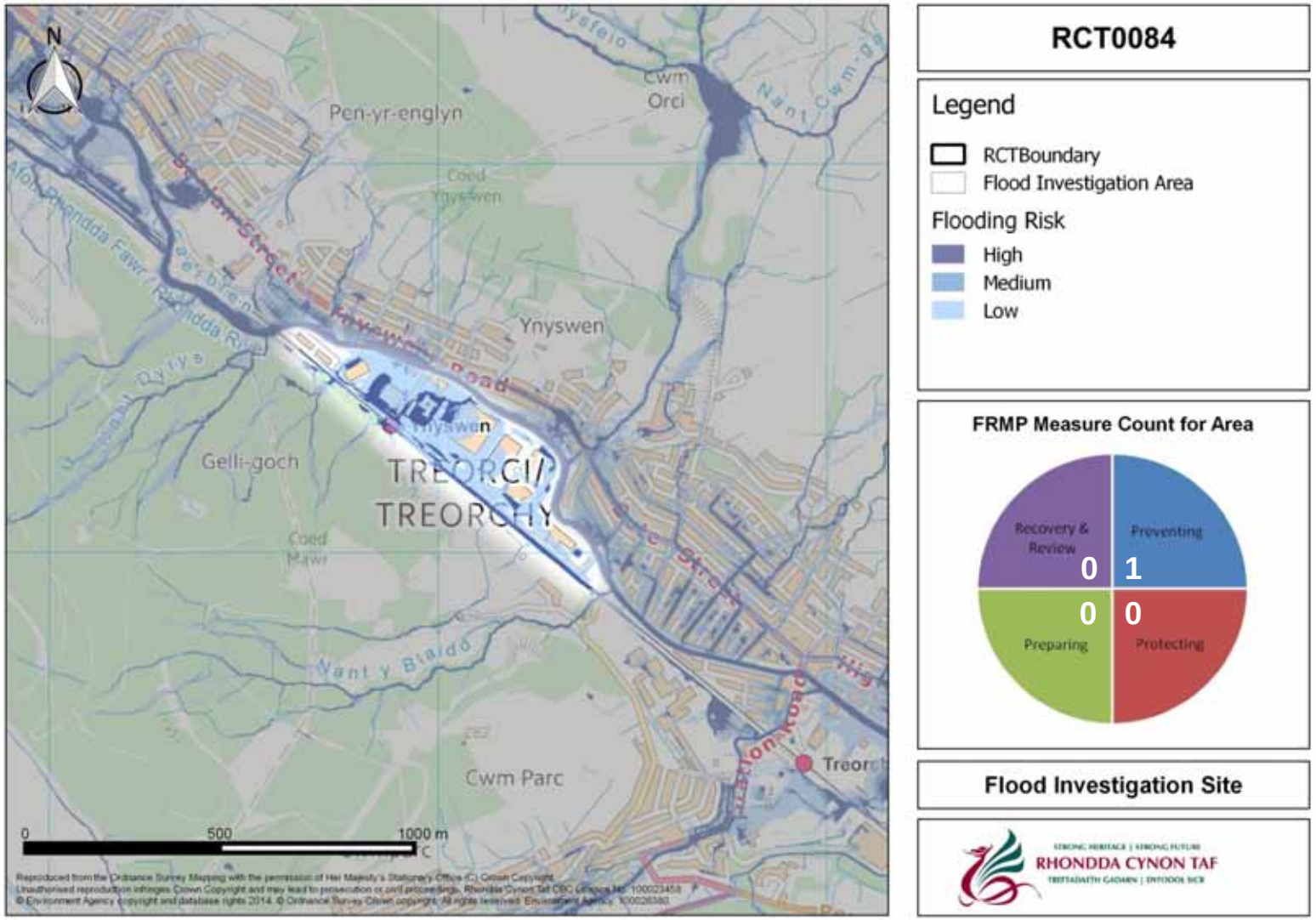
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	0	0	0	0
Services	1	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	33	3	1	14
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.2	0.1	0.4
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	3			

Flood Risk Management Plan Measures for RCT0084

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT084	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0084



Flood Investigation Area - RCT0085

Flood Investigation Area RCT0085 is situated within the community areas of Llwynypia, Cwm Clydach and Tonypandy and the flood risk is considered to be sourced from a combination of surface water and ordinary watercourse flooding, notably the Nant Clydach Fach in the centre of the Flood Investigation Area and an unnamed watercourse in the north, posing a flood risk to Berw Road and Tonypandy Enterprise Park and to the area surrounding Cambrian Terrace and Amelia Terrace, respectively.

The risk posed by surface runoff is noted along the length of Court Street and it is anticipated that there is an interaction with Main River flooding in the area of Chapel Street.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between reported flood incidents and the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

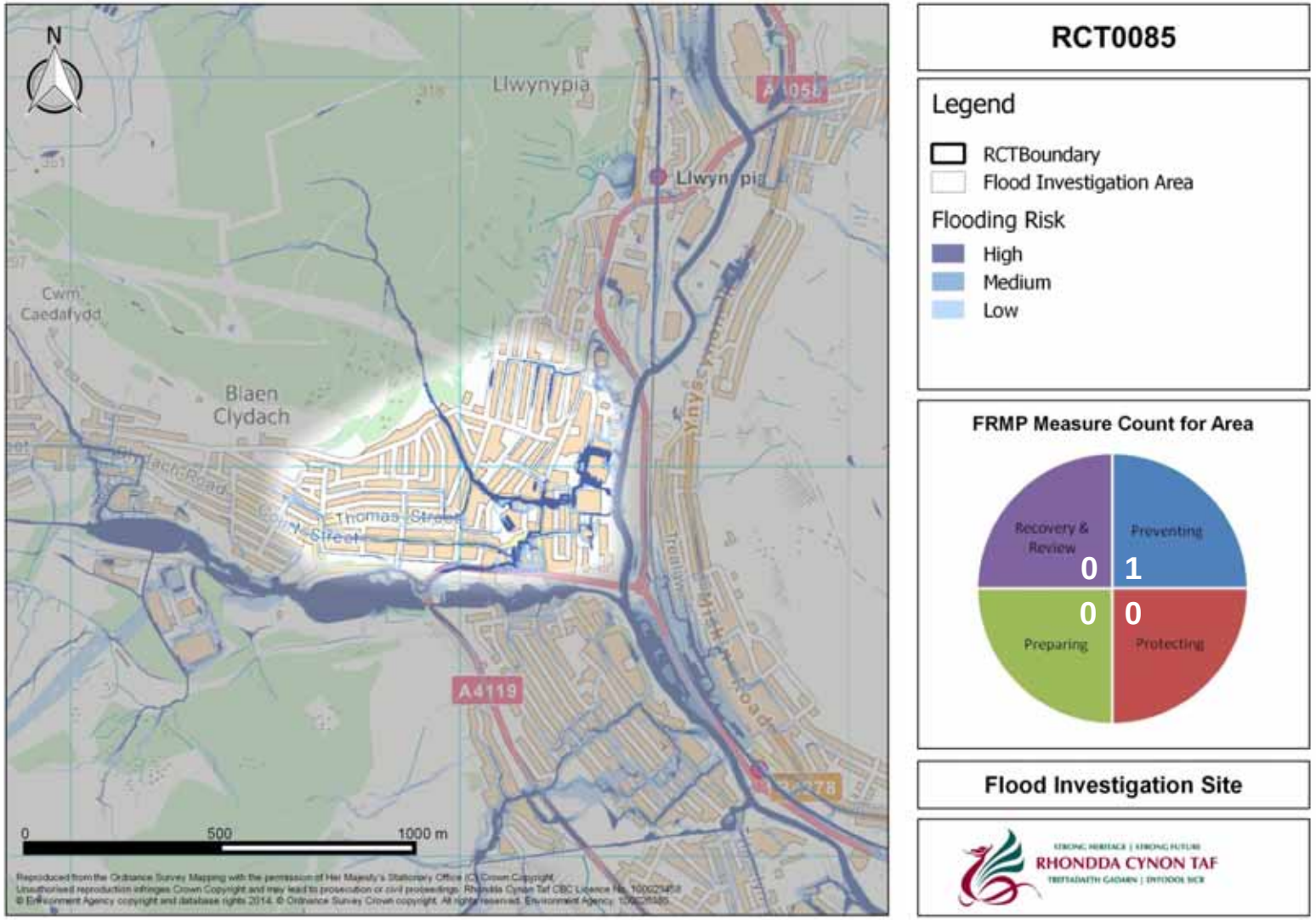
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0085

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	2663	47	82	249
Services	3	0	0	2
ECONOMIC ACTIVITY				
Non Residential Properties	161	14	9	20
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	2	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	5			
External	12			
Highway	18			

Flood Risk Management Plan Measures for RCT0085

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0085	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0085



Flood Investigation Area - RCT0086

Flood Investigation Area RCT0086 is situated within the community area of Tonypandy. The flood risk presented within the Flood Investigation Area is considered to be sourced predominately from an unnamed watercourse in the southwest of the area. The flow path cascades through the residential area, notably posing a risk to areas in the vicinity of Parc Gellifaelog, the A4119, Gelli Road and Trinity Road.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between the flood incidents reported to the authority and the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

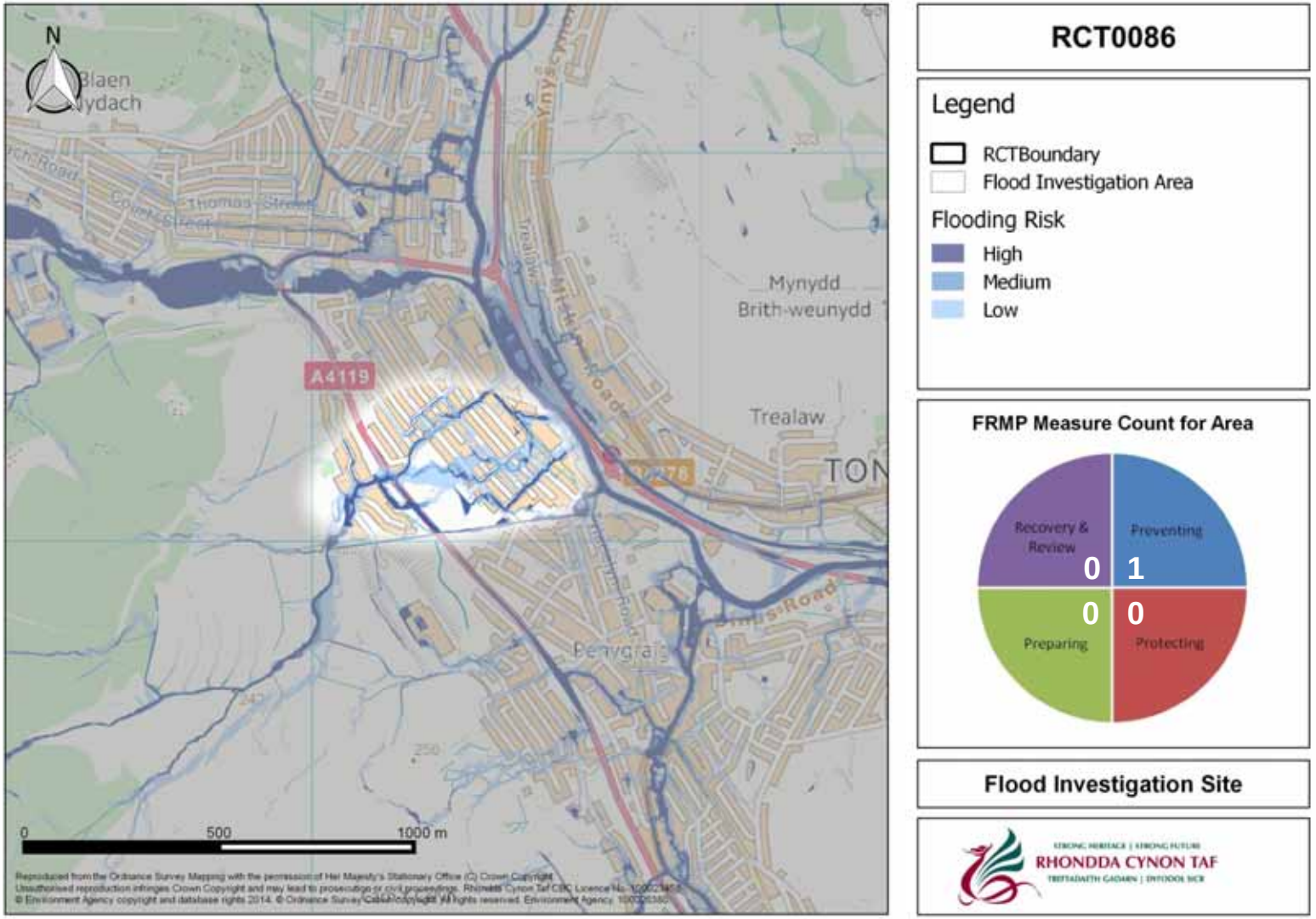
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0086

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1184	26	63	212
Services	4	0	0	3
ECONOMIC ACTIVITY				
Non Residential Properties	130	1	9	49
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	3	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	0			
Highway	3			

Flood Risk Management Plan Measures for RCT0086

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0086	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0086



Flood Investigation Area - RCT0087

Flood Investigation Area RCT0087 is situated within the community area of Tonyrefail East and the flood risk is considered to be sourced predominantly from surface runoff. Broadly, there are two noted flow paths through the area, posing a flood risk along the length and adjacent to St David's Road and over Pretoria Road and The Avenue. The flow paths merge to pose a low to high flood risk in the areas along Pritchard Street and in the Allotment gardens. It is anticipated that the flood risk posed within the area surrounding Mill Street is sourced from the culvert inlet of the unnamed watercourse.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between reported flooding incidents and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

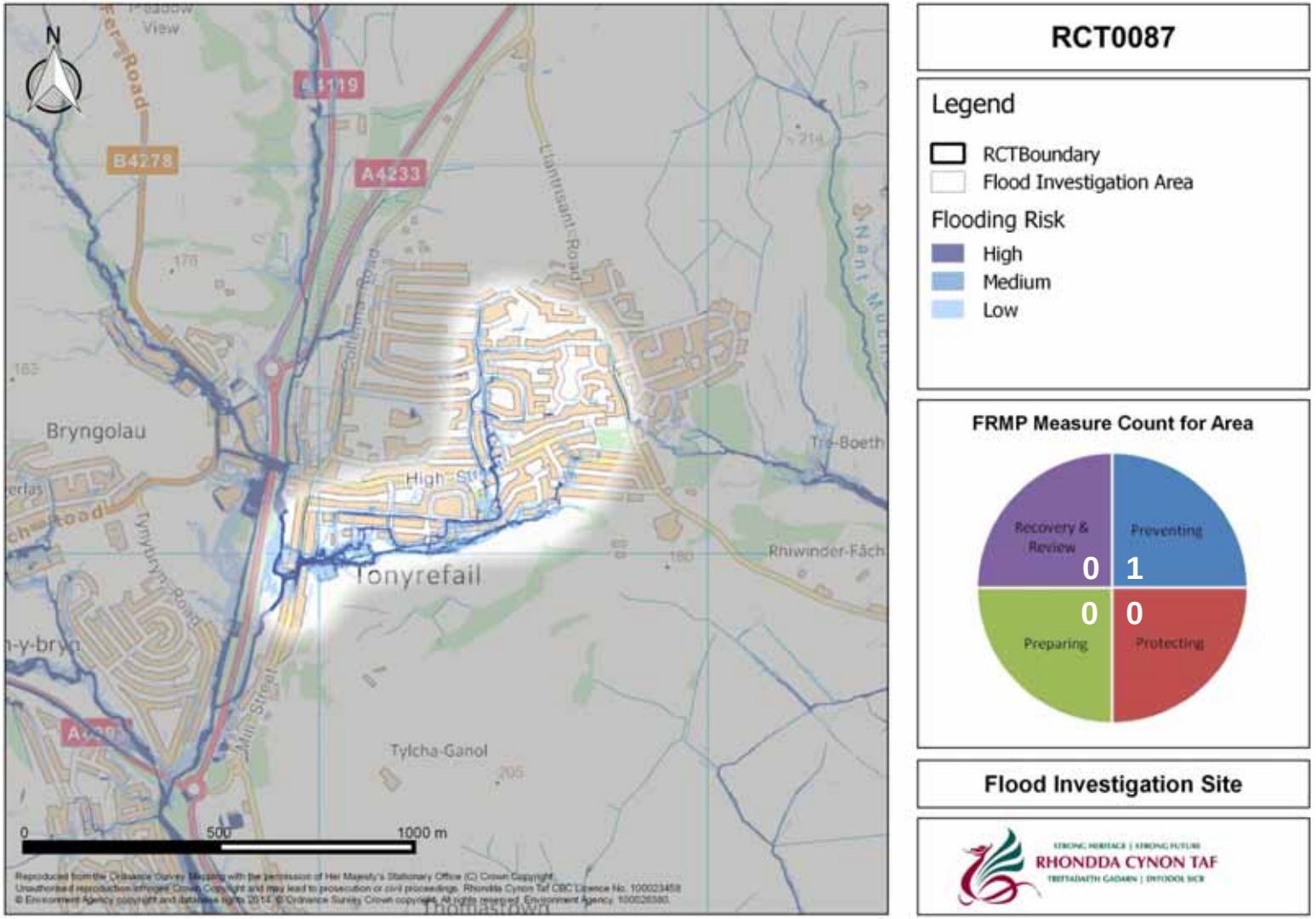
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0087

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	2084	24	101	310
Services	1	0	1	0
ECONOMIC ACTIVITY				
Non Residential Properties	149	4	9	17
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	1	0.02	0.02	0.03
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	5			
Highway	6			

Flood Risk Management Plan Measures for RCT0087

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0087	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0087



Flood Investigation Area - RCT0088

Flood Investigation Area RCT0088 is situated within the community area of Tonyrefail East the posed flood risk is likely to be attributed to surface runoff and ordinary watercourse flooding, notably in the area of Tylcha Ganol, Tylcha Fach and Ely Valley Road.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a generally poor correlation between flood incidents reported to the authority and flood risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

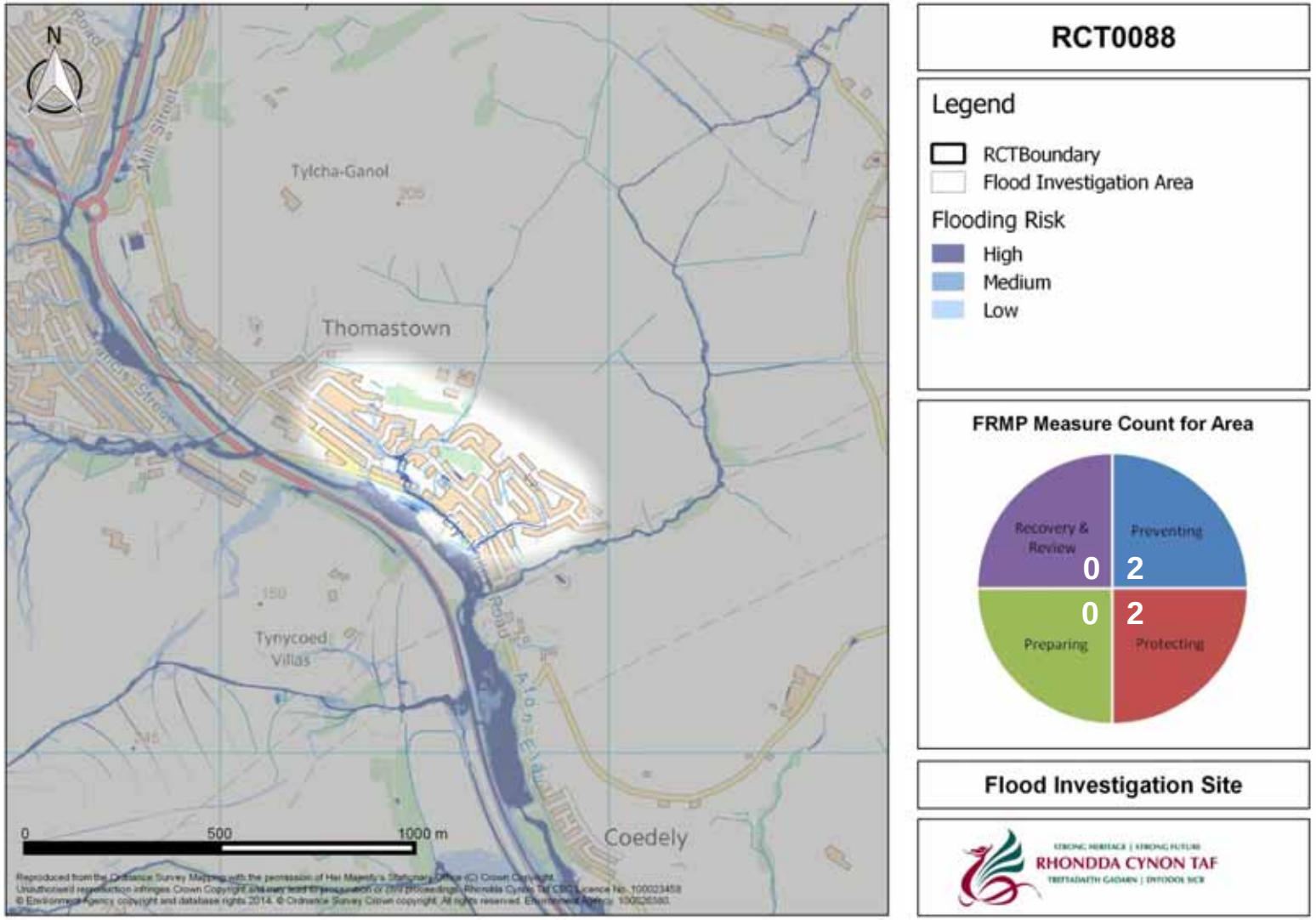
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0088

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	987	19	12	87
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	37	0	0	1
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	7			
Highway	5			

Flood Risk Management Plan Measures for RCT0088

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0088	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0088



Flood Investigation Area - RCT0089

Flood Investigation Area RCT0089 is situated within the community area of Tonyrefail West and the flood risk is anticipated to be sourced from the interaction of Main River and surface runoff flooding. It is considered that the flood risk posed to the area around Bryn Rhedyn is attributed to surface runoff' which flows towards the junction with Dyffyrn Road and merges with flooding anticipated to be sourced from the Nant Cae'rgwerlas (main river). The flood risk posed to the area surrounding Waunrhydd Road and Tonyrefail leisure centre is likely attributed to main river flooding.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between reported flood incidents and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0089

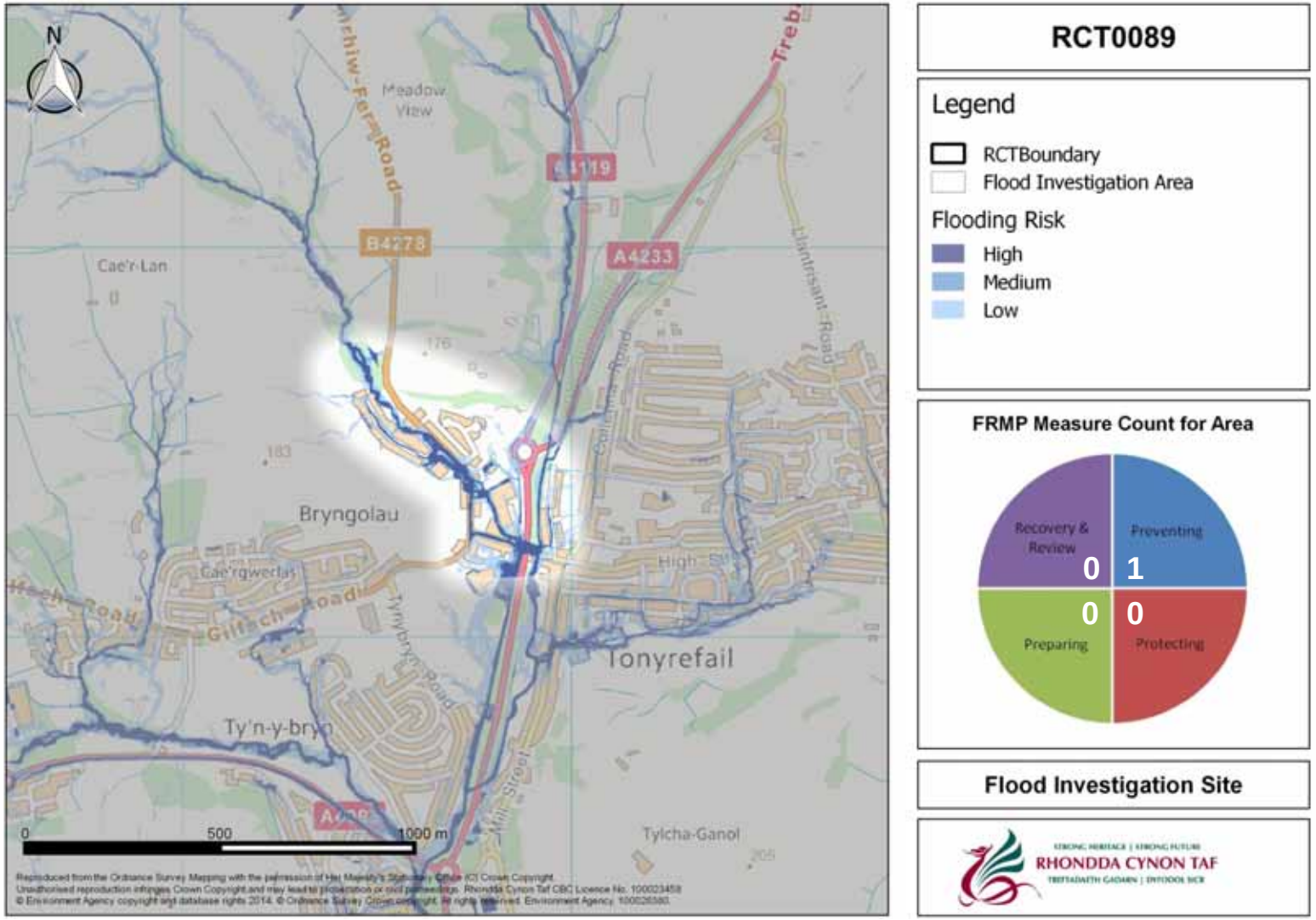
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	503	52	16	115
Services	5	0	0	5
ECONOMIC ACTIVITY				
Non Residential Properties	66	7	6	16
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0.2	0.04	0.08	0.03
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	4			
Highway	8			

Flood Risk Management Plan Measures for RCT0089

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0089	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0089



Flood Investigation Area - RCT0090

Flood Investigation Area RCT0090 is situated within the community areas of Tonyrefail West and Gilfach Goch. It is anticipated that the flood risk posed to the Flood Investigation Area is predominantly from bank breach from three unnamed watercourse flowing north-south through the area. It is noted that the most prominent source of flooding is a breach of the unnamed watercourse to the west of the area, flowing over the A4093, before posing further risk to areas surrounding Cedar Wood Drive, Birchwood and Mountain View. Flood risk posed to the southwest section of Mountain View, is anticipated to be the result of a bank breach and culvert inlet of the two unnamed ordinary watercourse in this area.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a poor correlation between the reported incidents of flooding to the highway and to external property and the risk presented in the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

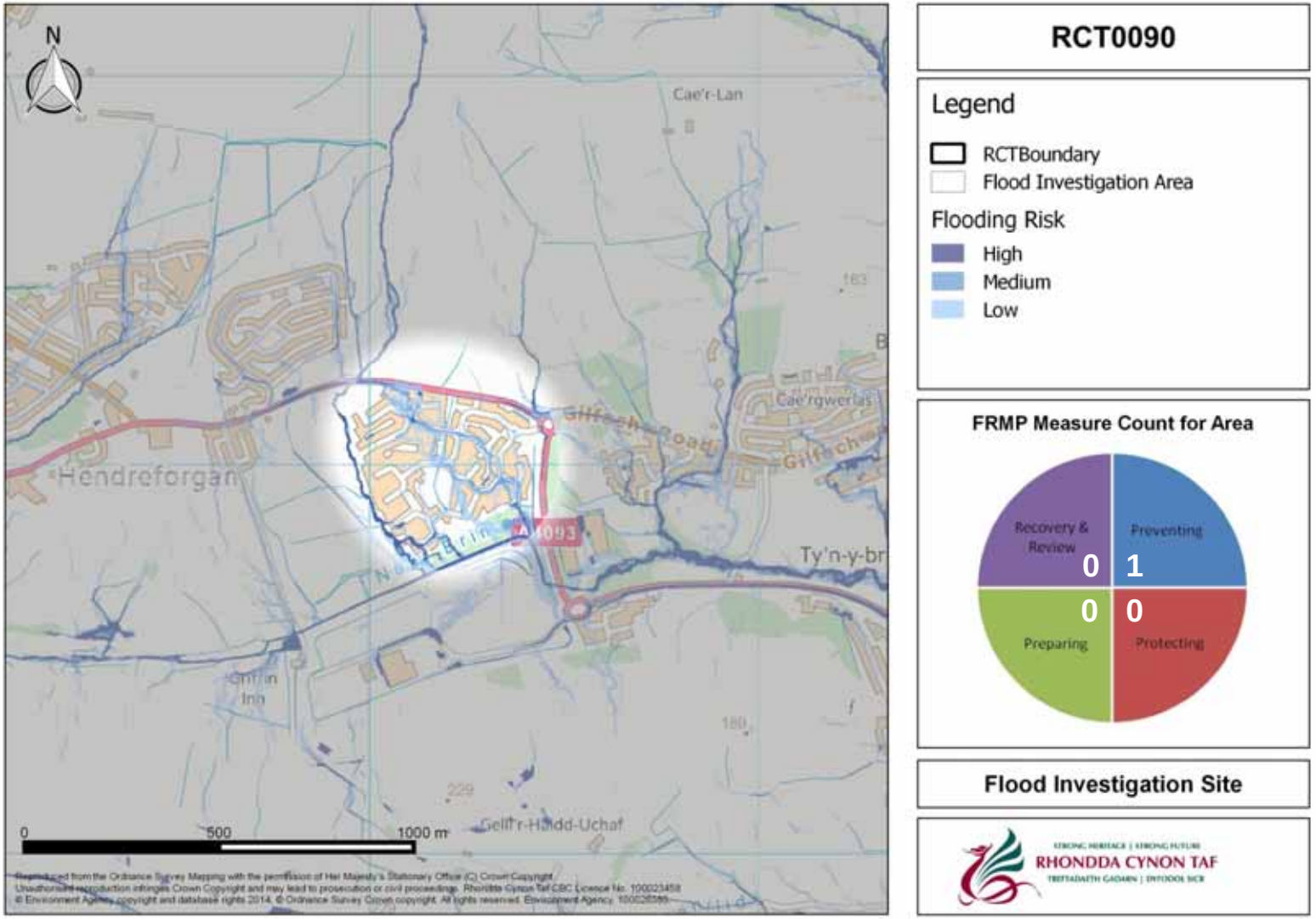
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0090

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	837	5	38	155
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	43	1	1	9
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	2	0	0	0.07
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	2			
Highway	3			

Flood Risk Management Plan Measures for RCT0090

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0090	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0090



Flood Investigation Area - RCT0091

Flood Investigation Area RCT0091 is situated within the community areas of Penygraig and Tonyrefail West. The A4119 is situated in the bottom of a valley feature and a stretch of the Afon Ely (ordinary watercourse at this location), is the watercourse draining the valley. The main flood risk source presented within the uFMfSW is attributed to surface runoff, noted to follow highways, flowing through the residential development. There are several areas highlighted at a potential high flood risk, such as Caroline Street, Penrhiw-fer Road and Heol Dinas Isaf.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between reported flooding to property and the highway and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

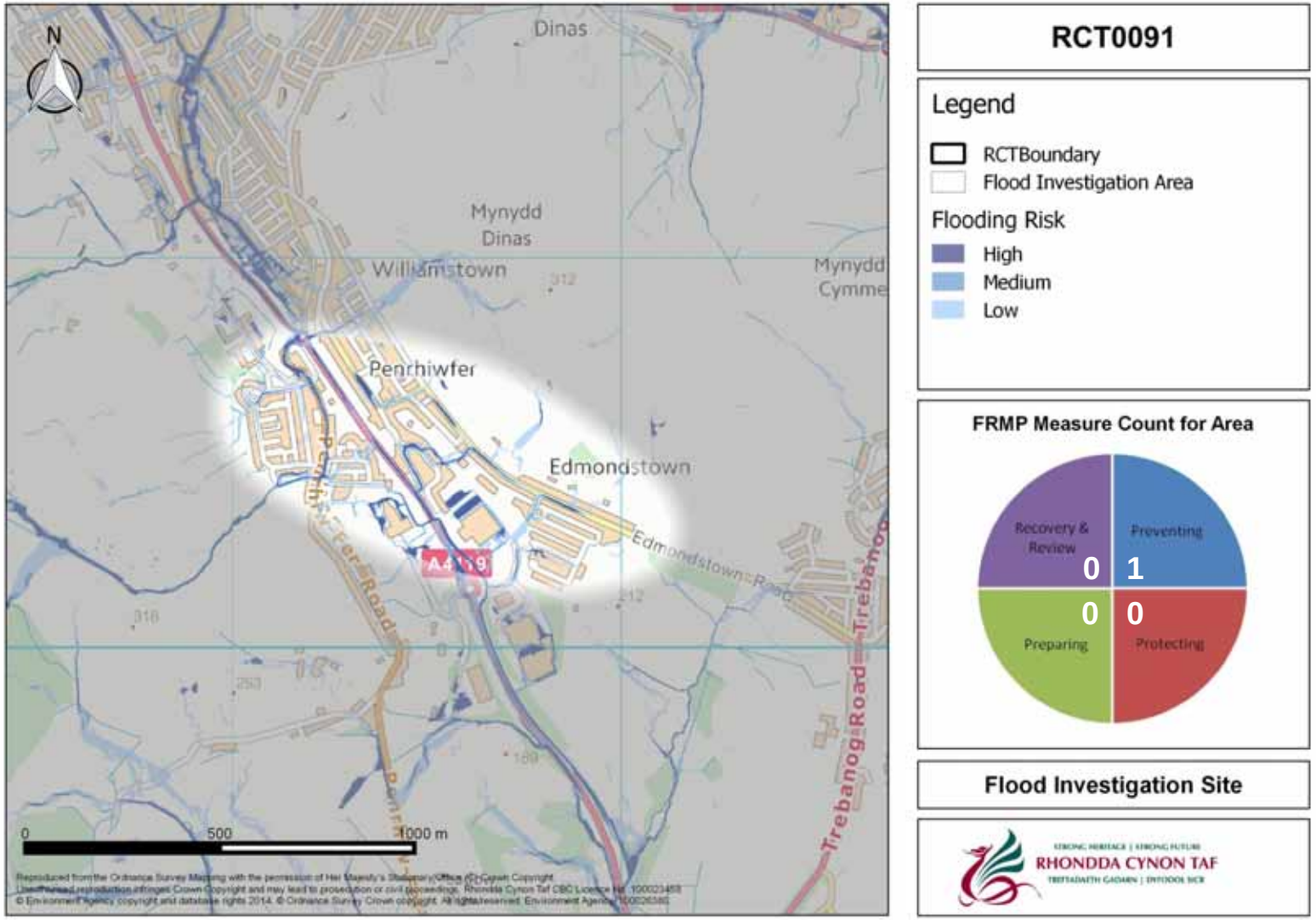
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0091

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1664	12	7	141
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	86	1	1	5
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	3			
External	9			
Highway	18			

Flood Risk Management Plan Measures for RCT0091

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0091	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0091



Flood Investigation Area - RCT0092

Flood Investigation Area RCT0092 is situated within the community area of Tonyrefial East and Tonyrefail West and the flood risk is considered to be sourced from both local flooding and Main River flooding. Notable flood risk is posed to Clos Y Waun (sourced from ordinary watercourse) and Meyler Street (surface runoff). Main River flooding is noted adjacent to the Afon Ely.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

Only one instance of external property flooding has been reported to the authority and this has poor correlation with the risk presented within the uFMfSW. There is a reasonable correlation between the flood risk presented within the uFMfSW and highway flooding incidents reported to the authority.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0092

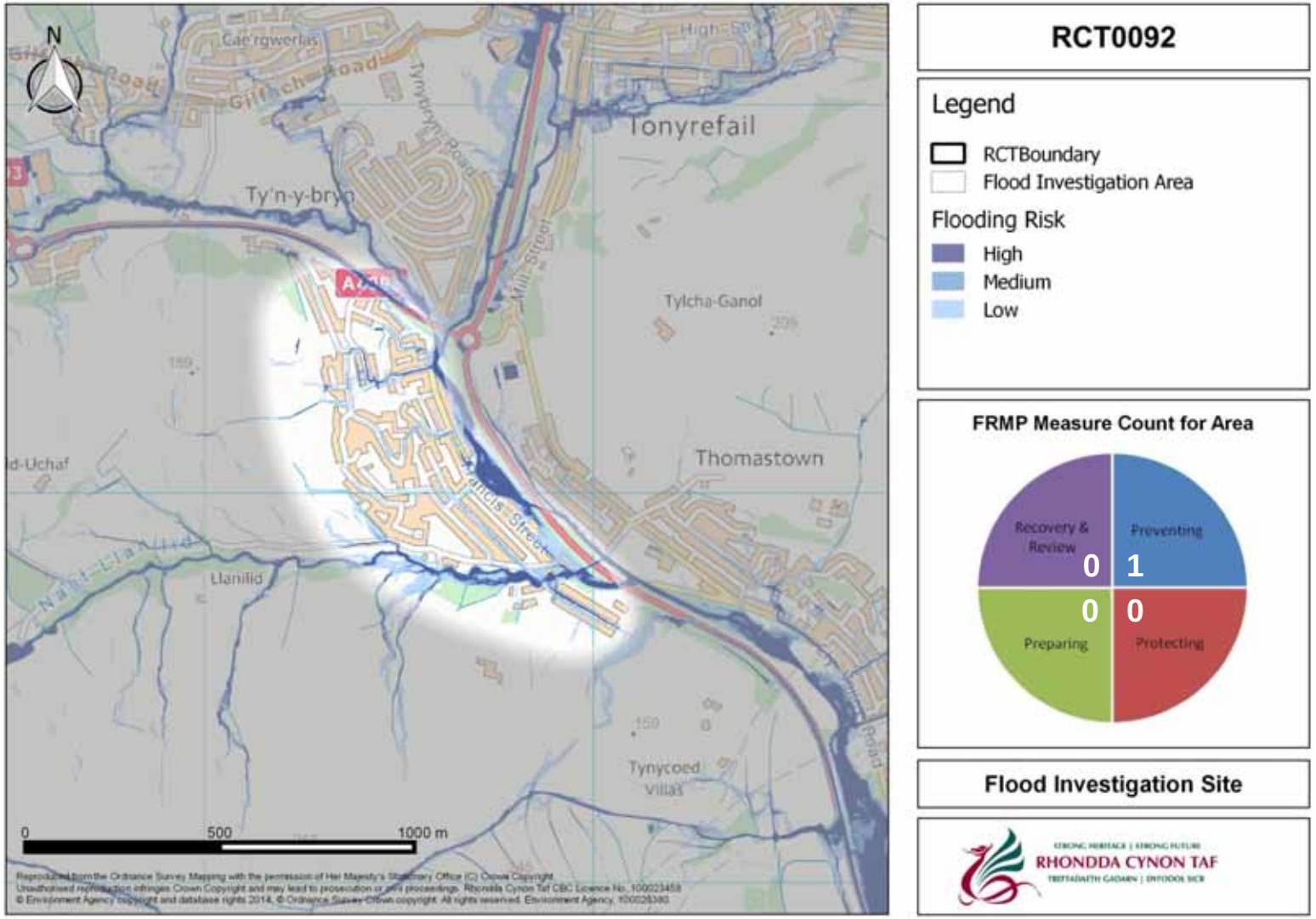
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1349	5	16	167
Services	2	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	53	1	1	9
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	1	0	0.006	0.03
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	2			
Highway	4			

Flood Risk Management Plan Measures for RCT0092

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0092	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0092



Flood Investigation Area - RCT0093

Flood Investigation Area RCT0093 is situated within the community area of Tonyrefail West and the risk presented within the uFMfSW is considered to be sourced from surface runoff. The highest flood risk presented is situated in the area of Tonyrefial Comprehensive School and to the rear of the properties along Nant Eirin.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a poor correlation between reported flood incidents to external property and the uFMfSW; however a reasonable to good correlation exists between reported incidents of highway flooding and the risk presented in the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

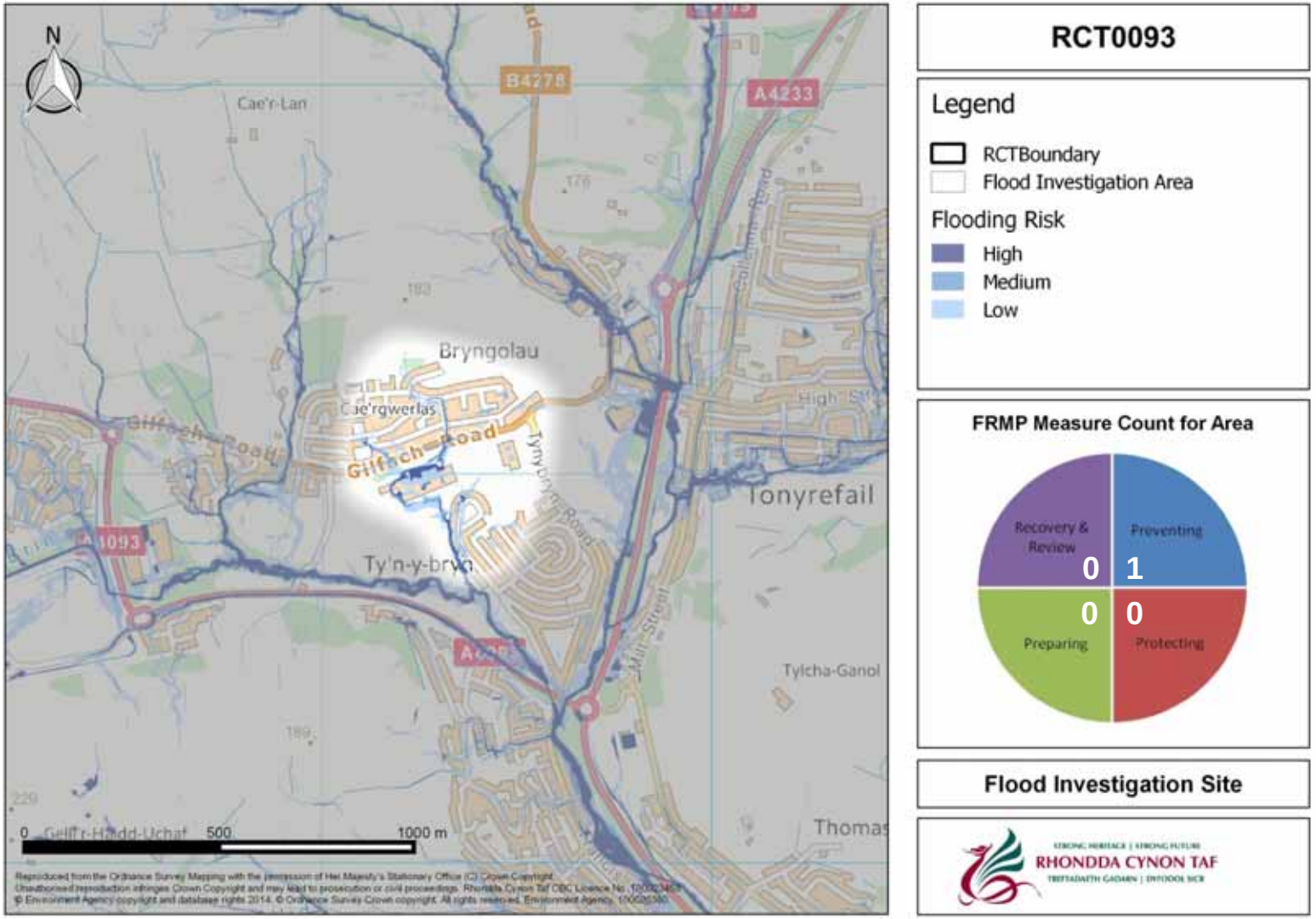
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0093

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	877	5	16	75
Services	1	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	34	1	0	3
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	2	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	2			
Highway	11			

Flood Risk Management Plan Measures for RCT0093

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0093	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0093



Flood Investigation Area - RCT0094

Flood Investigation Area RCT0094 is situated within the community areas of Trallwng and Treforest. The source of flooding is anticipated to be from two distinct areas, culminating in flood risk to the A470, in the south of the Flood Investigation Area. The flood risk noted in the north of the area is anticipated to be sourced from surface runoff, with contributions from RCT0097. This poses a high flood risk to properties along Ynysangharad Road, before returning an unnamed watercourse adjacent to the Bunch of grapes public House. This flood risk merges with a flood flow path from the north, sourced from unnamed watercourses above Pentrebach, prior to posing a risk to the A470.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

Highway flooding incidents reported to the authority are in broad correlation with the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

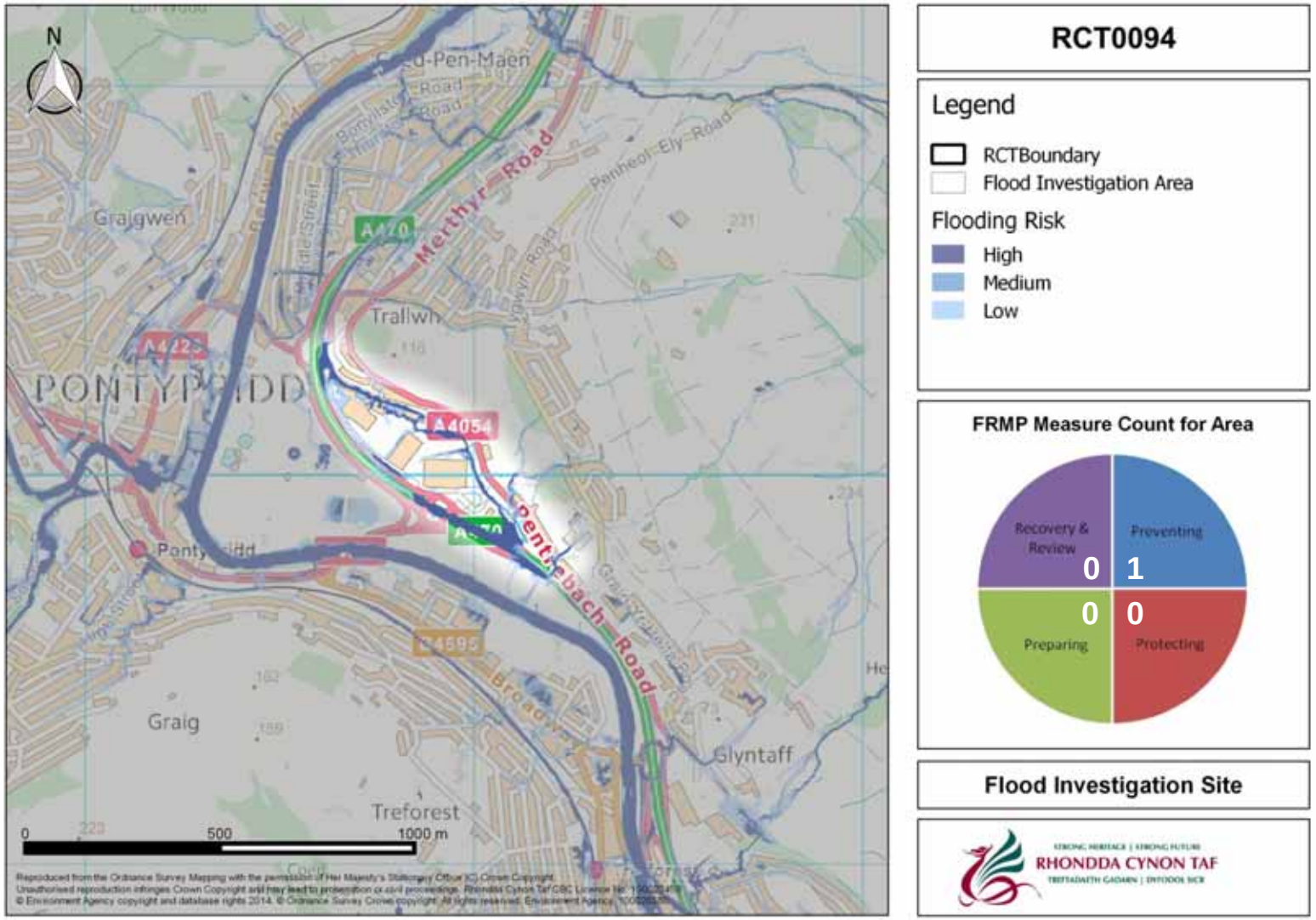
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0094

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	197	71	12	9
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	39	4	0	5
Airports	0	0	0	0
Roads (km)	2	0.8	0.1	0.2
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	5	2	0	1
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	3			
Highway	9			

Flood Risk Management Plan Measures for RCT0094

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0094	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0094



Flood Investigation Area - RCT0095

Flood Investigation Area RCT0095 is situated within the community areas of Cilfynydd and Trallwng and the flood risk is considered to be sourced from the breaching of banks and culvert inlets of the Ely Brook. Flood risk is observed to pond against the western verge of the A470 and causing flooding to 0.05km stretch of the A road. Further flooding flow paths pose a risk to the area around Lower Taff View, before discharging across allotments and into the River Taff.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There are no reported incidents of flooding within the Flood Investigation Area.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

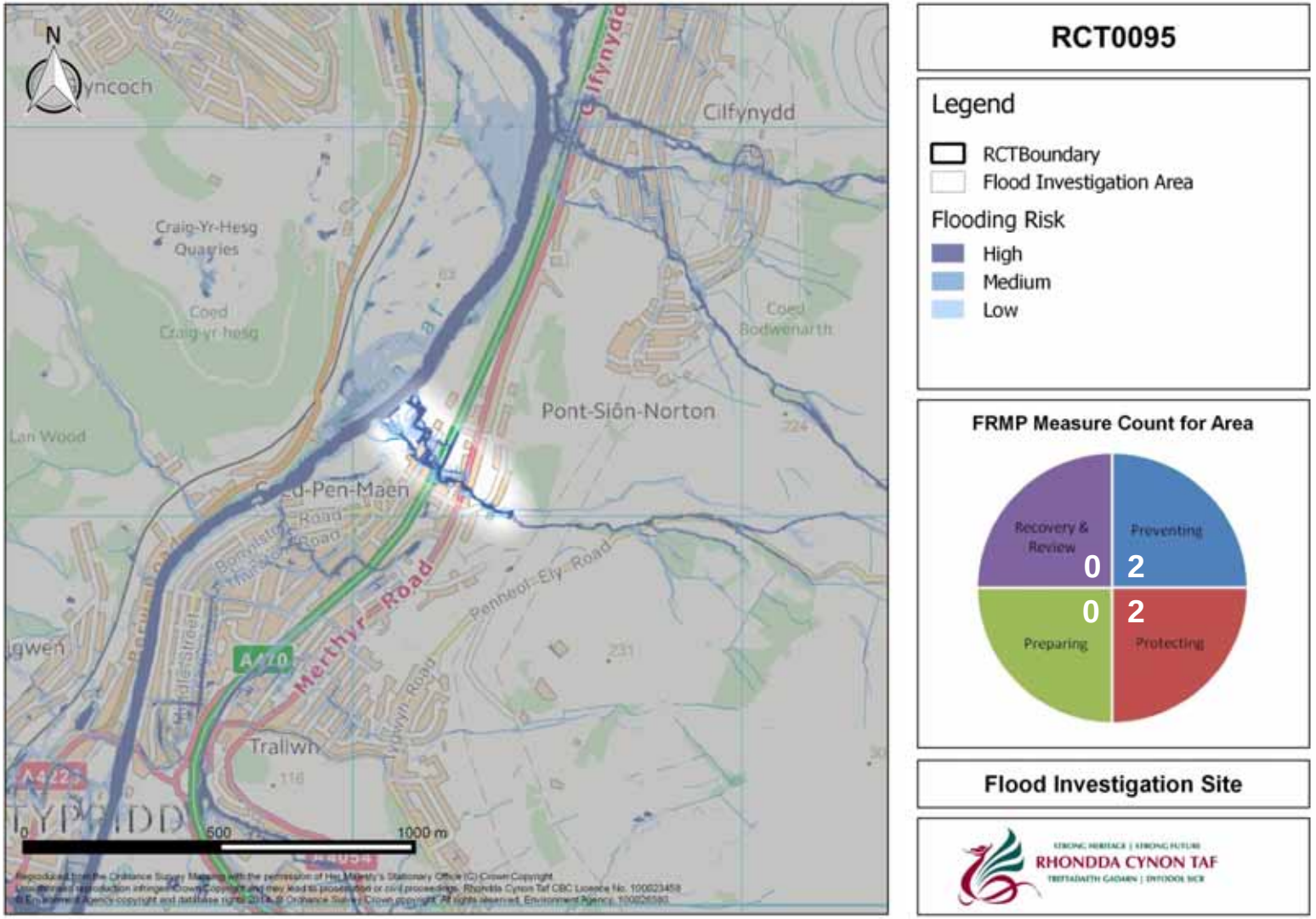
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0095

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	157	31	5	19
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	12	2	1	3
Airports	0	0	0	0
Roads (km)	0.3	0.1	0.01	0.05
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	0			

Flood Risk Management Plan Measures for RCT0095

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0095	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0095



Flood Investigation Area - RCT0096

Flood Investigation Area RCT0096 is situated within the community area of Trallwng and the flood risk is considered to be predominantly attributed to a culvert inlet on an unnamed watercourse. The highest risk observed is noted in the area of Scarborough Road, Dodington Place, Thurston Road and Crossways Street. The flood flow path presented within the uFMfSW also poses a flood risk to the A470 to the west of Scarborough Road.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

The only reported internal flood incident within the area is a reasonable correlation with the risk presented within the uFMfSW. Reported highway incidents have a poor correlation with the risk within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

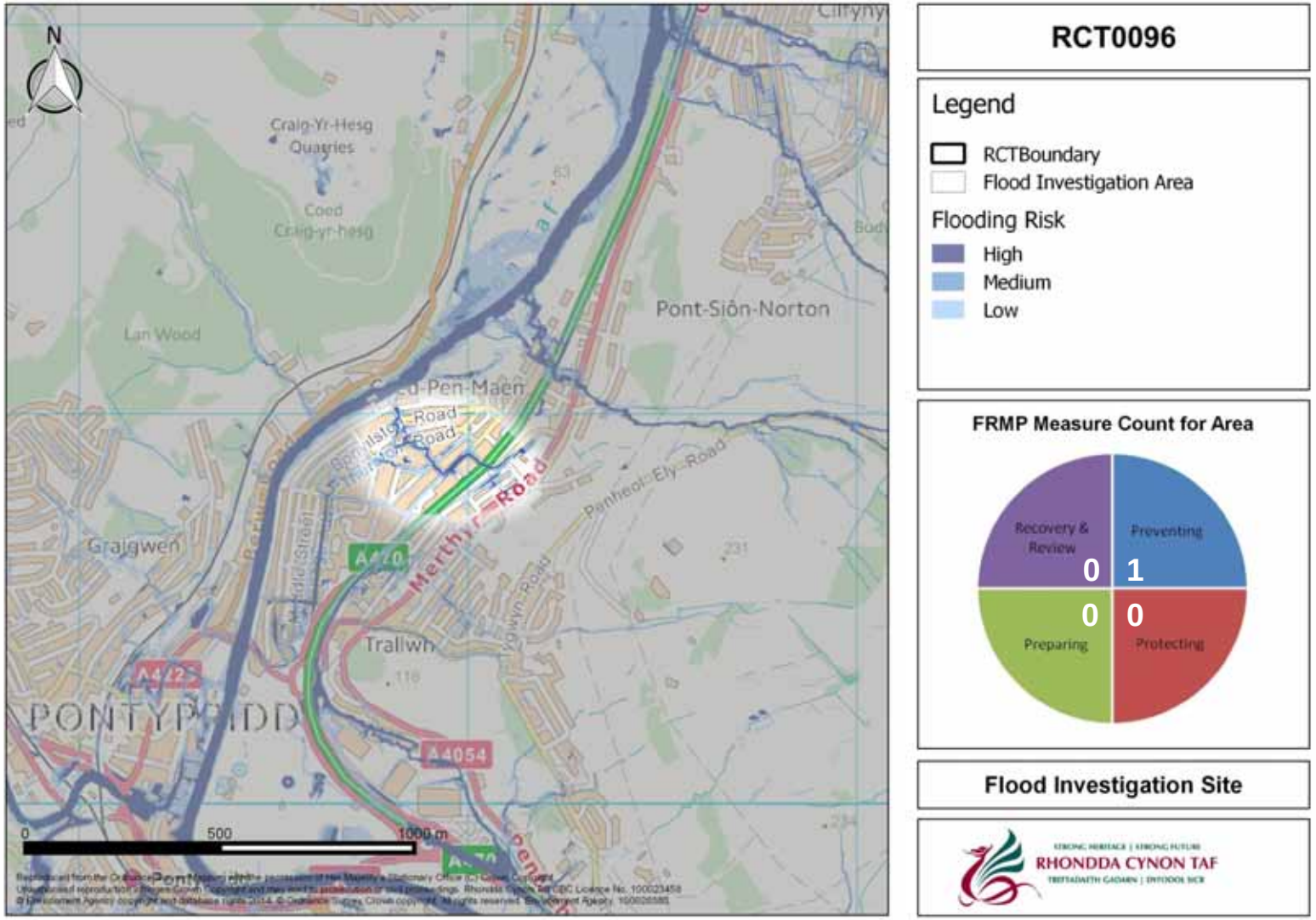
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0096

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1043	19	26	179
Services	1	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	35	0	0	5
Airports	0	0	0	0
Roads (km)	1	0.01	0.004	0.01
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	0			
Highway	4			

Flood Risk Management Plan Measures for RCT0096

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0096	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0096



Flood Investigation Area - RCT0097

Flood Investigation Area RCT0097 is situated within the community area of Trallwng. It is considered that the flood risk posed to the area is attributed to a culvert inlet on an unnamed watercourse, located in the northeast of the area. The flow path poses a risk through the highways network of the residential development, notably around the area of Ysgol Gynradd Coedpenmaen Primary. The A470 is at a low to high risk of surface water flooding.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a poor correlation between the reported highway flooding incidents and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

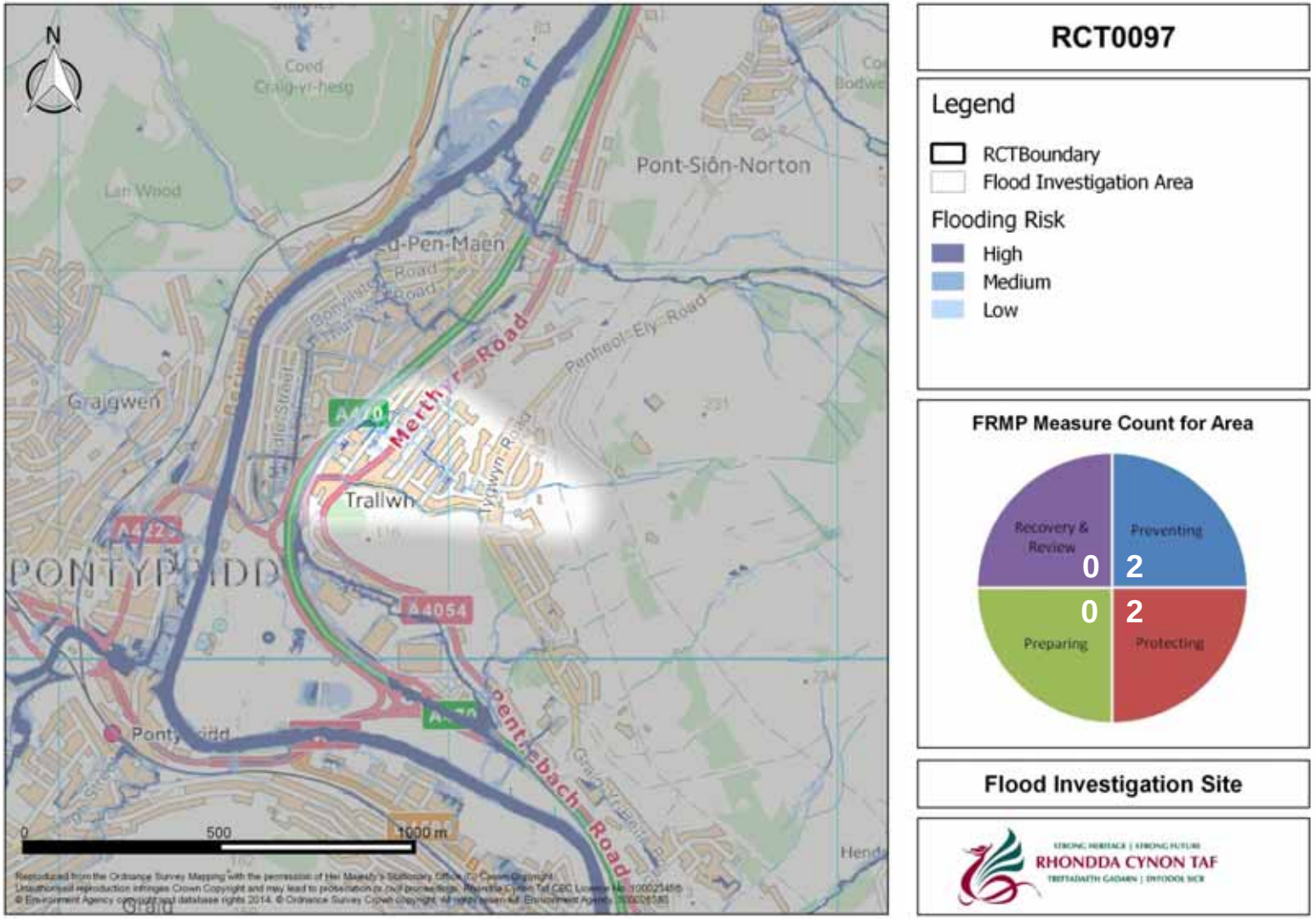
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0097

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	752	5	9	73
Services	2	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	48	0	1	3
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	2			
Highway	3			

Flood Risk Management Plan Measures for RCT0097

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0097	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0097



Flood Investigation Area - RCT0098

Flood Investigation Area RCT0098 is situated within Trealaw. The risk posed to the area is anticipated to be sourced from the interaction between surface water and main river. A low to high risk is presented across the lower regions of the hillside, broadly up to Miskin Road. A flood risk to the railway line is noted.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between the reported flooding to highway and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0098

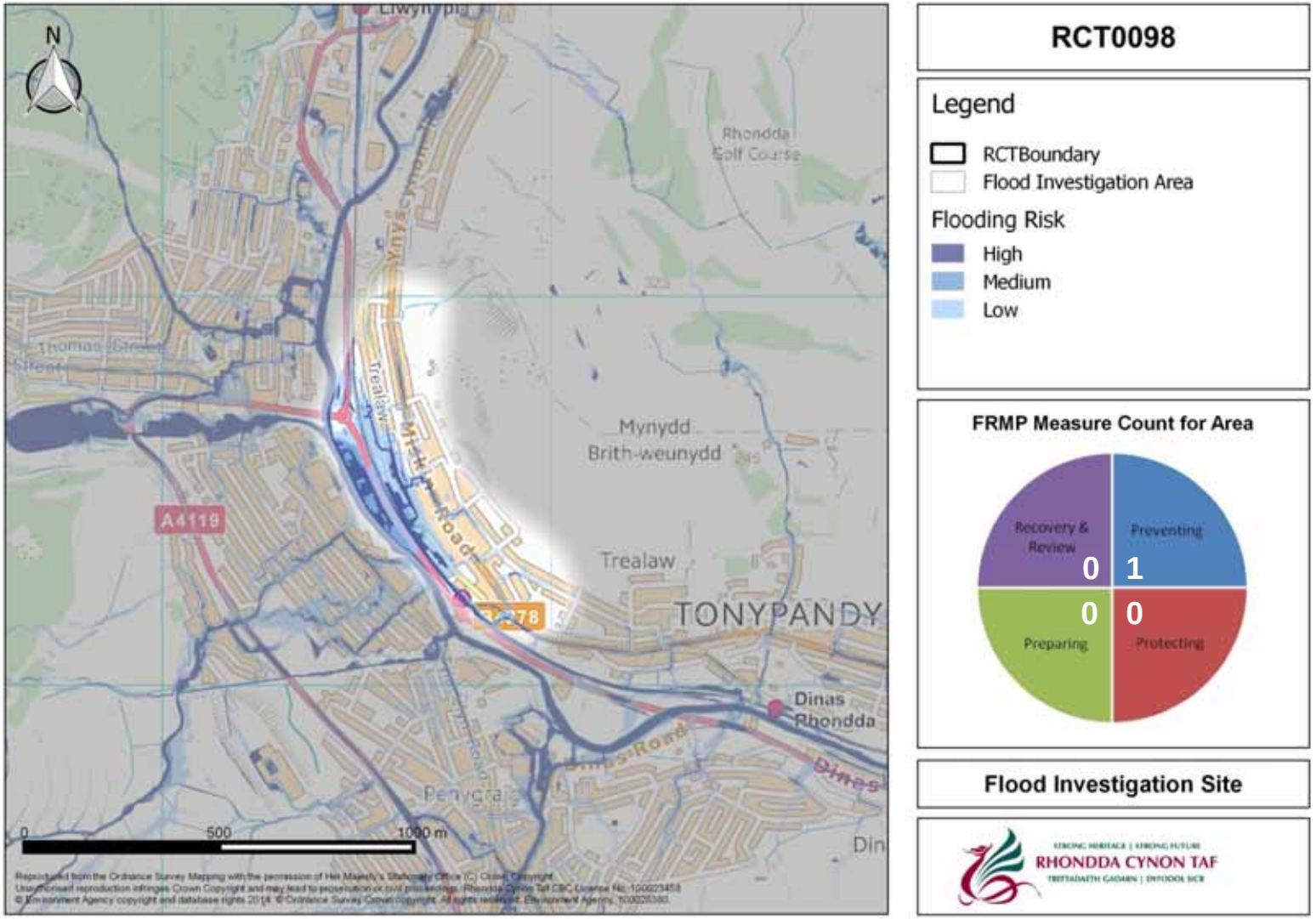
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1516	56	33	310
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	87	18	6	9
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.4	0.03	0.2
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	7			
Highway	12			

Flood Risk Management Plan Measures for RCT0098

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0098	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0098



Flood Investigation Area - RCT0099

Flood Investigation Area RCT0099 is situated within the community area of Trealaw, with the flood risk considered to be sourced from surface runoff. A low to high risk is identified in the area surrounding the Ynyscynon public house.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

The one instance of highway flooding reported to the authority is consistent with the flood risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

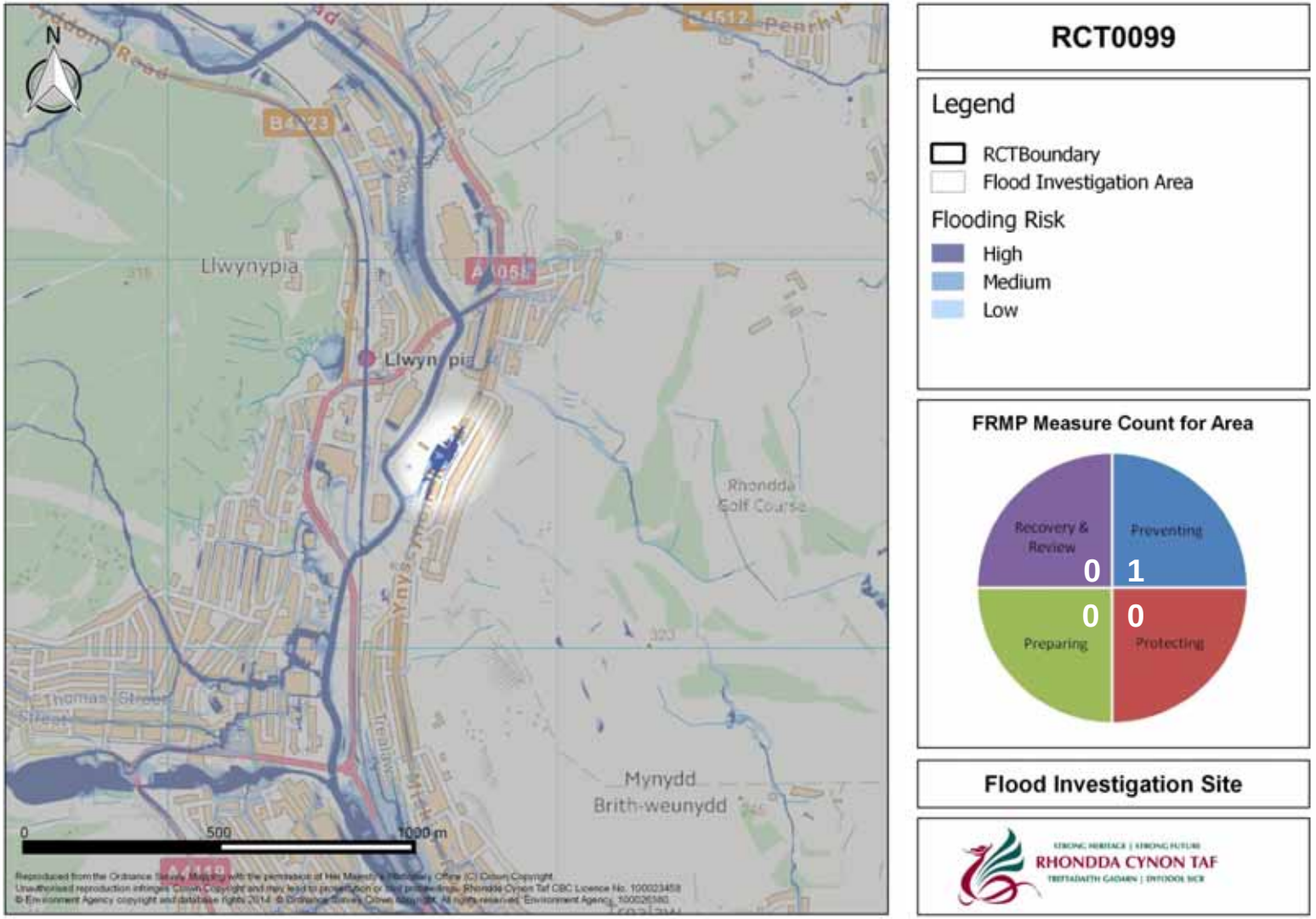
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0099

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	136	40	16	5
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	9	1	0	0
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	1			

Flood Risk Management Plan Measures for RCT0099

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0099	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0099



Flood Investigation Area - RCT0100

Flood Investigation Area RCT0100 is situated within the community area of Trealaw. The flood risk presented in the area is predominantly considered to be surface runoff. This potential flood risk is noted to pose a low to high flood risk along the highways network, notably Enid Street, Brithweunydd Road and Brynteg Terrace. The uFMfSW also show a low to high flood risk to the railway line.

A flood flow path is also noted to the west of the area and it is likely attributed to a culvert inlet on the unnamed watercourse. This flood flow path follows Nile Road, before flowing over open land and contributing to the flooding of the railway line.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between the internal flood incidents reported to the authority and the risk presented within the uFMfSW, whilst a good correlation is noted with the reported incidents of highway flooding.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

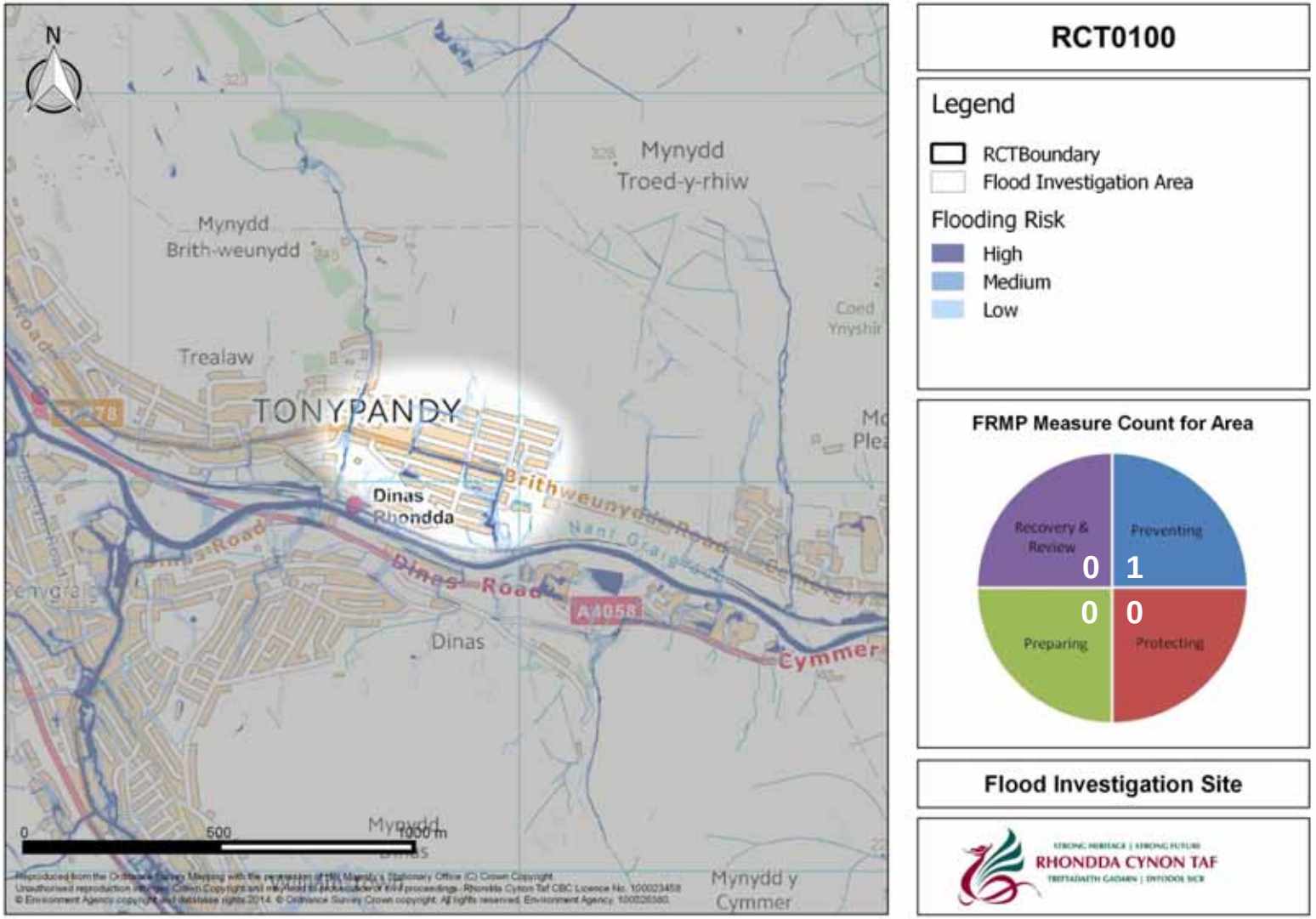
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0100

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1255	14	7	160
Services	2	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	66	2	1	3
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	2			
External	3			
Highway	11			

Flood Risk Management Plan Measures for RCT0100

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0100	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0100



Flood Investigation Area - RCT0101

Flood Investigation Area RCT0101 is situated within the community area of Treforest. The flood risk is considered to be sourced from surface runoff. A high risk of flooding is posed adjacent to the southeast of the railway embankment; however, no flooding is observed to the railway line itself. There are three main hotspots of surface water flooding, notably in the area of the junction between Wood Road and Stow Hill, James Street and the area adjacent to St Dyfrig's Roman Catholic Church.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

The one reported incident of external property flooding is not consistent with the uFMfSW and there is a poor correlation between the reported highway flooding incidents and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

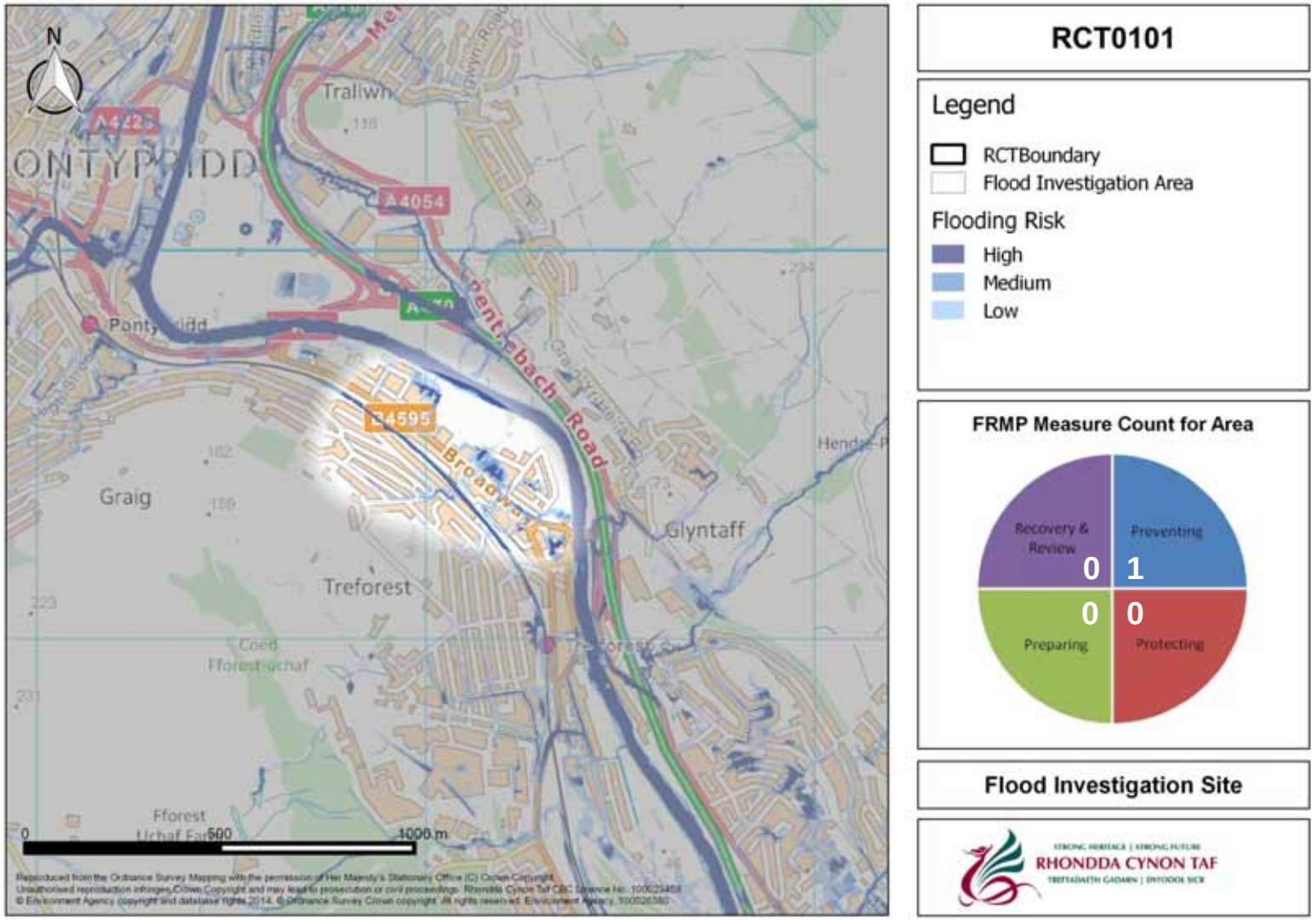
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0101

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1351	21	26	103
Services	1	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	123	3	7	19
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.01	0.01	0.04
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	16	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	1			
Highway	6			

Flood Risk Management Plan Measures for RCT0101

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0101	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0101



Flood Investigation Area - RCT0102

Flood Investigation Area RCT0102 is situated within the community area of Treforest and the flood risk is considered to be sourced from a combination of surface runoff and an unnamed ordinary watercourse. Flood risk is presented adjacent to the railway line on the western side and is noted to pose a flood risk to the line to the west of John Street, where the flood flow path crosses the railway line. A low to high risk is also noted in the area of Rees Terrace.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between the reported flood incidents to the highway and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

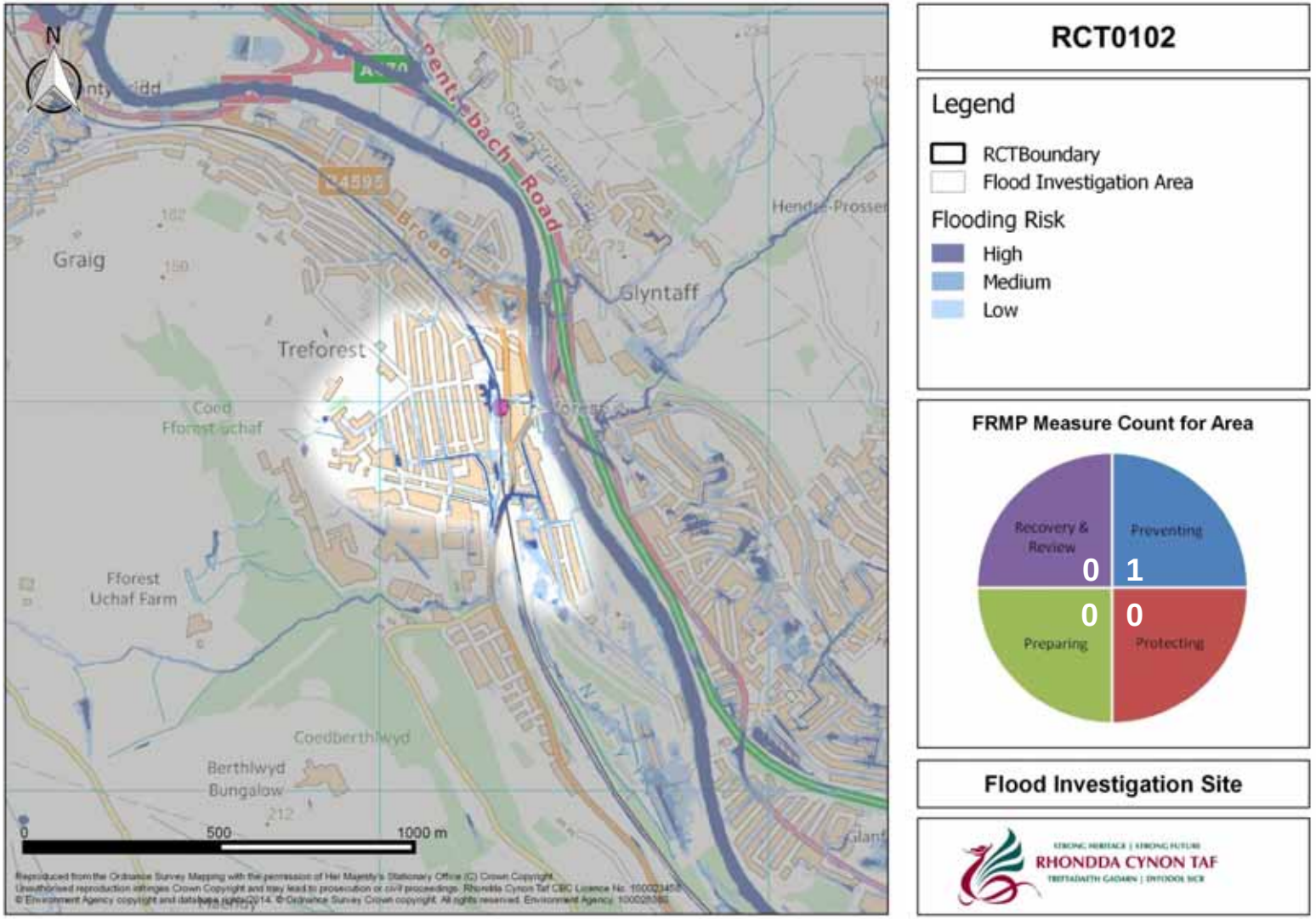
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0102

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1955	12	26	200
Services	3	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	146	0	0	12
Airports	0	0	0	0
Roads (km)	0.2	0.02	0	0.03
Railways (km)	1	0.2	0.04	0.1
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	4	1	0	1
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	1			
Highway	12			

Flood Risk Management Plan Measures for RCT0102

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0102	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0102



Flood Investigation Area - RCT0103

Flood Investigation Area RCT0103 is situated within the community area of Treherbert and the flood risk is likely a combination of ordinary watercourse and Main River flooding. A low to high risk is identified across Blaencwm, with higher risk observed along the highway network.

It is considered that there may be the potential to consider land management in the upper catchment to alleviate this flood risk.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There are two reported flood incidents to external property and this has excellent correlation with the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0103

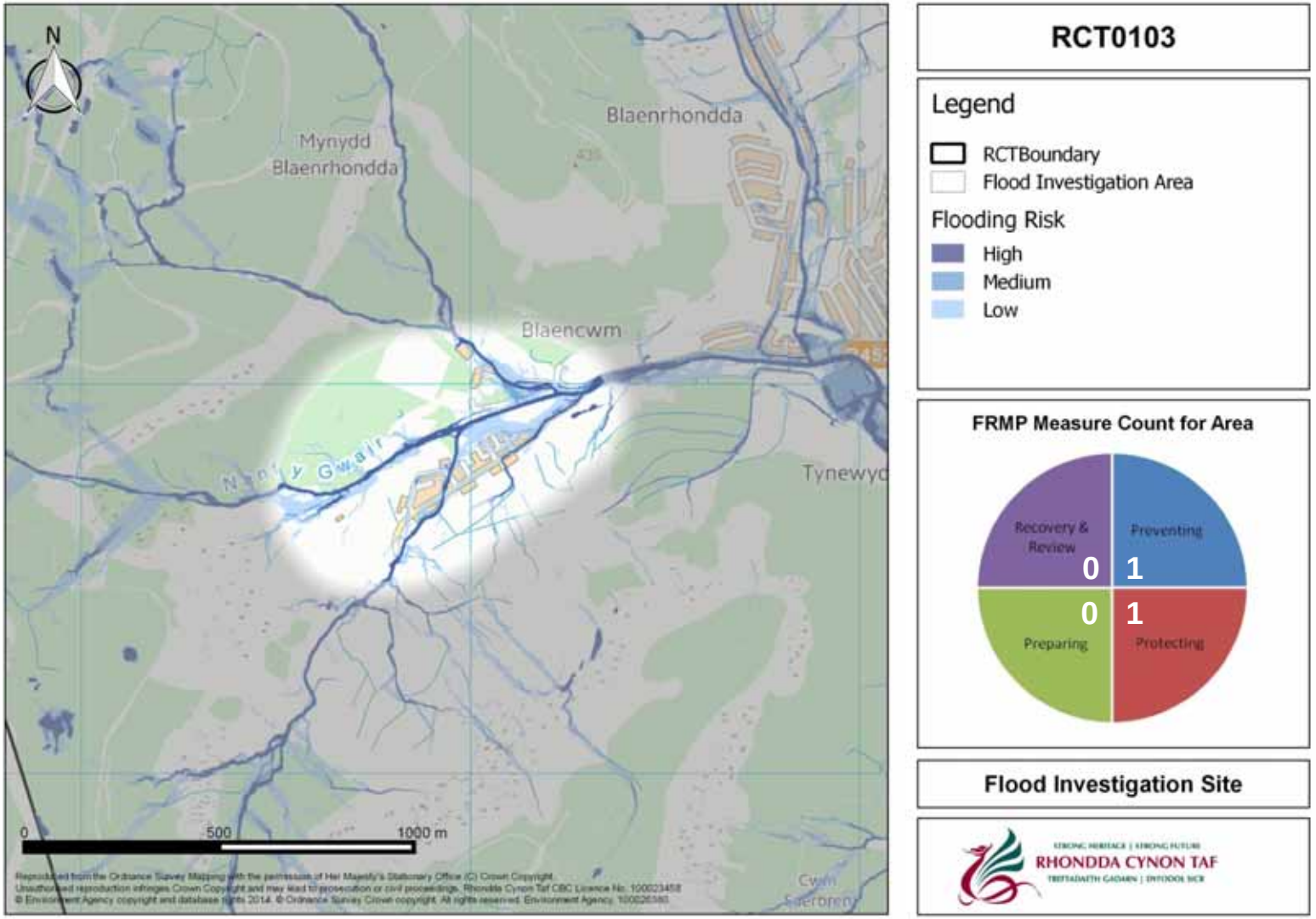
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	322	0	0	143
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	26	0	0	6
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	1	0	0	1
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	2			
Highway	0			

Flood Risk Management Plan Measures for RCT0103

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0103	Local / Main River	10	Land Management	M34 (Protection)	2016-2021	Proposed	
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0103



Flood Investigation Area - RCT0104

Flood Investigation Area RCT0104 is situated within the community area of Treherbert and the flood risk is considered to be sourced from ordinary watercourse and main river. In the north of the Flood Investigation Area a considerable area of land is noted to be at low to high risk of surface water flooding, sourced from culvert inlets and bank breaches of the numerous ordinary watercourses in the area.

A low to high risk is presented within Blaenrhondda, notably the length of Brook Street and it is likely this is attributed to an interaction between ordinary watercourse and main river flooding.

It is considered that there may be the potential to consider land management in the upper catchment to alleviate this flood risk.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There are no flood incidents reported within this Flood Investigation Area.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0104

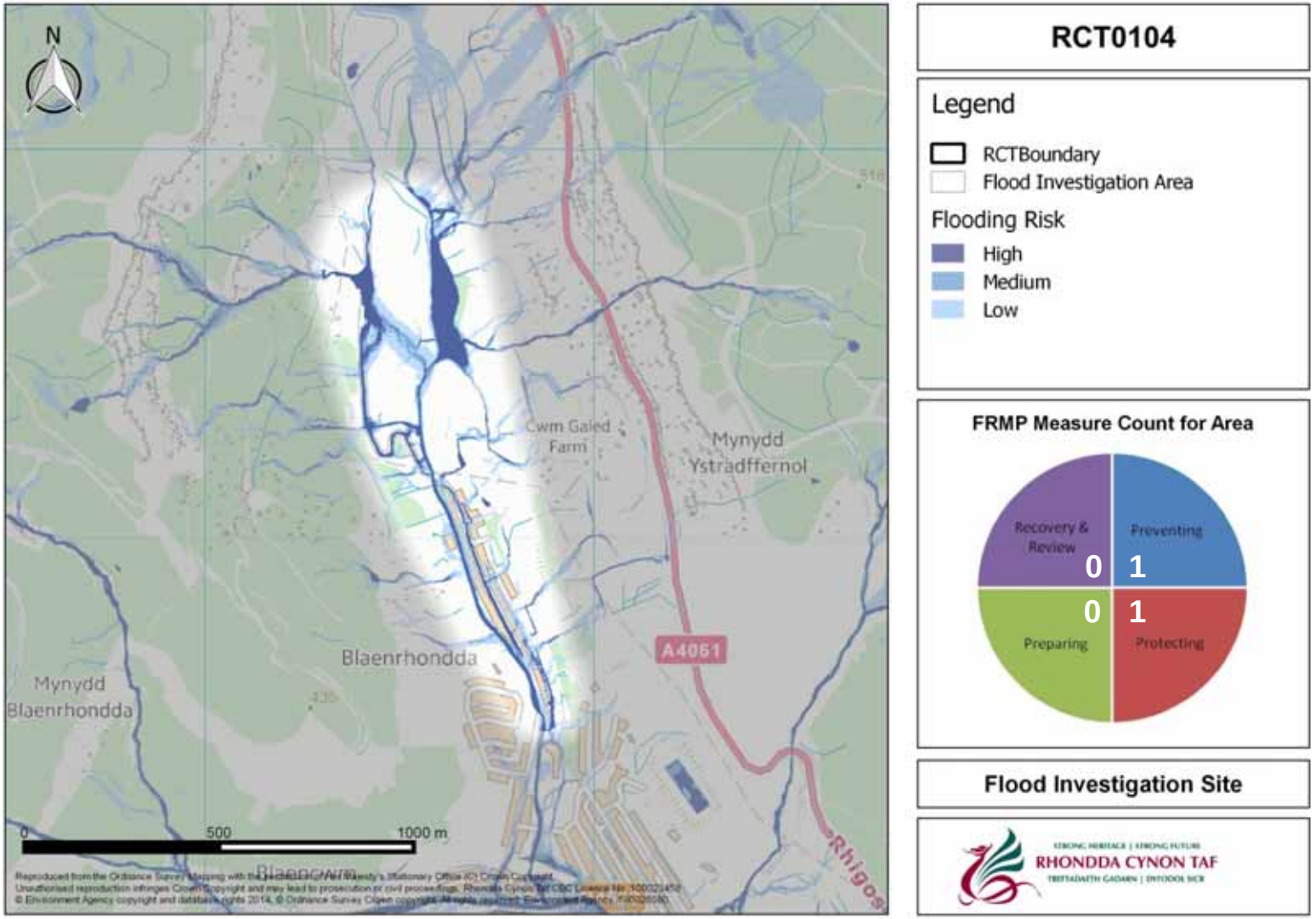
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	376	26	52	202
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	40	1	2	12
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	1			
Highway	1			

Flood Risk Management Plan Measures for RCT0104

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0104	Local / Main River	10	Land Management	M34 (Protection)	2016-2021	Proposed	
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0104



Flood Investigation Area - RCT0105

Flood Investigation Area RCT0105 is situated within the community are of Treherbert. The flood risk presented within the uFMfSW is anticipated to be the interaction between ordinary watercourse and main river flooding. The highest flood risk within the Flood Investigation is attributed to culvert inlet within sections of main river, notably, the Nant Ystradffernol, the Nant Coedcaetylefforest and the Nant Pwll-Brwyn. Flooding is also anticipated to the sourced from the Rhondda River at the base of the valley.

A high risk is identified throughout the residential develop of Treherbert (both Tynewyydd and Pen-yr-englyn).

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There appears to be a very good correlation between reported flood events (internal, external and highway flooding) to the authority and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0105

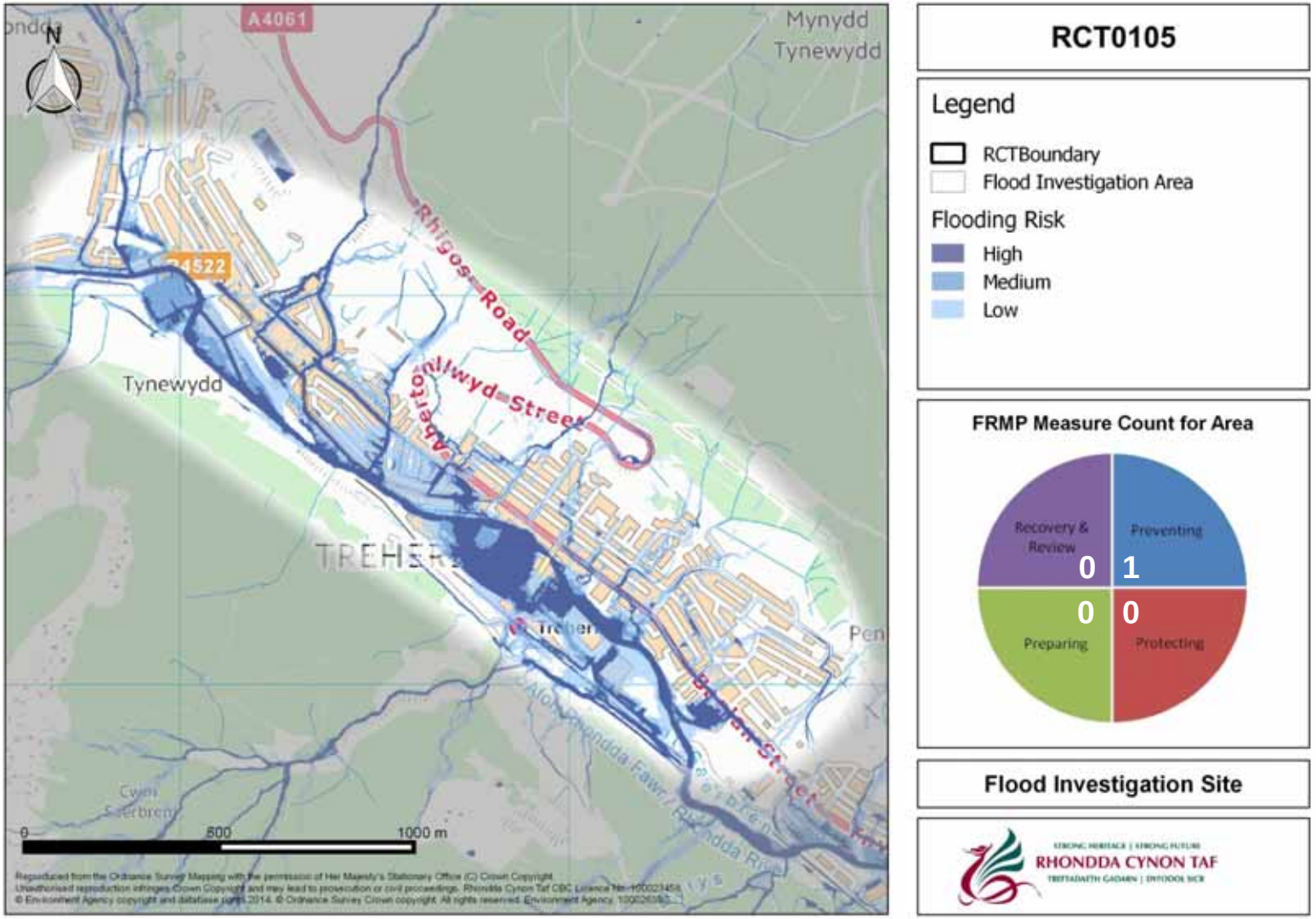
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	5595	639	557	1466
Services	4	2	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	317	57	46	50
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.1	0.1	0.5
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	4	0	0	1
Licensed Abstractions	2	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	4			
External	18			
Highway	28			

Flood Risk Management Plan Measures for RCT0105

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0105	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0105



Flood Investigation Area - RCT0106

Flood Investigation Area RCT0106 is situated within Treorchy and the flood risk is anticipated to be predominantly sourced from main river. Four unnamed watercourse drain through the residential development of Cwmparc and are noted to pose a risk from culvert inlets.

It is considered that there may be the potential to consider land management in the upper catchment to alleviate this flood risk.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between reported flood incidents and the risk presented within the uFMfSW, notably in the lower elevations of the valley.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0106

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	2493	85	47	400
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	107	2	4	17
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	11			
Highway	20			

Flood Risk Management Plan Measures for RCT0106

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0106	Local / Main River	10	Land Management	M34 (Protection)	2016-2021	Proposed	RCTCBC / Natural Resources Wales
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

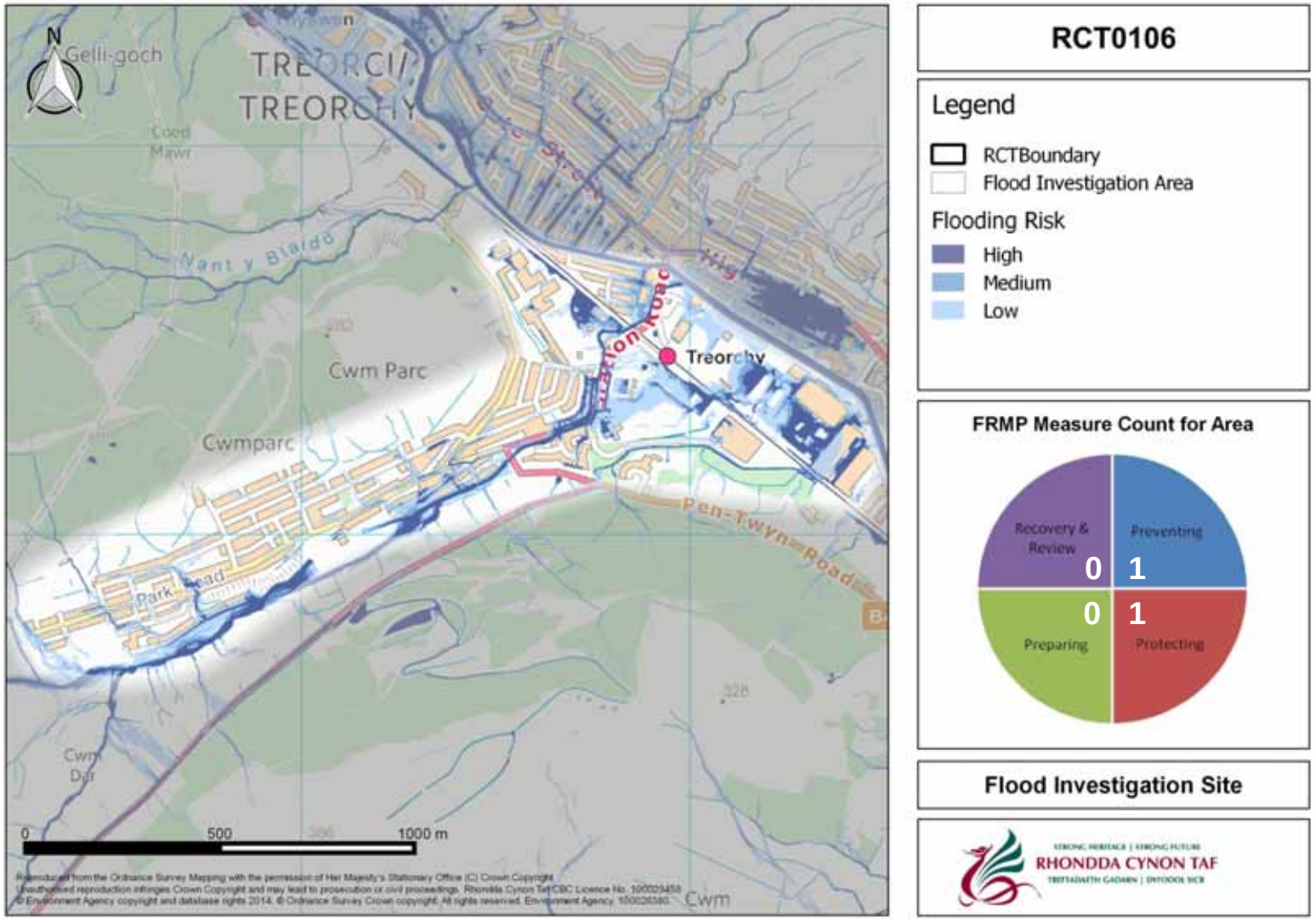
The Flood Risk Management Plan for the Severn River Basin District has proposed measures for the flood risk from main rivers that may provide an opportunity for collaborative working. The table below provides an excerpt from the Severn River Basin draft Flood Risk Management Plan.

Summary of Natural Wales Resources ongoing and proposed measures within Flood Investigation Area RCT0106

Location	Source	Measures	Measure Type	Link to SRBD FRMP objective*	Timing	Priority	Measure Status	Responsible Authority
Treorchy	Main River	Undertake initial assessment and feasibility work for reducing flood risk	M3 – Protection	1, 2	Current	Very High	Not Started Proposed	Natural Resources Wales
		Update Hydraulic Model	M3 – Protection	3	Current	Very High	On-going	Natural Resources Wales

*This FRMP objective link is specific to the Severn River Basin District Flood Risk Management Plan

uFMfSW for RCT0106



Flood Investigation Area - RCT0107

Flood Investigation Area RCT0107 is situated within the community area of Treorchy and the flood risk is considered to be predominantly sourced from two main rivers, the Rhondda River in the south of the area and the Nant Coly in the west, notably the culvert inlet at the western end of prospect Place. The highest risk associated with the Flood Investigation Area is in the area of High Street, Regent Street and Rees Street.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between reported flood incidents and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0107

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1495	360	92	287
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	125	29	4	37
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	2			
External	5			
Highway	12			

Flood Risk Management Plan Measures for RCT0107

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0107	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

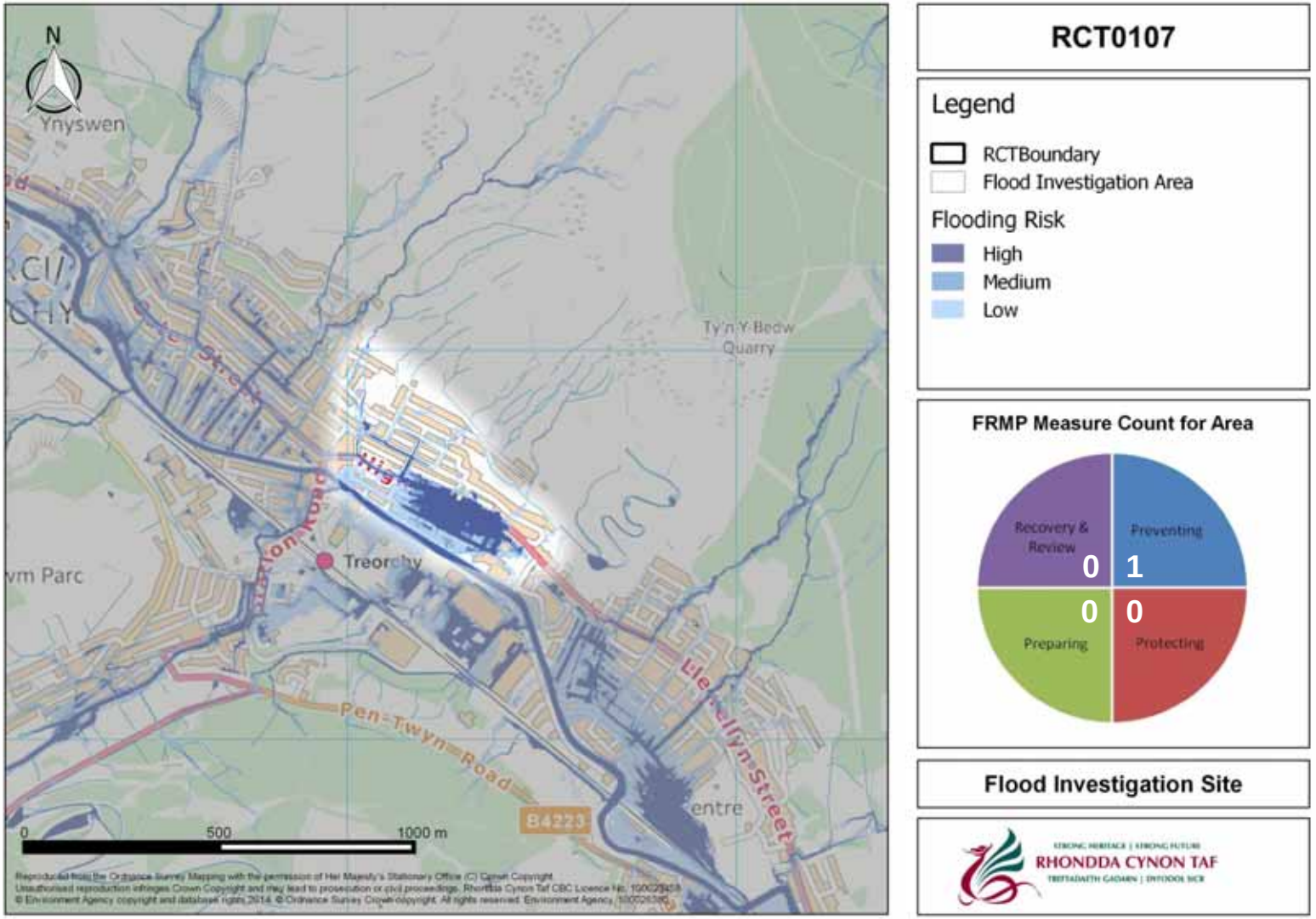
The draft Flood Risk Management Plan for the Severn River Basin District has proposed measures for the flood risk from main rivers that may provide an opportunity for collaborative working. The table below provides an excerpt from the Severn River Basin draft Flood Risk Management Plan.

Summary of Natural Wales Resources ongoing and proposed measures within Flood Investigation Area RCT0107

Location	Source	Measures	Measure Type	Link to SRBD FRMP objective*	Timing	Priority	Measure Status	Responsible Authority
Treorchy	Main River	Undertake initial assessment and feasibility work for reducing flood risk	M3 – Protection	1, 2	Current	Very High	Not Started Proposed	Natural Resources Wales
		Update Hydraulic Model	M3 – Protection	3	Current	Very High	On-going	Natural Resources Wales

*This FRMP objective link is specific to the Severn River Basin District Flood Risk Management Plan

uFMfSW for RCT0107



Flood Investigation Area - RCT0108

Flood Investigation Area RCT0108 is situated within the community area of Treorchy and the flood risk is considered to be sourced from a combination of main river and surface runoff. Principally, the floor is sources from culvert inlets within the Nant Orci and Nant Tyle-du and bank breach of the Rhondda River. A low to high flood risk is presented throughout the Flood Investigation Area.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a very good correlation between all reported flood incidents and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0108

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	3126	364	282	971
Services	2	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	307	16	23	121
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.1	0	0.1
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	3	0	0	1
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	4			
External	6			
Highway	21			

Flood Risk Management Plan Measures for RCT0108

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0108	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

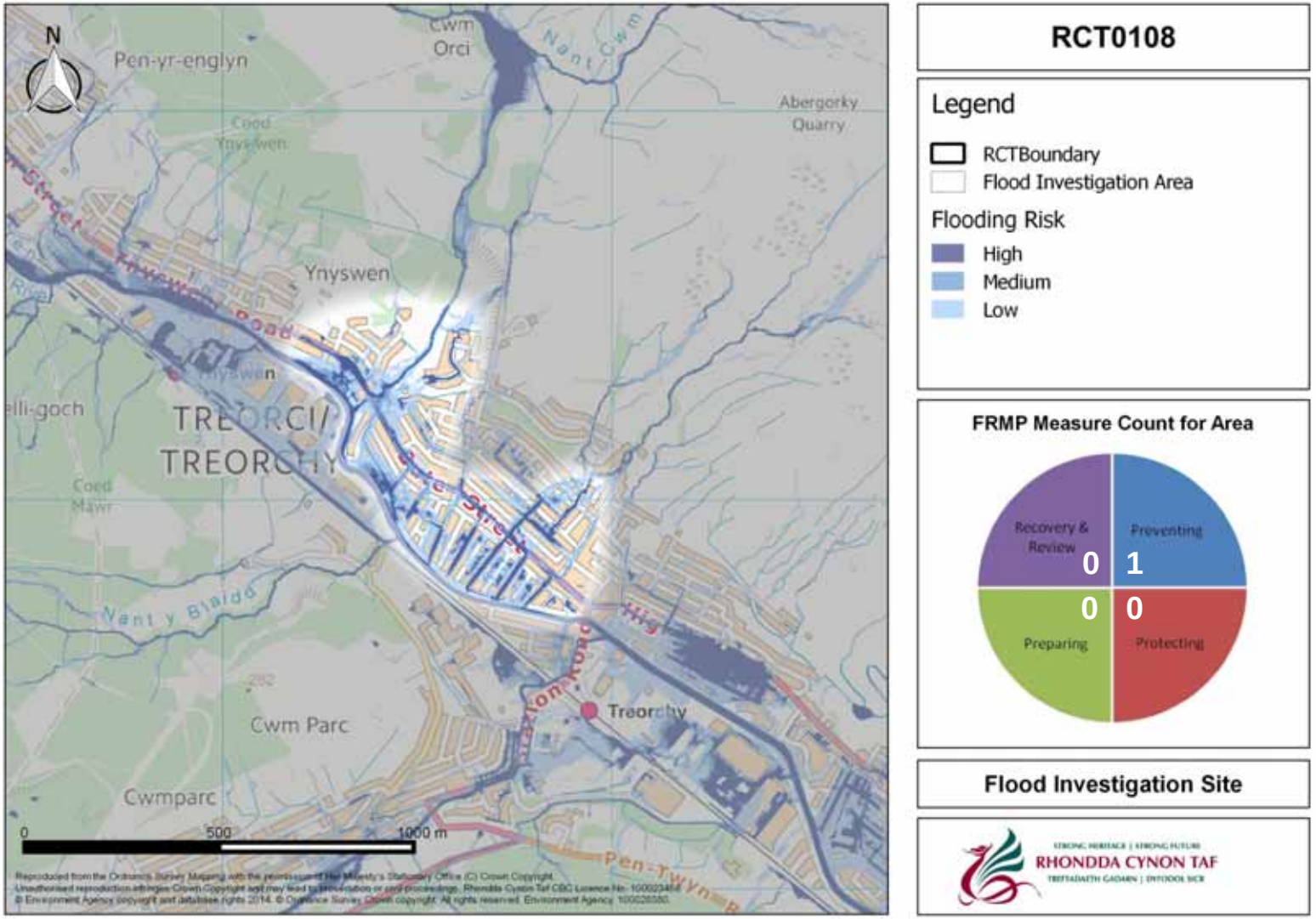
The draft Flood Risk Management Plan for the Severn River Basin District has proposed measures for the flood risk from main rivers that may provide an opportunity for collaborative working. The table below provides an excerpt from the Severn River Basin draft Flood Risk Management Plan.

Summary of Natural Wales Resources ongoing and proposed measures within Flood Investigation Area RCT0108

Location	Source	Measures	Measure Type	Link to SRBD FRMP objective*	Timing	Priority	Measure Status	Responsible Authority
Treorchy	Main River	Undertake initial assessment and feasibility work for reducing flood risk	M3 – Protection	1, 2	Current	Very High	Not Started Proposed	Natural Resources Wales
		Update Hydraulic Model	M3 – Protection	3	Current	Very High	On-going	Natural Resources Wales

*This FRMP objective link is specific to the Severn River Basin District Flood Risk Management Plan

uFMfSW for RCT0108



Flood Investigation Area - RCT0109

Flood Investigation Area RCT0109 is situated within Treorchy and is considered to be sourced from Main River and culvert inlets of several unnamed watercourses, where they are culverted beneath the residential development of Ynyswen and surface runoff A low to high risk is identified across both residential and non-residential areas of Ynyswen.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is an reasonable correlation between reported flood incidents and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0109

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	818	56	118	115
Services	1	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	58	9	3	18
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.3	0.1	0.2
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	3			
External	5			
Highway	10			

Flood Risk Management Plan Measures for RCT0109

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0109	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

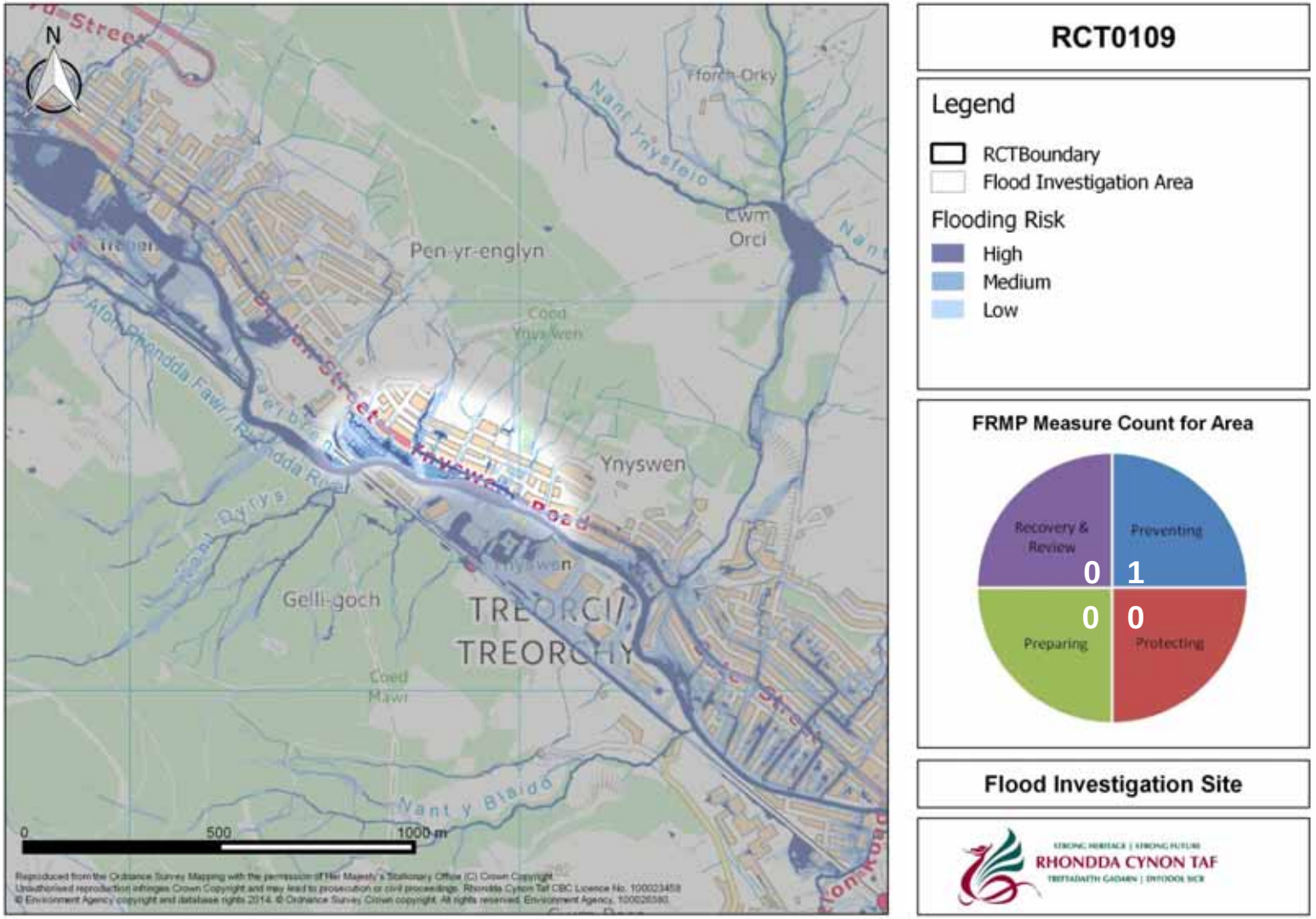
The draft Flood Risk Management Plan for the Severn River Basin District has proposed measures for the flood risk from main rivers that may provide an opportunity for collaborative working. The table below provides an excerpt from the Severn River Basin draft Flood Risk Management Plan.

Summary of Natural Wales Resources ongoing and proposed measures within Flood Investigation Area RCT0109

Location	Source	Measures	Measure Type	Link to SRBD FRMP objective*	Timing	Priority	Measure Status	Responsible Authority
Treorchy	Main River	Undertake initial assessment and feasibility work for reducing flood risk	M3 – Protection	1, 2	Current	Very High	Not Started Proposed	Natural Resources Wales
		Update Hydraulic Model	M3 – Protection	3	Current	Very High	On-going	Natural Resources Wales

*This FRMP objective link is specific to the Severn River Basin District Flood Risk Management Plan

uFMfSW for RCT0109



Flood Investigation Area - RCT0110

Flood Investigation Area RCT0110 is situated within the community area of Tylorstown. The flood risk posed to the area is likely to be attributed to surface runoff. A low to high risk is identified in the area of Edmondes Street.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a poor correlation between reported flooding incidents to the highway and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

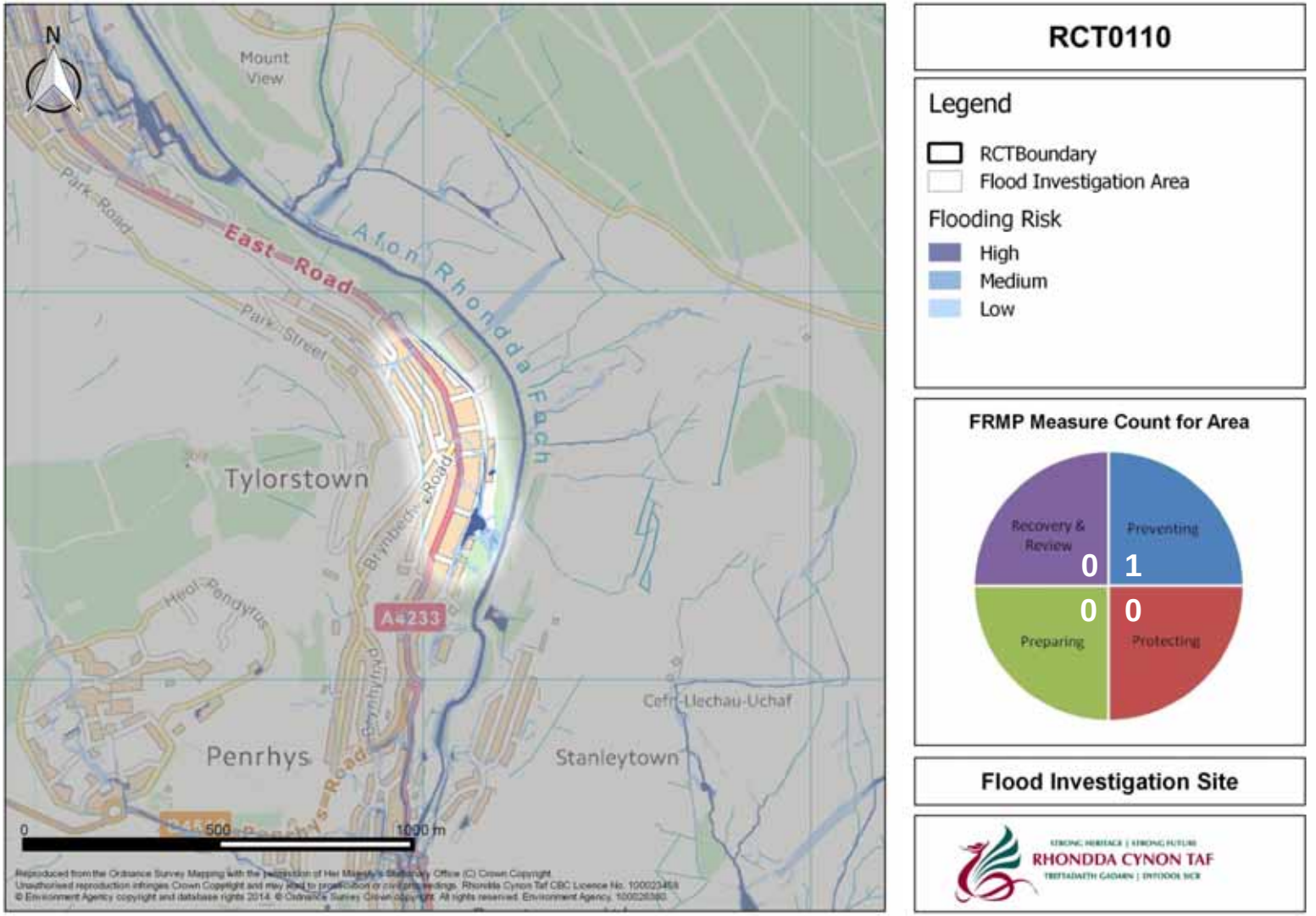
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0110

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	909	5	9	85
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	45	0	0	1
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	1			
Highway	4			

Flood Risk Management Plan Measures for RCT0110

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0110	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0110



Flood Investigation Area - RCT0111

Flood Investigation Area RCT0111 is situated within the community area of Tylorstown and the flood risk is considered to be attributed to surface runoff. Due to the more sporadic nature of the residential development, flooding is noted to cascade through the centre area, notably in the area adjacent to Heol Mair and Heol Dyfed.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

No flood incidents indentified within the area relate to property flooding; however, there is a good correlation between recorded flooding to the highway and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

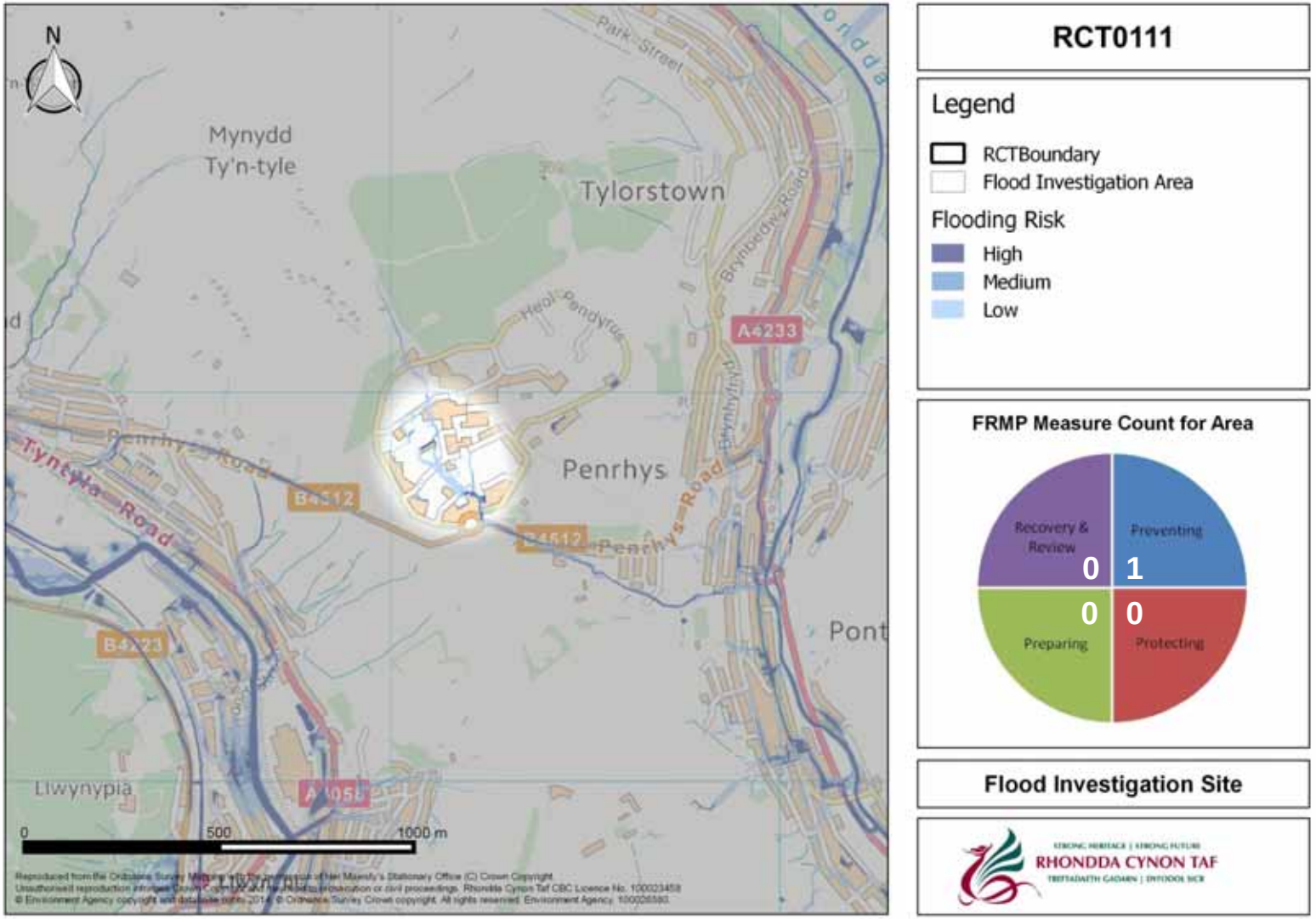
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0111

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	360	14	2	49
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	22	1	0	2
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	5			

Flood Risk Management Plan Measures for RCT0111

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0111	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0111



Flood Investigation Area - RCT0112

Flood Investigation Area RCT0112 is situated within the community area of Tylorstown and the flood risk is considered to be sourced from the interaction between surface runoff in the north and a culvert inlet on the unnamed watercourse in the south of the site. The two sources flood risk merges along a section of Llewellyn Street.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a poor correlation between flood incidents relating to property and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

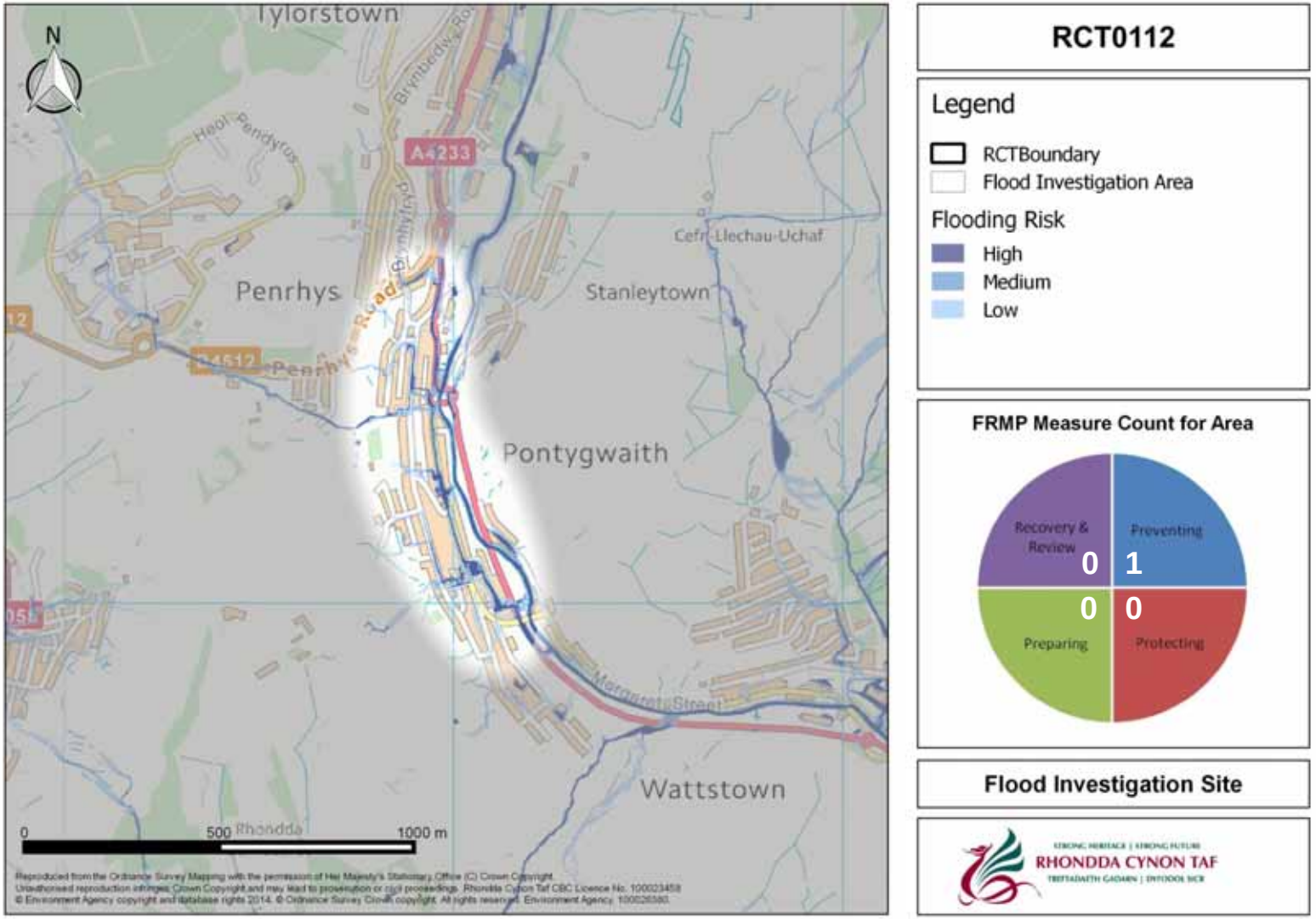
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0112

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1671	115	61	244
Services	2	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	66	4	1	2
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	9			
Highway	1			

Flood Risk Management Plan Measures for RCT0112

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0112	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0112



Flood Investigation Area - RCT0113

Flood Investigation Area RCT0113 is situated within the community area of Tyn-y-nant and the flood risk is considered to be sourced from surface runoff. A low to high risk is identified at Pleasant View, Forest Road and Fairview.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between the location of reported flooding incidents to highways and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

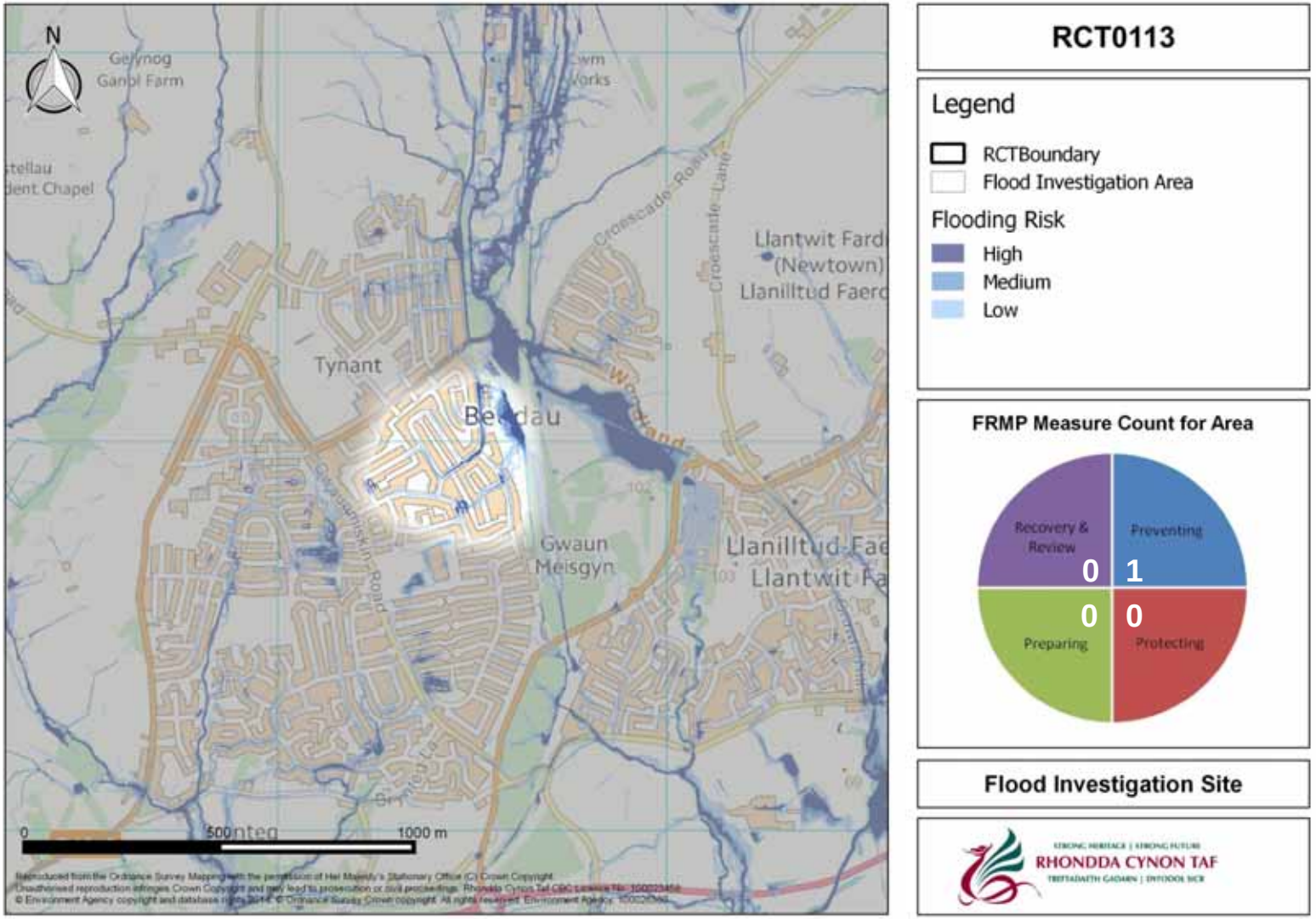
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0113

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	933	26	12	94
Services	2	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	16	0	0	0
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	4			

Flood Risk Management Plan Measures for RCT0113

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0113	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0113



Flood Investigation Area - RCT0114

Flood Investigation Area RCT0114 is situated within the community areas of Tyn-y-nant and Beddau. The flood risk presented within the uFMfSW is considered to be sourced from surface runoff. The highest risk is noted in the area of Caldwell Close and Camperly Close and the area surrounding Byron Avenue and Manor Chase.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a poor correlation between reported incidents of external flooding and the uFMfSW; however, the once instance of highway flooding is consistent with the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

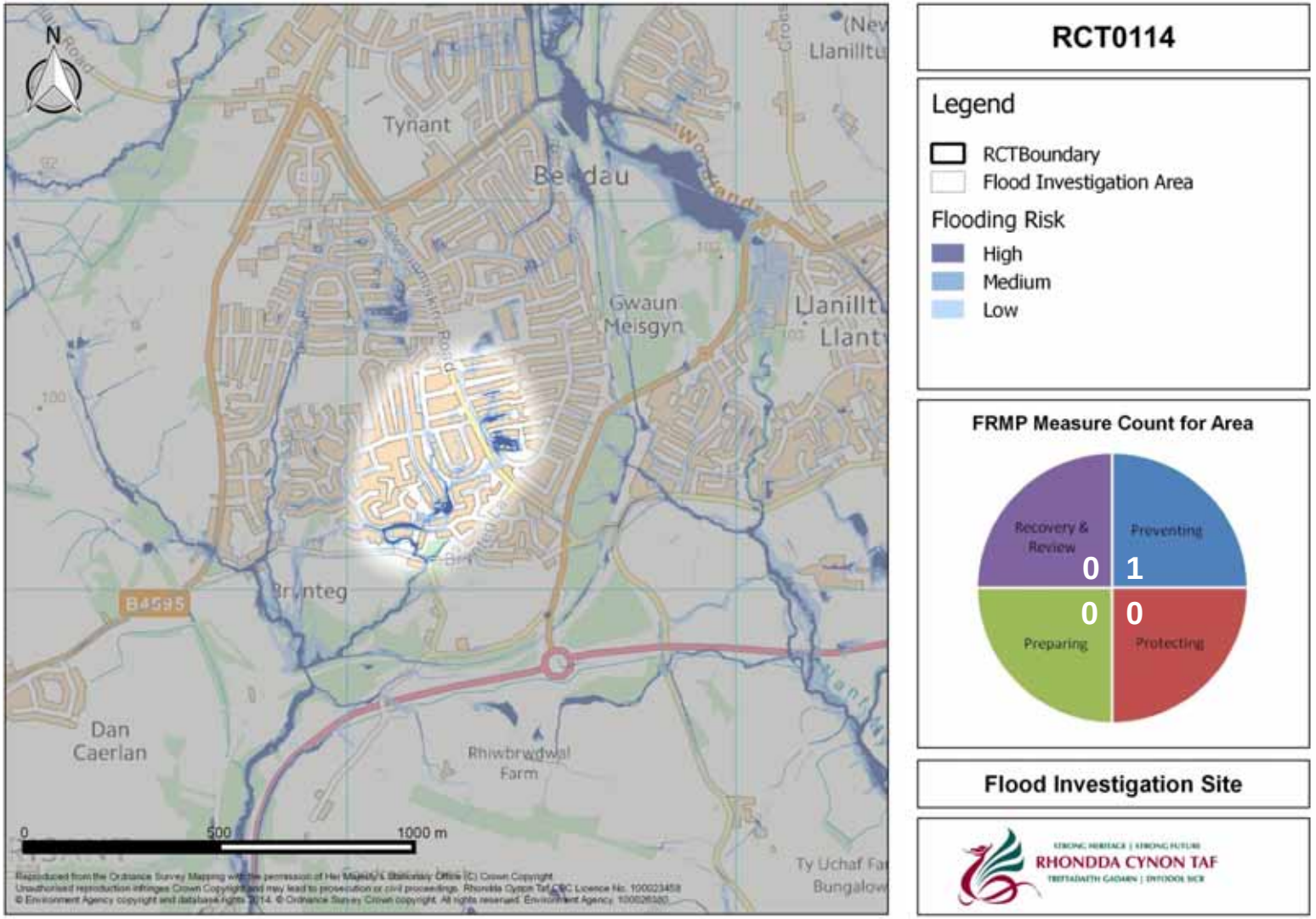
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0114

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1213	31	26	139
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	18	0	1	3
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	1			
Highway	1			

Flood Risk Management Plan Measures for RCT0114

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0114	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0114



Flood Investigation Area - RCT0115

Flood Investigation Area RCT0115 is situated within the community areas of Tyn-y-nant and Beddau and the flood risk is considered to be sourced from surface water through the area, with a contribution from a culvert inlet of an unnamed ordinary watercourse in the east of the site.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a very poor correlation between flood incidents to the highway and the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

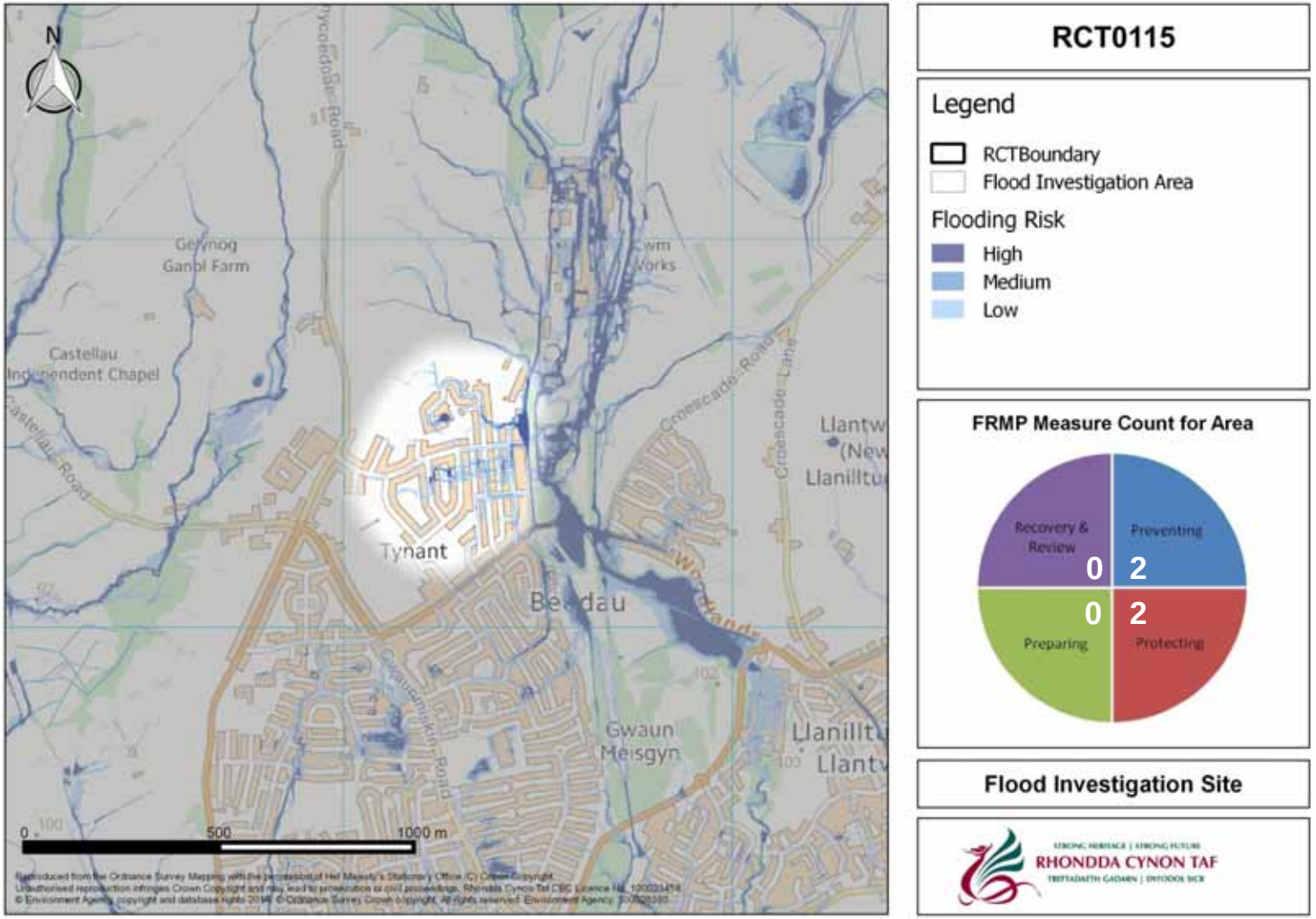
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0115

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	912	14	45	143
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	25	0	0	3
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	4			
Highway	4			

Flood Risk Management Plan Measures for RCT0115

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0115	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0115



Flood Investigation Area - RCT0116

Flood Investigation Area RCT0116 is situated within the community areas of Llantwit Fardre and Tyn-y-nant. The flood risk observed within the area is likely attributed to a culvert inlet on the Nant Myddlyn (main river). The flow path is noted to flow south and present a low risk of flooding to the residential area of Llantwit Fardre.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There are no reported flood incidents within the Flood Investigation Area.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0116

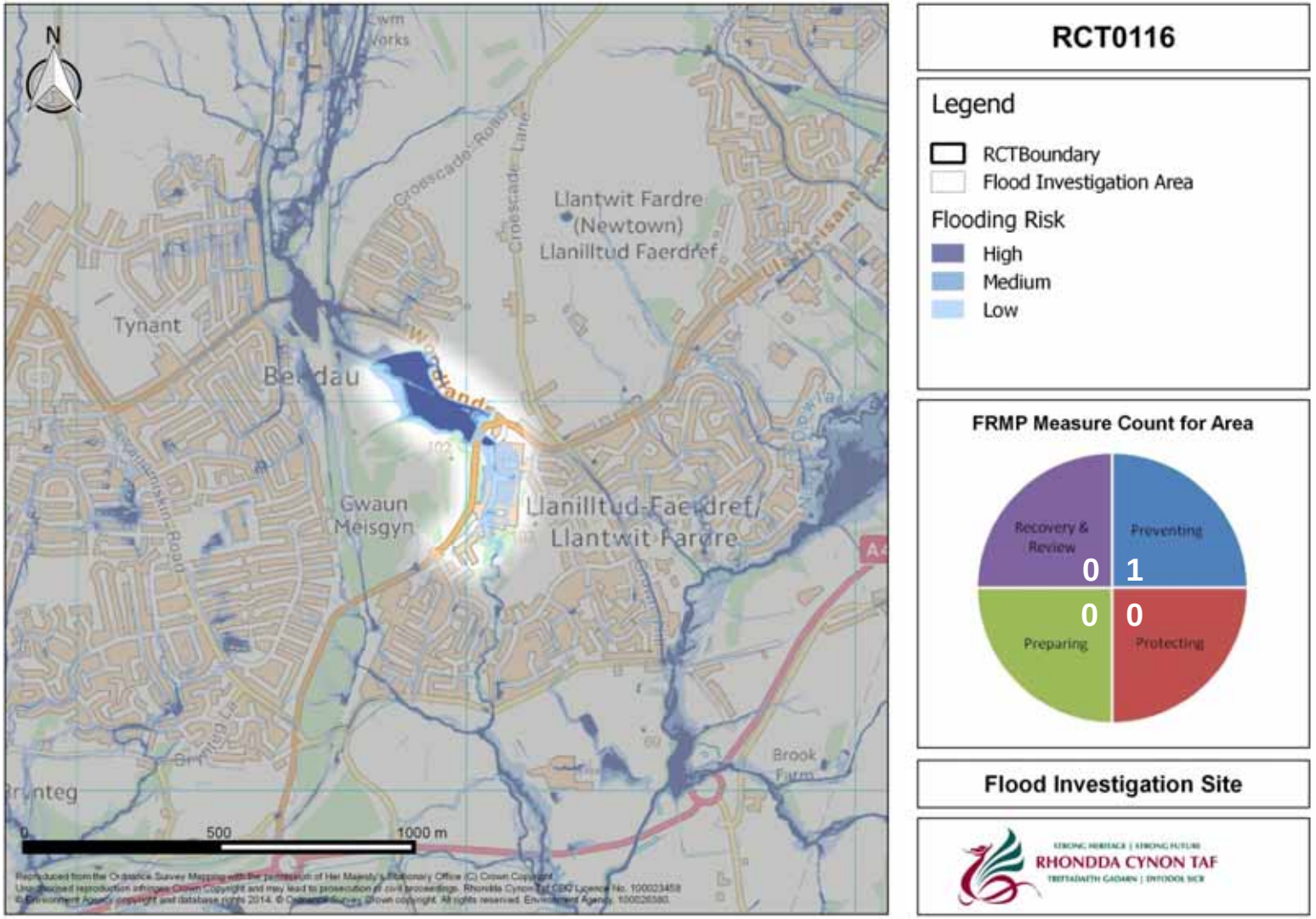
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	228	0	0	132
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	7	0	0	4
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	0			

Flood Risk Management Plan Measures for RCT0116

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0116	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0116



Flood Investigation Area - RCT0117

Flood Investigation Area RCT0117 is situated within the community area of Ynyshir and the flood risk is considered to be sourced from a combination of surface water and ordinary watercourse. The highest flood risk is noted in the south of the area and is likely attributed to a culvert inlet on an unnamed watercourse. There is also the potential for interaction between main river and local sources of flood risk at the valley floor.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a poor correlation between reported flood incidents to property and the highway and the risk presented within the uFMfSW.
Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0117

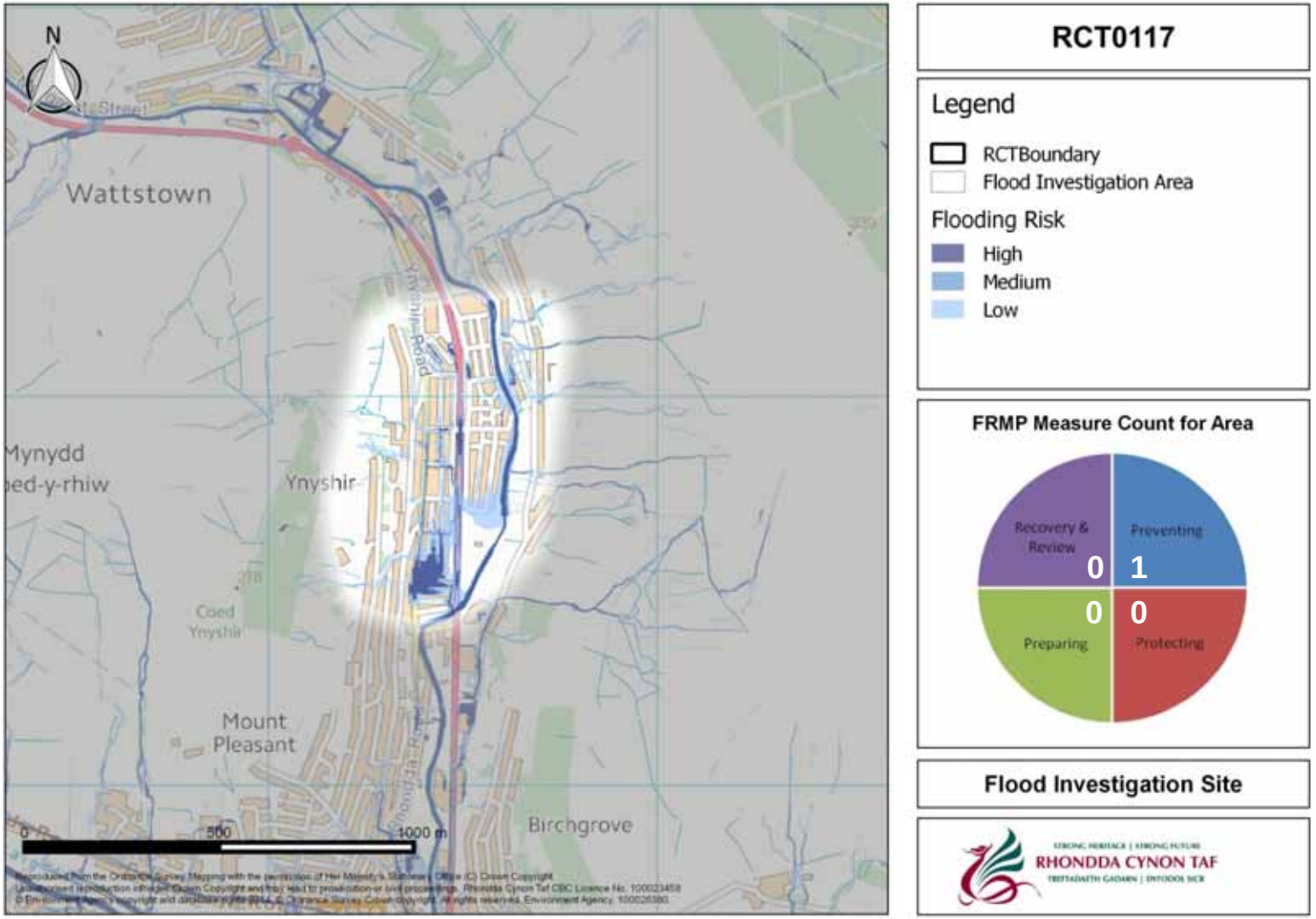
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	2059	150	78	411
Services	2	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	111	5	3	23
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	3			
External	7			
Highway	7			

Flood Risk Management Plan Measures for RCT0117

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0117	Local / Main River	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0117



Flood Investigation Area - RCT0118

Flood Investigation Area RCT0118 is situated within the community areas of Glyncoch and Ynysybwl and the flood risk is likely attributable to surface water flooding. The flood risk is noted across the area with noted high risk along Cefn Lane and Ashgrove.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a very good correlation between external flooding to property reported to the council and the risk presented within the uFMfSW. The correlation between the uFMfSW and highway flooding and internal flooding is poor.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

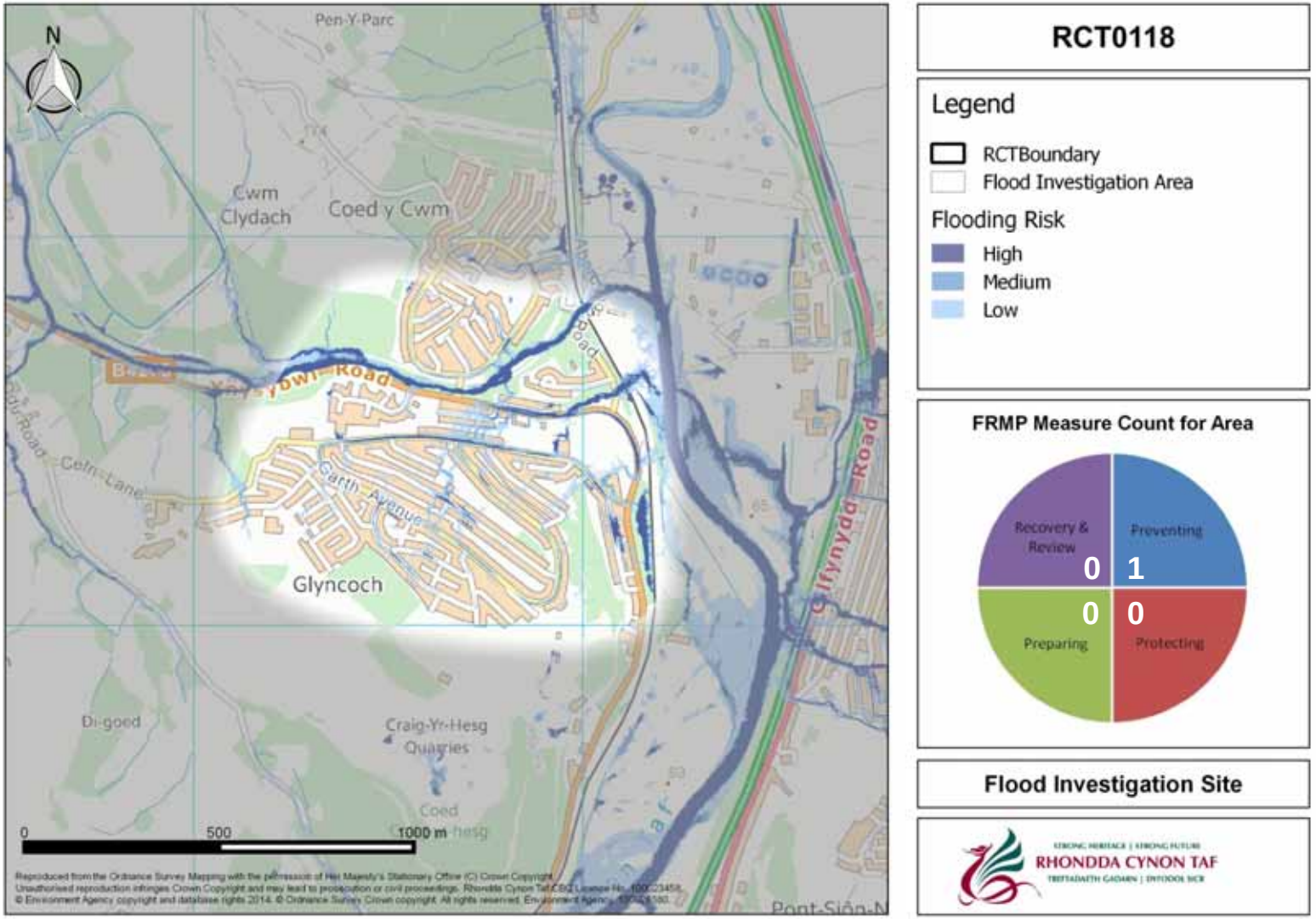
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0118

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	3922	14	33	409
Services	3	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	65	2	2	8
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.02	0.02	0.1
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	4	4	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	2			
External	7			
Highway	9			

Flood Risk Management Plan Measures for RCT0118

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0118	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0118



Flood Investigation Area - RCT0119

Flood Investigation Area RCT0119 is situated within the community area of Ynysybwl and the flood risk is considered to be sourced from surface runoff, a culvert inlet within ordinary watercourse and main river. The highest risk is associated with a culvert inlet in the centre of the Flood Investigation Area.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between flooding incidents to external property and the highway and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

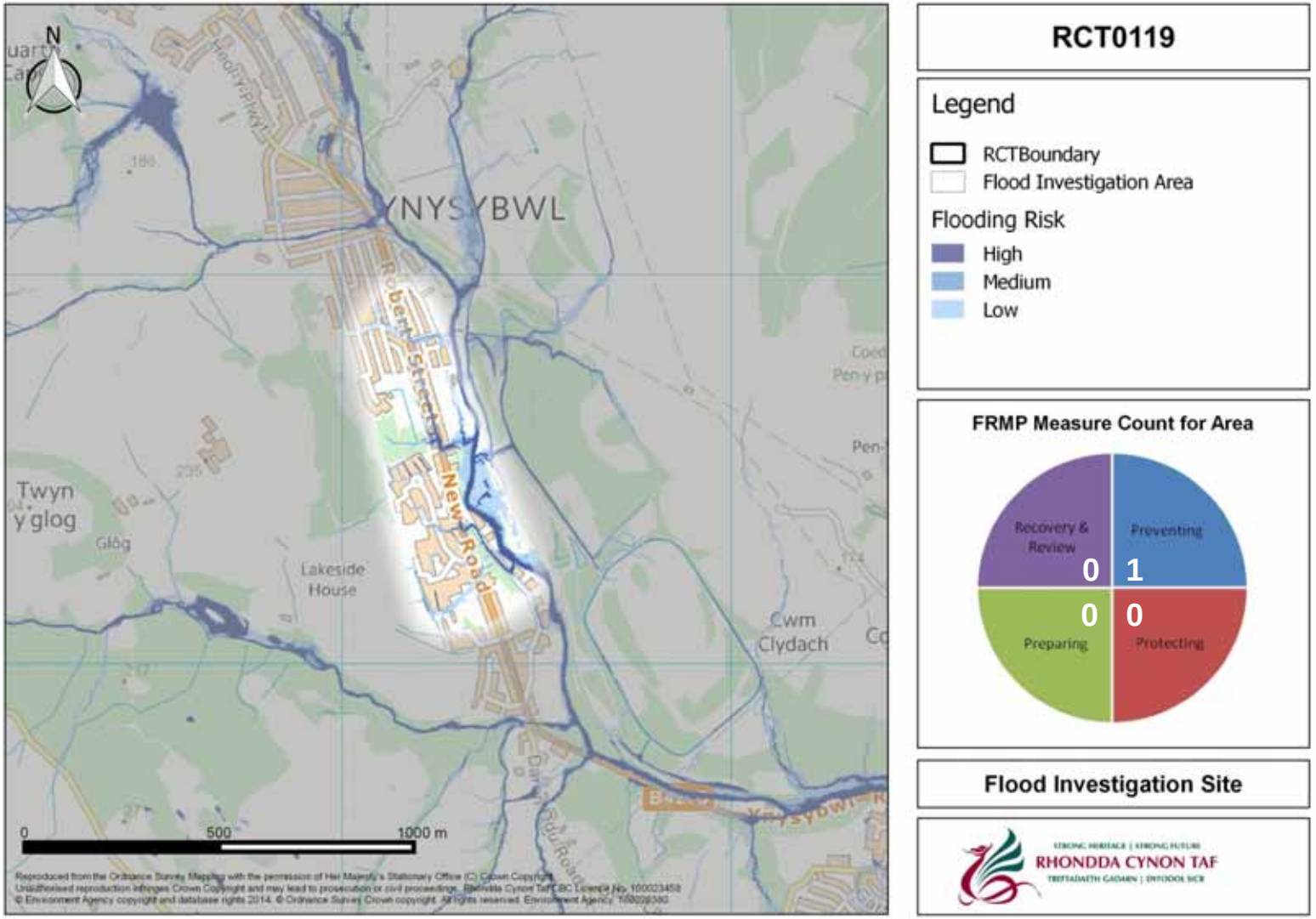
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0119

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1074	16	12	120
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	63	0	0	7
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	8			
Highway	18			

Flood Risk Management Plan Measures for RCT0119

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0119	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0119



Flood Investigation Area - RCT0120

Flood Investigation Area RCT0120 is situated within the community area of Ynysybwl and the flood risk is considered to be sourced from surface runoff and Main River. A low to high risk is identified along Clydach Terrace and Other Street, along the base of the valley.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a poor correlation between the reported flood incidents and the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0120

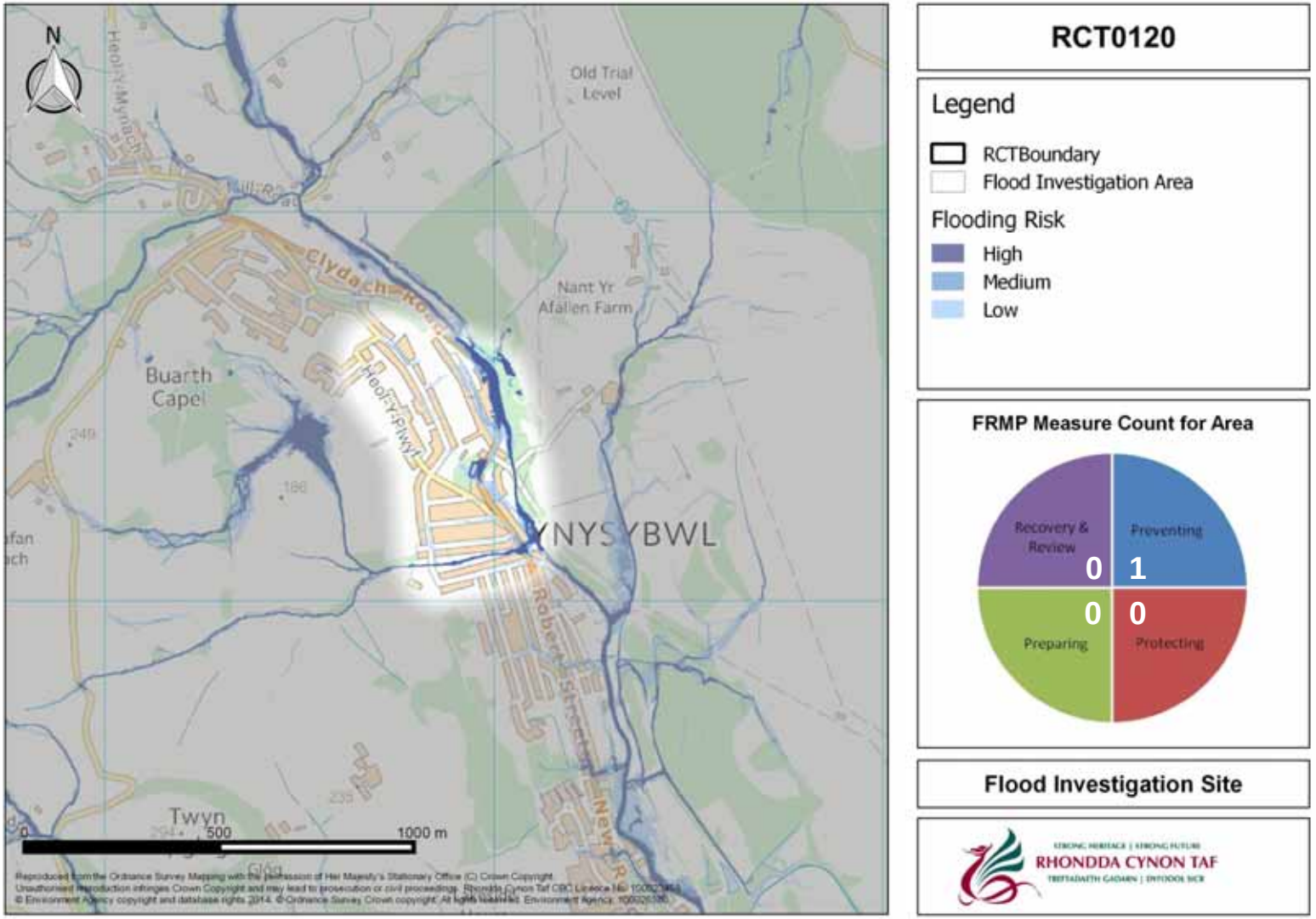
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1121	54	9	82
Services	3	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	68	1	1	7
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	1			
Highway	15			

Flood Risk Management Plan Measures for RCT0120

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0120	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0120



Flood Investigation Area - RCT0121

Flood Investigation Area RCT0121 is situated within the community areas of Ystrad and Pentre and the flood risk is considered to be sourced from culvert inlets within two unnamed watercourse, surface runoff and Main River. A high risk of flooding is noted to be sourced from the ordinary watercourse in the west of the area, posing a risk to the areas surrounding sections of Bronllwyn, Stanley Road, Rees Street and Smith Street. In the lower elevations, it is considered that the flood risk oberserved is the result of the interaction between main river and surface water flooding.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is generally a good correlation between the flood incidents reported to the authority and the risk posed within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0121

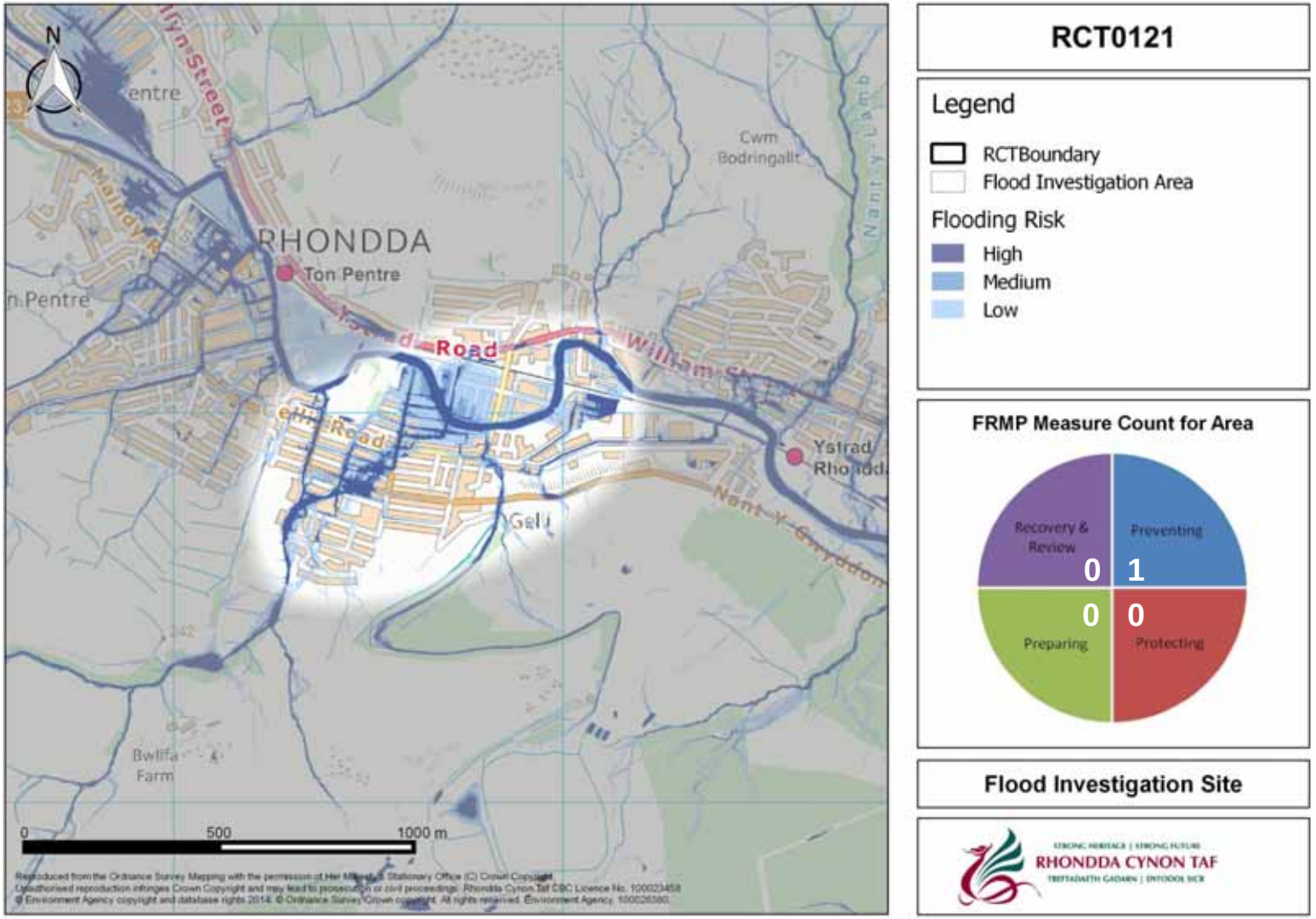
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	2869	310	226	686
Services	3	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	131	6	5	33
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	1	0.02	0.01	0.1
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	3			
External	13			
Highway	36			

Flood Risk Management Plan Measures for RCT0121

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0121	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0121



Flood Investigation Area - RCT0122

Flood Investigation Area RCT0122 is situated within the community are of Ystrad and the flood risk is considered to be sourced from a combination of both surface runoff and culvert inlets. A low to high risk is noted in the area surrounding the junction between Trafalgar Road and Gelligaled Road and also sections of Penrhys Road.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between the reported flood incidents to external property and the risk presented in the uFMfSW. There is a reasonable correlation with the uFMfSW and reported flooding to highways.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

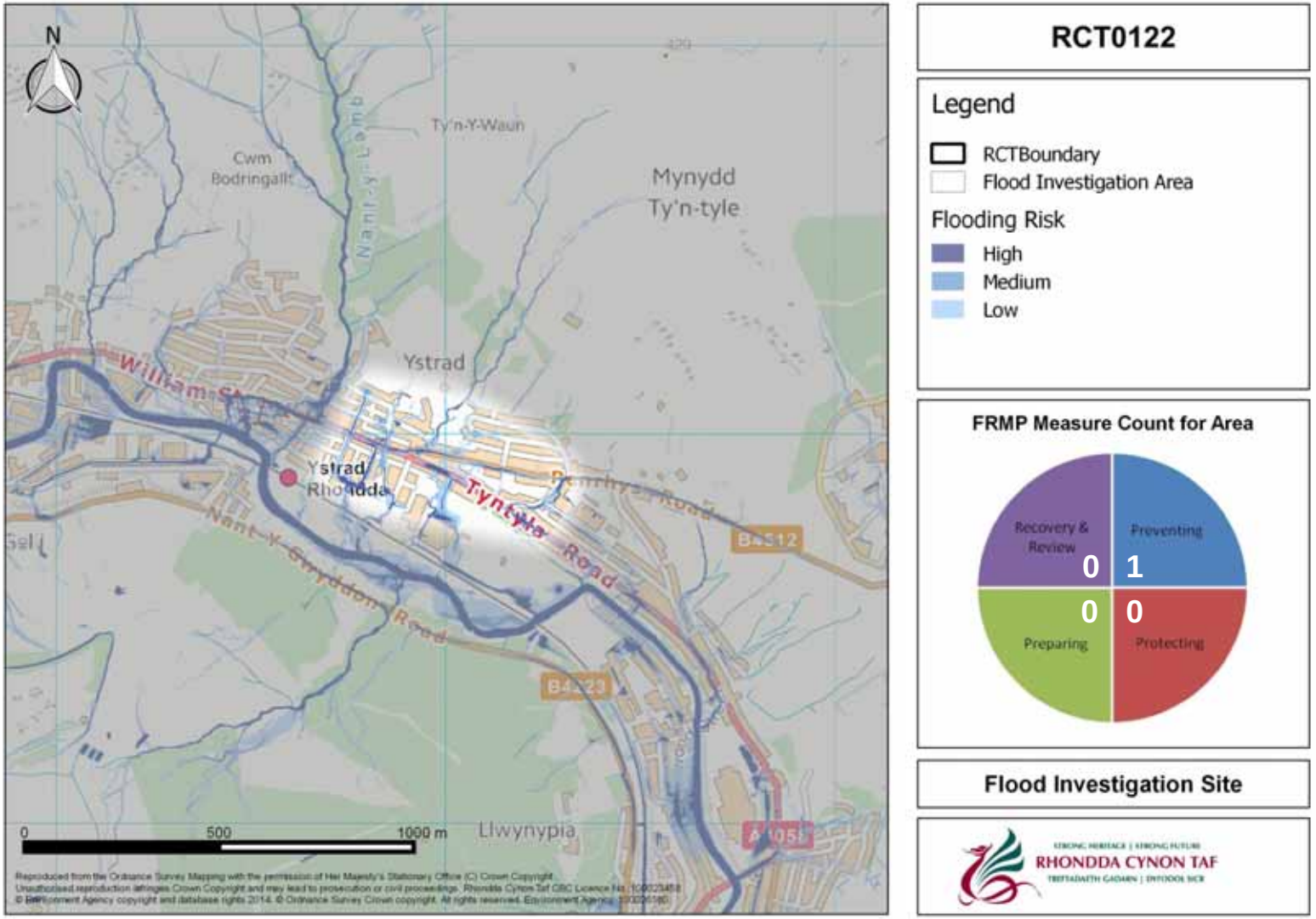
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0122

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1032	38	14	134
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	69	2	4	7
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	1
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	4			
Highway	5			

Flood Risk Management Plan Measures for RCT0122

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0122	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0122



Flood Investigation Area - RCT0123

Flood Investigation Area RCT0123 is situated within the community area of Ystrad and the flood risk is anticipated to be attributed to culvert inlets within the Nant y Lamb in the east and an unnamed ordinary watercourse in the west and the interaction with main river flooding in the lower elevations of the valley floor. is considered to be sourced from Surface Runoff and Main River. A low to high risk is identified in the area of Williams Street, to the north of the confluence between the Nant y lamb and the Afon Rhondda.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between reported flood incidents to the highway and the risk presented within the uFMfSW. The one instance of external flooding reported to the authority has a poor correlation with the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0123

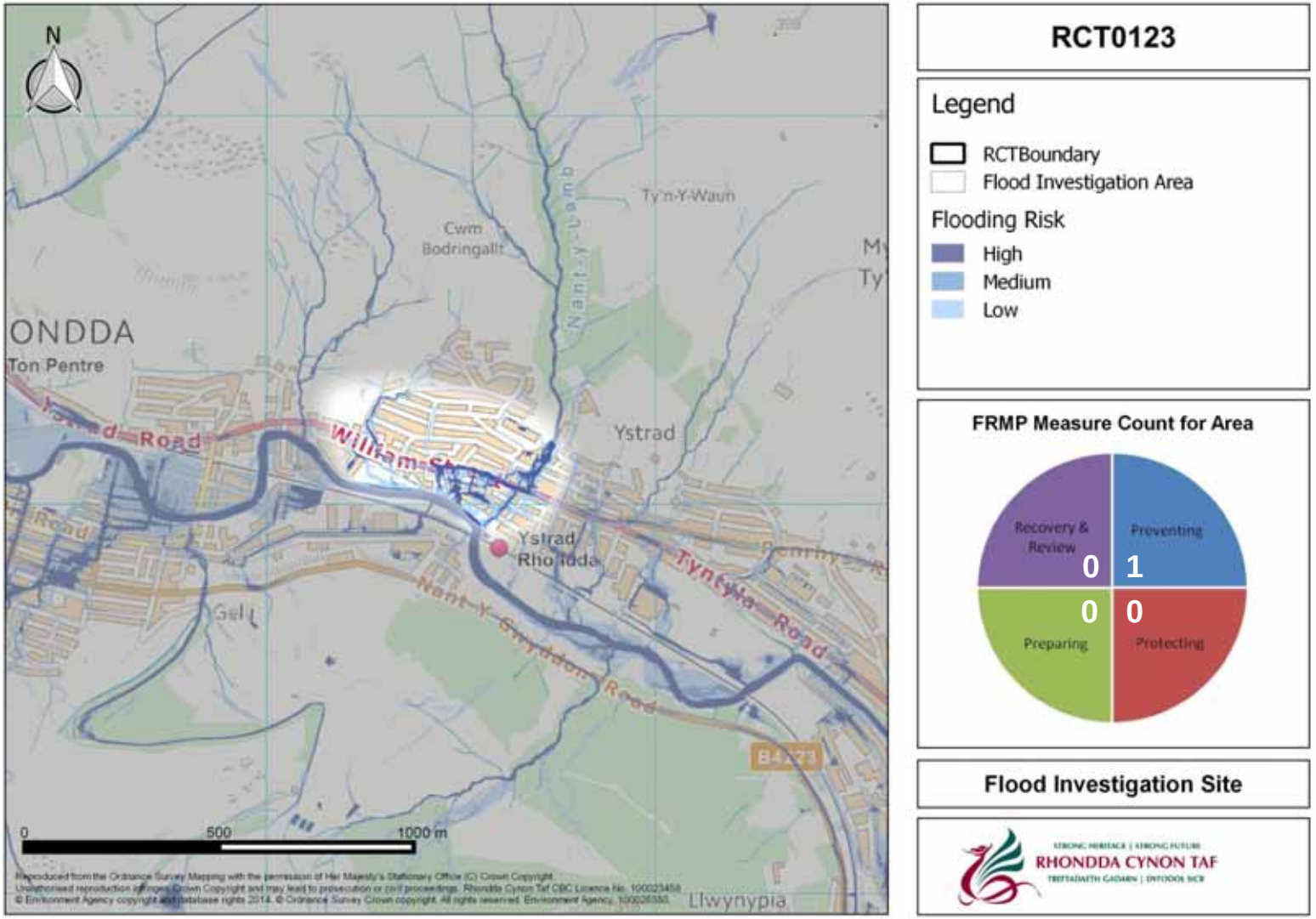
Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1072	87	136	165
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	54	8	4	5
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	0			
Highway	6			

Flood Risk Management Plan Measures for RCT0123

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0123	Local / Main River*	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC / Natural Resources Wales

*Natural Resources Wales are responsible for flooding from Main River. Further consideration of the interaction of Surface Water Flooding and Main River Flooding sources is required to understand the flood extents and sources.

uFMfSW for RCT0123



Flood Investigation Area - RCT0124

Flood Investigation Area RCT0124 is situated within the community area of Taffs Well. The flood risk is anticipated to be sourced from surface runoff. A flood risk is posed to the A470, notably at the Nantgarw roundabout, and in the surrounding area of Cardiff Road.

It is anticipated that the flood risk to the A470 is exacerbated by the culvert inlets of the Nant Garw, where is passes under the road.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

The is a poor correlation between property flooding reported to the authority and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

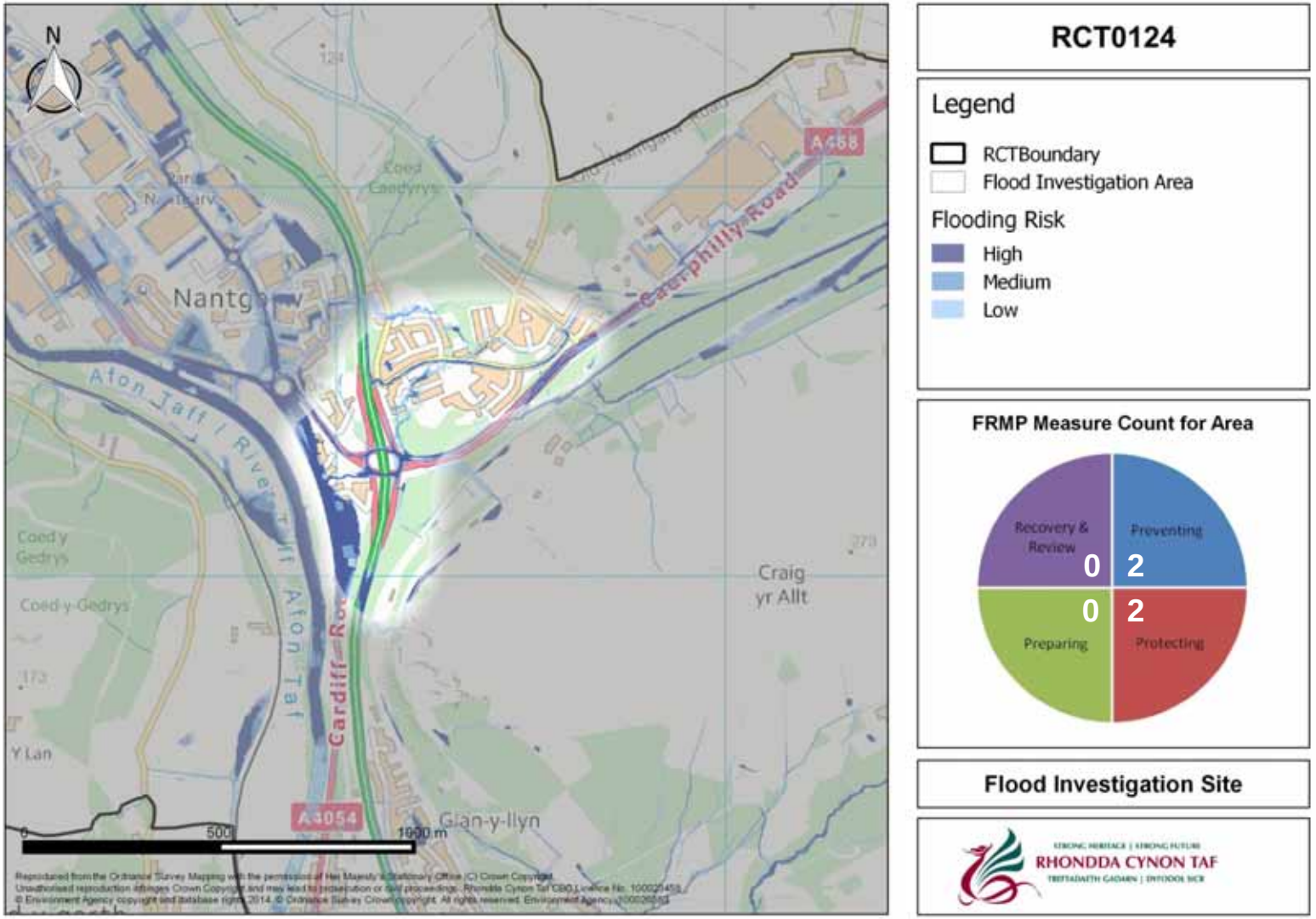
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0124

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	552	16	5	52
Services	2	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	34	12	2	0
Airports	0	0	0	0
Roads (km)	8	0.2	0.07	0.2
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0.2	0	0	0
Listed Buildings	2	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	3			
External	5			
Highway	6			

Flood Risk Management Plan Measures for RCT0124

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0124	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0124



Flood Investigation Area - RCT0125

Flood Investigation Area RCT0125 is situated within the community area of Treforest and the flood risk is considered to be sourced from the culvert inlets of two unnamed ordinary watercourse. The uFMfSW are noted to pose a low to high flood risk through Glyntaff crematorium.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There are no historic flood incidents with the Flood Investigation Area.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

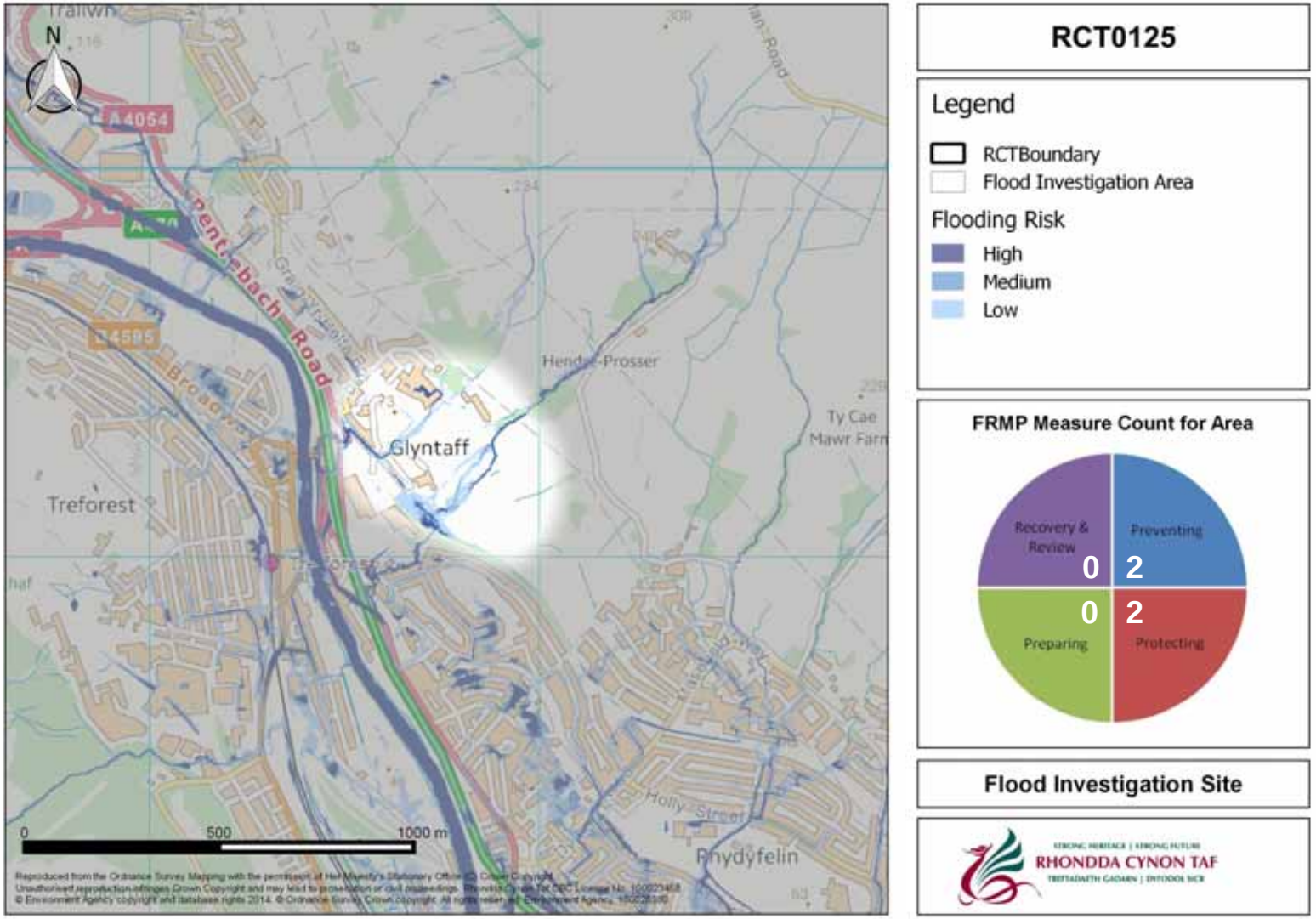
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0125

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	73	0	0	16
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	32	1	1	4
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	0			

Flood Risk Management Plan Measures for RCT0125

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0125	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0125



Flood Investigation Area - RCT0126

Flood Investigation Area RCT0126 is situated within the community area of Aberdare West/Llwycoed and the flood risk is considered to be sourced from an ordinary watercourse. A low to high risk is identified along the lower section of Bwllfa Road, across residential development.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between historic flooding incidents reported to the authority and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

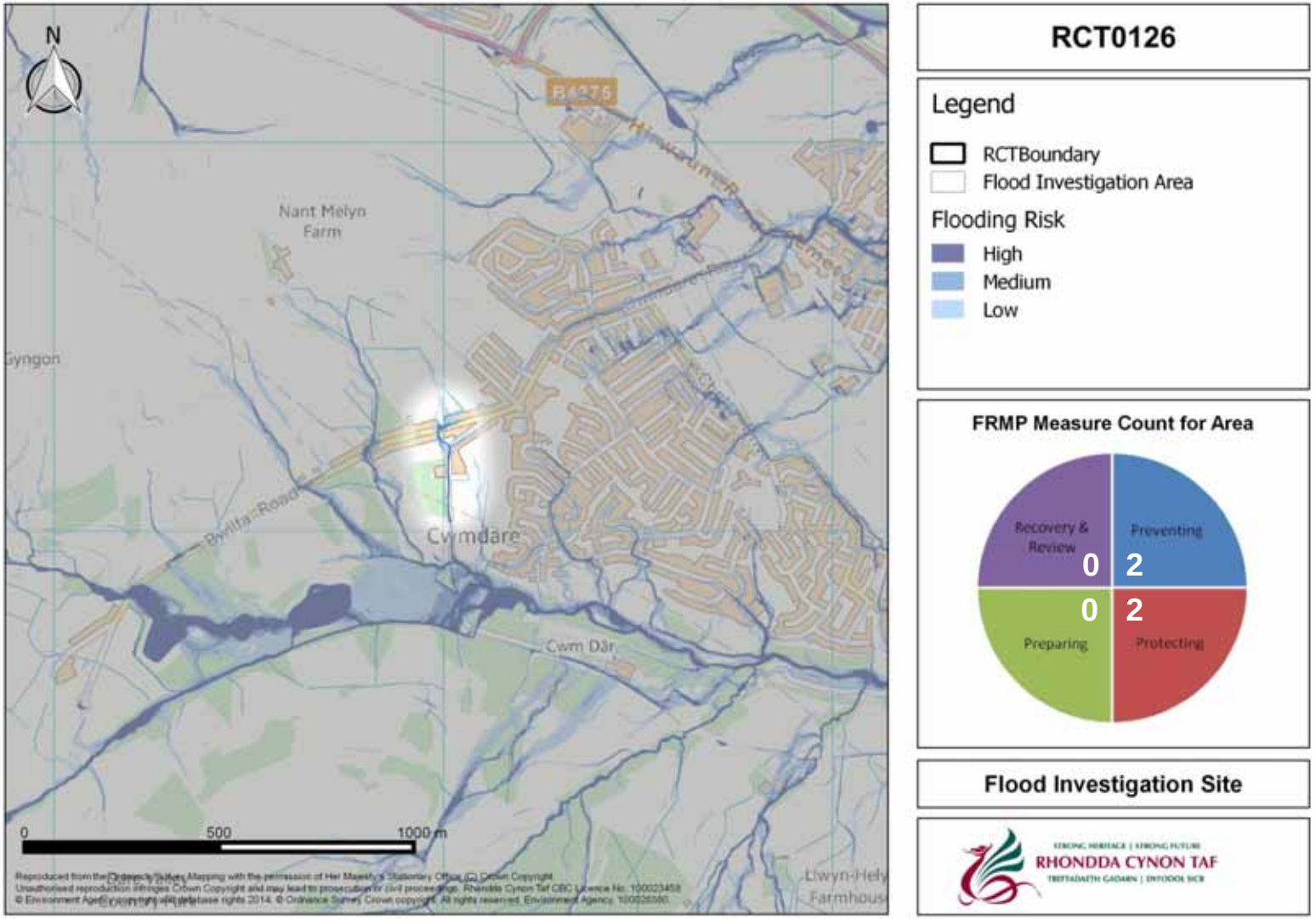
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0126

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	143	0	5	28
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	10	0	0	1
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	1			
Highway	1			

Flood Risk Management Plan Measures for RCT0126

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0126	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Ongoing	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Ongoing	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Ongoing	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Ongoing	RCTCBC

uFMfSW for RCT0126



Flood Investigation Area - RCT0127

Flood Investigation Area RCT0127 is situated within the community area of Aberdare West/Llwydcoed and the flood risk is considered to be sourced from ordinary watercourse. A low to high risk is identified along the central section of Bwllfa Road.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There are no reported flood incidents within the Flood Investigation Area.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

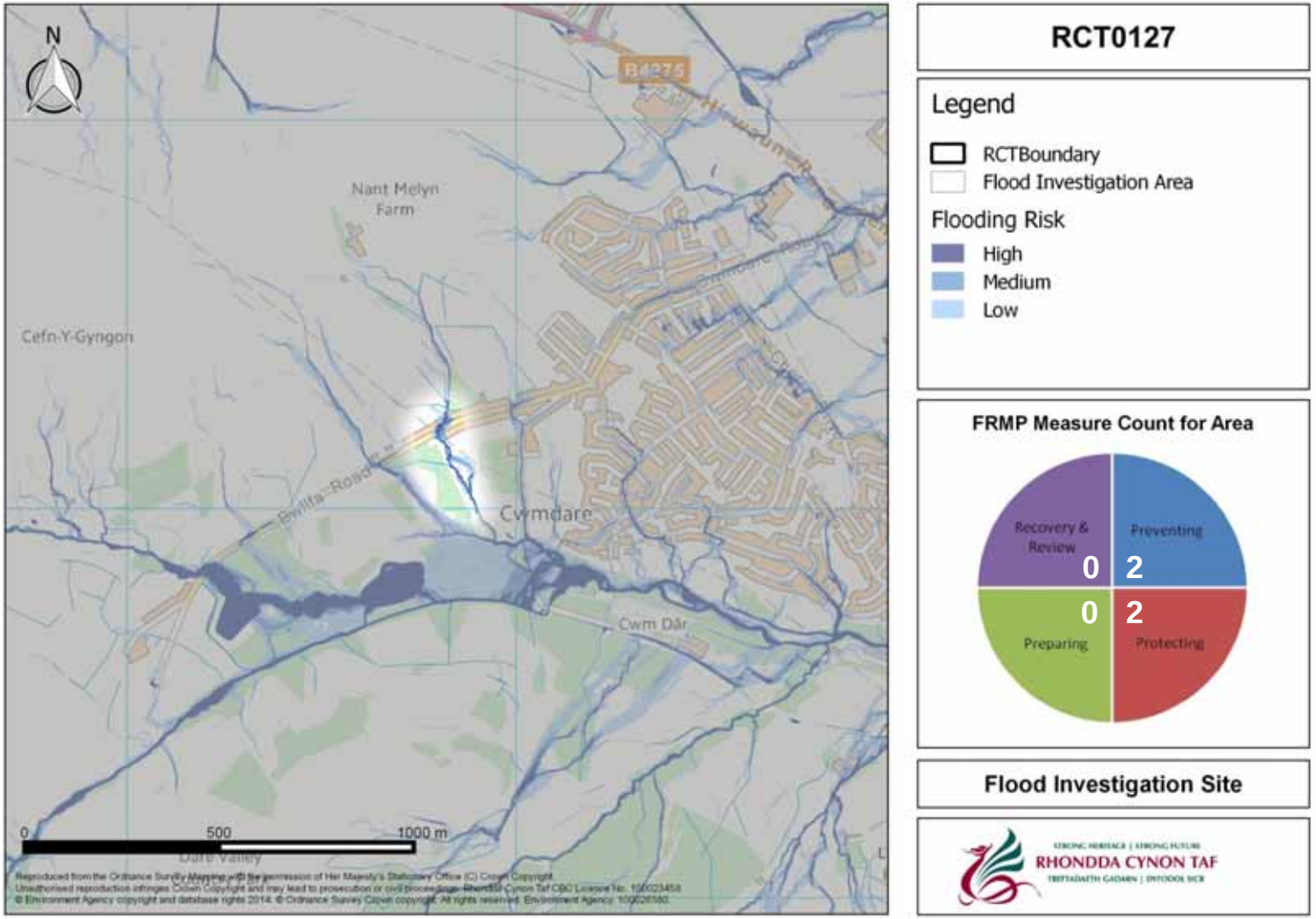
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0127

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	75	5	14	2
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	2	1	0	0
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	0			

Flood Risk Management Plan Measures for RCT0127

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0127	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Ongoing	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Ongoing	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Ongoing	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Ongoing	RCTCBC

uFMfSW for RCT0127



Flood Investigation Area - RCT0128

Flood Investigation Area RCT0128 is situated within the community area of Cwmbach and is considered to be sourced from a surface water flooding and a culvert inlet on an unnamed watercourse. A low to high risk is identified to the east of Parkfield Road. A high risk of flooding is also at the junction between Cwmbach Road and Canal Road.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between flood incidents reported to the authority and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

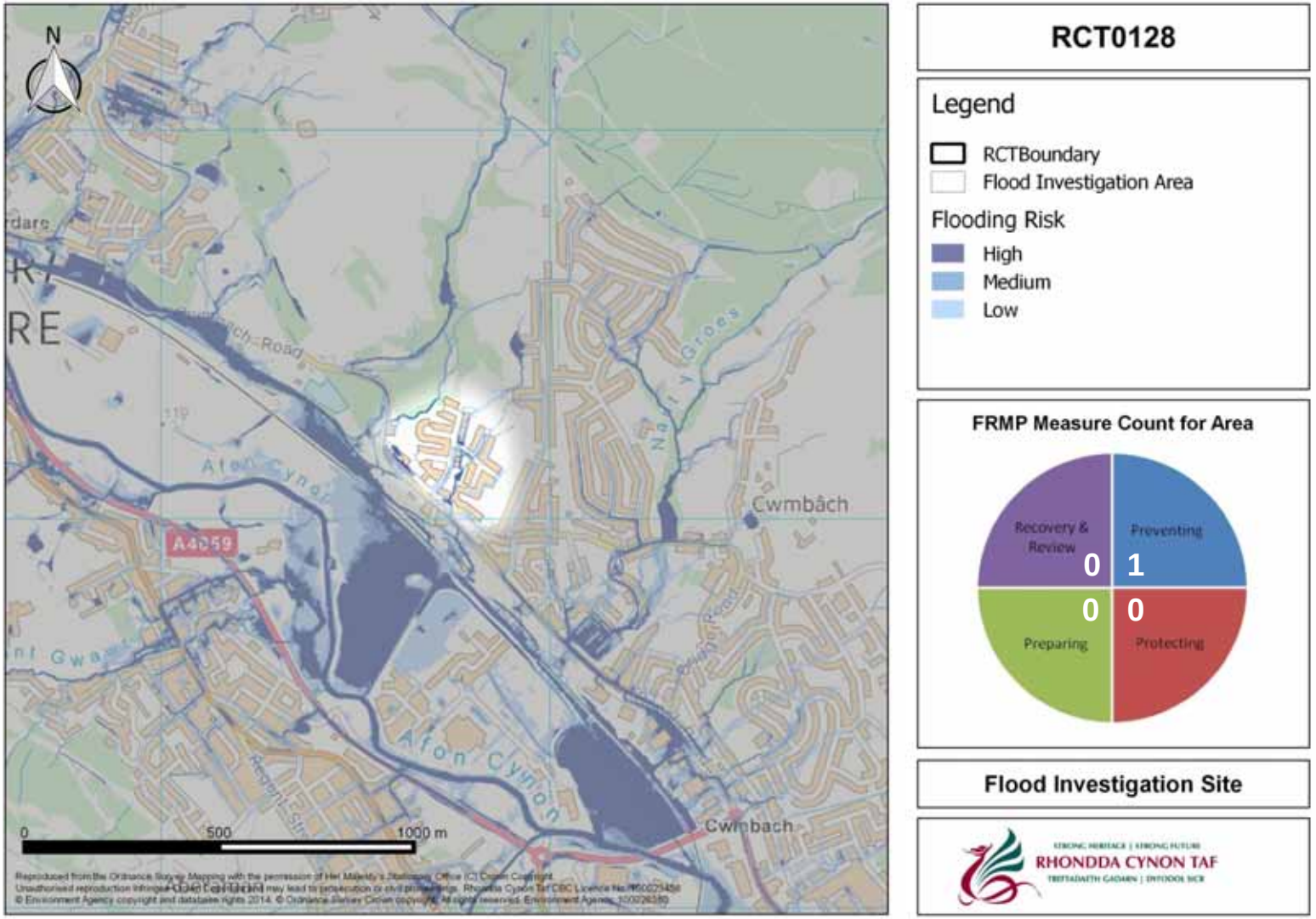
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0128

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	221	19	5	40
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	7	0	0	1
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0		0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	2			

Flood Risk Management Plan Measures for RCT0128

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0128	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0128



Flood Investigation Area - RCT0129

Flood Investigation Area RCT0129 is situated within the community area of Abercynon. The flood risk presented in the uFMfSW is considered to be sourced from surface runoff. A low to high risk is identified across the Ynysboeth Estate and the area surrounding Maes Y Ffynnon.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a poor correlation between the reported flood incidents to external properties and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

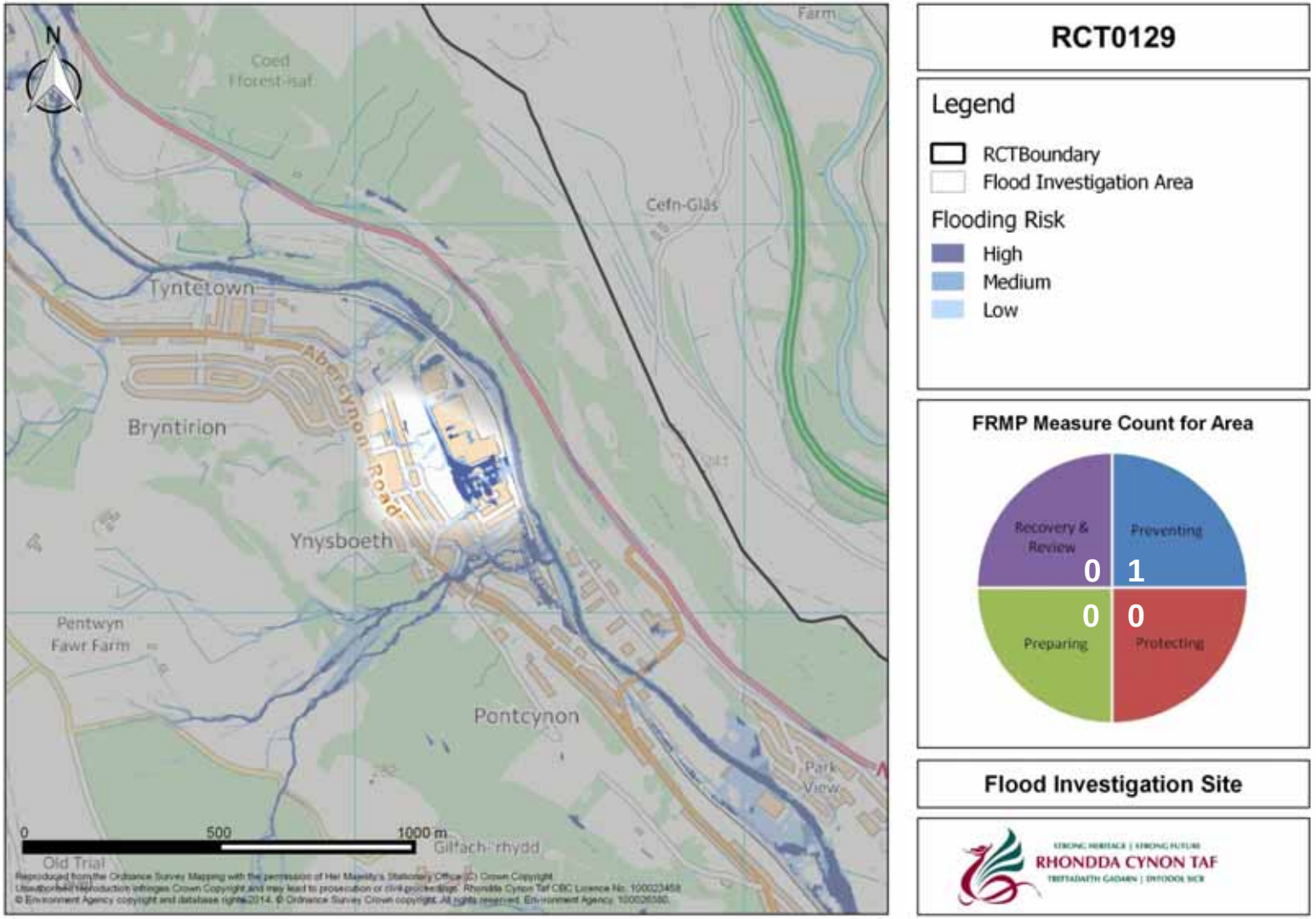
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0129

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	479	49	12	47
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	24	6	2	2
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0.1	0	0.001	0.05
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	1	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	2			
Highway	0			

Flood Risk Management Plan Measures for RCT0129

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0129	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0129



Flood Investigation Area - RCT0130

Flood Investigation Area RCT0130 is situated within the community area of Cilfynydd. The flood risk observed is likely attributed to the bank breach of the Nant Cae Dudwg and the culvert inlet located adjacent to Cilfynydd. A high flood risk is posed to properties adjacent to Cilfynydd Road and the A470.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a good correlation between reported flood incidents and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

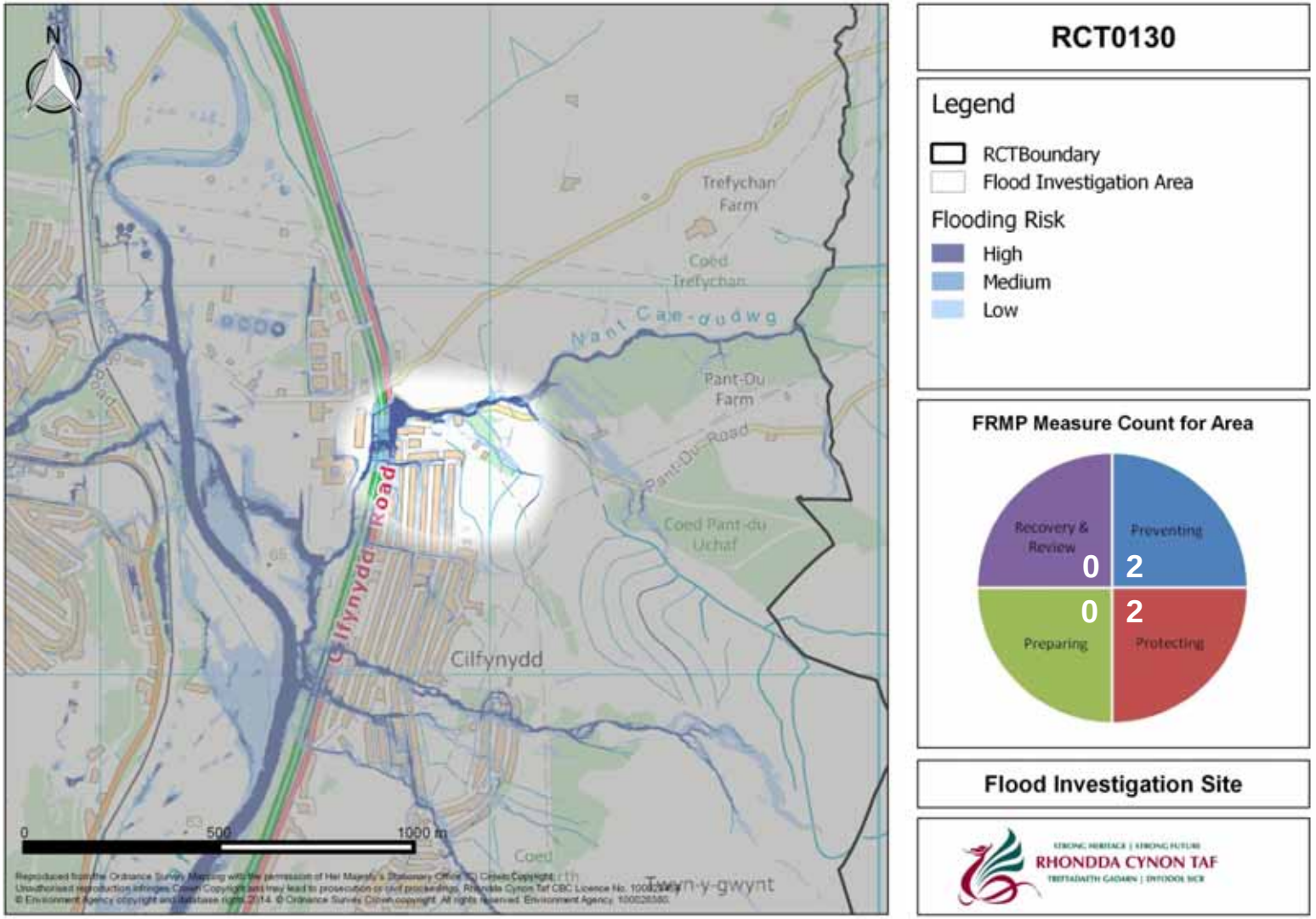
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0130

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	501	21	21	63
Services	1	1	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	26	3	0	3
Airports	0	0	0	0
Roads (km)	1	0.06	0.07	0.2
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	1	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	3			
Highway	2			

Flood Risk Management Plan Measures for RCT0130

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0130	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Completed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Completed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Completed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Completed	RCTCBC

uFMfSW for RCT0130



Flood Investigation Area - RCT0131

Flood Investigation Area RCT0131 is situated within the community area of Trallwng and the flood risk observed is considered to be sourced from surface runoff. A low to high risk of flooding is posed to properties adjacent to East Street, North Street, Middle Street and West Street.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a reasonable correlation between flood incidents reported to the authority and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

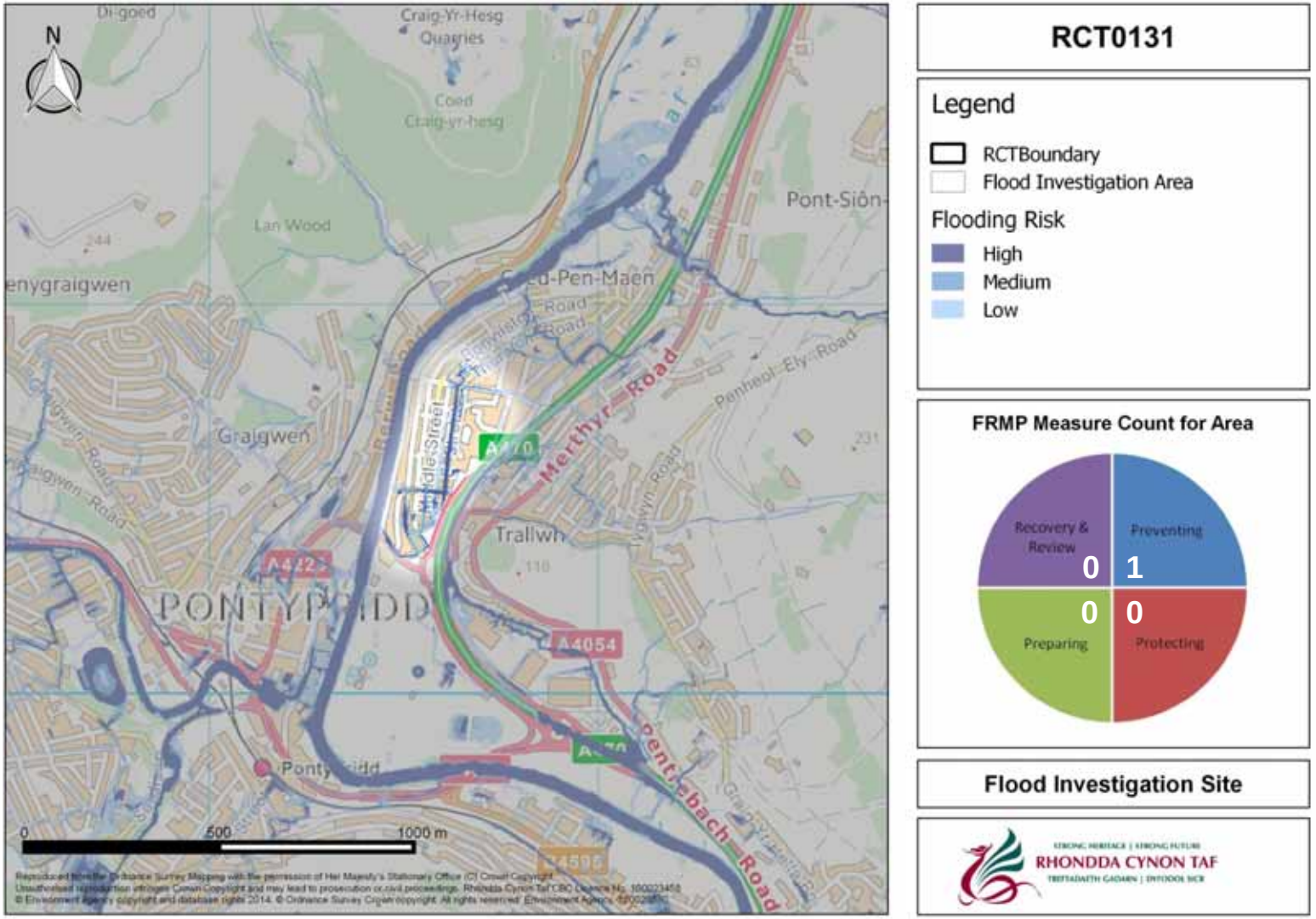
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0131

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1128	59	68	183
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	55	2	2	8
Airports	0	0	0	0
Roads (km)	0.09	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	4			
External	4			
Highway	3			

Flood Risk Management Plan Measures for RCT0131

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0131	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0131



Flood Investigation Area - RCT0132

Flood Investigation Area RCT0132 is situated within the community areas of Treforest, Rhydfelin and Hawthorn and the flood risk is considered to be sourced from surface runoff and an ordinary watercourse in the northwest of the site. A low to high risk is identified across much of the site, extending into Hawthorn and Treforest, along sections of Gwaun Road, Ebenezer Street and Llan Avenue.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There is a generally good correlation between reported flood incidents and the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

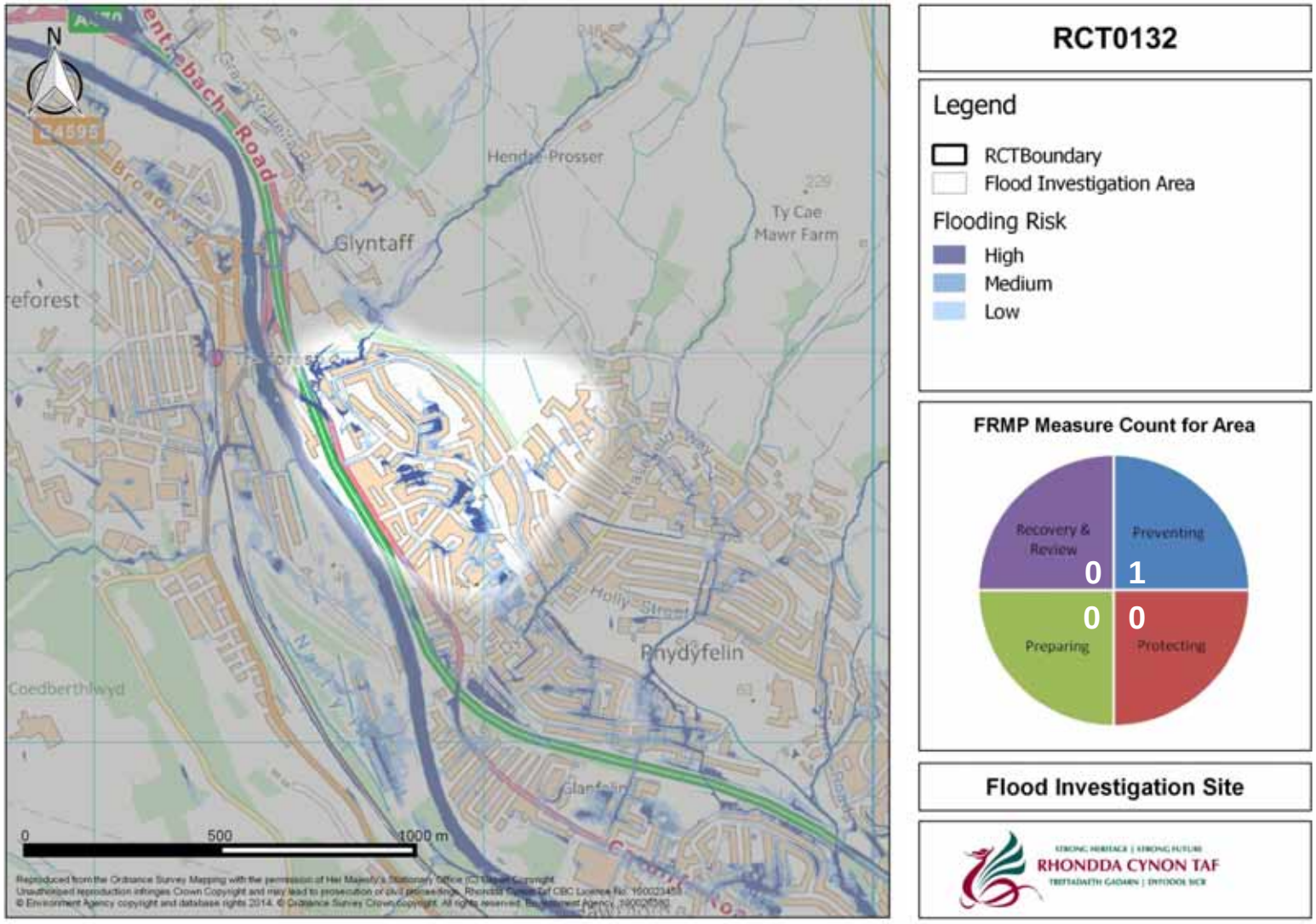
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0132

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	1734	71	24	186
Services	1	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	57	0	1	8
Airports	0	0	0	0
Roads (km)	1	0.04	0.03	0.05
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	2			
External	5			
Highway	4			

Flood Risk Management Plan Measures for RCT0132

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0132	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0132



Flood Investigation Area - RCT0133

Flood Investigation Area RCT0133 is situated within the community area of Treorchy. The flood risk presented within the uFMfSW is considered to be sourced from surface runoff. A low to high risk is noted adjacent to the highway network at locations such as Dumfries Street and Cemetery Road.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There are no reported flood incidents with the area.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

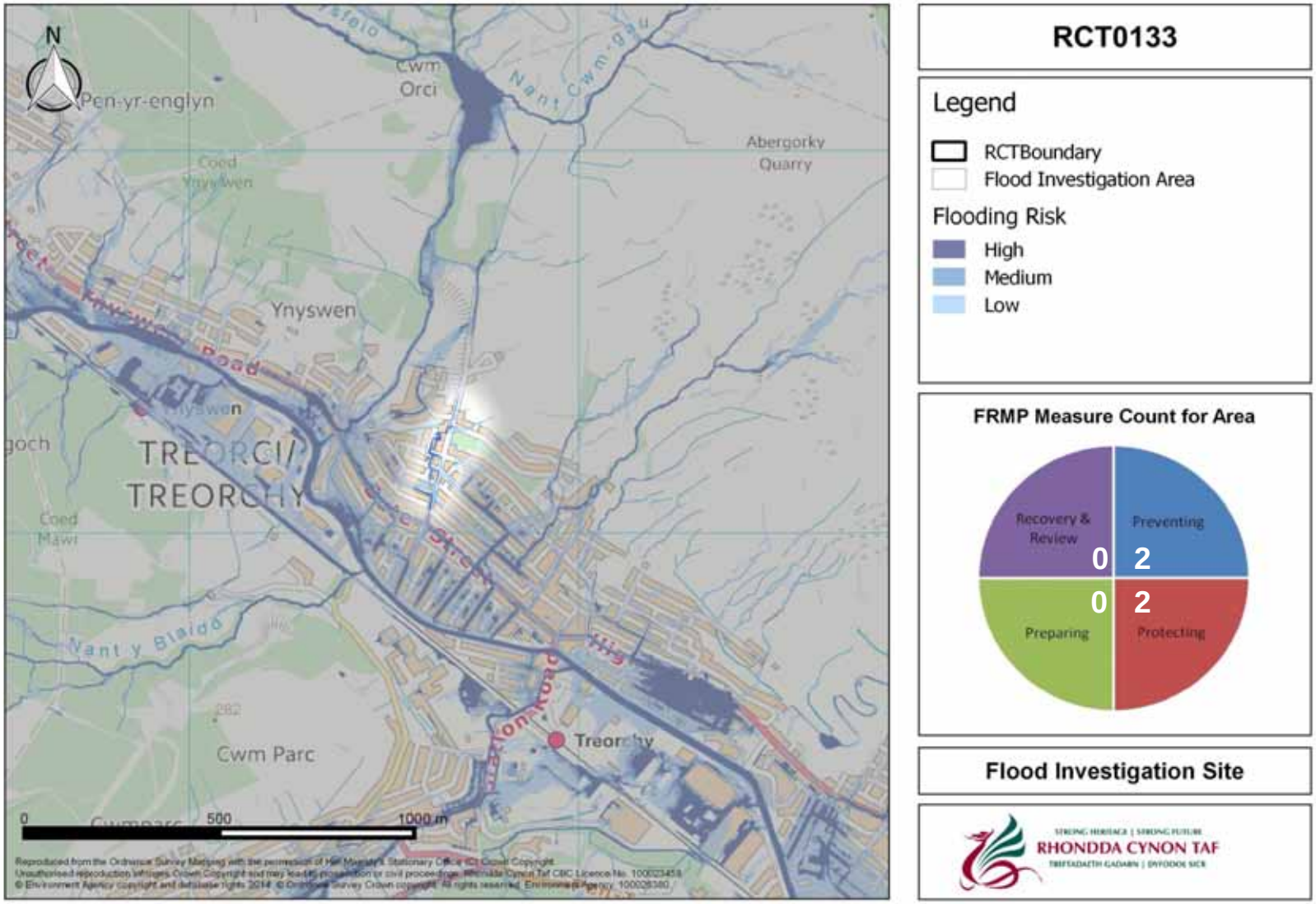
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0133

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	223	12	14	59
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	21	4	2	4
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	0			

Flood Risk Management Plan Measures for RCT0133

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0133	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC
		38	Flow Monitoring	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0133



Flood Investigation Area - RCT0134

Flood Investigation Area RCT0134 is situated within the community area of Treorchy. The flood risk presented within the uFMfSW is considered to be sourced from surface runoff. A low to high risk is noted adjacent to the highway network at locations such as Trevor Street and Stuart Street.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

There are no reported flood incidents with the area.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

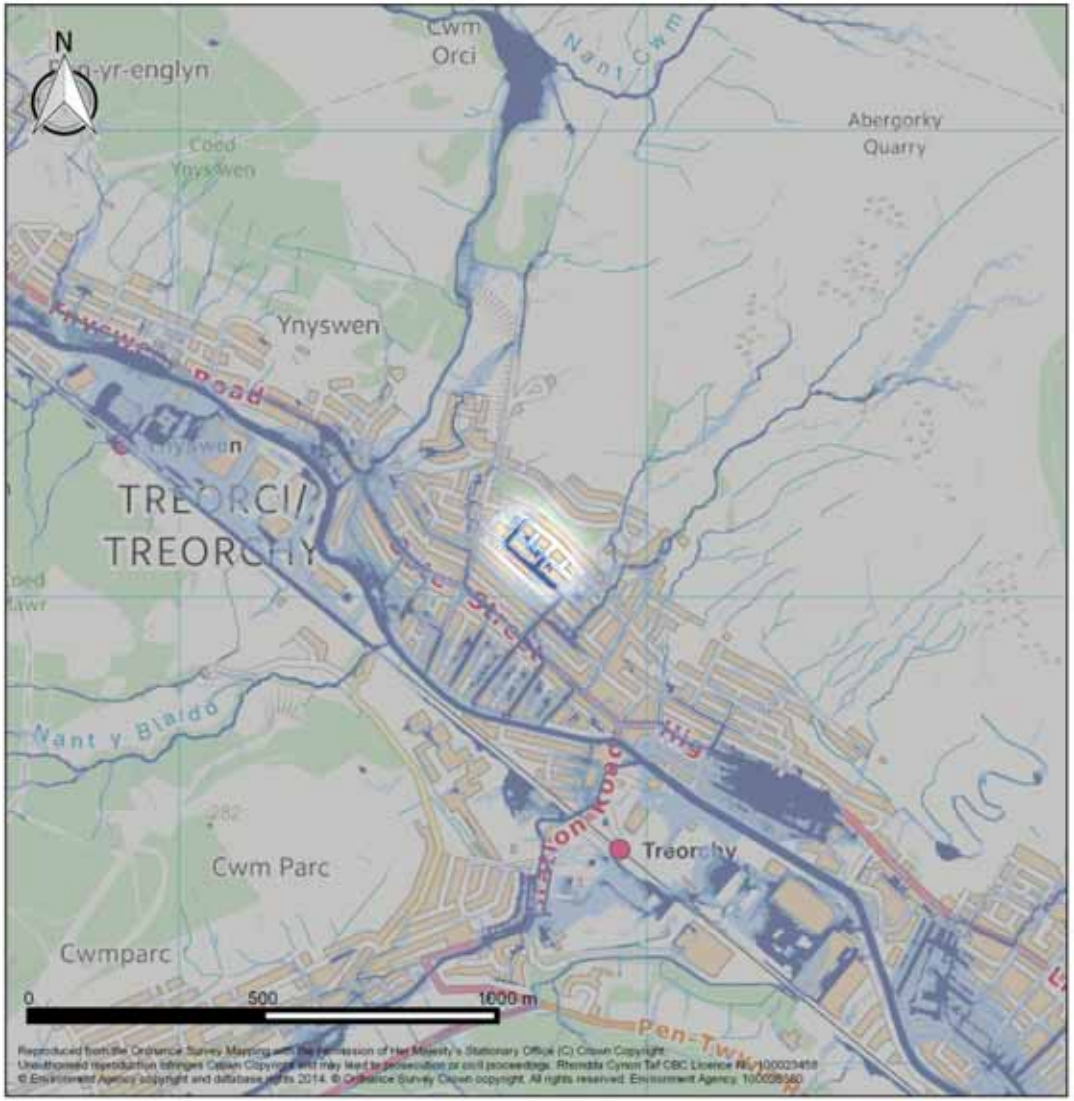
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0134

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	202	14	9	73
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	4	0	0	3
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	0			

Flood Risk Management Plan Measures for RCT0134

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0134	Local	24	Construction of Flood Defences	M33 (Protection)	2016-2021	Proposed	RCTCBC
		28	Pre-Feasibility Studies/Project Appraisal	M35 (Protection)	2016-2021	Proposed	RCTCBC
		30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0134



RCT0134

Legend

- RCTBoundary
- Flood Investigation Area

Flooding Risk

- High
- Medium
- Low

FRMP Measure Count for Area

Flood Investigation Site

Flood Investigation Area - RCT0135

Flood Investigation Area RCT0135 is situated within the community area of Ynysybwl. The flood risk presented within the uFMfSW is considered to be sourced from a culvert inlet within an unnamed watercourse. The flow path from the culvert inlet presents a flood risk to the areas surrounding Pen-y-Mynydd, Bryn Amur and Ffordd Y Bedol.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

The one reported incidents of highway flooding is not consistent with the flood risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

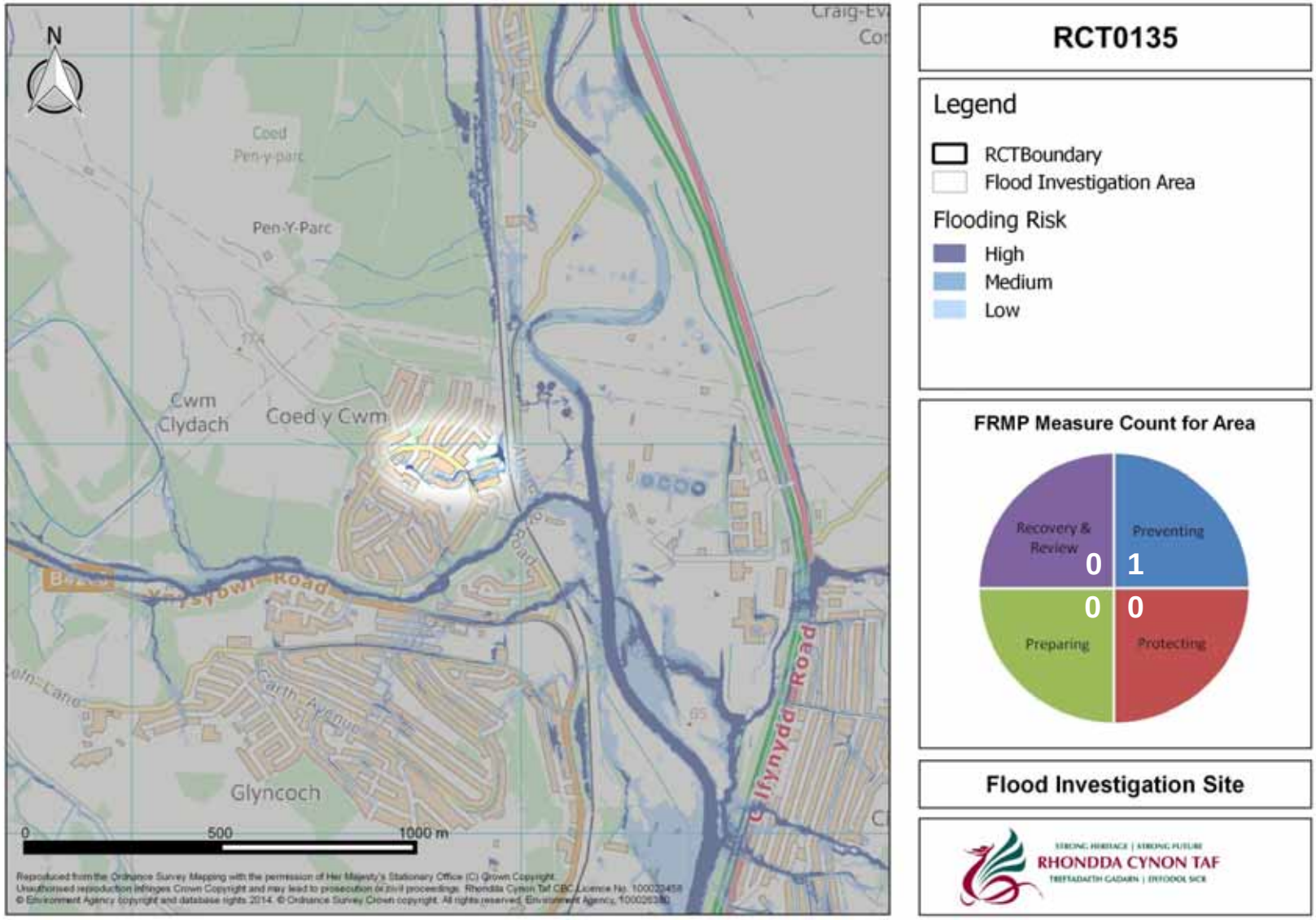
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0135

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	270	0	5	40
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	1	0	0	0
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	1			

Flood Risk Management Plan Measures for RCT0135

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0135	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0135



Flood Investigation Area - RCT0136

Flood Investigation Area RCT0136 is situated within the community area of Cwm Clydach. The flood risk presented within the uFMfSW is considered to be sourced from ordinary watercourse posing a low to high flood risk through Cambrian Industrial Park.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

The one reported incident of internal property flooding shows a good correlation with the risk presented within the uFMfSW.

Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

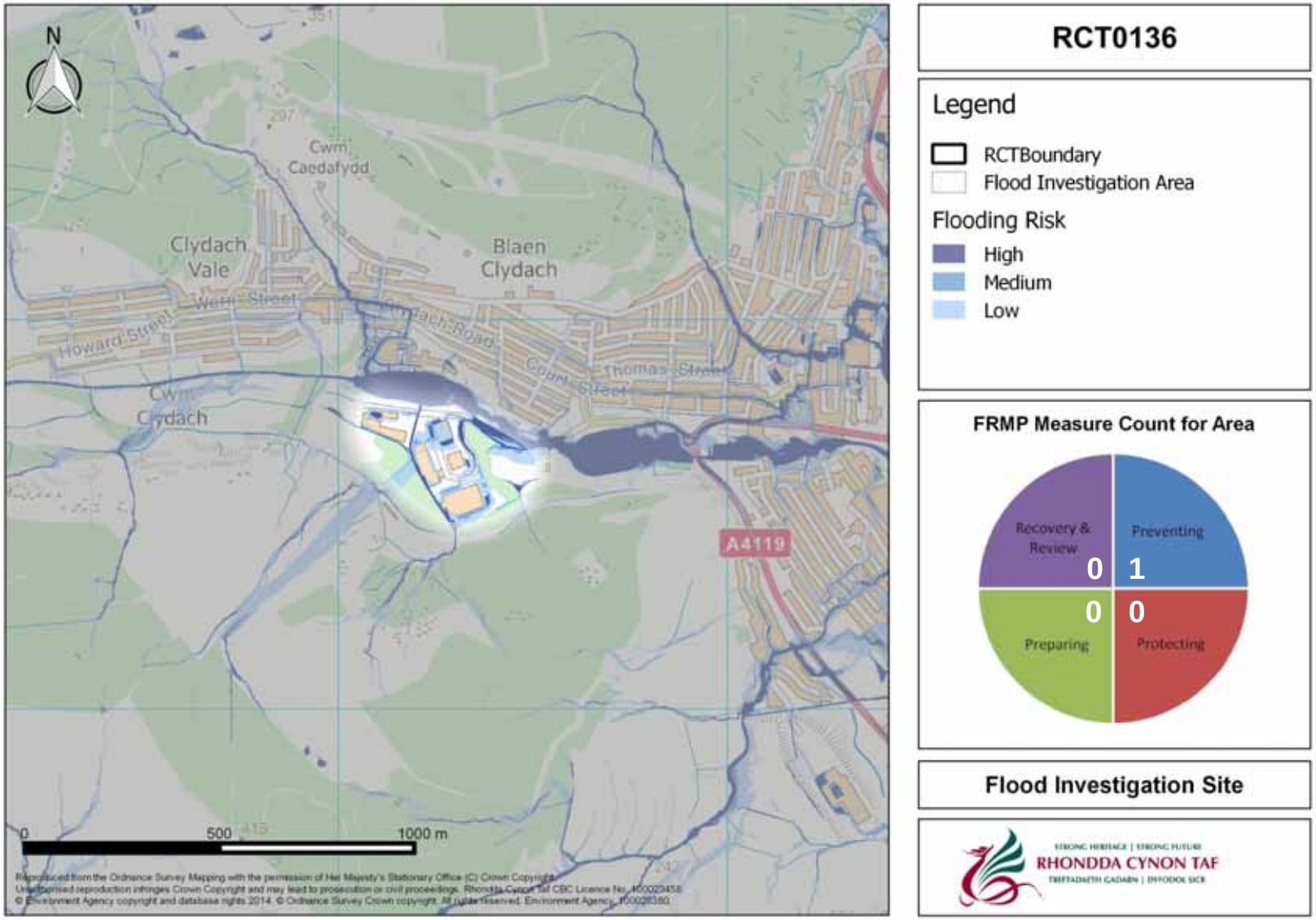
Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0136

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	0	0	0	0
Services	0	0	0	0
ECONOMIC ACTIVITY				
Non Residential Properties	29	1	4	7
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	1	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	1			
External	0			
Highway	1			

Flood Risk Management Plan Measures for RCT0136

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0136	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0135



Flood Investigation Area - RCT0137

Flood Investigation Area RCT0137 is situated within the community areas of Llanharan and Llanharry. The flood risk presented within the uFMfSW is considered to be sourced from ordinary watercourse posing a low to high flood risk through Hepworth Business Park.

Culverts are not represented within the modelling process and it is considered that the risk posed from ordinary watercourses is overstated.

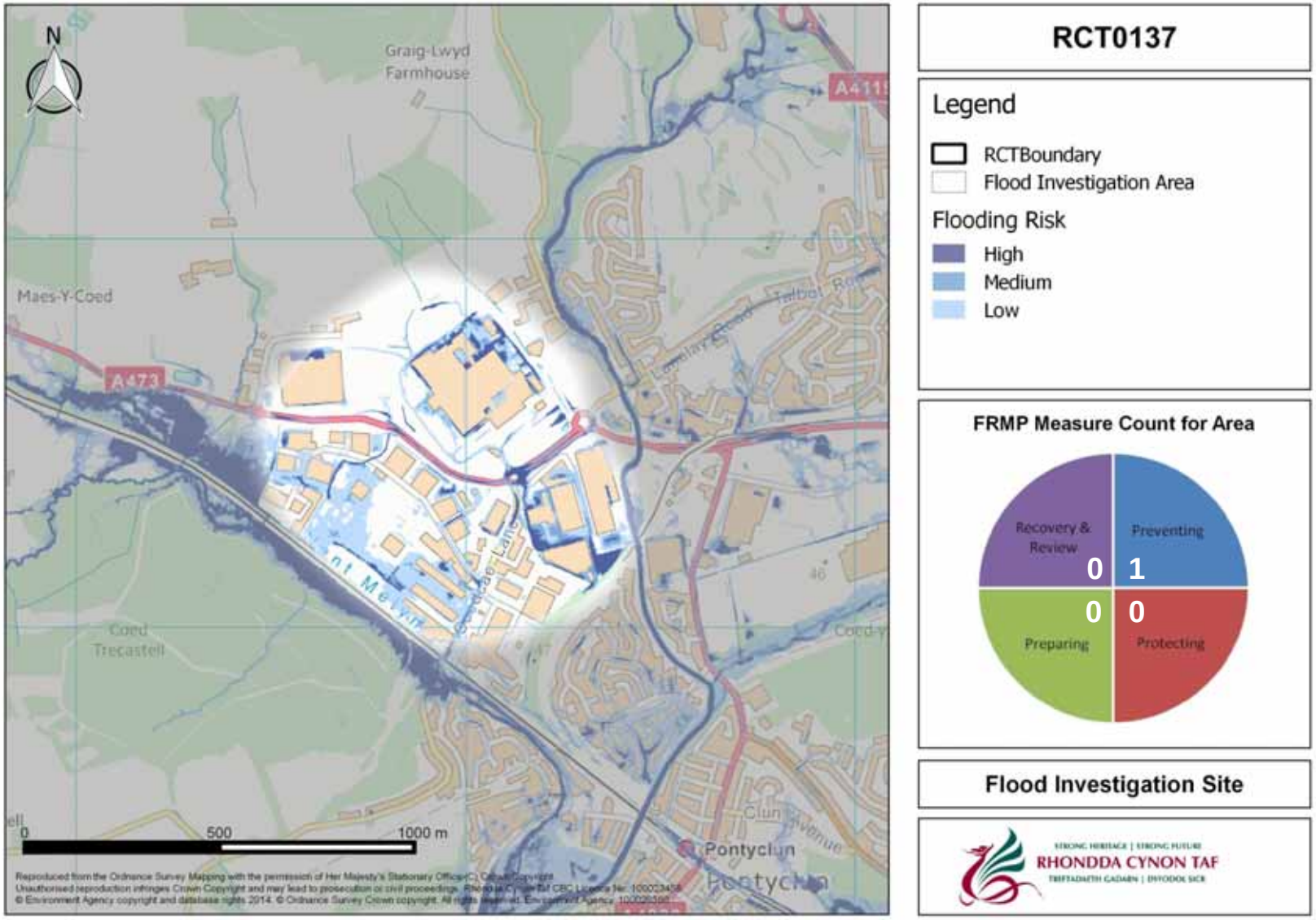
There is a good correlation between reported flood incidents to the highway and the risk presented within the uFMfSW.
Within areas adjacent to the Main River, it is considered that people may be at risk from both surface water flooding and Main River flooding, which may result in double counting. It is difficult to distinguish between flooding sourced from surface water and flooding sourced from Main River.

Summary flood risk from surface water to people, economic activity and the natural and historic environment within RCT0136

Risk to People and Property	Total in defined area	Risk Counts		
		defined area at high risk	defined area at medium risk	defined area at low risk
RISK TO PEOPLE AND PROPERTIES				
People (n) (multiplier 2.35)	16	0	0	0
Services	2	0	0	1
ECONOMIC ACTIVITY				
Non Residential Properties	206	5	8	31
Airports	0	0	0	0
Roads (km)	0	0	0	0
Railways (km)	0	0	0	0
Agricultural Land (hectares)	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Bathing Waters	0	0	0	0
EPR Installations	0	0	0	0
Special Area of Conservation (SAC)	0	0	0	0
Special Areas of Protection (SPA)	0	0	0	0
Ramsar	0	0	0	0
World Heritage Sites	0	0	0	0
Sites of Special Scientific Interest (SSSI)	0	0	0	0
Parks and Gardens	0	0	0	0
Scheduled Ancient Monuments	0	0	0	0
Listed Buildings	0	0	0	0
Licensed Abstractions	0	0	0	0
RISK TO ENVIRONMENTAL RECEPTORS				
Internal	0			
External	0			
Highway	2			

Location	Source	FRMP Measure Number	FRMP Measure Title	Measure Type	Timing	Measure Status	Responsible Authority
RCT0137	Local	30	Surface Water Modelling	M24 (Prevention)	2016-2021	Proposed	RCTCBC

uFMfSW for RCT0135



APPENDIX B

RISK MANAGEMENT AUTHORITIES

APPENDIX C

LOCAL FLOOD RISK MANAGEMENT STRATEGY MEASURES

Development Planning and Adaptation

MEASURE 1	Establish SuDS Approval Body
The Flood and Water Management Act 2010 assigns RCTCBC the role of a Sustainable Urban Drainage System (SuDS) Approval Body (SAB). A SAB will be responsible for: • assessing and approving the drainage design for all construction work which has drainage implications, and • adoption and maintenance of SuDS schemes which connect more than one property. The Welsh Government is at present developing National Standards for SuDS. RCTCBC will be reviewing this measure upon publication of the National Standards.	
STATUS	Statutory Requirement
FINANCIAL IMPLICATION	New function with cost recovery – potential revenue implication
BENEFITS	• Reduction of runoff rates which will reduce downstream flooding; • Encourage natural groundwater recharge; • Enhancement of amenity, environmental and aesthetic value of open spaces
TIMESCALE	The legislation governing this measure has not yet been enacted, but is likely to be so during the lifetime of the LFRMS. This measure will be updated once the relevant legislation has been commenced.
LINK TO LFRMS OBJECTIVE	1, 2, 5, 6, 7, 8
LINK TO WG NFRMS	Sub-Objective 3 - *Approval and adoption of SuDS drainage systems by the SuDS Approving Body and Adopting Body*
DEPENDENCIES	Publication of National Standards for SuDS by the Welsh Government
LINK TO ACTION PLAN	**Action 3** – Establish SuDS Approval Body

MEASURE 2	**Water Cycle Strategy**
To bring together all the elements of the water cycle relevant to the development and infrastructure planning process. This would include: • water supply to meet current and future demands; • water management within existing developments; • water management in new developments; • waste water treatment and disposal; and • the impact of all of these on the movement of water through the catchment (including flood risk), water quality, natural hydrological processes and ecology.	
STATUS	Best Practice
FINANCIAL IMPLICATION	Existing Function – No implication
BENEFITS	• The study is a partnership document involving the planning authority, water company and Natural Resources Wales. Joint working ensures that the study provides benefits to all stakeholders. • Welsh Water benefits include timely input to water infrastructure planning regarding future development, strategic needs, environmental constraints, Water Framework Directive management requirements, reduced flood risk and enhanced water quality. • Natural Resources Wales benefits include a framework for water and nature conservation policy compliance, for detailed development control observations and Local Development Plan consideration. • Developers benefit from clear guidance regarding water efficiency targets, SuDS, infrastructure timescales and costs, and environmental constraints. • The public will benefit from reliable infrastructure for supply and water treatment, good planning for climate change and flood risk management and potential savings from a strategic approach. • For the Planning Authority evidence is provided for the Local Development Plan for site allocation and infrastructure planning and for implementation through development control, Community Infrastructure Levy / S106 etc.
TIMESCALE	RCTCBC LDP Review in 2015
LINK TO LFRMS OBJECTIVE	1, 2,3 ,4 ,5 ,6 ,7 ,8 ,9 ,10
LINK TO WG NFRMS	N/A
DEPENDENCIES	N/A
LINK TO ACTION PLAN	**Action 1** – Flood Risk Management Plans & **Action 6** – LDP Review Process

MEASURE 3	Rhondda Cynon Taf Local Development Plan, Strategic Flood Consequences Assessment and Supplementary Planning Guidance

The Rhondda Cynon Taf Local Development Plan (LDP) was adopted in March 2011. This statutory document allocates significant areas of land for development, including land for over 14,000 new homes, 98 hectares for employment purposes and land for over 34,000m^2 of new retail floorspace. Other allocations include strategic highway improvements, education facilities and minerals and waste operations.

All of the allocations were identified following a comprehensive assessment process which considered nationally identified fluvial floodrisk zones through the advice maps and a surface water floodrisk assessment. As a consequence, only a limited number of sites in the LDP are subject to any level of flood risk. Where the floodrisk is known, the LDP identifies the need for further consideration and assessment of flooding issues.

A Strategic Flood Consequences Assessment (SFCA) was also undertaken as part of the LDP. This study focussed on the 8 Strategic Sites (mixed development sites over 20 hectares) and the Treforest Industrial Estate. The primary intention of the SFCA was to assess flood risk at the key development sites at a strategic level. The secondary focus of the SFCA was to assess the potential flood risk from drainage “hotspots” throughout Rhondda Cynon Taf CBC.

The LDP includes specific policies which set out how all other development proposals should be considered in relation to floodrisk. Policy AW2 includes criteria which aim to ensure that highly vulnerable development or emergency services are not permitted within C2 floodrisk zones. It then gives some specific allowances for development in zone C.

Policy AW10 then sets out how development proposals would not be permitted where they would cause or result in a risk of unacceptable harm to health and/or local amenity. Flooding as well as water pollution is included in the list of identified risks in this policy.

Policy NSA 26 relates specifically to development within, and the protection of, the Cynon Valley River Park area and floodplain. It aims to encourage management of the floodplain to provide space for natural river processes, wildlife and people.

The council is considering preparing additional guidance on Sustainable Drainage Systems (SuDS). This may then be used when designing all new development proposals, from individual dwellings to strategic sites of hundreds of homes or retail parks etc. The Supplementary Planning Guidance (SPG) will be formulated by the authority once national guidance and legislation on national standards for sustainable drainage is agreed and implemented.

STATUS	Statutory Requirement
FINANCIAL IMPLICATION	Existing Function – No implication

MEASURE 3 (cont'd)	**Rhondda Cynon Taf Local Development Plan, Strategic Flood Consequences Assessment and Supplementary Planning Guidance**
BENEFITS	• There are many clear benefits associated with the LDP, including the allocation process, its principles and policies. • The majority of allocated sites contained in the LDP should all come forward for development in the knowledge that they are free from flooding constraint. • All other development proposals that come forward to be considered by the Council in Rhondda Cynon Taf will also are assessed against policy framework provided by the plan and national floodrisk data. • The LDP also aims to ensure that all existing urban areas as well as other developed, or even undeveloped, land and property are protected from flooding that may be created by new development. • The future SPG on SuDS will ensure that surface water drainage is seen as integral in the design of all new developments.
TIMESCALE	Ongoing
LINK TO LFRMS OBJECTIVE	1, 2, 5, 6, 7, 8, 12,
LINK TO WG NFRMS	Sub-Objective 3 – *Development of Local Development Plans that include adequate provisions in respect of flood and coastal erosion risk & appropriate undertaking of Strategic Flood Consequence Assessments and their use to inform Local Development Plan*
DEPENDENCIES	N/A
LINK TO ACTION PLAN	**Action 6** – LDP Review Process

MEASURE 4	Planning Policy Wales and TAN 15
	Planning Policy Wales (PPW) sets out the Welsh Government's land use planning policies. It is supplemented by a series of Technical Advice Notes (TAN's). Key policy objectives as identified in Section 4.4 of PPW include the need *to minimise the risks posed by, or to, development on, or adjacent to, land liable to flooding.* Section 9 requires local planning authorities to promote sustainable residential environments, giving regard to biodiversity, nature conservation and flood risk. Chapter 13 sets out the broader objectives for planning and environmental management. This is to control where development can take place and what operations may be carried out, to ensure the avoidance of, or minimising, the adverse effects of any environmental risks associated with flooding on present or future land use. TAN 15 provides technical guidance which supplements the policy set out in Planning Policy Wales. It advises on development and flood risk and provides a framework within which risks arising from both river and coastal flooding, and from additional run-off from development in any location, can be assessed. Development advice maps have been prepared and are based on the best available information considered sufficient to determine when flood risk issues need to be taken into account in planning future development. Three development advice zones are described on the maps, to which are attributed different planning actions – zones A, B and C. All types of development are also divided into three categories in accordance with their vulnerability to and the consequences of flooding. Surface Water Run-Off is also identified as a major potential impact that needs to be considered in determining new developments. Need for consultation with necessary bodies is identified as well as the discussion of preparing Sustainable Drainage Systems in the design of new development. Considerable guidance is then given on how justification, assessments and evidence need to be prepared in allowing and allocating development in certain floodrisk zones. This includes the need for site specific Flood Consequence Assessments or Broader Level assessments.
STATUS	Statutory Requirement

MEASURE 4 (cont'd)	Planning Policy Wales and TAN 15
FINANCIAL IMPLICATIONS	Existing Function – No implication
BENEFITS	• The strategic policy and guidance from Welsh Government on flood risk should enable a consistent approach to the issue across Wales. • The benefits of PPW and Tan 15 are that they provide a clear guidance intended to ensure that all new development is located away from land that is subject to floodrisk, or otherwise provide an identification process of where further consideration and assessment is required before development can take place.
TIMESCALE	RCTCBC LDP Review in 2015
LINK TO LFRMS OBJECTIVE	1, 2, 3, 5, 6, 7, 8, 10, 11, 15,
LINK TO WG NFRMS	Sub-Objective 3 – *Compliance with the requirements of Planning Policy Wales and relevant Technical Advice Notes*
DEPENDENCIES	N/A
LINK TO ACTION PLAN	**Action 6** – LDP Review Process

Flood Forecasting, Warning and Response

MEASURE 5	Flood Awareness
The Council has a duty under the Civil Contingencies Act (2004) to warn and inform its residents of the risks and implications of those risks before, during and after any incidents. As part of this the Councils website holds information and links to further sources of information in relation to flooding incidents. On occasion, when significant flooding does occur, staff from the Council attend areas/properties to provide advice to the affected residents. Additionally a guide for elected members on their role has been produced. This can be extended further under the general requirements of the FAWMA 2010.	
STATUS	Statutory Requirement extended via best practice
FINANCIAL IMPLICATION	Existing Function – No implication New Function – Revenue Implication
BENEFITS	• The Government believes a well-informed public is better able to respond to an emergency and to minimise the impact of the emergency on the community. Informing the public as best we can will build their trust. It will also help minimise disruption and improve/ease the response to any flooding incidents. • An aware population has the ability to understand and prepare for the impact of a flooding situation and to take remedial measures prior to a situation, for example purchasing flood gates.
TIMESCALE	The website is reviewed at least annually and information is provided directly to the public using the most appropriate means when flooding occurs.
LINK TO LFRMS OBJECTIVE	1, 2, 3, 4, 10, 11, 12
LINK TO WG NFRMS	Sub-Objective 5 – *Programme of community based awareness and engagement activities, utilising the Flood Risk Management Community Engagement Toolkit*
DEPENDENCIES	N/A
LINK TO ACTION PLAN	N/A

MEASURE 6	Flood Warning
The Council has a duty under the Civil Contingencies Act (2004) to warn and inform its residents of the risks and implications of those risks before, during and after any incidents. Taking into account the demands of responding to the incident and available resources, where possible information will be provided on the impact and actions to take. This will either be single agency or multi agency dependent on the circumstances of the flooding situation. Natural Resources Wales are responsible for providing information via their flood forecasting systems on main river flooding for registered properties. A number of methods of communication will be used, for example use of local media or door knocking. Additionally, the Council's Call Centre will be used to receive calls from concerned or affected residents. They are also part of a tripartite SPOC system where the Council, Natural Resources Wales and Welsh Water are able to transfer calls based on the type of flooding. Warning and informing is not a stand alone function, its need is included within response plans. It must also link in to flood awareness. This can be extended further under the general requirements of the FAWMA 2010.	
STATUS	Statutory Requirement extended via best practice
FINANCIAL IMPLICATION	Existing Function – No implication New Function – Revenue Implication
BENEFITS	• The benefit of warning systems are that they allow informed residents to act to prevent/minimise the effects of flooding. This area is constantly reviewed as knowledge and risk changes.
TIMESCALE	As necessary, however further development needed for non main river issues
LINK TO LFRMS OBJECTIVE	1, 2, 3.
LINK TO WG NFRMS	Sub-Objective 6 – *Provision of appropriate warnings in relation to all sources of flooding*.
DEPENDENCIES	N/A
LINK TO ACTION PLAN	N/A

MEASURE 7	Emergency Response Plans
Emergency planning should aim where possible to prevent emergencies occurring and when they do occur, good planning should reduce, control or mitigate the effects of the emergency. It is a systematic and ongoing process which should evolve as lessons are learnt and circumstances change. Multi agency plans will concentrate on different agencies responsibilities as well as command and control. Within the Council we will also have Service and Team specific plans that look at responsibilities in a more detailed way which will include mobilisation as well as specific actions and known risks. It will be more prescriptive on actions before, during and after flooding. An example would be priority culvert inspections The main bulk of planning should consider how to minimise the effects of an emergency, starting with the impact of the event (e.g. alerting procedures) and looking at remedial actions that can be taken to reduce effects.	
STATUS	Statutory Requirement
FINANCIAL IMPLICATION	Existing Function – No implication
BENEFITS	• Actions clear; • Defined responsibilities; • Prior planning, not reactive; • Flexibility; • Ability to plan and train; • Clear Command and Control; • Links to other plans/agencies clear; • Transparency
TIMESCALE	Short term, ongoing.
LINK TO LFRMS OBJECTIVE	4, 10, 11, 13, 14.
LINK TO WG NFRMS	Sub-Objective 7 – *Complete emergency plans for all sources of flood risk*
DEPENDENCIES	N/A
LINK TO ACTION PLAN	N/A

MEASURE 8	**Community Flood Plans**
Natural Resources Wales are the lead agency on the development of community flood planning in Wales. Rhondda Cynon Taf have worked closely with them in the development of plans for designated communities within the Borough. The communities chosen are based on an assessment of risk from main river flooding, however when planning begins, it takes into account all forms of flooding. The aim of the community flood plans is to develop resilient, aware and organised communities, when faced with flooding in their areas.	
STATUS	Best Practice
FINANCIAL IMPLICATION	Existing Function – No implication
BENEFITS	• The first people to respond to any flooding incidents are the communities themselves. A prepared structured response will improve the speed and quality and hopefully reduce the risk and impact. Knowing what to do and who is to do it in advance improves the response. • Working together as a community or group has multiple benefits on the ground. It can improve communication before, during and after a flood incident, making sure the right people are involved at the right time. Local people know their risks and the vulnerable in their communities better than any responder agency and will be best placed to react and support. They will also be able to provide information to agencies if they attend the incident. • Flooding incidents can be widespread and external support may be slow or unavailable. Where communities are involved with flood planning it will enable the community or group to take control and help during a flood, when other organisations could be overstretched or unable to reach them. • Involving local people helps their community become more flood resilient
TIMESCALE	Currently plans are developed based on a rolling annual programme developed by Natural Resources Wales. Once complete plans are in the ownership of the relevant communities, with support provided as necessary. This area will need further consideration if RCT develop their own programmes
LINK TO LFRMS OBJECTIVE	10, 11, 12, 13, 14.
LINK TO WG NFRMS	Sub-Objective 5 – *Programme of community based awareness and engagement activities, utilising the Flood Risk Management Community Engagement Toolkit*
DEPENDENCIES	N/A
LINK TO ACTION PLAN	N/A

MEASURE 9	**Multi-Agency Flood Plans**
Local Authorities and other organisations are responsible under the Civil Contingencies Act (2004) for developing emergency plans to help reduce, control or ease the effects of an emergency. In order to fulfil its responsibilities and to follow Cabinet Office advice, the Council has established a joint multi agency forum which is intended to manage the planning for and response to flooding in its area. The forum is known as The Rhondda Cynon Taf Flood Review Group. The Group is jointly Chaired by an officer of the Council and an officer from Natural Resources Wales. The Flood Review Group will: • Examine the Risk Assessments provided under the Flood Risk Regulations to assess the flood risks to the Borough from all sources; • Consider flood prevention schemes; • Arrange joint training and exercising as necessary; • Act as a focal point for debate and public interaction; • Consider the roles and responsibilities of all bodies who have a role in flood management and response; • Review flood incidents, identify lessons and share information; • Review flood response plans; and • Promote flood awareness to the public.	
STATUS	Statutory Requirement
FINANCIAL IMPLICATION	Existing Function – No implication
BENEFITS	• Greater understanding of partners' roles and responsibilities; • Reduction in duplication; • Improved command and control; • Jointly defines risks and priorities
TIMESCALE	The plan is reviewed annually or following any changes to legislation. It is also reviewed using lessons learned from incidents of exercises.
LINK TO LFRMS OBJECTIVE	4, 10, 11, 12, 13, 14.
LINK TO WG NFRMS	Sub-Objective 7 – *Complete emergency plans for all sources of flood risk*
DEPENDENCIES	N/A
LINK TO ACTION PLAN	N/A

Land, Cultural and Environmental Management

MEASURE 10	Land Management
There is the potential for surface water runoff to be reduced via the implementation of certain land management techniques, whether solely for the purpose of flood risk management or as by-products of other land management schemes. RCTCBC proposes to undertake further assessment of the viability of implementing such measures as a means of reducing flood risk in RCT. Where feasible, RCTCBC proposes to use land management techniques ahead of structural measures when setting measures for and implementing local flood risk management plans	
STATUS	Best Practice
FINANCIAL IMPLICATION	Project Revenue – Potential External Funding
BENEFITS	• Greater understanding of where land management techniques can be used within RCT; • Implementation of land management techniques would offer a 'sustainable' flood risk management solution, particularly when compared to structural measures; • Potential wider environmental/amenity benefits of using land management techniques; • Potential for greater engagement of land use owners and other stakeholders in local flood risk management and the ability to work collaboratively with neighbouring Local Authorities.
TIMESCALE	Implemented by Dec 2015 as part of the production of Flood Risk Management Plans.
LINK TO LFRMS OBJECTIVE	1, 2, 5, 6, 7, 8, 9, 10, 11, 15.
LINK TO WG NFRMS	Sub-Objective 3 – *Provision of advice and guidance on appropriate land use management*
DEPENDENCIES	Publication of Welsh Government guidance into the costs and benefits of softer engineering processes/natural processes for flood and coastal erosion risk management.
LINK TO ACTION PLAN	**Action 1** - Flood Risk Management Plans. **Action 9** - Undertake research project into the likely effectiveness of land management techniques

MEASURE 11	Environmental Enhancement
Implementing the array of measures contained within this Strategy affords a significant opportunity to enhance the wider environment of RCT.	
STATUS	Best Practice
FINANCIAL IMPLICATION	Project Revenue/Capital – Potential External Funding
BENEFITS	• Maintain or where possible enhance biodiversity and habitat creation in accordance with RCTs Biodiversity Action Plan; • Protect and enhance the water environment; • Provides opportunities to improve human health; • Protect and enhance land quality; and • Mitigate impacts from climate change
TIMESCALE	Medium to Long Term (5 years +)
LINK TO LFRMS OBJECTIVE	5, 6, 7, 8, 9
LINK TO WG NFRMS	Sub-Objective 2 – *Development of the National Habitats Creation Programme as part of the delivery of the Natural Environment Framework*
DEPENDENCIES	N/A
LINK TO ACTION PLAN	**Action 1** - Flood Risk Management Plans

MEASURE 12	Water Level Management Plan
	WLMPs are required in conservation areas where the control of water levels is important. They set out ways to balance the water level requirements of different activities such as agriculture, flood defence and conservation. The current focus is on water level management within SACs and SSSIs, but the process could be extended to include other important wetland Sites (particularly those which contribute to habitat connectivity).
STATUS	Best Practice
FINANCIAL IMPLICATION	Existing Function – No implication
BENEFITS	• For Natural Resources Wales plans ensure that proposed flood risk management operations are compliant with environmental legislation
TIMESCALE	Medium to long term (5 years +)
LINK TO LFRMS OBJECTIVE	5, 6, 7, 8, 9, 11
LINK TO WG NFRMS	Sub-Objective 2 – *Development of the National Habitats Creation Programme as part of the delivery of the Natural Environment Framework*
DEPENDENCIES	N/A
LINK TO ACTION PLAN	**Action 1** - Flood Risk Management Plans

MEASURE 13	**Habitat Creation**
Habitat creation describes the intentional process of changing the character and/or management of land to create a different habitat.	
STATUS	Best Practice
FINANCIAL IMPLICATION	Project Revenue/Capital – Potential External Funding
BENEFITS	• Habitat creation is only beneficial if the pre-existing habitat is of significantly lower nature conservation value than the proposed creation. Specific benefits from habitat creation (and restoration of pre-existing habitat) can include greater water retention, reduced water flow speeds, and increased groundwater infiltration, providing connections between existing habitat patches and biodiversity gain.
TIMESCALE	Medium to long term (5 years +)
LINK TO LFRMS OBJECTIVE	3, 4, 5, 6, 7, 8, 9
LINK TO WG NFRMS	Sub-Objective 2 – *Development of the National Habitats Creation Programme as part of the delivery of the Natural Environment Framework*
DEPENDENCIES	N/A
LINK TO ACTION PLAN	**Action 1** - Flood Risk Management Plans

Asset Management and Maintenance

MEASURE 14	System Asset Management Plans
RCTCBC will be creating its own asset database of structures deemed significant to flood risk. Where these assets are RCTCBC's, asset management plans for inspection and maintenance will be created (if none already exists). Further asset management plans will also be implemented for third party structures where there is a requirement to inspect.	
STATUS	Best Practice
FINANCIAL IMPLICATION	New Function – Revenue
BENEFITS	• Maintenance regimes will be able to take into account assets important for managing flood risk, particularly in high risk areas; • Greater awareness of critical flood risk infrastructure within RCT and the implementation of a co-ordinated regime of inspection and maintenance.
TIMESCALE	Medium (5-20 years)
LINK TO LFRMS OBJECTIVE	1, 2, 3, 4
LINK TO WG NFRMS	Sub-Objective 9 – *Development of procedures for the effective clearance of debris & Development of repair schedules including provision for the installation of resilient measures by 2015.*
DEPENDENCIES	N/A
LINK TO ACTION PLAN	**Action 4** - Create Asset Register of Structures and Features

MEASURE 15	Enforcement on Private Surface Water Sewers
RCTCBC has powers under the Public Health Act to undertake enforcement duties on private surface water sewers.	
STATUS	Permissive Power – currently administered by RCTCBC's Public Health and Protection Division
FINANCIAL IMPLICATIONS	Existing function – no implication
BENEFITS	• The powers, as required, provide a general level of protection for members of the public from assets not in the ownership of RCTCBC.
TIMESCALE	Ongoing
LINK TO LFRMS OBJECTIVE	1, 2, 3, 4
LINK TO WG NFRMS	N/A
DEPENDENCIES	N/A
LINKS TO ACTION PLAN	N/A - Existing Function

MEASURE 16	Power to request information and civil sanctions
The Flood and Water Management Act provides RCTCB with the power to request information from third parties to provide information in connection with RCTCBC's flood risk management functions. Failure to provide such information to the Authority may result in a financial penalty.	
STATUS	Permissive Power
FINANCIAL IMPLICATIONS	New Function – Revenue Implication
BENEFITS	• RCTCBC now has the ability to ensure that it has all relevant information from third parties such that it can build and maintain its register of structures/features which are likely to have a significant effect on flood risk.
TIMESCALE	Medium (5-20 years)
LINK TO LFRMS OBJECTIVE	1, 2, 3, 4, 11
LINK TO WG NFRMS	Sub-Objective 4 – *Development of a register of natural and man-made structures or features likely to have an effect on flood risk by 2014*
DEPENDENCIES	N/A
LINK TO ACTION PLAN	**Action 4** – Asset Register of Structures and Features

MEASURE 17	**Asset Register and Records**
RCTCBC is required to keep both asset registers (for public use) and asset records (for use by risk management authorities) for structures and features which are considered to have a significant effect on flood risk. There is no formal definition of when an asset has a 'significant effect' but will largely be determined on the flood history of the site and the vulnerability of any infrastructure likely to be affected by a failure of the asset. RCTCBC proposes to be pro-active in the recording of flood risk assets, using the mechanisms of Ordinary Watercourse Consenting, investigation of flooding incidents, the Planning Application Process, and, in future, its role as SAB to expand its asset record.	
STATUS	Statutory Requirement
FINANCIAL IMPLICATION	New Function – revenue implication
BENEFITS	• Confusion over ownership of flood risk assets will be lessened; • Maintenance regimes will be able to take into account assets important for managing flood risk, particularly in high risk areas; • RCTCBC will be able to establish where all assets are, allowing for quicker identification of the responsible authority in flooding incidences; and • RCTCBC would be able to produce/refine their own asset maintenance schedule in addition to potentially providing guidance to riparian owners as to how they should maintain their assets.
TIMESCALE	Medium (5-20 years)
LINK TO LFRMS OBJECTIVE	4, 10, 11
LINK TO WG NFRMS	Sub-Objective 2 – *Implementation of statutory responsibilities including those set out within the Flood and Water Management Act 2010 and the Flood Risk Regulations* Sub-Objective 4 – *Development of a register of natural and manmade structures or features likely to have an effect on flood risk by 2014*
DEPENDENCIES	N/A
LINK TO ACTION PLAN	**Action 4** – Asset Register of Structures and Features

MEASURE 18	Designation of Structures
The Flood and Water Management Act makes RCTCBC the 'Designating Authority' with the power to designate a structure (either man-made or a natural feature of the environment in private ownership) if RCTCBC believes the structure or feature affects flood risk. A person may then not alter, remove or replace the designated structure or feature without the permission of RCTCBC.	
STATUS	Permissive Power
FINANCIAL IMPLICATION	New Function – Revenue Implication
BENEFITS	• Overcomes the risk of a person damaging or removing a structure or feature on private land which is relied upon for flood risk management; • Ensures that records of significant flood risk structures/features are formally recorded and monitored; • Designated structures or features will be registered in the Local Land Charges Register.
TIMESCALE	Medium (5-20 years)
LINK TO LFRMS OBJECTIVE	1, 2, 3, 4, 10
LINK TO WG NFRMS	Sub-Objective 4 – *Development of a register of natural and man-made structures or features likely to have an effect on flood risk by 2014.*
DEPENDENCIES	N/A
LINK TO PLAN	**Action 2** – Production of Flood Hazard and Risk Maps. **Action 4** – Asset Register of Structures and Features

MEASURE 19	SuDS Adoption
Once the relevant legislation has been enacted, RCTCBC will have a duty to adopt SuDS systems that have met the requirements for approval. RCTCBC will hence be responsible for the maintenance of the adopted drainage system.	
STATUS	Statutory Requirement
FINANCIAL IMPLICATION	New Function with cost recovery – potential revenue implication.
BENEFITS	• Ensures appropriate maintenance of SuDS features is undertaken throughout product life cycle. • Appropriate supervision of SuDS construction will be undertaken prior to adoption to ensure 'as constructed' standard is 'as approved'.
TIMESCALE	Short (0–5 years)
LINK TO LFRMS OBJECTIVE	1, 2, 3, 4, 5, 6, 7,
LINK TO WG NFRMS	Sub-Objective 3 - *Approval and adoption of SuDS drainage systems by the SuDS Approving Body and Adopting Body*
DEPENDENCIES	Publication of National Standards for SuDS by the Welsh Government
LINK TO PLAN	**Action 3** – Establish SuDS Approval Body

MEASURE 20	**Consenting of Structures to Ordinary Watercourses**
RCTCBC intend, in general, to oppose any culverting/obstruction of watercourses because of adverse ecological, flood risk and other effects that are likely to arise. Wherever practical, RCTCBC will also seek to have culverted watercourses restored to open channels. Any culverting of a watercourse, or the alteration of an existing culvert, will require an ordinary watercourse consent from RCTCBC under Section 23 of the Land Drainage Act. If a culvert is constructed (or altered) on a watercourse without consent, RCTCBC may serve an abatement notice on the person having the power to remove it. If the notice is not complied with, the person responsible may be prosecuted and RCTCBC will be entitled to carry out the necessary works and recover reasonable costs incurred in doing so.	
STATUS	Statutory Requirement
FINANCIAL IMPLICATION	New Function with Cost Recovery – Potential Revenue Implication.
BENEFITS	• Decrease the loss of environmental features - prohibiting the culverting of watercourses will mitigate against the detrimental environmental impact caused by culverting e.g. removal of species and watercourse features such as pools, riffles, gravel, cobble, sand, silt, marginal/aquatic vegetation, earth banks with associated vegetation, invertebrate communities and fish; • Decrease the likelihood of blockages – compared with an open watercourse, there is an increased risk of blockage once a culvert is installed. If the blockage is within the culvert, there is much greater difficulty in removing it; • Decrease the impact of flooding – Having a non-culvert policy will reduce the effect of overland flooding that will occur when a culvert cannot cope with all the flow reaching it; • Increase floodwater storage – open watercourses generally provide more storage capacity than a culvert; • Increase the ease of providing drainage connections – drainage can be provided more easily within open watercourses into which drain connections can readily be made and the performance of the drainage system visually monitored;

MEASURE 20 (cont'd)	Consenting of Structures to Ordinary Watercourses
BENEFITS (cont'd)	• Reduction of health and safety hazards – Culverts are perceived to be more dangerous than open watercourses. There have been many cases in the past where persons have died or suffered injury after entering culverts and they therefore represent a safety hazard. Additionally water levels can rise suddenly and without notice, and there can be a lack of oxygen or build-up of potentially toxic or explosive gases in culverts; • Improve/maintain recharge to groundwater – culverting creates an impermeable bed to a watercourse and increases the speed of flow, so reducing recharge to groundwater.
TIMESCALE	Short Term (0-5 years)
LINK TO LFRMS OBJECTIVE	1, 2, 3, 4, 5, 6, 7
LINK TO WG NFRMS	Sub-Objective 2 – *Implementation of statutory responsibilities including those set out within the Flood and Water Management Act 2010 and the Flood Risk Regulations*
DEPENDENCIES	N/A
LINK TO ACTION PLAN	N/A

MEASURE 21	Enforcement to maintain flow in watercourses
As Lead Local Flood Authority, RCTCBC has permissive powers to serve notices on riparian owners to remedy the condition of a watercourse where the flow is impeded.	
STATUS	Permissive Power
FINANCIAL IMPLICATION	Existing Function – No Implication
BENEFITS	• The powers, as required, provide a general level of protection for members of the public from watercourses not in RCTCBC ownership.
TIMESCALE	Ongoing
LINK TO LFRMS OBJECTIVE	1, 2, 3, 4
LINK TO WG NFRMS	Sub-Objective 9 – *Development of procedures for the effective clearance of debris*
DEPENDENCIES	N/A
LINK TO ACTION PLAN	Existing Function

MEASURE 22	**Enactment of Land Drainage Byelaws**
As Lead Local Flood Risk Authority, RCTCBC has the ability to enact land drainage byelaws to:- • secure the efficient working of a drainage system; • to regulate the effects on the environment; • to secure the effectiveness of flood risk management work; and • to secure the effectiveness of works done to cause incidental flooding. RCTCBC intends to work with other LLFA's to enact, where possible, a standard set of byelaws.	
STATUS	Permissive Power
FINANCIAL IMPLICATION	New Function – Revenue Implication
BENEFITS	• Measure allows for the implementation of specific measures and constraints which will assist RCTCBC in implementing elements of FRMP.
TIMESCALE	Initial deadline corresponding to the production of Flood Risk Management Plans – Dec 2015.
LINK TO LFRMS OBJECTIVE	1, 2, 3, 4
LINK TO WG NFRMS	N/A
DEPENDENCIES	N/A
LINK TO ACTION PLAN	**Action 11** - Enactment of Byelaws

MEASURE 23	**Cause incidental flooding for purposes of flood risk management**
RCTCBC has powers to manage flooding and water levels in the interests of wider flood risk management, nature conservation, the preservation of cultural heritage or people's enjoyment of the environment or of cultural heritage. The use of this option will be explored in more detail via Flood Risk Management Plans.	
STATUS	Permissive Power
FINANCIAL IMPLICATION	Project Revenue – Potential External Funding
BENEFITS	• Measure provides a potential additional flood risk management option and method of co-ordinating a flood risk management measure with potential environmental enhancements.
TIMESCALE	Initial deadline corresponding to the production of Flood Risk Management Plans – Dec 2015.
LINK TO LFRMS OBJECTIVE	1, 2, 3, 4
LINK TO WG NFRMS	Sub-Objective 10 – *Undertake Research into the costs and benefits of softer engineering approaches including the use of natural processes for flood and coastal erosion risk management*
DEPENDENCIES	Publication of Welsh Government guidance/research into soft engineering/natural processes for use in flood risk management.
LINK TO ACTION PLAN	**Action 1** - Local Flood Risk Management Plans

MEASURE 24	**Construction of Flood Defences**
Outline requirements for capital flood defence works will be identified initially through Flood Risk Management Plans. The technical and economic feasibility of such projects will subsequently be assessed via the Project Appraisal process and current Welsh Government Guidance.	
STATUS`	Best Practice
FINANCIAL IMPLICATION	Project Revenue – Potential External Funding
BENEFITS	• The identification of potential capital flood defence schemes via the process of developing Flood Risk Management Plans will, for the first time, place constructing capital works within the context of RCTCBCs wider flood risk management measures.
TIMESCALE	Initial deadline corresponding to the production of Flood Risk Management Plans – Dec 2015.
LINK TO LFRMS OBJECTIVE	1, 2, 3, 4, 7
LINK TO WG NFRMS	Sub-Objective 2 – *Development of Local Flood Risk Management Strategies*
DEPENDENCIES	Publication of Welsh Government guidance on the production of Flood Risk Management Plans
LINK TO ACTION PLAN	**Action 1** - Local Flood Risk Management Plans

Studies, Assessment and Plans

MEASURE 25	Investigation of Flooding Incidents
RCTCBC will record and investigate significant flooding incidents and subsequently publish the details in accordance with Section 19 of the FAWMA 2010. The investigation must identify which risk management authorities have relevant flood risk management functions and whether they have exercised those functions appropriately in response to the incident. The following criteria will be used in assessing whether an incident is significant and whether an investigation of a flooding incident should be undertaken:- • Where internal flooding has occurred at one property on more than once occasion; • Where internal flooding of five or more properties has occurred during one flooding incident; • Where internal flooding of a commercial property has occurred during one flooding incident; • Where external flooding to land adjacent to a property has occurred more than five times; • Where a critical service has been affected by flooding; • Where a transport link has been rendered impassable for in excess of 10 hours; • Where flooding has potentially posed an immediate and direct threat to life.	
STATUS	Statutory Requirement
FINANCIAL IMPLICATION	New Function – Revenue Implication
BENEFITS	• Measure will enable a greater understanding of flood risk within RCT. • A higher standard of flood event data will be available which can be utilised in subsequent studies and assessments.
TIMESCALE	Medium to long term (5-20 years)
LINK TO LFRMS OBJECTIVE	11
LINK TO WG NFRMS	Sub-Objective 2 – *Implementation of statutory responsibilities including those set out within the Flood and Water Management Act 2010 and the Flood Risk Regulations*
DEPENDENCIES	N/A
LINK TO ACTION PLAN	**Action 7** – Implement investigation and reporting of flood incidents.

MEASURE 26	Local property-level flood mitigation – resilience
Increasing flood resilience will reduce damages caused by any water that gets into a property. This measure will attempt to raise awareness of the techniques that could be utilised when repairing properties subject to repeated flooding in order to reduce future damages. Initial awareness campaigns will be targeted at areas identified as being at high risk of surface water flooding from surface water flood modelling.	
STATUS	Best Practice
FINANCIAL IMPLICATION	Project Revenue – potential external funding
BENEFITS	• Implementing awareness campaigns where most applicable will place such actions within the context of wider flood risk management measures.
TIMESCALE	Initial deadline corresponding to the production of Flood Risk Management Plans – Dec 2015.
LINK TO LFRMS OBJECTIVE	12
LINK TO WG NFRMS	Sub-Objective 6 – *Enhanced awareness of property level resilience measures and guidance on their use*
DEPENDENCIES	N/A
LINK TO ACTION PLAN	**Action 1** - Development of Local Flood Risk Management Plans **Action 8** - Raising awareness of and engaging people in the response to flood risk management

MEASURE 27	Local property-level flood mitigation - resistance
A general approach to improving property level flood resistance will be adopted across RCT. This could include encouraging property owners to install individual property measures, as well as the implementation of schemes to raise general awareness and preparedness. Initial awareness campaigns will be targeted at areas identified as being at high risk of surface water flooding from surface water flood modelling.	
STATUS	Best Practice
FINANCIAL IMPLICATION	Project Revenue – potential external funding
BENEFITS	• Implementing awareness campaigns where most applicable will place such actions within the context of wider flood risk management measures.
TIMESCALE	Initial deadline corresponding to the production of Flood Risk Management Plans – Dec 2015
LINK TO LFRMS OBJECTIVE	12
LINK TO WG NFRMS	Sub-Objective 6 – *Enhanced awareness of property level resilience measures and guidance on their use*
DEPENDENCIES	N/A
LINK TO ACTION PLAN	**Action 1** - Development of Local Flood Risk Management Plans **Action 8** - Raising awareness of and engaging people in the response to flood risk management.

MEASURE 28	Pre-Feasibility Studies/Project Appraisals
Pre-Feasibility Studies/Project Appraisals are likely to be products of flood risk management plans, which will identify the requirement for specific flood risk management projects. Pre-Feasibility/Project Appraisals are used to assess the viability of a range of project options and ensure that future investment decisions are made on a consistent, prioritised basis.	
STATUS	Best Practice
FINANCIAL IMPLICATION	Project Revenue – Potential External Funding
BENEFITS	• The investment in potential flood risk management projects can be effectively prioritised; • Appraisal of future flood risk management projects will be undertaken inclusive of the wider assessment of economic, environmental and social costs and benefits.
TIMESCALE	Initial deadline corresponding to the production of Flood Risk Management Plans – June 2015
LINK TO LFRMS OBJECTIVE	1, 2, 3, 4, 7, 9, 16
LINK TO WG NFRMS	Sub-Objective 2 – *Development of Local Flood Risk Management Strategies* Sub-Objective 1 – *Development of a national funding policy and prioritisation methodology for the assessment of applications for funding of all flood and coastal erosion risk management activities from the Welsh Government.*
DEPENDENCIES	Publication of Welsh Government guidance on the production of Flood Risk Management Plans & updated guidance on funding prioritisation.
LINK TO ACTION PLAN	**Action 1** - Local Flood Risk Management Plans

MEASURE 29	Catchment Flood Risk Management Plan
The Taff and Ely Catchment Flood Management Plan has been produced by Natural Resources Wales to help risk management authorities to work together to identify and agree long-term policies for sustainable flood risk management.	
STATUS	Statutory (third party)
FINANCIAL IMPLICATION	Existing (third party) function – No implication
BENEFITS	• By incorporating relevant CFMP policies into the LFRMS, a holistic appreciation of wider, catchment scale, flooding issues will be embedded into the LFRMS; • Synergies between LFRMS measures and actions and those contained within the CFMP could be used to realise multiple benefits.
TIMESCALE	N/A
LINK TO LFRMS OBJECTIVE	11,14
LINK TO WG NFRMS	Sub-Objective 2- *Proportionate implementation of the Catchment Flood Management Plans over the life of the Strategy*
DEPENDENCIES	N/A
LINK TO ACTION PLAN	N/A – Existing third-party function

MEASURE 30	Surface Water Flood Modelling
Surface Water Flood Modelling will be undertaken in RCTs administrative boundary to enable the production of flood hazard and flood risk maps. These will include information about water depth or level, and water flow or velocity. Additional surface water modelling may be required during the preparation of flood risk management plans or an action within the plan.	
STATUS	Statutory Requirement
FINANCIAL IMPLICATION	Project Revenue – Potential External Funding
BENEFITS	• Measure will afford an increased understanding of the probability and consequences of surface water flooding; • Increases the understanding of where surface water flooding will occur.
TIMESCALE	Dec 2013 (for production of hazard and risk maps) – Dec 2015 (for Flood Risk Management Plans)
LINK TO LFRMS OBJECTIVE	11
LINK TO WG NFRMS	Sub-Objective 2 – Implementation of statutory responsibilities including those set out within the Flood and Water Management Act 2010 and the Flood Risk Regulations
DEPENDENCIES	Provision of surface water flood maps from the Welsh Government.
LINK TO ACTION PLAN	**Action 1** - Development of Local Flood Risk Management Plans; and **Action 2** - Production of Flood Hazard and Risk Maps

MEASURE 31	Reservoir Flood Plans

Following the summer floods of 2007, Sir Michael Pitt was asked by UK Government ministers to carry out a review of the flood-related emergencies which had occurred that year. He made a number of recommendations aimed at improving the UK's ability to withstand flooding. The UK Government agreed all of his recommendations about reservoir safety.

Whilst there is no perceived increase in risk, the Welsh Government made funding available for the preparation of offsite plans for 10 reservoirs. The South Wales Local Resilience Forum were tasked with producing an offsite plan for 2 of these which are outside the area but should they breach would have the potential (however unlikely) to impact severely on the Council Areas of Merthyr, Rhondda Cynon Taf, Cardiff and the Vale of Glamorgan.

The work currently being done on planning for reservoir emergencies involves large raised reservoirs that can hold at least 25,000 cubic metres (approximately 5 million gallons) of water above natural ground level. Work has also commenced by the Local resilience Forum on preparation of a multi agency plan to respond to failure of any reservoirs both within the Borough or that could affect the Borough.

Reservoir flood maps are available to everyone on Natural Resources Wales' website. These maps can be viewed by entering a postcode on the website, which will then display the flood maps and provide information about the reservoirs that could cause flooding at that location.

STATUS	Statutory Requirement
FINANCIAL IMPLICATION	Existing Function – No implication
BENEFITS	• Reservoir flooding can take the same form as normal main river or surface water flooding, but it also has the potential to cause much more widespread disruption and more severe impact. • Prior planning will allow responding agencies to be better informed and better prepared. Communities at highest risk will also be made aware of the potential and advised on the initial actions to take should an incident occur.
TIMESCALE	Short term (0–2 years)
LINK TO LFRMS OBJECTIVE	4, 10, 12, 13, 14.
LINK TO WG NFRMS	Sub-Objective 7 – *Complete emergency plans for all sources of flood risk.*
DEPENDENCIES	N/A
LINKS TO ACTION PLAN	N/A

MEASURE 32	Flood Risk Management Plans

The Flood Risk Regulations (2009) require Lead Local Flood Authorities to prepare and publish Flood Risk Management Plans by December 2015 where the risk of flooding from local flood risk is significant as identified in the Preliminary Flood Risk Assessment (PFRA). Flood Risk Management Plans attempt to assess, map and develop action plans to manage flood risk.

The statutory requirement is only to produce a Flood Risk Management Plan for the flood risk area identified as part of the PFRA. However, the PFRA assessment excluded some areas of high risk due to the national constraints, estimated at 10% of properties at risk. RCT feel that all areas of high flood risk should be included in the Flood Risk Management Plan and therefore propose to carry out the plan for its administrative boundary.

Flood Risk Management Plans will include the following:

- Objectives for the purpose of managing flood risk;
- The proposed measures for achieving those objectives;
- A map showing the boundary of the Flood Risk area;
- A summary of the conclusions drawn from the flood hazard and risk maps;
- Descriptions of proposed timings and manner of implementing the measures including details of bodies responsible for implementation; and
- A description of how the measures will be monitored.

In essence the flood risk management plan will set out RCTCBC's recommendations for managing flood risk within its administrative area. It should be stressed that the plan will consider a holistic approach to flood risk management and will not be solely reliant on traditional structural flood risk solutions. Indeed, in line with the objectives of this LFRMS, RCTCBC proposed to seek out opportunities to use innovative land management techniques, in addition to identifying synergies with plans and strategies that aim to incorporate natural flood risk management processes that promote nature conservation or landscape enhancements.

STATUS	Statutory Requirement (with expanded area)
FINANCIAL IMPLICATION	Project Revenue – Potential External Funding
BENEFITS	• The production of a Flood Risk Management Plan will focus and direct the future work on flood risk management within RCT. • It will inform the work and strategies of RCTCBC's flood risk management partners enabling a co-ordinated multi-agency approach to flood risk management within RCT and at a higher level regional/catchment scale; • It will raise awareness of and improve the knowledge of local flood risk within RCT and provide an insight into its inter-relationship with river and sewer flooding. • It will allow for move innovative techniques at a catchment/regional level

MEASURE 32 (cont'd)	Flood Risk Management Plans
TIMESCALE	Short term – Statutory requirement to publish by December 2015
LINK TO LFRMS OBJECTIVE	1, 2, 3. 4, 5, 6, 8, 9, 15
LINK TO WG NFRMS	Sub-Objective 2 – Implementation of statutory responsibilities including those set out within the Flood and Water Management Act 2010 and the Flood Risk Regulations & Development of Local Flood Risk Management Strategies
DEPENDENCIES	Provision of surface water flood maps from the Welsh Government.
LINK TO ACTION PLAN	**Action 1** – Flood Risk Management Plans

MEASURE 33	Flood Risk and Hazard Maps
The Flood Risk Regulations (2009) require all Local Lead Flood Authorities to produce Flood Risk and Hazard Maps by 2013. These maps will be used to identify the level of hazard and risk of flooding within RCT. These maps will subsequently inform the content of Flood Risk Management Plans.	
STATUS	Statutory Requirement
FINANCIAL IMPLICATION	Project Revenue – Potential External Funding
BENEFITS	• Measure will afford an increased understanding of the probability and consequences of surface water flooding; • Increase the understanding of where surface water flooding will occur and how it is likely to affect the local population and infrastructure; • Enable flood risk management options to be targeted and prioritised based on a quantified risk measurement.
TIMESCALE	Short term – Statutory requirement to publish by Dec 2013
LINK TO LFRMS OBJECTIVE	11, 15
LINK TO WG NFRMS	Sub-Objective 2 – Implementation of statutory responsibilities including those set out within the Flood and Water Management Act 2010 and the Flood Risk Regulations & Appropriate mapping of all sources of flood risk Sub-Objective 5 – *Identification of at risk groups within communities including vulnerable individuals*
DEPENDENCIES	Provision of surface water flood maps from the Welsh Government
LINK TO ACTION PLAN	**Action 2** – Flood Risk and Hazard Maps

High Level Awareness and Engagement

MEASURE 34	Partnership Working
RCT will endeavour to co-operate with other risk management authorities and stakeholders on new functions and potential future projects that are products of the LFRMS. The South East Wales Flood Risk Management Group has been established to facilitate best practice, consistency in interpretation and collaborative working.	
STATUS	Best Practice
FINANCIAL IMPLICATION	Existing Function – No Implication
BENEFITS	• Partnership working avoids duplication of effort and investment amongst RMAs; • Enables a better understanding of regional risks and the actions required to manage them.
TIMESCALE	Ongoing
LINK TO LFRMS OBJECTIVE	14
LINK TO WG NFRMS	Sub-Objective 1 – *Raising awareness of the implications of flood and erosion risk across all business sectors over the life of this Strategy.*
DEPENDENCIES	N/A
LINKS TO ACTION PLAN	**Action 1** – Flood Risk Management Plans **Action 10** – Active Participation in SEWFRMG

MEASURE 35	Community/Public Engagement/Consultation
Raising community awareness and communicating effectively with local communities will enable RCTCBC to set realistic expectations and achievable outcomes for local flood risk management. RCTCBC proposes to proactively inform those that are at risk of local flooding and advise them on what steps to take.	
STATUS	Best Practice
FINANCIAL IMPLICATION	Existing Function/New Function – Potential revenue implication
BENEFITS	• Effective communication of the risk of flooding to those affected can encourage people to be more pro-active at community level. • Community and public engagement will result in greater 'buy in' of the LFRMS by those affected by flooding.
TIMESCALE	Ongoing
LINK TO LFRMS OBJECTIVE	10,11
LINK TO WG NFRMS	Sub-Objective 1 – *Raising awareness of the implications of flood and erosion risk across all business sectors over the life of this Strategy.*
DEPENDENCIES	N/A
LINK TO ACTION PLAN	**Action 8 –** Raising awareness of and engaging people in the response to flood risk management

Monitoring

MEASURE 36	Habitats Monitoring
Special Areas of Conservation and Sites of Special Scientific Interest are monitored by Natural Resources Wales. Sites of Importance for Nature Conservation are monitored on a rolling programme for the Local Development Plan.	
STATUS	Best Practice
FINANCIAL IMPLICATION	Existing (third party) function – no implication
BENEFITS	• Understanding of change in the extent and condition of habitats
TIMESCALE	Ongoing
LINK TO LFRMS OBJECTIVE	5, 6, 7, 8, 9
LINK TO WG NFRMS	N/A
DEPENDENCIES	N/A
LINKS TO ACTION PLAN	N/A

MEASURE 37	Weather Pattern Monitoring
Monitoring of metrological parameters will assist in the calibration and effective development of surface water flood modelling. Additional information will also assist in the study of catchment level flood risk management measures.	
STATUS	Best Practice
FINANCIAL IMPLICATION	New Function – Revenue implications
BENEFITS	• Assists in the accurate production of hydrodynamic models.
TIMESCALE	Medium to long term (5-20 years)
LINK TO LFRMS OBJECTIVE	11
LINK TO WG NFRMS	N/A
DEPENDENCIES	N/A
LINKS TO ACTION PLAN	**Action 1** – Flood Risk Management Plans

MEASURE 38	**Flow Monitoring**
Flow monitoring of watercourses will provide information for the calibration of surface water flood models. Flow monitoring could be used to provide flood warning if this is found to a suitable flood risk management measure.	
STATUS	Best practice
FINANCIAL IMPLICATION	New Function – Revenue implication
BENEFITS	• Assists in the accurate production of hydrodynamic models.
TIMESCALE	Medium to long term (5-20 years)
LINK TO LFRMS OBJECTIVE	11
LINK TO WG NFRMS	N/A
DEPENDENCIES	N/A
LINKS TO ACTION PLAN	**Action 1** – Flood Risk Management Plans

GLOSSARY

C

Catchment – The watershed of a surface water river system.

CFMP – Catchment Flood Management Plan – These are strategic planning tools through which the Environment Agency and Natural Resources Wales seek to work with other important decision-makers within a river catchment to identify and agree policies for sustainable flood risk management.

D

DEFRA – The Department for Environment, Food and Rural Affairs – government department responsible for environmental protections, food production and standards, agriculture, fisheries and rural communities in the United Kingdom.

Discharge - is the volume of water flowing through a river channel. This is the total volume of water flowing through a channel at any given point and is measured in cubic metres per second (cumecs).

E

EA – Environment Agency

F

FCERM – Flood and Coastal Erosion Risk Management.

Floods Directive – The European Floods Directive (2007/60/EC) on the assessment and management of flood risks.

Flood Risk Area (FRA) – Areas where the risk of flooding from local flood risks is significant as designated under the Flood Risk Regulations.

FRMP – Flood Risk Management Plan – Plan produced to deliver the requirements of the Regulations.

Flood Risk Regulations 2009 – Regulations which transpose the EU Floods Directive into domestic law and implement its provisions.

Ffridd – An important historic, cultural and visual landscape, this habitat provides an ecological link, connecting the lowlands and uplands of Wales, and facilitates the movement of numerous species.

G

Groundwater flooding – Occurs when water levels in the ground rise above the natural surface. Low-lying areas underlain by permeable strata are particularly susceptible.

Geomorphology – the scientific discipline concerned with the surface features of the Earth and the chemical, physical and biological factors that act on them.

H

HRA – Habitats Regulations Assessment – an assessment undertaken in relation to a site designated under the Habitats and Birds Directives.

Hydromorphology – Describes the hydrological and geomorphological processes and attributes of surface water bodies. The Water Framework Directive requires surface waters to be managed in such a way as to safeguard their hydrology and geomorphology so that ecology is protected.

L

LLFA – Lead Local Flood Authority.

Local FRM Strategy – Local flood risk management strategy produced by LLFAs under the Flood and Water Management Act 2010.

M

Main River – A watercourse shown as such on the main river map, and for which the Environment Agency and Natural Resources Wales has responsibilities and powers.

N

National FCERM Strategy – National flood and coastal erosion risk management strategy – This strategy was prepared under the Flood and Water Management Act 2010, by the Welsh Government for Wales.

NRW – Natural Resources Wales – Took over the functions of the Environment Agency in Wales on 1st April 2013.

O

Ordinary Watercourses – All watercourses that are now designated Main River, and which are the responsibility.

P

PFRA – Preliminary Flood Risk Assessment – these were required to be published by December 2011 and were the first stage in delivering the Regulations.

R

Reservoir – A natural or artificial lake were water is collected and stored until needed. Reservoirs can be used for irrigation, recreation, providing water supply for municipal needs, hydroelectric power or controlling water flow.

Risk Management Authorities (RMAs) – Organisations that have a key role in flood and coastal erosion risk management as defined by the Act. There are the Environment Agency, Natural Resources Wales, Lead Local Flood Authorities, district councils where there is no unitary authority, internal drainage boards, water companies, and highways authorities.

River Basin District (RBD) – These are the reporting units to the European Commission for the Water Framework Directive and the Floods Directive.

RBMP – River Basin Management Plan – Plan required by the European Water Framework Directive.

River Flooding – Occurs when water levels in a channel overwhelm the capacity of the channel.

S

SEA – Strategic Environmental Assessment.

SMP – Shoreline Management Plan.

Surface Water Flooding – Flooding from any precipitation which has not entered a watercourse, drainage system of public sewer.

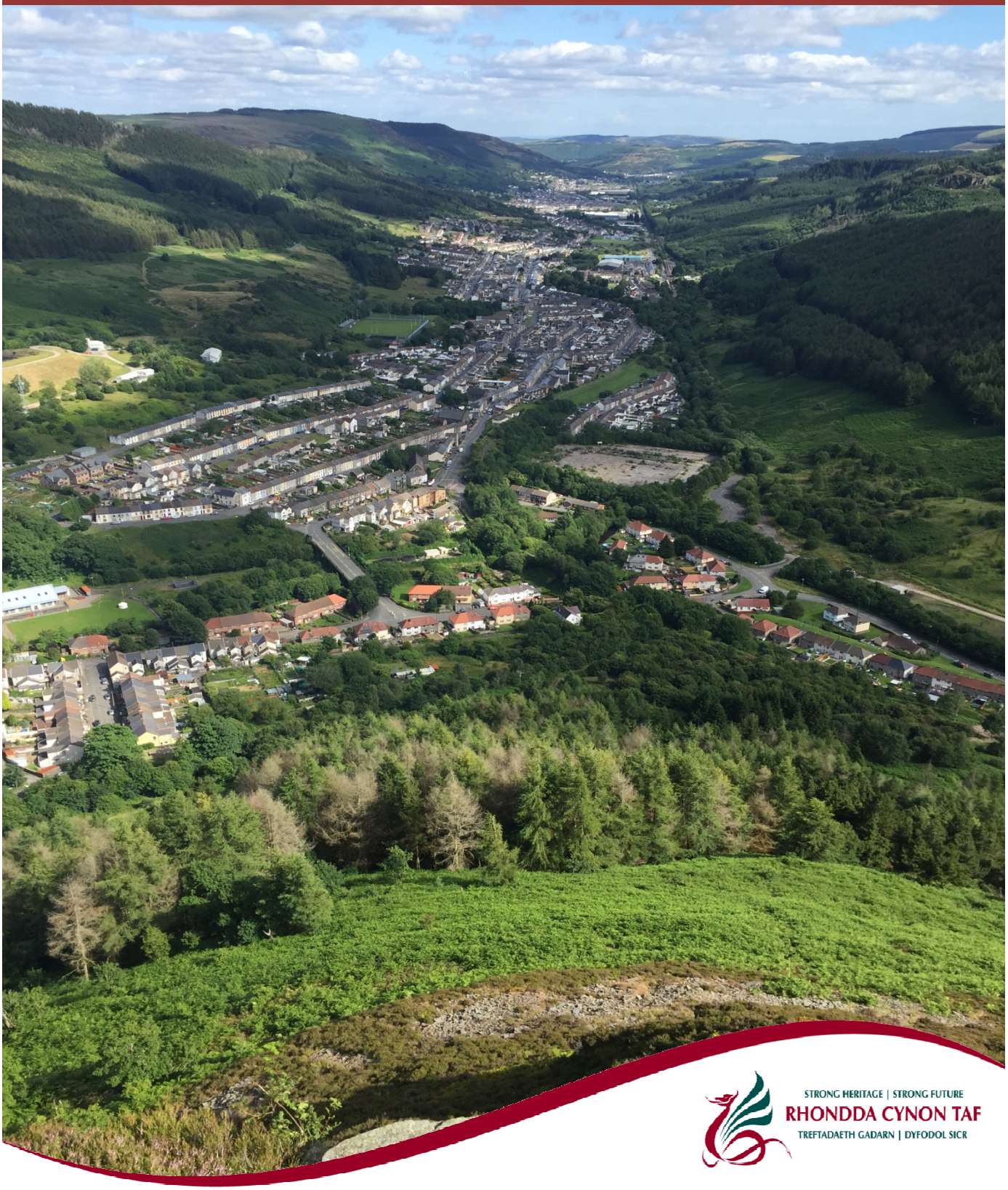
W

WFD – Water Framework Directive.

WG – Welsh Government.

RHONDDA CYNON TAFF COUNTY BOROUGH COUNCIL
Flood Risk Management Plan

CONSULTATION REPORT



STRONG HERITAGE | STRONG FUTURE
RHONDDA CYNON TAF
TREFTADAETH GADARN | DYFODOL SICR

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GLOSSARY

DCWW	Dwr Cymru Welsh Water
FCERM	Flood and Coastal Erosion Risk Management Strategy
FRMP	Flood Risk Management Plan
LFRMS	Local Flood Risk Management Strategy
LLFA	Lead Local Flood Authority
NRW	Natural Resources Wales
RBDMP	River Basin District Management Plan
RCT	Rhondda Cynon Taf
RCTCBC	Rhondda Cynon Taf County Borough Council
RMA	Risk Management Authority

1 INTRODUCTION

1.1 WHAT IS A FLOOD RISK MANAGEMENT PLAN?

Flooding remains a key threat to communities across Wales, and managing this risk through careful planning is important to minimise the risk to communities. Flood risk management planning allows Risk Management Authorities (RMAs) to develop a better understanding of risk from all sources of flooding and agree priorities to manage that risk.

This Flood Risk Management Plan (FRMP) has been developed with this in mind and sets out how Rhondda Cynon Taf County Borough Council (RCTCBC) will manage flooding over the next six years, so that the communities and environment at highest risk benefit the most. In doing so, this Flood Risk Management Plan takes forward the objectives and measures set out in our Local Flood Risk Management Strategy (LFRMS), published in January 2013. The Local Flood Risk Management Strategy for Rhondda Cynon Taf County Borough Council can be found by following the link at www.rctcbc.gov.uk/flooding.

This Flood Risk Management Plan also aims to achieve some of the objectives set out in the Welsh Government's National Flood and Coastal Erosion Risk Management Strategy (FCERM) which provides the national framework for flood and coastal erosion risk management in Wales through four overarching objectives:

- **Reducing the consequences** for individuals, communities, businesses and the environment from flooding and coastal erosion;
- **Raising awareness of and engaging people in the response** to flood and coastal erosion risk;
- **Providing an effective and sustained response** to flood and coastal erosion events; and
- **Prioritising investment** in the most at risk communities.

1.2 LEGISLATIVE CONTEXT

1.2.1 Flood Risk Regulations 2009

The Flood Risk Regulations 2009 transpose the European Union Floods Directive (Directive 2007/60/EC on the assessment and management flood risk) into domestic law in England and Wales. The aim of the Directive is to provide a consistent approach to flood risk across Europe.

Under the Regulations, Rhondda Cynon Taf County Borough Council were identified as a Lead Local Flood Authority (LLFA). While Natural Resources Wales (NRW) is responsible for producing Flood Risk Management Plans at a river basin district level for communities at risk of flooding from main rivers and the sea, Lead Local Flood Authorities are required to produce local Flood Risk Management Plans to manage flooding from surface water and ordinary watercourse.

The Flood Risk Regulations set out a six year cycle with timescales for reporting to the European Commission and the publication of 3 key documents:

- Preliminary Flood Risk Assessment;
- Flood Hazard and Flood Risk Maps; and
- Flood Risk Management Plans.

1.2.2 Flood and Water Management Act 2010

The Flood and Water Management Act 2010 was introduced in April 2010 in England and Wales and set to implement many of the recommendations made by Sir Michael Pitt's Review of the widespread flooding of 2007 in the UK. The Act was also intended to clarify roles and responsibilities between Risk Management Authorities (RMA's).

Under the Act, the Welsh Government was required to produce a National strategy for Flood and Coastal Erosion Risk Management. Lead Local Flood Authorities were required to produce a Local Flood Risk Management Strategy in partnership with other risk management authorities.

1.3 THIS CONSULTATION

This consultation, which covers the Draft Flood Risk Management Plan, was launched on the 14th September 2015. A copy of the consultation questionnaire and associated documents were placed on the flooding section of RCTCBC's website and publicised via a press release and social media. The consultation closed on the 30th October 2015. In total **5** direct responses to the consultation questionnaire were received.

Natural Resources Wales (NRW) provided multiple responses. One of which utilised the standard questionnaire format. Further comments were forthcoming from NRW specifically related to their role as assessor of compliance of the FRMP with the requirements of the Flood Risk Regulations (2009). Finally, comments were received from NRW's Taff Natural Resources Management Team concerning linkages with Water Framework Directive (WFD) objectives and the wider Severn River Basin District Management Plan (RBDMP).

Dwr Cymru Welsh Water responded to the consultation via correspondence (i.e. the standard questionnaire was not used).

No responses were received after the deadline.

1.4 STRUCTURE OF THIS REPORT

The main consultation was accompanied by a *Consultation Survey* containing specific questions relating to the Flood Risk Management Plan. Accordingly this *Consultation Response* is structured according to the questions contained in the *Consultation Survey*. Where respondents have made significant comments outside of the structure of the questionnaire, these have been dealt with accordingly.

2 PUBLIC CONSULTATION ON THE DRAFT FLOOD RISK MANAGEMENT PLAN

2.1 INTRODUCTION

During development of the Draft Flood Risk Management Plan, RCTCBC undertook a public consultation to determine if residents of RCTCBC felt the Authority have sufficiently addressed flood risk within the Plan.

Details of the questions posed, and responses received from the public consultation, are presented in Appendix A.

It is vital for the council to have this input from the public in order to address measures within the Flood Risk Management Plan of community engagement and partnership working.

3 CONSULTATION RESPONSES

3.1 QUESTION 1

Do you agree this draft plan sets out the most significant flood risk issues across Rhondda Cynon Taf County Borough Council?

Question 1 of the survey was designed to assess the public's understanding of flood risk and whether or not they agree with what RCTCBC has determined to be the most significant flood risk issues.

Consultation Responses

Respondents were generally content that the LFRMP sets out the most significant flood risk issues across RCTCBC. One respondent did however disagree with the assessment that the most significant areas of flood risk have been identified – stating that *"more specific areas should be targeted, (sic) as not to waste money"*.

Alterations to be made to LFRMP in light of consultation responses

None required. With reference to the respondent commenting that more specific areas need to be considered – we would stress that this would likely occur as the process of future project/action development and refinement occurs.

3.2 QUESTION 2

What do you consider to be the best measure for managing flood risk proposed within the Rhondda Cynon Taf County Borough Council Flood Risk Management Plan draft for consultation?

- ***Surface Water Modelling***
- ***Construction of Flood Defences***
- ***Pre-feasibility Studies/Project Appraisal***
- ***Flow Monitoring***
- ***Land Management***
- ***Establish SUDS approval body***

Question 2 of the Flood Risk Management Plan aimed to identify what measures the public felt RCTCBC should be taking to mitigate flood risk within RCT and whether or not these correlate to what RCTCBC have already identified as key measures.

Consultation Response

There was no discernible clear measure that responders considered to be the best means of managing flood risk. Two respondents specified *Land Management* as the key to managing flood risk; each of the remaining

consultation respondents chose *surface water modelling*; *Pre-feasibility/Project Appraisal*; and *Establish SuDS approval body* as their preferred measures for managing flood risk.

Alterations to be made to LFRMP in light of consultation responses

None required.

3.3 QUESTION 3

What do you consider to be the greatest cause of flood risk in Rhondda Cynon Taf County Borough Council area?

Question 3 of the survey aimed to understand the public's knowledge of flood risk. This was a key question to include as it addresses the EU reporting code, M43; Public Awareness and Preparedness.

Consultation Responses

Respondents identified that surface water runoff and blocked culvert inlets were the primary causes of flood risk within RCTCBC. This is broadly reflective of the assessments undertaken as part of the LFRMP and RCTCBC embedded knowledge of flood risk within the borough.

Alterations to be made to LFRMP in light of consultation responses

None required.

3.4 QUESTION 4

The Flood Risk Management Plan draft effectively targets and aims to achieve the objectives set out by the Welsh Government's National Flood and Coastal Erosion Risk Management Strategy (FCERM) of:

- ***Reducing Consequences***
- ***Raising awareness and engaging people***
- ***Providing an effective and sustained response***
- ***Prioritising investment***

In relation to the objectives above, do you agree or disagree with them?

Question 4 was used to assess the public's view on the wider flood risk objectives, set out by the Welsh Government for flood risk management across Wales. RCTCBC's measures stated within the FRMP are set to achieve these objectives; it is therefore important to understand whether or not the public agree.

Consultation Response

All respondents either fully or partially agreed with the high-level objectives which the FRMP aims to achieve via the implementation of appropriate measures.

Those respondents in partial agreement commented that whilst they agreed with the general concept and proposed implementation of flood risk management set out within the FRMP, they felt that flood risk management should be portrayed in a somewhat less idealistic manner, with appropriate regard to financial and locational constraints.

Alterations made to the LFRMS in light of consultation responses

None required

3.5 QUESTION 5

How do you think you, as an individual/organisation, could support the work set out in the Draft Flood Risk Management Plan to reduce flood risk?

The Flood Risk Management Plan has set measures which involve public engagement, awareness and preparedness. Question 5 therefore aims to identify how individuals of the public, or organisations as a whole, feel they are able to support the Flood Risk Management Plan's work to reduce flood risk within RCT.

Consultation Responses

Only three of the respondents commented specifically on this question. One of the responses indicated that they felt that the best means of supporting the work set out in the FRMP would be by '*reporting blocked drains'*. The further two comments were of a similar theme – namely that RCTCBC should aim to work in collaboration with both other risk management authorities; and within local communities in order efficiently implement the measures proposed within the FRMP.

Alterations made in light of consultation response

None required – RCTCBC note and welcome the responses on working in partnership with other stakeholders. RCTCBC have included two specific measures within the FRMP for *partnership monitoring* and *community/public engagement/consultation*.

3.6 QUESTION 6-7

Please tell us which of the community areas stated within the Draft Flood Risk Management Plan you current live in

Postcode

Questions 6 to 9 were used to gather information about respondents in order to identify what social and geographical factors might influence respondents' answers. Questions 6 and 7 identified whether the location of respondents within RCT had an effect on their attitude towards flood risk.

Consultation Responses

Only two of the respondents provided details of their community area – these were Porth and Cwmparc.

Alterations made in light of consultation response

None required.

3.6 QUESTION 8

I am completing this questionnaire:

- ***As a resident of the country borough***
- ***Representing a third sector organisation***
- ***As a business person***
- ***As an elected member***
- ***Representing a risk management authority***
- ***Other***

Question 8 was a general question which aimed to highlight what proportion of respondents were residents compared to other stakeholders.

Consultation Responses

Four of the five respondents indicated that they were residents of the county borough. The other respondent was representing a risk management authority.

Alterations made in light of consultation response

None required.

3.6 QUESTION 9

Under the Equality Act 2010 and the Public Sector Equalities Duty, the Council has a legal duty to look at how its decisions impact on people because they may have particular characteristics. Please tell us if you this these proposals will affect you specifically because of any of the following;

- ***You are male/female***
- ***Your age***
- ***Your ethnicity***
- ***You are disabled***
- ***Your sexuality***
- ***Your religion or belief***
- ***Your gender identity***
- ***You are single/married/co-habiting/in a civil partnership/divorced***
- ***You are pregnant***

- ***The language you prefer to communicate in***

Question 9 highlighted whether or not respondents felt they would be more affected by the Flood Risk Management Plan as a result of their social background.

Consultation Responses

The only response to this question came from a single respondent indicating that they were disabled. No further details were provided.

Alterations made in light of consultation response

None required.

4 CONSULTATION RESPONSES FROM RISK MANAGEMENT AUTHORITIES

4.1 NATURAL RESOURCES WALES

4.1.1 Comments in relation to the requirements of Flood Risk Regulations 2009

Natural Resources Wales (NRW) have reviewed the FRMP within the context of the requirements of the Flood Risk Regulations (2009). A summary of NRW's comments and the subsequent response (if deemed required) from RCTCBC is provided in Table 4.1.

The comments received from NRW were minor in nature and have been addressed with subsequent modifications of the FRMP document as required.

4.1.2 Comments from Taff Natural Resources Management Team

Summary of NRW Comments:

The Taff Natural Resources Management Team indicated that they were generally supportive of the environmental statement (sic) but that it *'lacks detail and commitment/ambition*'. NRW have indicated that they would have expected to see more detail as to how the FRMP will link with the Severn RBDMP.

RCTCBC Response:

RCTCBC considers that the measures proposed in the FRMP appropriately link to the measures contained within the Severn RBDMP (ref. Table 12, page 65 of the FRMP). At 'plan' level, RCTCBC would consider it impractical to attempt to provide more detailed statement as to how the FRMP measures would adhere to WFD/RBDMP requirements. RCTCBC would however state, that these issues would be considered at an appropriate level of detail as specific projects and/or actions develop throughout the working life of the FRMP.

Table 4.1: Summary of NRW comments in relation to the requirements of the Flood Risk Regulations (2009)

FRMP Requirement	NRW comments	RCTCBC response
A map showing the boundaries of the Flood Risk Area	A map of Rhondda Cynon Taf is included on page 39 which shows the boundaries of the Flood Risk Area. There is also a map showing the Flood Risk Area boundaries on page 47 and flood risk maps (all with the Flood Risk Area included) are present on pages 78 to 80). Initial review of this draft has deemed this appropriate to meet the requirements.	None required
The conclusions drawn from the flood hazard and risk maps published under Regulation 22 of the Flood Risk Regulations 2009	There are Borough wide conclusions included on page 69 and conclusions for the flood risk area on page 85. There are then more detailed conclusions from the flood hazard and risk maps for each community. Initial review of this draft has deemed this appropriate to meet the requirements.	None required

FRMP Requirement	NRW comments	RCTCBC response
Objectives for the purpose of managing the flood risk	Table 2 on page 27 and table 3 on page 28 contain the Rhondda Cynon Taf Local Flood Risk Management Strategy (LFRMS) Objectives. It is not clear if these objectives have been adopted as FRMP objectives. If so, the plan should say that the LFRMS objectives have been adopted as FRMP objectives. The Directive does ask for 'proposed measures for achieving those objectives', therefore we would expect there to be better linkages between the objectives and the measures in the plan. It does say on page 29 that the objectives are delivered by the suite of measures but we suggest that the FRMP measures need to be linked to the objective reference. I.e. in the tables on page 71 and 77, add a column for objective reference. Initial review of this draft has suggested that minor amendments are needed.	RCTCBC can confirm that the detailed objectives contained within the LFRMS have been adopted as objectives in the FRMP – a clarifying statement to this extent has been added to Section 5.1 of the FRMP. As suggested by NRW, LFRMS objectives of relevance to each FRMP measure have been appropriately cross-referenced in Table 9 (page 49 of the FRMP).
Proposed measures for achieving those objectives, and description of the proposed timing and manner of implementing the measures including details of who is responsible for implementation	Borough wide measures are included on page 71 and flood risk area wide measures are included on page 77. There are then measures against each community that include all the relevant fields including measure number, name, type, timing, status, responsible authority. Initial review of this draft has deemed this appropriate to meet the requirements.	None required.

FRMP Requirement	NRW comments	RCTCBC response
A description of the way implementation of the measures will be monitored	This is included on page 344. The measures within the plan will be subject to a formal review every 6 years with an annual review to assess measures implemented. Initial review of this draft has deemed this appropriate to meet the requirements.	None required.
A report of the consultation	To be completed following consultation.	N/A
Where the person preparing the report thinks it appropriate, information about how the implementation of measures under the flood risk management plan and the river basin management plan for the area will be co-ordinated at a river basin level	Table 12 on page 64 indicates how the Rhondda Cynon Taf FRMP has regard of and provides links to the relevant measures from the Severn River Basin Management Plan. Minor comment against 6.4.2 - should this read Severn Flood Risk Management Plan? Initial review of this draft has deemed this appropriate to meet the requirements.	Terminology in section 6.4.2 adjusted as suggested.
How were the SEA and HRA requirements considered and met?	Page 50 states that the LFRMS is still relevant and valid for the FRMP. We suggest that the link or address for the LFRMS SEA is referenced in the FRMP. Initial review of this draft has suggested that minor amendments are needed.	As suggested, the SEA prepared in support of the LFRMS has been appropriately referenced and a link provided at the foot of page 51.

4.2 DWR CYMRU WELSH WATER

Summary of Dwr Cymru Welsh Water (DCWW) Comments:

DCWW have stated that they are generally supportive of the FRMP and the measures set out within.

In particular, DCWW have positively commented on:

- the inclusion of measures which acknowledge the need to protect key infrastructure;
- the fact that the FRMP considers the WFD and links with the objectives of the Severn RBDMP;
- the intention for RCTCBC to further develop their drainage/flood risk management asset register.

DCWW have additionally stated their desire to work in close collaboration with RCTCBC wherever possible in implementing the measures contained within the FRMP.

RCTCBC Response:

RCTCBC welcomes the positive response from DCWW on its FRMP. RCTCBC consider that no distinct amendments are required to the FRMP subsequent to DCWW's consultation response.

Appendix A

Consultation Questionnaire

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FLOOD RISK MANAGEMENT PLAN DRAFT FOR CONSULTATION

The Flood Risk Management Plan is a requirement of the Flood Risk Regulations 2009. It has been developed with the threat of flooding to communities in mind and sets out how Rhondda Cynon Taf County Borough Council will look to manage this risk over the next six years, so that the communities and environment at highest risk benefit the most.

As required by the Flood Risk Regulations 2009, a consultation on the Rhondda Cynon Taf County Borough Council Flood Risk Management Plan is being carried out between the 14th September 2015 and the 30th October 2015. The questionnaire welcomes your views on the plan and it is important that we have this input, as it provides the council with valuable knowledge at a local level.

Before answering the questionnaire you should consider the Rhondda Cynon Taf County Borough Council Flood Risk Management Plan draft for consultation (www.rctcbc.gov.uk/flooding).

Q1 Do you agree this draft plan sets out the most significant flood risk issues across Rhondda Cynon Taf County Borough Council?

- *Yes*
- *No*

If no, please explain what you think is missing.

Q2 What do you consider to be the best measure for managing flood risk proposed within the Rhondda Cynon Taf County Borough Council Flood Risk Management Plan draft for consultation?

- Surface Water Modelling
- Construction of Flood Defences
- Pre-feasibility Studies/Project Appraisal
- Flow Monitoring
- Land Management
- Establish SUDS approval body

Other, please specify

Q3 What do you consider to be the greatest cause of flood risk in Rhondda Cynon Taf County Borough Council area?

- Groundwater
- Surface Water Runoff
- Blocked Culvert Inlets
- Highway Drainage
- Ordinary watercourse (i.e. non Main Rivers)
- Combined Sewers

Other, please specify

Q3 The Flood Risk Management Plan draft for consultation effectively targets and aims to achieve the objectives set out by the Welsh Government's National Flood and Coastal Erosion Risk Management Strategy (FCERM) of:

- Reducing Consequences
- Raising awareness and engaging people
- Providing an effective and sustained response
- Prioritising investment.

Do you: (*please select one option*)

- Fully agree
- Partially agree
- Disagree

Please give a reason for your selection

Q6 How do you think you, as an individual/organisation, can support the work set out in the Flood Risk Management Plan draft for consultation to reduce flood risk?

ABOUT YOU

Q7 Please tell us which of the community areas stated within the Flood Risk Management Plan draft for consultation you live in:

Q8 Please tell us the postcode of your property:

8 I am completing this questionnaire:

- As a resident of the county borough
- Representing a third sector organisation
- As a business person
- As an elected member
- Representing a risk management authority

Other (*please specify*)

Q9 Do you feel that your views on this consultation are different in any way because of who you are, or are perceived to be, as an individual? (e.g. use of Welsh language, marital status, nationality, gender, age etc.) *Please give a reason for your answer*

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