

Welcome

WELCOME to the third edition of your Porthmadog bypass community newsletter. Copies are circulated to homes nearest the construction site and are available at libraries and the tourist information centre.

Through these newsletters we endeavour to answer your questions, update you about progress on the bypass and inform you of interesting work on the project. If you require further information, please visit

www.porthmadogbypass.co.uk

call public liaison officer Alun Jones free on **0800 0321 447** or email him at AlunJones@gwynedd.gov.uk

Electronic copies of the newsletter can also be obtained from this email address.



bypass news

A487 Tremadog, Porthmadog and Minffordd

Summer 2011

Making progress ...and on target

CONSTRUCTION of the A487 Tremadog, Porthmadog and Minffordd Bypass is progressing well and the joint venture partnership is confident of completing work by late 2011.

Some of the finished works can now be seen at various locations along the route. This includes the stone walling work at Tremadog and Minffordd roundabouts, together with Church Street in Tremadog. The stone walling and cladding of the structures will continue through to project completion. (More on page 2)

The construction and placement of the composite steel and concrete bridge to carry the Ffestiniog Railway was successfully completed on target and handed over to the railway company in February 2011.

Another recently completed bridge crosses the public footpath at the rear of the Isgraig housing estate at Tremadog. The pathway remained open during construction work, allowing walkers who use the path regularly to view work at first hand.

Surfacing work is also progressing well, with the final running surface at the Tremadog roundabout due to be in place by early July.

Following the switchover to the new

Pupils enjoy a grandstand view

YOUNGSTERS witnessed first hand the most significant milestone in the bypass project.

Pupils from Ysgol Eifion Wyn in Porthmadog, Ysgol Cefn Coch in Penrhyndeudraeth, Tremadog's Ysgol y Gorlan and Ysgol Borth y Gest visited the site to see work being carried out on a landmark bridge over the Afon Glaslyn.

RIGHT: Ysgol Eifion Wyn pupils Liam, Abi and Daniel enjoying their trip to the site, with the giant crane behind them.

See pages 5-7 for a special feature on the viaduct work.

Cambrian Coast main line (See also page 2), Minffordd quarry traffic is no longer crossing the railway line. Instead it is travelling over the bypass route from the Minffordd roundabout.

Construction of the biggest single element of the project – the landmark three-span viaduct over the Glaslyn estuary – is now well under way.

Bridge beams have been lifted into place and concrete is now being placed on the bridge deck. This 140m-long bridge is due for completion by late summer.

Planting in large areas of the land available has been carried out to coincide with the growing season.



Eco team keeps a close eye on the environment

A MONITORING programme has been implemented to ensure work on the bypass does not have a detrimental effect on the surrounding environment.

This informs the joint venture partnership of the success of both permanent and temporary mitigation measures, as well as identifying the need for any changes to working practices.

Trees, hedges, soils and turves have been moved and incorporated into purpose-built

areas of habitat creation within the design of the new road. Regular maintenance checks are carried out to ensure plant life is becoming established in its new surroundings.

Measures to minimise disturbance to wildlife include temporary bat flight paths across the new road, habitat modification to make areas of work unsuitable for water voles and reptiles, and construction of an artificial badger sett away from the route. Regular ecological

assessments of the various measures are carried out.

The water quality of surrounding waterways, which either run through the construction site or are connected via smaller land drains and ditches, is monitored at intervals through chemical analysis.

In addition, visual inspections are performed to confirm that various parameters remain consistent with baseline values.

Stunning walls an ideal home for

lizards



TRADITIONAL stone walls running alongside parts of the bypass will provide a safe haven for reptiles and a visual treat for motorists.

Lizard habitats have been created within the distinctive walls by installing lengths of specialist tubing.

It is one of a series of measures taken to protect indigenous species and wildlife.

Deputy project manager Hefin Lloyd Davies said: "We are always keen to minimise the impact of work on the local environment and wildlife.

"The stone walling is a stunning aspect of the scheme. Many members of the public have already commented on how fantastic it looks."

G H James Cyf, a family-run firm based in Trawsfynydd, is responsible for the masonry work at the bypass site.

Specialist stonemasons have built the walling and cladding, and also supplied recycled Welsh slate for the work.

The company has recently carried out similar work on trunk road schemes in Blaenau Ffestiniog and Clynog, as well as Cumbria.

Up to 25 operatives have been working on the walling at any one time. In total there will be more than a mile of stone walling along the bypass route.

Express rail work completed in record time

WORK to divert a popular stretch of mainline railway track was completed in just 54 hours.

The feat of engineering saw a 450m section of the Cambrian Coast Main Line, near Minffordd quarry, being moved by 30m to make way for the bypass.

The re-alignment work was done over the course of one weekend in order to minimise disruption, and the line was handed back to Arriva Trains Wales ready for normal service to resume on schedule.

Spectacular views from the eye in the sky



ABOVE: The route takes shape, from Tremadog centre left, past Porthmadog towards Minffordd in the distance, centre right.

We take to the air for an overview of work in progress

WE took to the skies to get a pictorial overview of progress on the bypass scheme.

The result was a series of stunning views of the route and the spectacular scenery around the Glaslyn estuary.

To see more aerial shots, and other photos of progress on the project, visit our website at:

www.porthmadogbypass.co.uk



ABOVE: The view from the Tremadog end towards the location of the viaduct at the top of the photograph.



LEFT: The route passes Minffordd quarry, centre right, that is supplying the aggregate for the work. The cob is visible, far left.

Classroom swap

Teachers return to learning to help promote careers in construction and engineering



Back to school: Seated, from left: teachers Aled Pennant, Sion Williams and Wil Price. Standing, from left: bypass partnership representatives Neil Nightingale, Rhydian Roberts and Hefin Lloyd Davies.

A GROUP of teachers undertook their own work experience to sample life on the bypass site.

The teachers shadowed a quantity surveyor, a project manager and an environmental officer to get a flavour of the different roles required.

The aim was to give the teachers a real insight into the careers available in the construction and engineering industry, enabling them to better guide students considering career options.

During the day, they developed a case study sheet detailing hours of work, skills required, duties within the roles, training and other opportunities available, as well as the best

I shall now be much better informed when talking to my students about career options

and worst aspects of the job.

Claire Burgess, professional development co-ordinator at Careers Wales North West, which organised the event, said: "The idea of teacher days like these are to enable teachers to appreciate the breadth of careers available in the construction and engineering fields and to pass this on to their students.

"When many people think of construction and

engineering, they think it is all about labouring but there are many other roles, some of them very highly skilled.

"We are also keen to make links between schools and employers as this is very valuable for students. Some of the schools we work with offer a BTEC qualification in engineering and this would be very relevant for them."

The teachers who participated in the day were Wil Price of Ysgol Ardudwy, Harlech; Aled Thomas of Ysgol Gyfyn Llangefni and Sion Williams of Ysgol Syr Thomas Jones, Amlwch.

Wil, a design and technology teacher at Ysgol Ardudwy, said: "It was an amazing experience. I was particularly impressed by the level of environmental work included in the scheme, such as creating habitats for lots of different creatures.

"There are many highly-skilled people working on projects like this and this event will enable me to be much better informed when talking to my students about career options."

Hefin Lloyd-Davies, deputy partnership project manager on the scheme, said: "We were delighted to host the teacher day and if it helps to encourage more young people to consider careers in construction and engineering, all the better.

"It is really important that young people know there is an alternative to university and by considering an apprenticeship, they can train for a great career, gaining on-site practical experience."

Joint venture backs hospital scanner appeal

THE bypass joint venture partnership donated £250 to a concert in aid of a hospital scanner appeal.

The hugely successful concert, organised by Ysbyty Alltwen League of Friends, was held at Porthmadog's Capel Salem. More than 600 people attended and more than £7,500 was raised for the appeal.

Headlining was opera star and league of friends patron Rhys Meirion, who hails from the Tremadog area.

Jean Atherton, secretary of Ysbyty Alltwen League of Friends, said: "The Cyfeillion were very grateful for the generous donation and support we received from the bypass partnership, and the many other organisations who have got so involved with the appeal."

Behind the scenes

Giant crane becomes a landmark for area

THERE was a notable addition to the area's skyline recently when the bypass team welcomed one of Europe's biggest mobil cranes onto site.

The giant crawler crane weighs 630 tonnes and is one of only three of its kind in Europe.

Its 60m (196ft) jib could be seen for miles around as it lifted into place beams for a landmark river bridge over the Afon Glaslyn.

The main body of the huge machine arrived from Somerset, where it was used in a river crossing project in Taunton.

The tracks, jib, boom and counterweight were delivered to North Wales in wagons and assembled over the course of several days.

Engineers used the mammoth Sany SCC6300 crane, supplied by Belgian contractor Sarens Group, to lift and install nine steel beams over the river.

Each beam was between 40m and 50m long. They were installed in a carefully planned sequence over a number of weeks.

The 140m, three-span viaduct will carry bypass traffic over the Afon Glaslyn. It will run parallel to the existing Cambrian Coast Main Line railway bridge.

The Glaslyn viaduct is one of eight bridges being built on the bypass scheme.

Over the page we take you behind the scenes to explore the hard work that went on in preparation for the defining moment of the bypass construction scheme...

What it takes to build a viaduct

LEFT: One of the giant bridge beams is manoeuvred on the river bank, ready for lifting into position by the giant crawler crane.



Building the causeway

A CAUSEWAY was constructed over a three-week period in May 2010, following consultation with the Environment Agency and Countryside Council for Wales amongst others.

Prior to construction, a flood-modelling exercise was carried out to ensure the work would have no detrimental effects on the properties upstream.

Rock from Minffordd quarry, next to the river, was transported in 70-tonne dump trucks and placed in the riverbed using a 35-tonne excavator progressively working out from the east bank.

The causeway was also extended to the south to allow construction of the permanent bridge.



A bridge beam is lowered into place. Visible on the left of the picture is the temporary Bailey Bridge

Bailey Bridge

A 46m-long Bailey Bridge was installed to allow 250,000m³ of rock fill material to be carried across the river.

The material was used to construct the embankments across the Traeth and between the Porthmadog and Tremadog roundabouts.

The installation of the bridge meant the fill materials did not have to be transported through the town centre, which would have resulted in an additional 25,000 lorry movements.

Bailey Bridges are named after Donald Bailey, a civil servant in the British War Office who tinkered with model bridges as a hobby. He presented one to his chiefs who saw merit in the design for use in the military.

Considered a great example of military engineering, they require no special tools or heavy equipment for construction and the components are small enough to be carried in trucks.

Today they are used extensively in civil engineering projects, such as the bypass, to provide temporary access across water.

Rescue boat and divers

FOR safety reasons, when working above water it is necessary to have a safety boat on standby. A dinghy with an outboard motor was in position on the Glaslyn as operatives carried out the work.

Two trained rescue personnel who kept watch manned it. The divers also placed a filter membrane beneath the scour protection to stop the riverbed sand from percolating upwards through the rock blanket.

The safety boat was provided by JG Marine Services of Pwllheli, while the divers were from Hughes Sub-Surface Engineering in Liverpool.

Constructing the cofferdams

A COFFERDAM is an enclosure created to allow water to be pumped out of a river to create a dry work environment.

Several cofferdams, comprising 14m-long steel sheet piles, were created within the causeway, during construction of the viaduct. They were sealed to stop water getting inside.

Once installed, the interior was excavated to the required level and water pumped out, to reach foundation level roughly two metres below the riverbed level.

Reinforced concrete foundations were cast in the

bottom of the cofferdams. The piers to support the bridge beams and decking were cast on top.

Only the top section of these piers is now visible above water level.

The foundation bases were tied into the sheet piles to ensure they remain connected to prevent any risk of the river undermining the structure in future. Once the foundations were complete the cofferdams were allowed to fill with water.

The divers working in the water then cut down the sheet piles to the level of the top of the base.



Ruth Jones from the bypass partnership describes the scene from the viewing platform to pupils from Ysgol Eifion Wyn.

Top marks for pupils' exciting site visit

ENGINEERS building the bypass have linked up with primary schools to allow youngsters to witness first hand the most dramatic milestone in the project.

Pupils from Ysgol Eifion Wyn in Porthmadog, Ysgol Cefn Coch in Penrhyndeudraeth, Tremadog's Ysgol y Gorlan and Ysgol Borth y Gest visited the bypass site to see work being carried out on the landmark bridge over the Afon Glaslyn.

The youngsters had a grandstand view thanks to

a specially constructed viewing platform on the banks of the Glaslyn.

Nearly 200 children visited the site over five days in a series of scheduled trips.

Bypass partnership project manager Wyn Daniels said: "The crane has been a prominent addition to the local skyline, so we wanted the children to have the opportunity to see it close up.

"We are keen to encourage young people to think about a career in construction, and hopefully this visit will have inspired some to do so."

Protecting the bridge

MEASURES were taken to protect the new structure from scour – one of the main causes of bridge failure.

Scour, caused by swiftly moving water, can scoop out scour holes, compromising the integrity of a structure. To protect against this and to prevent any erosion around the new viaduct or the existing Network Rail bridge immediately downstream, a metre-thick bed of rock from Minffordd quarry was placed below the riverbed.

This will prevent any long-term problems with the undermining of the bridge foundations in the event of flooding. It was placed using a 35-tonne excavator and was installed as the causeway was removed.

THE NEXT STEP:

Making the bridge 'vehicle ready'

Once all of the bridge beams were lifted into place work began on the reinforced concrete bridge deck.

This will be followed by installation of parapets, kerbs and surfacing across the deck.

Once built and the bypass is opened, around 10,000 vehicles a day will use the single carriageway across the viaduct.

KEY BYPASS FACTS

- Cost: £35m
- Length: 5.3km
- Width: 7.3m (plus hard shoulder and verges)
- Roundabouts: three
- Junctions: three
- Bridges: eight (including the landmark three-span viaduct over the environmentally sensitive Glaslyn estuary)
- Route: from western end of Tremadog, follows a line passing south of Tremadog village and north of Porthmadog, continuing along route roughly parallel to the Cambrian Coast Main Line railway, before crossing over to Glaslyn estuary. From there, skirts Minffordd Quarry to a point just west of Bron-y-Garth Hospital, Minffordd, where it rejoins the existing A487 via a new roundabout
- Total fill requirements: 450,000m³ (cubic metres), which equates to approximately 900,000 tonnes
- Total import of materials: 260,000m³ or 550,000 tonnes
- Structural concrete requirements: 10,000m³
- Jobs: peak construction sees a 250-strong workforce on site
- Partners: constructed for the Welsh Assembly Government under a joint venture partnership of Balfour Beatty and Jones Bros Civil Engineering UK
- Purpose: improve journey times, ease congestion and improve environmental conditions by allowing traffic to bypass Porthmadog, Minffordd and Tremadog
- Scale: around 31 hectares of agricultural land will be permanently acquired, with a further 5.3 hectares temporarily occupied during construction

Steaming ahead

Ffestiniog Railway praises bypass project

AN historic railway line re-opened after engineers slid a rail bridge over the bypass into position.

The steel structure carries the Ffestiniog Railway line at Minffordd, where it crosses the route of the long-awaited new road.

Workers assembled the bridge deck on site in stages. Prior to that, Ffestiniog Railway staff had removed signals and a stretch of track dating back to 1835, allowing bypass workers to start digging down 6m (20ft) to the level of the new road.

Once the existing railway embankment had been removed and the new bridge abutments constructed, bypass workers were able to slide the bridge deck into position using a combination of a temporary steel structure and hydraulic jacks.

The Ffestiniog line was then re-laid and the route was re-opened.

Clare Britton, commercial manager at Ffestiniog and Welsh Highland Railways, said: "The bridge represents a fairly significant alteration to the line at Minffordd. However we have a good relationship with the bypass team and are happy to give the project our full support for the benefits it will bring to the area as a whole."

A separate three-span bridge will take bypass traffic over the Welsh Highland Heritage Railway, and the Ffestiniog Railway-owned route to Caernarfon, at the point where the two lines run alongside each other.

The bridge includes 150 tonnes of steel beams fabricated by the Cleveland Bridge company in Darlington.



Bypass gives rescue team a new 'home'

A 'HOMELESS' search and rescue team is a step closer to moving into new premises thanks to engineers constructing the bypass.

Aberglaslyn Mountain Rescue Team had to leave its former base, a converted agricultural shed it was renting on a temporary basis, more than a year ago because the landlord needed it for a new project.

Although the charity left on good terms with the landlord, its departure from the rented premises meant it had nowhere to meet or store equipment.

In November 2010 the bypass partnership helped out by handing over a vacant portable cabin at its main compound HQ, opposite Porthmadog Fire Station, to the rescue team for equipment storage purposes.

The rescue team is also holding its meetings at the on-site bypass visitor centre, and parking its fleet of emergency vehicles on the compound car park.

Members of the bypass team have kindly completed work on an access road leading to the rescue team's new premises under construction on Penamser Road in Porthmadog.

Dion Jones, a callout co-ordinator with the group, said: "We still can't afford to move into the new premises but having the access road in place is a massive step forward."

"I can't thank members of the bypass team enough for their help and generosity."

Aberglaslyn Mountain Rescue Team relies almost entirely on fundraising and voluntary donations.



Aberglaslyn Mountain Rescue Team representatives Dion Jones and Jon Dobson-Jones with bypass public liaison officer Alun Jones at the location of the new premises on Penamser Road.

The team of volunteers is on call 24 hours a day, 365 days a year, and covers an area of roughly 750 sq km including Snowdonia and the Llyn Peninsula. It deals with more than 50 callouts a year.

The team plans to move to its new base on Penamser Road before the end of 2011 but still needs to raise more than £10,000 before work can be completed.



Newyddion Ffordd Osgoi

Yr A487 Tremadog, Porthmadog a Minffordd

Haf 2011

Gwneud cynnydd da ...a chyflym

MAE'R gwaith o adeiladu ffordd osgoi Tremadog, Porthmadog a Minffordd ar yr A487 yn dod yn ei flaen yn dda dros ben. Gobaith cryf yr adeiladwyr yw gorffen cyn diwedd 2011.

Gellir gweld peth gwaith gorffenedig mewn sawl lle erbyn hyn, yn cynnwys waliau cerrig hardd ger cylchfannau Tremadog a Minffordd, ac o Stryd yr Eglwys Tremadog. Bydd gwaith codi waliau cerrig a chladio strwythurau newydd yn parhau nes i'r prosiect ddod i ben (cewch fwy o fanylion ar dudalen 2).

Adeiladwyd a gosodwyd pont ddu a choncrit ar gyfer trac Rheilffordd Ffestiniog. Gwnaed hynny yn unol â'r amserlen ac fe'i trosglwyddwyd i gwmni'r rheilffordd yn Chwefror 2011.

Mae pont arall a orffennwyd yn ddiweddar yn croesi llwybr cyhoeddus yng nghefn stad dai Isgraig, Tremadog. Ni fu'n rhaid cau'r llwybr yn ystod y gwaith fel bod modd i gerddwyr weld beth oedd yn digwydd drwy'r amser.

Mae gwaith o dario'r ffordd newydd yn dod yn ei flaen yn dda. Bydd y wyneb terfynol yn cael ei osod ger cylchfan Tremadog yn gynnar ym mis Gorffennaf.

Ar ôl symud trac prif reilffordd Arfordir y

Disgyblion yn gweld yn agos

CAFODD pobl ifanc yr ardal gyfle i weld drostynt eu hunain un o gerrig milltir pwysigaf prosiect y ffordd osgoi. Gwahoddwyd disgyblion o Ysgol Eifion Wyn Porthmadog, Ysgol Cefn Coch Penrhyndeudraeth, Ysgol y Gorlan Tremadog ac Ysgol Borth y Gest i'r safle i gael golwg agos ar y gwaith o godi'r bont newydd dros Afon Glaslyn.

Liam, Abi a Daniel o Ysgol Eifion Wyn, Porthmadog yn mwynhau eu hymweliad, gyda'r craen anferth yn y cefndir.

Mae mwy o hanes codi'r bont ar dudalennau 5-7.



Cambrian (gweler tudalen 2), nid yw traffig chwarel Minffordd yn gorfod croesi'r rheilffordd honno bellach. Yn hytrach, mae'n dilyn llwybr y ffordd osgoi o gylchfan Minffordd.

Mae'r gwaith o godi nodwedd unigol fwyaf y cynllun - y bont tri rhychwant 140 metr ar draws

Afon Glaslyn - yn prysur fynd rhagddo.

Gosodwyd trawstiau'r bont yn eu lle ac mae concrit yn cael ei osod ar ei llwyfan. Disgwylir gorffen y gwaith erbyn diwedd yr haf.

Cafodd darnau helaeth o dir eu plannu a'u hadu mewn pryd i ddal y tymor tyfu.

Croeso

CROESO i drydydd rhifyn eich newyddlen gymunedol yn adrodd hanes ffordd osgoi Porthmadog

Caiff copiau eu dosbarthu i dai ger safle'r ffordd newydd ac maent ar gael mewn llyfrgelloedd a'r ganolfan wybodaeth i ymwelwyr.

Ym mhob newyddlen ceisiwn ateb eich cwestiynau, dweud sut mae pethau'n dod yn eu blaen ac adrodd hanesion diddorol am y prosiect.

Mae rhagor o wybodaeth ar gael ar ein gwefan www.porthmadogbypass.co.uk, neu drwy ffonio'n swyddog cyswllt cymunedol Alun Jones yn ddi-dâl ar 0800 0321 447, neu yrru e-bost ato yn AlunJones@gwynedd.gov.uk

Gellir cael copiau electronig o'r newyddlen o'r cyfeiriad e-bost hwnnw hefyd.

Tîm eco'n cadw llygad barcud ar yr amgylchedd

MAE rhaglen fonitro'n cael ei gweithredu i wneud yn siŵr nad yw gwaith ar y ffordd osgoi'n niweidio'r amgylchedd. Tasg y tîm eco yw rhoi gwybod i gyd-fenter y prosiect am lwyddiant y mesurau lleddfu, dros dro a pharhaol, ac awgrymu unrhyw newidiadau angenrheidiol mewn arferion gwaith.

Symudwyd coed, gwrychoedd, pridd a thyweirch a'u gosod mewn cynefinoedd natur pwrpasol fel rhan o gynllun y ffordd newydd.

Cedwir llygad barcud er mwyn gofalu bod y planhigion yn ymsefydlu yn eu cartref newydd.

Cymerwyd camau niferus er mwyn tarfu cyn lleied â phosibl ar fywyd gwylt. Mae hyn yn cynnwys creu llwybrau hedfan i ystumod ar draws y ffordd newydd, addasu cynefinoedd i'w gwneud yn addas ar gyfer llygod dŵr ac ymlusgiaid, a chreu lle addas i foch daear ymaith o draffig y ffordd osgoi.

Rydym yn trefnu profion ecolegol rheolaidd i fesur llwyddiant y mesurau hyn.

Rydym yn monitro a dadansoddi'n gemegol ansawdd y dŵr sy'n llifo'n y ffrydiau sy'n rhedeg drwy'r safle adeiladu neu yn y rhwydwaith o ddraeniau a ffosydd llai.

Hefyd rydym yn cadw golwg fanwl i sicrhau fod ansawdd pob dim yn cyd-fynd â'n safonau uchel disgwylidig.

Y waliau newydd yn gynefin gwych

i fadfallod



Symud rheilffordd mewn chwinciad!

CAFODD y gwaith o ailgyfeirio 450 metr o drac prif reilffordd Arfordir y Cambrian ei orffen mewn 54 awr yn unig. Camp beirianyddol fawr oedd symud y trac poblogaidd 30 metr i un ochr er mwyn caniatáu lle i'r ffordd osgoi.

Gwnaed y gwaith dros y Sul er mwyn tarfu cyn lleied â phosibl ar deithwyr Lein y Cambrian. Dychwelwyd y rheilffordd yn gyflym i Arriva Trains Wales ac ailgchwynnodd eu gwasanaeth arferol ymhen dim o dro.

BYDD y waliau cerrig traddodiadol sy'n cael eu codi hyd rannau o'r ffordd osgoi yn gartref diogel i fadfallod yn ogystal ag edrych yn hardd i fodurwyr. Crëwyd cynefinoedd arbennig o fewn y waliau trawiadol drwy ymgorffori twneli o diwbiau pwrpasol. Mae'n un o gyfres o gamau a gymerwyd i warchod y bywyd gwylt brodorol.

Meddai dirprwy reolwr y prosiect Hefin Lloyd Davies: "Ein nod bob amser yw effeithio cyn lleied â phosibl ar yr amgylchedd a byd natur.

"Mae'r waliau cerrig yn nodwedd amlwg a hardd o'r cynllun. Dywedodd llawer iawn o bobl mor wych y maent yn edrych."

Cwmni teuluol G H James Cyf o Drawsfynydd sy'n gyfrifol am y waliau cerrig ar safle'r ffordd osgoi. Yn ddiweddar, dechreuodd y cwmni waith tebyg ar gynlluniau ffordd ym Mlaenau Ffestiniog, Clynnog a Cumbria. Ar wahanol adegau bu cymaint â 25 o bobl yn codi'r waliau. Bydd mwy na milltir o waliau cerrig ar hyd llwybr y ffordd osgoi.

Hedfan dros y cynllun fel gweilch y pysgod a'r gwylanod!



UCHOD: Mae llwybr y ffordd newydd i'w weld yn glir yn y llun awyr hwn, o Dremadog ar y chwith, heibio Porthmadog a thuag at bentref Minffordd ar y dde.

O'r awyr mae modd gweld y cynllun yn ei gyfanrwydd

Un diwrnod braf yn ddiweddar tynnwyd cyfres o luniau o'r awyr yn dangos mor dda y mae cynllun y ffordd osgoi yn dod yn ei flaen.

Mae'r lluniau trawiadol yn dangos y cynnydd a wnaed, o Dremadog i Finffordd, ynghyd â harddwch ysblennydd aber Afon Glaslyn.

Mae rhagor o luniau o'r awyr, a lluniau eraill o brosiect y ffordd osgoi, i'w gweld ar ein gwefan:

www.porthmadogbypass.co.uk



UCHOD: Yr olygfa o Dremadog i gyfeiriad y bont dros Afon Glaslyn, a welir ym mhen uchaf y llun.

CHWITH: Mae'r ffordd yn rhedeg drwy chwarel Minffordd (canol ar y dde) sy'n darparu cerrig ar gyfer y gwaith. Gwelir y Cob ar ochr chwith uchaf y llun.

Nôl i'r dosbarth!

**Athrawon yn dysgu
am yrfaoedd
adeiladu
a pheirianeg**



Nôl i'r ysgol: Yn eistedd, o'r chwith: athrawon Aled Pennant, Siôn Williams a Wil Price. Yn sefyll o'r chwith: cynrychiolwyr partneriaeth y ffordd osgoi Neil Nightingale, Rhydian Roberts a Hefin Lloyd Davies.

BU grŵp o athrawon ar ymweliad â'r cynllun i weld drostynt eu hunain sut mae pethau'n gweithio ar safle adeiladu mawr.

Buont yn dilyn maint fesurydd, rheolwr prosiect a swyddog amgylcheddol er mwyn cael blas o natur a gofynion y swyddi hynny. Y bwriad oedd dangos i'r athrawon y math o yrfaoedd sydd ar gael yn y diwydiannau adeiladu a pheirianeg fel y gallant roi cyngor da i'w myfyrwyr ynghylch eu gwahanol ddewisiadau gyrfaoel.

Yn ystod y dydd, bu'r athrawon yn llunio taflen astudiaeth achos yn cynnwys manylion oriau gwaith, sgiliau a dyletswyddau, y gofynion hyfforddi a'r cyfleoedd sydd ar gael, ynghyd â'r pethau gorau a gwaethaf am y swyddi dan sylw.

**Mae gennyf bellach
lawer mwy o wybodaeth i'w
rannu gyda'r myfyrwyr am
wahanol yrfaoedd posibl**

Trefnwyd y sesiwn gan Claire Burgess, cydlynnydd datblygiad proffesiynol Gyrfya Cymru'r Gogledd Orllewin. Meddai, "Pwrpas diwrnodau fel hyn yw gofalu bod athrawon yn llawn sylweddol hyd a lled y cyfleoedd sydd ar gael yn y meysydd adeiladu a pheirianeg er mwyn trosglwyddo'r wybodaeth i'w myfyrwyr."

"Wrth feddwl am y diwydiannau adeiladu a pheirianeg mae pobl yn aml yn meddwl am y swyddi labro'n unig. Y gwir yw bod llawer o

wahanol fathau o swyddi ar gael, yn cynnwys rhai sy'n gofyn am sgiliau arbenigol iawn.

"Rydym yn awyddus i ddatblygu'r cysylltiadau rhwng ysgolion a chyflogwyr gan fod hyn yn werthfawr iawn i fyfyrwyr. Mae rhai o'r ysgolion y byddwn yn gweithio gyda nhw yn cynnig cymhwyster BTEC mewn pheirianeg fel bod y math hwn o ddiwrnod yn berthnasol iawn."

Yr athrawon a gymrodd ran oedd Wil Price o Ysgol Arduw, Harlech; Aled Thomas o Ysgol Gyfun Llangejni a Siôn Williams o Ysgol Syr Thomas Jones, Amlwch.

Meddai Wil, sy'n athro dylunio a thechnoleg yn Ysgol Arduw: "Roedd yn brofiad tu hwnt o ddiddorol. Gynt nid oeddwn wedi llawn sylweddoli lefel y gwaith amgylcheddol sy'n rhan o gynllun ffordd osgoi, fel creu cynefinoedd addas i wahanol fathau o anifeiliaid.

"Mae llawer o bobl sgilgar iawn yn gweithio ar brosiectau fel hyn. Mae gennyf bellach lawer mwy o wybodaeth i'w rannu gyda'r myfyrwyr am wahanol yrfaoedd posibl."

Meddai Hefin Lloyd-Davies, dirprwy reolwr prosiect partneriaeth y ffordd osgoi, "Roeddem yn falch o fedru bod yn rhan o'r diwrnod athrawon. Gorau oll os bydd o gymorth i annog mwy o bobl ifanc i ystyried gyrfya yn y meysydd adeiladu a pheirianeg.

"Mae'n bwysig dros ben i bobl ifanc sylweddoli fod dewis heblaw mynd i brifysgol. Drwy ddilyn prentisiaeth gallant dderbyn hyfforddiant tuag at yrfa wych a chael profiad ymarferol o weithio ar safle adeiladu."

Y bartneriaeth yn cefnogi apêl sganer Ysbyty Alltwn

MAE partneriaeth cyd-fenter y ffordd osgoi wedi cyfrannu rhodd o £250 tuag at gyngerdd casglu arian at apêl sganer Ysbyty Alltwn.

Cynhaliwyd y cyngerdd llwyddiannus, a drefnwyd gan Gyfeillion Ysbyty Alltwn, yng Nghapel Salem Porthmadog. Daeth mwy na 600 o bobl i'r cyngerdd a chodwyd mwy na £7,500 at yr apêl. Y prif artist oedd y seren opera Rhys Meirion sy'n noddwr y Cyfeillion ac sy'n hanu o ardal Tremadog.

Meddai ysgrifenyddes Cyfeillion Ysbyty Alltwn Jean Atherton, "Mae'r Cyfeillion yn ddiolchgar iawn am y rhodd a'r gefnogaeth hael a gafwyd gan bartneriaeth adeiladu'r ffordd osgoi, a chan y lluo o fudiadau eraill a'n helpodd i godi arian ar gyfer y sganer."

Craen anferth i'w weld o bell

A fo ben bid bont!

YN ddiweddar roedd nodwedd amlwg i'w gweld gan bobl yr ardal pan gyraeddodd un o graeniau symudol mwyaf Ewrop safle'r ffordd osgoi.

Roedd y craen yn pwyso 630 tonnell - un o ddim ond tri chraen o'i fath yn Ewrop.

Roedd braich anferthol 60m (196 troedfedd) y craen i'w gweld o bell ac agos wrth iddi godi trawstiau'r bont newydd dros Afon Glaslyn i'w lle.

Daeth prif gorff y craen mawr i ardal Porthmadog o Wlad yr Haf lle cai ei ddefnyddio ar brosiect croesi afon yn Taunton.

Cafodd y traciau, y fraich, y bŵm a'r gwrthbwysyn (counterweight) eu cludo i Ogledd Cymru mewn lorïau a'u gosod ynghyd dros nifer o ddyddiau.

Cafodd y craen Sany SCC6300, a ddarparwyd gan Grŵp Contractwyr Sarens o Wlad Belg, ei ddefnyddio gan beirianwyr i godi a gosod naw o drawstiau dros yr afon.

Roedd pob trawst rhwng 40m a 50m o hyd. Cawsant eu gosod yn ôl rhaglen a gynlluniwyd yn ofalus dros gyfnod o rai wythnosau.

Bydd y bont newydd tri rhychwant 140m yn cario traffig y ffordd osgoi dros Afon Glaslyn ochr yn ochr â phont bresennol prif reilffordd Arfordir y Cambrian.

Mae'n un o wyth pont a godir fel rhan o gynllun y ffordd osgoi.

Dros y dudalen cewch gipolwg ar y gwaith caled a arweiniodd at garreg filltir bwysicaf cynllun adeiladu'r ffordd osgoi....

Sut y codwyd y bont newydd

CHWITH: Un o'r trawstiau mawr yn cael ei symud hyd lan yr afon yn barod i'w chodi i'w safle ar y bont gan y craen symudol mawr.

Adeiladu sarn

DROS gyfnod o dair wythnos ym Mai 2010 adeiladwyd sarn (causeway), ar ôl ymgynghori'n fanwl ag Adran yr Amgylchedd a Chyngor Cefn Gwlad Cymru ymhlith eraill.

Cyn llunio'r sarn cynhaliwyd ymarferiad modelu llifogydd i sicrhau na fyddai'r gwaith yn cael effaith niweidiol ar eiddo yn uwch i fyny'r afon.

Cludwyd cerrig o chwarel Minffordd, gerllaw'r afon, mewn tryciau dymper 70 tonnall a'u gosod yng ngwely'r afon gan gloddiwr 35 tonnall yn gweithio i ffordd yn raddol o lan ddwyreiniol yr afon.

Cafodd y sarn ei hystyng hedyd tua'r de ar gyfer y gwaith o godi'r bont barhaol.



Un o drawstiau'r bont yn cael ei gostwng i'w lle. Ar y chwith gwelir pont Bailey dros dro a godwyd gerllaw.

Pont Bailey

CODWYD Pont Bailey 46m o hyd er mwyn cludo 250,000m³ o gerrig llenwi ar draws yr afon. Defnyddiwyd y cerrig llenwi i greu cobiau ar draws y Traeth a rhwng cylchfannau Porthmadog a Thremadog.

Oherwydd codi'r bont Bailey dros dro nid oedd rhaid cludo'r cerrig drwy ganol tref Porthmadog - tasg a fyddai wedi golygu 25,000 o deithiau lori ychwanegol.

Cafodd "pontydd Bailey" eu henwi ar ôl Donald Bailey, gwas sifil yn Swyddfa Ryfel Prydain. Ei hobi ef oedd chwarae gyda modelau o bontydd. Cyflwynodd un o'i gynlluniau i brif swyddogion y fyddin, a sylweddolodd y byddai pontydd tebyg yn ddefnyddiol iawn i'r fyddin ar faes y gad.

Ystyrir y bont Bailey fel campwaith peirianeg filwrol gan nad oes angen offer arbennig nac offer trwm i'w llunio ac am fod y darnau unigol yn ddigon bach i'w cludo mewn tryciau o faint cyffredin. Defnyddir pontydd Bailey yn helaeth mewn prosiectau peirianeg sifil fel dull dros dro o groesi nentydd ac afonydd.

Cwch achub a deifwyr wrth law

AM resymau diogelwch, wrth weithio uwchben dŵr rhaid i gwch achub fod wrth law i ddelio ag unrhyw argyfwng. Ac felly lleolwyd cwch dingi gydag injan ar Afon Glaslyn wrth i'r gwaith fynd yn ei flaen.

Yn y cwch yr oedd dau berson a hyfforddwyd mewn technegau achub. Roedd deifwyr hefyd wedi gosod membran o dan yr amddiffyniad atal sgwrio (scour protection) i atal tywod gwely'r afon rhag ymwithio tua'r wyneb trwy'r blanced o gerrig.

Darparwyd y cwch diogelwch gan JG Marine Services Pwllheli. Daeth y deifwyr o gwmni Hughes Sub-Surface Engineering Lerpwl.

Adeiladu argaeau coffr

ARGAE coffr (cofferdam) yw gofod amgaeedig sy'n galluogi peirianwyr i bwmpio ymaith ddŵr yr afon i greu lle sych ar gyfer gweithio.

Er mwyn codi'r bont newydd adeiladwyd nifer o argaeau coffr. Gwnaed hynny drwy fwrw shitiau metel 14m i'r ddaear o fewn y sarn. Yna cafodd y shitiau metel eu selio i atal ddŵr rhag cyrraedd y manau gwaith.

Ar ôl selio'r shitiau, tu fewn i'r argae cloddiwyd hyd at ddwy fetr yn is na lefel gwely'r afon.

Tywlltwyd congrid wedi ei atgyfnerthu i waelod pob

argae coffr. Ar ben y congrid castiwyd y pileri sy'n cynnal trawstiau a llwyfan y bont.

Bellach, dim ond pen uchaf y pileri hyn sydd i'w gweld uwchlaw lefel y ddŵr.

Cafodd gwaelod y sylfeini eu clymu wrth y shitiau fel nad oeddent yn gwahanu a chaniatáu i ddŵr danseilio'r strwythur yn y dyfodol. Ar ôl cwblhau gwaith adeiladu'r sylfeini, gadawyd i'r argaeau coffr lenwi gyda ddŵr.

Yna bu deifwyr yn gweithio yn y ddŵr i lifio'r shitiau metel fel eu bod yn lefel â thop y sylfaen.



Ruth Jones o bartneriaeth y ffordd osgoi yn disgrifio'r olygfa o'r llwyfan arsylwi i ddisgyblion o Ysgol Eifion Wyn.

Disgyblion yn mwynhau ymweliad cyffrous

TREFNODD peirianwyr adeiladu'r ffordd osgoi i ddisgyblion o ysgolion cynradd lleol weld carreg filltir fwyaf dramatig y prosiect drostynt eu hunain.

Daeth disgyblion o Ysgol Eifion Wyn Porthmadog, Ysgol Cefn Coch Penrhyndeudraeth, Ysgol y Gorlan Tremadog ac Ysgol Borth y Gest i weld y gwaith o godi pont newydd dros Afon Glaslyn.

Er mwyn iddynt fedru gweld y gwaith yn dda, codwyd llwyfan arsylwi arbennig ar lan yr afon.

Ymwelodd bron i 200 o blant â'r safle dros bum diwrnod mewn cyfres o driplau a drefnwyd. Meddai Wyn Daniels, rheolwr prosiect y bartneriaeth, "Bu'r craen yn nodwedd amlwg o dirlun yr ardal yn ddiweddar ac roeddem am i'r plant gael cyfle i'w weld yn agos.

"Rydym yn awyddus i annog pobl ifanc i feddwl am yrfa yn y maes adeiladu. Gobeithio fod yr ymweliad yma wedi sbarduno rhai i ddilyn y llwybr hwnnw."

Amddiffyn y bont

CYMERWYD camau i amddiffyn y bont newydd rhag effeithiau "sgwrio" – un o'r prif bethau sy'n gwneud i bontydd fethu.

Achosir sgwrio (scouring) gan ddŵr cyflym yn rhwbio yn erbyn y strwythur. Mae'r crafn hwn yn medru ffurfio tyllau a gwano'r adeiladwaith. Er mwyn atal hyn a rhwystro erydiad i sylfeini'r bont newydd ac i bont rheilffordd Network Rail ychydig yn is i lawr yr afon, gosodwyd 1 metr o ddyfnder o gerrig chwarel Minffordd dan wely'r afon.

Bydd hyn yn atal problemau tymor hir rhag cael eu hachosi drwy i sylfeini'r bont gael eu tansellio gan lifogydd. Gosodwyd y cerrig yn yr afon gyda chymorth tyllwr 35 tunnell gan osod y cerrig yng ngwely'r afon ar adeg symud ymaith y sarn.

Y CAM NESAF:

Paratoi'r bont ar gyfer cerbydau

UNWAITH y gosodwyd trawstiau'r bont yn eu lle dechreuodd y gwaith o osod congrid wedi ei atgyfnerthu ar ei llwyfan. Yna, gosodir y canllawiau, y cyrbiau a'r wyneb terfynol ar ei dec.

Ar ôl agor y ffordd osgoi bydd tua 10,000 o gerbydau'r dydd yn defnyddio'r bont newydd, a fydd ag un lôn i bob cyfeiriad.

FFEITHIAU'R

FFORDD

OSGOI

- Cost: £35m
- Hyd: 5.3km
- Lled: 7.3m (+ ymylon caled a gwyrdd)
- Cylchfannau: 3
- Cyffyrdd: 3
- Pontydd: 8 (yn cynnwys pont drawiadol tri rhychwant dros ardal amgylcheddol sensitif aber afon Glaslyn)
- Llwybr: o'r pen gorllewinol yn Nhremadog, mae'n rhedeg i'r de o bentref Tremadog, yna i'r gogledd o Borthmadog, gan barhau hyd lwybr sy'n rhedeg fwy neu lai'n gyfochrog â phrif reilffordd Arfordir y Cambrian, cyn croesi aber afon Glaslyn. Oddi yno mae'n pasio gerllaw Chwarel Minffordd hyd at bwynt ychydig i'r gorllewin o Ysbyty Bron-y-Garth lle mae'n ailymuno â ffordd bresennol yr A487 mewn cylchfan newydd.
- Cyfanswm mewnlenni: 450,000m³ (metrau ciwbig), sy'n cyfateb i bron i 900,000 o dunelli metrig
- Cyfanswm deunydd a fewngludir: 260,000m³ neu 550,000 tunnell fetrig
- Gofynion strwythurau congrid: 10,000m³
- Swyddi: Yn anterth y gwaith adeiladu bydd 250 o bobl yn gweithio ar y safle
- Partneriaid: adeiladwyd ar ran Llywodraeth Cymru gan bartneriaeth cyd-fenter Balfour Beatty a Jones Bros Civil Engineering UK
- Pwrpas: gwella amserau teithio, lleihau tagfeydd a gwella ansawdd yr amgylchedd drwy alluogi traffig i osgoi Porthmadog, Minffordd a Thremadog
- Graddfa: cafodd tua 31 hectar o dir amaethyddol eu prynu a defnyddiwyd 5.3 hectar arall dros dro yn ystod y gwaith adeiladu

Codi stêm tua 'Stiniog

Cwmni Rheilffordd Ffestiniog yn canmol cynllun y ffordd osgoi

MAE Rheilffordd enwog Ffestiniog yn mynd o nerth i nerth ar ôl i beirianwyr "lithro" pont newydd i'w lle dros y ffordd osgoi.

Defnyddia'r rheilffordd y bont newydd i groesi llwybr y ffordd osgoi hir ddisgwyliedig ym Minffordd.

Cafodd darnau'r bont eu gosod ynghyd ar y safle fesul rhan. Cyn hynny roedd staff Rheilffordd Ffestiniog wedi datgysylltu'r signalau ar ddam o drac oedd yn dyddio o 1835 er mwyn i weithwyr y ffordd osgoi fedru tyllu lawr 6m (20 troedfedd) at lefel y ffordd newydd.

Wedi i'r hen arglawdd gael ei gludo ymaith ac wedi i fframwaith y bont newydd gael ei gwblhau, roedd gweithwyr y ffordd osgoi'n medru llithro llwyfan y bont i'w lle. Defnyddiwyd cyfuniad o strwythur dur dros dro a jaciau hydrologig i gwrdd â'r sialens.

Yna, ailosodwyd trac Rheilffordd Ffestiniog ac ail-agorwyd y gwasanaeth.

Meddai Clare Britton, rheolydd masnachol Rheilffordd Ffestiniog a Rheilffordd Ucheldir Cymru, "Golygodd y bont gryn newid i lwybr y rheilffordd ym Minffordd. Serch hynny, mae gennym berthynas dda gyda thîm y ffordd osgoi ac rydym yn falch o fedru cefnogi'r prosiect yn llwyr oherwydd y manteision a ddaw yn ei sgil i'r ardal gyfan."

Bydd pont arall tri rhychwant yn cario cerbydau dros lwybr Rheilffordd Treftadaeth Ucheldir Cymru a'r trac tren i Gaernarfon sydd ym meddiant Rheilffordd Ffestiniog ar y pwynt lle mae'r ddwy lein yn rhedeg ochr yn ochr.

Mae'r bont yn cynnwys 150 tunnell o drawstiau dur a luniwyd gan gwmni Cleveland Bridge yn Darlington.



Cartref newydd i Dîm Achub Mynydd Aberglaslyn

MAE tîm achub "digartref" gam yn nes at symud i eiddo newydd, diolch i beirianwyr adeiladu'r ffordd osgoi.

Ers mwy na blwyddyn bu'n rhaid i Dîm Achub o'r Mynyddoedd Aberglaslyn adael eu cartref blaenorol. Roeddent yn rhentu hen sied amaethyddol ar sail dros dro, ond roedd y landlord angen y sied ar gyfer prosiect newydd.

Gadawodd y tîm achub ar delerau da gyda'r landlord, ond golygai nad oedd ganddynt unlle i gwrdd nac unrhyw le i storio eu hoffer.

Yn Nhachwedd 2010 fe'u helpwyd gan bartneriaeth y ffordd osgoi drwy ganiatáu i'r tîm achub storio eu hoffer mewn caban symudol gwag ar safle pencadlys y prosiect gyferbyn â Gorsaf Dàn Porthmadog.

Mae'r tîm achub hefyd yn cynnal eu cyfarfodydd

yn y ganolfan ymwelwyr ac yn parcio eu cerbydau argyfwng ym maes parcio compownd y pencadlys.

Mae aelodau o dîm y ffordd osgoi yn garedig wedi cwblhau gwaith ar ffordd fynediad at ganolfan newydd y tîm achub sy'n cael ei hadeiladu ar Ffordd Penamser ym Mhorthmadog.

Meddai Dion Jones, cydlynnydd galw allan gyda'r grŵp, "Rydym yn dal i fethu fforddio symud i'r eiddo newydd, ond mae creu'r fynedfa gan bartneriaeth y ffordd osgoi yn gam mawr i'r cyfeiriad hwnnw.

"Hoffem ddiolch o galon i dîm y ffordd osgoi am eu cymorth a'u haelioni."

Dibynna Tîm Achub o'r Mynydd Aberglaslyn bron yn llwyr ar ymdrechion codi arian a rhoddion gwirfoddol.



Cynrychiolwyr Tîm Achub Mynydd Aberglaslyn Dion Jones a Jon Dobson-Jones gyda swyddog cyswllt cymunedol y ffordd osgoi Alun Jones yn ymweld â safle'r ganolfan newydd ar Ffordd Penamser.

Mae'r tîm o wirfoddolwyr ar alwad 24 awr y dydd, 365 diwrnod y flwyddyn ac yn gwasanaethu ardal o tua 750 km sgwâr, yn cynnwys ardaloedd Eryri a Llŷn. Deliant â mwy na 50 galwad y flwyddyn.

Gobeithiant symud i'w cartref newydd ar Ffordd Penamser cyn diwedd 2011 ond maent yn dal angen codi dros £10,000 cyn medru gorffen y gwaith.