

North Wales Best Practice Club

CIHT and ICE Wales Cymru

A470 Maes yr Helmau
to Cross Foxes, Dolgellau

8th May 2014

ADEILADU
ARBENIGRWYDD
YNG NGHYMRU



CONSTRUCTING
EXCELLENCE
IN WALES

Introduction

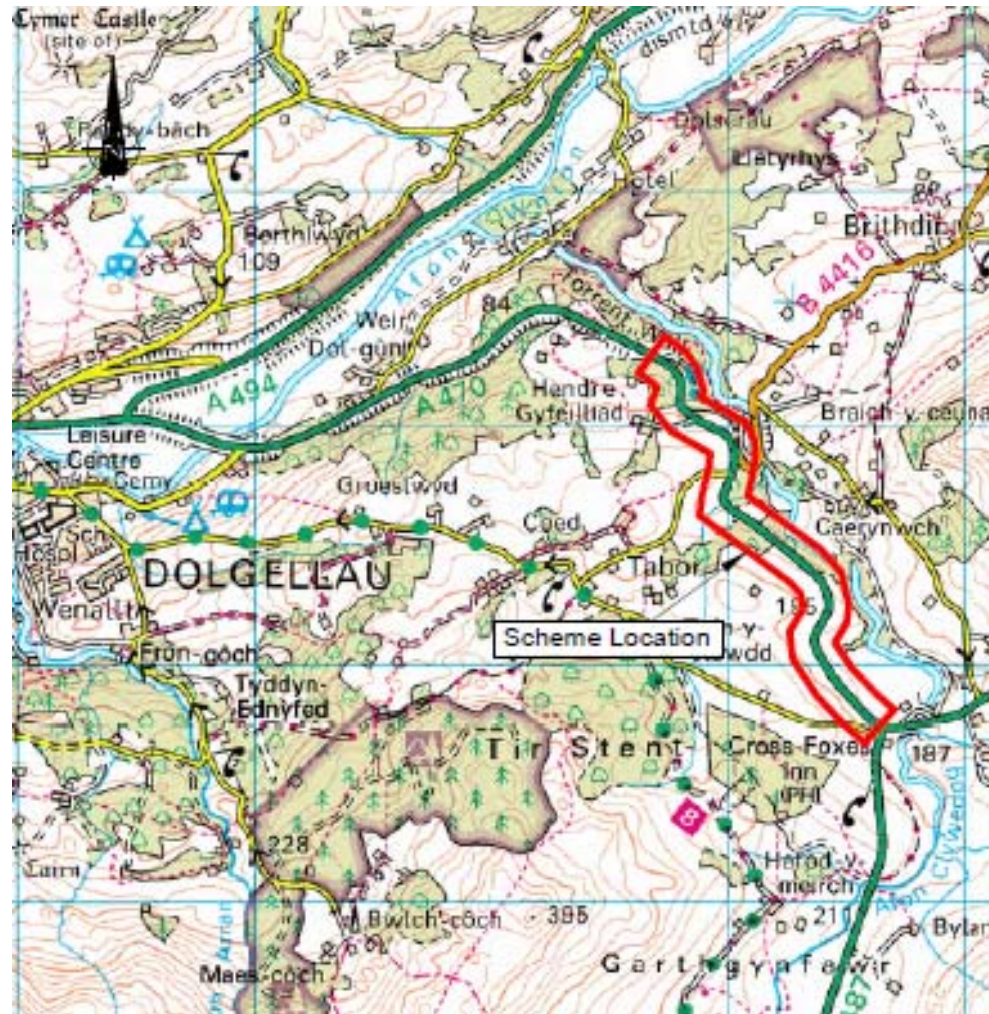
Gwyndaf Williams, Chair

Mark Valentine, ICE Wales Cymru
Kerry Evans, CIHT North Wales

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CONSTRUCTING
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Scheme Location

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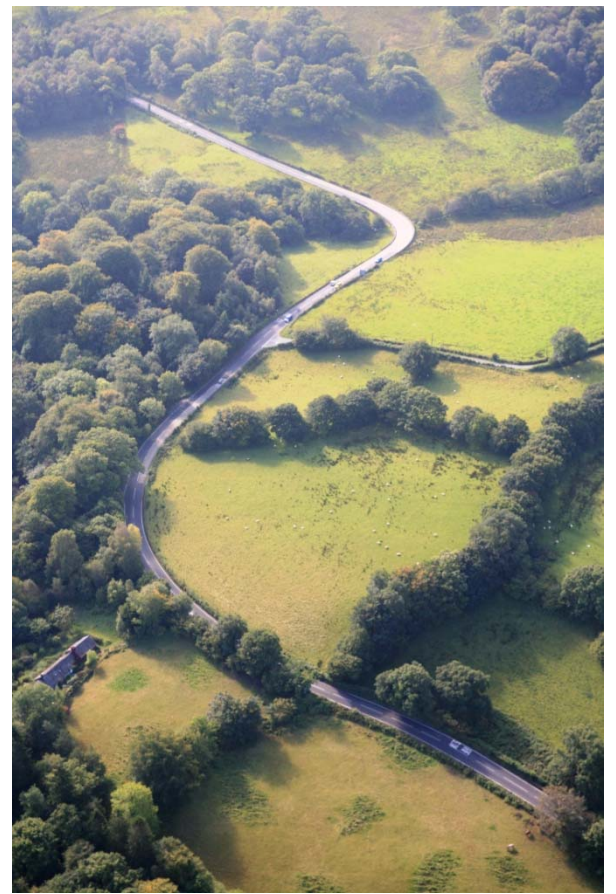
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North & Mid Wales Trunk Road Agent



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Welsh Government

Key Issues

- Six sharp bends over the 2.1km length of the A470;
- Two lane single carriageway with a minimum road width of 5.5 metres;
- No verges on either side of carriageway for most of the road;
- Personal injury accident rate for the period 2003 to 2009 was greater than the national average.



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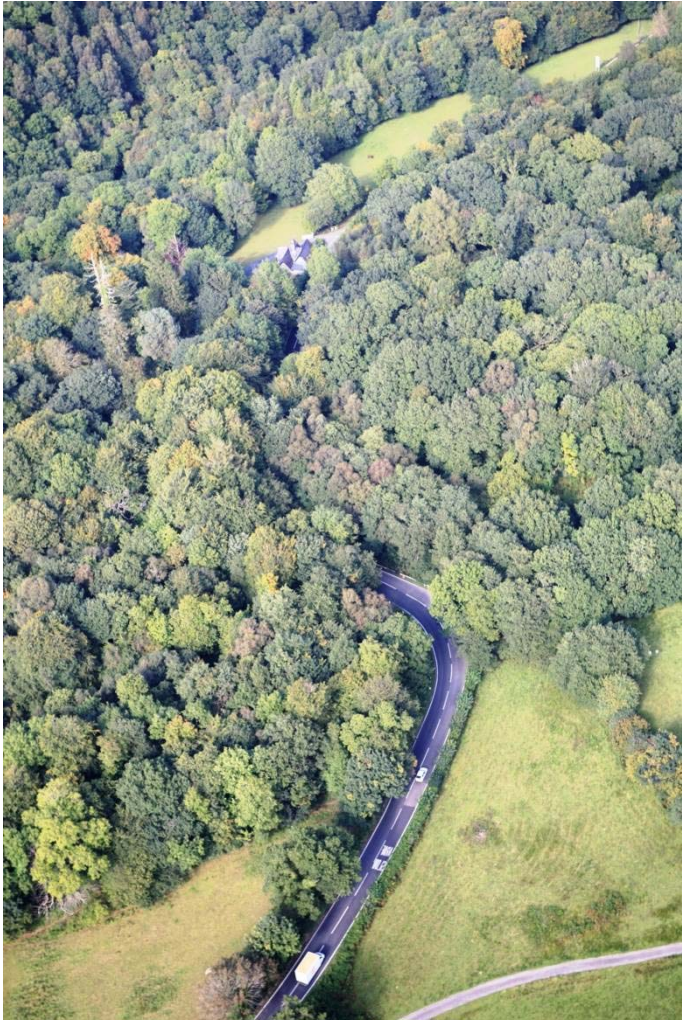
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Scheme Objectives

- Improve 2.2 km length of the trunk road to current standards taking account of advice in Roads in Upland Areas;
- Balance the need for an improved safer road whilst taking account the environmentally sensitive nature of the area;
- Deliver a sustainable scheme at an affordable cost that offerers best whole life value.



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Project Timeline

- Design Development and Environmental Assessment: June 2008 to July 2010
- Publish Statutory Orders: July 2010
- Procurement of Contractor: October 2011
- Start of works on site: 27th February 2012
- Completion of works: 18th October 2013



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Organisations Involved

- Welsh Government: Client
- Scheme Designer: YGC
- Sub-consultants: Hyder Consulting & Corderoy
- Employers Agent: YGC
- Main Works Contractor: Alun Griffiths Contractors Limited
- Landscape & Aftercare Works: NMWTRA



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A470 (T) Maes yr Helmau - Cross Foxes



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Llwybr Presennol Existing Route

- **Is-safonol**–
 - Lled
 - Radiws o troadau
 - Gwelededd
 - Amodau gyrru anodd
- **Gyfradd Ddamweiniau**
- **Anodd am cerbydau mawr, yn anwedig gyffordd Frithdir**
- **Sub Standard** –
 - Width
 - Radius of Bends
 - Visibility
 - Difficult driving conditions
- **Accident Rate**
- **Difficult for large vehicles, especially Brithdir Junction**

Llwybr Presennol Existing Route



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Llwybr Presennol Existing Route



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Dechrau Gwaith Starting Work

FFORDD GYSYLLTU CAERDYDD – GLAN CONWY (A470)
CARDIFF – GLAN CONWY TRUNK ROAD

Ffordd Osgoi Dolgellau / Dolgellau By-Pass
Agorwyd 13eg Ebrill 1981 gan Michael Roberts A.S. is Ysgrifennydd y Llywodraeth Dros Gyrru.
Opened 13th April 1981 by Michael Roberts M.P. Parliamentary Under Secretary of State for Wales.

Cynulliad Cenedlaethol Cymru
Y Gyfarwyddiaeth Drafnidiaeth

The National Assembly For Wales
Transport Directorate

**CEFNFFORDD A470 CAERDYDD I LAN CONWY
GWELLIANT MAES YR HELMAU I CROSS FOXES**

**A470 CARDIFF TO GLAN CONWY TRUNK ROAD
MAES YR HELMAU TO CROSS FOXES IMPROVEMENT**

DATGANIAD AMGYLCHEDDOL
Crynodeb Anhechnegol

ENVIRONMENTAL STATEMENT
Non-Technical Summary

HYDREF 2000
OCTOBER 2000

Local Authorities Transport
DERBYLOEJOY PARTNERSHIP

Cefnffordd yr A470 Caerdydd
i Lan Conwy Gwelliant Maes
yr Helmau i Cross Foxes

**A470 Cardiff to Glan Conwy
Trunk Road – Maes yr Helmau
to Cross Foxes Improvement**

Datganiad Amgylcheddol
Crynodeb Anhechnegol

Environmental Statement
Non Technical Summary



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Diogelu Protecting



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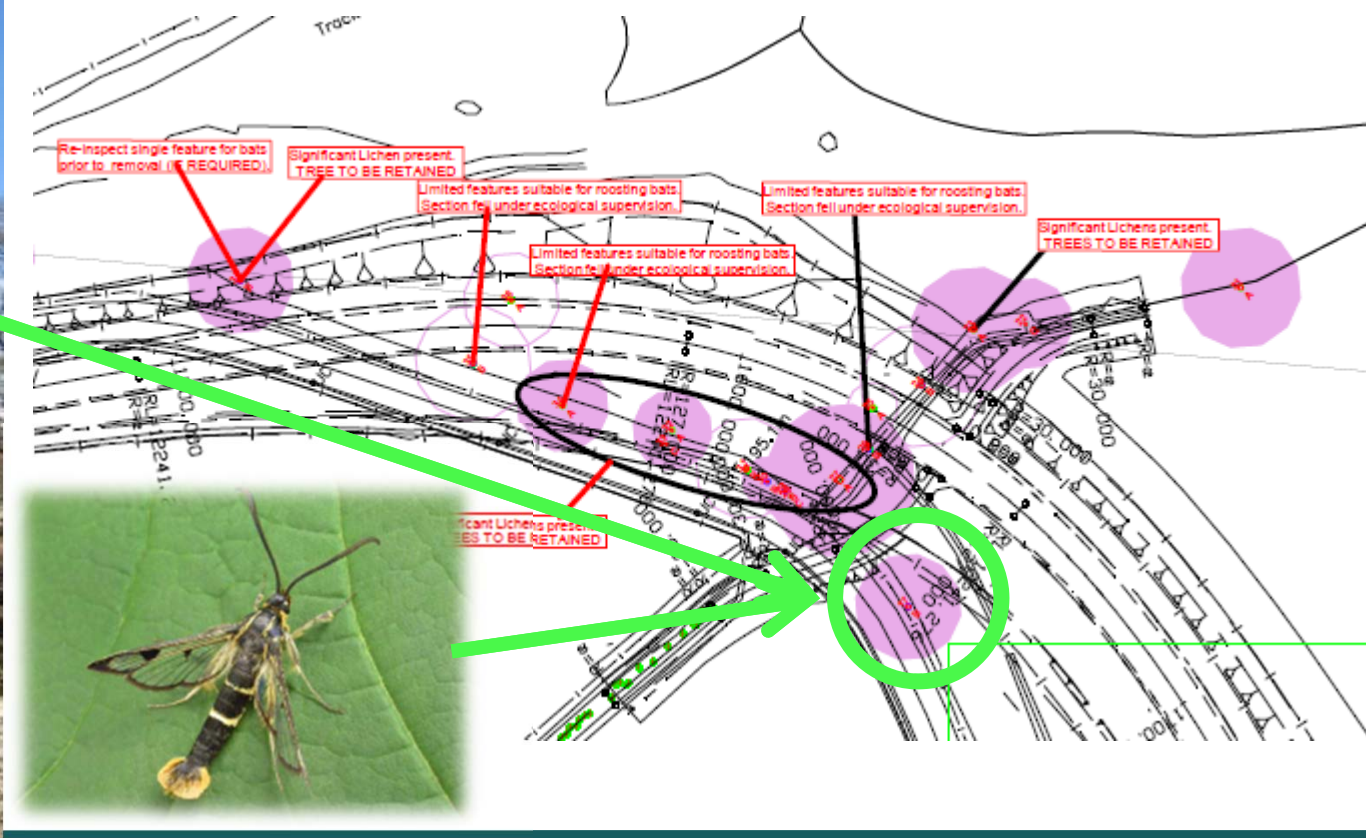


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Diogelu Protecting



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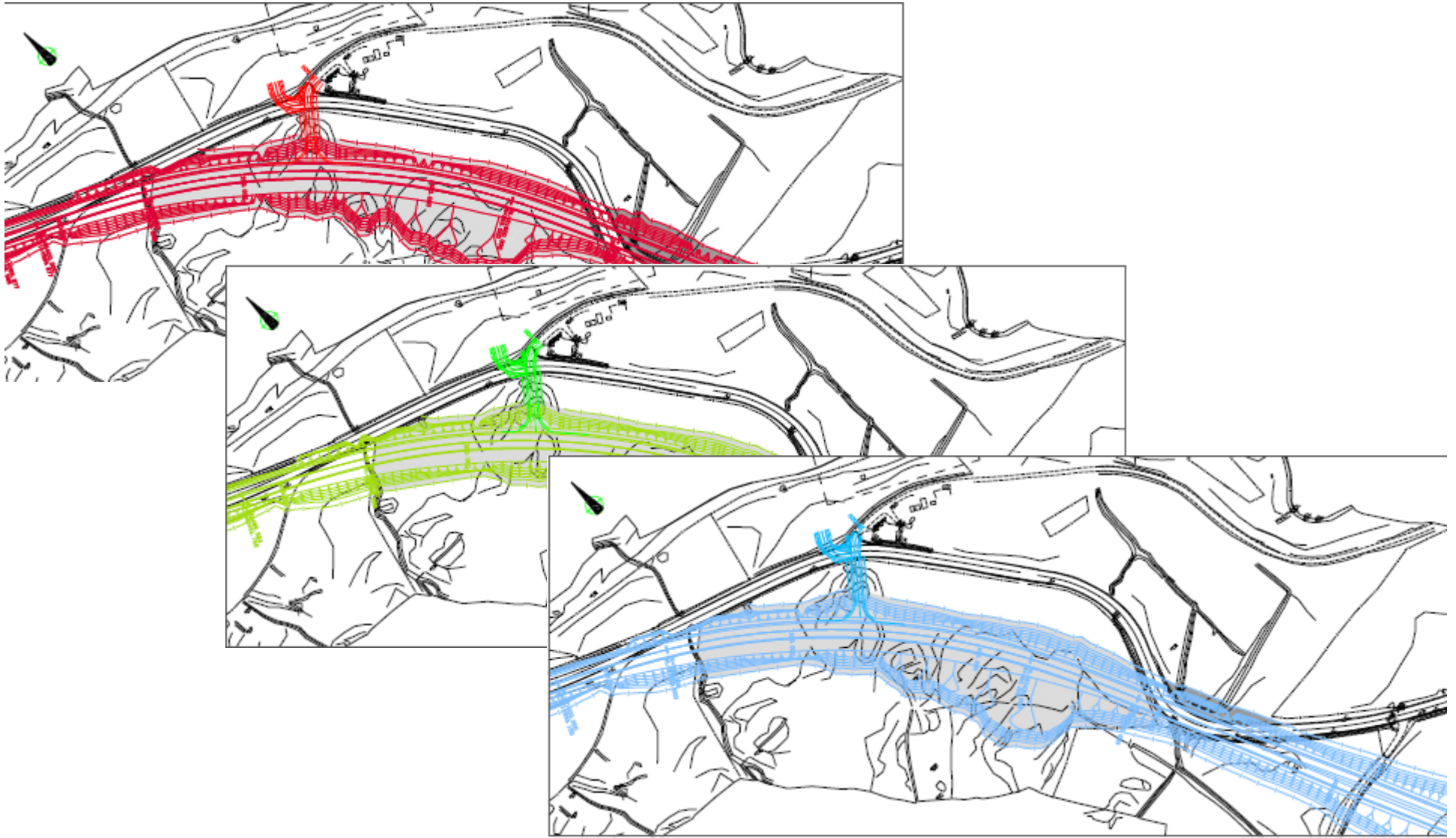
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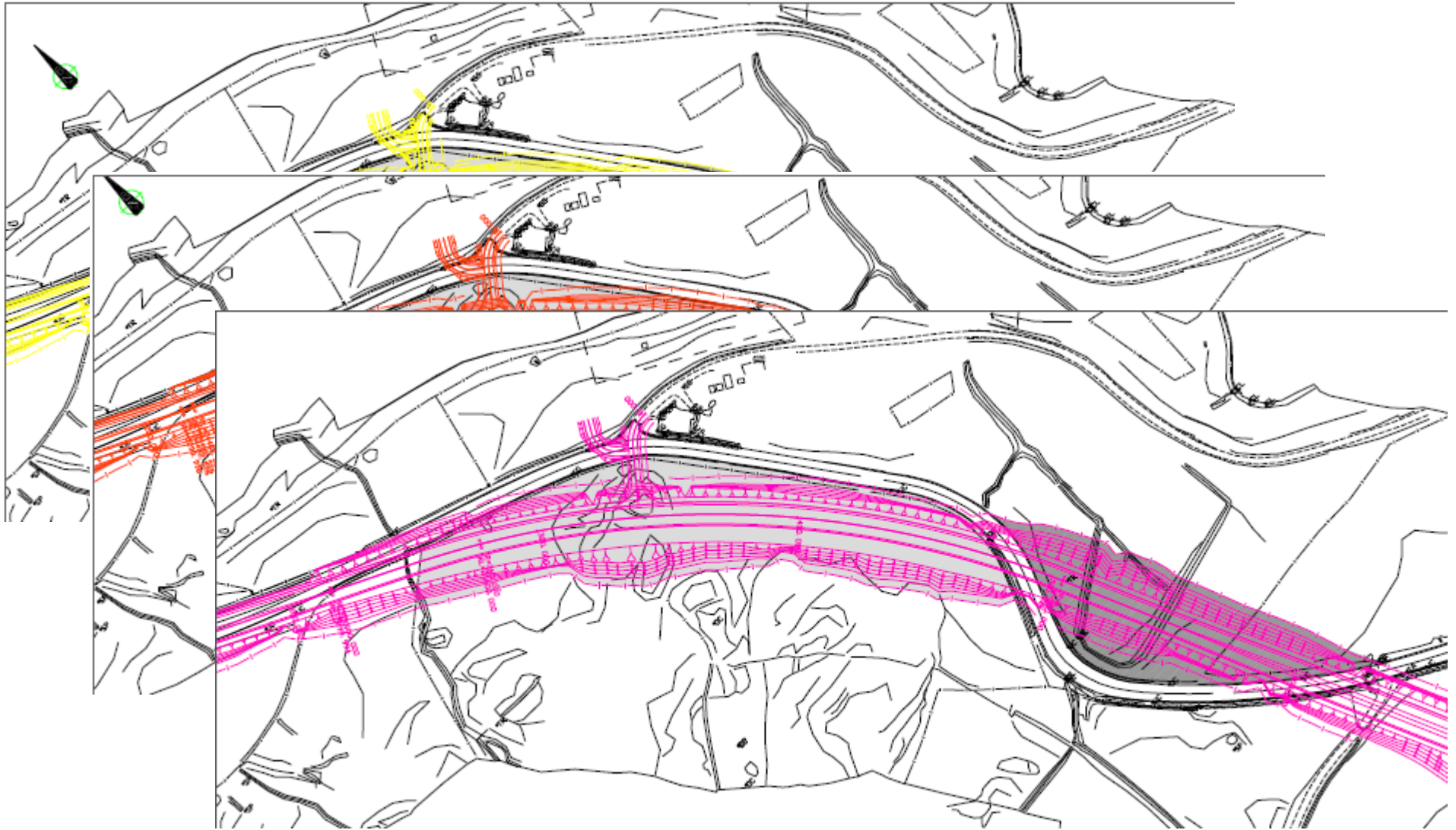
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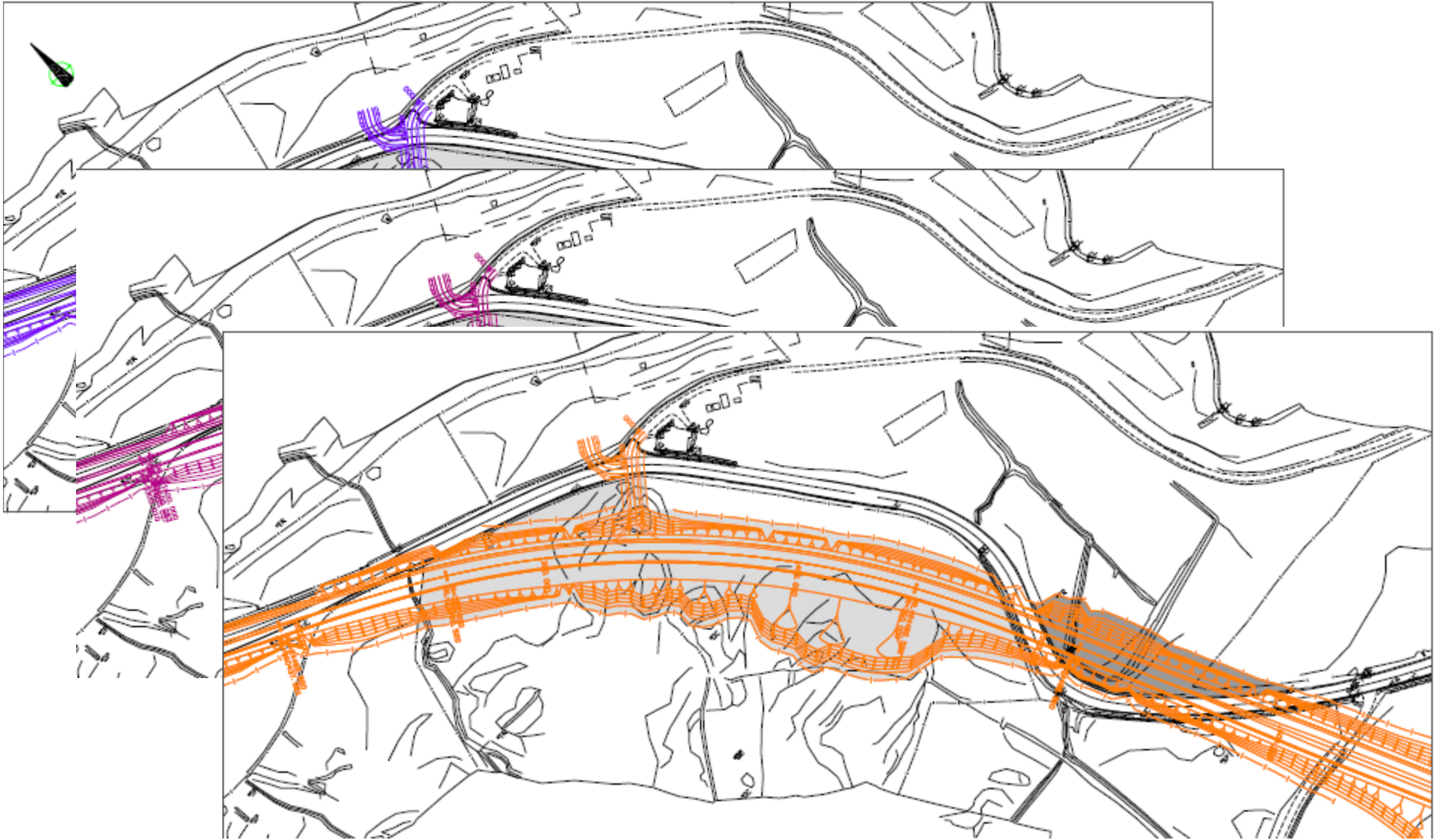
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Alun Griffiths (Contractors) Ltd

Presenter : John P Evans
Agent



Constructing Excellence in Wales

North Wales Best Practice Club

A CIHT and ICE Event Presentation

Challenges encountered during construction
of the

A470 Maes yr Helmau to Cross Foxes
Improvements



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Key Elements

- 11 ha site clearance works
- 80,000 cu m of earthworks
- 5,100 cu m of hard rock
- 3 no oversize culverts
- 700 lin m of masonry containment wall
- 2200 m of 7.3m wide carriageway



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Challenges

- Environment and Ecology
- Programme & Phasing – Traffic Management
- Optimising material use
- Working corridor
- Rock
- Weather

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Advance ground clearance

- Extensive site clearance
- Tree felling and scrub removal
- Dormice habitation – minimal disturbance
- Section felling
- Protection of particular species

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Ecological & Environmental Sensitivity

- Protecting watercourses
- Rare lichen species
- Protected species of bats
- Dormice habitation
- Tree / root protection zones

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Interface with live traffic

- 8 locations of convergence
- Significant level differences
- Full time TSCO
- Restrictions on Traffic Management



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PROGRAMME SECTIONS LOCATION PLAN



Phasing of the Works

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Summer in Dolgellau!

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Utilising site won material

- In structural embankments
- Susceptible to weather/moisture
- Narrow acceptability limits
- Stringent testing regime
- Fit in with work phasing

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Narrow working corridor

- Sensitivity of surrounding land
- Lack of storage areas
- Control run off
- Temp lagoons and attenuation
- Silt mitigation
- Dedicated environmental site team

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Removal of hard rock

- Proximity to listed properties
- Noise and vibration constraints
- Identified opportunity to blast
- Predicted vibration limits
- Series of controlled blasts

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Weather

- Very changeable (mostly wet!)
- +1000mm rainfall in 7 months
- Attenuation
- Protecting formation
- Suitability of fill
- Fluid programme

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Successes

- Zero lost time accidents
- Completed 26 weeks early
- TM a success – mentioned in the Senedd
- Tree retention along corridor
- Zero waste on all felled timber
- On site recovery of all walling stone



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- Value engineering
- NEC Healthcheck high score
- Rock blasting
- Surplus material landscaped on site
- Boulders / large rock re-used
- Community engagement



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Thank You

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Cyfoeth
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Natural
Resources
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Mannon Lewis

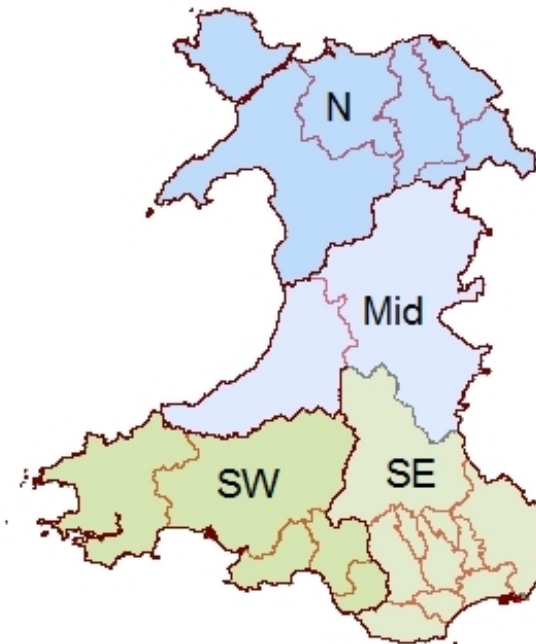
Arweinydd Tim Gwaith Achos Casework Team Leader





NRW who we are and what we do

- Principal adviser to the Welsh Government on the environment, enabling the sustainable development of Wales' natural resources for the benefit of people, the economy and wildlife
- The purpose of the Body is to ensure that the environment and natural resources of Wales are sustainably maintained, sustainably enhanced, and sustainably used



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Our involvement

- The scheme aims for an improved and safer road and it will pass through the Meirionnydd Oakwoods and Bat Sites SAC Snowdonia National Park
 - The main focus of our involvement
 - National park, Special Area of Conservation and protected species
 - Regulator Species Licensing
 - Felling licences
 - Impact on surface waters, ground Water run off
 - Flood risk
 - Waste
 - Fisheries
 - Biodiversity



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CYNGOR CEFN GWLAD CYMRU
COUNTRYSIDE COUNCIL FOR WALES

CORE MANAGEMENT PLAN
INCLUDING CONSERVATION OBJECTIVES

FOR

Meirionnydd Oakwoods and Bat Sites SAC

Version: 1 Joanna Clark, Pauline Barber & Fiona Evans

Date: 17 April 2008

Approved by: NR Thomas 22ND April 2008

A Welsh version of all or part of this document can be made available on request.



EFFECTS OF SCHEME ON THE SAC

- The preferred option removes 0.82 ha of old sessile oakwood feature in the SAC, of which 0.45ha is not replaced after the construction phase.
- The preferred scheme designed to minimise the loss of lichen trees and bryophytes within the SAC and elsewhere along the scheme.
- The scheme partly mitigates for the loss of lichens and bryophytes by improving management of other woodland to improve it for these species, some transplanting and, as a very long term measure, planting new trees.
- Most harmful effects are avoided or reduced, however we advised that the permanent loss of 0.45 ha of old sessile oakwood would be contrary to the conservation objectives
- What the law requires



Ways of working

- NRW - Single point of contact
 - Virtual team to deal with consultations
- Ensure transparency of decisions by being able to explain the reasoning behind our advice
 - Work with the developer to minimise impact
 - Design and build – better ways of working?



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Results

- The scheme includes avoidance and mitigation measures to limit the effects on the old sessile oakwood feature, lichens, bryophytes and Lesser Horseshoe Bats.
- The scheme also includes new woodland outside the SAC to compensate for old sessile oakwood feature lost within the SAC.
- The scheme has several measures to ensure the new road does not adversely affect Lesser Horseshoe bats, including better foraging areas and guiding them to cross the road in safe places.