

# Chapter 10

## Arkholme to Lyth Valley

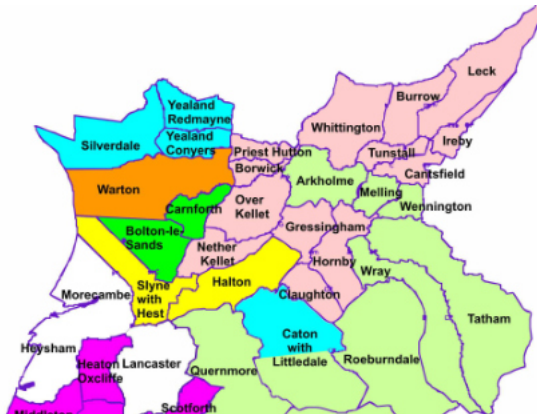
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## Start point, Arkholme

This project is a big branch on the B4RN tree. The branch started off as a small cluster of farmers and businesses wanting a connection. They were in the Whittington parish, but they persuaded Barry to let them join the feed that would come from The Arkholme parish in Phase 1. This also meant that Whittington would get a lot of their core duct put in for them.



The Newton business. Centre.



The Newton dig from the business centre to the core.



Ted and his family digging down the field.

The way they managed the Docker and Newton route was to finance all the dig themselves, using their own manpower and equipment. This meant they only had to find investment for materials. This was similar to how Arkholme had done theirs, but Arkholme had invested in digging shares and hired a contractor. It was a case of JFDI in those early days.

Whittington then joined on as part of Phase 2, and then it went right off the plan as other villages saw what they had done and decided that they wanted to do it too.

The branch started to get bigger and stronger, and over the next 10 years this chapter sees it grow many more branches and dig in hundreds of kilometres of trenches. We will see new cabinets, new communities, loss of the EIS (Enterprise Investment Scheme), the start of voucher schemes, and many more stories from people of grit.

## Docker and Newton 2013

Pat, who brought us tea every day as we worked in Arkholme, had asked to be connected, but she had been told that Docker was not in phase 1. This did not stop them, or the estate at Newton from achieving their goals. They ended up being ‘shoehorned’ in from the Arkholme cabinet.

Newton estate had several farms and business units that were on a long and often faulty phone connection which severely impacted them, so the





Two tractors pulling the drag mole plough.



Fleeting the fibre to get back to Arkholme.



Rob Staveley and Richard Wilson volunteering on the blow.



Phil Wring catches the sponge from Newton.

owner put a lot of time and money into getting the core to Newton. That meant Docker could come off that core too.

The farmers worked for digging shares, and local people invested. EIS was still available on shares, and that helped.

Ted was the estate gamekeeper, and Malcolm one of the farmers, and they dug or moled all the routes from Arkholme to Newton. At one point they used two tractors to drag the moleplough.

Edward, the estate owner, invested, and encouraged other parishioners to do so too, if they could,. Together they managed to raise enough to bring the fibre to their community.

Volunteers from Wray turned out to help Chris Hall and Tommy Hartley, with the massive 4km blow of 144f from Arkholme to Newton. Volunteers from Tatham came to learn the ropes, it would be their turn soon.

Phil Wring, from Wray, caught the sponge at the Arkholme cabinet.

Immediately the Docker farmers started digging too. Philip Ward and Stuart Close, two of the local farmers, dug it all through Docker to Keerside where the Blades family took over. From this branch it would eventually lead to Capernwray and Westwards. (see Chapter 8)

There were a few tech-savvy families on the route through Docker, and many turned out to help the farmers get the duct in the trenches. Some had helped at Arkholme so they knew how to do it.

Phil Haygarth and Steve Duxbury were often in the trenches helping the farmers.

Chris Hall was the main blower at the time, and he and Tommy got Bruce Alexander, from Quernmore, hooked on the job. Chris also learned to fuse, and



Steve Duxbury and Stuart Close at the start of the dig, which is why they looked so clean.



Families turning out to help lay the duct.



Chris Hall blowing house fibres at Docker.



Chris Hall and Iain Robertson fusing the Newton bullet.

assisted Iain Robertson, from Thrushgill, in many of the bullets too. Two hands are always better than one.

At this point in time B4RN did not employ any staff. All the work was done either for free by volunteers, or for shares in their company.


The first customer at Newton came live in June 2013, followed by the Docker and Keerside groups as the route progressed.

Pat managed to get a live service at her farm two weeks before BT stopped providing her dial up service. She was never able to get 'broadband' through the phone. As with many farmers, her lines were too long. John Popham, a famous digital connectivity campaigner, came to film Pat showing it off. (Click the blue box to see it and listen to the sound of dial-up once more).

Pat and Stuart (who was on the parish council) were asked how they had managed it, and before long, were helping and advising the next village how to do it.

As these parishes were not in the phase 1 plan, it reinforced the theory that herding cats was one metaphor, but that the Lord helps those who help themselves is a better one. Other villages soon got the idea. B4RN had to do more cat-herding as demand grew due to the initiative of the communities.

The Newton Business Centre attracted attention from BBC Breakfast with the 1000<sup>th</sup> fuse by Prince Charles. The video is linked in the blue box.

Beyond the Book  
 [John Popham's video](#)  
[Newton Business Centre](#)





The Whittington Lindsey spade on the signpost.

## Whittington

The next village to Newton asked if they could join on. They were all in the same parish after all, and if B4RN had let the others on then why not them too? Pat and Stuart helped them get started.

Jeff recalls, ‘Whittington’s B4RN project started in 2014 when village residents were to asked if they wanted to join the expanding B4RN network which had at that time arrived at Newton, the next village along the Lune Valley. The initial

response was not wildly enthusiastic; although existing broadband provision in the village was barely adequate, villagers had been persuaded by British Telecom that their installation of superfast broadband was “imminent”.

‘The majority of residents were hesitant about putting their trust in a small, relatively new, “maverick” outfit; they were also uncertain about the fact that the B4RN scheme would depend on local volunteers digging a network of trenches around the parish along which the ducting for the fibre optics would run.

‘A survey carried out in early 2014 indicated that only 28% of parishioners were keen on going with B4RN. B4RN’s response, however, was that that figure was sufficient to proceed and that in their experience, once work was underway and new connections were being made, other residents would come on board.

‘A working party of volunteers was duly formed and work began in August of that year when a long stretch of Alkathene pipe ducting was laid across fields between Newton and Low Farm at the south end of the village. This work was done using a mole-plough, a remarkable piece of machinery which could excavate a 50 centimetre deep trench, lay the ducting and close the trench behind it as it trundled along. The mole-plough, however, could only be used over large, flat open spaces; the majority of duct-laying around the village would involve digging trenches with a mechanical digger, laying the ducting by hand, riddling the soil to remove sharp materials, and filling in before ‘making good’ with wheelbarrow and shovel.



‘An important part of the project involved liaising with landowners and residents for permission to access and cross their land. We were extremely fortunate in this respect in that the working group included John P., a semi-retired builder, and Rob M., who operated a plant-hire business. Both John and Rob were born and raised in Whittington and had personal and professional connections with the great majority of parishioners; they were also generous in sharing their tools, skills, expertise as well as their invaluable knowledge of the local topography.

‘It should be emphasised, however, that Whittington’s B4RN project



John and the volunteers sorting the customer ducts.



Chris blowing, Pat and Kristina cleaning the fibre.



Fleeting the fibre to Whittington with the volunteers helping.



Jeff gets his Lindsey spade.

was very much a community effort. The core working group numbered between eight and twelve men and women volunteers who gave up virtually every Saturday over a two-year period to see the project through to completion. At the end of the day, the team had buried a network of ducting around the parish and ran individual spurs across properties and into homes to connect up with newly-installed routers.

‘The job was challenging on several levels, some technical, some physical - but it was done with care, enthusiasm, good humour and ultimately with pride and satisfaction. Meanwhile, those individuals who kindly furnished us with much appreciated refreshments, every week without fail, deserve a special mention ‘in dispatches’.

‘As the team completed its work, B4RN technicians, (many of whom were working on a voluntary basis themselves (like Chris Hall in this photo) would mechanically blow the fibres under pressure into those properties where residents had signed up for a connection. The take-up, in line with B4RN’s predictions, had risen by the end of the project from 28% to over 95%! The team’s final task was to make a detailed digital map of the new network which was then deposited with B4RN for future reference.

‘Whittington today, like many other rural communities served by B4RN, enjoys a reliable, hyper-fast, fibre-optic broadband service which is second to none. The legacy of the initial B4RN project is that it brought the community together socially and demonstrated what could be achieved at a local level as a volunteer-based initiative. That legacy continues to be felt in Whittington and is sustained by the fact that B4RN, as a ‘not-for-profit’ organisation, now employs several local people as it continues to grow and expand. We have, what most people in Whittington would agree, a ‘win-win’ situation.





Digger goes anywhere. At Tebay house, John, Jim.



Tea break Sally, Adrian, Virginia, Pat, Phyllis, Robin, Simon, Jim, Mike



Wet working with Jeff and Mike.

John Pinch was the main organiser on the ground. He recalls that they bought their own digger, and dug round the village. The volunteers installed every property, charging homeowners £20 to do it. This way they did not have to train everyone to do it, and they knew it would be done properly.

The parish council gave them £500 towards expenses. Manon made lots of cherry cake, and the volunteers got together every Saturday for 2 years to do the main work, with John and the others working in between times too. They had many adventures.

After it was over the community group sold the digger and got all their money back.

Paul Parsons by now was trained to fuse, and he and Alistair came to fuse the fibre in the bullets. Pat Close had learned to fuse at Arkholme, and she fused the customers in the houses. Frank, a local electrician and shareholder, had volunteered to wire up the cabinets to the mains. Frank and his team fused the core into the cabinet, and the whole project was a major success. Frank worked for shares until





Bruce Alexander came to blow the fibre to the houses.



Double fibre blow at Manor Farm, of core and house fibre with Chris and Bruce..



20 Metres of spare fibre blown into the chamber.



Alex Dawson, Mike Remond, knee deep.



Paul Parsons fusing house fibres into a bullet.



Paul puts the cabinet bullet back into the chamber.

we could afford to pay him properly. He invented many methods of working, including putting an old towel over his head to test the red light that shows his splices in the trays were good. Frank got hold of an old chassis and built a shed on it so he could fuse in it next to a cabinet. We used that creation for quite a few years.

Once we got our new premises the cabinet kit and trays were assembled there, and all that was needed was a simple bullet enclosure in the chamber next to the cabinet.

Because this was the first network of its kind ,it was all a learning curve, and thanks to Frank and his innovative ideas, we learnt a lot. Their full story is in another chapter.

Alex Colton had been volunteering with us in the summer and came to work for us as a splicer and did many bullets and trays. When it was fine she did





Phyllis Pinch gets her Lindsey spade.



Mike shows off his Lindsey spade.



Whittington displays its Lindsey spade.



John Pinch brings the first customer live, in March 2015.

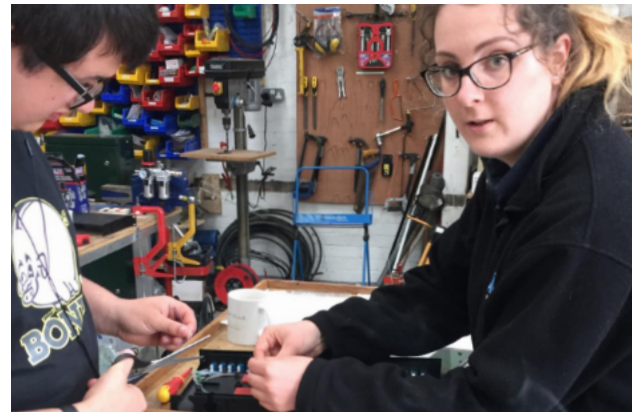
bullets, and on wet and wild days she worked on the cabinet trays in the workshop, as the other fusers did too.

Alex also helped with the training as she had been trained by her dad (John Colton from Lucid), and by her experience working with us. Alex's career path then took her on to lead the splicing team at a new network in Scotland. (Gigaloc)

As well as learning so many new skills, we also spent time teaching others. As we found things out we shared the ideas; we had many ideas.

Because the network had reached Whittington, other nearby parishes took up the challenge, and Hutton Roof joined on. The herd-cats were everywhere.

Whittington dug 10 kilometres of trench.



Alex Colton training Hugh Tamlin to assemble trays in the workshop.



Frank and his towel trick to check the fuses.





Coffee Break with Phyllis, Pat, Paul, Robin, Virginia, Manon, Jeff, Mike.



The Whittington poster.



Final update put on the poster.



The Whittington work horse, next to the poster.





Marilyn.

## Hutton Roof

When Whittington got underway there was a lady called Marilyn, who thought it would be a good idea to join Hutton Roof on.

She called a village meeting and as usual in this village 'Everyone came out of the woodwork'.

They swiftly formed a tribe and Nick Hall and Eve Simpson emerged as the movers and shakers.



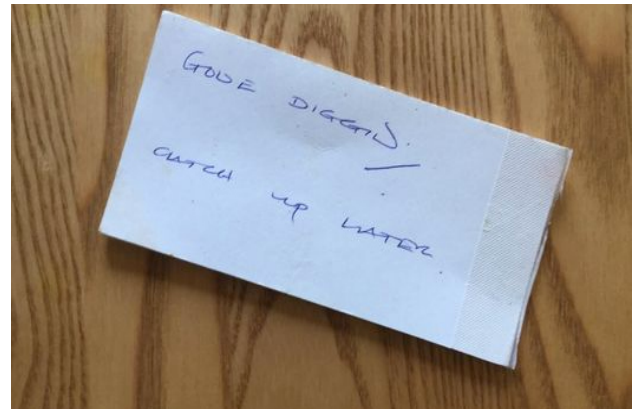
The Hutton Roof meeting.

Barry told them what was needed, and they set out to raise the money. Nick found out how to do it from Whittington, and found contractors to dig it to the village. One epic dig he remembers was Tony Swidenbank and his mole doing 2.5 miles in a day and a half.

They had 15 volunteers every Saturday and often during the week too. This message appeared a lot when Nick was out digging chambers in.



The volunteers helping with the mole ploughing.



Nick's note on the kitchen table.



Eve Simpson digging a chamber.



Volunteers rolling out the ducts.



## Hutton Roof photo gallery



John and Andy laying out the duct to Biggins.



Tony's mole in action.



Contractors dug under the old stone walls on the core route.



Setting off the mole.



Bernard delivering reels of duct.



Bernard taking the duct into the fields to roll out.



House fusing view.



Frank and the volunteers blowing the core fibre.





Adrian Taylor supplying brews to the contractor.



John Dickinson getting the duct to Biggins.



A remote fleet at a chamber on a core blow.



The end of the line, 20 metres in the final chamber.

Bernard delivered the duct with his tractor.

Volunteers reeled out the duct and dug the gardens and installed the house kits. As well as helping with the installs, Adrian Taylor also kept the contractors and volunteers sweet with tea breaks.

Different contractors were used, sometimes a mole on a tractor, and sometimes Tommy Hartley was called in with his pneumatic mole.

To go under things a directional mole is used, then the duct is pulled through, and the dig continues.

Everyone was updated on progress via Facebook, including the excitement when blowing began.

One of the Facebook posts records ‘That’s another 4000 metres installed today - made it to Newbiggin! Over the past three days we have blown 6600 metres of main cable and blown fibre to 30 properties! All fused and ready for B4RN to connect.’

Photo shows one of the remote chambers on the route - the fleet is not the tidiest we’ve seen, but it is still the correct figure of 8, and the ground is clean and dry, so does not need the groundsheet, but it shows the remoteness of the properties and distances between each of them.

It must have been dug well, as Eve records 2228 metres blown by Frank without a hitch.

The villagers collected the cabinet, which was to be sited at the village hall.

The fusers arrived and started joining things up.

This was another community where we have evidence of hard drink. A champagne breakfast when it reached Sellet Hall community.

Hutton Roof dug over 15 kilometres of trench.



## Hutton Roof photo gallery



Volunteers pick up the Hutton Roof cabinet.



Bill from the Mansergh project comes to visit, and watch Tony in action.



Paul Parsons fusing the core route.



Bill Nutter from Mansergh picking Tony's brain.



Adrian shows off his spade.



Nick also got his spade.



Sellet Hall champagne.



Colin gets his spade.





Bill Nutter gets his spade award.



The little grey fergie got the trailer where it was needed.



The lodge park, with all homes now on gigabit fibre.



Bruce Alexander training a new employee (Rob) to blow at Hutton Roof.

## Mansergh

Enter another retired vet and a grey Fergie.

Bill Nutter got a flyer from someone, who had got it in New Hutton. He thinks it was from his daughter. Then Steve Crossley got one, and they had a natter. Bill phoned up Barry, and they planned a route from Catholes over the phone. Barry said it would cost about £10,000. They made an appointment to meet Barry. By the time that happened, Barry had worked out that if he put a cabinet in Mansergh it could help a lot more communities. The price went up...

By now Bill and Steve were committed. Their decision to go ahead meant 4 routes could come out of that cabinet, and help many villages including Rigmaden, Old Town, Old Hutton and Lupton.

They had to re-route a couple of times, once because of a terrible boggy bit, and once for a landowner who wanted payment, but the four routes were drawn, and the project started. Bill visited other groups already in build mode and learned the tricks. He had already visited Hutton Roof, and met the contractors they were using.

The cabinet and route into the village was financed by the Mansergh tribe. It was mainly used to pay contractors, but they also did a fair bit of digging themselves. They connected all the houses, and helped supervise and dig the routes out.

Nigel Goodship joined on to get the route to Kearstwick dug, and Phil Pease did a lot to get the duct to his holiday cottages. The business park came on board, and that helped finance a main road crossing. Lizzie Wilson sorted the route to Rigmaden, and then it was on to Killington, where Will Dehany appeared again to help.

Once the digging was done Bruce blew the fibre



The Mansergh cabinet comes live.



The Plough at Lupton.



Mary gets her MBE spade.



The village spade on the BT pole.



Bruce the Blow, completing the join between Mansergh and Lupton.

through from Hutton Roof and fusing began.

Bill often had to tow the trailer to remote areas with his tractor, but it all went well, and eventually the cabinet came live, with Bill there to witness the fruits of the labour that had lasted nearly two years. Bill patched in the customers and breathed a contented sigh.

Mansergh dug an amazing 48+ kilometres of trench and the branch continued out to many other areas.

## Lupton

The local farm shop to Mansergh wanted a connection, and Mary Tyson recalls Stuart Lambert calling a meeting at the Plough, the local pub. The Lupton connection was to be fed from Mansergh.

They wanted a champion and nobody volunteered, so Mary put up her hand, as she felt it was important for Lupton not to get left out. At the meeting everyone seemed very enthusiastic, so Mary and Ann, another resident at Foulstone, set about getting registrations of interest, and then enough investment to pay for it all.

Mary visited every property in the parish and got to know everyone, many of whom became friends. She really enjoyed it all. Once they got the green light from B4RN and the maps, Mary and Stuart got all the wayleaves, Stuart did the Underly estate end and Mary the village end.

Most of the villagers dug their own gardens or paid handymen to do it.

They paid Tony Swidenbank to mole it all, and kept him supplied with gingerbread.

The fibre had to come to Lupton from two directions as it was not possible to cross the A65. This meant





Mary and Derek fixing up the router for Dorothy's connection.



A rose and two thorns get MBE spades. Peter, Liz and Peter.



The Rigmaiden spade.



Paul threading duct through Alkathene pipe.

the schemes in Lupton moved at different paces, and as a result, one of our early and most enthusiastic supporters was the last home to be connected.

Derek Wightman from the farm and Mary did the house installs, Neil, another Foulstone resident, drilled through all the Foulstone properties with their very thick stone walls.

Then the fibre arrived.

The B4RN fusers got all the core route fused, and the house fusers came to do the houses. Mary arranged all the appointments and helped the customers with their contracts.

The village went live, with the Plough getting its connection in November 2018, and Mary getting her MBE card and silver spade brooch.

The two Peters and Liz also took the route through Rigmaiden.

From Lupton the core went on to Junction 36, which had its initial route thwarted by a landowner. It was originally intended to come via Priest Hutton, Dalton and then up the M6, but the new route paved the way for another branch, and also joined on the Old Hutton (dad's army) project.

Many branches were to grow on the mighty tree.



The Alkathene will protect the duct as it goes under the wall.



Map of the area Lupton - Hincaster

## Hincaster



Bridget's snowdrops welcome visitors to Hincaster.

Hincaster at the time was stuck on very long lines, half on the Milnthorpe exchange, and half on the Sedgwick one.

When the upgrade to FTTC happened, they ended up with an even worse connection.

This was affecting house sales in the area, as well as keeping the residents in the slow lane. Nobody wanted to buy a house with such poor connectivity, (even with Bridget's beautiful snowdrop field).

Mark Meth-Cohn was tearing his hair out with responses from BT, who would not help them in any way, and said they had no plans to upgrade such a rural area in the future. Hincaster was falling behind the digital world. Mark's IT guy lived in Silverdale, and told him of the plans being made to connect their parish up to B4RN.





Mark gets his MBE spade award for all his hard work.



John the taxi.



Loading up the taxi trailer with the gear to do a bullet in a field.



Bruce becomes the gate opener on the journey.

He investigated, and found out that the network had gone live in Quernmore, and things looked promising.

He got in touch with Barry, who looked into the plans and the nearest connections, and told him it was possible.

He was amazed that they had no offices or staff, yet were still helping people where BT could, or would, not. It looked like B4RN was his only viable option, so he went to the parish council, and explained it all, and they were all well up for it.

Mark had a background in project management and civil engineering, so he quickly got to grips with Barry's plan, and started coordinating it all. He spoke to all the landowners and farmers, who were all very keen to help and get a connection too.

They split the project into two phases, the first phase was to get from J36 to Hincaster. To do this he had to dig from where the Hutton Roof project had got to, and from there up to the motorway junction.

He got the funding for this from Egg Homes, who were building a luxury housing development in the area, because nobody was interested in buying million pound homes with less than a megabit broadband.

Tony Swidenbank did the digging and got it to them.

Mark sorted all the wayleaves and mapping.

As this was happening, the residents of Hincaster came to believe it would happen, and Mark split the area into zones round each chamber, nominated one person to control it, and the local digs all started. The parish was defined by chambers, and although each group did their own, they also worked together and shared resources and knowledge.

Mark says it all worked very well and lots of people made new friends.



Assembling the bullet in the field.



An area of beautiful spring flowers. Aconites.



Daffodils.



Status Quo fan very happy with his install and his gig.

Mark collected supplies, and gave each group what they needed, and explained what had to be done. Duct to every property, then dug through the garden to the houses, where he would install the B4RNboxes himself. John Hayhurst did the local digs to join on to the chambers Tony had put in. He was contracted by B4RN to do this, and he also did some garden digs that the householders paid for.

The community invested time and money to pay for it. They had no vouchers, but the share offer gave them free connections if they bought £1500 worth, and the interest rates were very good. They also had the benefit of EIS at the time, so that was a great incentive too.

All the area was ducted and ready for the core fibre to be blown and lit by the fusers. The cabinet was in place and the blowers got the fibre through. The fusers came and one chamber was inaccessible by car due to the rain so John Salisbury got them and their kit to it in his tractor taxi.

Mark took the volunteer fusers around the houses to connect them, and everyone got connected.

The bullet was fused and a happy Hincaster customer and Status Quo fan got his gig.

Mark reckons there was 95% take-up, with about 115 homes and businesses taking the service in the village, and the first customers going live in November 2016.

The farmers were brilliant. They took spurs out to all their remote farms and properties, and these were then picked up by the villages of Levens, Stainton and Heversham. Their stories follow.

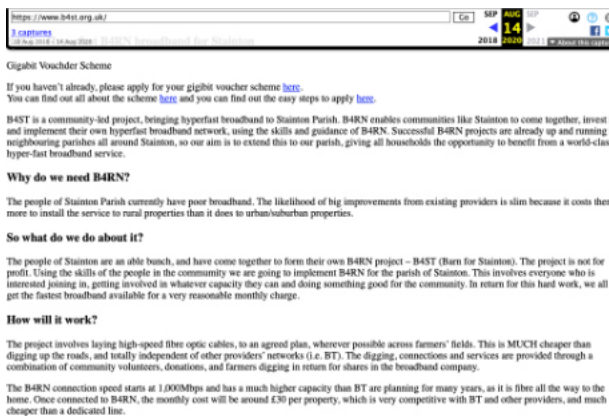
This branch work also enabled the Preston Patrick and Old/New Hutton Parishes to get a resilient link

They dug nearly 16 km of trenching.





Stainton sign.



Stainton web page on the wayback machine.



Marianne and Mike set off on a house fusing day.

## Stainton

Stainton Parish Council had heard about the progress of B4RN. It was already getting a good reputation and had been set up by ‘a chap who was building it properly and for the good of the community’, so they joined in.

Everyone in Stainton had very poor connections to the internet, and poor comms in general, so they held a public meeting at the Westmorland show ground to explore if there was enough interest in B4RN coming to Stainton. A committee was formed and people took different jobs; admin, comms, diggers, liaison with B4RN, door knockers, wayleaves: there was a job for everybody.

Some amazing people came forward and made the job easy and great fun, with monthly meetings to update each other on progress. Pauline Kelly became chairperson, and Marianne Ivory became the secretary, and kept all the admin sorted.

When vouchers came in she sorted those too, and got all the businesses to sign up, which made their projects much more affordable to build quickly.

They had started by raising shares; all the committee bought some, and encouraged others to do so, but they knew they would need more investments, as there were a lot of big digs.

Getting wayleaves for the routes were undertaken by committee members who knew individual landowners. As a result, they only had two small areas they had to dig round. Luckily, the vouchers system coming in really took the financial pressure off individuals, and meant that contractors could be paid not only for the main core digs, but also to do house installs.

The householders at Stainton were amongst the first



Jorj pushing the house fibre through to fuse.



Rob Staveley and Kit Mackereth fusing the core near Halfpenny.



Cag from Halfpenny gets her silver spade.



Pauline's chocolate brownies and sweet peas for the fusing ladies.

to get dig grants from B4RN, and they worked really well. The grant was used to pay the local electrician, amongst other professionals, to install the B4RN equipment in the houses.

There were two techie people on the team, Joe Bowman and Graham Green, and they planned all the routes and documented detours, and fed the information back to B4RN. Joe says they numbered each file as it changed, and this method was taken up by B4RN to keep a track of changes.

Tony Swidenbank and Tony Middleton did their digging, with Tony S doing the road moles, and the directional drills. Everyone did hand-digging who could do it, but they tended to work individually, as Stainton is so scattered, covering both sides of the A65.

Joe says he was a 'backroom boy' and his job was the network design, and making sure the right ducts went in the right places. He spent time knocking on doors to find out who wanted it, well as in the fields, with Mike redesigning routes within the parish they knew would work best to get round obstacles. He said his biggest concern 'was making sure things got done properly'. There were five routes, like a star coming out of their cabinet at the church. Each route served the parish, but also went on to serve other parishes.

Graham Green took one of the routes across the main road to Halfpenny, where there were several businesses, and concentrated on that side of Stainton, working with Joe to keep all the records right.

They all had regular group meetings to let each other know what was going on, Rob Cowly attended all the meetings, and kept the parish informed via newsletters and a website, so everyone knew what was going on. The B4ST.org.uk website closed when the project finished, but you can still find it on Wayback Machine.





Nick's spade award.



Pauline and Paul get their spade awards.



John with his spade award.



Marianne and Mike get their spade awards.

Rob says it was a remarkable project, and personally he was so glad it happened, as it means he can now work from home. That was brought home to everyone when Covid struck. There was no way any of them could have done that before B4RN came. His work is in advertising for the British Tourist board, and involves very big graphic files and videos. B4RN access has literally 'transformed his life'. He now works 'hybrid', part at work and part at home, and says the benefits are similar for everyone in Stainton.

Pauline said a couple of their meetings were at the pub at Barrows Green, to inform everyone in the village of progress, and were great fun. Also she got in the habit of taking snacks to Tony when he was digging, Sausage buns were his favourite, he was so appreciative. She also supplied sweet peas and brownies to the fusing ladies. She was really sorry Covid meant they could not have their wrap-up meeting when the project was finished.

Mike remembers starting the main dig on Peter Cooper's land, and that when the canal was relined they got them to put ducts underneath, 'for the future'. The dig came through those, and to the motorway, and connected the whole village. Tony Middleton dug all that, he says. There were no gardens to cross as every house is surrounded by fields.

He says the management of the project by Pauline, and the work the team members all did, meant it was all very 'easy' and good fun. There was never any bad feeling, everything was so well organised. The team worked together, but did their individual roles very well.

Mike says prior to B4RN the village literally had no internet. Once B4RN started they had 100% interest and about 95% take up, with some really elderly folk not wanting to be bothered. But the duct was left ready for if they changed their minds, and in actual fact some did.

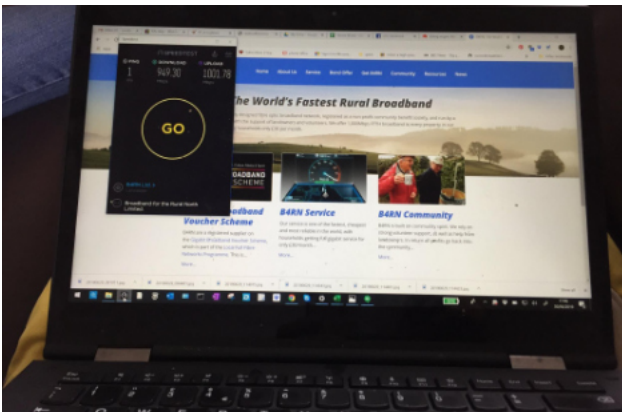




High tech house in Stainton.



Ethernet to every room through the switch.



Great speed test .



The JFDI Lindsey spade.

He also made the point that the vouchers (and the B4RN admin of them) made their job easier, dig grants worked well, and Nick Mathews did his job well and looked after all the financial details.

Frank and Will came to blow all the fibre routes and the house fibres, and the fusers came to do their bit. Marianne, Pauline, Paul and Mike took them round some of the houses, and fitted routers. The fusers were very impressed with some pretty high tech houses in Stainton, and said ,‘What a difference a gig will make to them’.

Stainton dug nearly 20 kilometres of trenching.

They came live in the summer of 2019.



Mike is pictured next to the cabinet with the Stainton Lindsey spade.





Heversham's B4RN banner.



John and Fiona get their MBE spade awards.



John, Iain and Barry with their MBE spade awards.



The cabinet being commissioned by the B4RN team.

## Heversham

Iain Richards had tried to get Heversham interested when he heard about B4RN from Ashley Reece, who had been building a development at Egg Homes at Viver in Hincaster in 2016, and had got a B4RN cabinet in. He canvassed the village, but not enough people were interested; their BT connection served their needs, and although he knew that it would not for much longer, he could not convince them to raise the money needed to do a B4RN project. Still, he had told them, 'You should do this, it is the future'.

Then government vouchers came in 2019 and that made all the difference, he said, as the ones who really wanted it could get vouchers, which would subsidise the build for those who were not ready. He knew one day they would be glad of it.

Mark Jameson who had helped with the Wray/WenNet networks in 2003/4, lived in Heversham, and was fully up to speed on B4RN development, having helped out in Arkholme in 2012, and he encouraged Iain to proceed. Iain and the parish council tried again to raise interest, and this time succeeded.

John Armer was one of the people who went to the parish council meeting at the pub, and he got a bit carried away with it all. They set up a sub committee to do coordinate the work. He 'roped Barry Cheeseman in'. They dug round to Tristans playing field, and got it to the school, then round the back of 15 houses with several chambers. They took it to the edge of properties, helping the householders when necessary.

B4RN did the road crossings for them, and they put the cabinet near the tennis court at Dallam school.

John, his wife Fiona, Barry, and Iain went round all the houses, to see if people were interested and got





Barry doing a house installation.



Barry fuses a house install.



The digger mole.



The digger mole in action.



Barry's digger with its mole invention.



The Stihl cut.

investments, and when a house was interested they paid an electrical contractor to fit the boxes on the houses. In Leasgill, Barry and John did all the installs, as they could do it cheaper and they claim 'better'. Jorj from B4RN also helped them with training and installs. They learned to fuse as well.

Iain worked with the B4RN planners, and suggested routes he knew were possible. They had a lot of limestone to avoid and steep gradients to pass through, as well as a couple of landowners' properties to avoid as well.

The parish council supported them with a grant for leaflets, they formed a tribe and made a start. John, Iain, Adrian Bland, Fiona, Natalie and Rob Philips made up their core members.

They raised enough investments and vouchers to make the project viable, so the first thing that happened was that Barry and John dug from the end of the Hincaster line at Woodhouse, through the playing fields and into the village.

The pandemic was then in full swing, and everyone was stuck at home. It encouraged many to get out and dig their gardens, and Barry and John did the gardens for the elderly people.

Iain says they came up with a genius invention of a Stihl saw with twin blades 9mm apart. With this they could easily cut through driveways, and reinstate to a very high standard.

They had a mate called Brian Haddow from Viver, and he made Barry a mole attachment for his digger, and they used that to save digging whenever they could.

Iain liaised with B4RN to make sure all the ducts went in the right trenches, and one of the team was always on hand when digging was going on, to help and check it was done right. Tony Middleton and Tony Swidenbank also did some contracting work on





Community digs to the houses.



Digging round the houses.



Mark fusing in Heversham in 2020.



Mark fusing in Arkholme during December 2012.

the project.

The dig grants appeared with the vouchers, and some householders donated some of it to their bespoke bank account to help pay for drill bits and things the volunteers needed. Iain says the dig grant was an incentive to get connected.

When the pandemic was in full swing, people could not go on holiday, so more of them invested their ‘holiday fund’ in B4RN, so the project was financially healthy. More people got involved in the digging as it was a glorious summer, and lots of people helped.

Iain says they had a tremendous amount of help from Frank Brown, who came and blew house fibres for them as soon as Barry and John had them ducted up and the boxes on.

Iain remembers ‘The B4RN fusers came and we had volunteered to be trained to fuse. Mark Jameson was already an expert, so he did his own and showed us some tricks.

‘So Barry, John and myself had the training, and then we had a competition to see who got the best score. When a fibre is fused you can see on the screen if it is a good fuse or not, a nice straight line with no bubbles or cracks, but it also gives you a ‘db loss’. Anything under 0.1 is okay on the model of fuser we were using. John went first and got 0.03 which was brilliant, but Barry beat him with 0.02. When it was my turn, I could not believe it when I got 0.0, and then everyone burst out laughing as I had forgotten my splice protector. I had to break it and do it again and scored 0.03, so Barry won’.

When Mark was fusing this connection in Arkholme in 2012, little did he think one day he would be fusing his own in Heversham in 2020!

It had been a freezing cold day in Arkholme in December, and he had to keep running up to the top of the field to keep warm, or his fingers seized up.

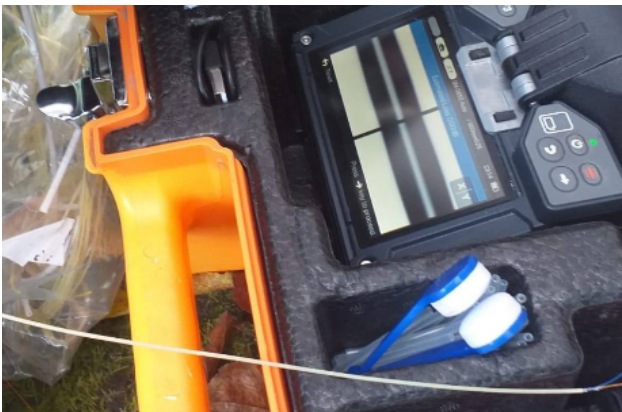




Barry's go.



Iain's go.



A good fuse.



Alex Colton fusing the cabinet trays in the new B4RN vehicle.

Iain estimates take-up for the village was about 50%, with a couple of small clumps not done yet, but hopes a way forward will be found soon.

Iain reckons there is no way they could have done this project without Barry and John dealing with the practical side, they 'just knew' how to do it.

'On Wednesday 30th September 2020 the B4RN core fusers arrived - Danny, Alex, Kit, James, Steve, Jorj and Jon, and Alex did our trays, and then we saw them being patched in the cabinet and the first 44 customers coming live'.

The three musketeers, John, Iain and Barry stood in front of the tallest tree in Cumbria, which is in Heversham, worthy winners of their MBE spades.

Heversham dug 16km of trenches.



John Iain and Barry with their MBE spade awards.



Barry and John - they 'just knew' how to do it.





Tom and Laurence joined Tony Middleton aka Swampie & Sons.



The original A team. With Tony Middleton, working on route 5.



Digging under walls to houses.



LOBB, Dave's team. Levens Old Boys Brigade.

## Levens

In March 2016 Barry Ford came and gave a talk at the Levens annual parish meeting. This gave everyone food for thought. In November 2016 he was invited back for a parish meeting where he answered all their questions. Dave Rogerson had joined the parish council by then, and he hosted it. Together with Kevin Holmes, Simon Dodderel, John Watson, John Wood and Laurence Ormerod they formed a committee. A lot of people were keen, and the committee met regularly in Dave's conservatory, to make plans. In early 2017 Dave was away skiing, and the meetings continued on Skype. Simon Doderel became the chairperson, Laurence Ormerod took charge of maps and wayleaves, and each block in Levens had its own coordinator.

The Levens project was a mix of hard and soft dig and Wet Dig! The soft dig part was started very quickly with Tony Middleton to get the core into Levens, but then to move onto route 2, along the limestone ridge, which took a lot more work with help from Steve Bavin, Tom Addison and equipment loaned from PV Dobsons. A real vintage shot of our A team working with Tony M to get ducting in for our route 5 - the south and eastern flank of Greengate.

Pretty much at the very same time, Church Road was due to be resurfaced by the council. So the B4RN hard dig started 2 months early, with a rush to connect up the 79 houses on the route in just three weeks. Dave with Laurence, Jake and Tom H headed up this connections team, otherwise known as the 'get things done' team. They Did Not uncover bones on this route as it would have forced an archeological survey! Dave's team also known as Levens Old B4RN Blokes, or LOBB had got 28 houses live when Covid struck. 'LOBB's came out to play. LOBBs smashed another 27-metre trench for duct towards Woodside Cottage'.





Numbers on the sign start to creep up.



Passing the village shop, everyone notices the numbers.



Limestone everywhere.



Some Levens champs with their spades and some B4RN 'widows'.

Progress was quite slow until the urban part of the project started, and the B4RN civils team moved in to get the centre of the village done, through the pavements. They installed a ducting system, and put a toby box outside each property. They then pulled through all the ducts they needed into the chambers.

Jorj Haston organised a training day for the LOBB team to teach them how to fuse, and on that day Dave smashed it and fused 26 properties.

They kept a board updated outside the shop, and after the training day the total shot up. Dave carried on installing and fusing. Dave was a chef, and was having a break from catering. He really enjoyed the install and fusing job, so he went to work with Flick at Nether Wyresdale and became a B4RN contractor, fusing most of the houses there for her as well as installing them. He has carried on helping many more communities since then.

Dig grants changed after the Levens project, due to the feedback from the volunteer teams. Many customers had used the dig grant to pay people to do the work for them. Where the volunteers did the work they could not be paid, so word went out that if those who had work done wanted to donate part, or all of their grant they could put it in the Levens charity, and many of them did.

They raised over £12k this way, which is used for many good causes around the village.

Around this time B4RN had a rethink about the dig grants. Some people wanted to donate it to the group of volunteers in a project, but it had to go to a recognised 'charitable' bank account, like Levens had. Another learning curve was coming up.

They kept in touch with all the community through their facebook page.

From the Levens B4RN Project Facebook page we have the following reports.





Dave fusing house connections.



The B4RN civis team arrives.



Another shirt, another fusing day for Dave.



A Toby box next to each property.



Checking the finished wrap in the wall box. No bends.



Core duct to each chamber in the pavement digs.



Jorj from B4RN awards Dave his MBE spade.



A tidy customer install, no sign of disturbance.





Photo of a garden dig going under the tree roots.



Link back to Hincaster.



'I did not expect to spend part of retirement digging under drystone walls, or dragging ducting across a field behind a mole plough. But all of this has been great fun, and also a challenge.'

8 October 2019

Awaiting permission to cross the green and link into our route through Walnut Cottage. This is one of the last missing links to give a route back to Levens Bridge and our link with Hincaster

10 March 2021

Tony Middleton and team are racing around the plain between Levens and Gilpin to plough in route 2.

Today another team from Tony Swidenbank started work with directional drilling to pass under the river Gilpin as well as two dyke crossings. We hope to get a start on routes 5 and 4 once these works and the field crossings are done.

Levens' cabinet came live in 2020, but work continued for a couple more years to get the whole area done.

Dave Rogerson went on to become a B4RN accredited contractor. He now does training for new groups and has helped many get their house kits done properly.

Once Levens was connected the branch network grew out to help others. Crosthwaite and Witherslack joined on, then Crosthwaite went on to connect to Crook, Cartmel Fell and Winster. Dave installed many houses in these new areas and others.

He and the group in Levens continue to install more houses in Levens as houses change hands and the new people want a gigabit connection.

No other ISP offers a symmetrical service.

Levens dug over 20 km of trench.



## The Levens Facebook photo gallery.



Sub-ducting across the car park.



Lawrence Ormerod and subduct.



Digging to the houses.



Digging to St Johns church in 2021.



Digging up paths.



Digging under utilities.



A happy customer goes live in May 2022.



Kit Mackareth and Rob Staveley, core fusion splicers.





Cutting through some rock.



Barry blowing house fibres.



Cutting holes in a chamber.



Hard core digging in 2022.



Kit fusing at the cabinet.



Inside a chamber.



Fusing at the chamber.



Levens Cabinet comes live in January 2020.



Dave Rogerson demonstrates house fittings at the volunteer day.





The tiny shop in the village.



Flick and Nick from B4RN meet Nigel Wilkinson at the county show.



Little B4RN signs appear.



Flick Greenwood and Tony Middleton, the digging contractor.

## Witherslack

Witherslack is an area of limestone pavements and hard digs, but in 2022 the community rose to the challenge.

Nigel Wilkinson and a team of 3 other businessmen led the project. Nigel (Windermere Lake Cruises) finally meets the team after months of Zoom meetings.

Like Mint and Sprint, they made signs to show where houses had signed up for a connection, and soon the area started to blossom with them.

Digging teams were mobilised and duct measured out. Tony Middleton arrived to do the moleing through the fields, and the volunteers did the gardens. Sometimes there was only one duct in a trench, sometimes multiple ducts.

Most of this was worked out by B4RN coordinators and the contractors. Vouchers were available now, and they helped to get the project underway. By this stage in the voucher process, it was starting to look like the local champions would have less responsibility for their projects. But this was proved wrong when the routes moved further north. In Witherslack there was not a lead champion.

However, there were plenty of willing volunteers in the community who certainly did a splendid job, but there were also elderly folk, or people who just expected it all to be done for them.

The community and contractors worked with the volunteers, and the project ended up as being a marvellous achievement despite the rocks. Need a pickaxe even in the lawns! Following is a brilliant example of a top class garden dig. The volunteers used a sheet for the spoil, so as not to lose any in the grass, and to keep the area clean. They folded back





Sheets put down for spoil and sod rolled back.

the sod instead of cutting all four sides, to keep the sods in order, and to facilitate regrowth. As is normal on B4RN digs, and there was tea. The trench bottom was levelled and cleared of stones, and the duct laid into it. The volunteers then soft-filled it with soil first, then all the rest of the rougher stuff, and then the sod is rolled back on and pressed down.

In this way there is hardly a mark left where the dig has gone through, and once it rains all trace is gone.



A pickaxe to loosen the rocks.



Putting sod back.



Tea break.



Levelling the trench.



Backfilling the trench.



Duct in the trench ready for backfill.





From left, retired farmer Danny Jackson, sisters Anya, Thea and Tilly Bennett, and Steve Ratcliffe from the B4RN steering committee. Photo from *The Westmorland Gazette*.

Sue Caddy and Flick Greenwood from B4RN were on hand to help them negotiate walls and hard dig in the gardens.

The *Westmorland Gazette* gave them some publicity.

A local contractor did most of the house kit fittings, with other B4RN contractors from Levens and Middleton completing them all.

Barry Cheeseman from Heversham did a lot of the blowing, and Graham from TS Trenching helped him out.

They also did some full installs including the digs.

Once all the houses had their fibre blown the B4RN fusers arrived and they went live.

As with other villages the B4RN connection to the local church was provided for free. A note on the village website read, 'Thanks to the local volunteers who made this possible and the generous B4RN shareholder who donated their own free connection to the church.'


The Witherslack project dug 39 km of trench.



Barry and Graham doing a house install.



St Paul's church in Witherslack.

 **Beyond the book**  
[Westmorland Gazette](#)



## Photo gallery for Witherslack



Digging under a big wall.



Sue Caddy digging under a wall.



Flick Greenwood sorting duct.



A happy digger.



Barry and Graham on a Ditchwitch dig.



Graham catching fibre for Barry.



Barry and the volunteers on a blowing day.



The B4RN fusers doing house connections in a bullet.

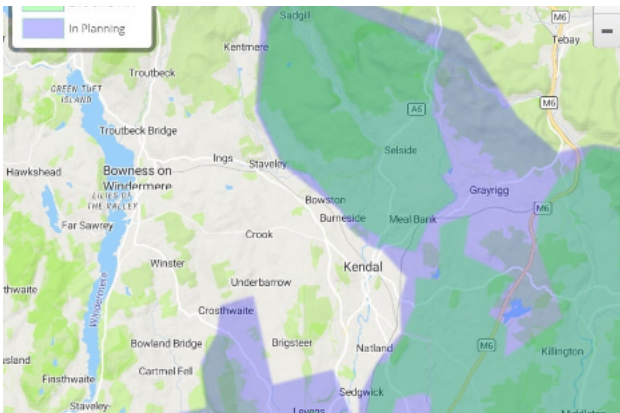




## The Lyth Valley

### Crosthwaite

In July 2020, the first volunteers met in Crosthwaite C of E Primary School hall, to discuss the possibility of connecting to a community-driven fibre connection called B4RN.



Matthew Jessop, who is the headmaster at the school, had approached B4RN for a connection because he was being charged £3500 a year for a connection from BT. He needed that money for other school resources, and there was a grant available to get B4RN to the school.

The only problem was that there was a deadline, and if they missed it they would end up signing another long contract. Stuart Wren, who was the school's governor for finance joined him, as did Andrew Brown, another governor.

In the map of the area, you can see where Crosthwaite joins Levens and feeds on to Cartmel fell, Crook and Winster.

### HYPERFAST BROADBAND

**YOU ARE INVITED TO JOIN US AT A Q&A DROP IN**  
www.crookb4rn.org

### Q&A DROP INS

**SUN INN, CROOK**  
Thurs 26th Aug | 10.00-12.30

**PLUMGARTH CAR PARK**  
Thurs 26th Aug | 15.00-18.00

**Via Zoom**  
Tues 24th Aug | 18:00  
Register at  
crookb4rn.org

**Via Phone**  
Request a call back at  
crookb4rn.org

### WHAT OTHERS SAY

**John Leigh**  
of Hackney & Leigh

"For our homes and businesses to make the most of the internet's potential, now and into the future, we all need access ASAP to a hyperfast fibre optic service direct to our properties.

As an estate agent of extensive experience I can say with confidence that access to these services will have a direct bearing on the value and saleability of rural properties, including here in Crook. Government and university studies confirm this too."

**Richard Metcalfe**  
Crook Parish Council Chair

"Many properties in Crook have unacceptably low speed connections and are unable to do things others take for granted. B4RN offers the chance for everyone in the community to get the access they need, not only now but for the future as the demand for bandwidth speeds up all the time. I urge everyone to join in this important community effort to get the whole area a state of the art service at a very competitive price."

**1st Place in ISP Reviews**

"Incredibly fast broadband 100bps + There's an option to upgrade to 1000bps. Extremely competitive price £30 per month + one off connection fee of £150. B4RN has a 95% take up of all properties in the area that they cover."

www.fasterbroadband.co.uk

Andrew took on the PR role to raise awareness and motivate everyone. Anyone who has ever met Andy would testify to his tenacity, and the fact that he did a splendid job. They had some great members in the community.





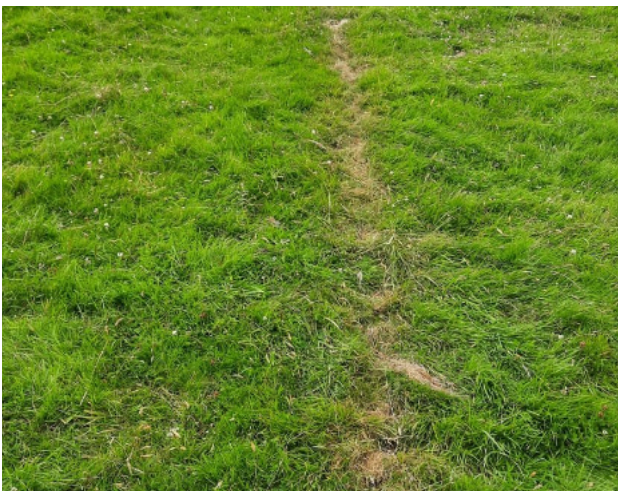
Mike Bevans, Adam Walker, Matthew Dobson, Matt Jessop, Stewart Wren, and Martin Casson.



Tony Swidenbank and Graham., TS trenching, bringing the feed in.



Tony Middleton at the Gilpin join.



Reinstated field. Low impact mole plough.

By December 2020 they were ready to start in the Lyth Valley. Above, the photo shows the first soil cut, with Mike Bevans, Adam Walker, Matthew Dobson, Matt Jessop (head of school), Stewart Wren (Project Lead), and Martin Casson, chair of the Lyth Valley Landowner Association), who was a great asset in helping landowners understand what was happening.

Andrew Brown whipped everyone into shape and showed no mercy in press-ganging people into the tribe. They had no issues with landowners, as they had all attended the school, as did their children and grandchildren, and supported the project.

One absentee landlord was a problem, but they just went round that land.

Crossing the Gilpin was their first expensive job, but then it was not far to the school. Levens had left their join for them.

The quality of the work was superb, as shown in the photos

The volunteer dig group dug to all the properties around the cabinet site, including the community hall and the church.

They were suitably fuelled by tea and cake.





Digging the fibre to the properties.



Re instated path.



Rob and Ronan arrive to blow core fibre.



Andy telling Matt Warman MP at a blow how they have fought to get their fibre.

The fibre blowers arrive and the core team blow the big fibres through from the Levens join to the cabinet chambers.

Matt Warman MP, minister for the DCMS, got a very clear picture of what B4RN volunteers would like from his team. A good day, in good spirits all round. You can feel that the Crook, Crosthwaite, Strickland Ketel and Cartmel Fell also got a good representation at this meeting. The house blowers entertained the MP.

Andy Brown kept everyone informed through Facebook, and on 7th June 2021 he announced, 'Crosthwaite Route One, up the Lyth Valley to the hall is now LIVE. If you're not live yet, awaiting ducting, house kit or router installation, then get in touch now!'

Once the school and the houses round the cabinet were connected, Andy took a step back and another school governor who had been involved took over the organising. Henk Muller led the teams into Phase 2 of Crosthwaite, which enabled the other Lyth valley projects to happen.

Andy reckons they had about 50 volunteers working on the project, and they claimed the dig grants B4RN were providing, which all went into a community pot. They used the money for their essential tools, and if any had excessive travel costs then a petrol allowance could be paid. They raised about £20,000 and Andy reckons they spent about £5k of it. The balance will be returned to the community, the village hall, school and the Parish council, who set the fund off with £1000.

Dig grants are not paid until customers come live, and B4RN gets the voucher money to pay them. They wanted to do the digs themselves to be sure of them being done properly and also to keep money in their community.





Digging out the base for the chambers and the Crosthwaite cabinet.



Crosthwaite cabinet.



Crosthwaite Primary school.

Up until then the dig grants had been paid to the householders, but this proved to be a better use of it and B4RN took it on board. Each community seems to improve what B4RN does if they feed information back to the mothership.

MP Tim Farron came to visit when the school came live. He had been very supportive of the project, and very pleased to know the school had won a future tech award because it was a high tech school, with all the children having their own chromebooks to get used to technology at an early age.

Crosthwaite have dug over 25 km of trench to date.



Tim Farron MP visits the school.



The mighty Crosthwaite team. Henk Muller, Martin Casson, Andy Brown, Matt Jessop, Stewart Wren





Andy Brown.



B4RN banners raise interest.



Parish meeting.



Planning.

## Crook

Boyd Gilmore had moved to the area 4 years previously, and the broadband speed at his new address was appalling. He struggled to work and communicate effectively, and at one stage resorted to using a local microwave radio internet system. His family were reluctant to visit because of the poor internet connectivity - specifically the upload speed. He had a friend in Nook who had recently got connected to B4RN, and so he knew about the B4RN concept and how good the service was - and was therefore very jealous!.

One day in July 2021 he saw a sign at the end of his lane saying B4RN was coming to the area. It immediately grabbed his interest, and he soon met the key activist in the area, Andy Brown. Andy was a governor at the nearby Crosthwaite school and had been instrumental in getting B4RN there, and now wanted to help others in the Crook locality to get B4RN too.

Subsequently a team formed in Crook to raise interest and get the B4RN project started. They divided the area into 6 zones and allocated volunteers to go round all the houses in the area to assess interest in getting B4RN - they called this "door-stepping".

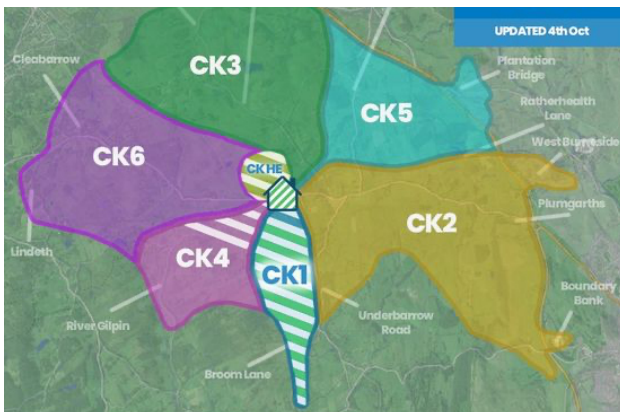
As a relative newcomer to the area Boyd did not know many people locally, and so was rather apprehensive about visiting strangers to talk about B4RN. But he is from a farming background and often found it helped to introduce himself as a neighbour, and make connections about the stock or farming life for a while before even mentioning B4RN and getting technical. Eventually he got used to meeting up with local landowners and neighbours and actually enjoyed it, often returning to give people more information, and securing wayleaves.

The responses he got were mixed, from 'thank goodness someone is going to do something at last'





James Taylor and Nick.



Crook I on the map.



Tea for the church diggers.



The Church digging day.

to ‘don’t trust it, wouldn’t touch it with a bargepole – not for that price, it must be a scam’. A few people had really no interest in a digital world, and were happy with the postman visiting daily. They were unable to conceive of the need to future-proof their connectivity and engagement with the wider world.

The Crook group held a series of meetings for the public in the Crook Memorial Hall, together with pop-up meetings in the local pub, the Sun Inn, and in the grounds of Plumgarth’s farm shop and retail park. Andy Brown was their visionary and chaired the meetings, and kept visiting B4RN for updates. A core of about 20 volunteers was actively involved. They also had a weekly Zoom meeting where everyone could share their information.

Andy Brown reported on Facebook. ‘A great day on Friday at the Volunteer Coordinators’ Day in Melling, at the B4RN HQ. Nick being shown ‘the ropes by James Taylor (in the photo above)

They achieved approximately a 70% positive register of interest which meant that they hoped that they could start building soon.

However, the processes and lack of information from B4RN tended to slow things down. What they really wanted to know was, ‘what steps they needed to take, how much money they needed to get to ensure the project’s viability, and when B4RN could start to build’.

B4RN could not tell them because the BDUK computer system had a bug and so nobody could sort out the vouchers, and without them the project would need to raise a lot more money. Bit of a chicken and egg situation. Also, they could not find out what steps in what order to take. Every project was unique, and there was no template to tell them what and when to do things – they had to reinvent everything based on what they could pick up from others who had done it. They attended the B4RN showtell days and talked to other groups. John and





Investment flyer.



Ann, Liz, Judy L, Judy P, and Pippa bringing duct home at Spigot Cottage.



Ladies working in the frost.



David Foster keeping Steve right.

Judy Leigh were very active in the trenches, and fitting house kits, and digging gardens. John also is an estate agent and could see the potential for the valley if they had decent broadband.

Having designed the route and obtained the majority of the wayleaves, Andy kept things going through weekly Zoom meetings. One of the volunteers, Nick Truch, provided invaluable technical expertise setting up a private website, integrated mapping software to facilitate the process of drafting and recording of wayleaves, and drafting tube-maps and site assessments. Nick's technical mastery was a huge asset to the Crook project, as he was able to very efficiently automate many of the processes, saving a huge amount of time and duplication of effort.

In response to B4RN guidance regarding the process of 'dig and fits; a community dig and fit team was set up, as well as a B4RN for Crook and District entity and bank account. Andy Brown, Chris Mowatt, Godfrey Hunter, Lucy Heatherington, and Boyd Gilmore were appointed as managing members. Dig and fit dig grants were paid into the community pot, and that meant the team would do all the house digs and house kits, so that they knew they were all done properly to the B4RN standard.

They held more events in the village to get sign-ups, investments and shares, and made plans to start digging. Nick Truch, David Foster and Johnathan Jeacocke went to a training session, which was 'not much good', and they basically set to and did all the tube maps from the spreadsheets and .kmz files B4RN supplied, and shared them through the team's private website.

David Foster had been endlessly working in the background, helping with wayleaves, delivering supplies, and collecting duct and house kits from the Melling depot. He was instrumental in the project's success and still assists with installations for latecomers to the party.





Tony Swidenbank's team



Volunteers reinstate the land where it branches off to houses.



Volunteers levelling a trench.

Elizabeth Jolley wrote on the Crook Blog, 'September 12th - Monday morning at Crook Hall and the discussion is which way do we dig next? East to Whinpot or North to the Memorial Hall? With Dave Foster's help - he had been talking to the farmers - Steve, Adam and their ploughs set off. They also believe that they will have dug duct all the way to the memorial hall by Friday.'

Tony Swidenbank, Liam and Graham worked on other routes, and volunteers reinstated the land where it branched off to houses.

They had three B4RN contractors all working at the same time to beat the voucher deadlines, and get the job done. All three were brilliant, Tony Swidenbank, Tony Middleton and Steve Foster.

Each zone champion kept the landowners informed when the diggers were going to be working on their land. The zone champs kept an eye on the work, and also kept everyone else in the team up to date on progress, and updated the Facebook pages.

Pete Simm then organised the dig and fit team. They had team training days with Jorj Haston and Sarah Pollitt who showed them the B4RN standards, and they did all the house digs and house kit fittings for everyone. There were 15 active members in this team. They even had a ladies team of Pippa, Judy P, Judy L, Liz and Ann.

A few householders did their own digs, but always supervised by a member of the team because they wanted all the installs to be to a consistently high standard.

They set up a bank account and constitution to accept the dig grants, and that enabled them to buy the tools they needed. Claiming the grants was tricky, but they overcame that too; it was one of the first of such schemes B4RN had tried, and another change, another learning curve.





A dig to every house.



Whole families at work.



Lots of duct to lay.



Diggers of grit.

They all said it was great fun most days, getting ‘down and dirty’, learning how to get under stone walls and different skills from their day jobs.

Because of the way this project worked, there was not the engagement that comes from everyone digging their own gardens, and volunteers helping. Some households thought the volunteers were just ‘workers from a utility company’ and often did not even offer them a brew. That did not really matter, but there was not the same job satisfaction working at their houses as there was at other homes, who understood it was all being done by volunteers, for no payment at all, but just for the satisfaction of doing something Good.

The dig teams worked in all weathers and took duct to every house boundary and dug through to the premises where people wanted to take the service. Their fit team then went and fixed the boxes on the houses ready for the fibre blowers and fusers to arrive.

Across drives, gardens and up slopes, the intrepid dig group got to all the houses from the core Steve or Swinny had put in. Spare bits of 16mm duct were used as extra protection for the 7mm house duct through tracks and hedges. Tea breaks were enjoyed, and on the last dig day they celebrated with some bubbles. Well done to all the people of Grit.

Once all the digging was done and the house kits installed on the walls, the fibre blows started. Frank Brown was our biggest support and David Foster went round with him to show him where everything was. It was a big area to cover.

The four As were definitely apparent in the Crook project.

The Activists got everyone going,

The Adopters got the jobs done.

Most of the Apathetic came on board.





A cold frosty dig.



Sunset approaches.



Tidy dig, keeping it clean.



Last of the summer wine?

Very few Anti's remained.

Take-up was high.

Boyd says everyone you talk to says how fantastic it all is, and what a fantastic experience it was to be part of it all. They love B4RN and the service is unbelievable.

Andy Brown kept people updated. On Saturday 30th September he wrote from the Sun Inn, 'Greetings to our B4RN community!

'Time has swiftly flown by, and it's with immense pride that we reflect on the incredible journey we embarked upon just a year ago.

'On the memorable 17th of August, Steve Foster, along with his trusty mole plough, initiated Route 1 from the Crosthwaite B4RN Interconnect, to Crook Memorial Hall. Little did we foresee the remarkable strides and challenges that would unfold over the subsequent months.

'From freezing fields on New Year mornings to rain-soaked fibre installations, our dedicated volunteers have faced it all with unwavering determination.

'However, our venture was not confined to the physical labour of the past 12 months. Back in April 2021, many of you were only becoming aware of the mountain of work required before the mole plough could start, including route planning, site assessments, and navigating the complex web of wayleaves.

'The first volunteer Zoom meeting on May 12th, 2021 marked the beginning of our united efforts. A heartfelt thank you is in order for each volunteer who stepped up, turning the improbable into the possible, even in the golden years of retirement.

'Our gratitude also extends to the exceptional B4RN staff and contractors who, despite juggling numerous concurrent projects, have diligently met





Swinny holding the workers up. Or maybe congratulating them?



Landscape dig.



Tea time for diggers.



Champagne instead of tea.

government policy deadlines, and ushered in a superior internet service.

‘Initially, our target was to get 200 properties to agree to request a service and we find we have 211 who have already gone live, out of 340 who have requested a service.

‘The finish line is in sight, with approximately 100 properties primed for a service rollout, notably within business parks and key locations like Plantation Bridge, setting the stage for the monumental link across the A591.’

Andy Brown 2024.

There are 310 + properties connected in 2025.

The cabinet at the village hall came in September 2022.



Crook chamber - David Foster said ‘it was great to see it finally get there as we felt we were getting somewhere at last’.

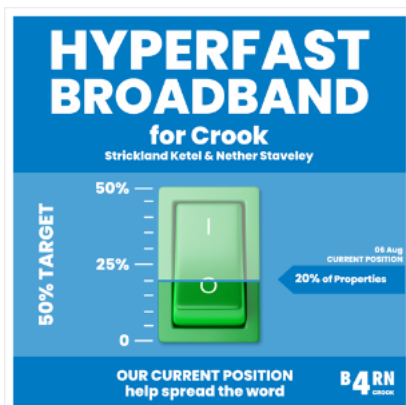




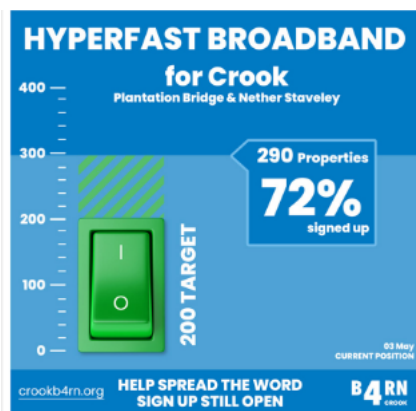
Sign updated regularly.



Public information signs.



Updated counters.



Sign up score.

## Crook B4RN Overview

(by Nick Truch)

Like many other volunteers on the Crook project, we have long grappled with poor connectivity. The best BT could provide was a meagre 5 Mbps download and 0.2 Mbps upload, labelled as a Fibre to the Cabinet service.

We explored pricier alternatives like a satellite dish and mobile data SIM cards, but all proved equally inadequate.

Receiving a B4RN 'call to arms' volunteer leaflet through our post box filled me with hope, envisioning our rural and somewhat secluded property being connected to a full fibre network. I promptly volunteered, with no knowledge into what was about to unfold.

Fast forward 3 years, with just over 300 properties connected to B4RN's full fibre Crook Cabinet, I begin to grasp the incredible feat our community project has accomplished.

It serves as a prime example of how individuals who refuse to accept the status quo can unite and make a positive change in their local community.

It is also thanks to organisations like B4RN who have given us the opportunity to improve our area.

It hasn't been without its challenges, but we faced each obstacle together as a group and overcame each one to drive the project from conception to tangible plans, resulting in a fully funded and operational network.

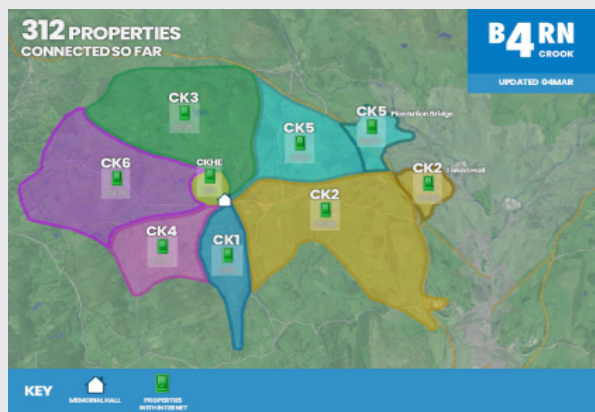
The driving force behind our project has been a shared mission for improved connectivity, but a key success factor has been a flexible approach to volunteers. Allowing volunteers to contribute as they are able.



WAYLEAVE TARGETS for Crook				
underpinned by one of four goals with others digging through				
	IN DISCUSSION	AGREED	SIGNED	TOTAL LAND PARCELS
CK1	—	—	10 (10)	10
CK2	—	—	84 (84)	84
CK3	—	—	25 (25)	25
CK4	—	—	25 (25)	25
CK5	—	—	10 (10)	10
CK6	—	—	30 (30)	30
WITHOUT SIGN WAYLEAVE COVERAGE				169 (169)
PROJECT EXTENSIONS				
CK5.2	8	2	1 (1)	11
CK1.2	—	—	1 (1)	1

It's been amazing to discover the range of skills and expertise people of all ages and backgrounds have to offer; in a relatively small and rural area, and what can be achieved when those talents and skills are put towards a common goal.

From knocking on doors and designing leaflets to organising wayleaves, conducting site assessments, coordinating garden digs, router installations, and of course, essential cake baking to sustain our volunteers; we managed to cover all bases!



A moment of reflection and feedback to B4RN HQ: one of the biggest challenges, something we unfortunately didn't have, was a clear set of instructions on how to run a local B4RN volunteer project.

We all had the sense that we were re-inventing the wheel at each step, designing a leaflet, setting up a website, how to organise wayleaves, how to efficiently capture a Site Assessment etc.

Each time we would say to ourselves 'someone somewhere in another local group must have already done this!'.

What we lacked was a framework, similar to what you would expect if you were opening a fast food outlet, you would receive a franchise pack with branding guidelines, communication templates, checklists, procedures, and online tools and resources.

As a volunteer group we had to fight for the project's viability. B4RN HQ gave us specific targets we had to reach before they committed any resources and contractors to the project. We also found ourselves in the middle of a government funding policy change through the voucher scheme. As a group we've been through quite a few stressful and challenging times.

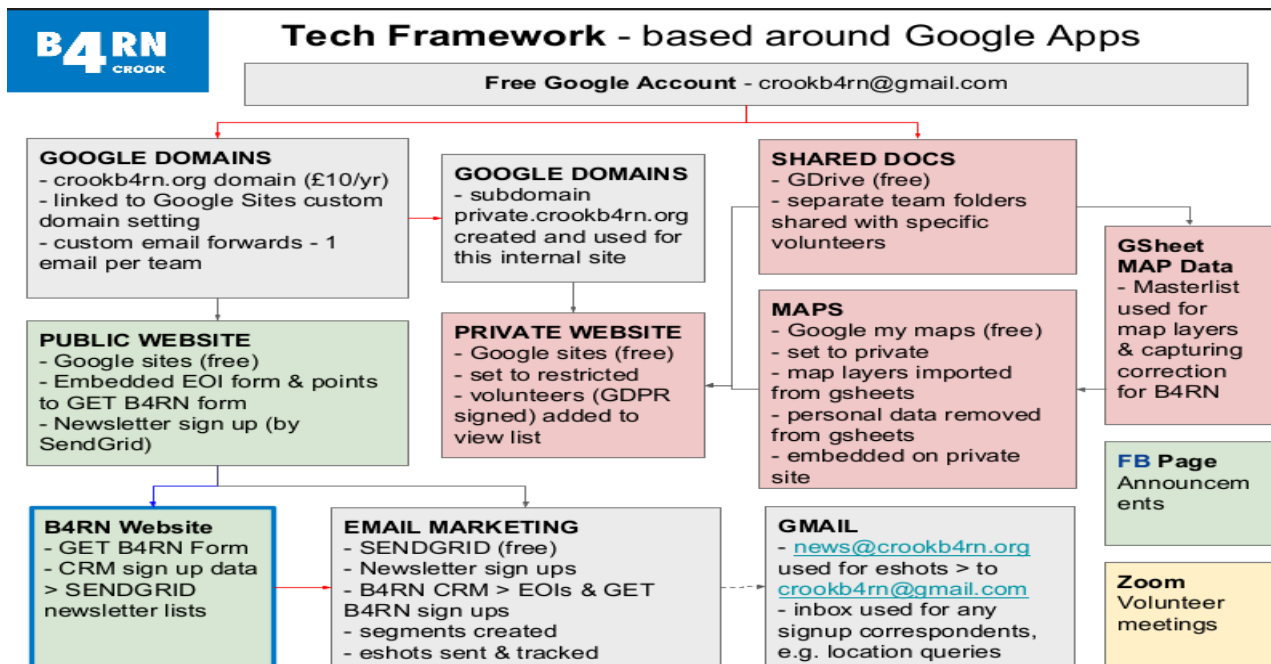
So, in case it helps anyone else wanting to avoid reinventing the wheel, this is what we did. This includes document management, online meetings, online mapping tools, website (public and private) and email marketing tools.

The most remarkable thing about it is all this cost us was a grand total of £10 per year, which was for the domain registration. Our Tech Framework is below.

Key: Green square: Public facing , Red square: Private, volunteers only

It's been thanks to this group's sheer determination that we smashed each target and deadline given to us. Well done everyone! You should be immensely proud of what we've achieved.





\* Expressions of Interest: Target & Achieved 30%

\* 'Get B4RN' sign ups: Target 200 properties > Achieved 290 properties

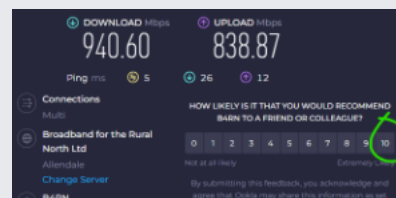
\* DCMS Voucher coverage: Target & Achieved 70%

\* Shares/ Investment: Target £185k > Achieved £240k

\* Wayleave coverage: Target & Achieved 100%

\* Site Assessments: Target & Achieved 100%

\* Connected properties as of 04 March 2024: 312 properties



On this journey I've met lovely people, explored beautiful countryside, eaten delicious cake, made new friends, and can now work and play at supersonic speeds...

Thank you B4RN and thank you every amazing volunteer and community member for coming together to future-proof our rural corner of the Lake District.

Crook laid over 63 km of duct.

Beyond the book

[The Crook website](#)



[Crook blogspot](#)





The Jackson family.



Julian Lambton.



If we go that way...



Julie's team publicised the B4RN service.

## Cartmel Fell

### Signup phase

Dawn and Dan Jackson live at the end of Cartmel Fell on a farm far away from the main road. Dawn grew up in the area and is used to the struggles that come with living in the countryside. But in early 2021 during Covid they discovered exactly how difficult it was to run their business from home and for their young boys to be stuck at home instead of out at school and nursery on a patchy internet connection that was only giving them 9Mbps on its best day.

Dawn's neighbours Julian and Vanda Lambton were excited about the prospect of B4RN broadband. They knew it would be transformational for their little Lake District fell farm. They run events and courses at Hare Hill Barn, which Vanda publicises via email newsletters and social media outreach - again not an easy task without a reliable internet connection. Vanda and Julian's incumbent broadband connection was a line of sight transmission from a dish about seven miles away on the other side of Scout Scar - giving them nine megabits per second if they were lucky.

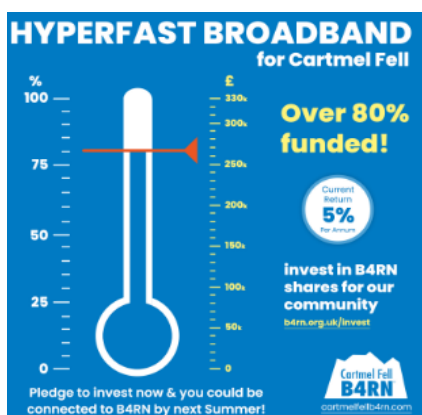
The farm is situated between 500 - 650 feet up the fell, which is quite exposed and very windy, and even in the summer the weather can be pretty severe. Julian said 'When the rain comes and the cloud comes down (which it does quite often) the connection drops to almost nothing and everything closes down - so not exactly resilient for the future.'

Dawn, Vanda, and Julian began to speak to their community to find out who would be interested in supporting a B4RN project. Cartmel Fell's community spirit came to the fore and at her local WI meeting, Vanda explained that a lot of properties on Cartmel Fell had no success when approaching the incumbent (commercial) fibre broadband supplier to





Sign up bean counters.



IB4RN shares and investment progress.



Our banners.



Website kept updated.

provide a service in such a rural area.

Julie Woodgate already had fibre broadband to her home (albeit with a provider charging double the price of B4RN broadband per month for a lower speed) and she was happy enough with her connection. However, knowing that most of her friends and neighbours on Cartmel Fell had shockingly poor connections or paid astronomical amounts to use line-of-sight data transmission, she knew she had to put her project management and digital media experience to use, and agreed to become the project lead for Cartmel Fell.

She got lots of advice and resources from volunteers at other local projects. Among them were Andy Brown (Crosthwaite & Crook), Nick Truch (Crook), Henk Muller (Crosthwaite), Simon Grey (Old Hutton), and Dave Rogerson (Levens). B4RN staff were on hand to answer questions, plus the B4RN User Group volunteers answered questions on Facebook and Zoom and also offered their time to attend community meetings. Dave also gave a demonstration of the fibre splicing technology.

## Julie's Story

The help of other experienced volunteers at community outreach events was invaluable - the Cartmel Fell residents could talk to volunteers from other project areas, and they could explain better than anyone their experience of upgrading to B4RN and moving away from services that could be interrupted at any moment by falling trees or snow on the dangling lines (Storm Arwen cut off the internet for weeks!).

During the initial community sign-up phase of the project, the rules around government funding vouchers seemed to keep changing and the volunteers needed the community to re-apply for funding, but they maintained their project pace and





Meeting socially distanced.



Brew time socially distanced.



Diggers of grit.



Tony and Nell.



Angle grinding through rock.

dedication, doing as much preparation as they could before shovels could be put in the ground.

There were roadside posters, emails, Facebook posts, Instagram posts and a website, but the volunteers knew that the best way to get everyone involved would be face to face. The volunteers went out on the road and approached each household and landowner individually to explain why the project was so important.

A pie and quiz night held at the Hare & Hounds to get an update about the project also proved to be a great social occasion.

During Covid, people had moved to Cartmel Fell but this was one of the first times that they had been able to meet their neighbours.

With 7 miles of Cartmel Fell to cover, the team knew it would be quite a time-consuming task to raise the money they needed to get the project viable and to agree routes and wayleaves with landowners. They'd be asking every owner of a parcel of land the route would pass through, to sign a form and a map to agree to allow B4RN to lay its ducts - and there was no monetary compensation to offer, because this is a community project.

Yet - almost everybody they asked for a wayleave said YES.

Julian said his wayleave 'negotiations' with one of the farmers was particularly enjoyable, 'An hour and a half chat about his life history, how he got the farm, what it was like in the old days. Absolutely fascinating, wish I'd recorded it'. At the end of the conversation, when Julian asked 'about this wayleave...' the farmer simply said 'Aye, where do I sign then?'.

## Dig phase

Finally in March 2023 they got the exciting news - they had all the necessary wayleaves, government





Tony and the mole.



The Tony Middleton team.



Tony with the mole in good land.



Overhanging eaves provided shelter from the rain.

and investor promised funds to go ahead with the Cartmel Fell project.

When digging commenced on 1st March 2023 there was much excitement amongst the digging volunteer team, who had recently received their necessary training from B4RN to be let loose on their community.

There was also some apprehension as the mainly middle-aged and decidedly unfit volunteers were already familiar with the rough terrain and obstacles they were about to have to negotiate and dig through!

Tony Middleton was contracted to dig the core duct in across the fields to the property boundaries in the summer months. It seemed like he worked at the speed of light, despite the incredibly rocky terrain that he had to work with!

Digging took place between spring and winter 2023. As always in the Lakes, working outside was glorious but we needed to dodge the rain. It made the simple task of digging and laying duct thoroughly unpleasant and it was better to take what shelter we could and wait for it to pass. Overhanging eaves worked well for this. Still - by some good piece of fortune, digs were mainly scheduled on days when it didn't rain or despite a dire forecast there were only showers.

The volunteer digging team had to excavate and bury duct from the property boundary to the point on a house where the service entered. This included driveways and parking areas as well as fields, gardens, rough grass, lawns, beds, and rockeries both natural and man-made. In some cases, more creative solutions had to be found to get the ducts where they needed to be... and the volunteers were more likely to be found with pickaxes than shovels.

They were keen and dedicated and with ingenuity, strength and care a way through was always found .





More walls to go under and round.



Mini diggers were often used.



Pull!



Keeping everything tidy and sub-ducting the 7mm in gash 16mm.

When they finished their work and went for a pint, oftentimes you could barely tell where they'd been digging.

The most extreme example of rock being overcome occurred when the only route from the chamber to a point where four houses could be served required 50m of overground duct.

Previous attempts to thread the duct in-situ had ended in failure, with only one duct completed after hours spent trying to overcome the friction by vigorous shaking. It was, however, very amusing for those of us who could only watch.

The problem was eventually solved when the individual orange services were pulled downhill through a suitable external grade black duct while it was laid out straight on the fell. The full duct was then lifted and threaded into position, curving it around the base of a wall, through a copse and under the eaves of an outbuilding.



In the meantime Dave Rogerson from Levens was busy fitting house kits for us and fusing the tiny fibres.



Dave Rogerson.





BDUK pick up a pick.



The BDUK dig team.



Rob Staveley showing BDUK the core blowing.



BDUK have a go at fusing the fibres in a bullet.

By the summer of 2023 the digs were progressing well and BDUK (the government funding team) came to visit Cartmel Fell.

They and the B4RN staff were all put straight to work on a garden dig so that they could get the full experience.

They helped volunteers to complete all the digging and make good, before a well-deserved sandwich and chat with the team at lunchtime.

They saw the efforts of the Cartmel Fell team to get connectivity to their fell, and it was an opportunity for Rob from B4RN to show how fibre is blown and fused.

## Lighting up

When the cabinet and first connections came live in July 2023, the community celebrated in the Parish Hall with a B4RN cake cutting ceremony. From 'B4RN day' onwards, a steady stream of houses would get their own routers and go live on the gigabit broadband service.

For a few particularly difficult or long digs, the volunteers teamed up with B4RN contractors to get the work between the fields and the gardens completed as quickly as possible. The B4RN contractors often remarked how enjoyable it was to work with them to achieve so much in such a short time.



The BDUK and B4RN team photo.



## Lighting up Cartmel Fell



Light up day.



Cutting the cake.



Happy customers get their router.



The cake.



The B4RN team. Peter Henderson, Elaine Barker, Flick Greenwood.



The Cartmel Fell ladies.



Happy customer's speed test.



The big day, the router arrives.





Local wildlife helping.



Under the wall.



Bit boney.



Gradient changes.

## More digging

The local wildlife sensibly kept out of the way of the digging but occasionally a resident's dog or in this case chickens would take an interest, especially if we'd uncovered a nice source of food for them.

Some digs had to negotiate the land around properties comprising groups of buildings, some of which weren't in the best of condition, or where waste stone had been spread out around the site. Here the contractor's digger proved to be invaluable although even that struggled in some of the terrain.

On several occasions the route had no option but to pass close to trees, which always added time onto the digs. Avoiding damage to tree roots made digging through tree root zones a slow and arduous task, especially if the ground was also stony which turned it into a hand-dig and tunnelling operation.

But the dig that the team voted the most unpleasant experience was where the route reached a house via a drainage field from an old septic tank!

We became very good at punching under obstructions using a long bar that could be hammered through walls, hedges, and even a concrete driveway.

We chased duct under flower beds and landscaping to minimise disruption. The biggest level change overcome entirely underground was 1200mm, which was only possible because the soil behind it was soft enough to dig down.

The final dig, a late insertion to the programme in December, involved connecting up three houses. Although we were able to make use of existing ductwork, a substantial dig was still required through the driveway. The ice and snow were bearable but when the freezing rain started, we were very glad we had nearly finished!



## Digging days



Caption competition.



Threading duct.



Hard hand-dig.



Sub-ducting.



Bitter cold work day ducting to three more houses.



Sunny work day.



Pickaxes to the ready.



Laying duct in the trench.



## Blowing and fusing days



Volunteers fleeting core fibre.



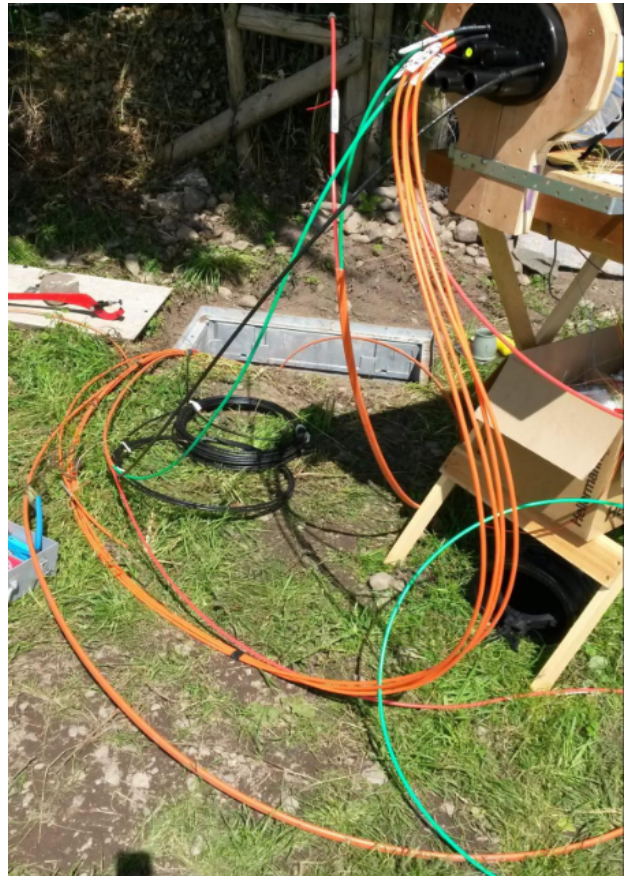
Rob Staveley and Ronan Halstead blowing core fibre.



Frank Brown blowing house fibres.



Frank sorts all the ducts and blows the house fibres.



Fusing the house fibres.





Digging volunteers.



We did it!



Yay, live at last.

The Cartmel Fell project dig and go-live phase was largely complete in just 12 months.

Volunteers received dig grants from B4RN where they did all of the garden dig. This has been paid to a community fund by B4RN and a community group has been formed to determine the best use for this money on projects that will bring a benefit to Cartmel Fell. One such example already underway is the maintenance of grounds near the parish hall and an area of managed woodland owned by the Cartmel Fell Community Trust.

The volunteers said they had enjoyed working on the B4RN project, and wanted to continue to work on other projects together, so one summer evening they attended the Parish Hall Committee AGM en masse to offer their services, and thereafter they set to work.

More members of the community have expressed an interest in joining the volunteers in 2024. We formed [www.cartmelfellvolunteers.com](http://www.cartmelfellvolunteers.com) and we now run community events. We have planted an orchard and nuttree and we hold regular volunteer sessions on the parish allotment.

Cartmel Fell laid 26 km of duct.



Some of the rigs Tony Middleton used on the project.



## Winster



By Jane Crowe

The trouble with Winster, is B4RN took over 5 months to come up with a feasible scheme. which caused our committee to lose interest.

Dave Ryall appointed me as group coordinator at our second meeting in September 2022. We were part of the Crosthwaite scheme and needed to get all the properties in the Hubbersty Head area onboard, but as they had BT fibre to the cabinet already they were not that interested, even though some of our committee visited them all. Suddenly in February 2023 we learned that it wasn't feasible to supply Winster as there were no vouchers left for Crosthwaite properties. Also there were not enough spare fibres left on Crook so on 17 February 2023 B4RN decided to extend Cartmel Fell to include the 40 or so properties in Winster.

In May Alec Cartwright and Felicity (Flick) Greenwood took over the project. Henk Muller (from Crosthwaite) had been helping with all the map work. We (Flick, Tony Middleton, my husband John and I) walked the route making alterations to the map as we went. Julie had already got most of the Scowcroft estate wayleaves and Henk had walked the route with Christopher Scott, the other main landowner so it was left to me to get the wayleaves for the other properties. Henk helped me a lot preparing maps to go with the wayleave agreements.

On 12 July 2023, Winster Village held an open meeting. This was well attended. B4RN gave us an ultimatum to get all the wayleaves and the money by the first week in September. After the meeting I was having a small meltdown at home when there was a knock at the door and the person there told me not to worry as they and a friend would supply the money!! I was on top of the wayleaves so Winster got the official go-ahead on the 24 August 2023.





The holiday cottage dig.



Splendid work by Liam Swidenbank of TS Trenching.



Jane and John Crowe with Dave Rogerson as he fits the first house kit in Winster.



Winster church. Photo credit *English Lakes*.

We were away the first week in September when a neighbour emailed us to say Tony Middleton had started digging in the ducting, and by the time we got back he was already at Winster church.

We had discussed garden digs at committee meetings and Liam Middleton was prepared to do them all rather than just being left with the difficult ones. It was decided it would be much quicker as the few fit and able bodied men were too busy to do much. This worked very well and he was quick and very tidy. Early on he dug through a lawn on one of our holiday house gardens and John went down to see the result. He was met by the owner who said it was a real mess so John was a bit apprehensive as he went round the back, the bloke said ‘Got you!’ He was actually impressed by how little mess there was.

Dave Rogerson then followed on doing the house kits. I managed his appointments which saved time. He liaised with Frank Brown to blow all the connections through.

Elaine Barker then organised our date to install routers in most of the properties on the Cartmel Fell side of the road. James House and I were trained by Elaine and Flick so we could install routers at a later date. So half Winster went live on 27 November. The road crossings held up the other half to 19 December.

In the end we managed to get almost everybody connected in 3 months and everybody seems pleased with the speed. After speeds of 9mbps this is bliss. I can even watch catch-up TV.

Thank you very much to all the B4RN employees and contractors who helped us so much to implement this project quickly and successfully.