Community Broadband Scotland –
North Isles & Northmavine (Shetland) community scoping overview

1. **Local Area Information**
    This scoping overview covers the islands of Yell, Unst and Fetlar, and the peninsula of Northmavine within Shetland.

    The whole area is covered by the ZE2 postcode, with the 3 islands commonly termed the 'North Isles.' Approximate population for each island are: 1000 residents in Yell, 639 in Unst and 81 in Fetlar, with an additional 780 residents in Northmavine, totalling ca 2500. The numbers of households on the Council Tax register are: 503 in Yell, 384 in Unst, 56 in Fetlar and 352 in Northmavine.

    Within the North Isles eight areas, in which the majority of premises receive a current standard broadband speed of less than 2Mbps have been identified. Five are in Yell, two in Unst and one in Fetlar. See Table 1.   Within Northmavine ten areas have been identified in which the majority of premises receive a current standard broadband speed of less than 2Mbps.   See the map in Appendix 1 for details. The islands of Out Skerries are also served by exchange activate meaning premises are limited to maximum speeds of 0.5Mbps.

    Table 1 Name and location of areas receiving less than 2Mbps and numbers of associated properties

Island/area	Area receiving less than 2Mbps	Domestic Properties	Non-Domestic properties	Total
Yell	North Aywick	14	0	**14**
Yell	West Sandwick	32	4	**36**
Yell	Herra	12	2	**14**
Yell	Camb & North a Voe/Basta/Colvister	41	2	**43**
Yell	Cullivoe	25	1	**26**
Unst	Uyeasound/Belmont/Westing	89	10	**99**
Unst	Haroldswick/Burrafirth/Norwick	93	20	**113**
Fetlar	Fetlar	56	17	**73**
Northmavine	Northmavine (cluster)	212	26	**238**
Out Skerries	Out Skerries	36	1	**37**
				693

    Please note, for the purpose of the Technical Options Appraisal, the target areas will be:
    - **All Unst**
    - **All Fetlar**
    - **Yell (excluding a circle 2 km in radius around the Burravoe exchange)**
    - **Northmavine (excluding a circle 2 km in radius around the Hillswick exchange and a circle 2km in radius around the Ollaberry exchange)**
    - **All Out Skerries**

    The target area is shown on the map included at Appendix 2. See Google map online – http://www.ni4cb.com/North_Isles_Community_Broadband/Speed_Mapping.html **for further information.**

    There are a total of 1407 properties (households, other properties and businesses) which could benefit from high speed broadband across the target areas listed above.

The whole of the area in question could be described as an island environment; coastal features dominated the landscape and the terrain is peaty, hilly and undulating with thin, poor soils and with no tree cover. Many properties are located far from the main road and on private roads along voes and on croftland, making access and connectivity difficult for broadband services. Land ownership varies across the island.

2. BT exchange(s) service

There are ten exchanges providing the areas. See the table below for details on the number of exchanges per island and their status.

Table 2 Location of exchanges and broadband provision status

Island/Area	Exchange	Status
Yell	Mid Yell	8 Mbps
Yell	West Sandwick	Exchange Activate 0.5Mbps
Yell	Gutcher	8 Mbps
Unst	Uyeasound	Exchange Activate 0.5Mbps
Unst	Baltasound	8 Mbps
Fetlar	Fetlar	8 Mbps
Northmavine	North Roe	Exchange Activate 0.5Mbps
Northmavine	Ollaberry	8 Mbps
Northmavine	Hillswick	8 Mbps
Northmavine	Brae	8 Mbps
Out Skerries	Out Skerries	Exchange Activate 0.5Mbps

All connections from the exchanges are sold through BT Wholesale.

It is understood that the broadband speeds widely vary to properties within close proximity to Baltasound, Mid Yell, Gutcher, Ollaberry, Hillswick and Brae exchanges, or equidistant to other properties serviced by these, due to constraints within the copper-wire infrastructure and/or service provider restraints.

BT fibre broadband is not available to any property across the areas.

3. Existing broadband services

The main provider is BT; 68% of residential responses and 74% of the business responses in the initial North Isles survey (covering Unst, Fetlar and Yell) highlighted BT as their internet provider.

Other ISPs include Talktalk, PlusNet, Sky, Shetland Broadband and Virgin.

Survey data/anecdotal evidence suggests that the main provider in the Northmavine area is BT. Other ISPs include PlusNet, Sky, Shetland Broadband and Virgin.

4. Mobile performance data

See the table below for mobile operators and service provided.

Table 4 Mobile Operators across North Isles

Area		Yell	Unst	Fetlar	Northmavine
Mobile Operator					
Orange/EE		2G	2G	2G	2G
Vodafone		2G	2G	2G	2G
O2		2G	2G	2G	2G
T-Mobile/EE		2G	2G	2G	2G

3G is not available anywhere across the North Isles or Northmavine. No operator provides full coverage in Northmavine, whilst in the North Isles no operator apart from Vodafone provides full coverage; the others provide very limited cover over the area as a whole.

5. Mobile Mast Sites

The following mobile mast sites can be found across the North Isles:
Yell - one Vodafone at MidYell. Some of Yell is fed from the Mainland.
Unst - one Vodafone between Baltasound and Haroldswick, one EE in Baltasound.
Fetlar - one Vodafone via the Archiva mast in North West Fetlar.
Northmavine – Vodafone, O2, and Orange masts located west of North Collafirth.

Any other mobile signal e.g. Tmobile will be spurious signals picked up from Mainland Shetland.

6. Local demand

Community surveys have been undertaken in the North Isles (Yell, Unst and Fetlar) and Northmavine.

The initial consumer survey results from the North Isles survey conducted in July 2013 show that the majority of users (91%) would like a faster broadband service as 75% indicated the current provision has varying limitations. Encouragingly, over 50% of consumer responses showed willingness to invest their time, or financially (or both), to actively support the community scheme.

Every business is key to the local economies of Northmavine and the North Isles. Local businesses have stated that they want an improved, reliable broadband service to meet their business needs. The initial North Isles survey highlighted that 76% of business users said they were not satisfied with their current service and 100% said the internet was critical or important to their business. Importantly, 100% also said that they would like a faster service for both download and upload speeds.

Key businesses on Yell include: Meridian Salmon, Thompson Brothers Salmon, RS Henderson, RG Jamieson and Son, R. Robertson & Son, Global Yell, C&A Thomason, The Shetland Gallery and Aywick shop.

Key businesses on Unst include: Meridian Salmon, Valhalla Brewery, Spence's Tunes, Glansin Glass, Shetland Nature, Baltasound Hotel, Unst Inshore Services, Unst Partnership, Pure Energy Centre and Saxa Vord Resort.

Key businesses on Fetlar include: Gord Shop & B&B, Scottish Water, Fetlar Developments Ltd, Fetlar Museum Trust.

Of those businesses who took part in this survey, 60% were willing to actively support the community scheme in one way or another (at that point in time).

The results from the Northmavine survey indicated that 62.5% of households use broadband for home and business use. 63% of business users indicated their business was being hampered by current internet speeds.

Respondents were asked how important a quality broadband service was for their choice of business location. 50% said it was very important, 41% felt it was quite important and 9% thought it was not important.

Key businesses in the Northmavine area include: Shetland Amenity Trust accommodation, Braewick Café and Wigwams, Northmavine Community Development Company, RK Plumbing, local craft businesses, Shetland Tannery, Nortenergy, Blueshell Mussels, Hjaltland Sea Farms, Garriock Brothers and Scottish Sea Farms.

7. Usage

Due to the remote location of the target areas, access to online services, shopping and social media is significant and often the only option available to users/customers. Some have indicated the restrictions with studying through distance learning and access to training course materials.

Users identified the benefits of receiving a faster broadband service to be: access to web browsing, email, better employment opportunities, increased training opportunities, online media services, social media, access to online forms and services (e.g. HMRC, DHSS.), gaming and 'Cloud services' and other online applications.

With regard to business users, 86% of responses in the North Isles stated that the current poor service put restraints on their business.

There are many small businesses across the areas in the tourism, craft, textiles, food and drink and crofting sectors that operate from a home-base and are dependent on broadband but restricted currently due to slow speeds.

In addition, there is one larger, global company based on Unst and Yell, that is severely restricted in its operations compared with sister sites across the UK due to no and poor broadband connection. This company has stated its support for the community scheme and emphasised the importance in securing a faster and more reliable broadband service to meet its business needs.

We aspire to offer speeds of 100Mbps or more to all North Isles and Northmavine residents, while ensuring that everyone has access to at least NGA (30Mbps) broadband. The network should enable most users to achieve the required speeds at most times. Aspirations are in line with, and reinforce EU targets, and this super-fast service would be of specific interest to some business users across the areas. [EU targets for 2020 are to have 50% of users connected at 100Mbps or better and the other 50% at NGA levels (30Mbps or higher)]

8. Technical studies/review

Shetland Telecom have already undertaken a desk top study for a core fibre network through Yell to Fetlar and Unst, with costs based on similar cable projects undertaken recently on mainland Shetland. They have fibre backhaul in place to Sullom Voe (north Mainland) and this could be readily extended a short distance to link with gigabit wireless links or an undersea fibre to Yell.

A three year wireless broadband pilot project is nearing completion in Fetlar, the end date is March 2014. This has highlighted both the positive and negative factors concerned with wireless technology.

9. **Funding sources**

    Project funding could come from individual contributions (through a share scheme or independently), major local businesses using an enterprise investment scheme and installation fees. As there are a number of groups involved in the management of this projects e.g. community councils and community development companies then there is the potential to draw on a range skill sets, contacts and funding streams.

    It is anticipated applying to the Coastal Communities Fund and Lottery funding.

    There may also be an opportunity to work in partnership with a local power supplier to provide a dual provision of energy and broadband using a fibre network.

10. **Outcomes**

    There are a number of significant positive outcomes for this project:

    Retention (and increase) of the rural population by enabling businesses and individuals to make the best use of world class connections.

    Allowing the development of new business opportunities and opportunities for people to engage in remote working; thereby increasing employment prospects (as stated in business survey responses).
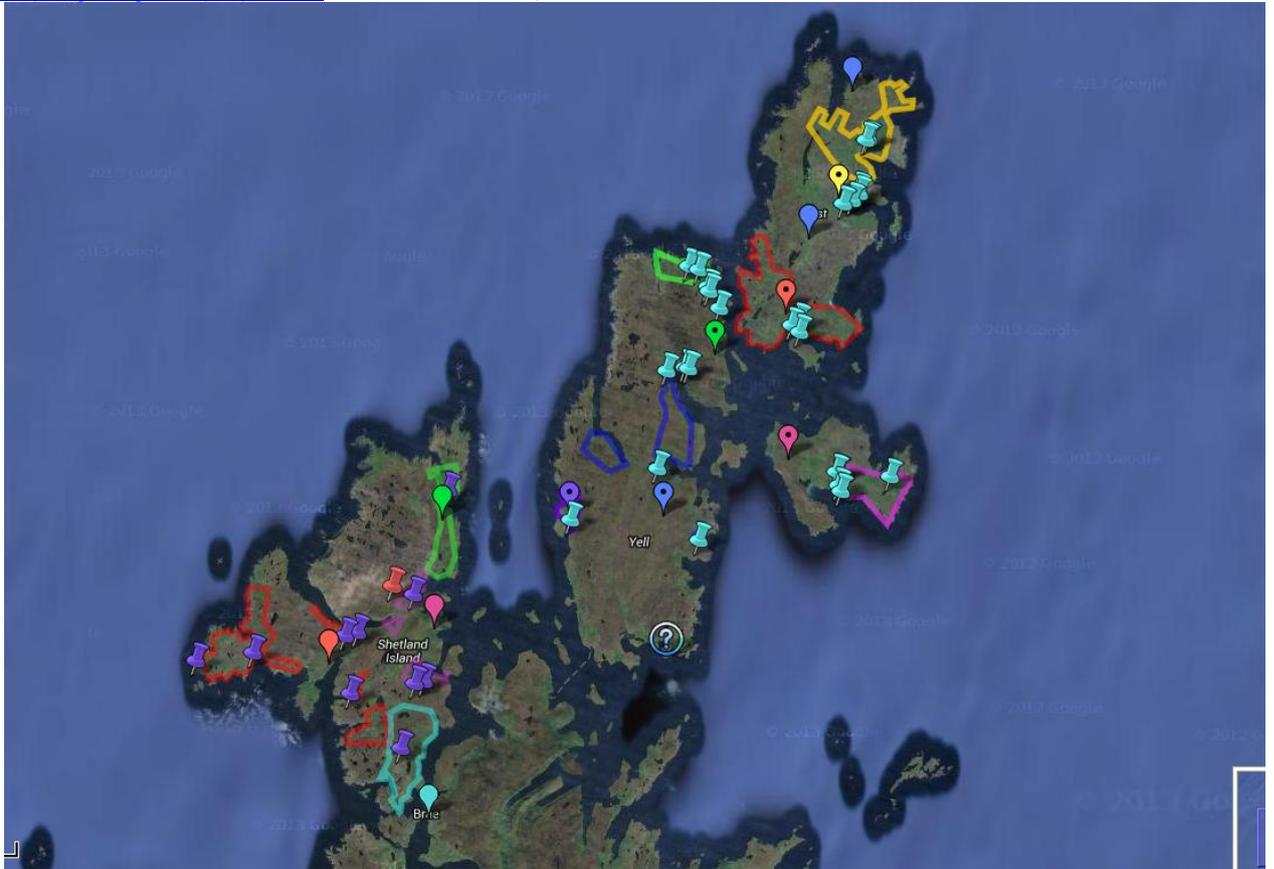
    Allow better access to online learning and training opportunities.

    Better access to digital media services.

    Potential to work with power companies to allow smart grid integration and possibilities for lower energy tariffs.
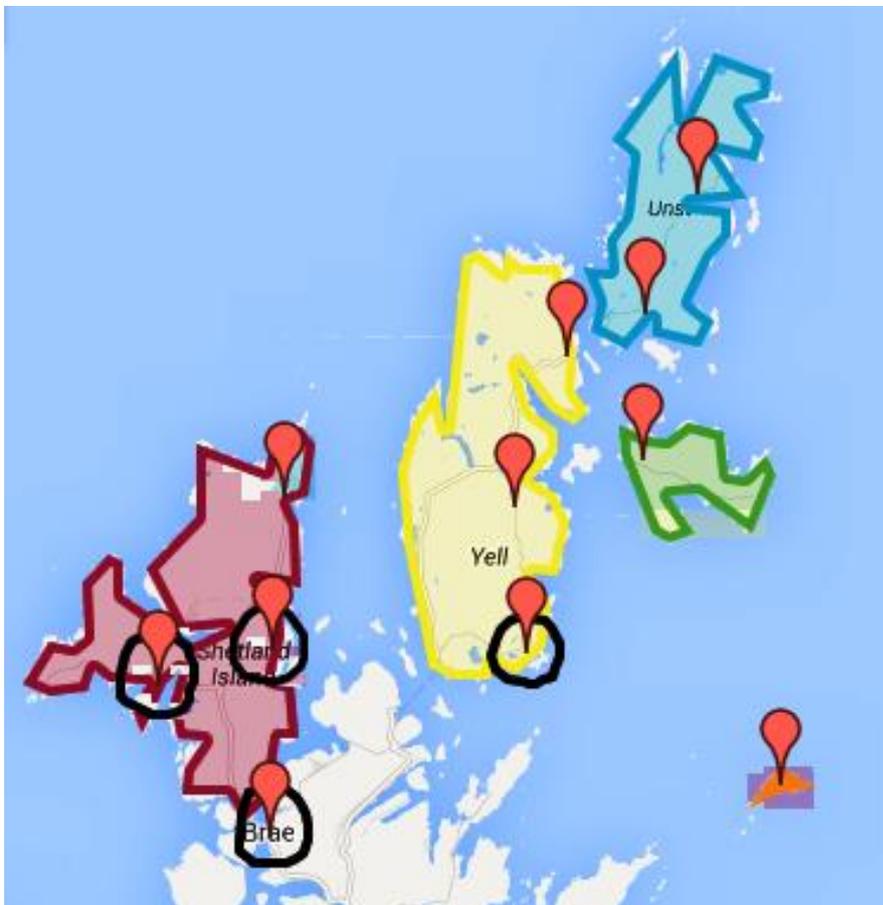
Appendix 1 areas receiving less than 2Mbps and associated exchanges, including key businesses

(See http://goo.gl/maps/jFRbS for more details)

Appendix 2 Target area for Technical Options Appraisal

(See http://www.ni4cb.com/North_Isles_Community_Broadband/Speed_Mapping.html for more details)

Updated map for tender process - inc Northmavine and Skerries.

Add layer

Untitled layer ✓

Style — Data — A Labels

- 🟡 Yell
- 🟢 Fetlar
- 🔵 Unst
- 🔴 Northmavine
- 🟠 Skerries
- 📍 Uyeasound Exchange
- 📍 Baltasound Exchange
- 📍 Skerries exchange
- 2km boundary - excluded from target