



At: Aelodau'r Cyngor Sir

Dyddiad: Dydd Llun, 2 Medi 2013

Rhif Union: 01824712589

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Annwyl Gyngorydd

Fe'ch gwahoddir i fynychu cyfarfod y **CYNGOR SIR, DYDD MAWRTH, 10 MEDI 2013** am **10.00 am** yn **SIAMBR Y CYNGOR, NEUADD Y SIR, RHUTHUN LL15 1YN.**

Yn gywir iawn

G Williams  
Pennaeth Gwasanaethau Cyfreithiol a Democrataidd

## AGENDA

### 1 YMDDIHEURIADAU

### 2 DATGAN CYSYLLTIAD

Aelodau i ddatgan unrhyw gysylltiad personol neu ragfarnus ag unrhyw fusnes y bwriedir ei ystyried yn y cyfarfod.

### 3 MATERION BRYG

Hysbysiad o eitemau y dylid, ym marn y Cadeirydd, eu hystyried yn y cyfarfod fel materion brys o dan Adran 100B(4) Deddf Llywodraeth Leol 1972.

- 4 DYDDIADUR Y CADEIRYDD** (Tudalennau 5 - 8)  
Nodi'r dyletswyddau dinesig a wnaed gan Gadeirydd y Cyngor (copi ynghlwm).
- 5 COFNODION** (Tudalennau 9 - 26)  
Derbyn cofnodion cyfarfod y Cyngor a gynhaliwyd 9 Gorffennaf 2013 (copi'n amgaeedig).
- 6 ADRODDIAD YMCHWILWYR I'R LLIFOGYDD YN GLASDIR, RHUTHUN** (Tudalennau 27 - 138)  
Ystyried adroddiad gan yr Uwch Beiriannydd, Rheoli Perygl Llifogydd (copi'n amgaeedig) i hysbysu'r Aelodau am ganfyddiadau'r ymchwiliad annibynnol i lifogydd ar Stâd Glasdir, Rhuthun.
- 7 Y NEWYDDION DIWEDDARAF AM Y GYLLIDEB** (Tudalennau 139 - 148)  
Ystyried adroddiad gan y Prif Gyfrifydd (copi'n amgaeedig) i roi'r newyddion diweddaraf ar y sefyllfa gyllidebol ar gyfer 2014/2015 ac i gymeradwyo'r cynigion ar gyfer arbedion.
- 8 DATGANIAD POLISI TÂL** (Tudalennau 149 - 168)  
Ystyried adroddiad gan y Prif Weithredwr (copi'n amgaeedig) i gymeradwyo'r Datganiad Polisi Tâl a ddrafftwyd yn unol â gofynion 38(1) Deddf Lleoliaeth 2011.
- 9 YMATEB YMGYNGHORIAD I'R COMISIWN AR LLYWODRAETHU A DARPARU GWASANAETH CYHOEDDUS** (Tudalennau 169 - 202)  
Ystyried adroddiad gan y Prif Weithredwr (copi'n amgaeedig) i ystyried yr ymateb drafft i'r Comisiwn, ac a ddylid ei gyflwyno fel ymateb ffurfiol y Cyngor i'r alwad am dystiolaeth.
- 10 RHAGLEN GWAITH I'R DYFODOL Y CYNGOR SIR** (Tudalennau 203 - 208)  
Ystyried rhaglen gwaith i'r dyfodol y Cyngor Sir (copi'n amgaeedig).

## **AELODAETH**

### **Y Cynghorwyr**

Ian Armstrong  
Raymond Bartley  
Brian Blakeley  
Joan Butterfield  
Jeanette Chamberlain-Jones  
William Cowie

Gwyneth Kensler  
Geraint Lloyd-Williams  
Margaret McCarroll  
Jason McLellan  
Barry Mellor  
Win Mullen-James

Ann Davies  
James Davies  
Meirick Davies  
Richard Davies  
Stuart Davies  
Peter Duffy  
Peter Arnold Evans  
Hugh Evans  
Bobby Feeley  
Carys Guy  
Huw Hilditch-Roberts  
Martyn Holland  
Colin Hughes  
Rhys Hughes  
Hugh Irving  
Alice Jones  
Huw Jones  
Pat Jones

Bob Murray  
Peter Owen  
Dewi Owens  
Merfyn Parry  
Paul Penlington  
Arwel Roberts  
Gareth Sandilands  
David Simmons  
Barbara Smith  
David Smith  
Bill Tasker  
Julian Thompson-Hill  
Joe Welch  
Cefyn Williams  
Cheryl Williams  
Eryl Williams  
Huw Williams

**COPIAU I'R:**

Y Wasg a'r Llyfrgelloedd  
Cynghorau Tref a Chymuned

Mae tudalen hwn yn fwriadol wag

# Eitem Agenda 4

## Digwyddiadau wedi eu mynychu gan y Cadeirydd / Events attended by Chairman

28.06.13 – 28.08.13

Dyddiad / Date	Digwyddiad / Event	Lleoliad / Location
28.06.13	Diwrnod Mawr y Ddyfrdwy The Big Dee Day	Wrecsam Wrexham
29.06.13	Codi Baner Diwrnod y Lluoedd Arfog Armed Forces Flag Raising Ceremony	Llangefni
30.06.13	Gwasanaeth Dinesig y Cadeirydd Chairman's Civic Service	Dinbych Denbigh
02.07.13	Ymweliad Frenhinol Royal Visit	Corwen
02.07.13	Cyflwyno Gwobr Ysgolion Iach Present Healthy Schools Award Is Gadeirydd wedi mynychu Vice Chair attended	Ysgol Caer Drewyn Corwen
02.07.13	Arwyddo Cyfamod Cymunedol y LLuoedd Arfog Official Signing Armed Forces Community Covenant	Prestatyn
03.07.13	Ymweld a Bethan Hughes, Gwasanaethau Llyfrgell Visit Bethan Hughes, Library Services	Rhuthun Ruthin
07.07.13	Gwasanaeth Dinesig y Maer Mayor's Civic Service	Wrecsam Wrexham
07.07.13	Cinio Dinesig y Maer Mayor's Civic Lunch Is Gadeirydd wedi mynychu Vice Chair attended	Rhuthun Ruthin
09.07.13	Eisteddfod Llangollen – Derbyniad a Cyngerdd Agoriadol – Reception & Opening Concert	
10.07.13	Croesawu Athrawon o Wlad Pwyl i'r Sir Welcome Teachers from Poland to the County	
13.07.13	Derbyniad yr Is-Lywydd – Vice President's Reception	
11.07.13	Seremoni Dinasyddiaeth Citizenship Ceremony	Rhuthun Ruthin
14.07.13	Gwasanaeth Dinesig y Maer Mayor's Civic Service	Dinbych Denbigh
14.07.13	Gwasanaeth Dinesig y Maer Mayor's Civic Service	Conwy

<b>Dyddiad / Date</b>	<b>Digwyddiad / Event</b>	<b>Lleoliad / Location</b>
17.07.13	Deddf 1563 Cyfieithu'r Beibl i Gymraeg (Gwahoddiad gan Chris Ruane) View the 1563 Act for the Translation of the Bible into Welsh (Invitation from Chris Ruane)	Llundain London
18.07.13	Ymweld a Ysgol Llanfair Dyffryn Clwyd Enillwyr cystadleuaeth Gelf (Ysgolion Cynradd) Visit Ysgol Llanfair Dyffryn Clwyd Winners of Art competition (Primary Schools)	
18.07.13	Menter Mentor Darllen – Cyflwyno tystysgrifau i ddisgyblion ysgolion cynradd Reading Mentor Initiative Present certificates to primary school pupils	Rhuthun Ruthin
18.07.13	Croesawu Gweinidog Tai ac Adfywio i'r Sir Welcome Housing & Regeneration Minister to the County Is Gadeirydd wedi mynychu Vice Chair attended	Rhyl
18.07.13	Sioe Pypedau Superkids Superkids Puppet Show	Bodelwyddan
19.07.13	Ymweld a Ysgol Plas Brondyffyn Enillwyr cystadleuaeth Gelf (Ysgolion Arbennig) Visit Ysgol Plas Brondyffryn Winners of Art competition (Special Schools)	Dinbych Denbigh
19.07.13	Ymweld a Ysgol Glan Clwyd Enillwyr cystadleuaeth Gelf (Ysgolion Uwchradd) Visit Ysgol Glan Clwyd Winners of Art competition (Secondary Schools)	Llanelwy St Asaph
28.07.13	Gwasanaeth Dinesig y Maer Mayor's Civic Service	Rhyl
02.08.13	Eisteddfod Genedlaethol Derbyniad a Cyngerdd Agoriadol / Reception & Opening Concert	Dinbych / Denbigh
03.08.13	Derbyniad / Reception Tlws Yr Eidalwyr Derbyniad / Reception Creu Argraff	
05.08.13	Croesawu Ysgrifennydd Gwladol Cymru, David Jones, AS Greet Secretary of State for Wales, David Jones MP	
06.08.13	Derbyniad / Reception Coleg Cambria Croesawu Barones Jenny Randerson Greet Baroness Jenny Randerson	
08.08.13	Dathliad o Brosiectau / Celebration of Projects Cadwyn Clwyd Derbyniad / Reception Cadwyn Clwyd – Alun Davies AC/AM Derbyniad / Reception Undeb Cymru a'r Byd	

<b>Dyddiad / Date</b>	<b>Digwyddiad / Event</b>	<b>Lleoliad / Location</b>
15.08.13	Sioe Dinbych & Flint (Beirniadu cystadleuaeth stondin fasnach) Denbigh & Flint Show (Judging trade stands competition)	Dinbych Denbigh
23.08.13	'Music Mania' Sir Ddinbych Denbighsire Music Mania	Dinbych Denbigh
24.08.13	Sioe Dinbych Denbigh Show	
24.08.13	Sioe Rhyl Rhyl Show Is Gadeirydd wedi mynychu Vice Chair attended	

Mae tudalen hwn yn fwriadol wag



## CYNGOR SIR

Cofnodion cyfarfod o'r Cyngor Sir a gynhaliwyd yn Siambr y Cyngor, Neuadd y Sir, Rhuthun LL15 1YN, Dydd Mawrth, 9 Gorffennaf 2013 am 10.00 am.

## YN BRESENNOL

Y Cyngorwyr Raymond Bartley (Cadeirydd), Brian Blakeley (Is-Gadeirydd), Joan Butterfield, Jeanette Chamberlain-Jones, William Cowie, Ann Davies, James Davies, Meirick Davies, Richard Davies, Stuart Davies, Peter Arnold Evans, Bobby Feeley, Carys Guy, Huw Hilditch-Roberts, Martyn Holland, Colin Hughes, Hugh Irving, Huw Jones, Pat Jones, Gwyneth Kensler, Geraint Lloyd-Williams, Margaret McCarroll, Jason McLellan, Barry Mellor, Win Mullen-James, Bob Murray, Dewi Owens, Merfyn Parry, Paul Penlington, Arwel Roberts, Gareth Sandilands, David Simmons, Barbara Smith, David Smith, Bill Tasker, Julian Thompson-Hill, Joe Welch, Cefyn Williams, Cheryl Williams, Eryl Williams a/ac Huw Williams

## HEFYD YN BRESENNOL

Prif Weithredwr (MM), Cyfarwyddwyr Corfforaethol: Uchelgais Economaidd a Chymunedol (RM); Cwsmeriaid (HW); Moderneiddio a Lles (SE); Pennaeth Gwasanaethau Cyfreithiol a Democrataidd a Swyddog Monitro (RGW), Pennaeth Cyllid ac Asedau (PM), Pennaeth Gwasanaethau Plant a Theuluoedd (LR); Prif Beiriannydd: Rheoli Risg Llifogydd (WH); Rheolwr Rhaglen: Busnes, Cynllunio a Pherfformiad (MH); Gwasanaethau Plant a Theuluoedd (VA); Rheolwr Gwasanaethau Democrataidd (SP); Cynrychiolydd Cyfoeth Naturiol Cymru (KI) a Gweinyddwr Pwyllgorau (CIW).

## 1 YMDDIHEURIADAU

Derbyniwyd ymddiheuriad am absenoldeb gan y Cyngorwyr I.W. Armstrong, P.C. Duffy, H.H. Evans, T.R. Hughes, E.A. Jones a P.W. Owen.

Croesawodd y Cadeirydd y Cyngorydd D.Simmons yn ei ôl yn dilyn triniaeth feddygol ddiweddar, a dymunodd y Cadeirydd ac Aelodau'r Cyngor yn dda i'r Cynghorydd Richard Jones oedd yn sâl ar hyn o bryd.

Hysbyswyd yr Aelodau bod y Cyngorydd H.H. Evans yn mynychu seremoni graddio ei ferch ac na fyddai'n gallu mynychu'r cyfarfod.

Cyhoeddodd y Cadeirydd y byddai'n gadael cyn diwedd y cyfarfod i fynychu Eisteddfod Gerddorol Ryngwladol yn Llangollen a byddai'r Is-Gadeirydd, y Cyngorydd B.Blakeley, yn cadeirio gweddill y cyfarfod.

Cytunodd yr Aelodau y dylid anfon llythyr at achubwyr bywyd y Rhyl Joshua Clough a Simon Casey, i ddiolch iddynt am eu gwroldeb a'u dewrder wrth gynorthwyo i achub aelod o'r cyhoedd.

Llongyfarchodd y Cadeirydd a'r Aelodau y Cyngorydd M.Ll. Davies ar gael ei benodi'n Gadeirydd Gwasanaeth Tân ac Achub Gogledd Cymru.

## 2 DATGAN CYSYLLTIAD

Ni ddatganodd unrhyw Aelod gysylltiad personol neu ragfarnllyd i unrhyw fater sy'n cael ei ystyried yn y cyfarfod.

## 3 MATERION BRYD FEL Y'U CYTUNWYD GAN Y CADEIRYDD

Ni chodwyd unrhyw eitem y dylid, ym marn y Cadeirydd, eu hystyried yn y cyfarfod fel mater bryd dan Adran 100B(4) Deddf Llywodraeth Leol 1972.

## 4 DYDDIADUR Y CADEIRYDD

Roedd rhestr o ddigwyddiadau dinesig a fynychwyd ar ran y Cyngor gan y Cadeirydd a'r Is-Gadeirydd, ar gyfer cyfnod 30 Mai 2013 nes 24 Mehefin 2013 wedi'u cylchredeg gyda'r papurau ar gyfer y cyfarfod.

Darparodd y Cadeirydd grynodedb o'r digwyddiadau canlynol:-

31 Mai 2013. Gŵyl Gerddorol Ryngwladol Gogledd Cymru - fel Cefnogwr Anableddau Dysgu, eglurodd y Cadeirydd y byddai cyngerdd yn cael ei gynnal yng Nghadeirlan Llanelwy ar gyfer unigolion ag anableddau dysgu. Cadarnhaodd bod rhodd o £1,000 wedi'i roi tuag at y digwyddiad o gronfa'r Cadeirydd a £1,000 pellach ar gyfer costau cludiant.

14 Mehefin 2013. Aeth y Cadeirydd i Ysbyty Glan Clwyd, Bodelwyddan, i ddechrau taith feicio a chyflwynodd siec o £100 tuag at ddarparu robot i gynnal llawdriniaeth twll clo.

20 Mehefin 2013. Diolchodd y Cadeirydd i bawb oedd yn rhan o Wyl Celfyddydau Perfformio Ysgolion Sir Ddinbych, a gynhaliwyd dros gyfnod o bedair noson, am ddarparu digwyddiad ardderchog.

26 Mehefin 2013. Fel Llywodraethwyr Ysgol Brondyffryn a Gerddi Glasfryn Dinbych, roedd y Cadeirydd a'r Cyngorydd R.J. Davies, wedi ymweld â'r ysgol i longyfarch y staff am yr adroddiad ysgol ardderchog yn dilyn ymweliad annisgwyl gan arolygwyr ysgolion.

**PENDERFYNWYD** – y dylid nodi a derbyn y rhestr o ddigwyddiadau dinesig a fynychwyd ar ran y Cyngor gan y Cadeirydd a'r Is-Gadeirydd, a dylid nodi sylwadau'r Cadeirydd.

## 5 COFNODION

Cyflwynwyd cofnodion cyfarfod y Cyngor a gynhaliwyd ar 4 Mehefin 2013.

**PENDERFYNWYD** – derbyn cofnodion cyfarfod y Cyngor a gynhaliwyd ar 4 Mehefin 2013 fel cofnod cywir.

## 6 ADRODDIAD YMCHWILWYR Y LLIFOGYDD

Roedd copi o adroddiad gan Uwch Beiriannydd: Rheoli Risg Llifogydd, oedd yn darparu manylion canfyddiadau archwiliad y llifogydd, a diweddariad o gynnydd yr archwiliad i ddigwyddiad llifogydd Glasdir, wedi'i gylchredeg gyda'r papurau ar gyfer y cyfarfod.

Cyflwynwyd yr adroddiad gan y Cynghorydd D.I. Smith a'r Cyfarwyddwr Corfforaethol: Uchelgais Economaidd a Chymunedol (CDECA). Cadarnhawyd fod yr archwiliad i'r llifogydd ledled Sir Ddinbych ym mis Tachwedd 2012, wedi'i gwblhau gan eithrio Glasdir, lle yr oedd cymhlethdod y materion yn ymwneud â'r digwyddiad llifogydd yn golygu bod yr archwiliad yn parhau.

Roedd cryn dipyn o lifogydd mewn 12 lleoliad gwahanol ledled Sir Ddinbych ar 26 a 27 Tachwedd 2012 gyda thua 500 o adeiladau wedi'u heffeithio. O dan amodau Deddf Rheoli Llifogydd a Dŵr 2010 roedd y Cyngor wedi cynnal archwiliad i achosion y llifogydd ac roedd Cyfoeth Naturiol Cymru wedi cefnogi'r archwiliad. Tarddiad y llifogydd oedd y prif afonydd, a Chyfoeth Naturiol Cymru oedd yr Awdurdod rheoli risg ar gyfer y rhain, a chysiau dŵr cyffredin, a Sir Ddinbych oedd yr Awdurdod rheoli risg ar gyfer y rhain.

Trefnwyd adrodd am yr ymchwiliad i'r Cyngor ym mis Mai ond roedd wedi ei ohirio oherwydd cymhlethdod a maint archwiliad dau ddigwyddiad llifogydd mawr yn Llanelwy a Glasdir. Roedd archwiliad digwyddiad Llanelwy wedi'i gwblhau a'i grynhoi yn Atodiad 2. Byddai adroddiad llawn Glasdir yn cael ei ohirio nes fis Medi ac mae cylch gorchwyl yr archwiliad wedi'i atodi fel Atodiad 1.

Diben yr archwiliad oedd egluro rhesymau'r llifogydd, tebygolrwydd y bydd yn digwydd eto a beth y gellir ei wneud i reoli risg llifogydd yn briodol yn y dyfodol. Roedd meini prawf ar gyfer cytuno lleoliad i archwilio'r deg safle yn cynnwys:

- Un neu fwy o adeiladau gyda llifogydd mewnol
- Aflonyddu isadeiledd hanfodol e.e. ffyrdd neu wasanaethau.
- Yr uchod 'bron' ag ailadrodd.

Penderfynwyd peidio â chynnwys llifogydd cyffredinol tir amaethyddol fel rhan o'r ymchwiliad oni bai bo'r digwyddiad llifogydd yn anarferol neu'n annisgwyl. Fodd bynnag, byddai effaith llifogydd ar dir amaethyddol yn cael ei drafod ar lefel genedlaethol.

Mae archwiliad llifogydd y rhan fwyaf o leoliadau wedi'u cyflawni ar y cyd gan Sir Ddinbych a Chyfoeth Naturiol Cymru. Oherwydd cymhlethdod y digwyddiadau yng Nglasdir, roedd archwilwyr annibynnol wedi'u comisiynu i gynnal yr archwiliad i lifogydd y lleoliad hwn. Gofynnwyd i'r Archwilwyr Annibynnol adolygu canfyddiadau archwiliad y Cyngor a Chyfoeth Naturiol Cymru ar gyfer holl leoliadau llifogydd eraill ac roedd y rhain yn cynnwys:-

- Llanelwy, gan gynnwys Ffordd Isaf Dinbych
- Rhuddlan gan gynnwys Lôn Sarn
- Y Brwcws, Dinbych
- Llanynys
- Gellifor
- Glasdir, Rhuthun
- Park Place/ Stryd Mwrog/Maes Ffynnon, Rhuthun
- Llanbedr Dyffryn Clwyd
- Loggerheads
- Corwen
- Glyndyfrdwy

Mae adroddiad yn cynnwys canfyddiadau'r archwiliad wedi'i gynnwys fel Atodiad 2. Mae'r gwaith archwilio llifogydd wedi'i gydlynu gan Weithgor Archwilio Llifogydd yn cynnwys swyddogion y Cyngor, Cyfoeth Naturiol Cymru ac Awdurdod Cefnffyrdd. Hyd yn hyn, mae tri briff budd-ddeiliad wedi'u cyflwyno ac mae'r rhain wedi'u cynnwys er gwybodaeth yn Atodiad 3. Cynhaliwyd cyfarfodydd hefyd gyda chynrychiolwyr trigolion yn y ddau leoliad mwyaf y llifogydd yng Nglasdir a Llanelwy.

Roedd Sir Ddinbych wedi ystyried mesurau dros dro i leihau risg llifogydd wrth aros am ganlyniad yr archwiliad. O ganlyniad, mae'r gwaith canlynol wedi'i gyflawni:

- Gosod falfiau un ffordd gwrth-llifogydd ar ddraeniau dŵr yr arwyneb yn y Brwcws, Dinbych.
- Yng Nglasdir, tynnu rhwyllau diogelwch ar geuffos 5 bocs, gosod medrydd dŵr telemetreg dros dro yn sianel y geuffos ac adeiladu llawr caled uwch ben y geuffos i alluogi mynediad i dynnu malurion yn ystod llifogydd.

Gall cost gweithredu'r argymhellion mewn perthynas â llifogydd cyrsiau dŵr cyffredin fod hyd at £1m, ac ni ellir cynnwys hyn yng nghyllideb gyfredol y Cyngor. Roedd Cyfoeth Naturiol Cymru wedi amcangyfrif y byddai cynllun i leihau risg llifogydd yn Llanelwy i lefel dderbyniol yn costio dros £5 miliwn. Roedd yr Aelodau'n cefnogi'r farn bod Sir Ddinbych yn gofyn am sicrwydd gan Lywodraeth Cymru bod blaenoriaeth ddigonol yn cael ei roi i gyllid cynnar cynigion Cyfoeth Naturiol Cymru mewn perthynas â Llanelwy, ac unrhyw argymhellion eraill o'r archwiliad mewn perthynas â phrif afonydd. Eglurodd y Cynghorydd D.I. Smith fod gan Lywodraeth Cymru bwerau i ddyrannu grant o dan Ddeddf Draenio Tir a chadarnhaodd y byddai'r argymhellion yn cael eu dilyn ar unwaith. Hysbysodd yr Aelodau ei fod wedi cyflwyno sylwadau i'r Gweinidog yn gofyn am gyllid Llywodraeth Cymru.

Roedd yr ymchwiliad yn nodi gwaith bychan y gellir eu cwblhau yn amodol ar argaeledd cyllid, yn y manau lle nad oedd amddiffynfeydd llifogydd yn briodol gellir ystyried amddiffynfeydd ar gyfer adeiladau unigol. Roedd y CDECA yn amlinellu argymhellion cyffredinol i ddelio â materion ehangach rheoli risg llifogydd oedd yn cynnwys gweithio gyda pherchnogion adeiladau unigol, perchnogion tir ac, yn amodol ar gymeradwyaeth, sefydlu Partneriaeth Rheoli Afonydd, a groesawyd gan y Cynghorydd T.M. Parry.

Cadarnhawyd fod y tri Briff Budd-ddeiliaid wedi'u cyflwyno i rannu gwybodaeth gyda phartïon sydd â diddordeb, roedd cyfarfodydd cyswllt rheolaidd wedi'u cynnal gyda

thrigolion yng Nglasdir, dau gyfarfod gyda chynrychiolwyr trigolion yn Llanelwy a thrafodwyd canfyddiadau dros dro'r archwiliad gan Bwyllgor Archwilio Cymunedau.

Mewn ymateb i bryderon a fynegwyd gan y Cynghorydd W.L. Cowie, eglurodd CDECA fod yr archwiliad wedi nodi fod y bont yn Spring Gardens, Llanelwy heb achosi'r llifogydd. Fodd bynnag, nodwyd fod y bont wedi cyflwyno rhwystr ar yr afon ac wedi cael effaith. Amlinellwyd manylion y dewisiadau tymor hir a thymor byr sy'n cael eu hystyried i ddatrys y materion a nodwyd gan Gynrychiolydd Cyfoeth Naturiol Cymru ac yn y tymor byr roedd y rhain yn cynnwys tynnu coed a llystyfiant, codi uchder arglawdd llifogydd dros dro a darparu rhaglen cynnal a chadw. Roedd y datrysiadau tymor hir yn cael eu hasesu ond roeddent yn debygol o gynnwys peirianwaith helaeth. Cadarnhaodd CDECA bod gwahoddiad agored wedi'i rannu gyda'r trigolion lleol i ddarparu a chyflwyno tystiolaeth all gynorthwyo archwiliad llifogydd.

Pwysleisiodd y Cynghorydd D.Owens bwysigrwydd derbyn ymateb prydlon i'r argymhellion sy'n codi o'r archwiliad, yn enwedig ar effaith y bont yn Spring Gardens. Fe amlygodd bod angen darparu cymorth i drigolion lleol mewn perthynas â gwaith a wnaed yn eu hadeiladau.

Eglurodd yr Uwch Beiriannydd: Rheoli Risg Llifogydd i'r Cynghorydd A.Roberts nad oedd agwedd diogelwch pont Rhuddlan yn fater yn ystod y llifogydd. Mae gwaith archwilio wedi'i gynllunio i asesu cynhwysedd traffig y bont, a byddai hyn yn cynnwys archwiliad sgwrio o sylfeini'r bont. Eglurodd hefyd, gan ystyried effaith datblygiad tai arfaethedig ar Lôn y Sarn ar ddraenio dŵr, y byddai'r amodau cynllunio priodol yn cael eu gosod. Darparodd y Cynghorydd J.A. Davies fanylion adroddiad a dderbyniwyd o Adain Pontydd a Strwythurau mewn perthynas â phont Rhuddlan, ac amlygodd farn CADW a oedd wedi'i gynnwys yn yr adroddiad.

Mewn ymateb i gwestiwn gan y Cynghorydd M.LI. Davies, darparodd Gynrychiolydd Cyfoeth Naturiol Cymru fanylion prosiect amddiffyn eiddo unigol, wedi'i noddi gan Lywodraeth Cymru, a gall gynnwys eiddo ar Lôn Isaf Dinbych, Llanelwy.

Mewn ymateb i gais gan y Cadeirydd a phryderon a fynegwyd gan y Cynghorydd R.J. Davies, cytunodd y Cynrychiolydd o Gyfoeth Naturiol Cymru y gellir darparu canolfan alw draw i dderbyn barn trigolion ardal Y Brwcws yn Ninbych. Fe ymatebodd i bryderon a fynegwyd gan y Cynghorydd S.A. Davies a chadarnhaodd na fyddai arian yn cael ei symud fel rhan o'r astudiaeth i reoli cwrs Afon Dyfrdwy.

Ymatebodd CDECA i gwestiwn gan y Cynghorydd B.A. Smith a darparodd fanylion goblygiadau cyllideb. Eglurodd y byddai'r prif oblygiadau ariannol sy'n codi o archwiliad llifogydd yn effeithio ar Gyfoeth Naturiol Cymru yn bennaf. Eglurodd yr Uwch Beiriannydd: Rheoli Risg Llifogydd fod Llywodraeth Cymru yn gweithredu cynllun i gefnogi Awdurdodau Lleol gyda chostau delio gydag argyfwng. Fodd bynnag, oni chyrrhaeddir trothwy cymhwys, byddai'n rhaid i'r Cyngor dderbyn y costau. Gyda rhagfynegiad y bydd llifogydd yn digwydd yn amlach yn y dyfodol, bydd y gost i'r Cyngor yn debygol o gynyddu. Cytunodd CDECA gyda'r awgrym y gellir cysylltu Cynlluniau Llifogydd Cymunedau gyda Chynlluniau Tref.

Mewn ymateb i gwestiwn gan y Cynghorydd H. Hilditch-Roberts ynglŷn â gweithredu mesurau ataliol a datblygu strategaeth atal llifogydd, eglurodd CDECA fod yr Uwch Beiriannydd: Rheoli Risg Llifogydd ar hyn o bryd yn diweddarau a datblygu Strategaeth Rheoli Risg y Cyngor a byddai'n cael ei gyflwyno i Archwilio i'w ystyried cyn cael ei gymeradwyo'n ffurfiol.

Yn ystod y drafodaeth, cytunodd yr Aelodau y dylai Grŵp Cadeiryddion ac Is-Gadeiryddion Archwilio fonitro cynnydd archwiliad llifogydd yn rheolaidd.

Mynegodd nifer o Gynghorwyr eu gwerthfawrogiad, a diolch ar ran trigolion lleol, am ymateb Sir Ddinbych i'r llifogydd. Diolchodd yr Aelodau i staff yr holl sefydliadau a gwirfoddolwyr a ddarparodd gymorth yn ystod y llifogydd ac wedi'r llifogydd yn yr amrwiol ardaloedd yn y Sir.

**PENDERFYNWYD** – fod y Cyngor yn cytuno:-

- (a) *gweithredu'r argymhellion a nodir yn Atodiad 2.*
- (b) *y gwneir ymdrech ar y cyd gan Sir Ddinbych a Chyfoeth Naturiol Cymru i Lywodraeth Cymru ar gyfer cyllid i weithredu'r argymhellion.*
- (c) *fod Sir Ddinbych yn cefnogi sefydlu Partneriaeth Rheoli Afonydd, gan uno'r holl bartneriaid perthnasol i ddatblygu cynllun rheoli risg llifogydd.*
- (d) *derbyn Rhan 2 Adroddiad yr Archwiliad, yn ymwneud â Glasdir, yng nghyfarfod y Cyngor Llawn ar 10 Medi 2013, a bod Grŵp Cadeiryddion ac Is-Gadeiryddion Archwilio yn monitro cynnydd yn rheolaidd.*

## **7 DRAFFT STRATEGAETH UCHELGAIS ECONOMAIDD A CHYMUNEDOL**

Roedd copi o adroddiad gan y Cyfarwyddwr Corfforaethol Uchelgais Economaidd a Chymunedol (CDECA), ar ddatblygiad Strategaeth Uchelgais Economaidd a Chymunedol gyntaf Sir Ddinbych, wedi'i gylchredeg gyda'r papurau ar gyfer y cyfarfod.

Cyflwynodd y Cynghorydd H.LI. Jones adroddiad ar ran yr Arweinydd ac eglurodd fod Grŵp Tasg a Gorffen wedi datblygu Strategaeth Uchelgais Economaidd a Chymunedol gyntaf Sir Ddinbych, yn unol â blaenoriaeth y Cynllun Corfforaethol i ddatblygu'r economi leol. Gofynnir am gymeradwyaeth ar gyfer drafft y Strategaeth i'w ddarparu ar gyfer ymgynghoriad cyhoeddus fel y manylir yn yr adroddiad.

Mae'r Cynllun Corfforaethol yn nodi Datblygu'r Economi Leol fel un o'r 7 blaenoriaeth gorfforaethol. Mae adfywio'r economi leol wedi'i nodi fel pryder allweddol gan y trigolion lleol yn ystod datblygu'r Cynllun Corfforaethol ac yn cael ei ystyried fel modd o greu sylfaen cadarn ar gyfer yr holl ddatblygiadau eraill. Roedd y Strategaeth yn ceisio egluro sut y byddai'r Cyngor yn diwallu'r amcan corfforaethol ar gyfer datblygu'r economi, ac mae manylion y Grŵp Tasg a Gorffen wedi'i gynnwys yn Atodiad 3.

Roedd y Strategaeth ddrafft wedi'i datblygu gan ganolbwyntio ar fuddiannau a chanlyniadau ac mae'r Grŵp Tasg a Gorffen wedi cytuno y dylai'r trigolion lleol

deimlo'r budd cyffredinol i'w gyflawni o ddatblygu'r economi leol. Mae'r amcan cyffredin tu cefn i'r strategaeth wedi'i ddiffinio fel:-

"Mae Sir Ddinbych yn Sir gyda lefelau uchel o gyflogaeth a lefelau da o incwm yn ei holl drefi a'r cymunedau".

O hyn, roedd y Grŵp Tasg a Gorffen wedi creu'r Datganiad Gweledigaeth ganlynol ar gyfer Uchelgais Economaidd a Chymunedol Sir Ddinbych:-

- Datblygu Cyfleoedd, Creu Hyder
- Gweithio gyda'n gilydd i wneud Sir Ddinbych yn lle y gall:-
  - Busnesau, sefydledig a newydd, dyfu a ffynnu
  - Ein trefi a'n cymunedau fod yn brysur a ffynnu
  - Trigolion fwynhau ansawdd da o fywyd a chyfrannu yn yr economi leol.

Er mwyn cyflawni hyn byddai'n rhaid mynd i'r afael â'r ffactorau craidd a nodwyd y meysydd blaenoriaeth canlynol i'w gweithredu ac i ffurfio strwythur creiddiol y Strategaeth:-

- Yr Isadeiledd cywir ar gyfer twf
- Busnesau sy'n cael eu Cefnogi a'u Cysylltu
- Gwneud y gorau o Gryfderau/Cyfleoedd Economaidd
- Gweithlu Medrus o Ansawdd Da
- Trefi a Chymunedau Llewyrchus
- Sir Ddinbych wedi ei hyrwyddo'n dda

Mae Cynllun Darparu 4 blynedd ddangosol hefyd wedi ei ddatblygu sy'n cyfateb ag amserlen cyflawni'r Cynllun Corfforaethol. Fodd bynnag, roedd gan y Strategaeth ei hunan derfyn amser hirach ac yn cynnwys cyfnod 2013 i 2023. Roedd y Grŵp Tasg a Gorffen wedi penderfynu bod y canlyniadau a nodwyd a'r meysydd gweithredu a amlygwyd yn cynnig y dull gorau o gyflawni'r Strategaeth a'r Cynllun Corfforaethol. Argymhellwyd ein bod yn profi'r rhain drwy ymgynghori gyda chymunedau a busnesau Sir Ddinbych cyn cyflwyno'r Strategaeth i'w fabwysiadu'n ffurfiol gan y Cyngor.

Eglurodd CDECA y dylid darparu drafft y Strategaeth a Chynllun Darparu, Atodiad 1, i ymgynghori gyda'r cyhoedd yn ystod mis Gorffennaf ac Awst drwy amrywiaeth o gyfleoedd fel y manylir yn Atodiad 2. Mae manylion y broses ymgynghori wedi'i gynnwys yn yr adroddiad. Bydd digwyddiadau ymgynghori penodol yn archwilio'r Strategaeth yn fanwl mewn perthynas â Thwristiaeth, Rhannau Blaenoriaeth ar gyfer Twf, a Datblygiad Economaidd Gwledig. Byddai'r rhain yn cael eu hategu gan ddigwyddiadau ymgynghori cyffredinol fydd yn cael eu trefnu'n ddaearyddol ledled y Sir.

Roedd y tri chwestiwn allweddol y byddai'r ymgynghoriad yn ceisio derbyn barn arnynt yn cynnwys:-

- (a) A yw'r Weledigaeth, y canlyniadau bwriedig a'r egwyddorion creiddiol yn addas ar gyfer Sir Ddinbych?
- (b) A yw'r Strategaeth yn cynnwys y materion pwysig, yr heriau a'r cyfleoedd sy'n effeithio ar economi leol Sir Ddinbych?
- (c) A fydd prif gamau gweithredu'r Cynllun Darparu yn cael yr effaith cywir?

Byddai angen i'r Grŵp Tasg a Gorffen ystyried canlyniadau'r ymgynghori cyn y gellir cyflwyno Strategaeth Economaidd a Chymunedol, Cynllun Darparu a Fframwaith Perfformiad i'r Cyngor i'w cymeradwyo'n ffurfiol fis Hydref.

Yn dilyn cymeradwyo'r Strategaeth, byddai arolygiaeth y ddarpariaeth yn cael ei ddarparu gan Fwrdd Rhaglen Uchelgais Economaidd a Chymunedol. Byddai'n monitro cynnydd ac effaith, rhoi cymorth i ddatrys problemau a rhwystrau darparu a byddai'n argymhell newidiadau fel bo'r angen yn ystod cyfnod y Strategaeth er mwyn sicrhau fod yr effaith a ddymunir yn cael ei gyflawni. Rôl allweddol ar gyfer y Bwrdd Rhaglen fyddai sicrhau fod y prosiectau a'r gweithgareddau yn darparu'r buddiannau bwriedig. Mae gwybodaeth bellach ar gyfansoddiad a swyddogaeth y Bwrdd Rhaglen, yn ogystal â'r cyfrifoldebau a'r trefniadau llywodraethu, ar gael yn y Strategaeth ddrafft.

Eglurodd CDECA fod y Cynllun Corfforaethol wedi nodi £2m fel dyraniad tuag at gostau gweithredu Blaenoriaeth Gorfforaethol yr Economi gyda £160mil wedi'i ddyrannu yng nghyllideb 2013/14. Mae'r adroddiad ac Atodiad 2 yn gosod cynigion ar gyfer ymgynghoriad ffurfiol y Strategaeth a'r Cynllun Darparu arfaethedig a bydd Asesiad o Effaith ar Gydraddoldeb yn cael ei gynnal yn ystod yr haf.

Roedd y Prif Weithredwr yn cefnogi'r Strategaeth a'i ymagwedd gynhwysfawr oedd yn egluro rôl Sir Ddinbych ac yn galluogi'r Awdurdod i gael effaith bositif ar yr economi leol. Byddai Sir Ddinbych yn awr mewn sefyllfa i gynnig arweiniad ac annog busnesau a phartneriaid i ymroi a chyfranogi. Eglurodd na ddylid tanbriso'r her o annog partneriaid i gyfranogi a chadarnhaodd y byddai ansawdd y ddarpariaeth a lefel y llwyddiant yn cael ei fesur gan nifer y partneriaid sy'n cael eu cadarnhau. Pwysleisiodd y Prif Weithredwr bwysigrwydd lleihau canran disgyblion sy'n gadael ysgolion heb gymwysterau cofrestredig ac nad oeddent yn ymgysylltu'n ddefnyddiol ar ôl gadael yr ysgol. Pwysleisiodd er ei fod yn falch o'r cynnydd a wnaed yn gyffredinol roedd nifer o heriau sylweddol o'u blaen o ran ymgysylltu.

Darparodd y CDECA'r ymatebion canlynol i faterion a phryderon a fynegwyd gan yr Aelodau:-

- Eglurwyd eu bod wedi gofyn am enwebiadau a'r Cynghorydd H.LI. Jones oedd unig gynrychiolydd o Grŵp Ardal Aelodau Dyffryn Dyfrdwy yn y Grŵp Tasg a Gorffen. Cadarnhawyd y byddai'r broses ymgynghori ledled y Sir ac y byddai materion sy'n codi ledled y Sir yn cael eu nodi.
- Roedd Sir Ddinbych fel Cyngor hawdd i ddelio â hwy yn thema allweddol yn ystod trafodaeth y Grŵp Tasg a Gorffen. Roedd o leiaf pedwar gweithred benodol wedi'u nodi yn y Cynllun Darparu oedd yn cynnwys materion o ran caffael, rheoleiddio, mynediad hawdd at ddarpariaeth cefnogi busnes a datblygu diwylliant cyfeillgar i fusnesau.
- Llywodraethu symud y strategaeth yn ei blaen. Roedd y strategaeth yn cynnig aelodaeth gychwynnol ar gyfer Bwrdd Uchelgais Economaidd a Chymunedol
- Cafwyd cadarnhad fod gwaith sylweddol wedi'i gyflawni metrig i gefnogi'r strategaeth a'r gweithredoedd, ac y bydd y manylyn hwn yn cael ei gynnwys yn hwyrach ymlaen.
- Darparwyd manylion gwaith i wella effaith leol proses gaffael y Cyngor, a chyfeiriwyd yn benodol at ymgysylltiad busnesau lleol ac ehangu cyfleoedd cyflogaeth.



- Amlinellwyd rôl Taith mewn perthynas â strategaeth Cludiant ar gyfer yr ardal ac isadeiledd cludiant y Sir.
- Mewn ymateb i bryder a fynegwyd ynglŷn ag amseru a therfynau amser y cyfnod ymgynghori yn ystod yr haf, darparodd Rheolwr y Rhaglen fanylion y broses ymgynghori hyd yn hyn ac fe gadarnhaodd fod drafft y strategaeth wedi'i chylchredeg i'r partïon perthnasol.
- Hysbyswyd yr aelodau y byddai deunydd hysbysebu yn cael eu harddangos mewn digwyddiadau megis yr Eisteddfod a Sioe Dinbych a Fflint. Cadarnhaodd CDECA y byddai stondin Ffederasiwn Busnesau Bach yn Sioe Dinbych a Fflint.

Yn ystod y drafodaeth, diolchodd y Cyngorydd H.L.I. Jones a CDECA i'r swyddogion a'r Aelodau am y gwaith caled a wnaed i gynhyrchu drafft Strategaeth Uchelgais Economaidd a Chymunedol.

**PENDERFYNWYD** – fod y Cyngor:-

- (a) yn nodi'r gwaith a wnaed gan y Grŵp Tasg a Gorffen i baratoi drafft Strategaeth Uchelgais Economaidd a Chymunedol fel yr atodir yn Atodiad 1, a
- (b) chymeradwyo'r Strategaeth ar gyfer ymgynghoriad cyhoeddus dros yr haf fel y nodir yn Atodiad 2

## **8 SEFYLLFA DERFYNOL Y GYLLIDEB A'R ALLDRO REFENIW 2012/13**

Roedd copi o adroddiad gan y Prif Gyfrifydd, oedd yn darparu diweddariad sefyllfa derfynol refeniw a thriniaeth arfaethedig balansau, wedi'i gylchredeg gyda'r papurau ar gyfer y cyfarfod.

Roedd yr adroddiad alldro terfynol wedi'i dderbyn gan y Cabinet ar 25 Mehefin 2013. Roedd yr adroddiad yn darparu manylion y sefyllfa derfynol ar ddiwedd y flwyddyn ariannol er mwyn i'r Cyngor Sir ystyried a chymeradwyo triniaeth yr arian wrth gefn a'r balansau arfaethedig. Byddai drafft cyntaf Datganiad Cyfrifon Blyneddol ar gyfer 2012/13 yn cael ei gyflwyno i'r archwilwyr allanol ar 28 Mehefin, ac yna byddai'r cyfrifon wedi'u harchwilio yn cael eu cyflwyno i'r Pwyllgor Llywodraethu Corfforaethol ym mis Medi i'w cymeradwyo'n ffurfiol.

Y sefyllfa alldro ariannol gyffredinol ar gyfer 2012/13 yw i'r Cyngor dan wario yn erbyn y gyllideb a gymeradwywyd ac iddo weld cynnydd yn arenillion Treth y Cyngor, ac mae hynny'n cryfhau sefyllfa ariannol y Cyngor. O ganlyniad roedd modd gwneud argymhellion i symud yr arian i gronfeydd wrth gefn penodol i gynorthwyo'r Cyngor i ddelio â phwysau ariannol trwm dros y blynedd nesaf a dechrau sefydlu adnoddau ariannol i gyflawni'r Cynllun Corfforaethol. Mae'r ffigyrau Alldro Refeniw terfynol yn Atodiad 1. Sefyllfa derfynol cyllideb y gwasanaethau a'r gyllideb gorfforaethol yw tanwariant o £1.525 miliwn.

Roedd sefyllfa alldro cyllideb y gwasanaethau a'r gyllideb gorfforaethol £530 mil yn uwch na'r hyn a gafodd ei adrodd wrth y Cabinet ym mis Mawrth. Roedd y symudiad mwyaf arwyddocaol o fewn Gwella a Chynhwysiant Ysgolion (£223 mil). Mae sefyllfa derfynol Gwasanaethau Cyfreithiol a Democrataidd wedi gwella o £76 mil ac mae sefyllfa'r cyllidebau corfforaethol wedi gwella o £113 mil ers y rhagolwg

a gafodd ei adrodd ym mis Mawrth. Mae'r gwasanaethau'n parhau i fod yn rhagweithiol wrth gynllunio ar gyfer arbedion yn y blynyddoedd sydd i ddod, a dechreuwyd weld effaith ariannol rhai o'r cynigion hynny ar waith tuag at ddiwedd 2012/13. Rhoddodd wasanaethau wybod am ymrwymadau yn erbyn balansau o £849 mil ym mis Mawrth. Roedd y mwyafrif o'r balansau wedi eu rhagweld oherwydd materion amseru ac mae balansau ymrwymedig y gwasanaethau bellach yn £1.139 miliwn ac mae rhagor o fanylion i'w gweld yn yr adroddiad.

Roedd gwariant ar ysgolion yn £1.069m yn llai na'r gyllideb a ddyrannwyd gydag Ysgolion Arbennig wedi gwella o £490mil. Roedd ffactorau yn ymwneud â symudiad yr Ysgolion Arbennig wedi'u cynnwys yn yr adroddiad. Roedd balansau ysgolion yn £2.870m ac roedd manylion y balansau wedi'u cynnwys yn Atodiad 4.

Cyllidebodd y cyngor ar gyfer gwneud cyfraniad o £300 mil i'r balansau sydd, yn gyson ag adroddiadau blaenorol, yn dybiaeth o fewn y sefyllfa alldro terfynol. Cyllidebodd y cyngor ar gyfer gwneud cyfraniad i ariannu'r Cynllun Corfforaethol a oedd angen oddeutu £25 miliwn o arian parod a £52 miliwn o fenthyciad er mwyn cyflawni uchelgeisiau'r Cyngor. Yng nghyllideb 2012/13, roedd tybiaeth y byddai £2.073 yn cael ei gynhyrchu trwy fod arian blaenoriaeth wedi'i ddyrannu i wasanaethau a thrwy fod darpariaethau wedi eu cyllidebu o fewn cyllidebau corfforaethol.

Roedd gwybodaeth bellach ynglŷn ag alldro terfynol y gwasanaeth wedi'i fanylu yn yr adroddiad fel a ganlyn:-

Cynllunio Busnes a Pherfformiad – y sefyllfa derfynol yw tanwariant o £60mil.

Cyllid ac Asedau – tanwariant o £16mil.

Priffyrdd ac Amgylchedd – sefyllfa o danwariant o £278mil, gwelliant o £15mil o'r hyn a ragwelwyd ym mis Mawrth.

Cynllunio a Rheoleiddio – cynnig i'w ddefnyddio i gyllido costau ailstrwythuro fel rhan o gyflawni arbedion ar gyfer 2013/14.

Gwasanaeth Oedolion a Busnes - wedi cyflawni eu cyllideb.

Gwasanaethau Plant a Theuluoedd – adroddwyd ei fod yn £148 mil.

Tai a Datblygu Cymunedol - oherwydd i adolygiad o ariannu trwy grantiau allanol ar ddiwedd y flwyddyn amlygu costau ychwanegol y gellir eu hawlio.

Cyfathrebu, Marchnata a Hamdden – roedd y sefyllfa alldro terfynol yn danwariant o £37.5 mil

TGCh/Trawsnewid Busnes – y gyllideb yn £108 mil yn is.

Cwsmeriaid a Chymorth Addysg – tanwariant o £245 mil.

Gwella Ysgolion – tanwariant o £349mil.

Treth y Cyngor – wedi'i effeithio gan nifer yr anheddau yn y Sir, ynghyd â lefel uchel o gasglu trethi o dros 98%. Roedd lefel derfynol enillion Treth y Cyngor £315mil yn uwch na'r amcangyfrifiad gwreiddiol.

Oherwydd sefyllfa gyffredinol y gwasanaethau, cynigwyd fod yr adrannau yn dwyn unrhyw danwariant yn ei flaen yn llawn i gynorthwyo cyflawni strategaeth gyllidebol 2013/14 a diwallu unrhyw ymroddiadau cyfredol. Byddai'n rhaid i wasanaethau ddarparu mwy o fanylion, yn Adroddiad Ariannol i'r Cabinet ym mis Hydref, am sut y defnyddiwyd y balansau a gafodd eu dwyn ymlaen yn 2013/14. Roedd y sefyllfa derfynol yn golygu fod gan y Cyngor £651mil o arian ar gael. Mae hyn yn llwyddiant

sylweddol ac mae'n rhaid i'r Cyngor sicrhau y defnyddir yr arian yn y ffordd fwyaf effeithiol posibl, a chynigiwyd y byddai hyn yn cyfrannu at yr arian wrth gefn yr oedd ei angen i ariannu'r Cynllun Corfforaethol.

Roedd cynllun uchelgeisiol o fuddsoddiad cyfalaf y Cyngor trwy'r Cynllun Corfforaethol angen swm sylweddol o arian ac mae Cronfa Wrth Gefn y Cynllun Corfforaethol o tua £25m wedi'i sefydlu ar gyfer y diben hwn. Roedd adolygiad o'r arian cyfredol i benderfynu a oedd lefelau balansau a chronfeydd wrth gefn yn rhesymol, ac a ellir symud ychydig o'r arian wrth gefn i Gronfa Wrth Gefn y Cynllun Corfforaethol, wedi'i gwblhau. Roedd yr adolygiad wedi cadarnhau y byddai'n addas symud £6.274m o'r arian wrth gefn cyfredol i Gronfa Wrth Gefn y Cynllun Corfforaethol.

Mae manylion yr holl gronfeydd wrth gefn a glustnodwyd wedi'u cynnwys fel Atodiad 2, ac mae crynodeb o'r symudiadau a gynigir fel yr adroddwyd i'r Pwyllgor Llywodraethu Corfforaethol wedi'u cynnwys fel Atodiad 3. Mae nifer o gyfraniadau eraill i'r cronfeydd wrth gefn a'r darpariaethau, ac ohonynt, wedi paratoi ar eu cyfer yn y cyfrifon ac mae manylion y rhain yn Atodiad 2 a byddai angen i'r Cyngor eu cymeradwyo. Mae'r symudiadau sylweddol i'r cronfeydd wrth gefn nad ydynt eisoes wedi eu hamlygu wedi eu cynnwys yn yr adroddiad ac yn ymwneud â'r canlynol:

- £563mil wedi'i glustnodi i ariannu amddiffyn ysgolion a effeithir gan y newidiadau diweddar i'r fformiwla gyllido
- £185mil wedi ei ychwanegu at y Gronfa Yswiriant Wrth Gefn i gyfrif am y rhwymedigaethau sy'n parhau mewn perthynas ag MMI, cyn yswirwyr yr awdurdodau a oedd yn rhagflaenu Sir Ddinbych, a hawliadau posibl eraill. Ymatebodd Pennaeth Cyllid ac Asedau i gwestiwn gan y Cyngorydd Hugh Irving ac eglurodd y gall y rhwymedigaethau posib a nifer yr hawliadau gynyddu yn y dyfodol
- Mae cyllid wedi symud o'r Gronfa Statws Sengl Wrth Gefn i ddarpariaeth i ariannu hawliadau cyflog cyfartal

Mewn ymateb i gwestiwn gan y Cyngorydd S.A. Davies yn ymwneud â chronfa wrth gefn Bws Melyn o £101,000, eglurodd Pennaeth Cyllid ac Asedau am gaffaeliad y bws a chytunodd ddarparu adroddiad pellach ynglŷn â'r gronfa Arian At Raid ar gyfer darpariaeth un newydd o bosib yn y dyfodol.

Ymatebodd Pennaeth Cyllid ac Asedau i gwestiwn gan y Cyngorydd M.LI. Davies ac eglurodd ffigurau oedd yn cael eu cynnwys yn Atodiadau 2 a 3 yr adroddiad.

***PENDERFYNWYD*** - fod y Cyngor yn cymeradwyo sefyllfa alldro refeniw terfynol ar gyfer 2012/13 a thriniaeth cronfeydd wrth gefn a balansau a fanylir yn yr adroddiad.

## **9 FFRAMWAITH ADRODD BLYNYDDOL Y CYNGOR - GWASANAETHAU CYMDEITHASOL**

Roedd copi o adroddiad gan Reolwr Gwasanaethau Ymyrraeth Gynnar, Strategaeth a Cefnogi, oedd yn darparu hunanasesiad o ofal cymdeithasol yn Sir

Ddinbych a nodi blaenoriaethau gwelliant a nodwyd ar gyfer 2013/14, wedi'i gylchredeg gyda'r rhaglen.

Darparodd y Cyfarwyddwr Corfforaethol: Moderneiddio a Lles (CCMLI) grynodedd ddwys o'r adroddiad ac eglurodd fod pob Cyfarwyddwr y Gwasanaethau Cymdeithasol yng Nghymru yn gorfod cynhyrchu Adroddiad Blynyddol yn crynhoi eu barn am effeithiolrwydd Gwasanaethau Gofal Cymdeithasol a Blaenoriaethau Gwelliant yr Awdurdod. Mae drafft Adroddiad Blynyddol ar gyfer 2012/2013 wedi'i gynnwys fel Atodiad 1. Roedd yr adroddiad yn darparu darlun onest o'r gwasanaethau yn Sir Ddinbych i'r cyhoedd ac yn arddangos dealltwriaeth glir o'r cryfderau a'r heriau.

Cyfeiriodd y CCMLI at y Gwasanaethau Plant a phwysleisio pwysigrwydd yr adroddiad yn dilyn adroddiadau yn y cyfryngau yn ddiweddar, gan gyfeirio'n benodol at Adroddiadau Jilings a Waterhouse oedd yn ymwneud â cham-drin plant mewn cartrefi plant, a darparodd fanylion mewn perthynas â:-

- Nifer y newidiadau deddfwriaethol a rheoleiddio sy'n effeithio ar Wasanaethau Plant.
- Argymhellion Waterhouse yn rhan o fframwaith deddfwriaethol Cymru yn awr, a sefydlu Comisiynydd Plant Cymru.
- Gwelliannau yn ymwneud â darpariaeth Gwasanaethau Plant.
- Ymyrraeth gynnar i ddelio â phroblemau a phwysigrwydd gwranddo ar blant.
- Gwasanaethau Dwys Cefnogi Teuluoedd
- Ymgynghoriad wedi'i gynnal gyda Gweithwyr Gofal mewn perthynas â Strategaeth Arwain a Rheoli.
- Hyfforddiant dwys a ddarparwyd i ofalwyr maeth.
- Pwysigrwydd diogelu plant.
- CCyflawni lleoliadau sefydlog i blant, drwy ddarparu cartrefi sefydlog a gofalgar.
- Roedd prif flaenoriaethau'r Gwasanaethau Plant ar gyfer 2013-14 wedi'u cynnwys ar dudalennau 18 ac 19 o'r Adroddiad Blynyddol.

Darparodd y CCMLI fanylion ynglŷn â Gwasanaethau Oedolion ac amlygwyd y meysydd:-

- Cynnydd mewn perthynas â Bil Gwasanaethau Cymdeithasol a Lles. Roedd prif oblygiadau'r Bil, oedd yn berthnasol i Gymru, yn ymwneud â Gwasanaethau Oedolion, ond roeddent hefyd yn cynnwys Gwasanaethau Plant.
- Roedd angen newid dull darparu Gwasanaethau Oedolion, yn tarddu o ddisgwyliadau'r cyhoedd gan fod arnynt angen mwy o ddewis a rheolaeth drwy hyrwyddo annibyniaeth.
- Cynnydd yn nifer yr unigolion sydd ag anabledau dysgu a gofalwyr.
- Adborth bositif a dderbyniwyd ynglŷn â darpariaeth Gwasanaethau Ymyrryd, ail-alluogi, gofal ychwanegol a gwaith a wnaed yn y gymuned.
- Cynnydd a wnaed gyda chefnogaeth sy'n canolbwyntio ar ddinasyddion.
- Cynllunio defnyddio cyllid neilltuol yn y Gwasanaethau Cymdeithasol.
- Gwelliannau sydd eu hangen o ran absenoldeb oherwydd salwch yng Ngwasanaethau Plant ac Oedolion.

- Angen datblygu darpariaeth gwasanaethau drwy gyfrwng y Gymraeg ymhellach yn flaenoriaeth bwysig a chynyddol.
- Problemau'n tarddu o gefndir demograffig a'r boblogaeth sy'n heneiddio.

Darparwyd crynodeb o'r pedair elfen ganlynol yn Fframwaith Adrodd Blynyddol y Cyngor ar gyfer yr Aelodau:-

- (i) Hunanasesiad a dadansoddiad manwl o effeithiolrwydd
- (ii) Trywydd tystiolaeth
- (iii) Integreiddio gyda chynllunio busnes
- (iv) Cyhoeddi adroddiad blynyddol

Yn unol â chanllawiau llywodraethu proses ACRF roedd yr Adroddiad Blynyddol wedi'i gynhyrchu ar gyfer y cyhoedd a bydd yn cael ei gyhoeddi erbyn 31 Gorffennaf 2013. Roedd yr asesiad cyffredinol yn arddangos fod Gwasanaethau Cymdeithasol Sir Ddinbych wedi llwyddo i wneud gwelliannau mewn perthynas â'r meysydd canlynol yn nhermau perfformiad ac ansawdd dros y flwyddyn ddiwethaf:-

- cefnogi teuluoedd yn llwyddiannus yn gynnar er mwyn atal problemau rhag gwaethgu
- darparu cefnogaeth gynnar a rhoi cymorth i bobl adennill eu hyder a'u gallu i ofalu amdanynt eu hunain e.e. ar ôl syrthio.
- cefnogi pobl i fyw yn annibynnol yn y gymuned a lleihau nifer yr unigolion sy'n mynd i Gartrefi Gofal.
- darparu cartrefi sefydlog a gofalgar i blant sy'n derbyn gofal.
- diogelu plant ac oedolion diamddiffyn yn effeithiol
- gweithio mewn partneriaeth gydag awdurdodau ac asiantaethau eraill
- gweithlu sefydlog sy'n cael eu cefnogi gyda'u datblygiad proffesiynol
- arweiniad cryf i yrru'r rhaglen yn ei flaen
- gwell prosesau sicrwydd ansawdd
- rheoli cyllid yn gadarn sydd wedi darparu'r gwasanaethau o fewn y gyllideb

Roedd nifer o heriau ar gyfer Gwasanaethau Oedolion a Busnes a Gwasanaethau Plant ac roedd Atodiad 2 yn darparu trosolwg o'r heriau a'r ymatebion a ddarparwyd. Roedd y blaenoriaethau gwella oedd wedi'u cynnwys yn yr Adroddiad Blynyddol yn cydnabod bod angen parhau i addasu a moderneiddio gwasanaethau er mwyn ymateb i ddisgwyliadau a gofynion Bil Gwasanaethau Cymdeithasol a Lles Llywodraeth Cymru.

Roedd nodweddion allweddol o ymagwedd Sir Ddinbych i ailfodelu, a datblygu patrymau gwasanaeth newydd i wella gwasanaethau lleol yn cynnwys:-

- datblygu gwasanaethau cefnogi teuluoedd gwell gyda gwasanaeth 7 diwrnod yr wythnos i gefnogi teuluoedd
- cryfhau cefnogaeth pontio ar gyfer pobl ifanc gydag anableddau sy'n symud o wasanaethau plant i wasanaethau oedolion.
- gweithredu model Gwasanaeth Cefnogi Teuluoedd Integredig;
- datblygu Gofal Ychwanegol ychwanegol;

- datblygu cynllun tair blynedd i ddatblygu gwasanaethau i gefnogi gofalwyr;
- buddsoddiad ychwanegol mewn ail-alluogi a gweithgareddau i gefnogi pobl i fyw'n annibynnol heb ofal cymdeithasol parhaus
- lleihau absenoldebau oherwydd salwch, canran uwch o werthusiadau perfformiad wedi eu cwblhau, ac ymateb i gwynion yn gynt

Byddai angen i ddyfodol gwasanaethau Sir Ddinbych edrych yn wahanol a byddai ymroddiad i foderneiddio yn cynnwys cynnydd mewn buddsoddiad mewn gwasanaethau ataliol ac ymyrraeth gynnar er mwyn galluogi dinasyddion i fod yn annibynnol, yn wydn ac yn abl. Bydd angen cefnogi'r ymagwedd gydag amrywiaeth o wasanaethau, gweithgareddau a rhwydweithiau cefnogi y gall pobl gael mynediad atynt yn eu cymunedau eu hunain. Byddai darparu'r rhaglen yn gofyn am ddatrysiadau ar draws y cynghorau/gwasanaethau ac ar draws sectorau gan gynnwys mentrau wedi'u harwain gan y cymunedau.

Nodwyd y byddai ailfodelu a datblygu gwasanaethau ac ymagweddau newydd yn cynnwys addasiadau amhoblogaidd. Fodd bynnag, golyga'r hinsawdd economaidd na ellir osgoi penderfyniadau anodd ac y byddai angen canolbwyntio ar weithredu newidiadau sy'n darparu gwasanaethau effeithiol, cynaliadwy sy'n sicrhau fod pobl ddiamddiffyn yn cael eu diogelu ac yn derbyn gwasanaethau o ansawdd uchel sy'n darparu urddas mewn gofal a chanlyniadau da.

Mae'r blaenoriaethau sy'n cael eu nodi yn yr ACRF yn cyfrannu at flaenoriaeth 4: mae pobl ddiamddiffyn yn cael eu diogelu a gallant fyw mor annibynnol ag sy'n bosibl ac roedd esiamplau yn yr adroddiad, ynghyd â manylion y broses ymgynghori a gynhaliwyd, sut y byddai costau'n effeithio ar wasanaethau eraill, goblygiadau ariannol a champau gweithredu i rwystro unrhyw risgiau.

Byddai'r adroddiad yn ffurfio rhan allweddol o werthusiad perfformiad Arolygiaeth Gofal a Gwasanaethau Cymdeithasol Cymru (AGGCC) o wasanaethau cymdeithasol Sir Ddinbych, a byddai'r gwerthusiad yn rhoi gwybodaeth ar gyfer asesiad Swyddfa Archwilio Cymru o Gyngor Sir Ddinbych fel rhan o'r Adroddiad Gwella Blynyddol.

Eglurodd y Cynghorydd J. Chamberlain-Jones fod y Gwasanaeth Maethu a Mabwysiadu yn perfformio'n dda ond byddai'n rhaid delio â'r mater o lefelau is o staff, gan gyfeirio'n benodol at benodi Swyddog Cyswllt Addysg yn y Gwasanaethau Plant a Theuluoedd. Mynegodd bryderon ynglŷn â thoriadau ar dudalen 127 yr adroddiad, a phwysigrwyd cynnal darpariaeth gofal dydd yn y Sir. Eglurodd o ran lefelau absenoldeb oherwydd salwch, fod arolygon staff wedi cynhyrchu canlyniadau positif heb unrhyw feysydd pryder mewn perthynas â lefelau straen. Cafwyd cadarnhad na fyddai toriadau cyllid Gwasanaethau Amddiffyn Oedolion o reidrwydd yn golygu y byddai gwasanaethau oedolion a diogelu amddiffyn oedolion yn cael eu cyfaddawdu gan fod cost darparu tai gofal ychwanegol yn llai na gofal preswyl. Eglurodd y Cynghorydd Chamberlain-Jones fod nifer yr unigolion sy'n mynychu Canolfannau Dydd wedi gostwng gan nad oedd Meddyg Teulu bellach yn gallu atgyfeirio, a chadarnhaodd y CCMLI fod uchafswm cost o £50 yr wythnos ar gyfer darparu gwasanaeth gofal dydd.

Mewn ymateb i bryderon a fynegwyd gan y Cynghorydd M.L. Holland, cadarnhaodd y CCMLI y byddai lefel darpariaeth gwasanaeth yn y dyfodol ar gyfer unigolion sydd â dementia ac alzheimer's, sydd wedi cynyddu'n sylweddol, yn fater i'r holl asiantaethau ei ystyried. Pwysleisiwyd pwysigrwydd amlygu'r mater yn yr Adroddiad Blynyddol a chyfeiriwyd at strategaeth ranbarthol gofal dementia.

Eglurodd y Cynghorydd J. Butterfield fod darpariaeth llety gwarchod yn dda ond roedd rhai sefyllfaoedd lle yr oedd rhai o'r henoed yn unig a chyfeiriwyd at fodolau eraill o ddelio â darpariaeth gwasanaeth. Amlygodd y Cynghorydd Butterfield bwysigrwydd monitro a gwerthuso'r sefyllfa a gofynnodd am adroddiad yn adolygu canolfannau ail-alluogi i'w gyflwyno i'r Cyngor Sir ei ystyried. O ran Polisi Plant Sy'n Derbyn Gofal, cadarnhaodd y CCMLI na fyddai plant diamddiffyn yn cael eu symud cyn creu cynllun gofal.

Mewn ymateb i bryderon a fynegwyd gan y Cynghorydd J.A Davies ynglŷn â phwysigrwydd canfod gofalwyr cudd i sicrhau ein bod yn darparu cefnogaeth, eglurodd y CCMLI fod rhwydwaith dda wedi'i gosod a bod Sir Ddinbych yn ariannu 6 sefydliad ar hyn o bryd i ddarparu cefnogaeth i ofalwyr, gan gynnwys cyllid ar gyfer GOGDdC. Cyfeiriwyd at fesurau gofalwyr newydd, datblygu fframwaith monitro contract rhanbarthol newydd a'r angen am well Gofal Seibiant a gwybodaeth rhyddhau.

Ymatebodd y CCMLI i gwestiynau gan y Cynghorydd M. McCarrol ac eglurodd fod datblygu strategaeth, gyda'r Gwasanaethau Hamdden, ar gyfer byw'n annibynnol, cynllun 3 blynedd i ddatblygu gwasanaethau i gefnogi gofalwyr a gweithredu cynllun gwirfoddoli Sir Ddinbych i roi cyfle i drigolion i fod yn aelodau gweithgar o'u cymunedau yn gamau gweithredu i'w symud ymlaen yn y deuddeg mis nesaf. Mewn ymateb i gwestiwn gan y Cynghorydd W.Mullen-James, eglurodd y CCMLI fod y gwasanaeth EDT yn un ar y cyd wedi'i leoli yn Wrecsam.

Pwysleisiodd y Cynghorydd J.M. McLellan bwysigrwydd monitro asesiadau gwaith cymdeithasol a chynlluniau sy'n cael eu cyflwyno i'r Llys, a sicrhau datblygiad canolbwytio ar y teulu fyddai'n sicrhau ymyrraeth gynnar.

Yn ystod y drafodaeth cymeradwyodd y Cynghorydd R.L. Feeley yr adroddiad oedd wedi'i gynhyrchu mewn cyfnod anodd a heriol, ac eglurodd fod Sir Ddinbych wedi ymateb yn gyflym ac yn llawn dychymyg tuag at y dyfodol. Hysbysodd yr Aelodau fod CCMLI Sir Ddinbych yn cael eu parchu a'u hedmygu ledled Cymru.

**PENDERFYNWYD** – *fod y Cyngor yn cadarnhau:-*

- (a) *Hunanasesiad Cyfarwyddwr gofal cymdeithasol yn Sir Ddinbych.*
- (b) *Blaenoriaethau Gwella ar gyfer 2013/14, a*
- (c) *fod yr adroddiad drafft yn darparu cyfrif clir o berfformiad*

## 10 **PENODI I BANEL HEDDLU A THROSEDD**

Roedd copi o adroddiad gan Bennaeth y Gwasanaethau Cyfreithiol a Democrataidd (PGCD), am benodi Aelod Etholedig i Banel Heddlu a Throsedd Gogledd Cymru ar

gyfer isafswm o un flwyddyn y Cyngor, wedi'i gylchredeg gyda'r papurau ar gyfer y cyfarfod.

Roedd yr adroddiad yn darparu manylion aelodaeth y Panel. Roedd Cylch Gorchwyl Panel Heddlu a Throsedd Gogledd Cymru yn amodi y byddai pob un o'r chwe Awdurdod Lleol yng Ngogledd Cymru yn enwebu Aelod neu Aelodau i fod ar y Panel. Roedd y Panel yn cynnwys 10 o Aelodau Etholedig 2 Aelod Cyfetholedig Annibynnol, ac roedd dyraniad seddi i bob Awdurdod yn seiliedig ar gytbwysedd gwleidyddol a dosbarthiad poblogaeth ledled Gogledd Cymru fel cyfanrwydd. Roedd methodoleg *d'hondt* wedi'i ddefnyddio i bennu nifer y seddi y bydd pob Awdurdod Lleol yn eu derbyn ac i ba grŵp(iau) gwleidyddol. Fel Awdurdod cynnal, roedd Cyngor Bwrdeistref Sirol Conwy yn darparu gwasanaethau cefnogi.

Eglurodd Rheolwr Gwasanaethau Democraataidd fod Conwy, Sir y Fflint, Gwynedd a Wrecsam wedi penodi 2 Aelod yr un yn seiliedig ar boblogaeth tra bo Sir Ddinbych ac Ynys Môn wedi penodi 1 Aelod yr un. Roedd maint y prif grwpiau gwleidyddol ym mhob Cyngor yng Ngogledd Cymru yn penderfynu faint o seddi y byddai pob grŵp neu grwpiau yn eu derbyn. Wrth bennu pa Awdurdod oedd yn penodi seddi unigol roedd y Panel yn archwilio faint o seddi oedd gan blaid neu grŵp gwleidyddol ym mhob Awdurdod gyda'i gilydd ac yna'n asesu pa Gyngor neu Gynghorau oedd a'r hawl gorau i gymryd y seddi.

Y llynedd Aelod Grŵp Annibynnol, y Cynghorydd W.E. Cowie oedd cynrychiolydd Sir Ddinbych ar y Panel. Yn dilyn etholiadau mis Mai 2013 yn Ynys Môn, byddai Sir Ddinbych yn derbyn 1 sedd Aelod Llafur. Gallai'r Cyngor benderfynu cyfnod amser y penodiad, er na ddylai fod yn llai na 1 blwyddyn y Cyngor. Gan fod y penodiad arfaethedig yn benodiad neilltuol roedd Grŵp Llafur Sir Ddinbych wedi eu hysbysu o'r materion a godwyd.

Cytunodd yr aelodau i benodi'r Cynghorydd W.N. Tasker fel cynrychiolydd Sir Ddinbych ar Banel Heddlu a Throsedd, a bod cyfnod y penodiad yn parhau nes y gwneir penderfyniad arall gan y Cyngor i benodi i'r Panel.

Cymeradwyodd y Cynghorydd Tasker waith ardderchog y Cynghorydd W.L. Cowie yn ystod ei gyfnod yn y swydd.

**PENDERFYNWYD** –fod y Cyngor:-

- (a) yn penodi'r Cynghorydd W.N. Tasker, Aelod y Grŵp Llafur, i Banel Heddlu a Throsedd, a
- (b) fod cyfnod y penodiad yn parhau nes y gwneir penderfyniad arall gan y Cyngor i benodi i'r Panel.

## 11 GWEDDARLLEDU CYFARFODYDD

Roedd copi o adroddiad Pennaeth y Gwasanaethau Cyfreithiol a Democraataidd (PGCD), am botensial gweddarlledu cyfarfodydd y Cyngor, wedi'i gylchredeg gyda'r papurau ar gyfer y cyfarfod.



Roedd yr adroddiad yn gofyn am gymeradwyaeth mewn egwyddor i gyflwyno gweddarlledu cyfarfodydd y Cyngor. Byddai Llywodraeth Cymru yn darparu £1.2 miliwn ar gael fel cyllid grant i Awdurdodau Lleol i'w cynorthwyo gyda chostau gweithredu. Byddai pob Awdurdod yn gymwys i dderbyn grant o £20mil tuag at gostau cyflwyno gweddarlledu.

Byddai gweddarlledu cyfarfodydd yn cynnwys darlledu sain a darluniau cyfarfodydd y Cyngor a gellir eu rhoi ar wefan y Cyngor fel deunydd yr archif. Gallai aelodau'r cyhoedd nad oedd yn gallu mynychu cyfarfodydd eu gwyllo ar-lein yn fyw neu ar ddyddiad gwahanol drwy'r archif ar-lein. Byddai gan wylwyr sy'n defnyddio cynnwys yr archif y gallu i ddefnyddio dolenni amser i weld y cynnwys yn ôl yr eitem neu siaradwr.

Roedd Llywodraeth Cymru a CLILC wedi cynnal cyfarfodydd gyda swyddogion i drafod gweddarlledu a darparwyd enghraifft o system ar waith i'r Aelodau. Roedd cyfleuster ar rai o'r systemau er mwyn galluogi i aelodau o'r cyhoedd gymryd rhan yn fforymau trafod drwy offer cyfryngau cymdeithasol a lleisio eu barn ar y materion oedd yn cael eu trafod. Ymatebodd y PGCD i bryderon a fynegwyd gan y Cynghorydd M.L.I. Davies ac eglurodd weithrediad a darpariaeth cyfleusterau cyfieithu fel y nodwyd yn yr adroddiad.

Nid oedd gofyniad statudol ar Gynghorau i ddarlledu cyfarfodydd ar y we ond mae ei ddefnydd yn tyfu ar hyn o bryd ac roedd pob Awdurdod Lleol yng Nghymru yn ystyried ei gyflwyno. Yn ôl cyfraith mae'n rhaid i Gyngor gynnal cyfarfodydd yn gyhoeddus, yn amodol ar eithrio'r cyhoedd ar gyfer rhai materion cyfrinachol. Mae gan y cyhoedd hawl i fynychu cyfarfodydd y Cyngor, y Cabinet a Phwyllgorau eraill ond yn gyffredinol nid oes presenoldeb nifer mewn cyfarfodydd ac mae'r cyfleusterau ar gyfer niferoedd mawr yn gyfyngedig. Efallai nad oedd aelodau o'r cyhoedd sydd â diddordeb mewn clywed y trafodaethau yn gallu mynychu oherwydd ymrwymadau neu anawsterau cludiant, felly byddai gweddarlledu cyfarfodydd yn rhoi mynediad i gyfarfodydd.

Dim ond am flwyddyn y byddai grant Llywodraeth Cymru ar gael heb sicrwydd o unrhyw gyllid yn y dyfodol. Yn ogystal â ffioedd trwyddedau meddalwedd efallai y byddai costau ychwanegol yn ymwneud ag integreiddio'r system gyda'r camerâu a'r meicroffonau sydd yno eisoes. Cynigiwyd y dylid cyfyngu gweddarlledu i ddechrau i gyfnod y gellir ei ariannu gydag arian y grant sydd ar gael, gydag adolygiad i'r dyfodol ar gyfer defnydd pellach. Ymatebodd y Cynghorydd J. Thompson-Hill i gwestiwn gan y Cynghorydd W.L. Cowie a chytunodd y byddai'n bwysig sicrhau cynaliadwyedd y system cyn ei gyflwyno.

Roedd CET wedi mynegi'r farn y dylid cyflwyno cwestiwn gweddarlledu i'r cyngor benderfynu a ddylid gweddarlledu cyfarfodydd, ac roedd y Pwyllgor Llywodraethu Corfforaethol wedi cytuno y dylid cyflwyno adroddiad i'r aelodaeth ehangach i'w ystyried.

Ymatebodd y PGCD i bryderon a fynegwyd gan y Cynghorydd R.L. Feeley a chadarnhaodd y byddai'n rhaid sicrhau cydweddoldeb yr offer cyfredol gydag offer newydd, o bosib drwy ei brofi'n fewnol, cyn cyflwyno gweddarlledu.

**PENDERFYNWYD** – fod y Cyngor yn cytuno mewn egwyddor i weddarlledu cyfarfodydd y Cyngor.

## **12 RHAGLEN WAITH I'R DYFODOL Y CYNGOR SIR**

Cyflwynodd Pennaeth y Gwasanaethau Cyfreithiol a Democrataidd Rhaglen Gwaith i'r Dyfodol y Cyngor, a gafodd ei gylchredeg yn flaenorol, a chytunodd yr Aelodau i gynnwys yr eitemau newydd canlynol yn y Rhaglen Gwaith i'r Dyfodol:-

**PENDERFYNWYD** –y dylid cymeradwyo a nodi Rhaglen Gwaith i'r Dyfodol y Cyngor, yn amodol ar yr uchod.

Daeth y cyfarfod i ben am 2:05pm.

<b>Adroddiad i'r:</b>	<b>Y Cyngor Llawn</b>
<b>Dyddiad y Cyfarfod:</b>	<b>10 Medi 2013</b>
<b>Aelod / Swyddog Arweiniol:</b>	<b>Aelod Arweiniol y Parth Cyhoeddus / Cyfarwyddwr Corfforaethol: Uchelgais Economaidd a Chymunedol</b>
<b>Awdur yr Adroddiad:</b>	<b>Uwch Beiriannydd, Rheoli Risg Llifogydd</b>
<b>Teitl:</b>	<b>Archwiliad i Llifogydd Tachwedd 2012 yng Nglasdir, Rhuthun</b>

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## **1. Am beth mae'r adroddiad yn sôn?**

Ar y 9 Gorffennaf 2013 cyflwynwyd adroddiad i'r Cyngor Llawn ynglŷn â'r archwiliad i ddigwyddiadau llifogydd ledled Sir Ddinbych ym mis Tachwedd 2012. Oherwydd cymhlethdod y llifogydd yn stad Glasdir yn Rhuthun, roedd angen mwy o amser na'r disgwyl i gynnal yr archwiliad i'r digwyddiad penodol hwnnw, ond mae wedi'i gwblhau yn awr.

## **2. Beth yw'r rheswm dros lunio'r adroddiad hwn?**

I gyflwyno canfyddiadau'r archwiliad annibynnol am lifogydd stad Glasdir, Rhuthun i'r Aelodau.

## **3. Beth yw'r Argymhellion?**

Bod yr Aelodau yn:

- Nodi canfyddiadau'r archwiliad annibynnol.
- Derbynn yr argymhellion a nodir yn adroddiad yr archwiliad.
- Cyfarwyddo swyddogion y Cyngor i barhau i weithredu'r argymhellion a osodwyd yn adroddiad yr archwiliad.

## **4. Manylion am yr Adroddiad.**

### **4.1**

Roedd llifogydd sylweddol mewn nifer o leoliadau yn Sir Ddinbych ar 26 a 27 Tachwedd 2012. Yn stad Glasdir, yn Rhuthun, roedd mwy nag 120 o adeiladau wedi'u heffeithio gan y llifogydd. Ym mis Chwefror 2013 penododd y Cyngor ddau arbenigwr, Dr Jean Venables a Clive Onions, i gynnal archwiliad annibynnol llawn. Rhoddwyd Cylich Gorchwyl i'r arbenigwyr oedd yn nodi'r hyn y dymuna'r Cyngor ei ddeall:

- Pam y digwyddodd y llifogydd
- Beth yw'r debygolïaeth y bydd yn digwydd eto.
- Beth y gallai / y dylai'r holl awdurdodau rheoli risg llifogydd perthnasol ei wneud er mwyn lleihau risg llifogydd i adeiladau yn y dyfodol.

Yn bwysicach na hyn, nid pennu bai ar unrhyw un oedd pwrpas yr archwiliad ond archwilio achos (ion) y llifogydd er mwyn penderfynu pa weithredoedd y dylid eu cyflawni.

## **4.2**

Roedd gwybodaeth drylwyr a manwl o hydroleg ardal Afon Clwyd yn hanfodol er mwyn deall digwyddiad Tachwedd 2012 ac mae wedi galluogi'r arbenigwyr annibynnol i ddatblygu model cyfrifiadurol hydrologig manwl. Mae'r model wedi'i ddefnyddio er mwyn datblygu ac arbrofi amrywiaeth o ddewisiadau posibl er mwyn lleihau risg llifogydd yng Nglasdir.

## **4.3**

### **Canfyddiadau'r Archwiliad Annibynnol:**

#### **Pam y digwyddodd y llifogydd**

Roedd llif dŵr uchel yn yr Afon Clwyd yn Rhuthun yn dilyn yr holl law trwm am gyfnod hir ar dir a oedd eisoes yn wlyb. Llifodd yr afon dros ei glannau ychydig i lawr yr afon o'r A494 Pont Ffordd y Parc a llifo tuag at y geuffos 5 ffordd o dan Ffordd Cyswllt Gogleddol Rhuthun. Achosodd rhai rhwystrau yn y ceuffosydd oherwydd llystyfiant a malurion a gludwyd i lefelau'r dŵr godi tu cefn i arglawdd y ffordd gyswllt. Yn y diwedd aeth y dŵr dros ben y bwnd a llifo i stad Glasdir.

#### **Beth yw'r debygolïaeth y bydd yn digwydd eto**

Mae'r model hydrologig a wnaed gan yr arbenigwyr annibynnol yn dangos fod tebygolrwydd o 1 mewn 100(1%) ac 1 mewn 200(0.5%) y byddai digwyddiad Tachwedd 2012 yn digwydd mewn unrhyw flwyddyn, gan dueddu tuag at 1 mewn 100.

#### **Beth y gallai / y dylai'r holl awdurdodau rheoli risg llifogydd perthnasol ei wneud er mwyn lleihau risg llifogydd i adeiladau yn y dyfodol.**

Mae'r arbenigwyr annibynnol wedi archwilio nifer o ddatrysiadau peiriannol i leihau risg llifogydd yng Nglasdir. Rhoddwyd ystyriaeth bwysig i ymarferoldeb a chostau pob dewis. Wrth wneud eu hargymhellion, mae'r arbenigwyr annibynnol wedi casglu mai safon addas yr amddiffynfeydd ar gyfer datblygiad Glasdir yw 1 mewn 100 mlynedd ac ystyriaeth ychwanegol ar gyfer newid hinsawdd, gyda 95% rhwystrau ceuffosydd a 600mm bwrdd rhydd. Mae'r argymhellion wedi'u crynhoi isod.

#### **Prif Argymhellion yr Arbenigwyr Annibynnol:**

- Dylid cynyddu'r bwnd amddiffyn rhag llifogydd cyfredol er mwyn darparu'r safon addas a gyfeirir ato uchod. Golyga hyn y bydd uchder y bwnd yn cael ei gynyddu ychydig dros 1 metr gyferbyn â'r ffordd gyswllt, gyda'r cynnydd mewn uchder yn lleihau tuag at ochr ddeheuol y bwnd.
- Dylid cyflwyno cynllun archwilio a chynnal a chadw ar gyfer y bwnd.
- Fel mesur dros dro (nes y bydd y bwnd wedi'i godi'n barhaol), dylid ystyried defnyddio llinell o fagiau tywod dros dro er mwyn cynyddu uchder y bwnd.
- Dylid trefnu rheolaeth tymor hir y gorlifdir a'r ardal cyfagos, gan ganolbwyntio ar

geuffosydd a'r ardaloedd cyfagos i fyny'r afon ac i lawr yr afon, er mwyn lleihau risg rhwystrau.

- Dylid trefnu rhwydwaith o wardeiniaid llifogydd, gyda swyddog penodol o'r Cyngor i ymateb i'r wardeniaid.
- Dylid cysylltu'r system rhybuddio llifogydd i fedrydd lefel dŵr yr afon i fyny'r afon.
- Ni ddylid rhoi gridyll y ceuffosydd a dynnwyd yn dilyn digwyddiad Tachwedd 2012 yn eu holau.
- Dylid archwilio gosod llinell o byst o gwmpas mynedfeydd y ceuffosydd, er mwyn dal y malurion a'r llystyfiant mawr sy'n cael eu cludo gan ddŵr y llifogydd.

#### 4.4

### **Gweithredu'r Argymhellion**

Er bod yr argymhellion uchod yn cynnwys rhai mesurau dros dro i leihau'r risg, mae'n amlwg bod angen cynnal gwaith parhaol er mwyn darparu'r lefel briodol o amddiffynfeydd. Byddai'r gwaith yn amodol ar gymeradwyaeth statudol a byddai angen Caniatâd Amddiffyn rhag Llifogydd gan Gyfoeth Naturiol Cymru. O safbwynt Cynllunio, byddai'r gwaith yn cael ei bennu fel Datblygu Cyffredinol a Ganiateir o dan Orchymyn Cynllunio Gwlad a Thref. Yn amodol ar argaeledd cyllid a'r gymeradwyaeth statudol hanfodol, gellir cynnal y gwaith erbyn diwedd mis Chwefror 2014.

### **5. Sut mae'r penderfyniad yn cyfrannu at y Blaenoriaethau Corfforaethol?**

Mae llifogydd yn gallu achosi ymyrraeth ddifrifol a pharhaus ar y cymunedau y mae'n effeithio arnynt. Mae deall a rheoli risg llifogydd lleol yn cefnogi blaenoriaeth y Cyngor i ddatblygu'r economi leol.

### **6. Beth fydd yn ei gostio a sut bydd yn effeithio ar wasanaethau eraill?**

Disgwylir y bydd cost o weithredu'r argymhelliad i gynyddu uchder y bwnd cyfredol tua £250,000. Mae'r Cyngor yn trafod cyfraniad cyllid gan Taylor Wimpey, sy'n berchnogion y tir lle y mae'r bwnd cyfredol a lle y bydd y bwnd arfaethedig yn cael ei adeiladu a Llywodraeth Cymru.

Os yw'r gwaith a argymhellir yn cael ei gyflawni, bydd lefel yr amddiffynfeydd ar gyfer stad Glasdir ar lefel dderbyniol, hynny yw, bydd y stad wedi'i hamddiffyn rhag digwyddiad llifogydd 1 mewn 100, gydag ystyriaethau ychwanegol ar gyfer newid hinsawdd a 95% o rwystr i'r geuffos 5 ffordd o dan Ffordd Gyswllt Rhuthun.

### **7. Beth yw prif gasgliadau'r Asesiad o Effaith ar Gydraddoldeb a gynhaliwyd am y penderfyniad?**

Ni chynhaliwyd Asesiad o Effaith ar Gydraddoldeb

### **8. Pa ymgynghoriadau a gynhaliwyd?**

Cynhyrchwyd Briff Budd-ddeiliaid i'w rhannu gydag unrhyw un sydd â diddordeb. Mae cyfarfodydd cyswllt wedi'u cynnal gyda chynrychiolwyr trigolion Glasdir.

### **9. Pŵer i wneud y Penderfyniad**

Mae adran 19 Deddf Rheoli Llifogydd a Dŵr 2010 yn rhoi cyfrifoldeb ar y Cyngor, fel y Prif Awdurdod Llifogydd Lleol, i ymchwilio digwyddiadau o lifogydd.

Mae Adran 2 Deddf Llywodraeth Leol 2000 yn rhoi'r pŵer i'r Cyngor wneud unrhyw beth y credant sy'n debygol o hyrwyddo neu wella lles economaidd, cymdeithasol ac amgylcheddol yr ardal.



## LLIFOGYDD O'R AFON CLWYD YN GLASDIR, RHUTHUN, TACHWEDD 2012

### **CRYNODEB GWEITHREDOL O'R ADRODDIAD AR YR ADOLYGIAD**

Gan y Panel Annibynnol ar gyfer  
Gwerthuso Hydroleg, Perygl Llifogydd ac Achosion Llifogydd

**gan Dr Jean Venables** CBE FREng FICE  
Rhifyn Cleient 2  
27 Awst, 2013

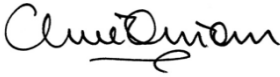
## Sicrhau Ansawdd

**Enw'r Prosiect** Afon Clwyd Rhuthun, Gwerthusiad Annibynnol o Hydroleg & Perygl Llifogydd  
**Rhif y Prosiect** Crane 2012-12  
**Fersiwn** Rhifyn Cleient 2  
**Cleient** Cyngor Sir Ddinbych  
Neuadd y Sir  
Ffordd Wynnstay  
Rhuthun, LL15 1YN

**Arweinydd y Panel Annibynnol:**  Dyddiad: 23 Awst, 2013

Dr Jean Venables CBE FREng HonDSc CEng CEnv FICE MCIWEM,  
Crane Environmental Ltd

**Cefnogwyd gan:**

**Aelod o'r Panel Annibynnol:**  Dyddiad: 23 Awst, 2013

Clive Onions, BSc CEng FICE MStructE FCIWEM MCIHT, Clive Onions Limited

ac

**Aelod o'r Panel Annibynnol:**  Dyddiad: 23 Awst, 2013

John Young, BEng, MSc(Eng) CEng MICE MCIWEM, Edenvale Young Associates Ltd

### COFNOD O'R RHIFYN

Enw Ffeil y Ddogfen	Adolygiad	Dyddiad
Adroddiad ar Adolygiad Llifogydd Glasdir-Rhuthun – Rhifyn Cleient 1 - 2013-08-23.docx	1	23 Awst, 2013
Adroddiad ar Adolygiad Llifogydd Glasdir-Rhuthun – Rhifyn Cleient 2 - 2013-08-27.docx	1	27 Awst, 2013

## Defnyddio'r Ddogfen Hon

Cyflwynir y ddogfen hon i'r sawl y cafodd ei chomisiynu ar eu cyfer ac i bwrpasau penodol sy'n gysylltiedig â'r prosiect uchod yn unig. Ni ddylai unrhyw barti arall ddibynnu arni na'i defnyddio ar gyfer unrhyw bwrpas arall. Ni dderbyniwn unrhyw gyfrifoldeb os bydd parti arall yn dibynnu ar neu'n defnyddio'r ddogfen hon i unrhyw bwrpas arall, neu os yw'n cynnwys unrhyw wall neu hepgoriad oherwydd gwall neu hepgoriad mewn data a roddwyd i ni gan bartion eraill.

Mae'r ymgynghorydd wedi dilyn y weithdrefn swyddogol wrth ddarparu'r gwasanaethau ond o ystyried y risg sydd ynghlwm wrth unrhyw ddarogan a'r amrywiadau a welir yn aml o ran amodau llifogydd, nid yw'r ymgynghorydd yn derbyn unrhyw atebolrwydd dros, ac ni all warantu o gwbl na wnaiff llifogydd ddigwydd mewn eiddo (eiddo'r cleient neu drydydd parti) neu na fydd canlyniadau o ganlyniad i lifogydd yng nghyswllt cyflawni'r gwasanaethau.



## Crynodeb Gweithredol

Ar 27 Tachwedd 2012, o ganlyniad i law trwm yn disgyn ar ddalgylch gwlyb, cafwyd llif uchel yn Afon Clwyd sef yr afon sy'n llifo drwy Ruthun. Er bod gan ddatblygiad preswyl Glasdir system atal llifogydd sy'n cynnwys cwlferei i dderbyn dŵr llif a chlawdd atal llifogydd, aeth dŵr llif i mewn i 122 o'r tai yno. Cafwyd llifogydd difrifol hefyd yn Llanelwy ac mewn sawl ardal wledig, gan awgrymu ei fod yn ddigwyddiad eithafol drwy'r ardal gyfan. Fodd bynnag, dim ond yn ddiweddar y codwyd y tai yn Glasdir, roedd Taylor Wimpey'n dal i godi mwy o dai yno, a'r ddealltwriaeth oedd bod y tai wedi eu hamddiffyn i wrthsefyll digwyddiad llifogydd hyd at un mewn mil o flynyddoedd.

Cyflawnodd Gyngor Sir Ddinbych a Chyfoeth Naturiol Cymru (Asiantaeth yr Amgylchedd o'r blaen) ymchwiliad cychwynnol i beth achosodd y llifogydd a phenododd y Cyngor y Panel Annibynnol hwn i gynorthwyo gyda'r ymchwiliad.

Mae'r Cylch Gorchwyl (gweler Atodiad 1) yn egluro bod y Cyngor yn awyddus i ddeall:

- Pam ddigwyddodd y llifogydd
- Pa mor debygol fydd hyn o ail-ddigwydd
- Beth allai / ddylai'r holl awdurdodau rheoli perygl llifogydd perthnasol ei wneud i leihau'r perygl llifogydd i eiddo yn y dyfodol.

Ac y dylai'r ymchwiliad roi sylw i'r materion canlynol:

- a) Yr amodau tywydd yn ystod ac ar ôl y digwyddiadau llifogydd.
- b) A wnaeth y mesurau atal llifogydd a'r mesurau lliniaru / rheoli llifogydd eraill weithio fel y dylent, gan gynnwys yn benodol unrhyw ffactorau a allai fod wedi atal eu gweithrediad yn llawn.
- c) Yr asesiadau perygl llifogydd cyffredinol ar gyfer yr ardaloedd yr effeithiwyd arnynt, ac a yw'r rhain yn parhau i fod yn foddhaol yng ngoleuni'r hyn a ddigwyddodd. Dylai hyn gynnwys asesu a fu unrhyw newid i batrymau'r afon a / neu i'r mesurau atal llifogydd gan newid y perygl llifogydd ers i'r asesiad diwethaf gael ei wneud.
- ch) A ddylai, yng ngoleuni'r llifogydd ar 26/27 Tachwedd 2012, yr awdurdodau rheoli perygl llifogydd perthnasol addasu neu ychwanegu at eu mesurau atal, lliniaru a rheoli llifogydd i leihau'r perygl llifogydd i lefel dderbyniol yn y dyfodol.

Cefndir y datblygiad tai yn Glasdir yw bod Awdurdod Datblygu Cymru wedi creu Ffordd Gyswllt Gogledd Rhuthun (A525) gyda chylchfan ym mhen gogleddol y dref, i roi mynediad i dir oedd wedi cael ei ddyrannu ar gyfer datblygu. Mae'r Ffordd Gyswllt yn croesi gorlifdir naturiol Afon Clwyd ar arglawdd, felly roedd y cais cynllunio'n cynnwys pont a chwlferei i gludo dŵr yr afon a llifogydd. Roedd y prosiect hefyd yn cynnwys bwnd neu glawdd llifogydd i amddiffyn y tir oedd wedi'i ddyrannu ar gyfer tai, gyda'r Asesiad o Ganlyniadau Llifogydd yn egluro y byddai'r system atal llifogydd yn amddiffyn y tir rhag llifogydd i 1 mewn 1000 o flynyddoedd a thu hwnt.

O ganlyniad, prynodd ddatblygwr y tir preswyl dan sylw gan lwyddo i gael caniatâd cynllunio amlinellol, cyn cyflwyno ceisiadau am faterion a gadwyd yn ôl wedyn, ar gyfer y datblygiad

preswyl. Pan ddigwyddodd y llifogydd, roedd tua hanner y datblygiad wedi'i gwblhau, a'r disgwyl yw y bydd y datblygiad i gyd wedi'i gwblhau maes o law.

Mae'r Panel Annibynnol wedi ymweld â'r safle i ddeall yr amodau lleol ac wedi ymchwilio i gefndir y datblygiad a'r digwyddiad llifogydd. Mae'r Panel hefyd wedi cwrdd â swyddogion o Gyngor Sir Ddinbych a Chyfoeth Naturiol Cymru, a gyda chynrychiolwyr o blith y preswylwyr, i wrando ar eu pryderon ac i ddeall sut mae'r digwyddiad wedi'i ddadansoddi.

Roedd Cyfoeth Naturiol Cymru'n datblygu'r model llifogydd cyfrifiadurol ar gyfer Afon Clwyd, ac arhosodd y Panel hyd nes oedd hyn wedi'i gwblhau cyn cyflawni ei asesiad ei hun o'r model, a chyn defnyddio'r model wedyn i brofi gwahanol senarios.

Dechreuodd ddadansoddiad y Panel drwy asesu'r cofnodion ar y llifogydd mwyaf yn ardal Rhuthun, a'u cyfateb i'r model tirlun i benderfynu faint o lif oedd yn yr afon yn ystod y digwyddiad ym mis Tachwedd. Yna ystyriwyd y llifogydd yn ardal Glasdir yn fwy manwl i benderfynu'r rôl oedd y sgriniau ar y cwlferi o dan y Ffordd Gyswllt wedi'i chwarae, ac yn enwedig i ba raddau yr oeddent wedi blocio.

Cymharwyd canlyniadau'r llif gyda chanllawiau swyddogol i benderfynu pryd yn fras allai'r llifogydd ddigwydd eto, a barnwyd hyn i fod rhwng 1 mewn 100 o flynyddoedd, ac 1 mewn 200 o flynyddoedd, ond yn tueddu ar ochr 1 mewn 100 o flynyddoedd (h.y. siawns o 1% - 0.5% y bydd yn digwydd mewn unrhyw flwyddyn neilltuol).

Dangosodd y model hefyd fod y cwlferi'n chwarae rôl hanfodol bwysig mewn lleihau'r perygl llifogydd yn Glasdir. Roedd y sgriniau wedi eu blocio rhwng 66% a 95% gan lystyfiant yn bennaf. Pe na bai'r sgriniau wedi cael eu blocio'n rhannol, mae'n debyg na fyddai'r tai wedi cael eu llifo. Roedd y sgriniau hefyd o wneuthuriad gwael, nid oeddent yn cydymffurfio ag unrhyw safon gydnabyddedig ac ni fyddai wedi bod yn bosibl eu clirio'n ddiogel ar frys. Ers hynny mae'r sgriniau wedi cael eu tynnu ac mae'r Panel wedi argymhell nad oes rhai eraill yn cael eu gosod yn eu lle, oherwydd nad ydynt yn cyflawni unrhyw bwrpas gwirioneddol o ran iechyd a diogelwch (gweler Canllawiau Cwlferi CIRIA 2010).

Cafodd ddadansoddiad pellach ei gyflawni i benderfynu beth fyddai lefel y llifogydd mewn gwahanol ddigwyddiadau, gan gynnwys y canlynol (manyllion yn adroddiad y Panel):

- cyfnod ail-ddigwydd o 1 mewn 100 o flynyddoedd (siawns llifogydd o 1% mewn unrhyw flwyddyn neilltuol)
- 1 mewn 100 o flynyddoedd gan lwfa ar gyfer newid hinsawdd (20% o lif ychwanegol)
- amrywiol lefelau blocio i'r cwlferi (0%, 33%, 66% a 95%, yn unol â chanllawiau swyddogol)
- 1 mewn 1000 o flynyddoedd (siawns o 0.1% y bydd yn digwydd mewn unrhyw flwyddyn neilltuol).

Mae'r Panel wedi ystyried beth fyddai'r lefel arferol o amddiffyniad pe bai'r datblygiad yn cael ei hyrwyddo ar sail heddiw, ac yn teimlo mai'r safon briodol fyddai lefel o amddiffyniad wedi'i darparu gan:

*1 mewn 100 o flynyddoedd & lwfa ar gyfer Newid Hinsawdd, 95% o flocio cwlferi a bwlch 'freeboard' o 600mm.*

Dengys y dadansoddiad y byddai'r lefel yma o amddiffyniad hefyd yn amddiffyn rhag y digwyddiad 1 mewn 1000 o flynyddoedd, gyda llai o fwllch 'freeboard'. Mae'r lwfans ar gyfer blocio cwlferi wedi'i gynnwys oherwydd bod y cwlferi'n llydan a bas, dangoswyd eu bod

wedi blocio'n flaenorol gyda chanlyniadau difrifol, ac mae'r gorlifdir yn cynnwys coed a llystyfiant arall, sy'n cyflwyno risg o flocio.

Mae bwloch 'freeboard' o 600mm yn un o'r gofynion safonol ar gyfer ardaloedd preswyl gerllaw llifogydd sensitif. Mae Afon Clwyd yn afon sensitif oherwydd bod y llif yn amrywio gan ddibynnu ar gyflwr y dalgylch cyn iddi fwrw, y twf tymhorol yn y dalgylch a meini prawf eraill fel goddefiannau'r model llifogydd.

Gellir cysylltu'r lefelau yn yr adroddiad i lefelau'r lloriau yn y tai, ar sail data'r arolwg topograffig a gafwyd gan Gyngor Sir Ddinbych.

Ystyriwyd nifer o atebion posibl i gynnig y lefel gymeradwy o amddiffyniad, gan gynnwys mwy o gwllferi o dan y ffordd, symud cored Rhuthun a chreu arglawdd uchel gerllaw'r afon. Mae gan y rhain ganlyniadau difrifol i lawr yr afon o'r Ffordd Gyswllt, ac yn achosi cynnydd annerbyniol mewn llifogydd i eiddo i lawr yr afon.

Yr ateb cymeradwy yw creu arglawdd gerllaw ac i'r dwyrain o'r llwybr pafin presennol. Bydd yr uchder ychwanegol tua 1.1m ym mhen gogleddol yr arglawdd, hyd at 200mm ym mhen deheuol yr arglawdd presennol. Mae angen i fanylion y dyluniad sicrhau bod y clawdd yn gryf ac wedi'i glymu mewn i'r lefel ar y Ffordd Gyswllt.

Mae'r Panel yn argymhell sefydlu cyfundrefn archwilio a chynnal a chadw ffurfiol ar gyfer yr holl strwythurau atal llifogydd, y cwllferi a'r gorlifdir, gyda chyfrifoldebau clir. Mae Cyfoeth Naturiol Cymru'n gosod cyfarpar ychwanegol i rybuddio rhag llifogydd gyda'r bwriad o sefydlu system ryportio gyda'r Cyngor a Phreswylwyr.

Mae'r un mor bwysig bod y preswylwyr, er bod y cyfrifoldeb yn gorwedd gyda'r Awdurdodau, yn effro i'r perygl llifogydd ac yn cydnabod bod angen iddynt ryportio ar unwaith unrhyw beryglon posibl fel tipio anghyfreithlon ar y gorlifdir, neu goed neu ganghennau wedi cwmpo.

Un nodwedd amlwg o'r prosiect yw bod llawer iawn o gwmnïau wedi bod yn rhan o esblygiad y datblygiad, gyda chwe adroddiad llifogydd gan wahanol Ymgynghorwyr. Mae hyn yn gyffredin i amryw o brosiectau, ac yn nodwedd o'r byd masnachol o sicrhau'r pris isaf ym mhob cyfnod. Mae'n bwysig bod y Cyngor yn ceisio annog y rhai sy'n datblygu i ddarparu parhad gyda phrosiectau yn y dyfodol, er mwyn sicrhau yr ystyrir agweddau hollbwysig drwy gydol y broses a bod gwelliannau'n cael eu gwneud i gyd-fynd ag unrhyw ddatblygiadau mewn canllawiau dylunio.

## Casgliadau

- a) **Data allweddol ar y digwyddiad ym mis Tachwedd** – Rydym wedi amcangyfrif bod y llif yn ystod digwyddiad Tachwedd 2012 rhwng 35.9 a 40.4m<sup>3</sup>/s, a barnwn hyn i fod yn ddigwyddiad rhwng 1 mewn 100 o flynyddoedd ac 1 mewn 200 o flynyddoedd ond yn tueddu ar ochr yr 1 mewn 100 o flynyddoedd, gyda'r cwllferi wedi blocio rhwng 66% a 95%.
- b) **Atebion i adfer lefel yr amddiffyniad** – Edrychwyd ar amrywiol atebion peirianyddol a manylir ar y rhain yn Adran 4 yr Adroddiad hwn. Barn y tîm ymchwilio yw mai'r opsiwn sy'n cynnig yr ateb cynharaf a mwyaf cost-effeithiol i adfer y strwythurau atal llifogydd o gwmpas y datblygiad yw codi uchder y bwnd neu glawdd.

- c) **Cymhlethdod sefydliadol** – Mae nifer o sefydliadau (gweler y diagram yn Atodiad 2) dros amryw o flynyddoedd wedi cyfrannu at y broses o baratoi'r tir yn Glasdir i gael ei ddatblygu. Yn ystod y cyfnod hwn, mae'r dulliau o fodelu hydrolog wedi datblygu a'r safonau a'r canllawiau wedi newid. Gallai'r cyfathrebu rhwng y gwahanol bartïon fod wedi bod yn gliriach; gallai tybiaethau a wnaed yn y gorffennol fod wedi cael eu herio. Hefyd, mae angen i ni gael dealltwriaeth gyffredinol o'r berthynas rhwng y ffordd a adeiladwyd fel arglawdd a gweithrediad y gorlifdir o ran y perygl llifogydd ar y tir datblygu arfaethedig. Nid yw'n ymddangos bod parhad cyfraniad wedi bod wrth ddatblygu'r ardal dan sylw, er mwyn osgoi colli meini prawf pwysig.
- d) **Blocio** – Mae'r ffaith bod y cwlferi wedi blocio wedi chwarae rhan bwysig iawn mewn achosi dŵr i lifo dros y bwnd (oedd hefyd yn rhy isel). Felly, mae uchder newydd y bwnd yn seiliedig ar y dybiaeth y byddai 95% o'r cwlferi'n cael eu blocio. (Gweler paragraff 3.6.5).
- Er y soniwyd am flocio mewn adroddiadau blaenorol, nid oes tystiolaeth bod gwaith wedi'i wneud i asesu effaith hyn. Dim ond yn ddiweddar y dangosodd arolwg gan Lywodraeth Cymru fod 60% o ddigwyddiadau llifogydd ar gyrsiau dŵr cyffredin (gw. para. 4.3) wedi eu hachosi gan flocio.
- e) **Ymateb i'r digwyddiad** - Roedd y gred bod y datblygiad hwn wedi'i amddiffyn i lefel anghyffredin o uchel o 1 mewn mil o flynyddoedd yn golygu nad oedd ar y rhestr o ardaloedd risg uchel i ymweld â nhw yn ystod glaw trwm. Mae'r griliau fertigol yn anodd eu clirio yn ystod storm unwaith yr oeddent wedi blocio, ac yn sicr ddim yn ddiogel. Mae'r mynediad i ben y ffordd i mewn i'r cwlferi wedi'i wella ers y llifogydd yn Nhachwedd 2012 ond ni fydd clirio rwbel o agoriad y cwlferi mewn storm yn hawdd, a gallai fod yn beryglus mewn digwyddiad eithafol.
- f) **Cynllunio** – Mae'n glir o'r dogfennau bod disgwyl i'r tir yn Glasdir gael ei amddiffyn i safon o 1 mewn 1000 (0.1% yn flynyddol) ar gyfer rheoli'r perygl llifogydd. Mae lefel fesuredig y safon / lefel o 1 mewn 1000 yma wedi amrywio dros y blynyddoedd wrth ddefnyddio gwahanol fodolau a thybiaethau yn gyson ag ymarfer ar y pryd.
- g) **Datwm** - Nid yw'n glir a yw'r 'datwm safle' y cyfeirir ato ar rai darluniau'r un fath ag AOD. Hefyd, mae un o'r darluniau'n cyfeirio at y posibilrwydd bod yna haen o fawn o dan y 5 cwlfer. Felly, gallai'r posibilrwydd bod mawn yn setlo yn yr ardal wedi effeithio ar lefelau datwm ac uchder y bwnd.
- h) **Griliau** - Gwyddom fod griliau fertigol yn dueddol o flocio ac yn anodd eu clirio mewn storm unwaith y maent wedi blocio. Byddai'r safon bresennol ar gyfer griliau'n anodd, os nad yn amhosibl, i'w chyflawni o ystyried ffurf y cwlferi a'u lleoliad. Nid yw'r Panel yn gweld bod angen griliau ac yn argymhell nad ydynt yn cael eu hail-osod. Mae pyst i ddal darnau mawr o rwbel, fel canghennau, yn bosibl ac yn cael ei argymhell.
- i) **Ffermydd gwynt a thorri coed cysylltiedig** – Ni chredir y byddai'r bwriad i dorri coed yn gysylltiedig â'r fferm wynt arfaethedig yn cael effaith sylweddol ar lifogydd yn Glasdir yn y dyfodol.

## Argymhellion

- a) Dylid codi'r **bwnd** i'r lefel a ddangosir yn y Cynnig Amlinellol yn Atodiad 3, sy'n seiliedig ar ddigwyddiad 1 mewn 100 o flynyddoedd gan lwfa ar gyfer newid hinsawdd a 95% o flocio, gyda bwlch 'freeboard' o 600mm.

Unwaith y bydd wedi'i godi, dylid ei archwilio'n rheolaidd ac ar ôl digwyddiadau eithafol (gwlyb a sych) i nodi unrhyw ddifrod neu setlo posibl, a'i drwsio os bydd angen. Wrth osod yr uchder hwn, ystyriwyd y tebygolrwydd o flocio fel a ddangoswyd, newid hinsawdd a'r ansicrwydd sy'n gysylltiedig â'r modelu.

Tra bod gan y bwnd presennol fwllch 'freeboard' o ddim ond 200mm, argymhellwn ddefnyddio 600mm oherwydd mae hyn yn unol ag ymarfer ac arferiad ers blynnyddoedd lawer ar gyfer datblygiadau preswyl. Rhagwelir y bydd y mesur atal llifogydd yma'n golygu y gall preswylwyr brynu yswiriant llifogydd heb weld cynnydd sylweddol yn eu premiwm.

- b) Y gobaith yw y bydd y bwnd yn cael ei godi'n barhaol cyn gynted ag y bo modd. Fodd bynnag, yn y cyfamser, dylid ystyried defnyddio llinell dros dro o fapiau tywod (neu debyg) i godi uchder y bwnd. Argymhellwn fonitro'r sefyllfa'n ofalus mewn storm i sicrhau cyfanrwydd y strwythur.
- c) **Dylid trefnu rheolaeth hirdymor o'r gorlifdir a'r dalgylch.** Dylid cynnal a chadw ac, yn enwedig, cadw'r agoriadau i mewn ac allan o'r cwlferei'n glir a rhydd o rwbel a gwastraff gardd, a chadw'r llystyfiant yn fyr. Dylid nodi'n glir pwy sy'n gyfrifol am wneud y gwaith cynnal a chadw hwn.

Ar hyn o bryd mae yna gred (*Managing Woody Debris in Rivers, Streams and Floodplains* a ysgrifennwyd gan yr Ymddiriedolaethau Bywyd Gwylt a Water for Wildlife (2005)) y dylai rheolaeth o ddalgylch annog prosesau naturiol, felly byddai rwbel coed a brigau yn y dalgylch a'r cyrsiau dŵr yn cael ei annog. Fodd bynnag, effeithiwyd yn ddifrifol ar y dalgylch hwn drwy greu ffordd ar draws y gorlifdir ar ben arglawdd yn hytrach na strwythur pont. Mae hyn yn gweithredu fel argae ac nid yw'r 5 cwlferei a grëwyd i dderbyn y dŵr llif yn lliniaru hyn o gwbl os yw rwbel yn eu tagu (fel a ddigwyddodd yn Nhachwedd 2012).

Felly dylid cynnal a chadw'r dalgylch hwn fel nad yw rwbel yn cael ei gario gan ddŵr llif. Hefyd, dylid cadw'r agoriadau allan o'r cwlferei'n glir. Codwyd cwestiwn ynghylch bod angen creu sianel i gysylltu'r tir sydd i'r gogledd o'r cwlferei gyda'r gorlifdir i lawr yr afon. Er na fyddai hyn yn debygol o gael effaith fawr mewn llifogydd, byddai'n gadael i'r tir hwn ddraenio'n fwy effeithiol i'r afon yn is i lawr o'r ffordd ar ôl y digwyddiad. Dylid astudio hyn ymhellach.

- d) **Dylid rhoi rhwydwaith o wardeniaid llifogydd yn eu lle** gyda thasgau i gynnwys monitro cyflwr y gorlifdir a'r cwlferei. Dylai fod gan Gyngor Sir Ddinbych swyddog dynodedig i ymateb i'r wardeniaid. Mae trefnu digwyddiadau afon blyneddol i archwilio a chlirio unrhyw rwystrau posibl, yn helpu i gynnal ymwybyddiaeth o'r system rheoli perygl llifogydd, yn enwedig ar adegau o dywydd sych. Mae'r trefniant hwn yn dod yn fwy cyffredin mewn ardaloedd sy'n wynebu perygl llifogydd, ac yn profi i fod yn gyfle addysgol pwysig.

- e) **Bydd cysylltu system rhybudd llifogydd i fesurydd fyny'r afon** yn ddefnyddiol i'r preswylwyr, wardeniaid llifogydd, Cyfoeth Naturiol Cymru ac i'r Cyngor. Mae'n hanfodol bod ffordd glir o gyfathrebu gyda'r bobl sydd i dderbyn y gwasanaeth.
- f) **Mae'r griliau** wedi cael eu tynnu o'r agoriadau i mewn ac allan o'r cwlferi ac ni ddylid eu hail-osod. O ystyried uchder bas y cwlferi a'r agoriadau croesgam i mewn ac allan, byddai dylunio sgriniau i gydymffurfio â Chanllawiau CIRIA, gyda risg isel o flocio, yn her.
- g) **Opsiwn arall** y gellid edrych arno yw llinell o byst o gwmpas yr agoriadau i mewn i'r cwlferi a allai ddal rwbél a llystyfiant mwy a fyddai'n cael ei gario mewn dŵr llif (gweler Plât 12, Adran 4.3 am lun).
- h) **Dangosir carthffos diamedr o 300mm** ar y darluniau sy'n rhedeg o dan y cwlferi a sylwyd ar gaead twll archwilio wedi torri ychydig i fyny'r afon o'r cwlferi, yn ystod ymweliad ar 7fed Awst 2013. Dylid archwilio'r caead twll archwilio hwn ac unrhyw rai eraill yn yr ardal, eu trwsio a'u gwneud yn ddiogel yn yr ardal gyhoeddus hon.
- i) **Ni chafodd y draeniau dŵr wyneb** ar safle Glasdir, yn ein barn ni, unrhyw effaith amlwg ar ganlyniadau'r llifogydd ar 26/27 Tachwedd 2012. Mae'r gwaith parhaus o fonitro, archwilio a chynnal hyn yn hanfodol i sicrhau bod y system yn draenio dŵr glaw'n effeithiol oddi ar y safle.

## Egluro'r Byrfoddau a Ddefnyddir

AMAX	Uchafswm anterth llif blynyddol (gw. para. 5.1.3a)
AOD	Datwm Uwch-Ordnans
CFMP	Cynllun Rheoli Llifogydd Dalgylch
DAM	Map Cyngor Datblygu
CSDd	Cyngor Sir Ddinbych
AyrA	Asiantaeth yr Amgylchedd
AyrA (Cymru):	Asiantaeth yr Amgylchedd Cymru, erbyn hyn Cyfoeth Naturiol Cymru
FCA	Asesiad o Ganlyniadau Llifogydd
FEH	Llawlyfr Amcangyfrif Llifogydd
GIS	System Gwybodaeth Ddaearyddol
LiDAR	Canfod ac Amrediad Golau
CNC	Cyfoeth Naturiol Cymru
QMED	Llifogydd Mynegai, Cymedrig o gyfres o lifogydd anterth llif blynyddol (gw. para. 5.1.3)
SEA	Asesiad Amgylcheddol Strategol
SuDS	Systemau Draenio Cynaliadwy
WDA	Awdurdod Datblygu Cymru

## Cydnabyddiaeth

Mae'r Panel Ymchwilio'n cydnabod yn ddiolchgar y cymorth a gawsant gan Gyngor Sir Ddinbych, yn enwedig Wayne Hope, gan staff Cyfoeth Naturiol Cymru (Asiantaeth yr Amgylchedd Cymru o'r blaen) a chan Bwyllgor Preswylwyr Ystâd Glasdir.



EdenvaleYoung

clive onions  
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## NOVEMBER 2012 FLOODS AT GLASDIR, RUTHIN FROM THE RIVER CLWYD

### **REPORT ON THE REVIEW** by the Independent Panel for the Evaluation of Hydrology, Flood Risk and Causes of Flooding

**By Dr Jean Venables** CBE FREng FICE  
Client Issue 2  
27 August 2013

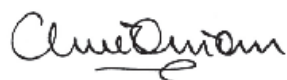
## Quality Assurance

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County Hall  
Wynnstay Road  
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**Independent Panel Leader:**  Date: 23 August 2013

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The consultant has followed accepted procedure in providing the services but given the residual risk associated with any prediction and the variability which can be experienced in flood conditions, the consultant takes no liability for and gives no warranty against actual flooding of any property (client's or third party) or the consequences of flooding in relation to the performance of the services.

## Executive Summary

On 27<sup>th</sup> November 2012 heavy rain on a wet catchment caused high flows in the River Clwyd, which flows through Ruthin. Although the Glasdir residential development has a flood defence system comprising flood relief culverts and flood defence bund, 122 houses suffered internal flooding. Serious flooding also occurred in St Asaph and in many rural areas, indicating that it was an extreme event within the general area. However, the houses at Glasdir had recently been constructed, the development was still being built by Taylor Wimpey, and it was understood that the houses were protected to withstand a 1 in 1000 year flood event.

Denbighshire County Council (DCC) and Natural Resources Wales (NRW) (formerly Environment Agency Wales) carried out an initial investigation into the cause and DCC appointed this Independent Panel to assist with the investigation.

The Terms of Reference (see Appendix 1) explain that the Council wanted to understand:

- Why the flooding occurred
- What the likelihood of recurrence may be
- What can/should be done to by all relevant flood risk management authorities to minimise flood risk to properties in future events

And that the investigation should address the following;

- a) The weather conditions during and preceding the flood events.
- b) The degree to which flood defences and other alleviation/management measures operated as intended, including specifically any factors that may have prevented their full operation.
- c) The overall flood risk assessments for the affected areas and the continued adequacy of these in the light of the flood events. This should include assessment of whether changes to river patterns and/or flood management measures have changed flood risks since the last assessment was concluded.
- d) Whether, in the light of the flooding experienced on 26<sup>th</sup>/27<sup>th</sup> November 2012, relevant flood risk management authorities should implement modifications or additions to their flood defence, alleviation and management measures to minimise risk of future flooding to an acceptable level.

The background to the Glasdir development is that the Welsh Development Agency constructed the Ruthin North Link Road (A525) with a roundabout to the north of Ruthin, to give access to land which had been allocated for development. The Link Road crosses the natural flood plain of the River Clwyd on an embankment, and so the planning application included a bridge and culverts to convey river and flood flows. The project also included a flood bund to protect the land allocated for residential uses, and the Flood Consequences Assessment explains that the flood management system would protect the land beyond a 1 in 1000 year event.

A Developer subsequently acquired the residential land and obtained outline planning consent, which was followed up by reserved matters applications, for the residential

development. At the time of the flood approximately half had been completed, and there is an expectation that the development will be completed in due course.

The independent Panel has visited the site, to understand the local conditions and researched the background to the development and flooding event. The Panel has also met with Officers of DCC and NRW, and met with representatives of the residents to hear about their concerns and to understand what analysis of the event had been undertaken.

NRW was developing the computer flood model for the River Clwyd, and the Panel waited for this to be completed before undertaking its own assessment of the model, and then using the model to test scenarios.

The Panel's analysis began with assessing the records of the maximum flood extent in the Ruthin area, and matching these with the terrain model to determine the river flow in the November event. The extent of flooding in the Glasdir area was then considered in more detail to determine the role that the screens on the culverts under the Link Road had, and particularly the level of blockage.

The flow results were compared with recognised guidance to determine the approximate return period of the flooding, which is judged to be between a 1 in 100 year and 1 in 200 year event, but biased towards 1 in 100 years (i.e. between 1% and 0.5% chance of happening in any one year).

The model also showed that the culverts play a vital role in reducing the risk of flooding at Glasdir. The screens were blocked by between 66% and 95% due mainly to vegetation. If the screens had not been partially blocked, the property flooding would probably not have occurred. The screens were also of poor design, not complying with any recognised standard and were not capable of being safely cleared in an emergency. The screens have since been removed, and the Panel has recommended that the screens are not replaced, since they fulfil no real purpose in terms of health and safety (see CIRIA Culvert Guidance, 2010).

Further analysis was undertaken to determine the level of the flooding for a range of events, including the following, details of which are contained in the Panel's report;

- 1 in 100 year return period (1% chance of flooding in any one year),
- 1 in 100 year with climate change allowance (additional 20% flow)
- Various levels of culvert blockage (0%, 33%,66% and 95%, in line with recognised guidance)
- 1 in 1000 year (0.1% chance of happening in any one year)

The Panel has considered what would be a normal level of protection if the development were to be promoted at the present day, and feels that the appropriate standard would be a level of protection provided by:

*1 in 100 year + Climate Change allowance, with 95% culvert blockage and 600mm freeboard.*

The analysis shows that this level of defence would also defend against the 1 in 1000 year event, with less freeboard. The culvert blockage allowance has been included because the culverts are wide and shallow, have been shown to block previously with serious consequences, and the floodplain contains trees and other vegetation, which pose a risk of blockage.

A freeboard of 600mm is a standard requirement for residential areas adjacent to sensitive flooding. The River Clwyd is a sensitive river because the flow varies depending on the state

of the catchment prior to rainfall, the seasonal growth in the catchment and other criteria such as the tolerances of the flood model.

The levels contained within the report can be related to the floor levels of the houses, based on the topographical survey data obtained by DCC.

A number of potential solutions have been considered to provide the recommended level of protection, including additional culverts below the road, removal of Ruthin weir and forming a high bank adjacent to the river. These all have serious consequences downstream of the Link Road, and cause unacceptable increases in flooding to property downstream.

The recommended solution is to form a bank adjacent and to the east of the existing footway. The additional height will be approx. 1.1m at the north end of the embankment to approx. 200mm at the south end of the existing embankment. The detail design needs to ensure that the bank is robust and is tied into the level on the Link Road.

The Panel recommends that a formal inspection and maintenance regime of all the flood defence structures, culverts and flood plain should be established with clear responsibilities. NRW is installing additional flood warning equipment and will set up a reporting system with the Council and Residents.

It is equally important that, whilst responsibility lies with the Authorities, the residents are alert to the flood risk, and recognise that they need to report immediately potential hazards such as flytipping in the flood plain or fallen trees and branches.

One striking feature of the overall project is that there have been many companies involved in the evolution of the development, with six flood reports by different Consultants. This is common to many projects, and a feature of the commercial world of seeking lowest price at each stage. It is important that the Council seeks to encourage those involved in development to provide continuity on projects in future, to ensure that critical aspects are considered throughout the process **and that improvements are made to keep up with developments in design guidance.**

## Conclusions

- a) **Key data on the November event** – We have estimated that the flow in the November 2012 event was between 35.9 and 40.4 m<sup>3</sup>/s, which we judge to be between a 1 in 100 year and 1 in 200 year event but biased towards 1 in 100 year, and the blockage of the culverts was between 66% and 95%.
- b) **Solutions to restore the level of protection** – Various engineering solutions were explored and these are detailed in Section 4 of this Report. It is the Investigating Team's opinion that the solution that offers the earliest and most cost-effective solution to re-instating the flood defences around the development is to raise the bund height.
- c) **Organisational complexity** – The process of preparing the land at Glasdir for development has involved many organisations over many years (see diagram in Appendix 2). During that period the methods of hydraulic modelling have developed and standards and guidance have changed. Communication between the various parties could have been clearer; assumptions previously made could have been challenged. In addition, it is necessary to have an overall view on the interaction between the road built as an embankment and the operation of the flood plain with

respect to the flood risk of the proposed development land. There does not seem to have been continuity of involvement provided during the development of the area, to avoid important criteria being missed.

- d) **Blockages** – The blockage of the culverts played a significant part in causing the flood water to flow over the bund (which was also too low). Thus the proposed height of the bund is based on an assumption of a 95% blockage to the culverts. (See paragraph 3.6.5).

Although blockage was mentioned in previous reports there is no evidence that work was done to assess its impact. It is only recently that a Welsh Government survey has revealed that 60% of flooding incidents on ordinary watercourses (see paragraph 4.3) were caused by blockages.

- e) **Response to the event** – The belief that this development was protected to an unusually high level of 1 in 1000 meant that it was not on the list of high risk areas to visit in a high rainfall event. The vertical grills are hard to clear during a storm once they had become blocked and certainly not safely. Access to the top of the culvert entrances has been improved since the event in November 2012 but clearing the culvert entrances of debris in a storm will not be easy and could be unsafe in an extreme event.
- f) **Planning** – It is clear from the documentation that the land at Glasdir was expected to be protected to a 1 in 1000 (0.1% annually) standard for flood risk management. The calculated level of this 1 in 1000 standard/level has varied over the years as different models and assumptions have been used consistent with practice at the time.
- g) **Datum** – It is unclear whether ‘site datum’ referred to on some drawings is the same as AOD. In addition there is reference on one of the drawings to the possibility of a peat layer under the 5 culverts. Therefore possible settlement of the peat in the area could have had an impact on datum levels and bund heights.
- h) **Grills** – Vertical grills are known to be prone to blockage and are difficult to clear during a storm once they have become blocked. The current standard for grills would be difficult if not impossible to achieve given the form of the culverts and their location. The Panel does not see the need for grills and recommends that they are not re-installed. Posts to capture large obstructions such as branches are feasible and recommended.
- i) **Wind farms and associated tree felling** – The tree felling proposed in association with the proposed wind farm construction is not considered to have a significant impact on future flooding at Glasdir.

## Recommendations

- a) **The bund** should be raised to the level shown in the Outline Proposal in Appendix 3, which is based on a 1 in 100 year event with climate change and 95% blockage, with a 600mm freeboard.

Once raised it should be checked regularly and after extreme events (wet and dry) for possible settlement and damage, and repaired if necessary. In setting this height, the demonstrated likelihood of blockage, climate change and uncertainties associated with modelling have been taken into consideration.

Whereas the current bund has an allowance of only 200mm of freeboard, we are recommending 600mm be used as this is in line with custom and practice over several years for residential development. It is anticipated that this flood defence will enable flood insurance to be purchased **without significant increases in premium**.

- b) It is to be hoped that the bund will be permanently raised as soon as possible. However, for the interim, a temporary line of sandbags (or equivalent) should be considered to be used to raise the bund height. Careful monitoring during a storm event is recommended to ensure integrity is maintained.
- c) **Long term management of the flood plain and catchment** area should be organised. The maintenance of the area around the culverts' entrance and exit should particularly be cleared of debris, garden waste and the vegetation kept short. The responsibility for doing the maintenance should be clearly identified.

There is currently a belief (*Managing Woody Debris in Rivers, Streams and Floodplains* written by the Wildlife Trusts and Water for Wildlife (2005) that catchment management should encourage natural processes and so woody debris in the catchment and watercourse would be encouraged. However, this catchment has been severely impacted by the construction of a road across the flood plain on an embankment rather than a bridge structure. This acts as a dam and the mitigation of providing the 5 culverts to pass the flood water is nullified if they block with debris (as happened in November 2012).

Thus this catchment should be maintained to avoid debris being carried by flood flows. In addition, the exits from the culverts should be kept clear. A question has been raised about the need for a channel to connect the land immediately to the north of the culverts with the downstream floodplain. Whilst this is unlikely to have a significant impact during a flood, it would allow this land to drain more effectively to the river downstream of the road after the event. This should be the subject of further study.

- d) **A network of flood wardens** should be put in place with tasks that include monitoring the condition of the flood plain and the culverts. There should be a designated DCC officer to respond to wardens. Organising annual river events during dry spells, to inspect and clear potential obstructions, helps to maintain awareness of the flood risk management system, especially during dry spells. This arrangement is becoming commonplace in areas at risk, and is proving to be an important educational opportunity.
- e) **Linking a flood warning system to an upstream gauge** will be useful to the residents, flood wardens, NRW and DCC. It is vital there is a clear means of communication with identified recipients.
- f) **The grills** have been removed from the culvert entrances and exits and should not be put back. Given the shallow height of the culverts and the staggered entrances and exits, designing screens to conform to the CIRIA Guide, with a low risk of blockage, would be a challenge.
- g) **An alternative** that could be explored is a line of posts around the entrances to the culverts that could catch larger debris and vegetation carried in the flow (see Plate 12, Section 4.3 for photo).

- h) **A 300mm diameter sewer** is shown on the drawings running under the culverts and a broken manhole cover was observed just upstream of the culverts on a visit on 7th August 2013. This manhole cover and any others in the area should be inspected, repaired and made safe in this public area.
- i) **The surface water drainage** within the Glasdir site, in our view, had no discernible effect on the consequences of the flooding on 26/27 November 2012. Its ongoing monitoring, inspection and maintenance is vital to ensure it effectively drains rain water within the site.



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## Explanation of Abbreviations used

AMAX	Annual maximum peak flow (see para 5.1.3 a)
AOD	Above Ordnance Datum
CFMP	Catchment Flood Management Plan
DAM	Development Advice Map
DCC	Denbighshire County Council
EA	Environment Agency
EA (Wales):	Environment Agency Wales, now Natural Resources Wales
FCA	Flood Consequence Assessment
FEH	Flood Estimation Handbook
GIS	Geography Information System
LiDAR	Light Detection and Ranging
NRW	Natural Resources Wales
QMED	Index Flood, Median flood of annual maximum peak flow series (see para 5.1.3)
SEA	Strategic Environment Assessment
SuDS	Sustainable Drainage Systems
WDA	Welsh Development Agency

## Acknowledgements

The Investigating Panel gratefully acknowledges the assistance given by DCC, especially Wayne Hope, by the staff at Natural Resources Wales (previously the Environment Agency Wales), and by the Residents Committee of the Glasdir Estate.

## 1 Introduction

### 1.1 Background

The summer and autumn of 2012 was characterised by periods of prolonged rainfall in Wales and England with flooding reported by many communities in the south and west of the country. On the 25 November an Amber Warning was issued by the Environment Agency with the Met Office indicating that up to 100mm of rain could fall across mid and north Wales.

On 27 November 2012 there was widespread flooding affecting approximately 500 residential and commercial properties at more than twelve separate locations in Denbighshire including significant numbers of properties in St Asaph and Ruthin. The primary impact at Ruthin was flooding of the Glasdir Estate, which is located to the north of the town, where over 100 properties were affected by flooding (see Plate 1 and Plate 2).

### 1.2 Independent Review Panel

Following the flooding in November 2012, Denbighshire County Council appointed an Independent Panel to review flooding in Ruthin – See Appendix 1 for the Terms of Reference of the Investigation issued in January and April. The objective of the independent review is to understand the causes of flooding and the likelihood of recurrence and advise Denbighshire County Council on potential schemes to improve protection of the houses. The Independent Review Panel has assessed a range of information obtained from Natural Resources Wales (formally Environment Agency Wales), Denbighshire County Council and residents of the Glasdir Estate including:

- Photographs and video of the November 2012 event
- Topographic surveys and drawings of the Glasdir Estate and Ruthin Link Road
- Hydrological data including rainfall, flow data and Ruthin Weir Ratings information
- An ISIS-TUFLOW model and hydrological analysis of the River Clwyd at Ruthin obtained from Natural Resources Wales (NRW)
- The River Clwyd, Ruthin Flood Risk Assessment (Bullen & Partners, May 1999)
- Ruthin Flooding Project Appraisal Report (Parsons Brinkerhoff 1998)
- Glasdir Estate Flood Consequence Assessment (Weetwood Services 2005)
- Appraisal of Flooding at Ruthin, (Black & Veatch, 2003)
- Analysis of flooding in North Wales, (Environment Agency Wales, November 2012)
- Flooding at Glasdir Estate in Ruthin; (Environment Agency Wales; 14 December 2012)
- Flood Estimation Record (Environment Agency Wales, March 2013)
- Calibration of ISIS-TUFLOW model (JBA Technical Memorandum, June 2013).

Other key documents are listed in Appendix 4.



Plate 1 - Ruthin Glasdir Estate November 2012



Plate 2 - Ruthin Glasdir Estate November 2012

During the period of the study, consultations have been held with the residents of the Glasdir Estate, Denbighshire County Council, EA Wales and subsequently Natural Resources Wales (NRW) in order to gain local knowledge and to identify the key issues and focus the investigation. Consultations have included meetings with residents, presentations of the interim results of the hydraulic modelling, and the production of an interim report. This process has highlighted a number of important issues including the complexity of the hydrological model, uncertainty associated with Ruthin Weir, and the impact of blockage to the culverts beneath the Ruthin Link Road. Accordingly, the Independent Review Panel has:

- Undertaken a detailed review of hydrological estimates for the River Clwyd provided by NRW and JBA (see Annex A).
- Prepared a formal review of the NRW ISIS-TUFLOW hydraulic model of the River Clwyd and Mwrog Street Flood Alleviation Scheme.
- Amended and updated the ISIS-TUFLOW hydraulic model in accordance with the review.
- Undertaken additional hydraulic modelling of the River Clwyd and Mwrog Street Flood Alleviation Scheme using the hydrological estimates supplied by NRW to determine flood extent and depth for a range of return periods and blockage scenarios.
- Undertaken hydraulic modelling in order to establish the approximate flood return period and causes of the flooding which affected the Glasdir Estate in November 2012.
- Proposed possible engineering options and undertaken hydraulic modelling to assess the feasibility of mitigating the risk of flooding to the Glasdir Estate.

The review, including assessment of hydrology and hydraulic modelling, was undertaken between February 2013 and July 2013. During this period the Independent Panel liaised with Glasdir estate residents, Denbighshire County Council Natural Resources Wales and JBA.

JBA were appointed by NRW to undertake a range of work associated with Ruthin including reviewing modifications to the EA model of Ruthin and the development of a technical note associated with model calibration for the November 2012 event. It was agreed with Denbighshire County Council that there would be benefit in using this information in the review. The document was issued by NRW in late June 2013 and this had a significant impact on the Independent Panel's programme of work.

### **1.3 The Glasdir Development**

The Glasdir Estate was constructed by Taylor Wimpey Homes with property being sold "off-plan" in 2009. Flooding to the estate was recognised as a significant planning matter as a Flood Consequence Assessment (FCA), including hydrological analysis and hydraulic modelling, was prepared by Veryard / Opus, Weetwood Services and Capita Symonds in 2005.

The hydraulic modelling undertaken for the purposes of the FCA suggested that the floodplain extent shown on the then Environment Agency's flood risk mapping could be reduced and there would be no residential development within the 100 year flood

outline. Unfortunately it has not been possible to obtain a copy of the model for review by the Independent Panel. The conclusion of the FCA stated that the development of the proposed site could be carried out without conflicting with the requirements of TAN15 subject to the following:

- *'Finished Floor Levels within the 1000 year flood outline predicted by the TUFLOW modelling results would be set at 200mm above the flood levels for the 1 in 1000 year event.'*
- *'The proposed hard landscaped bund along the eastern edge of the proposed development site will be a hard defence and the crest of the landscaped bund will be above that of the estimated top water level for a 1 in 1000 year event (approximately 53.5m to 53.25m AOD from south to north respectively) with a minimum allowance for freeboard of 200mm.'*

It is understood that buyers / residents were assured that the defence provided a high standard of service to the estate in the order of 1 in 1000 years with a freeboard of 0.2m. In addition, the residents have also drawn the Independent Review Panel's attention to the issue of the floor levels of the flooded houses compared to the values used in the planning documents.

A question has been put to us about whether it would be advantageous to the flood risk of the houses still to be built if their floor levels were to be set at the same height as the bund, and whether such a change, and the associated general raising of the ground levels within that part of the estate still to be built would increase flood risk to the existing houses.

There is no requirement in the current TAN15 in relation to the height of house floor levels having to be above predicted flood levels where their flood risk is protected by a bund. Indeed, if house floor levels are to be set to the same level as the bund then that calls into question why a bund is required at all.

However, in the particular case here, whilst we have not analysed the actual difference in water level with the alternative house and infrastructure levels (which would require further detailed modelling), we have undertaken a comparison of two model scenarios to illustrate the point.

That comparison of two model scenarios has compared the water levels outside the Glasdir Estate in the real case of November 2012 and the imaginary case of their being a bund around the estate that excluded all the flood water. This comparison shows that excluding all the water from the Glasdir estate in the November event could have made up to 50mm difference. Therefore a change in level due to different floor and ground levels within the estate can be shown to be much less than 50mm.

Once the recommended new bund is constructed, the risk of overtopping is very significantly reduced so there is, in our view, no need to raise the floor levels of the still-to-be-constructed houses above those already specified.

The two model scenarios used for the above comparison are:

**iCD95\_Q100+CC:** 10m 'glass wall' around Glasdir; Security screens removed; 95% blockage; 100yr+CC design event

**iD95\_Q100+CC:** Security screens removed; 95% blockage; 100yr+CC design event; Bund levels as per survey.

#### 1.4 Ruthin North Link Road

The Glasdir Estate is adjacent to the Ruthin North Link Road. The Ruthin North Link Road was completed in 2006 and runs perpendicularly across the flood plain and impounds water behind the embankment during times of flooding. The River Clwyd is conveyed under the road via a bridge to the east of the floodplain. The design of the Link Road also incorporated five culverts under the highway with the objective of providing conveyance of flood water from the south to the north of the highway. The Environment Agency's (now NRW) Dec 2012 report considered that the presence of security screens and blockage to the culverts could be a contributory factor in flooding to the estate.

A planning application for the 'Northern Link Road' was submitted on behalf of the Welsh Development Agency (WDA) in 2003 and subsequently granted by Denbighshire County Council on 14 July 2004. The assessment of flooding from the River Clwyd was undertaken by Bullen and Partners Consulting Engineers. In February 2004 Bullen wrote to the WDA concluding that "introducing the road across the floodplain would cause the 100-year water levels to rise in this area". The letter recommended various combinations of culverts which would be required beneath the link road in order to convey  $6\text{m}^3/\text{s}$  and up to four  $2.4 \times 0.75\text{m}$  box culverts were recommended.

Subsequently, five culverts were built and fitted with vertical grills at both upstream and downstream ends. These were reported as having been partially blocked by vegetation and debris, in the November 2012 event but the actual proportion of blockage during the November 2012 event is not known (see Plate 4 and Plate 5). The grills were removed shortly after the flood event.



Plate 3 - River Clwyd Bridge (Upstream View during November 2012 event)



Plate 4 - Ruthin Link Road Culverts



Plate 5 - Ruthin Link Road Culverts (Post November 2012 Flooding)



## 1.5 History of Flooding

### 1.5.1 Flood History to 2000

Ruthin has a long history of flooding within the town and in 2003 Black and Veatch<sup>1</sup> undertook a historical review of flooding through research at the library in Ruthin and identified events in:-

- June 1931,
- October 1966,
- 1990 (no month quoted),
- March 1998,
- October / November 2000.

The most recent of the above events, in November 2000, was stated as being particularly damaging due to the bank of the River Clwyd bursting on three separate occasions in two weeks. The collapse and blockage of the culvert running beneath Mwrog Street exacerbated the situation and it was reported that although the initial event on the 30 October caused much of the damage, the second event one week later resulted in flooding to a greater depth.

Primarily as a result of the November 2000 event a system of flood embankments and walls was constructed alongside the River Clwyd by Environment Agency Wales in 2003 to mitigate the risk within the town (see Plate 6). Subsequently the Mwrog Flood Alleviation Scheme was designed and constructed to reduce problems associated with restricted capacity of the culvert running along Mwrog Street (see Figure 1). The alleviation scheme intercepts the Mwrog stream to the west of Ruthin at Llanfwrog and directs flow around the western perimeter of the town. The flood alleviation channel crosses the Denbigh Road and the Ruthin North Link Road and is conveyed in a northerly direction to the Clwyd downstream of Ruthin Weir.

### 1.5.2 November 2012

The majority of the first two weeks of November were comparatively dry. Rainfall totals for the month up to 26th November were not considered unusual and in-line with the Long Term Averages for that month. However, rainfall totals for the 7 days leading up to the 26th November were particularly high. In relation to this event the Environment Agency's Hydrology & Water Resources Management Team in their report on flooding in North Wales<sup>2</sup> stated that:-

*"It is therefore clear that the flooding of the 27th November was the compounded result of two nested rainfall events. The rainfall of 22nd November saturated the catchments and increased river levels, which were then sustained by a series of successive weather fronts leading up to 26th November."*

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<sup>1</sup> Appraisal of Flooding at Ruthin, Black & Veatch, June 2003

<sup>2</sup> Analysis of flooding in North Wales, November 2012; Environment Agency; November 2012

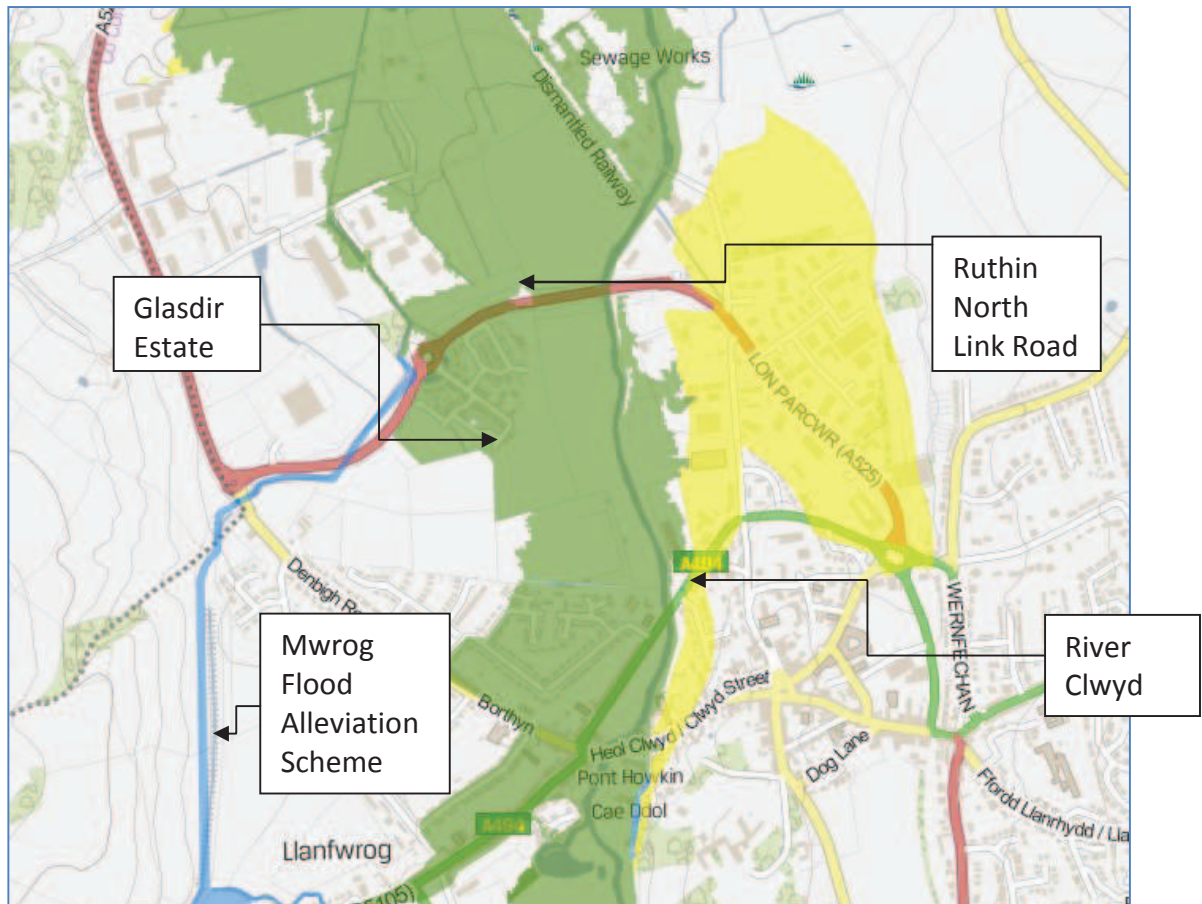


Figure 1- Location Map

The report states explicitly that saturation of the catchment was a significant factor in the hydrological response of rivers on the 27 November 2012. This view is repeated by the Environment Agency Wales in their report on flooding for Glasdir<sup>3</sup> which says that:-

*“River levels in the River Clwyd and its tributaries were already high before the rainfall event of 26 / 27 November 2012 as a result of prolonged wet weather in the catchment during the previous week. The more intense period of rain on the 26 and 27 November 2012 falling on already saturated land, caused the particularly high river levels that were recorded during the flood.”*

<sup>3</sup> Flooding at Glasdir Estate in Ruthin; Environment Agency Wales; 14 December 2012



Plate 6 - Ruthin Flood Embankment adjacent to Park Road: Constructed in 2003



Plate 7 - Mwrog Flood Alleviation Scheme (November 2012)

## 2 Hydrology

### 2.1 Introduction

Edenvale Young has undertaken a review of the information provided by Natural Resources Wales and JBA in order to better understand the reliability of the hydrological models used to develop the design and event hydrology.

### 2.2 Design Hydrology

NRW has provided the Flood estimation calculation record pro-forma for review and it is considered that the hydrological assessment detailed in the pro-forma is generally sound. However, there are a number of issues associated with the use of QMED and the AMAX series at Ruthin Weir which require further review or explanation. Firstly, the catchment immediately upstream has undergone a number of significant changes in the recent past including:-

- Construction of Ruthin Flood Alleviation Scheme (2003)
- Construction of the Mwrog Street Flood Alleviation Scheme (2004)
- Construction of the Ruthin Link Road (2005/06)
- Modifications to the fish pass at Ruthin Weir (2009).

The impact of these changes is not addressed in the FEH Pro Forma although it is recognised that some account of the changes has been made within the calculations. Consequently, it is considered that the AMAX data from 2004 onwards should not be used in the assessment of QMED at Ruthin Weir without accounting first for the effects described above. It is also possible that the site is not considered suitable for use as a donor station.

Secondly, it also appears that the rating underestimates flows around the higher spot gaugings, and as a result may underestimate QMED in the region of 2 m<sup>3</sup>/s. In summary, there is some uncertainty associated with the design hydrology and this should be addressed by the NRW or a consultant before any work is undertaken on the detailed design of the flood defences for the Glasdir Estate. It is considered that NRW is best placed to consider these issues and it is recommended that they provide the clarifications and evolve the document as necessary. This would reduce the uncertainty associated with modelled results. However it does not, in our opinion, affect our recommendations for the level of the flood bund and we have taken this into account by using a freeboard of 0.6m.

### 2.3 Return Period Assessment (November 2012)

A return period assessment of the November 2012 event could be based on either the observed or modelled flow data. However, there is a range of factors which make it difficult to attribute an annual exceedance probability (or return period) to the event for either method with accuracy. These factors are as follows:-

- Reliability of the current calibration hydrology and possibility for a range of permutations which predict the same flooding (including rainfall distribution and calculation of antecedent catchment wetness).

- Construction of Mwrog flow diversion channel and Ruthin Link road may make observed flows during 2012 incompatible with previous recorded flood events.
- Uncertainty as to the degree of culvert blockage which occurred.
- The fact that the flooding was predominantly volume based, rather than related entirely to the peak flow. It was volume based as it was a long duration event on a wet catchment rather than a short duration intense storm.
- Local bypassing of Ruthin gauge and associated problems with rating leading to poor accuracy of high flow data.

The blockage of the culverts under Ruthin North Link Road resulted in the peak of the event being attenuated upstream of Ruthin Weir. Had the culverts not been blocked the peak flow measured at Ruthin Weir is likely to have been higher. Consequently any assessment of return period based on observed peak flow at Ruthin Weir may be unreliable.

## 2.4 Summary

The methodology followed by NRW to establish the design hydrology is generally good but the use of QMED and the AMAX Series at Ruthin Weir may not be appropriate given the uncertainties associated with the data. In order for the design hydrology to be made suitably robust, suggestions for further work have been made as part of this study (see also 2.2). These suggestions are presented in Table 1 below.

Action	Priority	Significance
<p>Increase confidence in estimated QMED values, including:-</p> <ul style="list-style-type: none"> <li>• Improved rating for Ruthin Weir GS;</li> <li>• Assess impact of Mwrog channel diversion and Ruthin Link Road on AMAX values;</li> <li>• Review choice of donor station &amp; method of data transfer.</li> </ul>	High	The reliability of the estimated QMED values is considered to be critical to the accuracy of this study.
Verify & adjust design hydrograph shapes based on observed flow data where possible. Determine critical duration.	High	Critical to accurate assessment of hydrograph volume, which was a key factor in the 2012 flood event.
Review pooling groups to make growth curves more representative of the study catchments.	Medium	The impact of this may be limited, but is worth undertaking for completeness.
Include urban catchment areas within model inflow representations.	High	The area in question is relatively small, but highly urbanised, so could have a noticeable impact.
Improve representation of lateral inflow at Pont Howkin.	Medium	The contribution of inflow between the top of the River Clwyd and Pont Howkin is relatively small but improvements in representation could be easily applied.

Table 1 – Suggestions for Further Work for Hydrological Assessment

## 3 Hydraulic Modelling

### 3.1 General

As noted in the introduction the objective of the hydraulic modelling was to establish the causes of the November 2012 event; assess the standard of service afforded by the Glasdir Flood Bund and investigate possible options to mitigate the risk of future flooding. These issues are discussed in more detail in the following sections but in summary the work has encompassed the following:-

- A review of the ISIS-TUFLOW-ESTRY model supplied by NRW.
- Amendment to the ISIS-TUFLOW-ESTRY model to improve numerical stability and ensure that the model conformed to best practice.
- Hydraulic modelling using scaling of the JBA flow boundaries to establish the return period and causes of the November 2012 event and review flood depths across the Glasdir Estate with a 60 hour storm duration.
- Hydraulic modelling using the FEH flow boundaries provided by NRW conforming to 1 in 50 year, 1 in 100 year, 1 in 200 year, 1 in 1000 years and 1 in 100 year (plus an allowance for climate change) to establish the existing level of protection to the estate. These scenarios were modelled using design a 9.5 hour storm duration commensurate with the NRW analysis.
- Hydraulic modelling to assess the impact of removing the security screens from the culverts to the east of the Glasdir Estate.
- Hydraulic modelling using the FEH flow boundaries noted above to propose possible engineering options to assess the feasibility of mitigating the risk of flooding to the Glasdir Estate to an appropriate standard of service.

Table 2 shows the scenarios which have been investigated by the modelling. Scenario B has been primarily used to investigate the existing standard of service afforded by the existing embankment adjacent to Glasdir (see Section 3.5) and assess the cause of flooding experienced in November 2012 (see section 3.6). Scenarios C through to H are possible engineering options (see Section 4).

Throughout this section the inflow boundary at ISIS node CLWY01-4423D (see Figure 2) has been used to compare and contrast return period estimates. This node is at the upstream end of the model and accounts for a large proportion of the flow within the model but it should be noted that there are other inflows distributed throughout the model (e.g. the urban extent of Ruthin, the Mwrog flood alleviation scheme, etc). Accordingly flow at Ruthin Weir for the equivalent return period is higher than at ISIS node CLWY01-4423D because it takes into account a larger catchment area.

### 3.2 Appropriate Standard of Service

During consultations with Denbighshire County Council and NRW it was agreed that an appropriate standard of service would be 1 in 100 years plus an allowance for climate change. It was also considered, by the Investigating Panel, that a freeboard allowance of 600mm in conjunction with blockage to the culverts passing below the Ruthin Link Road was appropriate. This standard of service is commensurate with the target

standard of service for flood alleviation schemes and planning requirements contained in TAN15

The basis of flows for this assessment would be the NRW's estimates of flow derived using the methods contained in the FEH.

Scenario	Description
<b>B (baseline)</b>	Baseline model, to represent conditions as at November 2012. Assumes no blockage of the culverts to the east of the Glasdir Estate.
<b>C</b>	As in Scenario B, but with the addition of a raised flood defence embankment / wall around the Glasdir Estate, with northern boundaries at the Ruthin Link Road.
<b>D</b>	As in Scenario B, but modelling 33%, 66% and 95% blockage of the culverts to the east of the Glasdir Estate.
<b>E</b>	As in Scenario B, but with an additional of a raised flood defence embankment / wall along the western bank of the River Clwyd, between Park Road and Ruthin Link Road.
<b>F</b>	As in Scenario B, but with the elevation of the spill area immediately to the north of Ruthin Link Road and to the west of the River Clwyd channel lowered to 52m AOD.
<b>G</b>	As in Scenario B, but with a 20m wide 'cattle creep' under Ruthin Link Road; drainage channels upstream and downstream of the 'cattle creep' to divert out-of-bank flow.
<b>H</b>	Removal of Ruthin Weir. Re-profiling of approximately 900m of channel, from downstream of Park Road to immediately downstream of Ruthin Weir, creating a constant gradient in order to increase channel capacity past Glasdir Estate.
<b>I</b>	Removing security screens from culverts adjacent to Glasdir. This will always be used in combination with other scenarios. This represents the present day conditions as screens were removed following the November 2012 event.

Table 2 - Model Scenarios



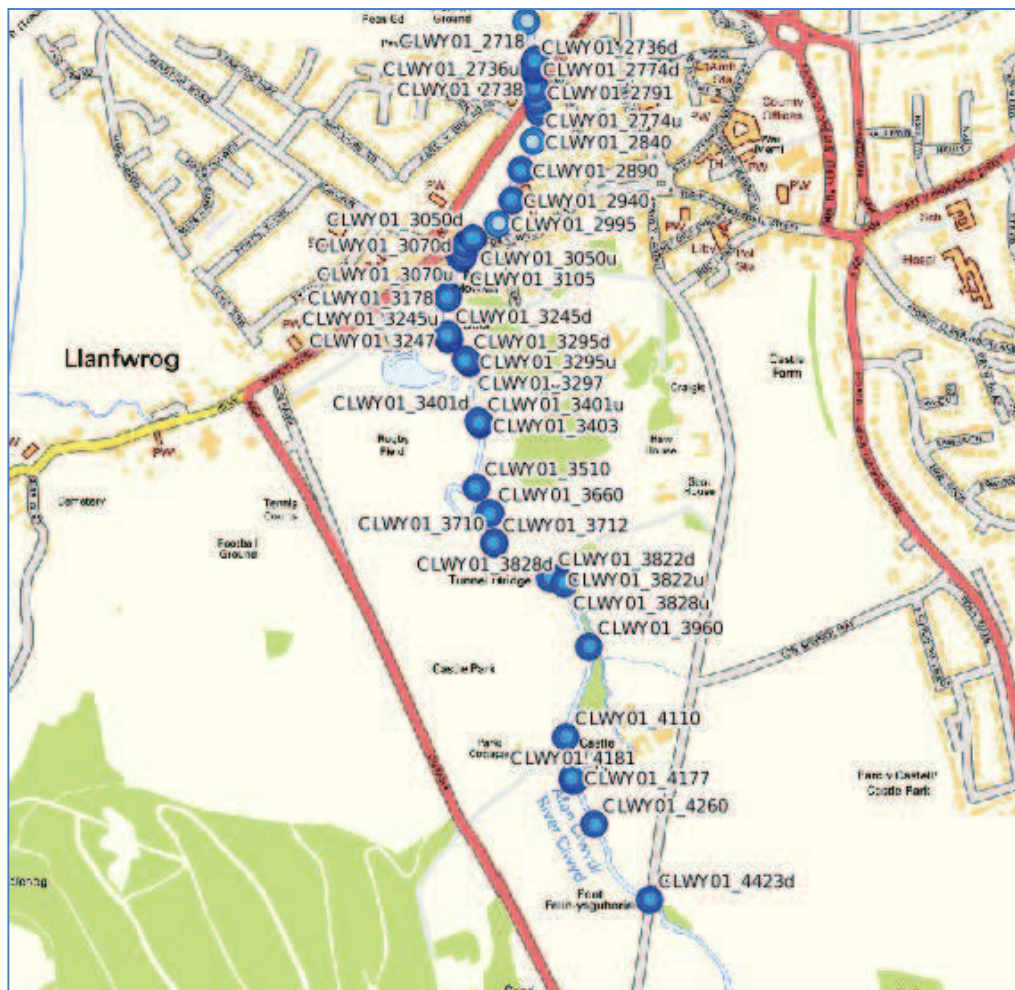


Figure 2 - ISIS Node Locations

### 3.3 Previous Modelling Work

The Independent review panel is aware that hydraulic modelling was undertaken by Capita Symonds for the Flood Consequence Assessment using an ESTRY-TUFLOW model which was built in 2004 / 2005. Unfortunately it has not been possible to obtain a copy of this model for assessment. It should also be noted that 1D-2D models such as ESTRY-TUFLOW were first introduced to the UK in 2003 / 2004 and that considerable progress has been made in relation to establishing best practice for 1D-2D modelling. In addition BMT WBM (the authors of TUFLOW) has also issued a number of software updates and revisions to improve the functionality of the program.

Figure 3 shows the existing TAN15 Development Advice Map (DAM) published by the Welsh Government. The maps are based on Environment Agency's extreme flood outlines (Zone C) and the British Geological Survey drift data (Zone B). Zone C data was revised in 2013. The mapping indicates that the Glasdir Estate is within the 1 in 1000 year floodplain. Current Environment Agency (EA) flood mapping identifies that the site is located within Flood Zone C1 (shown in Figure 4), indicating that the land here has a low probability of flooding from fluvial sources but does indicate that the Glasdir Estate is within the 1 in 1,000 year floodplain.

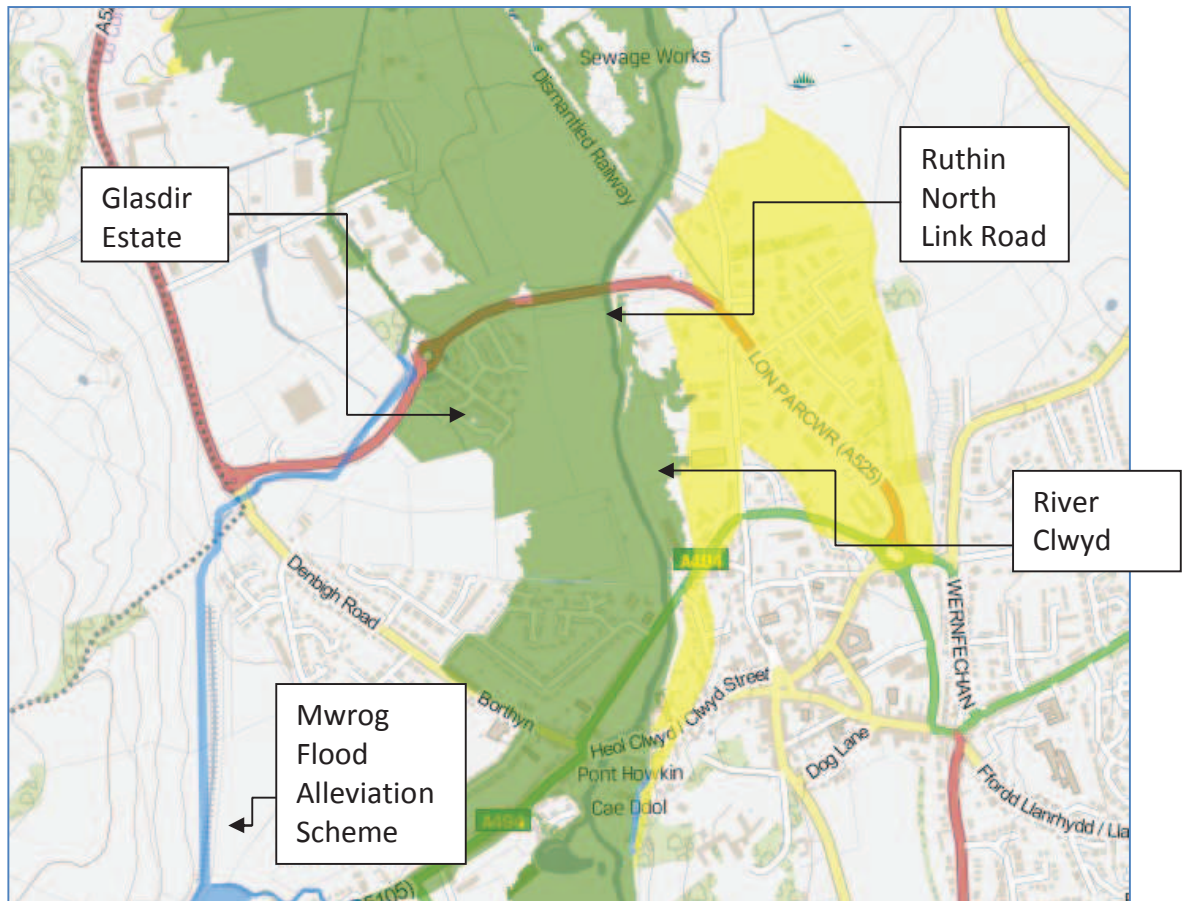


Figure 3 - TAN15 Development Advice Map (<http://data.wales.gov.uk/apps/floodmapping>)

Key to TAN15 Map

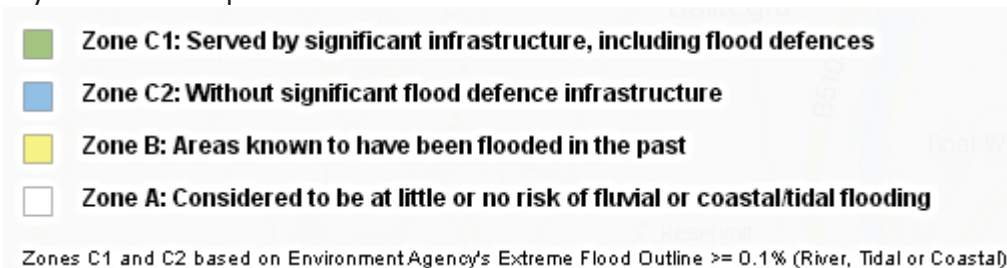




Figure 4 - EA Flood Map at location of site ([www.environment-agency.gov.uk](http://www.environment-agency.gov.uk))

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#### Key to EA Flood map

- Light blue shows the additional extent of an extreme flood from rivers or the sea. These outlying areas are likely to be affected by a major flood, with up to a 0.1 per cent (1 in 1000) chance of occurring each year.
- Dark blue shows the area that could be affected by flooding, either from rivers or the sea, if there were no flood defences. This area could be flooded from a river by a flood that has a 1 per cent (1 in 100) or greater chance of happening each year.
- Hatched areas benefit from the flood defences shown, in the event of a river flood with a 1 per cent (1 in 100) chance of happening each year. If the defences were not there, these areas would be flooded.

### 3.4 Model Review

The ISIS-TUFLOW-ESTRY model obtained for the purposes of this study was obtained from NRW in February 2013. It is understood that NRW had undertaken a considerable amount of work following the November 2012 flood event to improve the hydraulic model of Ruthin. The TAN 15 Development Advice Map shown in Figure 3 has not been updated as a result of this work.

The Independent Panel is also aware that JBA has been assisting NRW in developing the model, checking and review. Importantly, it is also recognised that further development continued after the model had been supplied to the Independent Review Panel. Accordingly the version of the model used by the Independent Review Panel may be at variance with the model used by NRW and JBA.

The hydraulic model developed by NRW / JBA incorporated the River Clwyd, Mwrog Flood Relief Channel and floodplains to the river. The model extends approximately 1 km upstream of Ruthin on the River Clwyd and 1.7 km downstream of Ruthin Weir. The 1D ISIS element of the model explicitly incorporated Ruthin Weir, the Mwrog flood diversion channel, bridges and culverts on the river system and the Ruthin Flood alleviation scheme (flood embankments / wall). The culverts below the Ruthin Link Road were represented in ESTRY. The floodplain and embankment for the Ruthin Link Road were represented within the 2D domain using LiDAR data.

No major errors were noted in the configuration of the model but it was considered that improvements to the model could be made to improve the numerical stability of the model and ensure that the model conformed to best practice. Particular attention was paid to sections of channel upstream of Ruthin Weir and the Glasdir Estate. Accordingly a series of amendments were made to the schematisation of the Flood Relief Channel and the River Clwyd. These changes are summarised as follows:-

- Amendments were made to the culverts beneath the Ruthin Link Road in order to better represent the performance of the culverts during high flow situations.
- Node chainage within the 1D ISIS model were reviewed and amended, with some adjustment to the equivalent ISIS chainage where deemed necessary. (It should be noted that in some instances there were discrepancies between the surveyor's estimate of open channel length and the length of open channel measured using GIS data. Therefore it was not always possible for the nodes to be positioned on the map at the distances recorded by the surveyor).
- Boundaries between 1D and 2D domains were relocated to ensure that the 1D – 2D boundary was at the top of embankments thus ensuring a better reflection of channel capacity. (Where this resulted in increasing the channel width in the 1D ISIS model the cross-section data was extended using original survey data or LiDAR).
- Removal of interpolates in the Flood Relief Channel to minimise short reaches in 1D schematisation.
- Addition of interpolates to River Clwyd to better represent rapid longitudinal changes in water surface (engineering options).
- Adjustment of cross-section panel markers to ensure correct conveyance calculations in 1D sections.
- Extension of the Glasdir defensive bund. The southern portion of this bund did not appear to have been included in the original model, and was extended based on survey data.
- Repositioning of defence lines to follow apparent alignment.
- Updated schematisation of Ruthin Weir to represent new weir configuration
- Amendment of defence heights in the vicinity of Ruthin Gaol.

- Uniform amendment of bridge to orifice transition distances to the 0.5m for bridges on the River Clwyd.
- Adjustment of cross-section at Park Road Bridge to reduce model instability.
- Removal of three bridge units in the vicinity of Cae Ddol to improve stability.
- Adjustment of spill elevations to match bridge deck heights.

### 3.5 Existing Standard of Service

#### 3.5.1 Strategic Context

As noted in Section 2 the use of FEH is important as it establishes a common standard for the evaluation of hydrology for flood risk and the assessment of the benefits associated with alleviation schemes. The FEH methodology is also used as the primary source of flow information associated with the development control, flood risk mapping, and for the generation of flood flows within a Flood Consequence Assessment. The FEH estimates of flow and storm duration used for the hydraulic modelling to assess the existing standard of service are based upon the information provided by NRW and shown in Figure 5.

However, it should be noted that the flow estimates were derived in 2012 using the latest version of FEH and not the version used in 2004 / 2005 which would have been used for the generation of the Flood Consequence Assessment. The results contained in this section reflect the current understanding of flood risk to the Glasdir development.

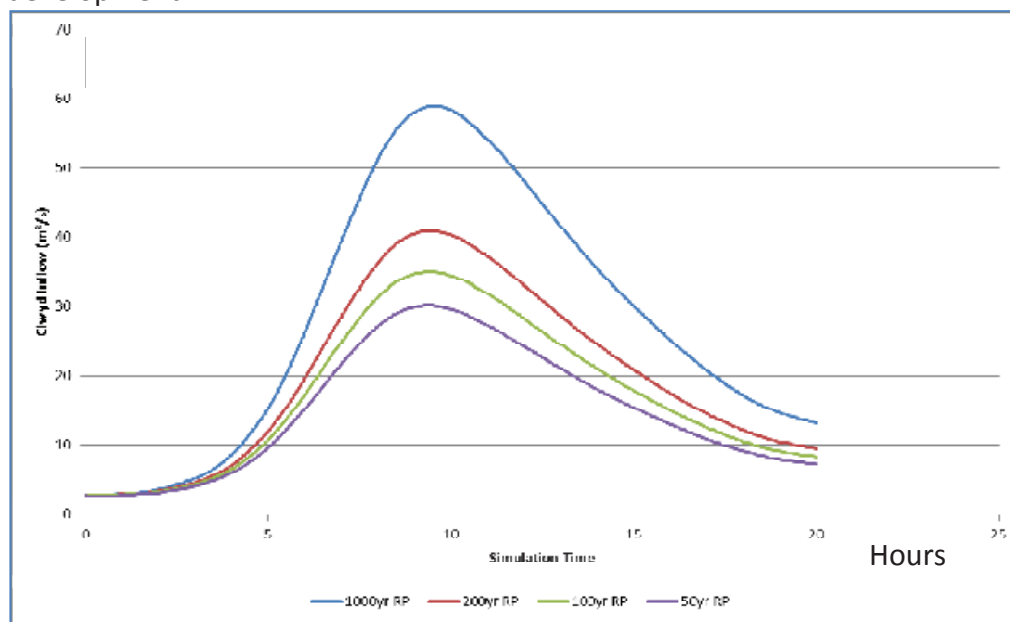


Figure 5 - Design event inflows to River Clwyd (inflow CLWY01-4423D)

#### 3.5.2 Hydraulic Model Results

Figure 6 to Figure 8 show the results of the hydraulic modelling for a 1 in 100 year event, 1 in 100 year event with an allowance for climate change, and the 1 in 1000 year event. The modelling assumes that there is no blockage of the culverts passing under the Ruthin Link Road and is therefore commensurate with the requirements for Development Advice Mapping. Importantly the mapping indicates that the

Glasdir Estate would be inundated during a 1 in 1000 year event. The modelling includes the topography of the estate and the existing flood embankment.



Figure 6 - Design hydrology; Q = 1 in 100 years, 35.2 m<sup>3</sup>/s Blockage = 0%: (Scenario B)



Figure 7 - Design Hydrology; Q = 1 in 100 years plus Climate Change, 42.1m<sup>3</sup>/s Blockage = 0% (Scenario B)



Figure 8 - Design hydrology; Q = 1 in 1000 years, 59.2 m<sup>3</sup>/s: Blockage = 0% (Scenario B)

## 3.6 November 2012

### 3.6.1 Context

Preliminary model runs with the reviewed and amended ISIS-TUFLOW model using the JBA inflow hydrograph indicated that:-

- The extent of flooding to the Glasdir Estate was sensitive to blockage at the culverts below the Ruthin Link Road.
- Applying the JBA inflow and hydrograph to the model produced a greater extent of flooding than recorded in November 2012.
- There was considerable bypassing of flow around Ruthin Weir gauging station which commenced at approximately 17 m<sup>3</sup>/s (at Ruthin Weir).

JBA suggest that "event hydrology and blockage are considered to be the two most uncertain elements of the assessment"; such uncertainty has also been highlighted in Section 2 of this report. A series of model runs were therefore undertaken using baseline Scenario B which was representative of conditions as of November 2012. In



order to explore the sensitivities described above, evaluate flooding mechanisms and assess the reliability of Ruthin Gauge for calibration, a range flow hydrographs were scaled from the information provided by JBA. In addition blockage was applied to the culverts below the Ruthin Link Road (commensurate with the guidance in the Trash Screen Design Manual).

The matrix of runs associated with flow and blockage is shown in Table 3 and the hydrographs of the scaled flows is shown in Figure 9. Ninety-five per cent blockage represents the fully blocked scenario. A selection of model results is given in subsequent sections.

Blockage	Inflow = 100% 44.9 m <sup>3</sup> /s	Inflow = 90% 40.4 m <sup>3</sup> /s	Inflow = 80% 35.9 m <sup>3</sup> /s	Inflow = 70% 31.4 m <sup>3</sup> /s	Inflow = 50% 22.5 m <sup>3</sup> /s
0%	y	y	y	y	y
33%	y	y	y	y	y
66%	y	y	y	y	y
95%	y	y	y	y	y

Table 3 - Summary of November 2012 event hydrology model runs Inflows relate to CLWY-4430

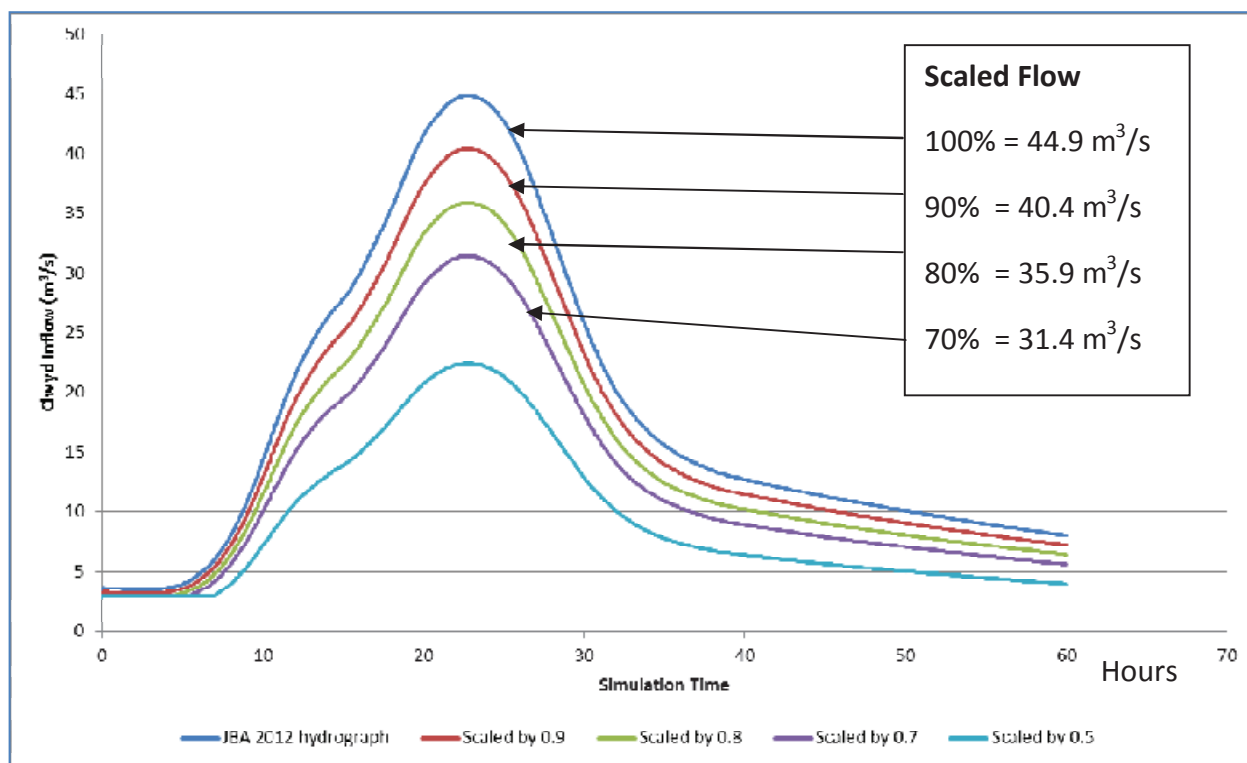


Figure 9 - Scaled Flows Used for Flow Sensitivity

### 3.6.2 Ruthin Weir Gauge

Ruthin Weir has been used extensively in previous projects to provide hydrological information (such as QMED) and as a tool for the calibration of hydraulic models. Section 2 discussed the inherent uncertainties associated with the use of Ruthin Weir within the hydrological analysis.

Figure 10 and Figure 11 shows a comparison of the observed stage levels at Ruthin Weir by comparison to the modelled results. The observed stage data is given as the red undulating line and the graph also shows a range of modelled output for the scenarios shown in Table 4. Based on this information a number of observations can be made in relation to the use of Ruthin Weir for calibration.

Firstly, irrespective of flow and blockage, it is notable that the response at the Ruthin Weir is largely similar in all modelled scenarios with peak water levels within 50 mm. This is certainly caused by extensive bypassing of the gauge upstream of the weir and the effect of the access bridge upstream of the gauge. As such, inflows at ISIS node CLWY01-4433D of 35.9 m<sup>3</sup>/s and 44.9 m<sup>3</sup>/s, which represent a divergence of 25%, in flow are only separated by a stage difference of approximately 30mm.

Secondly, all the results fall within the accepted model accuracy of ±150mm and any of the modelled results for the scenarios shown in Table 4 could, in other circumstances, be considered as a “fit”. Thirdly, both figures indicate that peak water levels at the gauge are affected by the amount of blockage to the culverts under the Ruthin Link Road. Based on these three observations it is considered that Ruthin Weir Gauge should not be used for calibration purposes and that calibration should be based on the observed flood outline.

Blockage	Inflow = 100% 44.9 m <sup>3</sup> /s	Inflow = 90% 40.4 m <sup>3</sup> /s	Inflow = 80% 35.9 m <sup>3</sup> /s	Inflow = 70% 31.4 m <sup>3</sup> /s
66%	y	y	y	y
95%	y	y	y	y

Table 4 - Summary of data given in Figure 10

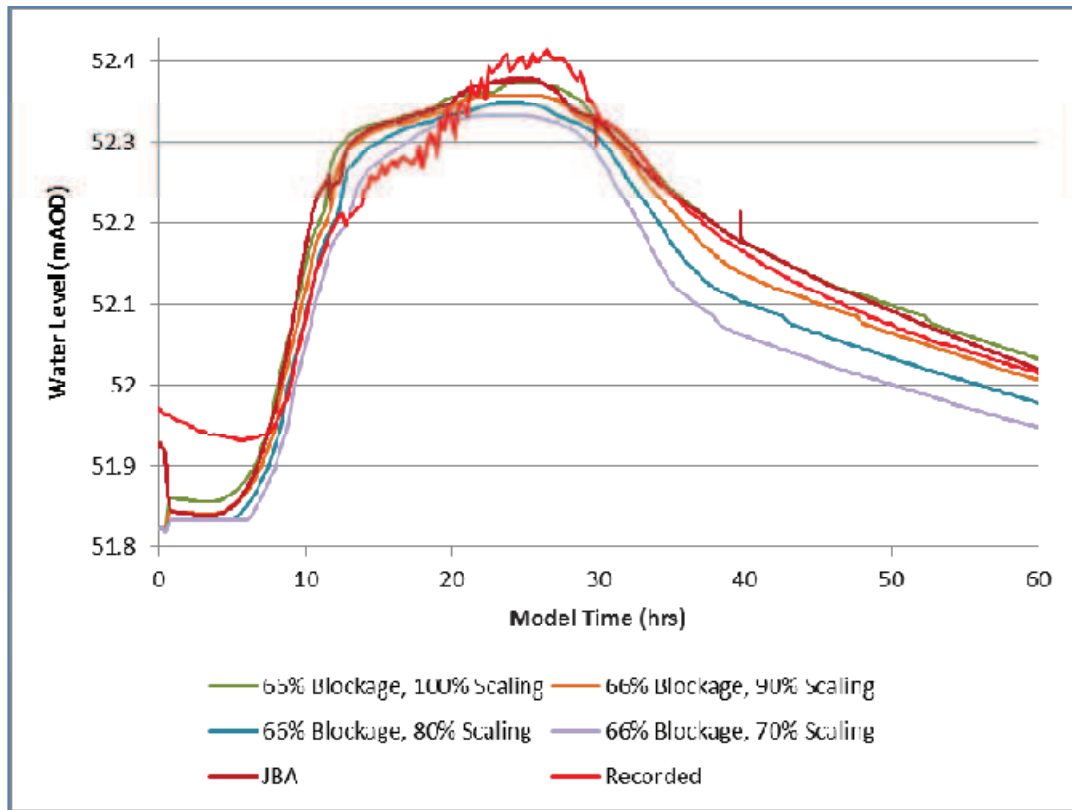


Figure 10 - Response at Ruthin Weir: Sensitivity to Flow with 66% Blockage

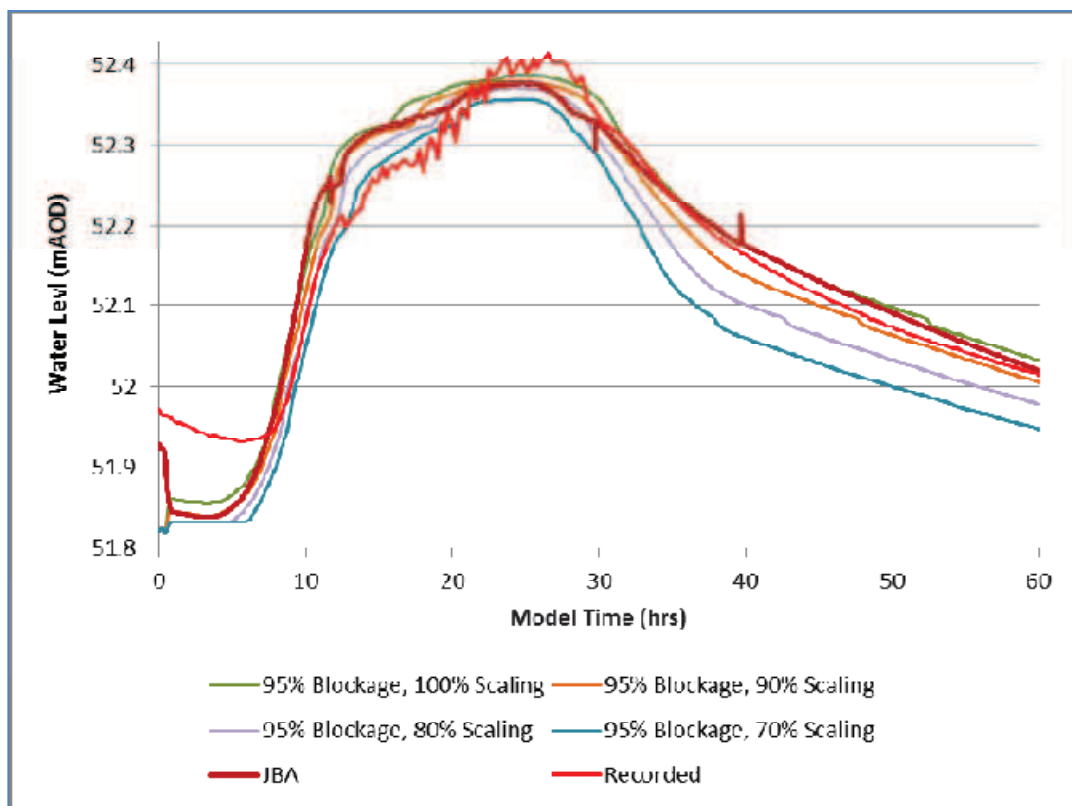


Figure 11 - Response at Ruthin Weir: Sensitivity to Flow with 95% Blockage

### 3.6.3 Aerial Photography

In order to assess the reliability of the model the output was compared against photographic evidence obtained during and after the peak of flooding. Plate 8 to Plate 11 show a series of stills captured from the aerial photography flown on the 27 November. The aerial photography shows a number of important features associated with the flood mechanism including:-

- Attenuation of flood water behind the causeway formed by the Ruthin Link Road.
- Reduced water levels downstream of the link road.
- Overtopping of the flood embankment bordering the estate.
- Flooding to the majority of the Glasdir Estate.
- No flooding adjacent to the Fire Station and the fields on the left bank directly downstream of Park Road.

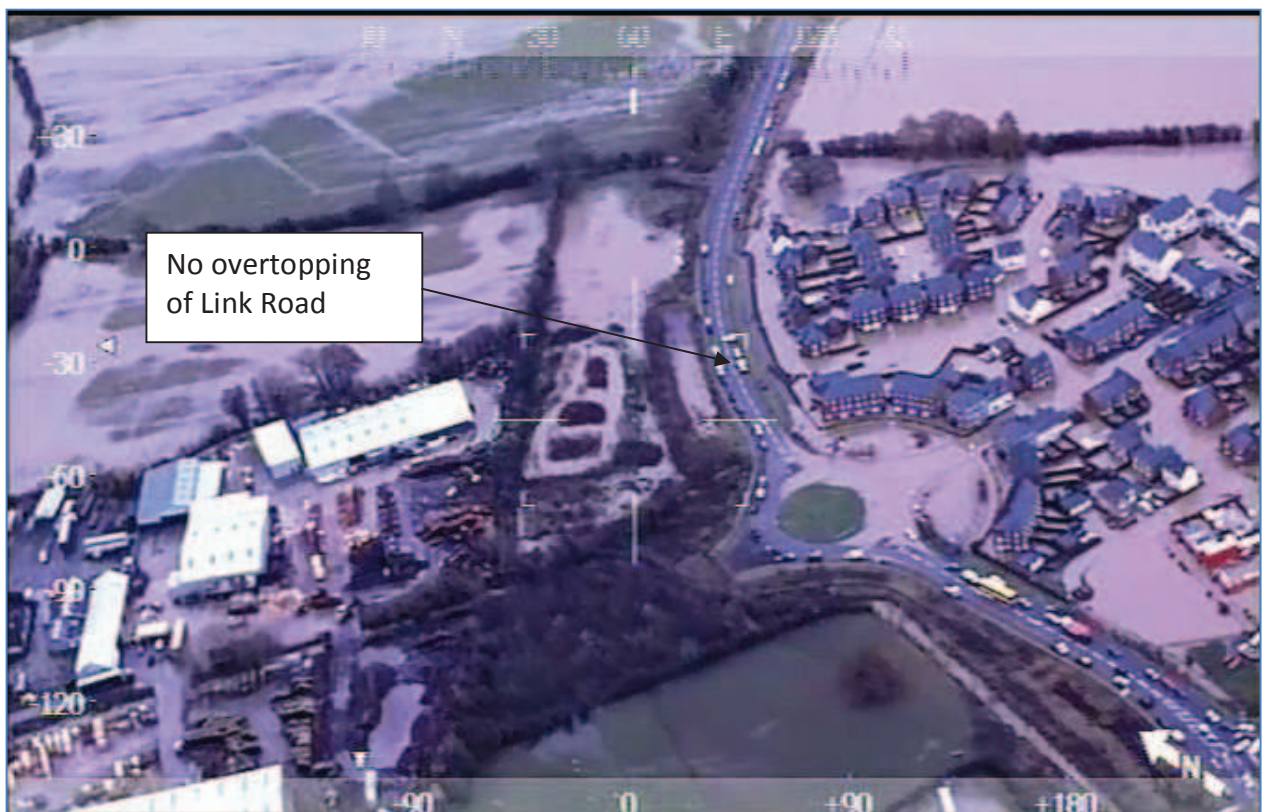


Plate 8 - November 2012 flooding to Glasdir

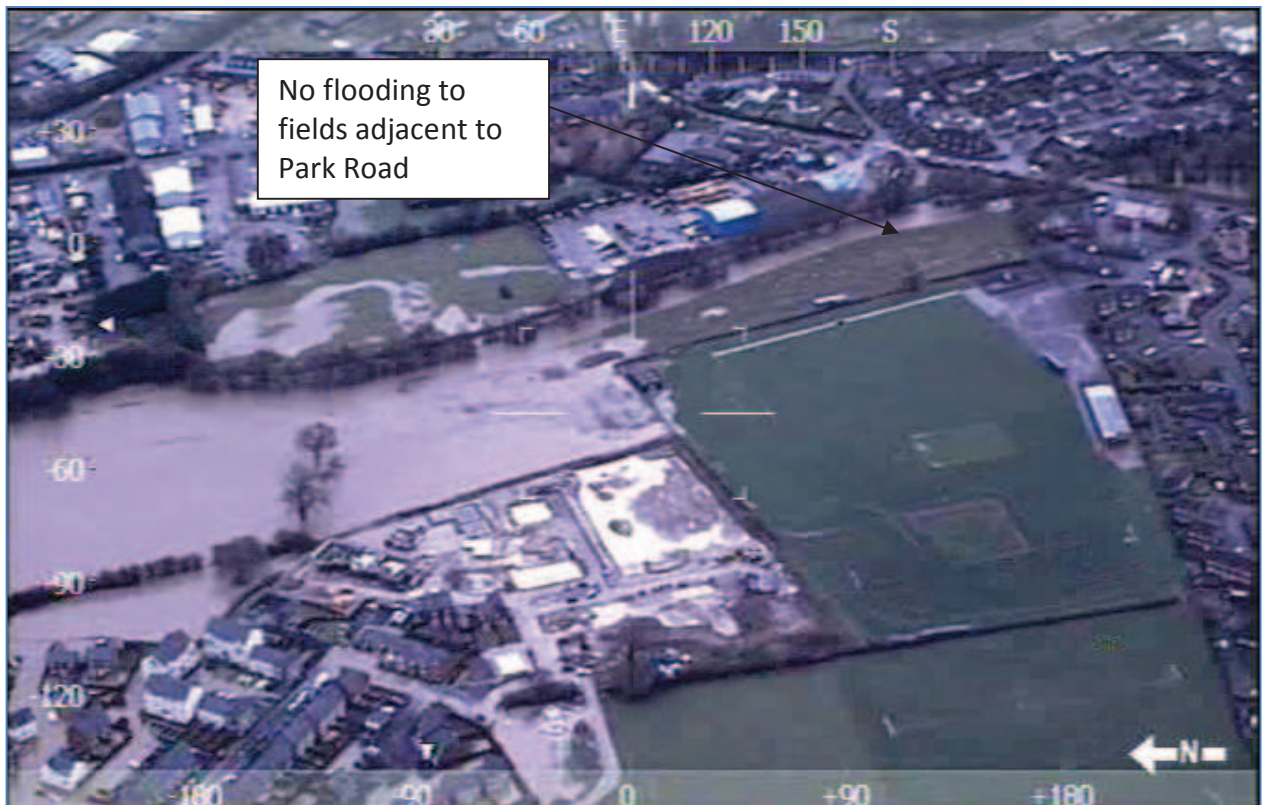


Plate 9 - November 2012 flooding to Glasdir (view from west)



Plate 10 - November 2012 flooding to Glasdir (view from east)



Plate 11 - November 2012 flooding to Glasdir (view of Glasdir)

### 3.6.4 Sensitivity to Flow

Figure 12 to 14 show the sensitivity of the model to inflows. Figure 12 and Figure 13 show the results of the 70% and 80% scaling of the JBA hydrology which represents an inflow at ISIS node CLWY01-4423D of  $Q = 31.4 \text{ m}^3/\text{s}$  and  $Q = 35.9 \text{ m}^3/\text{s}$ . The animation of these events shows water overtopping the left bank, flowing across the field and over the flood embankment adjacent to the estate. Critically the field upstream of the site and the properties in Cae Seren and Parc-y-Dre Road are not flooded and the extent of flooding generally agrees with the aerial photography (see Plate 9 in particular).

In contrast Figure 14 shows the field upstream of the site and the properties in Cae Seren and Parc-y-Dre Road as flooded. In addition there, is extensive flooding to the right bank of the River Clwyd. Whilst the aerial photography does indicate some flooding to the right bank the amount is not as extensive as that for the 90% scaling (inflow at ISIS node CLWY01-4423D =  $40.4 \text{ m}^3/\text{s}$ ). The modelling for this combination of flow and blockage indicates that flooding is partly the result of overtopping to the Ruthin Flood defences. Overtopping of the defences creates a flow path across Park Road Bridge, inundating the football pitches south of Glasdir and the trading estate east of the River Clwyd. This was neither observed during the November 2012 flood event, nor does it appear in the calibrated JBA model outlines.

An inflow of  $Q = 40.4 \text{ m}^3/\text{s}$  would be slightly less than a 1 in 100 year event plus a 20% allowance for climate change ( $Q = 42.24 \text{ m}^3/\text{s}$  based on the NRW hydrology) and it is assumed that flood defences in Ruthin which were installed in 2003 could potentially be overtopped at flood flows greater than the design standard for the defences.

Accordingly it is considered that the flood flows experienced in November 2012 were between  $35.9 \text{ m}^3/\text{s}$  and  $40.4 \text{ m}^3/\text{s}$ .

### 3.6.5 Sensitivity to Blockage

Figure 15 to Figure 17 show the sensitivity of flooding to the Glasdir Estate as a result of blockage to the culverts which flow under the Ruthin Link Road. At blockage levels of 0% and 33%, the Glasdir Estate is not shown to flood. This indicates that blockage to the screens *was* a factor in the flooding that occurred in November 2012, and the screens were blocked by greater than 33%.

Between 66% and 95% blockage, significant flooding does occur and flood extents within Glasdir are largely similar to those observed during the event and as shown in Plate 8 to Plate 11. It is likely that blockage at the screens was in the order of 66% to 95%.



Figure 12 - Sensitivity to flow: November 2012 hydrology; blockage 95%; 70% scaling to JBA  $31.4 \text{ m}^3/\text{s}$



Figure 13 - Sensitivity to flow: November 2012 hydrology; blockage 95%; 80% scaling to JBA 35.9 m<sup>3</sup>/s



Figure 14 - Sensitivity to Flow: November 2012 hydrology; blockage 95%; 100% scaling to JBA 44.9 m<sup>3</sup>/s





Figure 15 - Sensitivity to blockage: November 2012 hydrology;  $Q = 35.9 \text{ m}^3/\text{s} = 80\%$  scaling 33% blockage



Figure 16 - Sensitivity to blockage: November 2012 hydrology;  $Q = 35.9 \text{ m}^3/\text{s} = 80\%$  scaling 66% blockage



Figure 17 - Sensitivity to blockage: November 2012 hydrology; Q = 35.9 m<sup>3</sup>/s = 80% scaling 95% blockage

### 3.6.6 Assessment of Event Return Period (27 November 2012)

Unfortunately there is no definitive information associated with blockage or indeed the flood flow experienced on the 27 November 2012. Accordingly it is only possible to give a range of possible combinations (flow and blockage) which resulted in flooding to the Glasdir Estate. Based on the hydraulic modelling and through comparison with the aerial photography it has been concluded that on the 27 November:-

1. Inflow at ISIS node CLWY01-4423D was between 35.9 m<sup>3</sup>/s and 40.4 m<sup>3</sup>/s.
2. Blockage at the screen was between 66% and 95%.

In order to better understand the scope and magnitude of the event on the 27 November 2012, Figure 18 shows a comparison of:

- A 1 in 100 year event using the NRW FEH hydrology in combination with a 95% blockage under the Ruthin Link Road.
- An Inflow at ISIS node CLWY01-4423D of 35.9 m<sup>3</sup>/s in combination with 95% blockage of the culverts under the Ruthin Link Road (Figure 17).

There is good agreement between the November 2012 event, the 1 in 100 year modelling and the observed flooding as shown by the aerial photography. Accordingly, it is considered that the return period of the November 2012 is equivalent to approximately 1 in 100 years. However, it should be noted that this result is subject to

some uncertainty and other combinations of higher flow / higher return period and reduced blockage could produce a similar flood outline.

### 3.6.7 Commentary

It is apparent that different combinations of blockages and inflows can result in similar modelled extents and this highlights the uncertainty of these factors in contributing to the Glasdir flooding.

Using the original 100% scaled inflows, the model outputs from this study show flooding to impact a significantly larger area than was observed during November 2012; at the equivalent blockage level, the mapped extents are also greater than those shown by JBA's calibrated model. However, it should be recognised that an inflow of 44.9 m<sup>3</sup>/s at ISIS node CLWY01-4423D would exceed a 1 in 100 year event with a 20% allowance for climate change. Overtopping of the flood defences in Ruthin would probably be expected assuming that the standard of service for the defences is 1 in 100 year event with a 20% allowance for climate change.

This difference may also be a result of different schematisation of bridges, structures and defences; of particular influence may be the revised bank top survey referred to in the JBA report, although the nature of this survey is not specified. By scaling the model inflows, this additional area of flood extent is not produced. In particular, a 80% scaled inflow applied with 95% culvert blockage produces mapped extents which are notably similar to those observed during November 2012 event. The similarity between the 80% scaled inflow and the NRW design hydrology for the 1 in 100 year event suggests, therefore, that the November 2012 event may have been close to this return period.

At the 95% blockage level, Ruthin Link Road is flooded and reduced extents are seen downstream of the road than was observed during the November 2012 event. This may be a result of water becoming impounded by the blockage and thus higher levels within the estate cause the Link Road to overtop; consequently, upstream storage results in a decreased flooding to the fields immediately downstream of the Link Road. On this basis, it can be reasoned that the likely blockage level during the November 2012 event was between 66% and 95%.



Figure 18 - Comparison of event hydrology scaled to 80% & NRW design hydrology Q100, both with 95% blockage

### 3.7 Effectiveness of security screen removal

Following the November 2012 flood event, the security screens across the five culverts under Ruthin Link Road were removed. The effectiveness of this measure was assessed by adjusting the 1D ESTRY section of the model, which is used to represent the presence of these culverts. NRW determined that the screens reduced the area of the culvert inlet by 19%, and subsequent blockage calculations have been adjusted accordingly.

The impact of security screen removal, represented by Scenario iB, was compared against the baseline Scenario B. Difference plots, which contrast changes in flood level between two events, show that removal of the screens generally tends to decrease both flood extent and flood depth upstream of the Ruthin Link Road. Shallow

decreases to flood depth are identified in the field north of the Link Road, close to the culvert outlets. Difference plots for the 1 in 100 year and 1 in 1000 year return periods are shown in Figure 19 and 20.

Figure 21 shows the impact of removing the screens in conjunction with a 66% blockage during the 1 in 100 year design event, removal of the screens prevents flooding to Glasdir as well as reducing levels in the adjacent field. This suggests that a small difference in total blockage at around this level is an important factor in determining whether the defensive bund is overtopped.

Blockage (%)	Blockage within ESTRY Including Screens	Blockage within ESTRY Excluding Screens
0	0	0
33	46	33
66	73	66
95	95.5	95

Table 5 - variation to blockage proportions in 1D ESTRY element of model

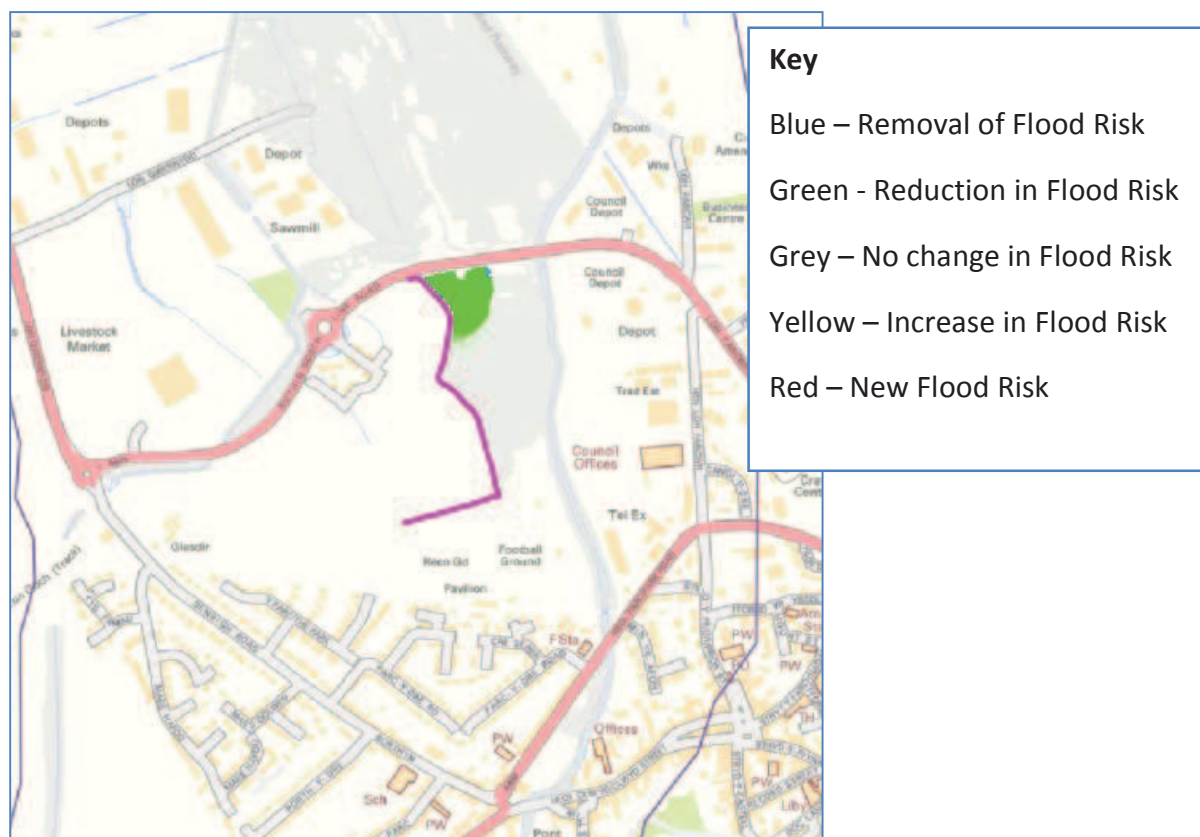


Figure 19 - Difference plot showing impact of screen removal during the Q100 design event, zero blockage

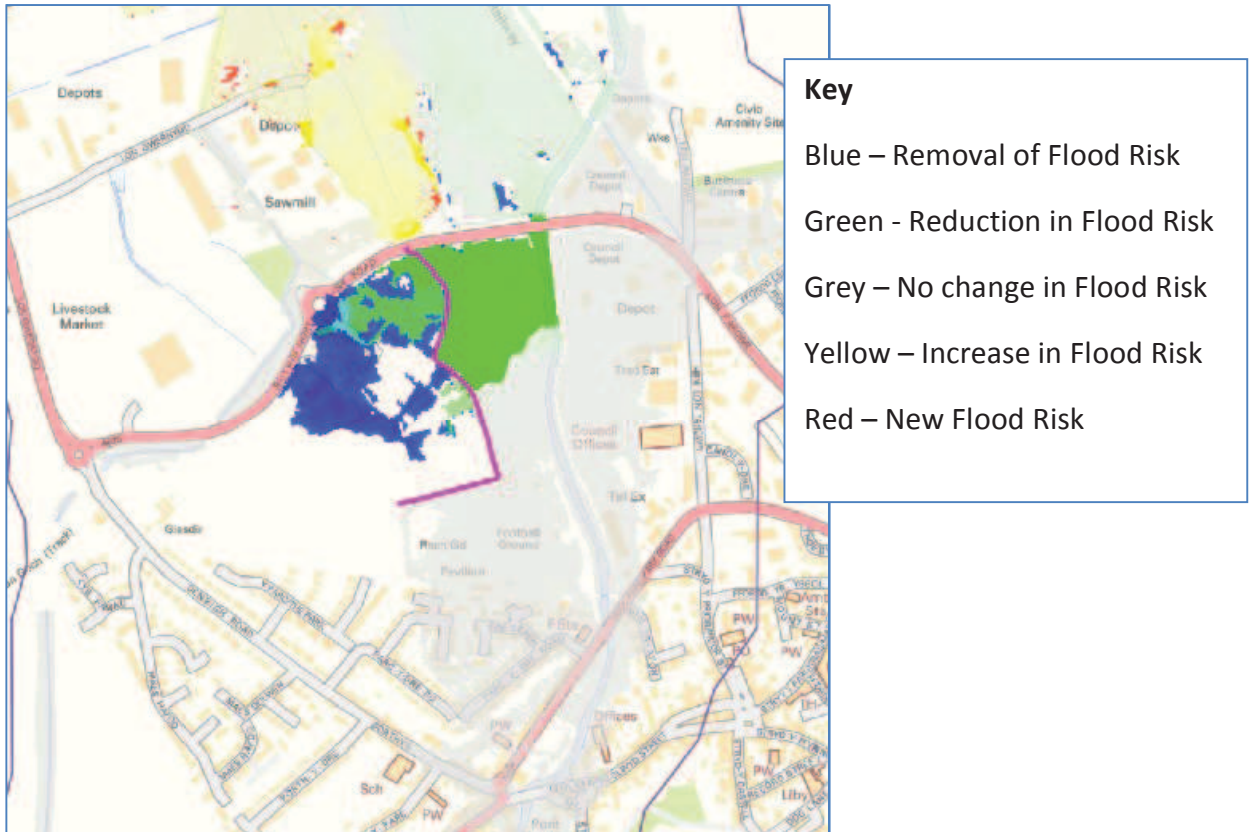


Figure 20 - Difference plot showing impact of screen removal during the Q1000 design event, zero blockage

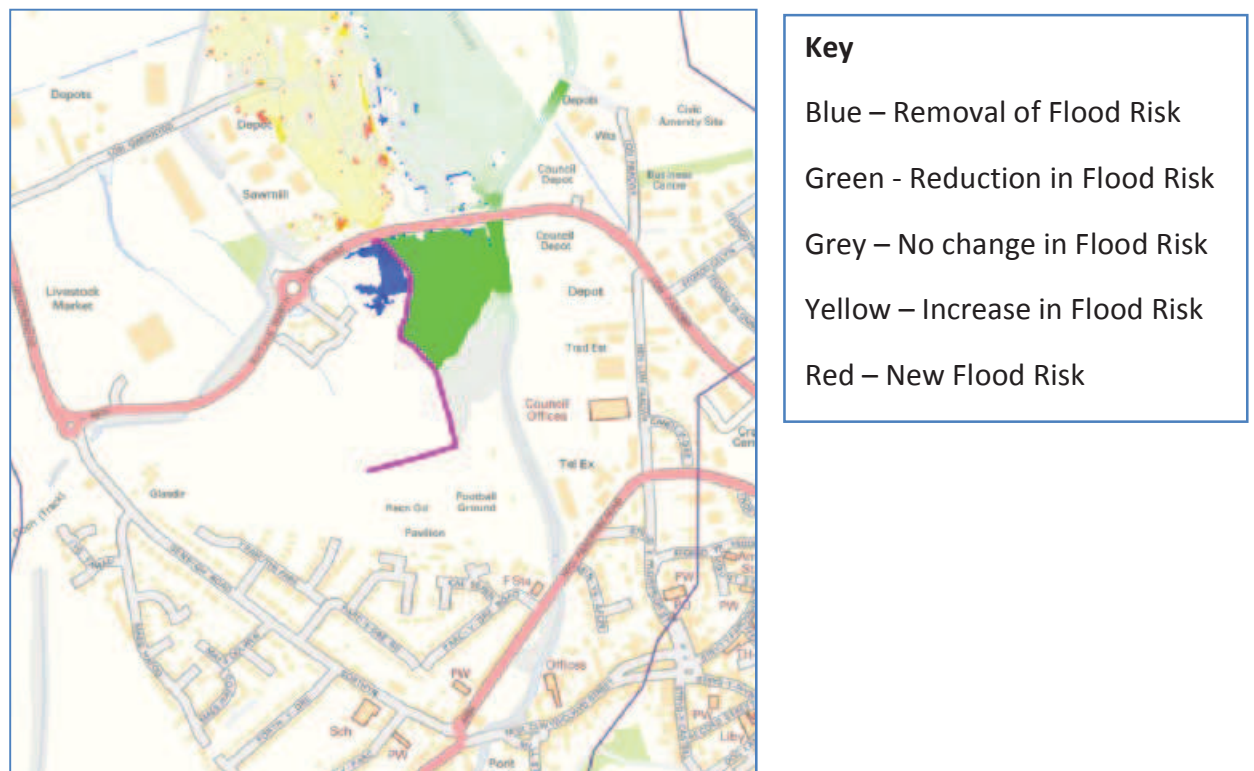


Figure 21 - Difference plot showing impact of screen removal during 1 in 100 year event, 66% blockage

### 3.8 Conclusions

The removal of the screens tends to result in a decrease to flood depths within Glasdir estate and in the adjacent field upstream of the Ruthin Link Road. Screen removal reduces the risk of flooding to the estate for a 1 in 100 year event in combination with 66% blockage to the culverts under the Ruthin Link Road. Levels in the fields to the north of Ruthin Link Road tend to show a small increase in flood depth, which is likely to be a result of the increased culvert capacity channelling water into these fields.

The results therefore indicate that removal of the screens is generally beneficial to Glasdir, although may only prevent flooding in limited cases.

### 3.9 Summary

On the 27 November 2012 the Glasdir Estate in Ruthin was subject to significant flooding from the River Clwyd which resulted in significant damage to property within the estate and loss of personal possessions. In order to gain a better understanding of the causes of the flooding the Independent Review Panel has undertaken a review of the hydrology (rainfall and river flows) and carried out hydraulic modelling of the River Clwyd, the Mwrog Flood Alleviation scheme and infrastructure (e.g. roads, bridges, weirs, flood defences etc.) in the vicinity of Ruthin and the Glasdir Estate. In addition, hydraulic modelling has also been undertaken to consider engineering options to mitigate flood risk to the Glasdir Estate.

Analysis of rain gauges and rainfall radar undertaken by NRW indicated that rainfall across the Clwyd and Elwy Rainfall totals for the month up to 26 November were not unusual, if looked at without any further information and were in-line with the Long Term Averages for that month. However, rainfall totals for the 7 days leading up to the 26 November were particularly high, with totals on the 26 November significantly so.

As a result, rainfall fell on heavily saturated ground and the response of the rivers within the catchment was affected by higher than normal rates of run-off. Accordingly, flows in the rivers systems were elevated above flow rates for the rainfall return period experienced on the 27 November. Evaluation of information provided by NRW in conjunction with hydraulic modelling indicates that peak flows in the River Clwyd upstream of Ruthin were probably between 35.9 m<sup>3</sup>/s and 40.4 m<sup>3</sup>/s on the 27 November.

The Flood Estimation Handbook (FEH) is used to estimate river flows within the UK for a wide range of fluvial problems including the design of flood alleviation schemes and flood risk mapping. Importantly it is also used to provide estimates of flow for use in hydraulic models to prepare Flood Consequence Assessments (FCA) which are an important element of the planning process. The FEH is a nationally accepted standard.

NRW provided hydrological analysis for review by the Independent Panel. The technique used by the NRW was based on the FEH and the application of these techniques was considered to be sound. This method relies on the collation of hydrologically similar catchments and uses statistical methods to produce estimates of extreme flow including the 1 in 100 return period flows.

The use of a statistics means that there is inherent uncertainty in the estimates produced by FEH. Indeed it is recognised that at high return periods such as the 1 in 1000 year return period the accuracy of flow estimates can be plus or minus 20%. The accuracy of the statistical method is dependent on the quality of data available to the hydrologist and can be significantly improved by including gauging stations within the actual catchment under consideration. Accordingly the review included consideration of the information at Ruthin Weir Gauge which is very close to the Glasdir Estate.

However, it was concluded that flow data recovered from Ruthin Weir should be used with caution because:-

- At high flows the gauge is bypassed by flood water coming out of the channel. The gauge does not therefore register all flows within the river and across the floodplain.
- There was uncertainty in the evaluation of QMED which is a key parameter used within the FEH Statistical Method to assess extreme flows. Evaluation of the information provided by NRW indicated that QMED could fall within a range.
- The response of the level gauge at Ruthin Weir is dependent on the degree of blockage at the culverts below the Ruthin Link Road
- There has been considerable change upstream of the weir in the past ten years including the construction of the Mwrog Flood Alleviation Scheme, the installation of the Ruthin Flood Defences, the construction of the Ruthin Link Road which truncated the floodplain and modifications to the weir.

It is considered that the NRW made appropriate assumptions based on the information available to the authority but it is recommended that NRW confirm whether their calculations include consideration of the changes upstream and undertake a review of the level vs. flow (stage discharge) relationship at Ruthin Weir to confirm / improve the accuracy of the flow estimates.

The hydraulic model was run with a range of return periods using the NRW hydrology and the results of the modelling are commensurate with aerial photography and anecdotal information on flooding. Animation of the model indicates that flood waters leave the channel upstream of the Ruthin Link Road and flow across the field where they collect behind the Ruthin Link Road. The Link Road forms an impoundment across the flood plain and flood water collecting on the upstream side of the highway is discharged through the culverts to the downstream side of the Link Road.

The hydraulic modelling included an assessment of the impact of blockage to the security screens and the culverts. As a result a number of conclusions could be reached about the November 2012 event. This includes:-

- Based on the NRW hydrology, the results of the hydraulic modelling and taking into account uncertainty, it is estimated that the flow return period associated with the November 2012 event was between 1 in 100 year and 1 in 200 year. However, it is considered that it is likely that the actual return period was biased towards 1 in 100 year event.



- Blockage on the Ruthin Link Road Culverts was a significant factor in relation to flooding to the estate. The hydraulic model indicated that blockage to the culvert was between 66% and 95% of the cross section area of the culverts.
- The security screens had a negative impact on flooding to the Glasdir Estate.
- Based on the NRW hydrology the Glasdir Estate would have been inundated in a 1 in 1000 year event without blockage to the Ruthin Link Road culverts.

## 4 Engineering Options

### 4.1 Introduction

A series of engineering options were modelled to assess their effectiveness in mitigating the risk of flooding to the Glasdir Estate. These options are summarised in Table 6 and are discussed in further detail in the following sections. It should be noted that the engineering options considered in this report have not been explored in the detail required in a Flooding Project Appraisal which would require more extensive modelling, an economic analysis (benefit cost analysis) to identify the optimal economic solution and additional studies associated with Environmental Impact.

Engineering options were modelled individually using a 9.5 hour storm, for a 1 in 100 years return period with an allowance for climate change. The inflow is based on the design hydrology derived by NRW. The target standard of service associated with the engineering options is commensurate with the appropriate standard of service which is a return period of 1 in 100 years plus an allowance for climate change and a freeboard of 0.6m. It should also be noted that, during this part of the investigation, all scenarios were modelled with the exclusion of the culvert security screens but with the culverts blocked to 95%.

### 4.2 Maintain to a Better Standard

The option is based upon the implementation of an effective maintenance regime to ensure that blockage by vegetation or deposition will reduce problems associated with the reduction in the hydraulic capacity of bridge structures, culverts and highway drainage systems. This is particularly important for the culverts below the Ruthin Link Road at Glasdir but should encompass the management of the flood defences in Ruthin, Ruthin Weir, the Flood Alleviation Scheme and bridges on the River Clwyd.

In addition, a site inspection of the River Clwyd indicated that the watercourse is, in some places, overgrown and includes debris within the river and this has an adverse impact on the water levels during extreme event. Maintenance would include regular inspection, tree works, jetting and clearance of gravel and also assumes enforcement of Notices served under the Land Drainage Act upstream of each of the above structures. The justification for the activities is to maintain the flow capacity within the channel, thus reducing the number of times the river water spills onto the flood plain. Additionally reduction in vegetation and debris which can be carried along on a flood flow will reduce the chances of blockages.

In the context of blockage by trees, maintaining to a better standard would entail implementing good arboricultural practice which includes surveys for root-plate

stability of the larger specimens, selective thinning and coppicing of the developing scrub to increase vigour, thinning for better specimens, removal of non-native species and improvement of the stand for amenity, bank stability and biodiversity purposes. Removal of major fallen dead-wood, obstacles and other debris are desirable. The objective of these works would be to reduce the amount of woody debris liberated in flood conditions which could accumulate on the bridges or sewers.

This will entail a partnership approach which should include the major stakeholders; Flood wardens, Glasdir and Ruthin residents, Denbighshire County Council and NRW.

Option	Scenario	Description
0	B (baseline)	Baseline model, to represent conditions as at November 2012. Assumes no blockage of the culverts to the east of the Glasdir Estate.
1		Install Trash Screen and maintain to a better standard.
2	C / D	As in Scenario B, but with the addition of a raised flood defence embankment / wall around the Glasdir Estate, with northern boundaries at the Ruthin Link Road.
3	E	As in Scenario B, but with an addition of a raised flood defence embankment / wall along the western bank of the River Clwyd, between Park Road and Ruthin Link Road.
4	F	As in Scenario B, but with the elevation of the spill area immediately to the north of Ruthin Link Road and to the west of the River Clwyd channel lowered to 52m AOD.
5	G	As in Scenario B, but with a 20m wide 'cattle creep' under Ruthin Link Road; drainage channels upstream and downstream of the 'cattle creep' to divert out-of-bank flow.
6	H	Removal of Ruthin Weir. Re-profiling of approximately 900m of channel, from downstream of Park Road to immediately downstream of Ruthin Weir, creating a constant gradient in order to increase channel capacity past Glasdir Estate.

Table 6 - Summary of the modelled engineering options around the Glasdir Estate

### 4.3 Option 1 – Install Trash / Debris Screens

Edenvale Young has undertaken a large number of Flooding Pre-feasibility (250) and Flooding Project Appraisal Studies for Local Authorities in Wales including Powys County Council (40) and Caerphilly Borough Council (20), Cardiff City Council (2) and the Vale of Glamorgan (1). Of the 33 first stage Project Appraisal for Powys County Council, 23 or (73%) of the sites had blockage as the primary or secondary flooding mechanism in conjunction with high rates of flow. A large number of the sites included trash screens, culverts, and medium sized bridges which are vulnerable to blockage.

In Caerphilly Borough 9 of the 16 (56%) Project Appraisal Study sites were flooded as a result of high flows and blockage and combining the Caerphilly and Powys, data with projects in Cardiff, the Vale of Glamorgan and Ribchester gives a total of 52 sites of which for 34 or 65%, flooding was caused by blockage. On a nationwide basis the Welsh Government has calculated that approximately 60% of all flooding problems on ordinary watercourses in Wales relates to the blockage of culverts.

Experience within Powys County Council and elsewhere indicates that if a culvert entrance is well designed and if access for maintenance purposes is good then the residual risk of flooding as a result of blockage by vegetation and other debris can be reduced. Such measures include trash screens, gravel traps, high level alarms and upstream vegetation posts.

However, it should also be noted that the risk of flooding at a site which is formally maintained is dependent upon an authority's ability to react and respond to an event. The 2000 event stretched Powys County Council's resources significantly and countywide they distributed over 80,000 sandbags. Emergency resources are finite and that with a high return period event countywide Local Authorities such as Denbighshire may not be able to respond or react to all reports of culvert blockage particularly if this is at night.



Plate 12 - Vegetation Posts on the River Ennig at Talgarth, Powys



Plate 13 - Typical Raking Screen, Cwmfelinfach, Caerphilly

The advantages and disadvantages are given below:-

Advantages	Disadvantages
<p>Construction of a trash screen / vegetation posts in conjunction with maintenance and the introduction of a comprehensive response plan would reduce the risk of flooding to the Glasdir Estate.</p>	<p>Blockage at a trash screen will continue to occur and monitoring of trash / debris will be required on a continual basis.</p> <p>The risk of flooding at a site which is formally maintained is dependent upon the authority's ability to react and respond to an event and to clear the screen safely.</p> <p>The construction of a trash screen cannot be considered in isolation and must be implemented in conjunction with other engineering options (such as raising the flood embankment) in order to mitigate the risk of flooding to the Glasdir Estate.</p> <p>The site is not suited to the installation of raking screens complying with the requirements of CIRIA guide for the design of Trash Screens due to the restricted height of the culvert.</p>

#### 4.4 Option 2 - Raise Flood Defences to the Glasdir Estate (Scenario C & D)

Option 2 is based on raising the existing flood embankment. The extent of the modelled embankment is shown in Figure 23 but it should be recognised that raising the level of the embankment along the full length of the embankment is not required. The main area where raising is required is adjacent to the Ruthin Link Road (see Figure 24). The modelling of this option assumes that the culverts below the Ruthin Link Road are blocked.

Figures 24 to Figure 26 show the results of the ISIS-TUFLOW modelling for a 1 in 100 year return period event plus an allowance for climate change. Although flooding to the Glasdir Estate is mitigated there is a marked increase in flooding to the field adjacent to the estate. There will also be a minor adverse impact in flood risk in the wider Ruthin area for all return periods, particularly downstream.

A point inspection of modelled peak water levels for a range of return periods and blockages has been undertaken at the locations shown in Figure 22 and the results are given in Table 7. The Table indicates that the current bund level (given in the last column) locations C and D is higher than the peak water level but the bund between A and B is vulnerable to overtopping. These levels can be compared against the information contained in the Weetwood FCA (Section 8.2, p11.), it states that:

*“The proposed hard landscaped bund along the eastern edge of the proposed development site will be a hard defence and the crest of the landscaped bund will be above that of the estimated top water level for a 1000-year event (approximately 53.5m to 53.25m AOD from south to north respectively) with a minimum allowance for freeboard of 200mm. The proposal for the landscaped bund has been agreed in principle by EAW.”*

Grid Reference	Point ID (see Figure 22)	Level (mAOD)				Current level of bund at adjacent point
		Q100; 0% blockage	Q100+CC; 95% blockage	Q1000; 0% blockage	Q100+CC; 95% blockage; plus 600mm freeboard	
<b>311903, 358940</b>	A	52.62	53.86	53.57	54.46	53.4
<b>311925, 358796</b>	B	53.22	53.86	53.62	54.46	53.8
<b>312020, 358616</b>	C	53.7	53.92	54.12	54.52	54.4
<b>311874, 358570</b>	D	-	-	54.46	-	54.88

Table 7 – Point Inspection of modelled water levels



Figure 22 Location of level sample points provided in Table 7

The advantages of adopting this approach are summarised below.

**Advantages**

**Disadvantages**

Construction of flood defences at this location delivers an acceptable standard of service to the Glasdir Estate.

There may be some negative third party impacts downstream of the Ruthin Link Road which would require additional works to be undertaken to protect domestic / industrial / agricultural (see Figure 26).

Raising flood defences can be undertaken on land which is currently owned by the developer.

The cost of raising the flood defence is low by comparison to other options.

The environmental impact of the scheme is low.

Disruption to the general public and residents associated with the construction of the scheme is low.

It is unlikely that NRW or the Planning Authority would object to the scheme.

There is a high probability that the option can be delivered.



Figure 23 - Location of modelled Flood Defence around the Glasdir Estate. The line of the bund is for analytical purposes and does not indicate a suggested scheme.

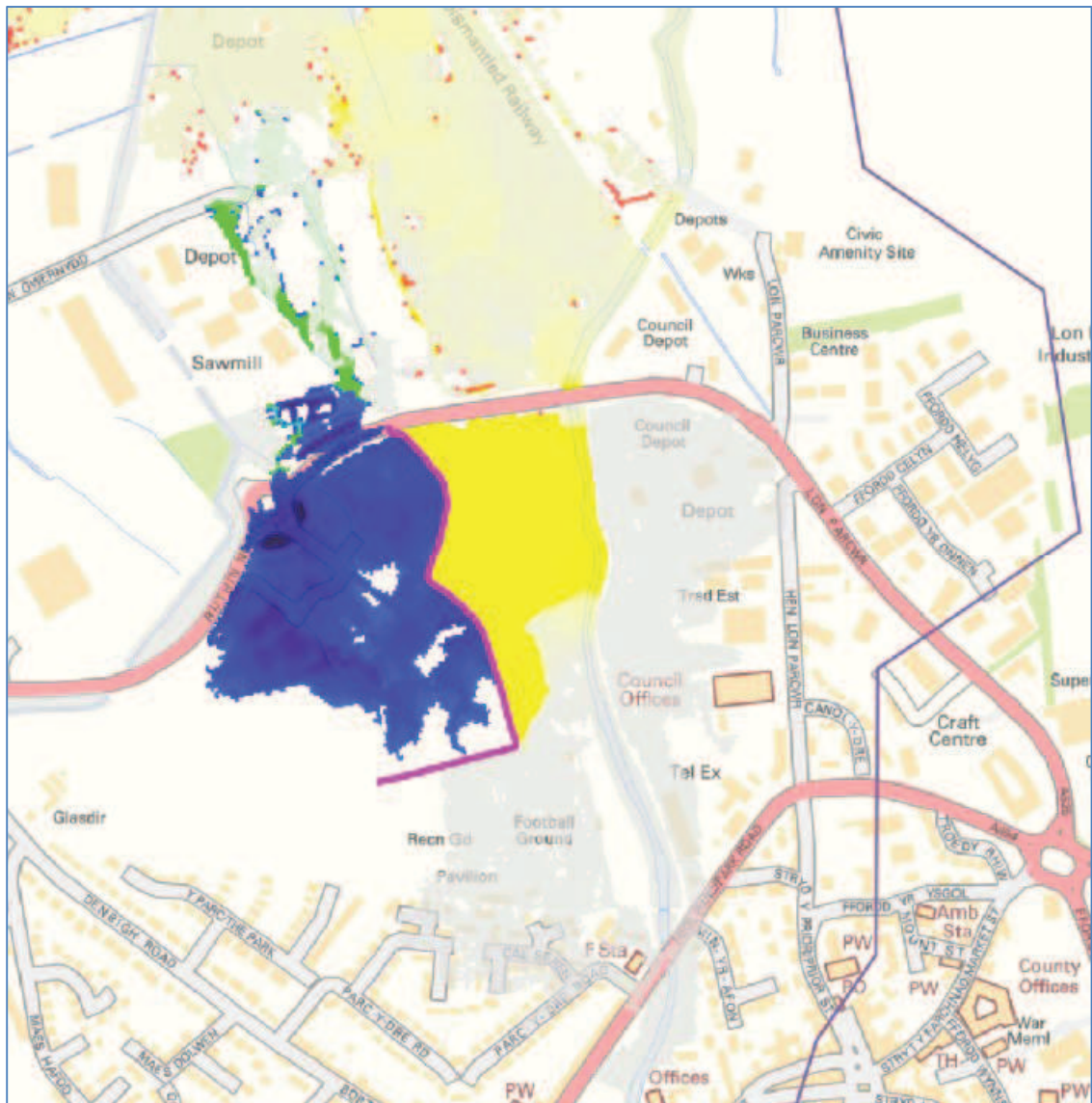


Figure 24 - Comparison of modelled peak water level for the 1 in 100 yr return period with Climate Change and 95% blockage, and existing embankment level. Existing embankment levels shown in red; modelled levels shown in black.



Figure 25 – Option 2 - ISIS TUFLOW Model Results for 1 in 100 year return period with Climate Change and 95% blockage





**Key**

- Blue – Removal of Flood Risk
- Green - Reduction in Flood Risk
- Grey – No change in Flood Risk
- Yellow – Increase in Flood Risk
- Red – New Flood Risk

Figure 26 – Change in Flood Risk (Existing and Proposed for 1 in 100 year return period with ClimateChange and 95% blockage)

#### 4.5 Option 3 - Flood Defences to Left (West) Bank of the River Clwyd (Scenario E)

Option 3 envisages the construction of a flood embankment / wall adjacent to the left bank of the River Clwyd. The development of this option is in response to resident's requests to investigate this option. The extent of the modelled embankment / wall is shown in Figure 27.

Figure 28 and Figure 29 shows the results of the ISIS-TUFLOW modelling for a 1 in 100 year return period event plus an allowance for climate change. Flood risk to the Glasdir Estate is reduced. There is a variable impact in the wider Ruthin area including areas of benefit and dis-benefit downstream of the site, including some limited areas of additional areas of flooding. The advantages of adopting this approach are summarised below.

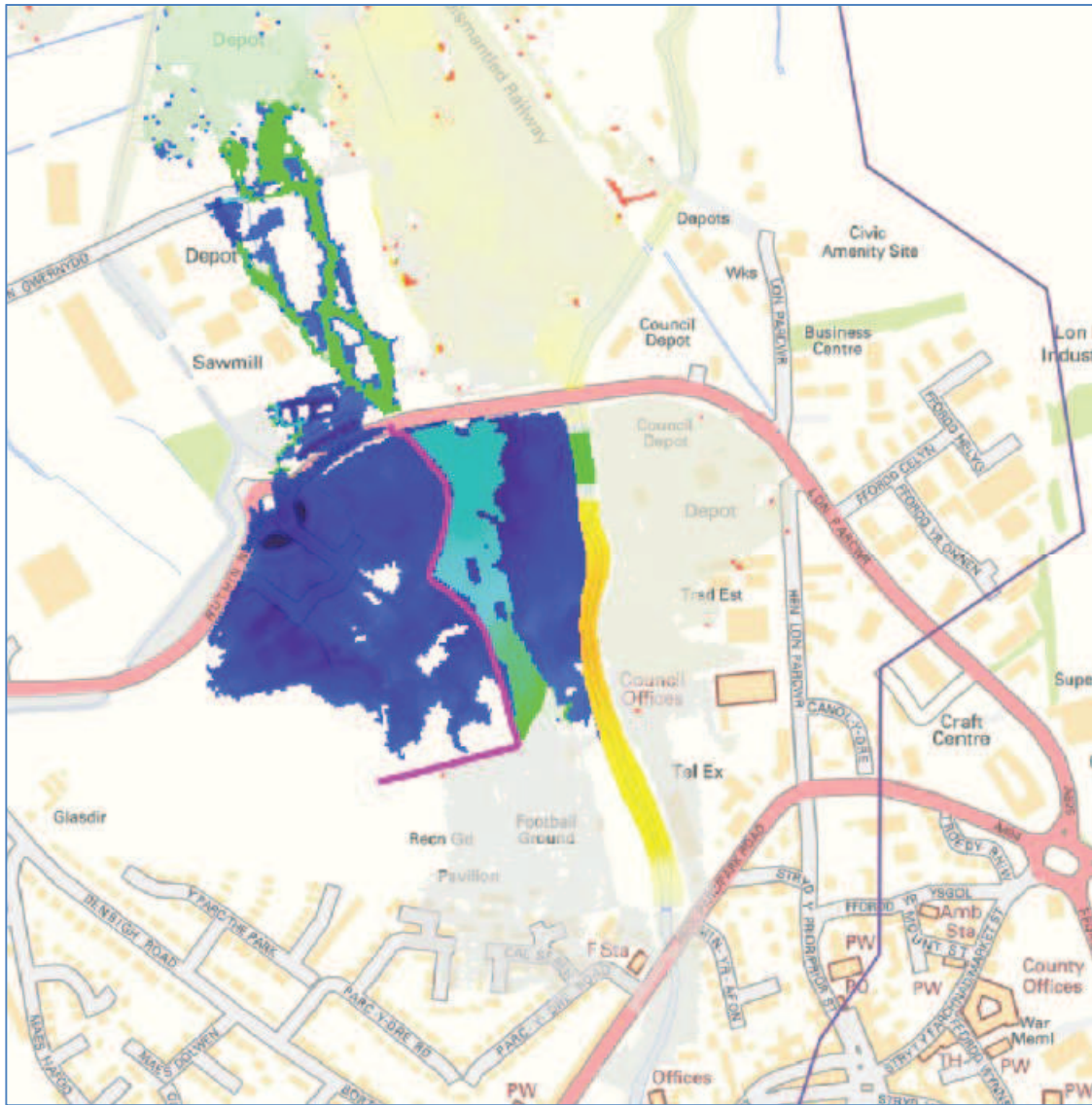
Advantages	Disadvantages
Construction of flood defences at this location delivers a high standard of service to the Glasdir Estate.	There will be negative third party impacts downstream of the Ruthin Link Road which may require additional works to be undertaken to protect domestic / industrial / agricultural. Third party impacts will require further investigation to establish the scale of change in flood risk.  Raising flood defences is on land which is under the control / ownership of third parties and this will require negotiation to allow construction to proceed.  It is likely that NRW would object to the scheme as the construction of the flood defence would reduce flood storage on the flood plain of the River Clwyd.
Disruption to the general public and residents associated with the construction of the scheme is low.	
The environmental impact of this option is comparatively low.	



Figure 27 - Option 3 - Flood Defences to Left Bank of the River Clwyd (Scenario E)



Figure 28 - Option 3 - ISIS TUFLOW Model Results for 1 in 100 year return period with Climate Change and 95% blockage



**Key**

- Blue – Removal of Flood Risk
- Green - Reduction in Flood Risk
- Grey – No change in Flood Risk
- Yellow – Increase in Flood Risk
- Red – New Flood Risk

Figure 29 - Change in Flood Risk (Existing and Proposed for 1 in 100 year return period with Climate Change and 95% blockage)

#### 4.6 Option 4 - Reduced Spillway Elevation (Scenario F)

Option 4 is based on the reduction of ground levels upstream of Ruthin Weir. The location of the proposed work is shown in Figure 30 and is at the location where flood water first spills from the channel. The objective of exploring this option is to assess whether it is possible to reduce flooding to the Glasdir Estate by increasing discharge to the floodplain downstream of the Ruthin Link Road.

Figure 31 and Figure 32 show the results of the ISIS-TUFLOW modelling for a 1 in 100 year return period event plus an allowance for climate change. In the 1 in 100 year event with an allowance for climate change the flood risk to the Glasdir Estate is mitigated but the extent of flooding elsewhere is largely the same. Flooding still occurs to adjacent field but levels are generally reduced. There are significant disadvantages downstream of the Link Road, including additional areas of flooding at lower return periods. The advantages of adopting this approach are summarised below.

Advantages	Disadvantages
<p>The scheme delivers a higher standard of service to the Glasdir Estate.</p> <p>Disruption to the general public and residents associated with the construction of the scheme is low.</p> <p>The environmental impact of this option is comparatively low.</p>	<p>Reducing spill levels will be on land which is under the control / ownership of third parties and this will require negotiation to allow construction to proceed.</p> <p>There will be negative third party impacts downstream of the Ruthin Link Road which may require additional works to be undertaken to protect domestic / industrial / agricultural. Third party impacts will require further investigation to establish the scale of change in flood risk.</p>



Figure 30 - Option 4 - Reduced Spillway Elevation (Scenario F)



Figure 31 - Option 4 - ISIS TUFLOW Model Results for 1 in 100 year return period with Climate Change and 95% blockage



#### 4.7 Option 5 - Introduction of Additional Flow Routes (Scenario G)

Option 5 is designed to investigate the feasibility of including additional flow routes under the Ruthin Link Road through the construction of additional hydraulic capacity. This would probably be in the form of additional culverts (a cattle creep) and the installation of a conveyance channel on the floodplain to the north and south of the Ruthin Link Road (see Figure 33).

Figure 34 and Figure 35 show the results of the ISIS-TUFLOW modelling for a 1 in 100 year return period event plus an allowance for climate change. Flooding to the Glasdir Estate and adjacent field is reduced by comparison to the baseline scenario. There is variable impact to the wider Ruthin area, although benefits / dis-benefits are typically small. Greatest negative impact to field immediately north of cattle creep towards which flow has been diverted. The advantages of adopting this approach are summarised below.

Advantages	Disadvantages
<p>The scheme does deliver a higher standard of service to the Glasdir Estate.</p> <p>The environmental impact of this option is comparatively low.</p>	<p>Work will be required on land which is under the control / ownership of third parties and this will require negotiation to allow construction to proceed.</p> <p>The costs associated with implementing this option will be high.</p> <p>The likelihood of delivering this option will be low.</p> <p>Blockage to the structure by debris will be a risk.</p> <p>Disruption to the general public and residents associated with the construction of the scheme is high as a result of the work required to the Ruthin Link Road.</p> <p>There will be negative third party impacts downstream of the Ruthin Link Road which may require additional works to be undertaken to protect domestic / industrial / agricultural. Third party impacts will require further investigation to establish the scale of change in flood risk.</p>

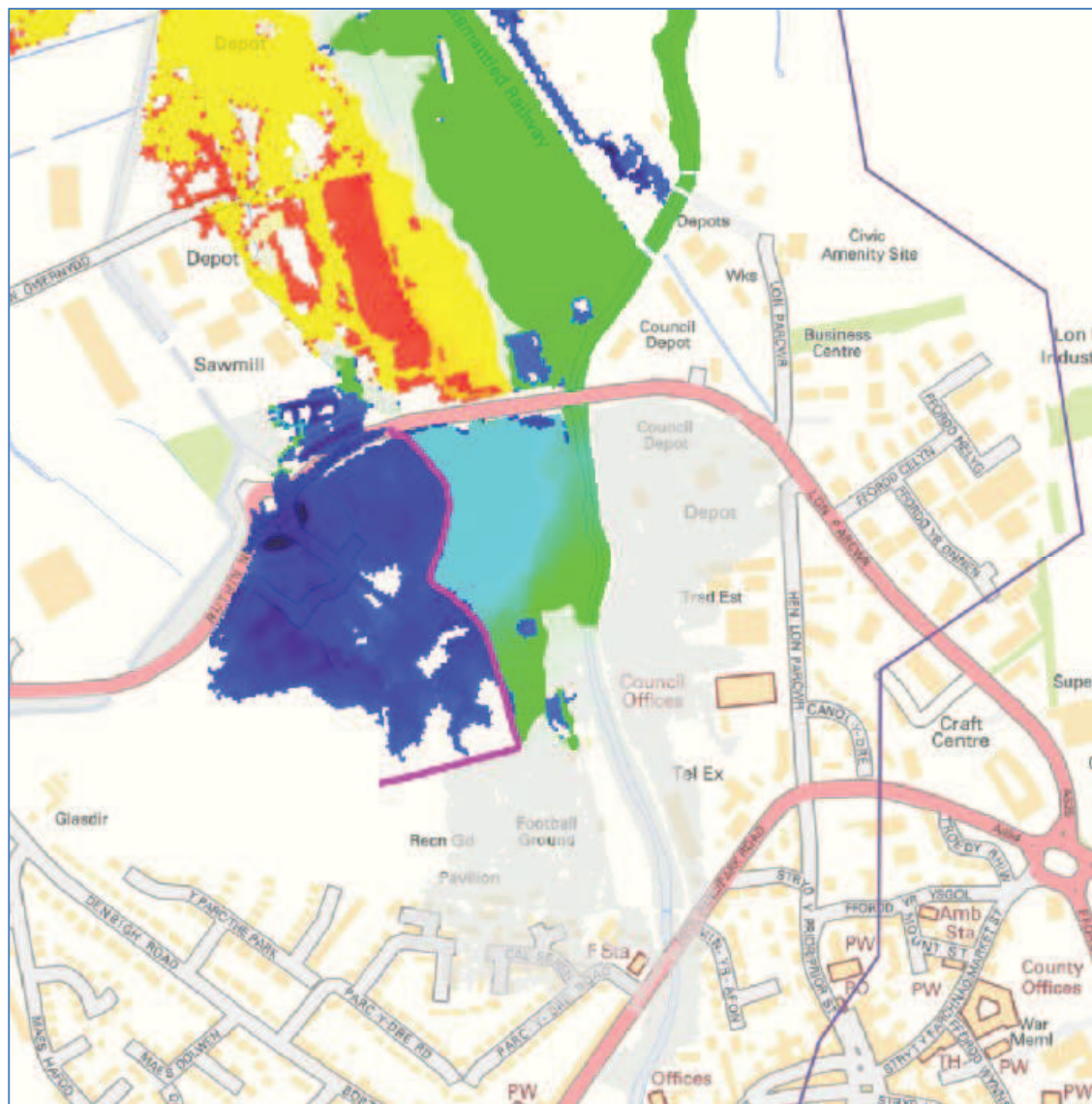




Figure 33 - Option 5 - Introduction of an Additional Flow Routes under the Ruthin Link Road (Scenario G)



Figure 34 - Option 5- ISIS TUFLOW Model Results for 1 in 100 year return period with Climate Change and 95% blockage



**Key**

- Blue – Removal of Flood Risk
- Green - Reduction in Flood Risk
- Grey – No change in Flood Risk
- Yellow – Increase in Flood Risk
- Red – New Flood Risk

Figure 35 - Change in Flood Risk (Existing and Proposed for 1 in 100 year return period with Climate Change and 95% blockage)

## 4.8 Option 6 - Removal of Ruthin Weir & Re-grading of the River Clwyd (Scenario H)

Option 6 is designed to evaluate the impact of removing Ruthin Weir on flooding to the Glasdir Estate and would require re-grading of the river channel upstream of the weir in order to accommodate the design (see Figure 36). Figure 37 and Figure 38 show the results of the ISIS-TUFLOW modelling for a 1 in 100 year return period event plus an allowance for climate change.

The modelling indicates that flooding to the Glasdir Estate occurs only during 1 in 1000 year. There are dis-benefits towards downstream extent of the model, with additional flooding caused around the junction with the Flood Relief Channel and River Clwyd, particularly along the Clwyd's eastern bank. There is a significant reduction in flood extent to fields north of the Link Road. The advantages of adopting this approach are summarised below.

Advantages	Disadvantages
<p>The scheme delivers a high standard of service to the Glasdir Estate.</p> <p>The environmental impact of this option is potentially high during construction but reducing or improving in the long term.</p>	<p>The costs associated with implementing this option will be high.</p> <p>The environmental impact of this option is potentially high during construction but reducing or improving in the long term.</p> <p>The foundations of bridge structures upstream of Ruthin Weir may be compromised.</p> <p>The likelihood of delivering this option will be low.</p> <p>There could be negative third party impacts downstream of the Ruthin Link Road which may require additional works to be undertaken to protect domestic / industrial / agricultural. Third party impacts will require further investigation to establish the scale of change in flood risk.</p>

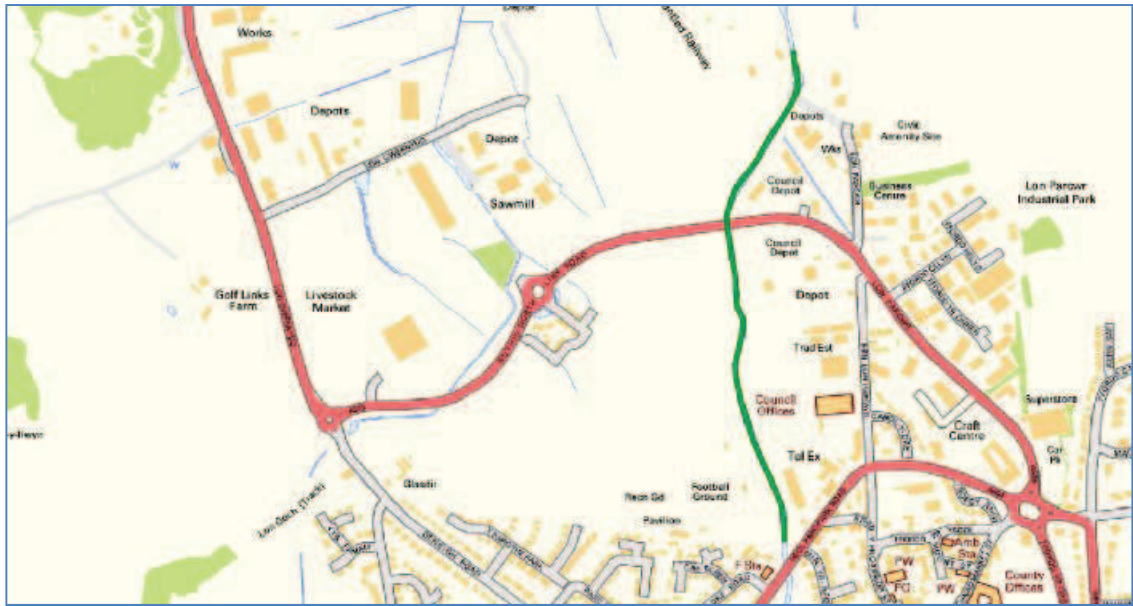
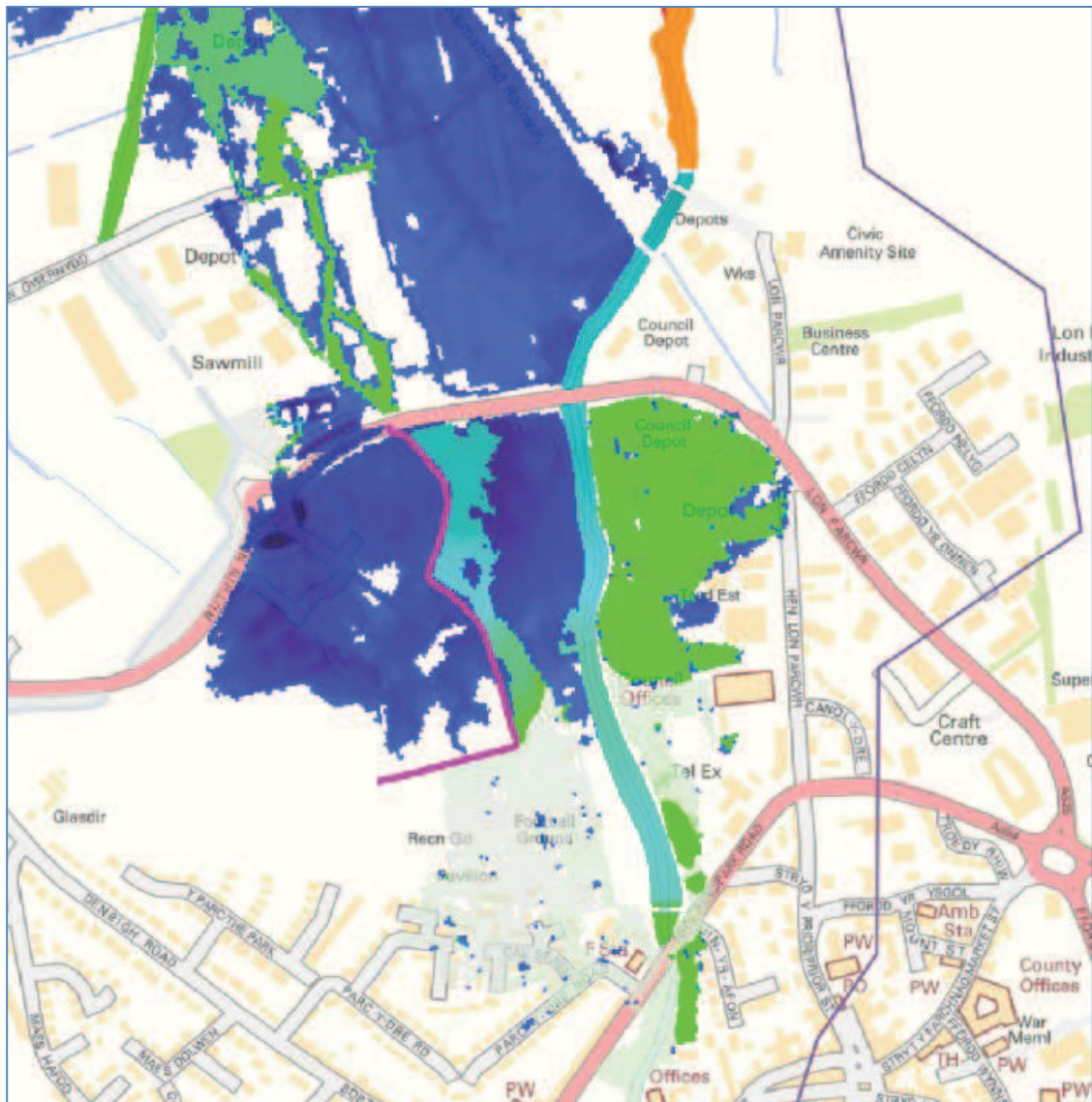


Figure 36 - 4.8 Option 6 - Removal of Ruthin Weir & Re-grading of the River Clwyd (Scenario H)



Figure 37 - Option 6 - ISIS TUFLOW Model Results for 1 in 100 year return period with Climate Change and 95% blockage



**Key**

- Blue – Removal of Flood Risk
- Green - Reduction in Flood Risk
- Grey – No change in Flood Risk
- Yellow – Increase in Flood Risk
- Red – New Flood Risk

Figure 38 - Change in Flood Risk (Existing and Proposed for 1 in 100 year return period with Climate Change and 95% blockage)

## 5 Hydrological Evaluation

### 5.1 Design Hydrology

Information on the design hydrology has been provided as follows:

- Flood estimation calculation record pro-forma; and
- ISIS hydraulic model \*.ied boundary conditions file.

The approach taken to the hydrological assessment detailed in the pro-forma is generally sound; however there are a number of issues for concern, which are discussed in turn below. To aid understanding of the comments made in this review Figure 39 below provides a basic schematic of the modelled catchment.

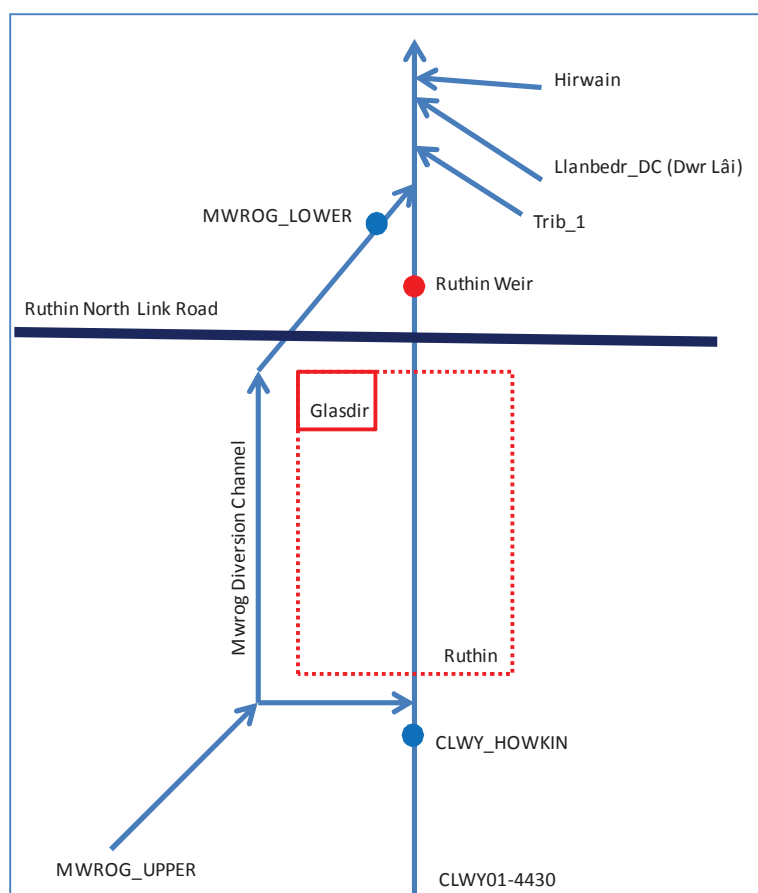


Figure 39 - Schematic of Hydrological Assessment

#### 5.1.1 Schematisation and Catchment Descriptors

The schematisation of the hydrological catchment has been reviewed, with particular focus paid to the Mwrog catchments due to the influence of the flood relief channel. The schematisation appears to be mostly appropriate, however, the lateral inflows alongside the urban area of the River Clwyd through Ruthin and along the natural Mwrog watercourse downstream of the flood relief channel entry point are not explicitly accounted for in the schematisation.

The impact of this can be tested from FEH CD-ROM outputs which show the total catchment area to Ruthin gauge to be 96.37 km<sup>2</sup>, of which 8.88 km<sup>2</sup> is mostly diverted down the Mrwog Diversion Channel, giving an effective catchment area of 87.49km<sup>2</sup>. The proforma shows that the total area accounted for in the model is 86.73 km<sup>2</sup>, a shortfall of 0.76 km<sup>2</sup>.

Whilst this represents a small proportion of the catchment area, it should also be noted that this includes much of the western part of Ruthin, including the most intensely urbanised area. The exclusion of this catchment area will result in an underestimation of volume of hydrograph and may result in an underestimation of peak flow.

### 5.1.2 URBEXT

The 'Initial Estimate of QMED' is based on a statistical analysis of peak flows using the WINFAP hydrological analysis software. The pro-forma states that the source of URBEXT is the 1990 value; however the statistical analysis of peak flows (as applied by WINFAP) should use the 2000 value. Furthermore, it appears that no Urban Adjustment Factor has been applied to account for the increase in urbanisation to the current day, which should be undertaken for all catchments<sup>4</sup>.

Consequently, the 'Initial Estimate of QMED' appears to be underestimated in most catchments, resulting in cumulative errors in determining peak flows at higher return periods. It should be noted that the catchment is predominantly rural and the impacts of errors in URBEXT are expected to be limited, though this may be significant in the small tributary draining the eastern part of Ruthin Town.

### 5.1.3 Index Flood, QMED

The reliability of the design hydrology determined using the statistical method relies in large part on the accuracy of the Index Flood (QMED, Median flood of annual maximum peak flow series). The pro-forma states that estimates of QMED at each flow determination point have been improved through donor station data transfer using an appropriate gauging station.

The station used as a donor for this project is Ruthin Weir (66005) and the data transfer has been applied to all flow estimates on the main River Clwyd and one minor tributary. This means that the observed QMED has a significant impact upon the hydrological findings (reducing the initial estimate of QMED by nearly half). Accordingly there are two key areas of uncertainty which require thorough review: accuracy of flow measurement at Ruthin Weir; and amount of water bypassing the weir through the flood relief channel.

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<sup>4</sup> Environment Agency Flood Estimation Guidelines – Operational Instruction 197\_08 (June 2012), p45.

These are considered in turn below.

a) Flow measurement accuracy

The QMED value at Ruthin Weir is calculated using annual maximum peak flow values (AMAX) derived from measured river levels and a rating curve. Inspection of the rating for the period 1971 to 2009 on Hiflows UK website shows that it is well supported by spot gaugings for flows up to 12 m<sup>3</sup>/s (see Figure 40). However, it appears that the rating underestimates flows around the higher spot gaugings, and as a result may underestimate QMED in the region of 2 m<sup>3</sup>/s.

Ruthin Weir underwent significant repair work in 2009; following this, regular spot gaugings have been undertaken and a new rating relationship was developed in spring 2013. Given the above, it is recommended that the rating for 1971-2009 is improved to provide a better match with the highest spot gauging, and the revised rating used to recalculate the AMAX series.

b) Impact of modifications within the catchment

The AMAX record at Ruthin extends from 1972-73 to present day, with a period of missing data from water years 1984/85 through to 1987/88. A number of significant changes have occurred within the immediate catchment including:-

- Construction of the Mwrog Flood Alleviation Scheme (2004)
- Modifications to the fish pass at Ruthin Weir (2009)
- Construction of Ruthin Flood Alleviation Scheme (2003)
- Construction of the Ruthin Link Road (2004)

It is unclear what impact these changes have had on subsequent AMAX values at Ruthin Weir. The construction of the diversion channel is not mentioned in the site notes given on the Hiflows UK website and it appears unlikely that the impact of this has been accounted for in the determination of QMED at the site.

In relation to the Mwrog Flood Alleviation Scheme an initial estimate of impact can be made from flow contributions from the Mwrog catchment. Based on the existing assessment, QMED for the Mwrog upstream of the diversion channel is 2.24 m<sup>3</sup>/s. The diversion scheme is shown within the model to allow up to 1 m<sup>3</sup>/s to flow to River Clwyd upstream of Ruthin Weir, with the remainder being diverted through the diversion channel and returned to the River Clwyd downstream of Ruthin Weir.

This indicates that QMED could be underestimated by a minimum of 1 m<sup>3</sup>/s and potentially more depending on how much water was discharged to the River Clwyd upstream of Ruthin in the AMAX events.



Consequently, it is considered that the AMAX data from 2004 onwards should not be used in the assessment of QMED at Ruthin Weir without accounting first for the effects described above. It is also possible that the site is not considered suitable for use as donor station at all. It is recommended that further work should be undertaken to determine the impact of the diversion channel on the AMAX series and resulting QMED at Ruthin gauge. It is also important to note that any subsequent analysis should ensure that the same assumptions around channel configuration are adopted when comparing modelled and observed QMED flows.

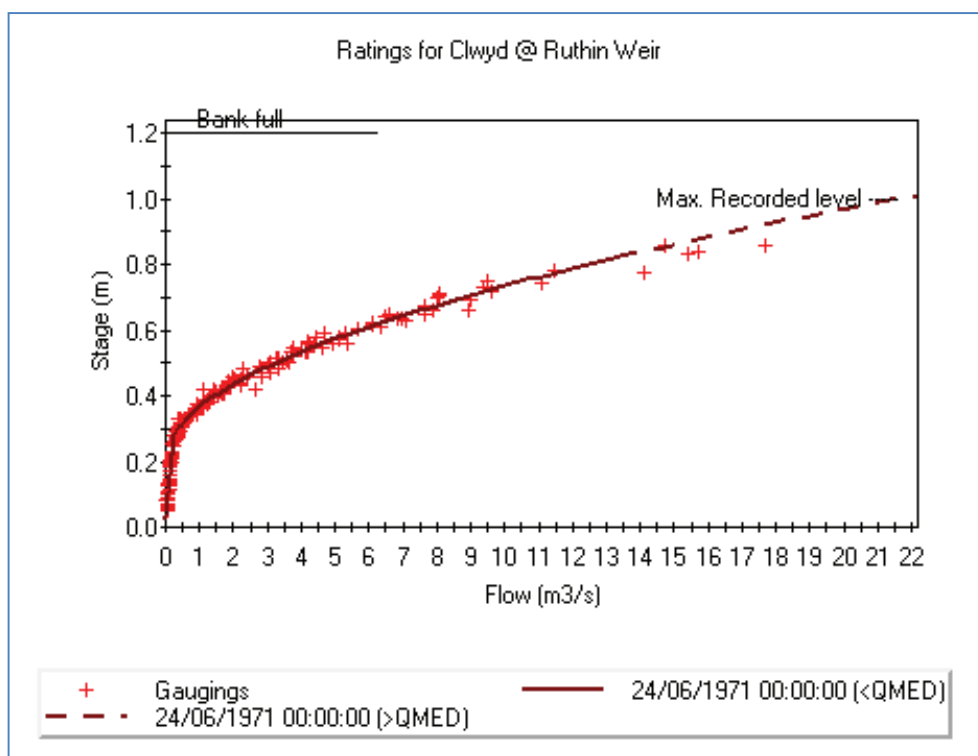


Figure 40 - Rating Curve Extract from HiFlows UK for Ruthin Weir

### 5.1.4 QMED Sensitivity

There is a significant difference between the empirically derived QMED value at Ruthin Weir and that determined using AMAX values, the former being approximately 75% larger than the latter. A review of nearby gauging stations indicates that this is generally replicated in neighbouring catchments as shown in Table 7 below.

A preliminary review of the gauging stations suggests that this may be related to flow losses to the permeable bedrock underlying parts of their respective catchments. However, it is advised that comment should be made on this issue within the pro-forma, based on the local knowledge held by the Environment Agency as this will mean greater uncertainty especially at higher flow return periods.

Station	QMED AM	QMED CD	QMED AM ÷ QMED CD
66005 (Clwyd @ Ruthin Weir)	14.2	24.7	58%
66001 (Clwyd @ Pont-y-cambwll)	47.8	59.0	81%
67009 (Alyn @ Rhydymwyn)	8.6	15.3	56%
67008 (Alyn @ Pont-y-capel)	21.9	35.7	61%
67003 (Brenig @ Llyn Brenig Outflow)	15.3	19.5	78%
67006 (Alwen @ Druid)	72.4	70.3	103%
67015 (Dee @ Manley Hall)	223.0	338.7	66%
66004 (Wheeler @ Bodfari)	3.7	6.6	56%
67005 (Ceiriog @ Brynkinalt Weir)	29.9	49.9	60%
66002 (Elwy @ Pant yr Onen)	65.6	71.8	91%
66006 (Elwy @ Pont-y-gwyddel)	71.3	69.4	103%

Table 7 - Variation of QMED from AMAX Series (AM) and Catchment Descriptors (CD) at Local Gauging Stations

The pro-forma contains the following note relating to the data-transfer improvement of QMED:

*“As per the CES Flood Risk Mapping Report for Ruthin (2010), weighting factors used for data transfer between Ruthin Weir gauging station and the subject sites yielded unrealistic estimates of QMED. An area weighting method has therefore been adopted for this study, based on the ratio of catchment area at GS 66005, to the published QMED value from gaugings.”*

The CES Flood Risk Mapping Report for Ruthin (2010) has not been provided as part of this review, so it is unclear what the basis is for considering the QMED estimates as unrealistic. However, a preliminary review of data-transfer from nearby suitable gauges using the standard distance weighting method<sup>5</sup> does not appear to indicate results which are immediately concerning. Further explanation should therefore be provided for the above comment made in the pro-forma.

It should be noted that QMED donor data-transfer has been applied only to the River Clwyd and Llanbedr DC catchments and not the other tributaries. Explanation should be provided to justify this, or suitable data-transfer applied.

<sup>5</sup> Environment Agency/ DEFRA (2008), Improving the FEH statistical procedures for flood frequency estimation. Science Report SC050050.

The above analysis shows that the derived QMEDs are influenced by the use of Ruthin Weir as a donor catchment, and that there is significant uncertainty surrounding reliability of observed QMED at Ruthin Weir. As peak flows at higher return periods are scaled from QMED values using a growth factor, the uncertainty in QMED is carried through to peak flows at higher return periods.

For information the confidence intervals for the current estimations of QMED are given in Table 8 below. The confidence interval is dependent upon the method of assessment as outlined below:

- CD – where catchment descriptors have been used to determine QMED, then the standard techniques presented in FEH<sup>6</sup> have been used, but with the revised factorial standard error as presented for the revised QMED procedures<sup>2</sup>.
- AMAX – where gauged AMAX data have been used to determine QMED, standard techniques presented in FEH based on the length of the gauged record would normally be used. However, significant uncertainty remains around the accuracy of the AMAX series at Ruthin Weir, so the standard techniques should not be applied without first undertaking investigations. As these issues have not been investigated as part of this review, it is considered more appropriate to revert to the catchment descriptor method of quantifying uncertainty in this case.
- DT – where donor station data transfer has been applied, uncertainty in QMED would normally be reduced (compared to catchment descriptor methods). However, given the uncertainty in the recorded AMAX series at Ruthin Weir, the catchment descriptor method to quantifying uncertainty has been retained here.

The confidence limits should be used when targeting sensitivity analysis or further investigations as part of this study. It should be noted that these limits will require recalculation where QMED values are reassessed.

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<sup>6</sup> Robson, A.J. and Reed, D.W. (1999) Statistical procedures for flood frequency estimation. Volume 3 of the Flood Estimation Handbook. Centre for Ecology & Hydrology.

Catchment	Method	QMED	68% Confidence		95% Confidence	
			Lower	Upper	Lower	Upper
<b>MWROG_UPPER</b>	CD	2.24	1.57	3.21	1.09	4.59
<b>MWROG_LOWER</b>	CD	0.36	0.25	0.52	0.18	0.74
<b>Trib_1</b>	CD	0.17	0.12	0.24	0.08	0.35
<b>Hirwain</b>	CD	0.71	0.50	1.02	0.35	1.45
<b>Ruthin Weir GS</b>	AMAX	14.1	9.85	20.18	6.89	28.87
<b>CLWY01-4430</b>	DT	12.6	8.81	18.03	6.15	25.80
<b>CLWY_HOWKIN</b>	DT	12.9	9.01	18.46	6.30	26.42
<b>Llanbedr_DC</b>	DT	3	2.10	4.29	1.47	6.14
<b>Clwy_Total</b>	DT	20.2	14.12	28.91	9.86	41.36

Table 8 - Confidence limits for QMED (m3/s)

### 5.1.5 Growth Curves

Growth curves have been derived to calculate peak flows at return periods greater than QMED using the FEH statistical pooling group method. The FEH statistical pooling groups have not been assessed in detail, however it is recommended that they are reviewed and revisited for two reasons, as detailed below.

1. The justification for removing stations from the initial pooling group derived by the WINFAP software is based on statistical discordancy alone, rather than explanations relating to the reliability of the hydrological data. This may not be appropriate<sup>7</sup> and should therefore be reviewed and updated as necessary.
2. The pooling group for the permeable catchment of Dwr Lâi appears to have a steeper growth curve than the pooling group on the River Clwyd. The Environment Agency's Flood Estimation Guidelines state that when Version 3 of WINFAP is used for statistical analysis (using new pooling group construction techniques) permeability should be allowed for in the composition of the pooling group by manual editing of the stations used<sup>8</sup>. This does not appear to have been undertaken for Dwr Lâi; therefore the growth curve may not be representative of the catchment.

<sup>7</sup> Robson, A.J. and Reed, D.W. (1999) Statistical procedures for flood frequency estimation. Volume 3 of the

Flood Estimation Handbook. Centre for Ecology & Hydrology.

<sup>8</sup> Environment Agency Flood Estimation Guidelines – Operational Instruction 197\_08 (June 2012), p100.

It should be noted that overall uncertainty in peak flows assessed using the statistical method arises from a combination of the uncertainty of QMED (discussed in the previous section) and the uncertainty of the growth curve. The Environment Agency's Flood Estimation Guidelines<sup>9</sup> provides the following advice:

*"There are no widely available straightforward techniques for assessing confidence intervals for flood estimates (1 5.6). The FEH provides confidence intervals for some components of flood estimates, but does not suggest any techniques for combining them together and accounting for the other sources of uncertainty."*

The reference within the quote is to the Flood Estimation Handbook Volume 1. No attempt has been made to assess the confidence intervals of the peak flow values for return periods above QMED as part of this review.

### 5.1.6 Hydraulic Model Boundary Conditions

To represent the time-varying flow within the hydraulic model the boundary conditions file has used ReFH units to represent the design hydrograph shapes. The ReFH hydrographs have been scaled to fit the peak flow values at each estimation point and each return period, as calculated using the FEH statistical method (discussed above). This hybrid method is generally accepted as good practice; however there are a number of issues which should be considered in this case.

The storm duration specified within the ReFH units is 9.5 hours; however, the storm duration for the entire catchment (to outfall) is stated in the calculation record proforma as 7.5 hours. Shorter durations are noted for other sub catchments in the proforma. No explanation is given for the choice of the storm duration in the model boundary conditions therefore the reason for the discrepancy is unknown.

Whilst a standard storm duration (derived from catchment descriptors) may be used in simple catchments, the equation may be inadequate to determine critical storm durations in more complex catchments; particularly those where there is significant storage. Note that a coherent approach must be adopted to determination of critical storm duration and any subsequent reconciliation with observed AMAX values. For example, resulting hydrographs from the critical storm duration with the link road in place should not be scaled to statistical peaks based on a QMED derived from an AMAX series prior to construction of the link road.

Improvements could be made to the representation of the inflows to the top of the model on the River Clwyd. Here, the peak flow at the upstream estimation point (Clwy01-4330) has been subtracted from the peak flow at the next downstream estimation point (Clwy\_Howkin); the intervening hydrograph has then been scaled to that value. This has the potential to introduce errors in the volume of water represented within the hydraulic model where these flow estimation points are separated by substantial intervening catchments areas, however, it should be noted that these two locations are relatively close together and the impact of any attenuation moving downstream is likely to be limited.

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<sup>9</sup> Environment Agency Flood Estimation Guidelines – Operational Instruction 197\_08 (June 2012), p74.

A more appropriate method would be to subtract the full upstream hydrograph from the full downstream hydrograph. The resulting hydrograph could then be specified as the intervening flow. Alternatively, the intervening catchment area could be represented through manual derivation of catchment descriptors<sup>10</sup>. This is likely to result in a better representation of both the timing and the volume of flow for the intervening catchment.

### 5.1.7 Peak flow analysis from Hydrology routed through Hydraulic Model

Table 9 and Figure 41 - Flow Frequency and Growth Curves from Hydraulic Model below provides a summary of the peak flows and associated growth curves from the baseline design hydraulic model scenarios.

Location	Return	2	10	20	50	100	200	1000
	Period	Years	Years	Years	Years	Years	Years	Years
Ruthin Weir	Peak Flow (m <sup>3</sup> /s)	13.50	17.91	18.80	19.49	19.73	19.84	21.92
	Growth Factor	1.00	1.33	1.39	1.44	1.46	1.47	1.62
River Clwyd (at Link Road)	Peak Flow (m <sup>3</sup> /s)	13.50	22.67	26.88	33.98	39.02	42.39	62.73
Flood relief channel (upstream)	Peak Flow (m <sup>3</sup> /s)	3.25	4.95	5.82	7.12	8.25	9.65	13.67
River Clwyd + Relief Channel	Peak Flow (m <sup>3</sup> /s)	16.74	27.61	32.69	41.09	47.27	52.04	76.40
	Growth Factor	1.00	1.65	1.95	2.45	2.82	3.11	4.56

Table 9 - Flow Frequency and Growth Curves from Hydraulic Model

<sup>10</sup> Bayliss, A.C. (1999) Catchment descriptors. Volume 5 of the Flood Estimation Handbook. Centre for Ecology & Hydrology

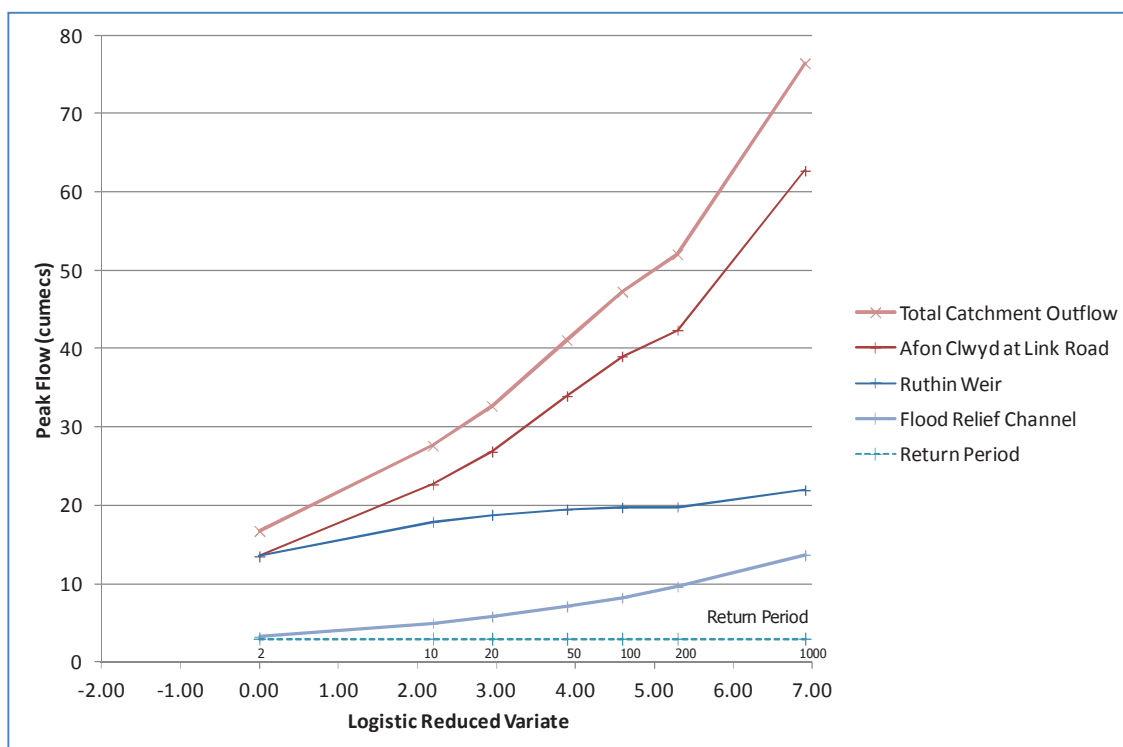


Figure 41 - Flow Frequency and Growth Curves from Hydraulic Model

It should be noted that the total flow in the Clwyd catchment should include the water which is diverted down the Mwrog Diversion Channel; hence these have been summed in the table. It can be seen that the growth curve for Ruthin Weir is relatively flat; the main cause for this is believed to be the extent of bypassing which occurs in the floodplain adjacent to the weir. This table shows that catchment wide, there is a growth factor of 2.82 for the 1 in 100 year storm. This is consistent with the growth factors presented in the hydrological appendix and is within an expected range.

## 5.2 Calibration Hydrology

### 5.2.1 General

Information on the calibration hydrology for the 2012 event has been provided as follows:

- Technical Note by JBA Consulting, Subject: 'November 2012 Ruthin Model Calibration – DRAFT' (June 2013).
- ISIS hydraulic model \*.ied boundary conditions file (JBA\_e2012-11.ied).

It should be noted that the inflow hydrographs for the calibration event appear to have been determined using the ReFH method with an observed rainfall profile. However, neither the rainfall profiles nor any of the other parameters have been supplied; therefore it has not been possible to review these aspects. Instead the inflows in the boundary condition file are represented by flow-time boundaries, with pre-calculated flow values specified for each time step.

### 5.2.2 Approach and Uncertainty

To construct the calibration event using readily available data, the following steps have been undertaken:

- Estimate rainfall profiles using local rain gauges (one within the catchment and one in a neighbouring catchment) adjusted so that they are representative of rainfall within each catchment;
- Estimate catchment wetness at the start of the event (Cini) based on preceding rainfall and potential evapotranspiration;
- Estimate culvert blockages which took place during the event.

There is often considerable uncertainty in deriving catchment wide rainfall profiles from rain gauges which record rainfall at a single point only. Furthermore, the ReFH model volume (and peak flow) is particularly sensitive to adopted Cini values, and there is little certainty about the degree of blockage of the culverts during the 2012 event. It would therefore be possible to use different permutations of values or assumptions for each of the above to produce model results which approximate the flooding experienced in Ruthin in November 2012.

The JBA Technical Note recognises the inherent uncertainties present in the existing calibration, stating that “The event hydrology and blockage are considered to be the most uncertain elements of the assessment.” The results of the calibration exercise should therefore not be considered definitive. Caution should be used when considering their use in altering the design models and/or the assessment of flood risk and mitigation measures.

### 5.2.3 Review of Inflows

It should be noted that the most upstream inflow on River Clwyd (labelled Clwy01\_4430) has a peak flow of 44.9 m<sup>3</sup>/s whereas peak flow at Ruthin Weir was measured at 24.6 m<sup>3</sup>/s and modelled at 21.6 m<sup>3</sup>/s. No comment has been made within the Technical Note to explain or discuss this significant difference, which may be due to bypassing of the gauge and/or attenuation upstream of Ruthin North Link Road. Given the significant difference in flows this issue should be explicitly addressed.

## 5.3 Return Period Assessment (November 2012)

A return period assessment of the November 2012 event could be based on either the observed or modelled flow data. However, there are a range of factors which make it difficult to attribute an annual exceedance probability (or return period) to the event for either method with confidence. These factors are as follows:

- Reliability of the current calibration hydrology and possibility for a range of permutations which predict the same flooding (including rainfall distribution and calculation of antecedent catchment wetness).
- Construction of Mrwog flow diversion channel and Ruthin Link road may make observed flows during 2012 incompatible with previous recorded flood events.
- Uncertainty as to the degree of culvert blockage which occurred.



- The fact that the flooding was predominantly volume based, rather than related entirely to the peak flow.
- Local bypassing of Ruthin gauge and associated problems with rating leading to poor accuracy of high flow data.

The blockage of the culverts under Ruthin North Link Road resulted in the peak of the event being attenuated upstream of Ruthin Weir. Had the culverts not been blocked the peak flow measured at Ruthin Weir is likely to have been higher. Consequently any assessment of return period based on observed peak flow at Ruthin Weir may be unreliable.

An alternative method could be to compare the volume of the 2012 event to previous flood events. However, the rating relationship at Ruthin Weir gauging station is considered to be uncertain at high flows and local bypassing is known to occur. It is therefore difficult to reliably determine the volume of previous events, particularly those with peak flows significantly above QMED, making this method unsuitable.

It is worth noting that based on available information the November 2012 event appears to be the highest on record in over 30 years of data at Ruthin Weir, in spite of the possible attenuation caused by blocked upstream culverts and from bypassing through the diversion channel.

## 6 Conclusions

- a) **Key data on the November event** – We have estimated that the flow in the November 2012 event was between 35.9 and 40.4 m<sup>3</sup>/s, which we judge to be between a 1 in 100 year and 1 in 200 year event but biased towards 1 in 100 year, and the blockage of the culverts was between 66% and 95%.
- b) **Solutions to restore the level of protection** – Various engineering solutions were explored and these are detailed in Section 4 of this Report. It is the Investigating Team’s opinion that the solution that offers the earliest and most cost-effective solution to re-instating the flood defences around the development is to raise the bund height.
- c) **Organisational complexity** – The process of preparing the land at Glasdir for development has involved many organisations over many years (see diagram in Appendix 2). During that period the methods of hydraulic modelling have developed and standards and guidance have changed. Communication between the various parties could have been clearer; assumptions previously made could have been challenged. In addition, it is necessary to have an overall view on the interaction between the road built as an embankment and the operation of the flood plain with respect to the flood risk of the proposed development land. There does not seem to have been continuity of involvement provided during the development of the area, to avoid important criteria being missed.
- d) **Blockages** – The blockage of the culverts played a significant part in causing the flood water to flow over the bund (which was also too low). Thus the proposed height of the bund is based on an assumption of a 95% blockage to the culverts. (See paragraph 3.6.5).  
  
Although blockage was mentioned in previous reports there is no evidence that work was done to assess its impact. It is only recently that a Welsh Government survey has revealed that 60% of flooding incidents on ordinary watercourses (see paragraph 4.3) were caused by blockages.
- e) **Response to the event** – The belief that this development was protected to an unusually high level of 1 in 1000 meant that it was not on the list of high risk areas to visit in a high rainfall event. The vertical grills are hard to clear during a storm once they had become blocked and certainly not safely. Access to the top of the culvert entrances has been improved since the event in November 2012 but clearing the culvert entrances of debris in a storm will not be easy and could be unsafe in an extreme event.
- f) **Planning** – It is clear from the documentation that the land at Glasdir was expected to be protected to a 1 in 1000 (0.1% annually) standard for flood risk management. The calculated level of this 1 in 1000 standard/level has varied over the years as different models and assumptions have been used consistent with practice at the time.
- g) **Datum** – It is unclear whether ‘site datum’ referred to on some drawings is the same as AOD. In addition there is reference on one of the drawings to the possibility of a

peat layer under the 5 culverts. Therefore possible settlement of the peat in the area could have had an impact on datum levels and bund heights.

- h) **Grills** – Vertical grills are known to be prone to blockage and are difficult to clear during a storm once they have become blocked. The current standard for grills would be difficult if not impossible to achieve given the form of the culverts and their location. The Panel does not see the need for grills and recommends that they are not re-installed. Posts to capture large obstructions such as branches are feasible and recommended.
- i) **Wind farms and associated tree felling** – The tree felling proposed in association with the proposed wind farm construction is not considered to have a significant impact on future flooding at Glasdir.

## 7 Recommendations

- a) **The bund** should be raised to the level shown in the Outline Proposal in Appendix 3, which is based on a 1 in 100 year event with climate change and 95% blockage, with a 600mm freeboard.

Once raised it should be checked regularly and after extreme events (wet and dry) for possible settlement and damage, and repaired if necessary. In setting this height, the demonstrated likelihood of blockage, climate change and uncertainties associated with modelling have been taken into consideration.

Whereas the current bund has an allowance of only 200mm of freeboard, we are recommending 600mm be used as this is in line with custom and practice over several years for residential development. It is anticipated that this flood defence will enable flood insurance to be purchased [without significant increases in premium](#).

- b) It is to be hoped that the bund will be permanently raised as soon as possible. However, for the interim, a temporary line of sandbags (or equivalent) should be considered to be used to raise the bund height. Careful monitoring during a storm event is recommended to ensure integrity is maintained.
- c) **Long term management of the flood plain and catchment** area should be organised. The maintenance of the area around the culverts' entrance and exit should particularly be cleared of debris, garden waste and the vegetation kept short. The responsibility for doing the maintenance should be clearly identified.

There is currently a belief (*Managing Woody Debris in Rivers, Streams and Floodplains* written by the Wildlife Trusts and Water for Wildlife (2005) that catchment management should encourage natural processes and so woody debris in the catchment and watercourse would be encouraged. However, this catchment has been severely impacted by the construction of a road across the flood plain on an embankment rather than a bridge structure. This acts as a dam and the mitigation of providing the 5 culverts to pass the flood water is nullified if they block with debris (as happened in November 2012).

Thus this catchment should be maintained to avoid debris being carried by flood flows. In addition, the exits from the culverts should be kept clear.

A question has been raised about the need for a channel to connect the land immediately to the north of the culverts with the downstream floodplain. Whilst this is unlikely to have a significant impact during a flood, it would allow this land to drain more effectively to the river downstream of the road after the event. This should be the subject of further study.

- d) **A network of flood wardens** should be put in place with tasks that include monitoring the condition of the flood plain and the culverts. There should be a designated DCC officer to respond to wardens. Organising annual river events during dry spells, to inspect and clear potential obstructions, helps to maintain awareness of the flood risk management system, especially during dry spells. This arrangement is becoming commonplace in areas at risk, and is proving to be an important educational opportunity.
- e) **Linking a flood warning system to an upstream gauge** will be useful to the residents, flood wardens, NRW and DCC. It is vital there is a clear means of communication with identified recipients.
- f) **The grills** have been removed from the culvert entrances and exits and should not be put back. Given the shallow height of the culverts and the staggered entrances and exits, designing screens to conform to the CIRIA Guide, with a low risk of blockage, would be a challenge.
- g) **An alternative** that could be explored is a line of posts around the entrances to the culverts that could catch larger debris and vegetation carried in the flow (see Plate 12, Section 4.3 for photo).
- h) **A 300mm diameter sewer** is shown on the drawings running under the culverts and a broken manhole cover was observed just upstream of the culverts on a visit on 7th August 2013. This manhole cover and any others in the area should be inspected, repaired and made safe in this public area.
- i) **The surface water drainage** within the Glasdir site, in our view, had no discernible effect on the consequences of the flooding on 26/27 November 2012. Its ongoing monitoring, inspection and maintenance is vital to ensure it effectively drains rain water within the site.

## **Appendices**

Appendix 1A: **Terms of Reference and Commission for Investigation of 9 January 2013, annotated with Paragraph Numbers showing where the issues have been covered in the report**

Appendix 1B: **Revised Terms of Reference and Commission for Investigation of April 2013 showing the main changes between the two versions**

Appendix 2: **Glasdir Development, Ruthin: Relationship between the Main Parties**

Appendix 3: **Outline of possible profile of the heightened bund**

Appendix 4: **Key Documents re Glasdir Flooding in November 2012**

## Appendix 1A: Terms of Reference and Commission for Investigation of 9 January 2013

### Denbighshire County Council

#### Flooding events – 26<sup>th</sup>/27<sup>th</sup> November 2012

#### Flood & Water Management Act 2010

Under the terms of the Flood & Water Management Act 2010, Denbighshire County Council, acting lead local flood authority intends to undertake an investigation into the flooding events of 26<sup>th</sup>/27<sup>th</sup> November 2012. These include flooding at Rhuddlan, St Asaph, Brookhouse and Glasdir, Ruthin.

Paragraph from Terms of Reference	Paragraph numbers where issue is covered for Ruthin
<p>In commissioning the investigation, the Council wishes to understand:</p> <ul style="list-style-type: none"> <li>• Why the flooding occurred.</li> <li>• What the likelihood of recurrence may be.</li> <li>• What can/should be done to by all relevant flood risk management authorities to minimise flood risk to properties in future events.</li> </ul> <p><u>Terms of Reference</u></p> <p>The overall investigation will address the following points:-</p> <ol style="list-style-type: none"> <li>a) The weather conditions during and preceding the flood events.</li> <li>b) The degree to which flood defences and other alleviation/management measures operated as intended, including specifically any factors that may have prevented their full operation.</li> <li>c) The overall flood risk assessments for the affected areas and the continued adequacy of these in the light of the flood events. This should include assessment of whether changes to river patterns and/or flood management measures have changed flood risks since the last assessment was concluded.</li> <li>d) Whether, in the light of the flooding experienced on 26<sup>th</sup>/27<sup>th</sup> November 2012, relevant flood risk management authorities should implement modifications or additions to their flood defence, alleviation and management measures to minimise risk of future flooding to an acceptable level.</li> </ol> <p>More detailed questions for the investigation are suggested in Appendix 1.</p> <p><u>Relevant Flood Risk Management Authorities</u></p> <p>For the purposes of this investigation, Denbighshire County Council has identified the relevant flood risk management authorities as:-</p> <ul style="list-style-type: none"> <li>• Denbighshire County Council, as flood management authority responsible for surface flooding and minor water courses, and also as Highways Authority for county roads.</li> <li>• Environment Agency Wales, as flood management authority responsible for main rivers.</li> </ul>	<p>1.5 and 3.6 3.6.6 4.4</p> <p>1.5 and 3.6 3.6.1</p> <p>2</p> <p>4, plus Conclusions &amp; Recommendations</p>

- Welsh Government, as Highways Authority for the A494 & A55 trunk roads

In addition, whilst not a flood risk management authority, Taylor Wimpey North West will require to input to the investigation as currently responsible for the unadopted surface water drainage system at the Glasdir Estate, Ruthin.

#### Additional Independent Investigation – Glasdir, Ruthin

Whilst the impact of flooding across the County on 26<sup>th</sup>/27<sup>th</sup> November 2012 was significant, specific complexities and issues pertain to the flooding event at the Glasdir housing development in Ruthin.

To this end, and in recognition of the potential for conflict of interest, Denbighshire County Council is additionally commissioning an independent investigation of the flooding at Glasdir. As well as addressing the more general points outlined above in relation to Glasdir, the Council wishes the investigator to review specifically:-

- i. The planning process relating to the development of the Glasdir site, Ruthin, including the flood risk and consequence analyses undertaken, the adequacy of these, the degree to which they were incorporated into permissions given, and adhered to during construction.
- ii. The maintenance and management regimes in place for all relevant flood risk management authorities, the adequacy of those arrangements and the degree to which such arrangements were adhered. This should include flood alert and warning systems as well as physical measures in place to mitigate and manage flood risks.
- iii. The conclusions reached by the Environment Agency in its analysis of the possible causes of flooding at Glasdir, Ruthin, and specifically whether any other contributory factors and/or mitigating measures should be taken into account.

The independent investigation report is expected to fully explore the points raised, and any relevant associated issues, and to present findings and conclusions that arise. The report is also expected to make recommendations of any further action advised for relevant flood risk management authorities to minimise to an acceptable level, the risk of significant future flooding events at Glasdir specifically.

All surveys and studies already undertaken by or on behalf of both Denbighshire County Council or the Environment Agency in relation to Glasdir will be made available to the Independent Investigator. Should s/he consider them necessary to answer the points outlined above, the Independent Investigator will also have the power, in consultation with Denbighshire County Council, to commission additional technical studies, surveys or other such analyses.

#### Independent Review of Findings

While the Council will carry out the investigation of the causes of flooding at locations other than at Glasdir, the Independent Investigator will undertake a review of the findings and conclusions from those investigations, to provide assurance of their adequacy.

#### Timescale

The investigations are expected to take 3 months to complete. A final report





<p>6. Does the flooding event of 26/27 November raise any particular issues to be addressed by any relevant flood risk management authority?</p>	
<p><u>Flood Protection &amp; Mitigation Measures</u></p>	
<p>7. Who has responsibility for the various flood protection and mitigation measures involved in the flood event?</p>	<p>3</p>
<p>8. Are current flood protection and mitigation measures adequate? What scale of flood can they be expected to protect against?</p>	
<p>9. What level of flood protection is considered to be 'acceptable'? What, if anything, is needed to deliver that level of protection?</p>	
<p>10. What was the cause of flooding at each of the affected locations?</p>	
<p>11. Is there any evidence that blockages (in culverts or more generally on the river) caused the flood waters to overtop defences?</p>	<p>3.6.5</p>
<p>12. Is blockage/debris inevitable during a flood? Are flood defences designed to operate with an anticipated level of blockage?</p>	
<p>13. What (more) can be done to minimise the risk of unmanageable levels of debris/blockage?</p>	
<p><u>Glasdir issues</u></p>	
<p>14. Were planning permissions for the Glasdir development granted in line with recognised practice and in accordance with relevant planning policy, guidance and regulation?</p>	<p>6 and 7</p>
<p>15. Were flood mitigation recommendations appropriately incorporated into the permissions granted?</p>	
<p>16. Were the flood mitigation measures required by the planning permissions adhered to during construction?</p>	
<p>17. Was the expert advice sought on flood risk adequate?</p>	
<p>18. Did the sequential nature of applications for the Glasdir site affect the quality of advice given or flood mitigation measures recommended?</p>	
<p>19. The bund was specified for a 1 in 1000 event, were the culverts designed with sufficient capacity to manage 1 in 1000 volume of flood waters? Including with a reasonable level of blockage?</p>	
<p>20. Should flood mitigation recommendations have specified works downstream of the culverts to direct the subsequent flow of diverted flood waters?</p>	
<p>21. Did the design of the link road exacerbate flooding at Glasdir once the bund had been overtopped?</p>	
<p>22. Did the surface water drainage system exacerbate flooding at Glasdir once the bund had been overtopped?</p>	
<p>23. Could downstream blockages have contributed to the flooding at Glasdir?</p>	
<p>24. Are there any specific measures that need to be taken to reduce the risk of flooding at Glasdir to an acceptable level?</p>	
<p>25. Is protection against a 1 in 1000 flood event at Glasdir achievable?</p>	
<p><u>St Asaph/ Rhuddlan issues</u></p>	
<p>26. Did the tide contribute to flooding at St Asaph or Rhuddlan?</p>	
<p>27. Did construction works at Foryd Harbour contribute to flooding at St Asaph or Rhuddlan?</p>	
<p>28. Could anything more have been done to prevent overtopping of the defences at St Asaph?</p>	
<p>29. Are defences/flood mitigation measures at both locations adequate to provide a reasonable level of protection from flooding?</p>	

## **Appendix 1B: Revised Terms of Reference and Commission for Investigation, April 2013 showing in red the differences from the January issue**

### **Terms of Reference and Commission for Investigation**

#### **Denbighshire County Council**

#### **Flooding events – 26<sup>th</sup>/27<sup>th</sup> November 2012**

##### Flood & Water Management Act 2010

Under the terms of the Flood & Water Management Act 2010, Denbighshire County Council, acting lead local flood authority intends to undertake an investigation into the flooding events of 26<sup>th</sup>/27<sup>th</sup> November 2012. These include flooding at Rhuddlan, St Asaph, Brookhouse and Glasdir, Ruthin.

In commissioning the investigation, the Council wishes to understand:

- Why the flooding occurred
- What the likelihood of recurrence may be
- What can/should be done by all relevant flood risk management authorities to minimise flood risk to properties in future events

The purpose of this report is not to allocate blame or fault but to investigate the cause(s) of the flood in order to determine what actions should be taken.

##### Terms of Reference

The overall investigation will address the following points:-

- a) The weather conditions during and preceding the flood events.
- b) The degree to which flood defences and other alleviation/management measures operated as intended, including specifically any factors that may have prevented their full operation.
- c) The overall flood risk assessments for the affected areas and the continued adequacy of these in the light of the flood events. This should include assessment of whether changes to river patterns and/or flood management measures have changed flood risks since earlier assessments.
- d) Whether, in the light of the flooding experienced on 26<sup>th</sup>/27<sup>th</sup> November 2012, relevant flood risk management authorities should implement modifications or additions to their flood defence, alleviation and management measures to minimise risk of future flooding to an acceptable level.

More detailed questions for the investigation are suggested in Appendix 1

##### Relevant Flood Risk Management Authorities

For the purposes of this investigation, Denbighshire County Council has identified the relevant flood risk management authorities as:-

- Denbighshire County Council, as flood management authority responsible for surface flooding and minor water courses, and also as Highways Authority for county roads
- Environment Agency Wales, as flood management authority responsible for main rivers

- Welsh Government, as Highways Authority for the A494 & A55 trunk roads

In addition, whilst not a flood risk management authority, Taylor Wimpey North West will require to input to the investigation as currently responsible for the unadopted surface water drainage system at the Glasdir estate, Ruthin.

#### Additional Independent Investigation – Glasdir, Ruthin

Whilst the impact of flooding across the County on 26<sup>th</sup>/27<sup>th</sup> November 2012 was significant, specific complexities and issues pertain to the flooding event at the Glasdir housing development in Ruthin.

To this end, Denbighshire County Council is additionally commissioning an independent investigation of the flooding at Glasdir. As well as addressing the more general points outlined above in relation to Glasdir, the Council wishes the investigator to review specifically:-

- i. The planning process relating to the development of the Glasdir site, Ruthin, including the flood risk and consequence analyses undertaken, the adequacy of these, the degree to which they were incorporated into permissions given, and adhered to during construction.
- ii. The maintenance and management regimes in place for all relevant flood risk management authorities, the adequacy of those arrangements and the degree to which such arrangements were adhered. This should include flood alert and warning systems as well as physical measures in place to mitigate and manage flood risks.
- iii. The conclusions reached by the Environment Agency in its analysis of the possible causes of flooding at Glasdir, Ruthin, and specifically whether any other contributory factors and/or mitigating measures should be taken into account.

The independent investigation report is expected to fully explore the points raised, and any relevant associated issues, and to present findings and conclusions that arise. The report is also expected to make recommendations of any further action advised for relevant flood risk management authorities to minimise to an acceptable level, the risk of significant future flooding events at Glasdir specifically.

All surveys and studies relevant to these Terms of Reference already undertaken by or on behalf of both Denbighshire County Council or the Environment Agency in relation to Glasdir will be made available to the Independent Investigator. Should s/he consider them necessary to answer the points outlined above, the Independent Investigator will also have the power, in consultation with Denbighshire County Council, to commission additional technical studies, surveys or other such analyses.

#### Independent Review of Findings

While the Council will carry out the investigation of the causes of flooding at locations other than at Glasdir, the Independent Investigator will undertake a review of the findings and conclusions from those investigations, to provide assurance of their adequacy.

#### Timescale

The investigations are expected to take 3 months to complete. A final report on all parts of the investigation is therefore expected by late April 2013.

#### Governance

The investigations will be co-ordinated by an officer working group chaired by the Corporate Director for Economic & Community Ambition. Membership will reflect the relevant flood risk management authorities - Highways & Planning services for Denbighshire County Council, Environment Agency Wales and Welsh Government.

The role of the working group will be to investigate the overall flood events and also to support, through the provision of relevant information and evidence, the independent investigation into the specific events affecting Glasdir.

A Stakeholder Reference Group will also be established to ensure relevant interested parties are informed about progress with the investigations and offered the opportunity to contribute and comment. The Stakeholder Reference Group will comprise the following groups:

- Local Members
- Cabinet Lead Member for Environment & Public Realm
- Leader of the Council
- Resident and business representatives from the affected communities
- Representatives from Ruthin, & Rhuddlan Town Councils and St Asaph City Council
- For Glasdir only, Tai Clywd Housing Association & Taylor Wimpey North West Ltd

### Reporting

The final report from the Investigations will be presented to full Council at its meeting on 7 May 2013.

### Exclusions

The investigations will cover the causes of the flooding events on 26th/27th November 2012, the exercise by the relevant flood risk management authorities of their responsibilities and whether those authorities need to take any specific action to minimise the risk of future significant flooding.

The investigations will not evaluate the emergency response to or recovery from the flooding events. These are separately covered in reviews being conducted by North Wales Resilience Forum. The findings from the Resilience Forum reviews will help to improve the Council and its partners' emergency response to and recovery from any future incidents, and will be reported to Members once completed.

## **Appendix 1**

### **Detailed Questions – Flooding Event, 26<sup>th</sup>/27<sup>th</sup> November 2012**

#### Rainfall, Weather and Conditions

1. What were the weather, ground and river conditions that led to the flooding event?
2. Were they exceptional?
3. How likely are they and flooding of this magnitude to recur?
4. Are there any warning signs/triggers for future risk management?

### Flood Alert & Risk Management

5. Are flood alert procedures and mechanisms sufficient? Did they operate as expected on 26/27 November?
6. Does the flooding event of 26/27 November raise any particular issues to be addressed by any relevant flood risk management authority?

### Flood Protection & Mitigation Measures

7. Who has responsibility for the various flood protection and mitigation measures involved in the flood event?
8. Are current flood protection and mitigation measures adequate? What scale of flood can they be expected to protect against?
9. What level of flood protection is considered to be 'acceptable'? What, if anything, is needed to deliver that level of protection?
10. What was the cause of flooding at each of the affected locations?
11. Is there any evidence that blockages (in culverts or more generally on the river) caused the flood waters to overtop defences?
12. Is blockage/debris inevitable during a flood? Are flood defences designed to operate with an anticipated level of blockage?
13. What (more) can be done to minimise the risk of unmanageable levels of debris/blockage?

### Glasdir issues

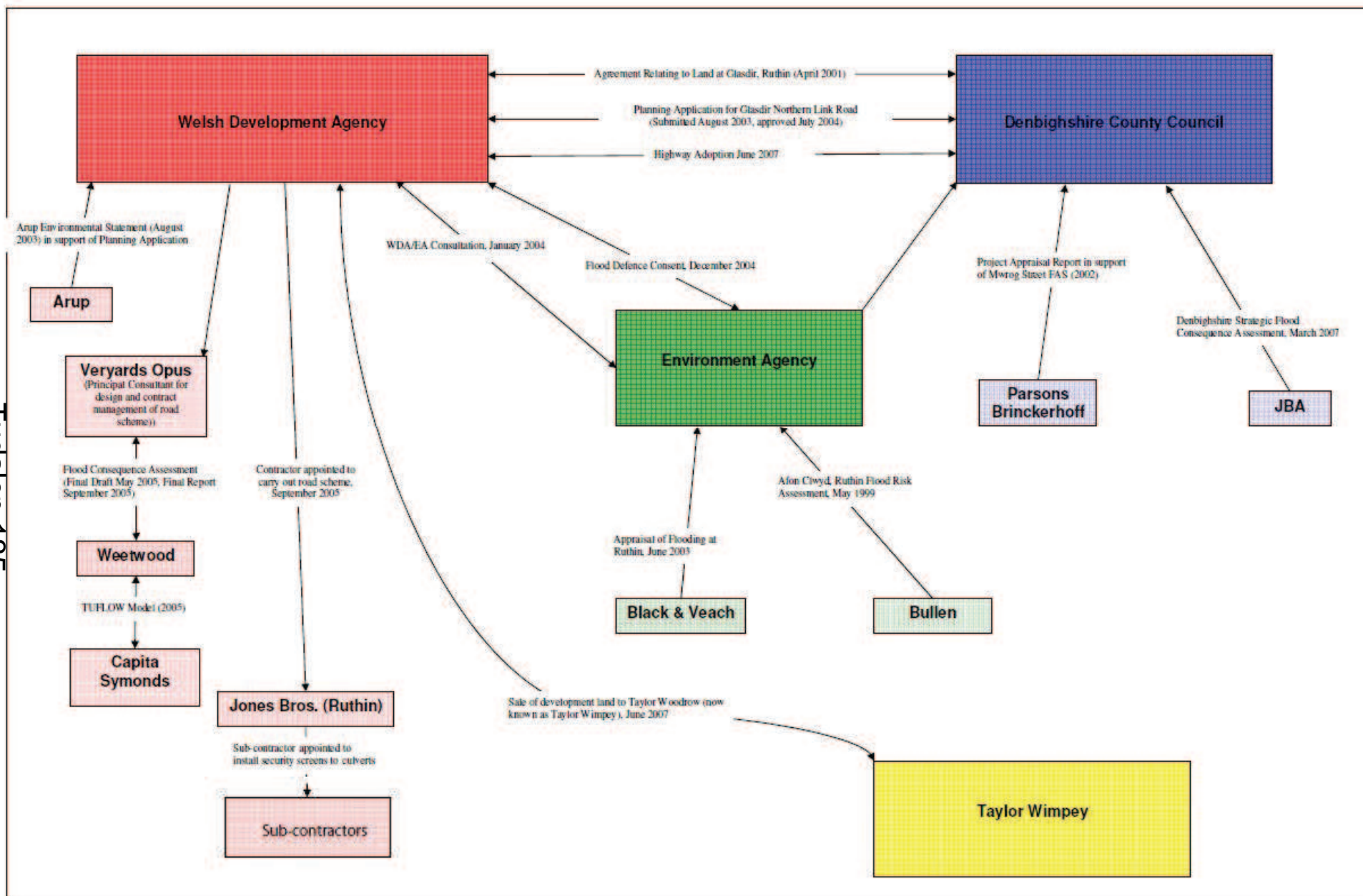
14. Were planning permissions for the Glasdir development granted in line with recognised practice and in accordance with relevant planning policy, guidance and regulation?
15. Were flood mitigation recommendations appropriately incorporated into the permissions granted?
16. Were the flood mitigation measures required by the planning permissions adhered to during construction?
17. Was the expert advice sought on flood risk adequate?
18. Did the sequential nature of applications for the Glasdir site affect the quality of advice given or flood mitigation measures recommended?
19. Do the culverts have sufficient capacity to manage a 1:1000 event with or without a reasonable level of blockage?
20. Should flood mitigation recommendations have specified works downstream of the culverts to direct the subsequent flow of diverted flood waters?
21. Did the design of the link road exacerbate flooding at Glasdir once the bund had been overtopped?
22. Did the surface water drainage system exacerbate flooding at Glasdir once the bund had been overtopped?
23. Could downstream blockages have contributed to the flooding at Glasdir? Specific reference has been made to the bridge/weir just north of Glasdir.
24. Are there any specific measures that need to be taken to reduce the risk of flooding at Glasdir to an acceptable level?
25. Is protection against a 1 in 1000 flood event at Glasdir achievable?

### St Asaph/Rhuddlan issues

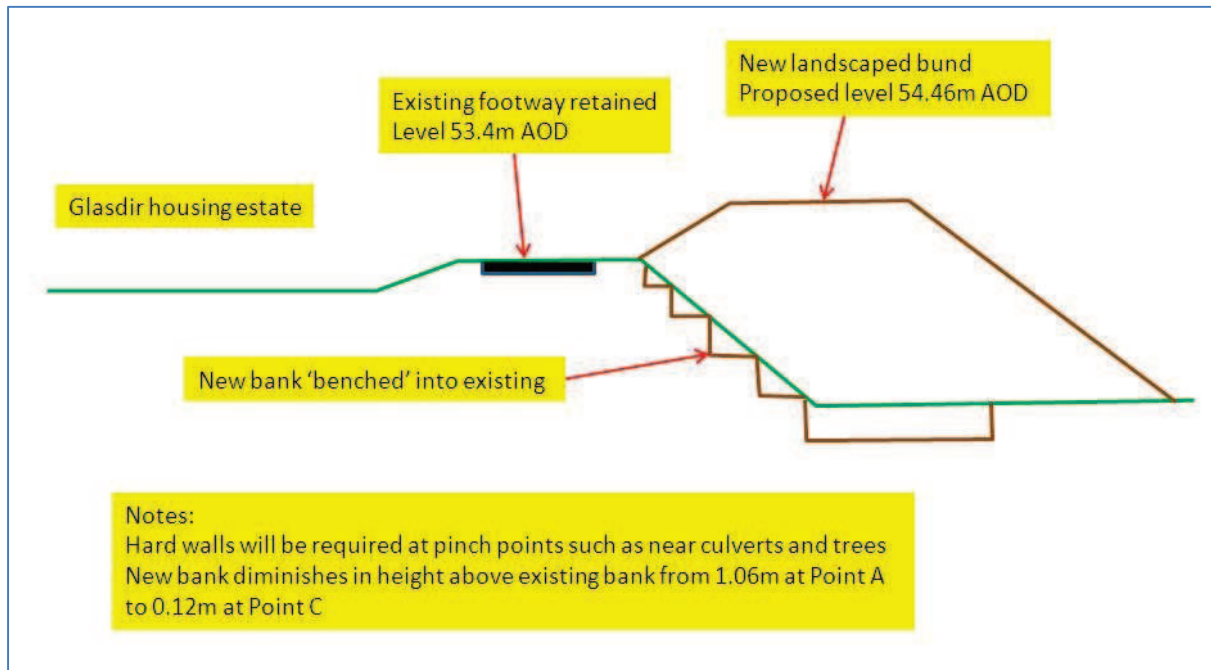
26. Did the tide contribute to flooding at St Asaph or Rhuddlan?
27. Did construction works at Foryd Harbour contribute to flooding at St Asaph or Rhuddlan?
28. Could anything more have been done to prevent overtopping of the defences at St Asaph?
29. Are defences/flood mitigation measures at both locations adequate to provide a reasonable level of protection from flooding?
30. Should additional measures be put in place at St Asaph or Rhuddlan?

## Appendix 2: Glasdir Development, Ruthin – Relationship between main parties

Tudalen 135



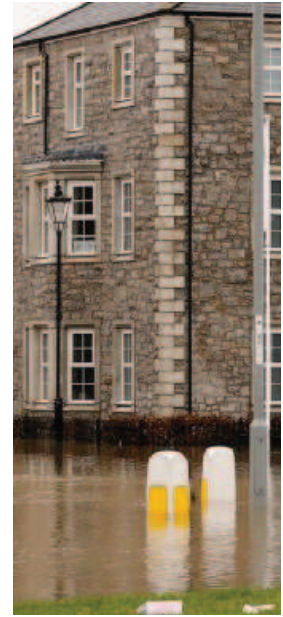
### Appendix 3: Outline of possible profile of the heightened bund





## Appendix 4: Key Documents re Glasdir Flooding in November 2012

- 1999 Bullen Report (Afon Clwyd, Ruthin Flood Risk Assessment for EAW), May 1999
- Mwrog Street, Ruthin Flood Alleviation Scheme Project Appraisal and Cost benefit Study, Parsons Brinckerhoff for DCC, 2001
- Mwrog Street, Ruthin Flood Alleviation Scheme Project Appraisal and Cost benefit Study, Parsons Brinckerhoff for DCC, 2003
- Appraisal of Flooding at Ruthin Report, Black and Veatch for EAW, June 2003
- Arup Environmental Statement (Glasdir Northern Link Road) – Extract with references to drainage and flooding 13/8/2003
- Flooding Consequences Assessment, Glasdir, Ruthin, Veryards Opus/Weetwood Report for West Development Agency, May 2005
- Amended Flooding Consequences Assessment, Glasdir, Ruthin, Veryards Opus/Weetwood Report for Welsh Development Agency, September 2005 (Annotated by DCC in December 2012 to identify changes from May 2005 report)
- Letter from EAW to WDA concerning River Clwyd Flood Extents at Ruthin, 30/5/2006
- Letter from EAW to DCC concerning flood at Glasdir 26/9/2006
- Denbighshire Strategic Flood Consequence Assessment : March 2007, Final Report
- Planning and Consenting History Relating to the Glasdir Site (EAW document) 25/10/12
- EA Wales Report on the flooding at Glasdir, December 2012
- Interim Planning and Highways Report on Flooding Incident at Glasdir, Ruthin 2012
- Planning and Consenting History relating to Glasdir site, Ruthin 25/1/2013
- Report into the Planning History of Glasdir Residential Estate, Ruthin, March 2013



EdenvaleYoung

clive onions  
consulting civil engineer



<b>Adroddiad i'r:</b>	<b>Cyngor Sir</b>
<b>Dyddiad y Cyfarfod:</b>	<b>10 Medi 2013</b>
<b>Aelod / Swyddog Arweiniol:</b>	<b>Y Cyngorydd Julian Thompson-Hill / Paul McGrady</b>
<b>Awdur yr Adroddiad:</b>	<b>Richard Weigh, Prif Gyfrifydd</b>
<b>Teitl:</b>	<b>Cyllideb Refeniw 2014/15</b>

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## 1. **Am beth mae'r adroddiad yn sôn?**

Mae'r adroddiad yn darparu gwybodaeth am y sefyllfa ddiweddaraf o ran pennu cyllideb y cyngor ar gyfer 2014/15. Mae'r adroddiad yn canolbwyntio ar gymeradwyo cyfres o arbedion arfaethedig ar gyfer 2014/15. Daw'r arbedion arfaethedig hyn yn sgil proses Heriau Gwasanaeth sydd wedi ei chynnal yn ystod y ddwy flynedd ddiwethaf.

## 2. **Beth yw'r rheswm dros lunio'r adroddiad hwn?**

Darparu'r wybodaeth ddiweddaraf ar gyllideb 2014/15 a chymeradwyo'r arbedion a gynigir yn Atodiad 1.

## 3. **Beth yw'r Argymhellion?**

Nodi sefyllfa ddiweddaraf cyllideb 2014/15.

Cymeradwyo'r arbedion a gynigir yn Atodiad 1.

## 4. **Manylion am yr adroddiad**

Mae'r mwyafrif o gyllid y cyngor (oddeutu 78%) yn dod o Lywodraeth Cymru trwy'r Grant Cynnal Refeniw ac ailddosbarthu'r Trethi Annomestig Cenedlaethol. Yn 2013/14 y setliad terfynol ar gyfer Sir Ddinbych oedd £150.821 miliwn. Mae gweddill cyllid y cyngor yn cael ei ddarparu drwy Dreth y Cyngor (£40.7 miliwn wedi ei gyllidebu yn 2013/14). Felly mae effaith y symudiad ar y setliad yn fwy nag effaith y symudiad ar lefelau Treth y Cyngor.

Mae'r cyngor yn debygol o wynebu setliad cyllideb refeniw heriol yn 2014/15 ac wedi hynny. Er na chyhoeddir fersiwn ddrafft y Setliad Llywodraeth Leol tan ddechrau fis Hydref – lle caiff y sefyllfa ei hegluro, mae pob arwydd y bydd y setliad yn un gwael. Mae nifer o gyhoeddiadau a sylwadau gweinidogion yn cefnogi'r farn hon. Mae'r CLILC yn argymhell, er dibenion cynllunio, y dylai'r cyngor ragdybio gostyngiad ariannol o -4% yn 2014/15. Mae gostyngiad o 1% yn setliadau refeniw'r cyngor yn cyfateb i oddeutu £1.5 miliwn.

Mae'n aneglur pam bod angen gostyngiad o'r fath yn 2014/15 neu yn 2015/16, gan nad yw setliad Llywodraeth y DU i Gymru yn adlewyrchu'r angen amdano. Mae cyhoeddiadau diweddar ynglŷn â 'gostyngiadau Seisnig i lywodraeth leol Cymru' yn debygol o fod yn sgil polisi Llywodraeth Cymru i 'ddiogelu' gwasanaethau (h.y. dargyfeirio adnoddau) meysydd fel iechyd.

Yn ystod y tair blynedd ddiwethaf mae Llywodraeth Cymru wedi ceisio dylanwadu ar benderfyniadau lleol drwy 'ddiogelu' cyllidebau ysgolion a gofal cymdeithasol. Mae hyn wedi ei fynegi drwy gyfarwyddo cynghorau i ddarparu cyllid i'r meysydd hyn ar raddfa sydd 1% yn fwy na'r setliad y mae Llywodraeth Cymru yn ei dderbyn gan Lywodraeth y DU (sef y Grant Bloc). Mae hyn yn golygu bod dros hanner cyllideb refeniw'r cyngor wedi ei diogelu yn y ffordd hon. Mae parhau i roi'r sicrwydd yma i rai gwasanaethau ar lefel cenedlaethol yn golygu y gall gostyngiadau ariannol posib effeithio'n wahanol ar feysydd heb eu diogelu ac nad oes gan y cyngor yr hyblygrwydd i reoli'r effaith.

Bydd y cyngor hefyd yn dioddef effaith niweidiol newidiadau sy'n digwydd o ganlyniad i ddata'r cyfrifiad sydd wedi amlygu fod poblogaeth y cyngor yn llai nag oedd wedi ei amcangyfrif mewn amcangyfrifon poblogaeth cenedlaethol. Mae poblogaeth yn ddangosydd allweddol sy'n cael ei ddefnyddio i ddsbarthu cyllid llywodraeth ac mae canlyniad cyfrifiad 2011 yn dangos bod, ar lefel cenedlaethol, twf poblogaeth wedi ei oramcangyfrif. Mae effaith ariannol y newid yn debygol o fod yn oddeutu £3.1 miliwn ond nid yw Llywodraeth Cymru wedi cadarnhau sut caiff y newid ei weithredu – h.y. a fydd yr effaith yn cael ei rannu dros gyfnod o flwyddyn neu sawl blwyddyn.

Bydd y cyngor hefyd yn wynebu pwysau chwyddiannol mewn sawl maes fel cyflogau, pensiynau ac ynni yn ogystal â phwysau o ran y galw am wasanaethau.

O ystyried yr uchod, mae'n debygol y bydd targed sylweddol ar gyfer arbedion yn 2014/15. Mae sawl ansicrwydd ar hyn o bryd ac felly nid oes modd darparu ffigwr benodol, ond os yw'r gostyngiad i setliad refeniw'r cyngor wedi ei bennu ar lefel o -4%, ac os gweithredir effaith y newid mewn blwyddyn, yna nid yw rhagdybiaeth cynllunio o ostyngiad rhwng £8 a £9 miliwn yn afresymol.

Mae gwasanaethau ar hyn o bryd yn modelu senarios cyllideb ac yn adnabod arbedion posib. Bydd y rhain yn cael eu cyflwyno i'r aelodau etholedig yn ystod gweithdai cyllideb ar 21 Hydref a 9 Rhagfyr. Cynigir y dylid cyflwyno adroddiad i'r Cyngor Sir ar 3 Rhagfyr lle gellir cytuno ar yr arbedion a gefnogir gan yr aelodau etholedig a'r arbedion sy'n weddill cyn i'r Cyngor gytuno ar y gyllideb derfynol ar 4 Chwefror.

Yn y cyd-destun hwnnw, cafodd proses Heriau Gwasanaeth ei rhoi yn ei lle fel rhan o setliad cyllideb 2012/13 ac mae 2013/14 eisoes wedi adnabod arbedion posib o £1.716 miliwn ar gyfer 2014/15. Mae'r cynigion wedi eu hystyried mewn manylder yn ystod cyfarfodydd heriau gwasanaeth ac wedi eu cadarnhau yn ystod cyfarfodydd diweddar gyda phenaethiaid gwasanaeth.

Mae'r cynigion ar gyfer arbedion wedi eu nodi yn Atodiad 1 ac fe'u disgrifir fel Cam 1 o'r broses o gyflawni'r targed sylweddol posib ar gyfer 2014/15. Mae'r Atodiad yn dangos y meysydd lle cynigir yr arbedion ar eu cyfer ac, er mwyn darparu cyd-destun, yn dangos cyllideb refeniw net 2014/15 pob maes yn ogystal â chanran yr arbedion cyllideb net sydd wedi eu cyflawni ers 2010/11. Mae cyfanswm rhai gwasanaethau yn 0 fel rhan o'r cam hwn ond mae gofyn iddyn nhw gynnig arbedion pellach yn yr wythnosau nesaf wrth i broses gyllideb 2014/15 fynd rhagddi.

Mae'r arbedion corfforaethol a amlygwyd fel Moderneiddio'r Cyngor yn ffurfio rhan o darged i gyflawni gwerth £3.0 miliwn o arbedion yn y tair blynedd nesaf wrth i brosiectau gael eu datblygu i ddarparu effeithlonrwydd a meithrin cymhwysedd mewn gwasanaethau. Mae sawl prosiect effeithlonrwydd yn cael ei ddatblygu, gan gynnwys buddsoddi mewn Rheoli Dogfennau a Chofnodion Electronig a Chofrestr Anfonebau Canolog (ffordd o gynyddu nifer yr anfonebau sy'n cael eu derbyn a'u prosesu'n electronig) a phrosiectau sy'n cynyddu'r defnydd o dechnoleg er mwyn cyflawni arbedion trwy leihau'r angen i deithio, cynyddu hyblygrwydd a gweithredu systemau gweinyddol mwy effeithlon. Yn y pen draw bydd targedau arbedion moderneiddio yn cael eu cyflawni gan y gwasanaethau.

**5. Sut mae'r penderfyniad yn cyfrannu at y Blaenoriaethau Corfforaethol?**

Mae rheolaeth effeithiol o gyllideb refeniw'r cyngor a darparu strategaeth y gyllideb y cytunwyd arni'n sail i weithgareddau ym mhob maes, gan gynnwys blaenoriaethau corfforaethol.

**6. Beth fydd yn ei gostio a sut bydd yn effeithio ar wasanaethau eraill?**

Mae'r arbedion a nodwyd yn Atodiad 1 yn £1.716 miliwn.

**7. Beth yw prif gasgliadau'r Aseiad o Effaith ar Gydraddoldeb a gynhaliwyd am y penderfyniad?**

Gwasanaethau unigol sy'n gyfrifol am gynnal aseidiadau effaith ar eu cynigion am arbedion sydd wedi eu cynnwys yn y gyllideb. Mae crynodeb o'r Aseiad o Effaith ar Gydraddoldeb ar effaith yr arbedion arfaethedig wedi ei amgáu.

**8. Pa ymgynghori a gynhaliwyd gyda'r Pwyllgorau Archwilio ac eraill?**

Mae'r cynigion ar gyfer arbedion 2014/15 eisoes wedi eu hystyried mewn cyfarfodydd heriau gwasanaeth yn 2011 ac yn 2012 a chawsant eu cynnwys fel rhan o'r targedau tair blynedd a ddynodwyd yn y Cynllun Ariannol Tymor Canolig. Cynhaliwyd ymarferion heriau gwasanaeth gyda phob pennaeth gwasanaeth ac roedd cynrychiolwyr o'r pwyllgor archwilio a'r Cabinet yn rhan o'r ymarferion hyn. Mae copi o'r adroddiad hwn wedi ei gynnwys yn rhaglen Pwyllgor Llywodraethu Corfforaethol er eu hystyriaeth ar 4 Medi 2013.

**9. Datganiad y Prif Swyddog Cyllid**

Mae'n debyg y bydd y tair blynedd nesaf yn her fawr. Mae yna ansicrwydd a chafeatau ond mae'n bur debygol y bydd angen targed arbedion sylweddol yn 2014/15 ac wedi hynny. Bydd gan aelodau etholedig ran allweddol i'w chwarae o ran penderfynu ar ymateb y cyngor i'r her o'n blaenau. Bydd cytuno ar y cynigion yn yr adroddiad yma'n golygu y gellir canolbwyntio'n well ar weddill y dasg sydd o'n blaenau i sicrhau bod y cyngor yn pennu cyllideb gynaliadwy ar gyfer 2014/15 a Chynllun Ariannol Tymor Canolig cadarn ar gyfer y tair blynedd nesaf.

**10. Pa risgiau sy'n bodoli ac a oes unrhyw beth y gallwn ei wneud i'w lleihau?**

Mae'n bosib mai hwn yw'r cyfnod ariannol mwyaf heriol y mae'r cyngor wedi ei wynebu. Mae'r cynigion a nodwyd yn yr adroddiad hwn a'u heffaith ar wasanaethau wedi eu hasesu yn ystod dwy rownd o heriau gwasanaeth. Bydd methu darparu'r strategaeth gyllideb y cytunwyd arni yn rhoi pwysau ychwanegol ar wasanaethau yn ystod y flwyddyn ariannol bresennol a'r blynyddoedd i ddod. Bydd monitro a rheoli'r gyllideb yn effeithiol yn helpu i sicrhau y cyflawnir y strategaeth ariannol.

**11. Pŵer i wneud y Penderfyniad**

Gofynnir i awdurdodau lleol dan Adran 151 Deddf Llywodraeth Leol 1972 wneud trefniadau i weinyddu eu materion ariannol yn gywir.

**MEDIUM TERM FINANCIAL PLAN 2014-15: SAVING PROPOSALS PHASE 1**

<u>Service Area</u>	<u>Description</u>	<u>Budget</u> <u>2013/14</u> <u>£k</u>	<u>Savings Delivered</u> <u>2010/11-2013/14</u> <u>(% of 2010 Base)</u>	<u>Savings Proposed</u> <u>2014/15</u> <u>£k</u>
<b>CORPORATE EFFICIENCIES</b>				
Reduce Contingency for balances and impact of Recession	Phase out budget provision over 3 years			300
Workfore Efficiencies	Includes Removal of Essential Car User Allowance			363
Modernising the Council	Agreed target as per the 2013/14 Budget only - further projects being developed and will be apportioned to Services			300
				<b>963</b>
<b>SERVICE EFFICIENCIES</b>				
<b>Communication, Marketing &amp; Leisure</b>		<b>5,435</b>	<b>16.70%</b>	
Modernise Library Service Provision	Better use of space eg Gallery, Museum, TIC, location and suitability of some buildings etc			30
Scala	Reduced Council subsidy			12
Clwyd Leisure	Reduced Council subsidy			50
ECTARC	Reduced Council subsidy			10
Ruthin Craft Centre	Reduce Council's financial support			20
Llangollen Pavilion	Reduce Council's financial support			25
				<b>147</b>
<b>Highways &amp; Environmental Services</b>		<b>20,140</b>	<b>10.04%</b>	
Renegotiate recycle and disposal contracts	Contracts being tendered - increased competition likely to drive down prices			27
Environmental Services	Other Small savings			10
WAG Waste Target Pressures	Increase in Landfill Tax, costs of collection etc			-50
Countryside - AONB	Additional staffing resource to extend the boundary of the AONB			-20
Reduced subsidy of School Meal Service	Increased take up of meals removes reliance on subsidy			50
				<b>17</b>
<b>Planning and Regulatory Services</b>		<b>2,531</b>	<b>18.34%</b>	
Review Pest Control	Review provision - only carry out the statutory part of function			20
Review Development Control	Reorganisation of service structure			10
Review of Planning Policy Service	Management restructure			20
Review of Pollution Control	Review of structure			10
				<b>60</b>
<b>Adults &amp; Business Services</b>		<b>33,299</b>	<b>7.91%</b>	
Cefndy Healthcare	Planned reduction in Council subsidy			31
Impact of investment in reablement	Reduced need for care services as more people are able to live independently for longer			75
Residential Care - Impact of Extra Care	Less people needing residential care due to preventative services and more independent living opportunities			150
Reablement Intervention	Reduce need for care services through targeted intervention			13
Telecare	Regional partnership will reduce running costs			10
Systems Thinking and Vacancy Control	Process improvements to reduce admin and other costs			90
Social Care Regional Board - Procurement Hub	Better commissioning of high cost placements			18
				<b>387</b>
<b>School Improvement &amp; Inclusion</b>		<b>4,859</b>	<b>11.55%</b>	
				0
				<b>0</b>
<b>Customers &amp; Education Support</b>		<b>1,960</b>	<b>1.38%</b>	
				0
				<b>0</b>
<b>Children's Services</b>		<b>8,797</b>	<b>4.75%</b>	
<b>Staffing</b>				
Reduction in Independent (external) Placement Provision	Currently exceptionally high due to type of placements. These will change as certain individuals become adults			64
West Rhyl Young Peoples Project	Reduce / remove grant funding			41
Social Care Regional Board - Procurement Hub	Better commissioning of high cost placements			17
				<b>122</b>
<b>Housing &amp; Community Development</b>		<b>1,753</b>	<b>14.06%</b>	
Review of Regeneration	Review of Management Structure			20
				<b>20</b>
<b>Finance &amp; Assets</b>		<b>7,018</b>	<b>12.78%</b>	
				0
<b>HR</b>		<b>901</b>	<b>13.54%</b>	
				0
<b>Legal &amp; Democratic Services</b>		<b>1,513</b>	<b>18.22%</b>	
				0
<b>Business Planning &amp; Performance</b>		<b>1,430</b>	<b>0.72%</b>	
				0
<b>Schools</b>		<b>63,839</b>	<b>0%</b>	
Schools				0
				<b>0</b>
<b>Total Service Savings - Phase 1</b>				<b>753</b>
<b>Total Council Savings - Phase 1</b>				<b>1,716</b>

Mae tudalen hwn yn fwriadol wag



## Appendix 2 Summary of Efficiency Programme Phase 1 2014-15 EqIA

<b>Corporate</b>	<b>Proposed Saving: Reduce Contingency for Balances/Impact of Recession</b>
<b>Change to service provided?</b>	No
<b>Potential Impacts</b>	None – provision has not been committed
<b>Conclusion/Recommendation</b>	No Further Action

<b>Corporate</b>	<b>Proposed Saving: Workforce Cost Review</b>
<b>Change to service provided?</b>	No
<b>Potential Impacts</b>	Removal of Essential Car User Allowance
<b>Conclusion/Recommendation</b>	HR have completed a detailed EqIA for this.

<b>Corporate</b>	<b>Proposed Saving: Modernising the Council</b>
<b>Change to service provided?</b>	Possibly – these are targets and each project will need an EqIA as it develops.
<b>Potential Impacts</b>	Would be assessed on a project by project basis
<b>Conclusion/Recommendation</b>	

<b>CML</b>	<b>Proposed Saving: Modernisation of Library Service Provision</b>
<b>Change to service provided?</b>	No change proposed. The efficiency target has been achieved without changing current provision
<b>Potential Impacts</b>	The service is confident that this will not impact on the level of service provided. The efficiencies are not associated with any front-line provision. Does not impact directly on the workforce.
<b>Conclusion/Recommendation</b>	None - The service has adopted a policy commitment which ensures front line provision will not be affected, until a clear strategy and service model has been determined for Libraries in Denbighshire.

<b>Environment</b>	<b>Proposed Saving: Renegotiate Recyclate and disposal contracts</b>
<b>Change to service provided?</b>	No

## Appendix 2 Summary of Efficiency Programme Phase 1 2014-15 EqIA

<b>Potential Impacts</b>	The saving will be achieved through the renegotiation of a contract. The service is confident that this will not impact on the level of service and that no-one with a protected characteristic would experience any negative impact.
<b>Conclusion/Recommendation</b>	No further action required

<b>Environment</b>	<b>Proposed Saving:</b> Regional Waste project procurement budget
<b>Change to service provided?</b>	No
<b>Potential Impacts</b>	A budget set aside for procurement in the regional waste project is no longer required for this purpose and the project will proceed as planned. The service is confident that this will not impact on the level of service and that no-one with a protected characteristic would experience any negative impact.
<b>Conclusion/Recommendation</b>	No further action required

<b>Planning &amp; Regulatory</b>	<b>Proposed Saving:</b> Service Restructures
<b>Change to service provided?</b>	Savings targets.
<b>Potential Impacts</b>	
<b>Conclusion/Recommendation</b>	All restructuring proposals would be subject to an EqIA as they develop.

<b>Adult Social Care</b>	<b>Proposed Saving:</b> Cefndy Heath Care
<b>Change to service provided?</b>	Yes
<b>Potential Impacts</b>	The Saving will be achieved via a reduction of council subsidy based on a revised business plan for the enterprise. This new plan sets more ambitious targets than had previously been the case, particularly in relation to increased volume of sales. The service believes there will be no negative impact on service users or staff with any protected characteristics.
<b>Conclusion/Recommendation</b>	No further action required

<b>Adult Social Care</b>	<b>Proposed Saving:</b> Re-ablement (older people)
<b>Change to service provided?</b>	Yes
<b>Potential Impacts</b>	The savings will be achieved by reducing the need for longer-term care packages by instead providing re-ablement which allows the older person to attain independence and therefore cease to require care support or elements of care support.

## Appendix 2 Summary of Efficiency Programme Phase 1 2014-15 EqIA

	The service believes that the impact on service users will be positive.
<b>Conclusion/Recommendation</b>	No further action required

<b>Adult Social Care</b>	<b>Proposed Saving:</b> Residential Care - Impact of Extra-Care
<b>Change to service provided?</b>	Yes
<b>Potential Impacts</b>	The saving will be achieved through the development of Extra Care provision which is expected to result in a reduction in demand for other services. This will reduce the financial burden which these other services would otherwise place on the council. The service believes that the impact on service users will be positive because Extra-Care provision provides greater independence for the service user.
<b>Conclusion/Recommendation</b>	No further action required

<b>Adult Social Care</b>	<b>Proposed Saving:</b> Re-ablement (Physical Impairment)
<b>Change to service provided?</b>	Yes
<b>Potential Impacts</b>	The savings will be achieved by reducing the need for longer-term care packages by instead providing re-ablement which allows the physically impaired person to attain independence and therefore cease to require care support or elements of care support. The service believes that the impact on service users will be positive.
<b>Conclusion/Recommendation</b>	No further action required

<b>Adult Social Care</b>	<b>Proposed Saving:</b> Telecare
<b>Change to service provided?</b>	No
<b>Potential Impacts</b>	The Savings will be achieved through the development of a wider partnership (involving 5 rather than 2 local authorities), which is expected to deliver savings without any reduction in provision. However, the service is aware that changes affecting staff can have negative equality impacts.
<b>Conclusion/Recommendation</b>	HR policies in relation to early voluntary retirement, redundancy, and redeployment are Equality Impact Assessed.

<b>Adult Social Care</b>	<b>Proposed Saving:</b> Systems Thinking and Vacancy Control
<b>Change to service provided?</b>	Potential
<b>Potential Impacts</b>	The savings will be achieved via a reduction in staffing costs across the service as identified by systems thinking

## Appendix 2 Summary of Efficiency Programme Phase 1 2014-15 EqIA

	exercises and vacancy control. The service believes there will be no reduction in service provision and that no service user with any of the protected characteristics will experience a negative impact. However, the service is aware that changes affecting staff can have negative equality impacts.
<b>Conclusion/Recommendation</b>	HR policies in relation to early voluntary retirement, redundancy, and redeployment are Equality Impact Assessed.

<b>Children &amp; Families</b>	<b>Proposed Saving: Reduction in Independent Placement Provision</b>
<b>Change to service provided?</b>	Yes
<b>Potential Impacts</b>	<b>We will still be seeking to provide the most appropriate accommodation to meet needs however changes to provision such as that detailed above and the impact of the hub provide an opportunity to achieve this with a smaller resource commitment without detriment to end users.</b>
<b>Conclusion/Recommendation</b>	Review on case by case basis.

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<b>Adroddiad i'r:</b>	<b>Y Cyngor</b>
<b>Dyddiad y Cyfarfod:</b>	<b>10 Medi 2013</b>
<b>Aelod/ Swyddog Arweiniol:</b>	<b>Y Cyngorydd Barbara Smith</b>
<b>Awdur yr Adroddiad</b>	<b>Mohammed Mehmet, Prif Weithredwr</b>
<b>Teitl:</b>	<b>Datganiad Polisi Tâl</b>

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## **1. Am beth mae'r adroddiad yn sôn?**

1.1 Mae Deddf Lleoliaeth 2011 yn gofyn i awdurdodau lleol baratoi datganiadau polisi tâl. Rhaid i'r datganiadau hyn gyfleu polisïau'r awdurdod ei hun tuag at ystod o faterion yn ymwneud â thalu ei weithlu, yn enwedig ei staff uwch (neu "brif swyddogion") a'i weithwyr tâl isaf. Rhaid paratoi datganiadau polisi tâl ar gyfer pob blwyddyn ariannol, gan ddechrau gyda 2012/13. Cytunwyd ar Ddatganiad Polisi Tâl cyntaf Sir Ddinbych ym mis Medi 2012. Rhaid i'r Cyngor gymeradwyo Datganiadau Polisi Tâl ar sail flynyddol, a'i gyhoeddi ar y wefan berthnasol.

## **2. Beth yw'r rheswm dros lunio'r adroddiad hwn?**

2.1 Mae'r adroddiad hwn wedi cael ei baratoi i fodloni rhwymedigaethau cyfreithiol y Cyngor mewn perthynas â Deddf Lleoliaeth 2011.

2.2 Cael cymeradwyaeth ar gyfer y Datganiad Polisi Tâl ynghlwm sydd wedi cael ei ddrafftio yn unol â gofynion 38 (1) Deddf Lleoliaeth 2011 ac mae'n cynnwys holl drefniadau tâl presennol ar gyfer y grwpiau gweithlu o fewn y Cyngor, gan gynnwys Prif Swyddogion a'r gweithwyr ar y tâl isaf.

## **3. Beth yw'r Argymhellion?**

3.1 Cymeradwyo'r Datganiad Polisi Tâl ynghlwm i sicrhau bod y Cyngor yn cydymffurfio â'i rwymedigaethau cyfreithiol o dan Ddeddf Lleoliaeth 2011.

## **4. Manylion am yr Adroddiad**

4.1 O dan Adran 112 Deddf Llywodraeth Leol 1972 mae gan y Cyngor 'y pŵer i benodi swyddogion ar delerau ac amodau rhesymol y gwêl yr Awdurdod yn dda'. Mae'r datganiad Polisi Tâl hwn yn nodi dull y Cyngor tuag at y Polisi Tâl yn unol â gofynion 38 (1) Deddf Lleoliaeth 2011, sy'n ei gwneud yn ofynnol i Awdurdodau Lleol Cymru a Lloegr gynhyrchu a chyhoeddi Datganiad Polisi Tâl ar gyfer 2012/3 ac am bob blwyddyn ariannol ar ôl hynny, yn manylu ar:

- Polisïau'r Awdurdod tuag at holl agweddau ac elfennau o dâl y Prif Swyddogion
- Eu dull o gyhoeddi a mynediad i wybodaeth mewn perthynas â phob agwedd ar dâl y Prif Swyddogion

- c) Polisiâu'r Awdurdod tuag at dâl ei weithwyr tâl isaf (gan gynnwys y diffiniad a fabwysiadwyd a'r rhesymau amdano)
- d) Y berthynas rhwng tâl ei Brif Swyddogion a gweithwyr eraill.

**5. Sut mae'r penderfyniad yn cyfrannu at y Blaenoriaethau Corfforaethol?**

5.1 Ddim yn berthnasol.

**6. Beth fydd yn ei gostio a sut bydd yn effeithio ar wasanaethau eraill?**

6.1. Does dim goblygiadau ariannol newydd ar gyfer y Cyngor yn deillio o'r adroddiad hwn.

**7. Beth yw prif gasgliadau'r Asesiad o Effaith ar Gydraddoldeb a gynhaliwyd am y penderfyniad? Dylid cynnwys yr Asesiad o Effaith ar Gydraddoldeb a gwblhawyd fel atodiad i'r adroddiad.**

7.1 Asesiad o Effaith ar Gydraddoldeb ynghlwm. Mae hwn yn ddatganiad blynyddol o gyflogau a oedd yn destun asesiad o effaith ar gydraddoldeb yn dilyn y Statws Sengl.

**8. Pa ymgynghoriadau a gynhaliwyd gydag Archwilio ac eraill?**

8.1. Ymgynghorwyd â'r Pennaeth Gwasanaethau Cyfreithiol a Democrataidd, y Swyddog Adran 151 a'r Uwch Dîm Arweinyddiaeth i sicrhau bod holl ofynion a38 (1) Deddf Lleoliaeth wedi eu hymgorffori yn y Datganiad Polisi Tâl cyntaf ar gyfer 2012/3

8.2. Mae gwybodaeth tâl wedi cael ei ddiweddarau gan Arbenigwr Cyflogau a Gwerthuso Swyddi yn dilyn Dyfarniad Cyflog NJC ym mis Ebrill 2014. Mae'r holl gyfraddau tâl eraill yr un fath â Datganiad Polisi 2013/14.

**9. Datganiad y Prif Swyddog Cyllid**

9.1 Nid oes unrhyw oblygiadau ariannol yn deillio o'r adroddiad hwn.

**10. Pa risgiau sy'n bodoli ac a oes unrhyw beth y gallwn ei wneud i'w lleihau?**

10.1 Byddai'r Cyngor yn mynd yn groes i'w rwymedigaethau cyfreithiol mewn perthynas â Deddf Lleoliaeth os yw'n methu â mabwysiadu'r Polisi Tâl.

**11. Pŵer i wneud y Penderfyniad**

11.1 a38 (1) Deddf Lleoliaeth 2011 ac adran 112 Deddf Llywodraeth Leol 1972 sy'n ymdrin â'r pŵer i benodi swyddogion.

# DENBIGHSHIRE COUNTY COUNCIL PAY POLICY STATEMENT 2013/14

## 1. INTRODUCTION AND PURPOSE

- 1.1 Under Section 112 of the Local Government Act 1972 the Council has 'the power to appoint officers on such reasonable terms and conditions as the Authority thinks fit'. This Pay Policy statement sets out the Council's approach to pay in accordance with the requirements of s38 (1) of the Localism Act 2011 which requires English and Welsh Local Authorities to produce and publish a Pay Policy Statement for 2013/4 and for each financial year after that, detailing:
- a) The Authority's Policies towards all aspects and elements of the remuneration of Chief Officers
  - b) Their approach to the publication of and access to information relating to all aspects of the remuneration of Chief Officers
  - c) The Authority's Policies towards the remuneration of its lowest paid employees (including the definition adopted and reasons for it)
  - d) The relationship between the remuneration of its Chief Officers and other employees.
- 1.2 Local Authorities are large complex organisations with multi-million pound budgets. They have a very wide range of functions and provide and/or commission a wide range of essential services. The general approach to remuneration levels may therefore differ from one group of employees to another to reflect specific circumstances at a local, Welsh or UK national level. It will also need to be flexible when required to address a variety of changing circumstances whether foreseeable or not.
- 1.3 The global economic crisis and the reduction in budgets during the current Comprehensive Spending Review (CSR) period has necessitated councils going through unprecedented and painful cuts in jobs and services in response. This process has avoided some of the potential financial difficulties for councils but has been essentially reactive, and will require ongoing strategic review going forward.
- 1.4 Once approved by the Full Council as required by the legislation, this policy statement will come into immediate effect and will be subject to review on a minimum of an annual basis in accordance with the relevant legislation prevailing at that time.

## 2. LEGISLATIVE FRAMEWORK

- 2.1 In determining the pay and remuneration of all of its employees, the Council will comply with all relevant employment legislation. This includes the
- a) Equality Act 2010
  - b) Part Time Employment (Prevention of Less Favourable Treatment) Regulations 2000
  - c) Agency Workers Regulations 2010 and where relevant, the
  - d) Transfer of Undertakings (Protection of Earnings) Regulations

- 2.2 With regard to the Equal Pay requirements contained within the Equality Act, the Council completed a review to ensure that there is no pay discrimination within its pay structures and that all pay differentials can be objectively justified through the use of equality proofed Job Evaluation mechanism which directly relate salaries to the requirements, demands and responsibilities of the role.
- 2.3 This policy must be applied consistently to all job applicants or employees regardless of their age, disability, gender reassignment, marital or civil partnership status, race, pregnancy or maternity, religion or belief, sex, sexual orientation or caring responsibilities.

If you require this information in an alternative format please contact HR Direct on 01824 706200

### **3. SCOPE OF THE PAY POLICY**

- 3.1 The Localism Act 2011 requires Authorities to develop and make public their Pay Policy on all aspects of Chief Officer Remuneration (including on ceasing to hold office), and that pertaining to the 'lowest paid' in the Authority, explaining their Policy on the relationship between remuneration for Chief Officers and other groups. However, in the interests of transparency and accountability the Council has chosen to take a broader approach and produce a Policy covering all employee groups with the exception of School Teachers (as the remuneration for this latter group is set by the Secretary of State and therefore not in Local Authority control).
- 3.2 Nothing within the provisions of the Localism Act 2011 detracts from the Council's autonomy in making decisions on pay that are appropriate to local circumstances and which deliver value for money for local tax payers. However, this Policy will be complied with in setting remuneration levels for all groups within its scope.

### **4. BROAD PRINCIPLES OF OUR PAY STRATEGY**

#### **4.1 Transparency, accountability and value for money**

- 4.1.1 The Council is committed to an open and transparent approach to pay policy which will enable the tax payer to access, understand and assess information on remuneration levels across all groups of council employees. To this end copies of the following pay scales are included in appendix A – D:

- Employee Pay Scales
- Chief Officer Pay Scales
- Soulbury Pay Scales
- Youth Workers Pay Scales

and the following documents are available to view on the Denbighshire Website:

- Early Termination (Discretionary Payments) Policy
- Redundancy Policy
- Market Supplement Policy
- Acting up, Honoraria & Ex Gratia Payments Policy



## **4.2 Development of Pay and Reward Strategy**

- 4.2.1 The primary aim of a reward strategy is to attract, retain and motivate suitably skilled staff so that the Authority can perform at its best. The biggest challenge for the Council in the current circumstances is to maximise productivity and efficiency within current resources. Pay Policy then is a matter of striking a sometimes difficult balance between setting remuneration levels at appropriate levels to facilitate a sufficient supply of appropriately skilled individuals to fill the Authority's very wide range of posts, and ensuring that the burden on the taxpayer does not become greater than can be fully and objectively justified.
- 4.2.2 In this context it does need to be recognised that at the more senior grades in particular remuneration levels need to enable the attraction of a suitably wide pool of talent (which will ideally include people from the private as well as public sector and from outside as well as within Wales), and the retention of suitably skilled and qualified individuals once in post. It must be recognised that the Council will often be seeking to recruit in competition with other good public and private sector employers.
- 4.2.3 In addition, the Council is the major employer in the area. As such we must have regard to our role in improving the economic well-being of the people of the Denbighshire. The availability of good quality employment on reasonable terms and conditions and fair rates of pay has a beneficial impact on the quality of life in the community as well as on the local economy.
- 4.2.4 In designing, developing and reviewing Pay and Reward Strategy, the Council will seek to balance these factors appropriately to maximise outcomes for the organisation and the community it serves, while managing pay costs appropriately and maintaining sufficient flexibility to meet future needs. This Pay Policy will be reviewed on an annual basis in line with our strategy for pay and approved annually by the Full Council.

## **4.3 Pay Structure - Pay Spine**

- 4.3.1 The Council uses the nationally negotiated pay spine as the basis for its grading structure. This determines the salaries of the larger majority of the non-teaching workforce, together with the use of other nationally defined rates where relevant. There have been no increases in the national pay spine since 2009.
- 4.3.2 All other pay related allowances are the subject of either nationally or locally negotiated rates, having been determined from time to time in accordance with collective bargaining machinery and/or as determined by Council Policy.
- 4.3.3 New appointments will normally be made at the minimum of the relevant grade, although this can be varied where necessary to secure the best candidate.

## **4.4 Job Evaluation**

- 4.4.1 Job evaluation is a systematic way of determining the value/worth of a job in relation to other jobs within an organisation. It aims to make a systematic comparison between jobs to assess their relative worth for the purpose of establishing a rational pay structure and pay equity between jobs. The authority currently uses the Greater London Provincial Council Job Evaluation Scheme.

4.4.2 The Council undertook a full evaluation and review of pay under Single Status for all staff in terms of Pay & Grading and Terms & Conditions in April 2008 and continues to evaluate any new posts or those that demonstrate a fundamental change in duties.

#### **4.5 Chief Officer Job Evaluation**

4.5.1 The Council defines its chief officers as being Chief Executive, Corporate Directors and Heads of Service. These posts are evaluated under HAY by an independent HAY consultant. A full re-evaluation of these posts was undertaken and agreed by Council in 2001 following a major re-organisation of Chief Officer and Senior Management posts. Any new posts or substantial changes to posts are re-evaluated at that time by an independent Hay consultant. Given the time which has elapsed, consideration should be given for a further review.

#### **4.6 Market Supplements**

4.6.1 Job evaluation will enable the council to set appropriate remuneration levels based on internal job size relativities within the council. However, from time to time it may be necessary to take account of the external pay market in order to attract and retain employees with particular experience, skills and capacity.

4.6.2 Therefore, the Council has a Market Supplements Policy to ensure that the requirement for such is objectively justified by reference to clear and transparent evidence of relevant market comparators, using appropriate data sources available from within and outside the local government sector. It is the Council's policy that any such additional payments be kept to a minimum and be reviewed on a regular basis so that they can be withdrawn where they are no longer considered necessary.

#### **4.7 Acting up, Honoraria & Ex Gratia Payments**

4.7.1 There may be occasions when an employee is asked to carry out additional duties to those of their substantive post for a period of time. In such circumstances an additional payment may be made in line with the Council's policy on Acting Up, Honoraria & Ex Gratia Payments.

#### **4.8 Pay and Performance**

4.8.1 The Council expects high levels of performance from all employees and has an Annual Appraisal Scheme in place to monitor, evaluate and manage performance on an ongoing basis.

Where unsatisfactory performance is identified, through performance management, increments can be withheld

Performance related pay is only applied to the Chief Executive. A payment of between 5% and 12% will be determined by the Remuneration Committee on achievement of agreed objectives, competencies and behaviours. The Chief Executive has not accepted any performance payment since his appointment.

### **5. CHIEF OFFICER REMUNERATION**

## **5.1 Definitions of Chief Officer & Pay Levels**

5.1.1 For the purposes of this statement, 'Chief Officers' are as defined within S43 of the Localism Act. The posts falling within the statutory definition of S43 of the Localism Act are set out below:

- a) Chief Executive
- b) Corporate Directors
- c) Heads of Service

5.1.2 No bonus or performance related pay mechanism is applicable to Chief Officers' pay except for the Chief Executive.

5.1.3 In respect of the nationally agreed JNC Pay Award for Chief Officers' and Chief Executive's salary, it should be noted that there has been no JNC national Pay Award since 2008 and that the current Chief Executive has been appointed on a spot salary of £125,000 p.a. with no incremental progression.

## **5.2 Recruitment of Chief Officers**

5.2.1 The Council's Policy and Procedures with regard to recruitment of Chief Officers is contained within the Officer Employment Procedure Rules as set out in Part 4 of the Constitution. The determination of the remuneration to be offered to any newly appointed Chief Officer will be in accordance with the pay structure and relevant policies in place at the time of recruitment. The salary level on appointment for the Chief Executive is determined by full Council.

Where it is deemed necessary to pay a market supplement, this will be advised through market research and agreed by the Special Appointments Panel prior to recruitment.

5.2.2 Where the Council remains unable to recruit Chief Officers under a contract of service, or there is a need for interim support to provide cover for a vacant substantive Chief Officer post, the Council will, where necessary, consider and utilise engaging individuals under 'contracts for service'. These will be sourced through a relevant procurement process ensuring the Council is able to demonstrate the maximum value for money benefits from competition in securing the relevant service. The Council does not currently have any Chief Officers engaged under such arrangements.

## **5.3 Additions to Salary of Chief Officers**

5.3.1 Other than the Chief Executive, the Council does not apply any bonuses or performance related pay to its Chief Officers.

5.3.2 The Council does pay all reasonable travel and subsistence expenses on production of receipts and in accordance with JNC conditions and other local conditions.

- 5.3.3 The cost of membership of one professional body is met by the Authority.
- 5.3.4. The Chief Executive's Job Description includes his role as Returning Officer for Local Government Elections. The Council's fees for payment to its Returning Officer for elections duties can be found in appendix E.

#### **5.4 Payments on Termination**

- 5.4.1 The Council's approach to statutory and discretionary payments on termination of employment of Chief Officers (and all other employees), prior to reaching normal retirement age, is set out within its Early Termination of Employment (Discretionary payments) & Redundancy Policy in accordance with Regulations 5 and 6 of the Local Government (Early Termination of Employment) (Discretionary Compensation) Regulations 2006. This is in respect of a redundancy payment being based on actual weekly earnings (Regulation 5) and when an enhanced redundancy payment of up to 45 weeks pay would be granted (Regulation 6). Regulations 12 and 13 of the Local Government Pension Scheme (Benefits, Membership and Contribution) Regulations 2007 do not apply as the Authority does not increase the total membership of active members (Regulation 12) or award additional pension (Regulation 13).
- 5.4.2 The Council's severance and retirement schemes are applied equally and fairly to all staff their age, disability, gender reassignment, marital or civil partnership status, race, pregnancy or maternity, religion or belief, sex, sexual orientation or caring responsibilities and are implemented in accordance with the regulations of the relevant pension schemes. These will be published on the Council's website as part of the Council's conditions of service policies.
- 5.4.3 The authority ensures that all payments are made in accordance with H.M.R.C legislation and utilises the services of a professional tax advisor where there is a requirement for more detailed specialist advice or to assist should a H.M.R.C compliance audit be undertaken. The use of these outside tax advisors is now shared collaboratively with a neighbouring authority ensuring a joint best practice and cost effective service.

Employment Status is regularly checked and the authority will only class someone as self employed where there is no question of doubt. Individuals who have previously regularly been treated as self employed with other authorities, have been paid under P.A.Y.E. by Denbighshire, this is where we have not been fully convinced of their self employment status.

All termination payments are fully compliant with H.M.R.C requirements

#### **6. PUBLICATION**

- 6.1 This statement will be published on the Council's Website. In addition, for posts where the full time equivalent salary is at least £60,000, as required under the Accounts and Audit (Wales) (Amendment) Regulations 2010, the Councils Annual Statement of Accounts will include a note setting out the total amount and detail payments to Corporate Directors and Chief Executive Officer.

#### **7. PAY RELATIVITIES WITHIN THE AUTHORITY**

- 7.1 The lowest paid persons employed under a Contract of Employment with the Council are employed on full time [37 hours] equivalent salaries in accordance with the minimum spinal column point currently in use within the Council's grading structure. As at 31 March 2013, this was £12,312 per annum. This will increase to £12,435 in line with the recent pay award of 1%. The Council employs Apprentices [and other such Trainees] who are not included within the definition of 'lowest paid employees' as they are not employed under Contracts of Employment.
- 7.2 The relationship between the rate of pay for the lowest paid and Chief Officers is determined by the processes used for determining pay and grading structures as set out earlier in this Policy Statement.
- 7.3 The statutory guidance under the Localism Act recommends the use of pay multiples as a means of measuring the relationship between pay rates across the workforce and that of senior managers, as included within the Hutton 'Review of Fair Pay in the Public Sector' (2010). The Hutton Report was asked by Government to explore the case for a fixed limit on dispersion of pay through a requirement that no public sector manager can earn more than 20 times the lowest paid person in the organisation. The report concluded that the relationship to median earnings was a more relevant measure and the Government's Code of Recommended Practice on Data Transparency recommends the publication of the ratio between highest paid salary and the median average salary of the whole of the Authority's workforce.
- 7.4 The current pay levels within the Council define the multiple between the lowest paid (full time equivalent) employee and the Chief Executive as 1:10.1 and; between the lowest paid employee and average Chief Officer as 1:5.8 The multiple between the average full time equivalent earnings for contract staff (excluding teachers) and the Chief Executive is 1:6.2 and; between the average full time equivalent earnings and average Chief Officer is 1:3.6
- 7.5 As part of its overall and ongoing monitoring of alignment with external pay markets, both within and outside the sector, the Council will use available benchmark information as appropriate.

## **8. ACCOUNTABILITY AND DECISION MAKING**

- 8.1 In accordance with the Constitution of the Council, the Council is responsible for decision making in relation to the recruitment, pay, terms and conditions and severance arrangements in relation to employees of the Council.

## **9. RE-EMPLOYMENT**

- 9.1. Staff who, upon leaving the employment of the Council, receive any form of compensation payment for loss of office, will not be re-employed by the Council for the duration of the compensation payment. e.g. If a member of staff receives 20 weeks redundancy payment, they cannot be re-employed by the Council for 20 weeks after the termination date.
- 9.2. Staff who, upon leaving the employment of the Council, receive a pension for which the Council incurred additional costs, cannot be re-employed in a similar area of work within the Council during the first 12 months without authorisation by CET. Where authorisation is given, the individual is still subject to 9.1 above if

they have received a compensation payment and will only be allowed to commence work after the compensation period ends. This would also apply to the appointment of previously employed staff as consultants.

## **10. REVIEWING THE POLICY**

- 10.1 This Policy outlines the current position in respect of pay and reward within the Council. The Policy will be reviewed annually in line with market forces and reported to Council.

## APPENDIX A

### PAY SCALES FOR NJC EMPLOYEES.

<u>GRADE</u>	<u>SCP</u>	<u>Annual Salary 2013</u>
Grade 1	5	£12,435
Grade 1	6	£12,614
Grade 1	7	£12,915
	8	£13,321
	9	£13,725
	10	£14,013
Grade 3	11	£14,880
Grade 3	12	£15,189
Grade 3	13	£15,598
Grade 3	14	£15,882
Grade 3	15	£16,215
	16	£16,604
	17	£16,998
	18	£17,333
Grade 5	19	£17,980
Grade 5	20	£18,638
Grade 5	21	£19,317
Grade 5	22	£19,817
Grade 5	23	£20,400
Grade 5	24	£21,067
	25	£21,734
	26	£22,443
	27	£23,188
Grade 7	28	£23,945
Grade 7	29	£24,892
Grade 7	30	£25,727
Grade 7	31	£26,539
	32	£27,323
	33	£28,127
Grade 9	34	£28,922
Grade 9	35	£29,528
Grade 9	36	£30,311
Grade 9	37	£31,160
Grade 9	38	£32,072
	39	£33,128
	40	£33,998
	41	£34,894
Grade 11	42	£35,784
Grade 11	43	£36,676
Grade 11	44	£37,578
Grade 11	45	£38,422
Grade 11	46	£39,351
	47	£40,254
	48	£41,148
Grade 13	49	£42,032
Grade 13	50	£43,233
Grade 13	51	£44,503
Grade 13	52	£45,770
	53	£46,871
	54	£48,035
	55	£49,216
	56	£50,378
	57	£51,550

**CHIEF OFFICERS PAY SCALES**  
**From 2008 (no change)**

<b>CHIEF EXECUTIVE PAY RANGE</b>						
£125,000* (*spot salary)						
<b>DIRECTORS' PAY SCALES</b> <b>£75,508 - £84,931</b>						
<b>Point 1</b>	<b>Point 2</b>	<b>Point 3</b>	<b>Point 4</b>	<b>Point 5</b>	<b>Point 6</b>	
£75,508	£77,397	£79,275	£81,161	£83,051	£84,931	
<b>HEADS OF SERVICE</b> <b>HS4 - £58,887 - £64,771</b>						
<b>Point 1</b>	<b>Point 2</b>	<b>Point 3</b>	<b>Point 4</b>	<b>Point 5</b>		
£58,887	£60,361	£61,830	£63,306	£64,771		
<b>HEADS OF SERVICE</b> <b>HS3 - £55,870 - £61,458</b>						
<b>Point 1</b>	<b>Point 2</b>	<b>Point 3</b>	<b>Point 4</b>	<b>Point 5</b>		
£55,870	£57,269	£58,664	£60,062	£61,458		
<b>HEADS OF SERVICE</b> <b>HS2 - £52,853 - £58,138</b>						
<b>Point 1</b>	<b>Point 2</b>	<b>Point 3</b>	<b>Point 4</b>	<b>Point 5</b>		
£52,853	£54,169	£55,492	£56,809	£58,138		



**SOULBURY PAY SCALES**

<b>EDUCATIONAL PSYCHOLOGISTS - SCALE A</b>	
<b>SPINE POINT</b>	<b>SALARY FROM 01.09.2009</b>
1.	£33,934
2.	£35,656
3.	£37,378
4.	£39,100
5.	£40,822
6.	£42,544
7.	£44,165
8.	£45,786
9.	£47,305
10.	£48,825
11.	£50,243

**NOTES:**

1. Salary scales to consist of six consecutive points, based on the duties and responsibilities attaching to posts and the need to recruit, retain and motivate staff.
2. Extension to scale to accommodate structured professional assessment points.

<b>SENIOR &amp; PRINCIPAL EDUCATIONAL PSYCHOLOGISTS - SCALE B</b>	
<b>SPINE POINT</b>	<b>SALARY FROM 01.09.2009</b>
1.	£42,544
2.	£44,165
3.	£45,786
4.	£47,305
5.	£48,825
6.	£50,243
7.	£50,825
8.	£51,912
9.	£52,989
10.	£54,085
11.	£55,159
12.	£56,255
13.	£57,370
14.	£58,447
15.	£59,575
16.	£60,693
17.	£61,618
18.	£62,942

**Notes:**

1. Salary scales to consist of not more than four consecutive points, based on the duties and responsibilities attaching to posts and the need to recruit, retain and motivate staff.
2. Normal minimum point for the Principal Educational Psychologist undertaking the full range of duties at this level.
3. Extension to range to accommodate discretionary scale points and structured professional assessments
4. Principals are paid on a 4 point scale 8 - 14 (this includes 3 spa points as well

<b>SOLBURY EDUCATIONAL IMPROVEMENT PROFESSIONALS</b>	
<b>SPINE POINT</b>	<b>SALARY FROM 01.09.2009</b>
1	32353
2	33512
3	34606
4	35714
5	36817
6	37920
7	39079
8	40192
9	41491
10	42649
11	43792
12	44899
13	46152
14	47269
15	48503
16	49620
17	50739
18	51837
19	52969
20	53554
21	54679
22	55658
23	56738
24	57705
25	58741
26	59749
27	60781
28	61827
29	62876
30	63924
31	64961
33	67071
34	68151
35	69228
36	7 - 10 ADVISORS
37	11 - 14 ADVISORS

**APPENDIX D**

<b><u>YOUTH AND COMMUNITY SERVICE OFFICERS</u></b>	
<b>SPINE POINT</b>	<b>SALARY FROM 01.09.2009</b>
1	33555
2	34653
3	36871
4	38009
5	39120
6	40256
7	41547
8	42258
9	43357
10	44450
11	45546
12	46633
13	47731
14	48831
15	POINTS 4 - 6
16	POINTS 7 - 10
17	49933
18	51042
19	52142
20	53237

**J N C YOUTH AND COMMUNITY WORKERS**  
**LAST PAY AWARD 01/09/2009**

**001 TRAINEE YTH SUPPORT WKR**  
**WRK**

<u>PT</u>	<u>SALARY</u>
001	14143
002	14733
003	15324
004	15917

**007 SENIOR YTH SUPPORT**

<u>PT</u>	<u>SALARY</u>
012	21525
013	22489
014	23485
015	24166

**002 SUPPORT YOUTH WORKER**

<u>PT</u>	<u>SALARY</u>
002	14733
003	15324
004	15917
005	16509

**008 SENIOR SUPPORT YTH WORKER**

<u>PT</u>	<u>SALARY</u>
013	22489
014	23485
015	24166
016	24875

**003 SUPPORT YOUTH WORKER**

<u>PT</u>	<u>SALARY</u>
003	15324
004	15917

**009 SENIOR SUPPORT YTH WORKER**

<u>PT</u>	<u>SALARY</u>
014	23485
015	24166

017 25574

**004 TRN SNR SUPP YTH WKR**

<u>PT</u>	<u>SALARY</u>
007	17697
008	18291
009	19047
010	19636

**10 PROFESSIONAL YOUTH WORKER**

<u>PT</u>	<u>SALARY</u>
017	25574
018	26279
019	26975
020	27673

**005 DETACHED WORKER**

<u>PT</u>	<u>SALARY</u>
007	17697
008	18291
009	19047
010	19636

**011 SENIOR PROFESSIONAL**

<u>PT</u>	<u>SALARY</u>
022	29352
023	30219
024	31091
025	31968

**006 SENIOR SUPPORT YTH WORKER**

<u>PT</u>	<u>SALARY</u>
009	19047
010	19636
011	20591
012	21525

**SENIOR PROFESSIONAL**

<u>PT</u>	<u>SALARY</u>
026	32847
027	33726
028	34613
029	35496
030	36377

**017 SNR TRAINEE YOUTH WORKER**

<u>PT</u>	<u>SALARY</u>
015	24166
016	24875
017	25574
018	26279

## APPENDIX E

### LOCAL GOVERNMENT ELECTIONS – SCHEDULE OF CHARGES

#### ELECTION OF COUNTY COUNCILLORS AND TOWN/COMMUNITY COUNCILLORS

TOWN/COMMUNITY –	Electorate	
<b>EXPENSES AS APPROVED BY Denbighshire County Council</b>		
Fees for the general conduct of the election and performance of all duties which a Returning Officer is required to perform under any order or other enactment relating to the election of councillors		
<b>1. RETURNING OFFICER</b>	Contested	Uncontested
For the general conduct of the election and performance of all duties which a Returning Officer is required to perform under any order or other enactment relating to the election of Councillors.		
For each Electoral Division, Community/Town Council, Community/Town Council Ward	170.00	55.00
<b>2. DEPUTY RETURNING OFFICER</b>		
Deputising for the Returning Officer, attending to receive nomination papers, examining them and adjudicating on their validity; dealing with candidates; notifying candidates of decisions on nominations, publishing statements of persons nominated and attending to receive withdrawals.		
For each Electoral Division, Community/Town Council, Community/Town Council Ward	115.00	45.00
<b>3. CLERICAL ASSISTANCE</b>		
For each Electoral Division, Community/Town Council, Community/Town Council Ward		35.00
Up to 1,000 electors	85.00	
Up to 2,000 electors	115.00	
Up to 3,000 electors	170.00	
Up to 4,000 electors	225.00	
Over 4,000 electors	280.00	
<b>4. POLLING STATION STAFF</b>	<b>Single Election</b>	<b>Additional Fee for joint election</b>
Presiding Officer	195.00	40.00
Poll Clerk	115.00	25.00
<b>5. CONDUCTING THE COUNT</b>	D.R.O. only	Each Counting Assistant
For each Electoral Division, Community/Town Council, Community/Town Council Ward Count		
Up to 500 electors	45.00	25.00
Up to 1,000 electors	70.00	25.00
Up to 2,000 electors	90.00	30.00
Up to 3,000 electors	115.00	35.00
Up to 4,000 electors	135.00	40.00
Over 4,000 electors	160.00	45.00
<b>Recount costs</b>	NIL	50% of the above fees
<b>6. POSTAL VOTING AND POLL CARDS</b>		
Issue and Receipt of Postal Votes - £62.40 per 100 or part thereof – single issue £62.40 per 75 or part thereof – joint issue Issue of Poll Cards – Purchase and postage costs only		
<b>7. TRAVELLING</b>		
Public transport if available, otherwise inland revenue tax free rate		45p per mile
<b>8. GENERAL</b>		
Printing, Stationery, Equipment, Postage, Hire of Premises as polling station and similar expenses associated with the conduct of the election		Actual and necessary expenditure
<b>TOTAL PAYABLE</b>		

The staffing rates for local government elections was agreed at the meeting of Denbighshire County Council on 18<sup>th</sup> November 2003, it was also agreed that the rates would be periodically reviewed with the five other North Wales Authorities to achieve uniformity. The above rates were agreed on 29 September 2011.

<b>Adroddiad i'r:</b>	<b>Cyngor</b>
<b>Dyddiad y Cyfarfod:</b>	<b>10 Medi 2013</b>
<b>Aelod / Swyddog Arweiniol:</b>	<b>Y Cynghorydd Hugh Evans Arweinydd y Cyngor</b>
<b>Awdur yr Adroddiad:</b>	<b>Mohammed Mehmet Prif Weithredwr</b>
<b>Teitl:</b>	<b>Y Comisiwn ar Lywodraethu a Darparu Gwasanaethau Cyhoeddus</b>

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## 1. Beth yw testun yr adroddiad?

Mae'r adroddiad yn egluro cefndir y Comisiwn ar Lywodraethu a Darparu Gwasanaethau Cyhoeddus ('Y Comisiwn') ac yn cyflwyno ymateb drafft i gais y Comisiwn am dystiolaeth.

## 2. Beth yw'r rheswm dros wneud yr adroddiad hwn?

Gofynnwyd i'r cyngor ddarparu tystiolaeth i'r Comisiwn ar chwe maes allweddol: Perfformiad; Graddfa a Galluogrwydd; Cymhlethdod; Llywodraethu, Darparu ac Archwilio; Diwylliant ac Arweinyddiaeth; a Llywodraeth Cymru a Chynulliad Cenedlaethol Cymru.

Mae'r Prif Weithredwr wedi paratoi ymateb drafft o dan bob un o'r penawdau hyn. Mae'r drafft wedi'i atodi yn Atodiad 1 ac mae angen penderfynu a fydd y drafft yn cael ei gyflwyno, wedi'i ddiwygio fel y bo'n briodol gan aelodau, yn ymateb ffurfiol gan y cyngor i'r cais am dystiolaeth.

## 3. Beth yw'r Argymhellion?

- (i) Ystyried yr ymateb drafft i gais y Comisiwn am dystiolaeth, a'i ddiwygio os yw'n briodol;
- (ii) Cyflwyno'r ymateb a gynigiwyd (Atodiad 1), wedi'i ddiwygio gan gyfarfod y cyngor, i'r Comisiwn yn dystiolaeth gan Gyngor Sir Ddinbych.

## 4. Manylion yr Adroddiad

- 4.1 Sefydlwyd y Comisiwn gan Brif Weinidog Cymru yn Ebrill 2013, o dan gadeiryddiaeth Syr Paul Williams. Mae cylch gwaith eang gan y Comisiwn ac mae'r Prif Weinidog wedi gofyn iddo gyflwyno adroddiad erbyn Rhagfyr 2013.
- 4.2 Nod y Comisiwn yw 'edrych yn ofalus, yn onest ac yn wrthrychol ar y modd y mae gwasanaethau'n cael eu darparu yng Nghymru, a sut y gallwn wella ar hyn.' Mae'r dyfyniad canlynol o ddatganiad y Prif Weinidog yn crynhoi sail resymegol y Comisiwn:

*'Mae'n boenus o amlwg bod sefydliadau gwasanaethau cyhoeddus yn wynebu heriau difrifol, tymor hir a chynyddol wrth gyflawni'r rhwymedigaethau hynny. Gwyddom fod yr adnoddau sydd ar gael i ddarparu gwasanaethau cyhoeddus yn gyfyngedig ar y gorau, ac nad oes fawr o obaith o dwf mewn termau real yn y dyfodol rhagweladwy. Gwyddom fod y galw am wasanaethau cyhoeddus yn parhau i gynyddu, oherwydd y sefyllfa ariannol fyd-eang ac oherwydd disgwyliadau cynyddol a newidiadau cymdeithasol a demograffig. Gwyddom fod prinder endemig o ran arbenigedd rheoli a phroffesiynol mewn rhannau o'r sector cyhoeddus. Gwyddom fod rhai sefydliadau yn y sector cyhoeddus yn ei chael yn anodd wynebu'r her y mae hyn i gyd yn ei chyflwyno, a gwyddom nad yw hyn yn gynaliadwy nac yn dderbyniol yn y tymor hwy.'*

*Ni all yr un Llywodraeth gyfrifol ganiatáu i hyn barhau. Felly, mae angen inni edrych yn galed, yn onest ac yn wrthrychol ar y ffordd y mae gwasanaethau'n cael eu darparu yn awr, a sut y gallwn wella'r gwasanaethau hynny. Bydd y comisiwn ar lywodraethu a darparu gwasanaethau cyhoeddus yn gwneud hynny. Rwyf wedi cyhoeddi cylch gwaith manwl y comisiwn heddiw. Yn y cylch gwaith nodir y bydd gofyn iddo ddarparu asesiad gwrthrychol ac awdurdodol o'n trefniadau ar hyn o bryd ar gyfer darparu gwasanaethau cyhoeddus, a'u gallu i ymateb i heriau'r presennol a'r dyfodol; datblygu a chynnig y model gorau posibl o lywodraethu a darparu gwasanaethau cyhoeddus i Gymru yng ngoleuni'r asesiad hwnnw; ac ymgysylltu'n eang, gan gynnwys â'r rhai sy'n defnyddio gwasanaethau cyhoeddus ac â'r gweithlu sy'n eu darparu ac yn eu rheoli.'*

**4.3.** Ym mis Mehefin 2013 ysgrifennodd Syr Paul Williams at sefydliadau'r sector cyhoeddus i'w hannog i gymryd rhan yng ngwaith y Comisiwn drwy ymateb i'w gais am dystiolaeth. Mae'r cais am dystiolaeth yn cynnwys chwe phrif thema, sef:

- Perfformiad
- Graddfa a Galluogrwydd
- Cymhlethdod
- Llywodraethu, Darparu ac Archwilio
- Diwylliant ac Arweinyddiaeth
- Llywodraeth Cymru a Chynulliad Cenedlaethol Cymru

Mae templed wedi'i gylchredeg sydd wedi'i seilio ar y themâu hyn. O dan bob thema mae 4-6 o gwestiynau lefel uchel sydd hefyd wedi'u rhannu'n nifer o faterion a chwestiynau manwl.

Y terfyn amser gwreiddiol ar gyfer cyflwyno ymatebion oedd diwedd Awst 2013 ond mae hyn wedi'i ymestyn i ddiwedd Medi 2013.

**4.4** Mae'r Prif Weithredwr wedi sefydlu gweithgor bach o swyddogion o bob rhan o'r cyngor i baratoi ymateb y cyngor. Dros gyfnod o fis mae ymateb manwl wedi'i baratoi sy'n cynnig sylwadau am bob un o'r chwe maes. Mae'r ymateb hwn wedi'i atodi yn Atodiad 1.

**4.5** Cylchredwyd drafft cynnar o'r ddogfen hon i arweinwyr y grwpiau i gael sylwadau ganddynt. Cafodd ei gyflwyno hefyd i Dîm Uwch Arweinwyr y swyddogion i'w herio ac i gael sylwadau pellach.



- 4.6 Yn ogystal â'r ymateb drafft, mae'r Prif Weithredwr wedi cyflwyno'r papur 'Arweinyddiaeth yng Nghyngor Sir Ddinbych' sy'n cyfleu ei farn ei hun am y ffordd y mae arweinyddiaeth a pherfformiad wedi gwella yng Nghyngor Sir Ddinbych ac mae'n ei gynnig yn dystiolaeth i'r Comisiwn. Mae'r papur hwn wedi'i atodi er gwybodaeth yn Atodiad 2.
- 4.7 Gofynnir i aelodau wneud sylwadau, diwygio a chytuno i gyflwyno'r ddogfen sydd wedi'i hatodi yn Atodiad 1 yn ymateb ffurfiol gan Gyngor Sir Ddinbych i'r cais am dystiolaeth.
- 4.8 Gyda golwg ar lywodraeth leol, mae'r Comisiwn yn ystyried a ddylid newid y trefniadau sefydliadol presennol. Yn benodol, mae'n ymddangos bod y Comisiwn wedi dod i'r casgliad bod y nifer presennol o 22 o gynghorau unedol yn anghynaliadwy. Mae'n ymddangos bod y casgliad hwn yn deillio o ddatganiad y Prif Weinidog uchod bod rhaid gwella cost a pherfformiad llywodraeth leol ac na ellir cael y gwelliannau o'r fath o barhau â'r sefyllfa bresennol.
- 4.9 Mae'n bosibl y bydd aelodau am ystyried a ddylid ymateb i'r cwestiwn hwn a chynnig barn ystyriol gan Gyngor Sir Ddinbych i'w chynnwys yn y fersiwn terfynol o ymateb y cyngor. O dan yr adran ar 'Graddfa a Galluogrwydd' yn yr ymateb sydd wedi'i gynnig (Atodiad 1) derbynnir y *dylai* nifer llai o gynghorau mwy roi gwell gwerth am arian. Serch hynny, nid yw'r ddogfen yn rhoi ateb uniongyrchol i'r cwestiwn: pa nifer o gynghorau unedol y dylid ei gael? Nid oes ffordd wrthrychol o gael ateb cywir: mater o farn wleidyddol yw hyn. Mae'n ymddangos mai'r opsiynau mwyaf credadwy yw:

Opsiwn 1: mae 22 yn nifer priodol, nid ydym o blaid newid y nifer hwn

Opsiwn 2: dylid cael dau gyngor yn lle'r chwech yng Ngogledd Cymru

Opsiwn 3: rydym yn credu y byddai'n well cael llai o gynghorau ond nid oes gennym nifer i'w gynnig

Opsiwn 4: rydym yn credu y gellir gostwng nifer y cynghorau yng Ngogledd Cymru i dri ac y gellir cyfuno nifer o gynghorau llai yn Ne Cymru hefyd

Opsiwn 5: nid ydym wedi ffurfio barn.

## **5. Sut y bydd y penderfyniad yn cyfrannu at y Blaenoriaethau Corfforaethol?**

Ni fydd y penderfyniadau a geisir yn yr adroddiad hwn yn effeithio ar flaenoriaethau corfforaethol y cyngor.

## **6. Beth fydd ei gost a sut y bydd yn effeithio ar wasanaethau eraill?**

Nid oes goblygiadau o ran cost yn yr adroddiad hwn.

**7. Beth yw prif gasgliadau'r Asesiad o'r Effaith ar Gydraddoldeb ar gyfer y penderfyniad?**

Nid oes goblygiadau o ran cydraddoldeb yn yr adroddiad hwn.

**8. Pa ymgynghori a gafwyd â'r Pwyllgor Archwilio ac eraill?**

Mae'r ymateb drafft wedi'i baratoi gan y Prif Weithredwr, gyda chymorth grŵp o swyddogion o bob rhan o'r cyngor. Roedd y grŵp yn cynnwys:

Ivan Butler, Pennaeth Archwilio Mewnol  
Jenny Elliot, Rheolwr Ansawdd a Pherfformiad  
Bethan Jones-Edwards, Swyddog Cydweithrediad Rhanbarthol  
Paul Mcgrady, Pennaeth Cyllid ac Asedau  
Vicky Poole, Rheolwr y Canolbwynt Comisiynu  
Steve Price, Rheolwr Gwasanaethau Democrataidd  
Alan Smith, Pennaeth Cynllunio Busnes a Pherfformiad  
Tony Ward, Rheolwr y Tîm Gwella Corfforaethol  
Eleri Williams, Rheolwr Busnes a Pherfformiad

Gofynnwyd i reolwyr sicrhau bod aelodau'r grŵp hwn yn gallu cael cyngor a chymorth gan bob swyddog yn y cyngor.

Cyflwynwyd fersiwn cynharach o'r ymateb drafft i Dîm Uwch Arweinwyr y swyddogion mewn cyfarfod rheoli arbennig. Hefyd rhoddodd y Prif Weithredwr gyflwyniad ar y materion sydd wedi'u trafod yn yr ymateb mewn cynhadledd i reolwyr canol.

Anfonwyd yr un fersiwn cynharach hefyd at arweinwyr y grwpiau gwleidyddol i gael sylwadau.

**9. Datganiad y Prif Swyddog Cyllid**

Er nad oes goblygiadau ariannol yn yr adroddiad ei hun, byddai'r canlyniad i waith y comisiwn yn gallu cael effaith sylweddol ar ddyfodol y Cyngor.

**10. Pa risgiau sy'n gysylltiedig a beth y gellir ei wneud i'w lleihau?**

Mae'r risgiau sy'n gysylltiedig â chyflwyno ymateb i'r cais am dystiolaeth yn ymwneud ag enw da yn bennaf. Byddai ymateb da i'r gwaith hollbwysig hwn yn gallu dylanwadu ar ffurf gwasanaethau cyhoeddus yng Nghymru yn y dyfodol.

**11. Pŵer i wneud y Penderfyniad**

Nid oes gofyniad cyfreithiol i'r cyngor ymateb i'r cais am dystiolaeth gan y Comisiwn. Fodd bynnag, o ystyried y goblygiadau posibl o ganlyniad i'r gwaith hwn, i Gyngor Sir Ddinbych ac i'r sector cyhoeddus ehangach, mae'n bwysig bod y penderfyniad ynghylch a ddylid ymateb a hefyd ynghylch cynnwys yr ymateb hwnnw yn cael ei wneud gan y cyngor llawn.



**Commission on Public Service Governance & Delivery**

**Service Provider Consultation – Denbighshire County Council**

**Performance**

1	<p><b>Does your organisation collect the right information to support and improve the services you deliver?</b></p> <p>This has been an area of significant improvement over the past three years. The council has strengthened its corporate performance management arrangements and we have become more robust about challenging the relevance of performance information that is collected and analysed for our Corporate and Service Plans. We have an experienced corporate team who work closely with performance specialists within services to discuss and agree the range of information that is required to understand need within our communities and to understand our success in delivering outcomes for our communities.</p> <p>During the past 12 months, we have concluded that we lacked capacity in terms of turning the information we collect in “intelligence” to inform our decision making. We have therefore re-structured our Corporate Improvement Team to create a new Research &amp; Intelligence function. Part of the role of this new team is to identify intelligence gaps and to provide solutions to fill those gaps. One of the early successes of that new team has been to improve the range and quality of intelligence considered as part of our Service Performance Challenge process. In addition to a service self-assessment and a performance report, each challenge meeting is now also supported by a “needs &amp; demand” report (to help understand changes to service demands) and a comparative report (to help understand quality and value for money).</p> <p>A substantial amount of work has been undertaken to understand exactly what information is required in order to understand our success in delivering the outcomes within our Corporate Plan 2012-17. Much more work has been invested in this process than ever before, and we are confident that a wide range of relevant information is being utilised. We are not looking solely at traditional performance indicators, but we are using a broad range of population indicators, performance measures and customer satisfaction measures to inform our analysis. We are confident that everything we collect to support our Corporate and Services Plans tells us something useful about an outcome or about our contribution to delivering an outcome.</p> <p>Of course, some data are still collected simply to comply with legal or regulatory requirements, and failure to do so could result in sanctions from our external regulators. We do not always use this data as it is not always relevant to driving service improvement or to delivering outcomes for our communities. Indeed, we</p>
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	<p>do not even feel that all of the National Strategic Indicators are relevant or useful, and we only collect some of these in order to comply with the national reporting requirements, information on bus passes for example. Although the collection and reporting of such data is time-consuming, it hasn't really resulted in the council feeling the need to divert resources to improve performance in those areas we feel are less important to our communities. However, we are concerned that the new arrangements for Outcome Agreements, whereby 50% of the grant will rely on our performance against the National Strategic Indicators, not only encourages local government to increase its focus on such data, but it actually encourages councils to shift resources to improve performance for indicators that do not necessarily reflect the needs of our communities.</p> <p>In addition to the National Strategic Indicators, there are many other national demands for data, such as Service Improvement Datasets (SIDs), which require a great deal of resource to collect and report. Despite several attempts to improve the relevance of these datasets, we feel that much of this data doesn't help us to understand whether we are delivering outcomes for our communities. We feel that there is too much demand for data at a national level, and that the various reporting requirements have created an industry in data collection. This industry of disaggregated performance measures being collated and reported to different bodies, at different levels, throughout Wales, can result in a loss of focus about what is important in performance terms.</p>
2	<p><b>How does your organisation manage its performance to improve delivery?</b></p> <p>The council uses performance data, research and intelligence to inform decisions about priorities at all levels of the organisation. For example, a comprehensive needs assessment and performance analysis exercise was undertaken to underpin the discussions to identify priorities for the council's Corporate Plan 2012-17. An understanding of the different levels of improvement required for each corporate priority also guided the discussions about funding the Corporate Plan, and specific amounts of money were set aside (in-principle) for projects necessary to deliver those improvements. A similar approach is taken at the service planning level, where data relevant to service priorities are analysed to inform decisions about service organisation, delivery and resource prioritisation.</p> <p>Performance data are utilised during the Service Performance Challenge process to debate and agree where current and future priorities should lie. Each service has a Service Performance Challenge each financial year, and information and evidence (self-assessment; data analysis; research; and intelligence) provide the foundation for those challenge meetings. The council has developed a very healthy relationship, based upon constructive challenge and support, between officers and Members. Our Service Performance Challenge meetings are an honest and open discussion about finding ways to improve quality, efficiency and performance. The Wales Audit Office forms part of the panel for each meeting, and this provides a useful external perspective and strengthens the challenge process.</p>



Over the past 2 years, the council has moved away from a traditional “target-setting” approach and now uses a model based on “excellence”. The traditional approach was capable of telling us whether we had met our targets, but it was unable to tell us how good we were. Performance reports would show plenty of “green” if targets were met, but they did not necessarily provide the reader with the context of comparative performance without including huge amounts of additional data or graphs which can make such reports complex and inaccessible. People instinctively like to meet targets, and this approach therefore tends to result in unambitious target-setting as people set targets according to what they feel comfortably able to deliver in the short-term. Our model starts from a discussion about what “excellence” looks like for each area of performance. Our default position is that “excellence” equals being in the top quartile in Wales (for nationally collected data), but the legitimacy of this default position is challenged in all cases, and other benchmarks (such as “best in Wales” or “average in UK private sector”) are used when it is clear that the top quartile in Wales cannot be classed as “excellent”. Our model therefore relies on comparative data, and it challenges us to seek out the most appropriate comparators for each performance area. We often use family groups of similar local authority areas rather than automatically using all of Wales for comparison. We also identify an “intervention” for each indicator and performance measure, and this is the point at which we report the area as “red” and it is defined as a “priority for improvement”. The intervention is the point at which we would feel the need to “intervene” in an attempt to improve the position of this indicator or performance measure. The default position for “intervention” is being below the Wales median. The difference between the “excellence threshold” and the “intervention” is divided into 2 sections to provide 4 reporting colours to help us understand how good our current position is. The following definitions are applied to those 4 colours:

Performance Status	Definition
Green	The current position is excellent
Yellow	The current position is good
Orange	The current position is acceptable
Red	The current position is a priority for improvement

This system is more sophisticated than a traditional target-setting approach because: a) it forces us to consider comparative data when setting the excellence thresholds and interventions; and b) it enables readers of our performance reports to understand how good our current position is rather than whether we have exceeded an arbitrary target. It is also a much simpler approach as it enables the audience to understand how good the current position is by looking at a colour rather than having to interpret a complex table of data or an associated graph. The hard work is undertaken in the background, by officers and lead Members, so that the audience can benefit from simple, concise and meaningful performance reports.



	<p>The additional benefit of our excellence-based approach is that politicians have a much greater understanding of our performance, and are therefore able to use performance data much more effectively to inform and scrutinise service delivery and decisions. In the past, services have been challenged by scrutiny for missing particular targets when that area of performance may still have been “excellent”, whereas other areas that had met their targets were ignored by scrutiny even though performance was poor. That simply wouldn’t happen now because politicians understand the context of our performance, and are involved in the discussions about the point at which our performance would become a “priority for improvement”. This ensures that Lead Member and scrutiny time is spent looking at the most important areas.</p> <p>The role of Elected Members in managing performance is crucial, and we have the structures and practices in place to maximise the effectiveness of Members in the process. Lead Members have clear objectives, which are set in discussion with the Leader, and which make them more accountable for performance and delivery. We also have a cross-cutting Performance Scrutiny Committee, and individual members of the committee are aligned to council services to enable them to increase their knowledge of that service, and to provide more effective scrutiny.</p>
3	<p><b>Is your organisation delivering for your users?</b></p> <p>The council has embraced an outcomes-based approach to strategic planning and service delivery, and we have a model based upon results based accountability (RBA). Corporate and service plans are built around delivering positive outcomes for our communities, and we are only concerned with identifying service outputs which will have a positive impact on those outcomes. The benefit of the RBA approach is that, if we find that outcome indicators are not improving even though performance indicators are positive, we are then able to challenge whether we are pursuing the most effective service outputs. The split between outcome indicators and performance measures makes it much easier to understand whether the work we deliver has a positive impact on outcomes for our communities.</p> <p>Delivering services to meet the needs of all users (e.g. Welsh language, multiple channels, equality of access) is a challenge and it often requires additional resource. This will therefore become an increasingly bigger challenge over the next few years as resources become increasingly scarce. We are confident that we can successfully deliver bi-lingual services for our residents, and we are currently undertaking a lot of work around channel shift as part of our Modernisation Programme which will open up new options for users. We have also been working hard over the past year to ensure that Equality Impact Assessment is used to inform council decisions and service delivery, and there is evidence that this is now becoming more embedded within the day-to-day business of the council.</p> <p>We are getting better at understanding how to collect and use data about</p>



	<p>customer perceptions to inform our planning and decision-making. Our new research and intelligence function has increased our capacity to do this effectively. We conduct a bi-annual Residents' Survey of 6,000 households to help us understand perceptions about Denbighshire as a place; the council; and the universal services we provide for residents. Services collect user feedback about services provided for, and used by, specific user groups, and this information forms part of the strategic planning and Service Performance Challenge processes.</p> <p>One area we may be able to improve on is the way we report performance data to the public. Although all our corporate quarterly performance reports are publicly available on our website, they are probably not easy to find as they are included within papers to Cabinet and our Performance Scrutiny Committee. The only performance we currently make available on main part of our website is our Annual Performance Report. We also make hard copies of this report available in our council reception areas, libraries, and one-stop shops.</p> <p>Performance reports can be fairly technical documents, and there are national requirements for what must be included in our Annual Performance Report. This makes it difficult to write the report in such a way that will be accessible to the public. However, the "excellence" model, described earlier, does have the benefit of enabling us to produce more concise reports that are hopefully more meaningful to the public as well as council officer and politicians. The increased understanding of performance management among Councillors since the introduction of the excellence model has increased public accountability because those councillors are there to represent the general public. Our Corporate Plan 2012-17 is a very clear, concise and public-friendly document with clear messages about the priorities for the council during the next 5 years. The clarity of the Corporate Plan will also enable us to produce performance reports that are much more meaningful to the public in future.</p> <p>The Ffynnon performance management system has not helped us to report performance information to the public. We believed that Ffynnon would allow us to very easily create dashboard reports which could be published on our website. However, the amount of time required to create and maintain such dashboard reports made it virtually impossible to do. We hope that the new solution currently being procured by the Welsh Government (Pan) will offer a better solution and will also be affordable to the council. However, it is not currently clear what functionality that new system will provide, and it is not clear how much (if anything) it will cost the council to use. We are therefore looking at other options in case Pan proves to be too expensive to use or does not meet our needs. Our new website, due to be launched this autumn, will help to increase our accountability to the public by enabling us to easily report more performance information to the public.</p>
4	<p><b>How has working with others delivered services for users?</b></p> <p>The council works effectively with others to deliver services for users, and this is</p>



	<p>particularly evidenced by the BIG Plan, Denbighshire’s Single Integrated Plan. This demonstrates that it is possible to work with partners to identify common strategic priorities for the county, and to deliver benefits for communities. The North Wales Public Sector Equality Network again demonstrates that it is possible to develop and agree common high-level objectives across the region, and for each individual organisation to effectively contribute to the delivery of those objectives. The new School Improvement arrangements are an example of the creation of a new regional structure which should improve service delivery, though this has not been a simple task for the six authorities involved.</p> <p>Sub-regional service collaboration has proven to be much more difficult than originally anticipated, with practical barriers (such as different ICT systems), and different political and governance structures as well as different expectations to consider. The complexity involved in delivering collaborations can actually have a detrimental impact on service delivery and performance as so much time and energy is focussed on overcoming the political and operational barriers.</p> <p>Partnership working is extremely complex, and it requires significant resources to coordinate it effectively. Clearly there is considerable benefit in working with other public and third sector organisations to deliver related outcomes for our communities, but work is still required to simplify strategic partnership structures. Denbighshire has made significant progress in this area, reducing the number of partnerships and increasing their focus, but there is more work required. Local efforts to reduce the complexity of the partnership landscape are sometimes undermined by WG sponsored initiatives that require new local and regional fora (e.g. Communities 1st).</p>
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### Scale and Capability

1	<p><b>What is the evidence that an organisation’s ability to deliver its key functions is related to its size?</b></p> <p>It seems obvious that larger organisations should enjoy lower overheads and unit costs and should find it easier to redeploy resources when under financial pressure. By corollary a large number of small units are more costly than a smaller number of large units, and assuming all other factors are equal, larger units should deliver better value for money to residents.</p> <p>However, it is far from certain that larger organisations in Wales are actually better at delivering high quality services to residents. Equally, smaller organisations can be very good at delivering high performance and resident satisfaction.</p> <p>The debate about scale, therefore, is a complex one and should include standards and quality as well as cost.</p> <p>Denbighshire County Council is an interesting case study because its history from 2008 to 2013 demonstrates some critically important learning that should be</p>
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considered in the debate about the importance of scale:

1. A small organisation can be quickly mobilised around a strong vision for improvement;
2. A small but failing organisation can be improved relatively quickly and perhaps a lot quicker than a large but failing organisation;
3. It's difficult to hide incompetence in a small organisation because a drive to improve cannot carry people who are not up to the job; 'large is good' could become code for 'we can throw money at problems rather than tackle them'.
4. Leadership capacity can be strong, if leaders are creative about how leadership is distributed;
5. Small organisations can be amongst the highest performing;
6. Culture is the key to a successful organisation and it is easier to change and to maintain in a smaller organisation.

Furthermore, there doesn't appear to be convincing evidence across the Wales public sector that larger organisations are in reality better value for money or, more importantly, outperform smaller organisations. Conversely, there are examples of large organisations that appear unable to control budgets or deliver performance targets. There doesn't appear to be any evidence to suggest that a larger organisation will have better leadership or capacity to improve.

The ability of an organisation to be innovative or be able to deploy research and technology is not dependent on its size, but rather the creativity of its leaders. These activities are probably best commissioned rather than directly managed in any case.

There are evidently a number of small councils that are poorly performing, but that poor performance is far more likely to be a result of poor leadership than about the size of the organisation. Denbighshire County Council was a 'failing' organisation in 2007/8 but is now one of the highest performing in Wales. Its size hasn't changed: its leadership and culture has.

There doesn't appear to be a direct relationship between the size of an organisation and its effectiveness, although intuition would suggest that any organisation that aspires to provide a range of public services must be of a 'certain size' – i.e., it's possible to be too small or too large. Perhaps the best way of judging what is an appropriate size is to examine the outcomes rather than the inputs: if an organisation is well lead and is delivering good outcomes for its residents then it's the right size.

The real question isn't whether small is better than large, but rather *'how can Wales reduce the cost of the public sector and improve standards at the same time?'*

Reducing the number of public sector organisations should be a stated objective because it is clear that larger units can be more cost efficient, but we must start by accepting that being large, does not by definition produce benefits. In fact, unless the scaling up process is backed by a vigorous efficiency drive, which has



	<p>to include a large number of job losses, it would not even deliver significant savings but more likely produce highly inefficient and much more difficult to manage organisations.</p> <p>Cost reduction is vital and necessary to our progress, but this isn't the main challenge for the public sector in Wales; improving performance is. In fact we could organise the public sector in larger units pretty quickly and crudely, but perhaps also disastrously, unless the scaling up process can be built on strong leadership and high performance.</p> <p>If we are to 'scale up' then our business case must convince that the main drivers will be the growing of good leadership and high performance as well as certainty that the anticipated savings will actually be realised.</p> <p><b>2. What functions and services are most effectively delivered at which level?</b></p> <p>We think that the current configuration could usefully be reviewed. There is a mismatch between Community Health provision organised on a regional level and Social Care on a County basis. A closer alignment in terms of organisational scale, perhaps on a two county footprint, would aid the current efforts towards promoting integration between health and social care services.</p> <p>Other functions could more usefully be delivered on a regional level, an example would be Regeneration/economic development where the need to establish the North Wales Regional Ambition Board reflects this shortfall. The same issue applies to Planning which is currently undertaken on a County basis. Having six separate LDPs in North Wales does not adequately address the strong regional drivers.</p> <p>A more strategic approach is required from Welsh Government on this issue.</p> <p><b>3. Does the current number and structure of organisations provide value for money?</b></p> <p>As above, there is a clear mismatch in scale in some critical public service functions that leads to inefficiency. There may also be too many of some organisations, for example, we have 37 separate Town &amp; Community Councils in Denbighshire.</p> <p>In the context of serious financial constraints, we should be looking to reduce the number of smaller public sector organisations and create larger ones.</p>
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**Complexity**

1.	<b>To what extent is there organisational overlap?</b>
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There is certainly a degree of organisational overlap in North Wales. Examples would be in Food Standards, sports provision, tourism, regeneration and Transport. There is also overlap in some key areas of service delivery: support for vulnerable young people, tackling deprivation or NEETS for example.

In social care services, the overlap can be across all or some of the six local authorities plus the Health Board. Most social care services are delivered locally; however, for specialist services, where the volume is much lower but the cost high, it is more efficient to commission across organisational boundaries. The North Wales Commissioning Hub has been developed as a collaborative between the six local authorities (social services and education) and the Health Board to address regional commissioning of high cost, low volume care home provision.

Different WG initiatives sometimes also create overlap *within* public sector organisations, for example, Communities First.

All these examples reflect the lack of an overall strategic approach. An example of potential for duplication where the Welsh Government would in an ideal position to provide centralised leadership is the move towards webcasting Council meetings to promote local democracy and public engagement. This is a Welsh Government initiative but all 22 local authorities are replicating activities that could have been planned and procured by the Welsh Government once. Even with local authority support for such central programming the savings in time and resources across the public sector could be significant, lead to consistency of approach and (using the webcasting example) compatible systems.

**Do current structures enhance seamless services and provide better services?**

**Has collaboration led to improved services?**

**Do current arrangements blur accountability?**

**Do different organisational scales and boundaries affect the ability your organisation to collaborate effectively?**

### **Complexity of partnership working**

As an initial point, many of our partnership arrangements are necessary because of the current configuration of public services. This is especially true of health and social care. Functional integration would eliminate the need for many of these.

Partnership and/or collaborative working has proved to be fraught with difficulties, which, at this stage, seem to outweigh any tangible benefits, particularly as it is very difficult to identify improved outcomes for service users of all partner organisations.

The complexity of collaborative working can be attributed to several factors,



including:

- political structures, priorities and partners' political processes;
- governance arrangements;
- fear of the collaboration adopting the lowest common performance, as there will always be 'winners and losers' unless performance is at the level of the best performing partner;
- numbers of partners – Shared Services Architects suggestions that the optimum number of partners is 4 – anything above this too complex;
- loss of control or sovereignty; and
- differences in language and culture

Denbighshire County Council, along with some of its partners, recently carried out an exercise to identify all of the partnership and collaboration arrangements that they are part of. This has been a difficult task, as there are various definitions of a 'partnership'. Although there are several collaborative arrangements across North Wales, the basis for these partnerships varies from simply working together through to more formal agreements. These arrangements are between various public sector bodies, including:

- |                     |                     |
|---------------------|---------------------|
| • local authorities | • health            |
| • police            | • fire              |
| • ambulance         | • probation         |
| • youth justice     | • voluntary sector  |
| • third sector      | • further education |

The range of service areas covered in these partnerships is extensive, including:

- |                        |                     |
|------------------------|---------------------|
| • Social care          | • Education         |
| • Waste management     | • Safeguarding      |
| • Community safety     | • Bailiff services  |
| • Economic development | • Training          |
| • Transport            | • Public protection |
| • Youth justice        | • Building control  |
| • Procurement          | • Planning policy   |
| • Highways             | • Leisure           |
| • Emergency planning   | • Library services  |
| • Tourism              | • Fleet management  |
| • Housing              | • ICT               |
| • Agency staffing      | • Conservation      |

Our evidence of the various collaborative arrangements across the region and with others shows that, if each has its own governance arrangements working in a silo, there is now a complex structure of governance arrangements in North Wales and a level of uncertainty about what the arrangements are in some cases.

Social care provides a good example of this complexity. There are several collaborations across North Wales, such as the adoption service, Galw Gofal, Emergency Duty Team, North Wales Commissioning Hub, joint equipment stores – these services are delivered either sub-regionally or regionally and some also include other departments within the Council as well as the health board. The



greater the number of partners the more complex the governance arrangements become.

The Social Services and Health Programme Board was developed to provide the ultimate accountability for collaboration; however, other than receiving update reports from social care collaborative projects, this has not replaced the need to report directly within each partner organisation. This can lead to significant officer time being spent reporting. Within social care services the statutory duty lies with the Director of Social services – there is often ambiguity around what decisions are delegated from or between each partner, management board and/or project manager.

Our experience is that the sheer number of partnership arrangements creates a significant level of complexity and consequent difficulties with accountability for Members and citizens. There are still too many partnerships and despite best efforts locally to rationalise them, requirements for new ones seem to be proposed routinely to support WG policy initiatives.

#### **Service improvement**

The vision for collaboration as outlined in the Compact has not delivered to the extent originally anticipated in terms of savings or ambition. Other than the national procurement and transport collaborations, the scale, ambition and savings made in other collaborative projects are modest.

Progress within collaboration is often slow and, overall, it is too early to demonstrate conclusively whether collaboration has improved services generally and whether any improvements justify the frequently more complex and resource-intensive governance arrangements.

Collaborative arrangements should always be preceded by a sound business case and the improvement in service should be experienced by the end user, not just the partner organisations. Denbighshire and Conwy collaborated on a joint highways project starting in 2009 (including a joint head of service), undertaking a considerable amount of work on the partnership, but by 2012 the Programme Board had concluded that there was no clear business case for moving to a fully integrated highway and infrastructure service. However, the complexity of dealing with partners within collaboration often means that the focus on improvement to the end user is blurred or lost by the time and energy invested in making sure that each partner's requirements are being met.

On the positive side, we have some examples of improved service delivery in social care. There is evidence to suggest that integrated delivery of health and social care services improves services and outcomes for service users; however, this is an area that is fraught with complexity in terms of organisational differences, staff terms and conditions and funding arrangements. Collaboration has assisted in making better use of limited capacity and enabled Councils to



	<p>provide enhanced services.</p> <p>To date, social care collaboration has brought about standardisation of service provision and processes, better use of limited capacity and enabled enhanced services to be delivered rather than being able to demonstrate improved services at this present time.</p> <p>Although it is difficult to evidence improved services through collaboration, working collectively across North Wales does bring about advantages to the region when commissioning specialist services – even collectively the numbers of any one type of specialist service can be very low and it is only by working collectively that organisations will have sufficient critical mass to bring about buying power or to consider commissioning a North Wales service.</p>
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### Governance, Delivery and Scrutiny

1.	<p><b>Are the principles of good governance being upheld, and are they driving improvement? If not, why not? What needs to change?</b></p> <p><b>Do governance arrangements for organisations effectively hold those responsible for delivery to account?</b></p> <p>Denbighshire County Council has a robust governance framework and we believe this has gone hand in hand with good leadership, which has led to improved performance and service delivery over recent years. We have received positive WAO feedback and reports on our governance arrangements and how we have developed our governance framework.</p> <p>Our governance arrangements are now open to more consultation and challenge from senior management and elected members to make them more open and transparent and hold management and members to account for delivery. It's not seen as a tick box exercise to be able to develop the Annual Governance Statement for the final accounts process and is on-going through the year, including an improvement action plan monitored by our Corporate Governance Committee.</p> <p>The Council is held to account in many ways - external regulators, internal audit, self-assessments, peer reviews, partnership boards, scrutiny committees, standards committee, 'audit' committee, annual staff survey, and customer feedback. These sources are all used as assurance that the Council is working effectively and that good governance is in place. The difficulty is to avoid over-regulation, so we have developed an assurance framework to show where we get our assurance, which will highlight any duplication or gaps in assurance.</p> <p><b>How clear and simple are governance and decision-making arrangements within your organisation? What is the effect of this?</b></p>
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	<p>We recognised about two years ago that our governance and decision-making arrangements were complicated and not fully understood by some, so we have reviewed the Council’s Constitution to improve and clarify arrangements. It is now clearer in our Constitution where decisions are to be made and service heads now have laid down delegations for general and service specific areas. We now need to take this further by developing decision-making protocols in services where the service heads may need to delegate some powers.</p> <p>Having clear decision-making processes makes life easier for officers knowing where decisions need to be formally approved and who by, although we still occasionally have some issues around governance clarity with scrutiny committees and Corporate Governance Committee (our audit committee). This can lead to the same report going to different committees, which is not efficient and could result in different decisions being taken by different committees leading to conflict. It could also lead to governance issues not being addressed by the right committee or, for example, Corporate Governance Committee not being aware of governance issues where they have been reported elsewhere. We will though be addressing this as part of our review of governance arrangements during this year.</p> <p><b>How well and how consistently does your organisation change its governance process and adopt good practice to improve efficiency and clarity?</b></p> <p>The Council has significantly improved its governance and service arrangements over recent years following adverse reports from Estyn and the WAO. These changes included a new leadership team, structure changes at senior management level, leading to a new culture in the organisation, making senior managers more accountable. We have also improved our decision-making processes as outlined above.</p> <p>There is now a more open and transparent culture than in the previous leadership regime and we are consistently a high-performing Council with efficient and effective service delivery. We have clearly listened to our external regulators to deliver improvements and are now seen as good practice for others to learn from.</p> <p>We also realise that we cannot stand still and there is always room for improvement and learning. For example, when the WAO national report on governance comes out, we will review it to identify any better practice that we can learn from.</p>
2.	<p><b>How effective is public engagement in influencing decisions and holding service-providers to account?</b></p> <p>The public is able to influence local authority decision and policy making more comprehensively than other public service providers owing to local authorities’ democratic mandate. The extension of public service scrutiny through local authority scrutiny committees will facilitate public engagement and accountability</p>



	<p>through these relatively well-known processes.</p> <p>There are significant barriers to overcome to improve the level and range of engagement with the public. Controversial policies and decisions can draw the public into the process but a wider, more consistent participation remains elusive. However, local authorities are well placed to exploit their electoral and geographic advantages to promote engagement and this work is being undertaken by all local authorities in response to the 2011 Local Government Measure.</p>
3.	<p><b>How effective are audit, inspection and regulation in driving change and supporting accountability and improvement?</b></p> <p>We have found, from experience, that external audit, inspection and regulation can be a catalyst for change and improvement. Denbighshire County Council received some very challenging inspection reports from Estyn in 2007 and the Wales Audit Office in 2008, and these reports led to some fundamental changes in leadership and management in the council. We therefore see the value of this critical challenge role in driving improvement, and we value much of the work undertaken. The Wales Audit Office recently agreed to participate in our Service Performance Challenge process, and we feel that this adds a useful external perspective and makes the challenge process more robust. The Annual Improvement Report (AIR) by the Auditor General is particularly helpful in bringing together the conclusions of all audit and inspection work during the past year, although the timeliness of these reports could often be improved. For example, the latest AIR for Denbighshire County Council which provides an evaluation of our performance during 2011-12 and our plans for improvement during 2012-13 was published in May 2013. However, the value to Denbighshire of some of the Improvement Studies and National Studies undertaken by the WAO is not always as clear. The topics of these studies are not always a priority for Denbighshire, and it is often unclear what we hope to learn from these studies and what will improve in Denbighshire as a consequence.</p>
4.	<p><b>How well does formal and political scrutiny influence decision-making and improve accountability?</b></p> <p>Recent Wales Audit Office Annual Reports and Estyn inspections have found satisfactory scrutiny arrangements in Denbighshire. The current All-Wales WAO Scrutiny Improvement Study has been reviewing Denbighshire's Scrutiny function against 27 key areas and found the large majority of them to be either positively or significantly supporting effective scrutiny. There were no findings of areas 'hindering effective scrutiny' and this gives a good platform to build on. The WAO's Annual Improvement Report 2012 on Denbighshire's scrutiny arrangements commented that '<i>we consider them to be soundly based and developing satisfactorily</i>' (page 13) and this following changes to its scrutiny structure that were designed to keep pace with changes within the council and with increasing partnership working.</p>





	<p>Denbighshire acknowledges that the extension of local authority scrutiny powers and duties under new legislation is a process that will take time to develop and there are significant resource implications in extending scrutiny to a variety of different and complex governance bodies. In spite of this, local authority scrutiny has the ability and culture (developed over more than a decade) to strengthen effective decision making, local democracy and engagement through public service scrutiny.</p>
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**Culture and Leadership**

<p>1.</p>	<p><b>Does the public sector in Wales share a common set of values?</b></p> <p>We do not feel that there is a common set of values shared by all public sector bodies in Wales. Many organisations do appear to have values that are similar, but they are generally slightly different in their wording. There may be some merit in developing a common set of values across Wales, and the current similarities between organisational values may make that a relatively easy task. However, the purpose of doing so would have to be made clear. It would be of concern to Denbighshire County Council if this were to lead to an additional layer of evidence gathering in order to monitor and report on our success in implementing such values. Values relate to the culture of the organisation, and it should not be possible (or necessary) to measure them in any tangible way.</p> <p>One thing that may complicate the development of a set of common values is the cultural differences that exist in Wales. For example, the Welsh Language receives greater importance and promotion in North Wales than in most parts of South Wales.</p> <p>We do believe that the Welsh Government has a value and commitment to improve and strengthen public service in Wales, by working together and not compete with the private sector.</p>
<p>2.</p>	<p>In Denbighshire, we have the following values: Pride; Unity; Respect; and Integrity. We are confident that these values permeate the whole organisation, and we are certainly able to demonstrate a positive culture within the council from the results of our staff surveys. However, it is good leadership and management rather than the existence of those values that enable that culture to develop and thrive.</p> <p>The council also has a clear ambition to become “an excellent council, close to its communities”, and this again permeates through the organisation. This ambition is underpinned by our commitments in customer service standards in ‘The Denbighshire Way’ and is clearly articulated in many of our published documents, such as our Corporate Plan, and it is reinforced through individual performance appraisals.</p>
<p>3.</p>	<p><b>Where does change in organisation values come from?</b></p>



	<p>As mentioned above, the catalyst for cultural change in the council has been leadership. Senior managers and Elected Members have worked together to create a positive culture within the organisation, and this collective leadership approach has resulted in significant change. Staff engagement is a key requirement for culture change, and there are many examples of workforce engagement in Denbighshire, e.g. staff roadshows, CEO and Leader’s Blog, You tube corporate messages, Staff Away Days, Members going out with officers to the ‘field’ etc., which have stimulated innovation, improved communication and supported change.</p>
4.	<p><b>What role does leadership play in improving performance</b></p> <p>Leadership, rather than scale, is the biggest controllable influence on the performance of an organisation. Although increasing the scale may offer some savings relating to fixed costs, it will not improve the performance of an organisation. It may actually be the case that, all other things remaining equal, increasing the scale will have a detrimental impact on performance.</p> <p>High performing authorities have a culture of continuous improvement, common core values, empowerment of staff and trust. To create such a culture, an authority needs to have a strong focus on its people and performance, which we believe we have in Denbighshire.</p> <p>The leadership model in Denbighshire has had a clear impact on improved performance, positive culture and enhanced capacity. The model is embedded within the council’s ‘operating system’ and is one of the council’s significant strengths. This is one of the key questions within this consultation document, and a separate paper has therefore been produced by the Chief Executive to cover the issue of leadership in more detail.</p>

**Welsh Government and National Assembly for Wales**

1.	<p><b>How could Welsh Government do more to achieve policy coherence and aligned delivery?</b></p> <p>Firstly, it could do a lot less. The role of Welsh Government should be to establish clear national expectations on performance and outcomes, set policy direction, offer a strategic approach, provide the right balance of encouragement, support, pressure and intervention to achieve national objectives and ensure a clear inspection and accountability framework.</p> <p>The reality is very different. Although we have the Wales Programme for Government, by and large activity is not coordinated and policy links are not made between departments. The consequence is that financial implications are not always properly taken into account and the cumulative impact of policy changes on Local Authorities not always understood. Timetables are not always aligned and from a North Wales point of view, there appears to be a lack of</p>
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	<p>inclusivity. For example, there seems to be no common approach between the 21st Century schools programme and other key capital programmes, or between Communities First and Families First.</p> <p>Welsh Government, including many ministers appears far more interested and concerned with operational management, specific – often ward level – issues and last minute fixes.</p> <p>Here are some examples of inappropriate WG involvement:</p> <ul style="list-style-type: none"> <li>• Deciding whether or not a school or a provision should close or open;</li> <li>• Deciding to ‘top slice’ the local government revenue grant a couple of months before the start of a financial year in order to create additional projects, with complex governance structures that may or may not be high priority;</li> <li>• Deciding that all councils will introduce webcasting;</li> <li>• Deciding local governance arrangements for specific projects, e.g., Communities First, Families First</li> </ul> <p>Here are some examples where a strong national direction is absent but needed:</p> <ul style="list-style-type: none"> <li>• A clear strategy for how we are going to address the financial challenges;</li> <li>• A strategic direction on the future provision of Social Care and Health services – loose collaboration or hard mergers?</li> <li>• A national strategy for improving educational standards (all of the bullets in the Programme for Government can be ticked without addressing this).</li> </ul> <p>Addressing this problem would improve governance, remove unnecessary operational management activity and save the taxpayer significant amounts of money.</p>
2.	<p><b>Is the distinctive role of the national government in Wales well understood?</b></p> <p>At the broadest level people understand that Wales has a devolved government with responsibilities for a limited range of areas. There is also an appreciation that, in these areas, the Welsh Government has a mandate to govern and to implement its promises to the electorate. However, it isn’t always clear how Welsh Government exercises these responsibilities and sometimes the way these responsibilities are exercised lead to undermining of its own role.</p> <p>For example, there is currently a lot of ministerial talk about serious cuts to local government budgets: ‘be prepared for English style cuts’. But is this because of the settlement from the UK government or choices that the Welsh Government will make or a combinations of both? Lack of clarity invites speculation and gossip rather than professional decision making. It also creates confusion about who is responsible for what.</p> <p>Equally it is not always clear where the role of the Wales Government stops and local government starts. For example, the Welsh Government requires all councils to develop and adopt an LDP. This is what you’d expect. But it is also</p>



	<p>considering publishing guidance on how many locally elected members should sit on committees and even how long they should be allowed to speak for! Is the role strategic or operational?</p> <p>There appears to be insufficient respect for Welsh Government’s authority at a local level. Sometimes this is locally encouraged and sometimes it is encouraged by poor decision making by ministers. For example, the previous local government minister’s expectations on the local government Compact were clear: transformational change and lots of financial savings. However, they were also unrealistic because local government does not have the appetite to achieve these outcomes but do have the culture, behaviours and the authority to avoid them. A result is further undermining of the credibility/authority of national government. The response of the minister to ‘top slice’ the local government revenue grant by £10m and force councils to come up with new collaboration projects, with additional governance structures and long term costs added to the problem.</p> <p>The solution is for Welsh Government to redefine its role by disengaging from attempting to manage public services and focus on strategy, expected outcomes and standards. Where outcomes and standards are not met there needs to be robust, proportionate and clearly understood action not more operational management.</p>
<p>3.</p>	<p><b>How have arrangements between the Welsh Government and organisations developed to enable and encourage improvement in delivery?</b></p> <p>Our feeling is that WG is too involved in operational matters; ‘delivery’ rather than outcomes, and is generally too prescriptive. For example, in the new Social Services and Well being Bill, Local Authorities are told that:</p> <ul style="list-style-type: none"> <li>• They should be self contained in terms provision of accommodation for children within County boundaries. This would entail LAs building inefficiently considerable quantities of residential care;</li> <li>• They should only foster with local authority foster carers which means if enacted there would be no use of independent fostering agencies, vol. orgs etc.</li> <li>• That we should place within County boundaries so in Powys a child from Welshpool could be placed in the Swansea Valley, but a child in Prestatyn should not be placed in Gronant (2 miles over the border).</li> </ul> <p>Another example of this overly operational focus is the recent independent review of planning in Wales. The review concluded nothing fundamentally wrong with the system but none-the-less came up with 92 recommendations. Instead of leaving it to Local Authorities to implement as appropriate locally, implementation is being dictated across Wales. For example, it seems likely that Local Planning Authorities will be told exactly how many Members should be on the Planning Committee.</p>



	<p>Our perception of encouragement from WG is of 'sticks' rather than 'carrots'. The new outcome arrangements are an example, as is the collaboration funding top sliced from LA budgets without consultation. More prescription or more regulation seems to be the WG response when things don't work, rather than tackling the causes of failure. Targeted encouragement and support would be more effective.</p> <p>On the positive side, we feel that the environment is there to encourage dialogue at the top, and that WG is accessible. There have been good examples of WG listening and working with Councils in the region, for example, not progressing the merger of Children's Services between Denbighshire and Conwy; supporting the local Economic Ambition Board; Denbighshire's 'Big Plan' etc. We feel there is a desire to succeed and that relationships are generally good.</p>
4.	<p><b>How effectively does the Welsh Government directly manage services?</b></p> <p>It's not clear which services are directly managed by WG.</p>
5.	<p><b>How well does Wales handle cross-border service provision between Wales-England/ Devolved-non-devolved?</b></p> <p>Welsh Government generally looks for a 'Welsh' solution, but this concept is not always the most appropriate in North Wales, where services in England may be more accessible. For example, we feel that the WG decision not to support the Mersey-Dee City region initiative was short-sighted and ignored the significant links we have with the North West of England.</p>

### Concluding Thoughts

After considering the six themes it would be helpful and insightful to gather your responses on the final three questions.

1	<p><b>What are the greatest challenges that you see in delivering public services in the future?</b></p> <ul style="list-style-type: none"> <li>• Financial reductions and the apparent lack of strategic planning at WG level</li> <li>• Lack of effective strategy for the future funding and organisation of social services and healthcare.</li> <li>• Apparent inability to develop a sophisticated model for intervening in inverse proportion to performance. We don't seem to be able to grow good leadership and culture, resulting in Wales falling behind other countries. Poor performance is not effectively managed at present and intervention is weak.</li> </ul>
2	<p><b>How would you like to see public services delivered in the future?</b></p>



	<ul style="list-style-type: none"><li>• Accept that current arrangements are inefficient and ineffective, that there is duplication of service provision, an unsustainable number of organisations and governance arrangements. There should be fewer, more coherent governance arrangements and organisational structures, including local authorities.</li><li>• More effective leadership from WG.</li><li>• Fewer organisations with clearer accountability.</li><li>• More coherent arrangement of service delivery.</li></ul>
3	<p><b>Are there any other areas of focus that the Commissions should be looking at as part of their evidence gathering?</b></p> <ul style="list-style-type: none"><li>• Role and function of City, Town and Community Councils</li></ul>

## Leadership in Denbighshire County Council

### Introduction

This paper sets out Denbighshire County Council’s model of leadership and demonstrates its impact on performance, culture and capacity. It does not suggest that the model works perfectly at all times or that it necessarily applies in other contexts. Nevertheless, the model has shown to be effective in Denbighshire and could be a useful reference to others.

Good Leadership is critical to improving the performance of an organisation. Where there is good leadership there is often a clear vision, the capacity to improve, a healthy culture of engagement, accountability, challenge and transparency and measurable improvements in performance. Conversely, the absence of these characteristics is often a reliable indicator of poor leadership.

Following two highly critical inspection reports by ESTYN in 2007 and the Wales Audit Office in 2008, the political leadership of Denbighshire County Council decided to focus on transformational change rather than simply attempting, reactively, to respond to the recommendations of these reports. The top priority for the council was to develop strong leadership and to engage in a process of culture change at all levels.

Five years later, Denbighshire is now recognised as one of the top performing councils in Wales. In 2009 the council pledged to become a ‘high performing council, close to its community’. It selected a basket of 19 key indicators, recognised as representing the most important nationally available measures of performance including educational outcomes; supporting homelessness; support for children in care; road repairs and waste recycling rates.

For three consecutive years since then the Local Government Data Unit has identified Denbighshire as the best overall performing authority in Wales.

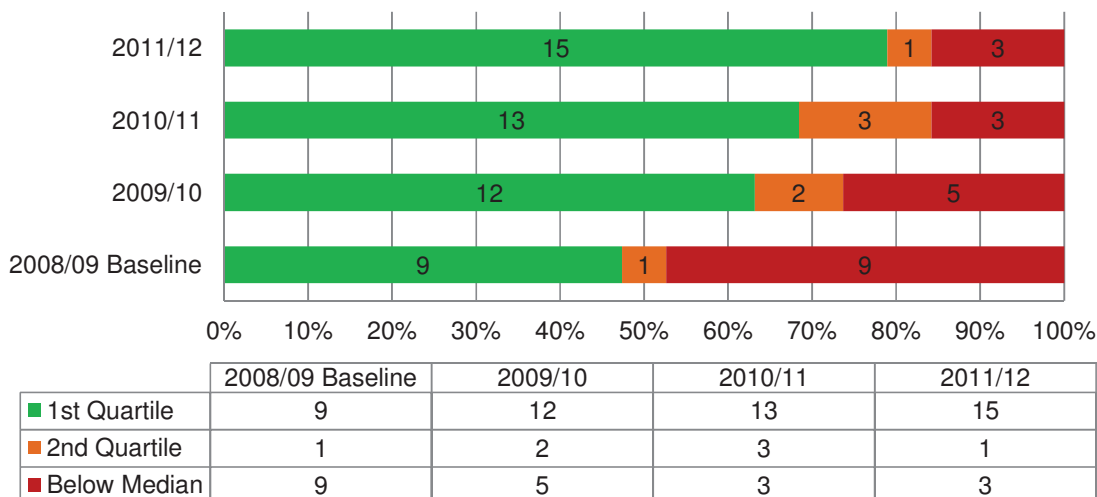


Table 1 presents Denbighshire's performance against our pledge to improve performance for all National Strategic Indicators (NSIs).

YEAR	Rank	NSI Count	Upper Quartile	Above Median	Below Median
2008/09	7	35 <sup>1</sup>	14	(18) 4	17
2009/10	1	35 <sup>2</sup>	23	(27) 4	8
2010/11	=1	24 <sup>3</sup>	12	(16) 4	8
2011/12	1	24 <sup>4</sup>	15	(17) 2	7

There has been a transformation in the way the authority works, with a much greater focus on corporate priorities and cross-cutting scrutiny. This has overcome silos and has driven significant change and continuous improvement at a fast rate. The 2012 ESTYN inspection report of Denbighshire has graded leadership as 'Excellent'; the only authority in Wales to have achieved this grade. The inspectors described Denbighshire's way of doing business as 'Sector Leading'.

The Welsh Audit Office has come to a similar conclusion about leadership in its 2012 Annual Improvement Report for Denbighshire:

*'We found that there was clear and effective leadership by senior councillors and officers. The changes to the senior management arrangements also seem to have become quickly established. We found clear evidence that the new arrangements are having a positive impact on the leadership of the council's improvement priorities, for example in establishing an improving whole-council approach to becoming 'close to the community' and in improving the focus of work on regeneration.'*  
WAO AIR 2012

## Denbighshire's Leadership Model

Denbighshire County Council's leadership model has evolved over a period of five years, mainly in response to difficult inspection reports and a determination to improve. There are five fundamental principles to the model:

1. Appoint the best people
2. Vision, ambition and communication
3. Collective leadership
4. Performance management
5. Accountability and scrutiny

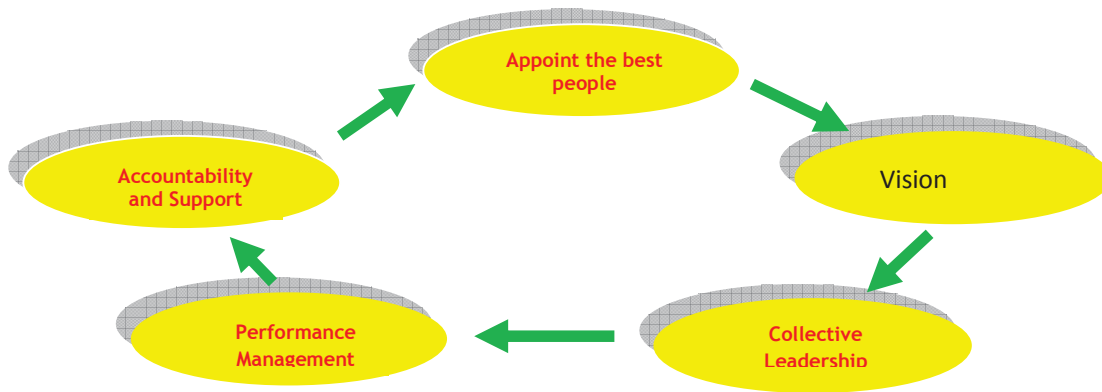
<sup>1</sup> In 2008/09, the NSI set contained 38 indicators. The 35 indicators relate to those that were published in the Local Government Data Unit statistical release of 2008/09 (excluding BNF/005, EEF/002i, and EEF/002ii).

<sup>2</sup> In 2009/10, the NSI set contained 38 indicators. The 35 indicators relate to those that were published in the Local Government Data Unit statistical release of 2009/10 (excluding BNF/005, EEF/002i, and EEF/002ii).

<sup>3</sup> In 2010/11, the Welsh Government had taken control of the NSI set. The set was revised to contain 26 indicators. The 24 indicators relate to those that were published on StatsWales (excluding BNF/004 and BNF/005).

<sup>4</sup> In 2011/12, the NSI set contained 24 indicators. The 24 indicators relate to those that were published on StatsWales.





### **Appoint the best people**

This seems a rather obvious starting point for building strong leadership, but in fact it is difficult to do in the Welsh context. In Denbighshire County Council there was a culture of appointing from a local pool, rather than opening up to national and international markets. Following the critical inspections of 2007 and 2008 the council had decided to advertise all senior posts nationally (UK wide) and to use recruitment consultants to ensure a strong field of applicants. Internal candidates are actively encouraged and coached up to the appointment process, but then the appointments are made purely on ability and experience.

There is no national framework or model for appointing senior public sector officials so Denbighshire has developed its own process which is now tried and tested and focussed exclusively on professional competences

This transparent approach has led to a significant change in the composition of the Corporate Executive Team (CET) and the Senior Leadership Team (SLT). Five out of six CET members were appointed since 2008 and four were appointed externally. Fifty percent of SLT, which includes 10 heads of service plus the CET, were appointed externally since 2008. There is a healthy mix of internal promotions and fresh ideas from other areas of the UK within the senior team. This mix has helped to breakdown loyalties to the previous structure and culture. The structure and composition of the senior team is kept under review and is changed in the light of performance and/or changing priorities.

### **Vision, ambition and communication**

The Chief Executive and all senior managers must be ambitious and have a clear vision which they are able to communicate to staff, members and stakeholders. In Denbighshire the vision for the council since 2009 has been to become a 'high performing council, close to its communities'. There is a culture of aiming high and not fearing the possibility of 'failing to hit targets'. There is recognition that visions are worthless if they do not permeate the organisation and if the organisation does not have the capacity to realise them.

These messages are promoted by lead members and the whole of the senior management team; reflected in Corporate and Service Plans and communicated regularly to staff and the wider community.

### **Collective leadership**

Working in silos is ineffective and expensive. Denbighshire recognised this in 2008 and started on a journey to create effective corporate governance and collective responsibility. Four directorates (and four directors) were replaced by three corporate directors who do not have service management responsibilities. Instead they are responsible for performance managing a group of heads of service and leading on important corporate priorities, for example modernising the council and economic development. Education, social care and the public realm are seen as corporate rather than narrow service priorities and all senior managers are expected to show leadership and take ownership. This has increased leadership capacity and has allowed key services to flourish within a supportive, but challenging corporate framework.

Lead member responsibilities are deliberately cross-cutting in order to avoid silo working and there is broad political consensus around an ambitious vision for the council and the wider community.

All important policy matters are debated at informal Cabinet, Council briefing and SLT prior to public debates and then consistently communicated across the whole organisation. There is a sense of ownership of the Council's agenda at all levels and managers are accessible on the whole agenda, not just their area of expertise. Members and managers understand the importance of being seen to be united and that encourages robust internal debate which in turn means generally well thought through policy positions.

### **Performance management**

For Denbighshire the performance management process starts with engaging all staff in the development of the council's priorities and reflecting these in the Corporate and Service Plans. The CEO's performance appraisal is closely aligned to the emerging priorities and established through a rigorous process, involving a group of elected members and an external moderator. The CEO's objectives are then used to establish objectives for the Corporate Executive Team and the Senior Leadership Team.

Personal accountability for performance is very important so there is a lot of attention to annual job objectives for senior staff. These are signed off by the CEO and lead members and monitored at regular 1:1 meetings. Cabinet members also have clear objectives, agreed with the Leader of the Council. These objectives are shared amongst the top team. At least 95% of staff have an annual appraisal and a mid-year appraisal review and at least 5% of appraisals are quality assured.

Cabinet receives progress reports on the performance of the council on a quarterly bases and the same report is presented to the council's Performance Scrutiny. Service Plans are monitored by lead members and can be called to scrutiny.

Staff engagement is central to the council's work. There is a comprehensive Staff Survey every other year and the messages from staff influence service plans, leadership behaviours and future priorities. Similar use is made of the biannual Residents Survey.

Each service is challenged at annual 'Service Challenge' meetings. These challenges look beyond the service plans and examine the service's self-evaluation, the quality of leadership, vision for the future and performance against best performance. These meetings are chaired by the CEO and include the whole of CET, relevant members and a representative of the Welsh Audit Office. Actions are agreed, recorded and implementation monitored.

At the end of the Service Challenge process the council produces its Self-Evaluation and this is further tested by the WAO.

There is a drive for excellence proceeded by a desire to be even better rather than a fear to fail.

There is robust risk management and there is a culture of identifying and addressing problems as early as possible and an active discouragement of behaviours that attempt to hide problems.

### **Accountability and Support**

Denbighshire has removed ambiguity from its governance structures. The management leadership team is lean and respective responsibilities are clear. Managers are responsible and accountable for their services and unnecessary chains of command and process are constantly challenged and removed.

Expectations from senior staff are high, but that goes with a supportive culture and a tolerance of calculated risk taking. There is recognition that some things will go wrong. When they do the emphasis is on how to respond and help each other to learn rather than to blame.

Lead members have individual portfolios and are accountable to the Leader of the Council for their performance.

Scrutiny is seen as absolutely vital to the challenge and improvement process and for holding the Cabinet to account. All important matters are presented to scrutiny as routine. The behaviour that is encouraged is one of constructive challenge, honesty and openness about the issues being considered. The cross-cutting nature of scrutiny means that most members of the council are exposed to most services and problems in contrast to the traditional model of scrutiny which was organised around directorates. This has meant better informed members and greater capacity.

The development and evolution of this leadership model has coincided with rapid improvements in performance.

### **Performance of the council between 2009-2012**

The council's previous Corporate Plan was for the period 2009-2012 and included four corporate priorities: state of the county's roads, educational outcomes for children, regeneration and demographic change.

## Road Condition Improvements

An example of effective performance management in Denbighshire, securing strategic focus to drive a change in service delivery and an eventual improvement for the service user, can be shown by the corporate priority on Roads and the road condition indicators.

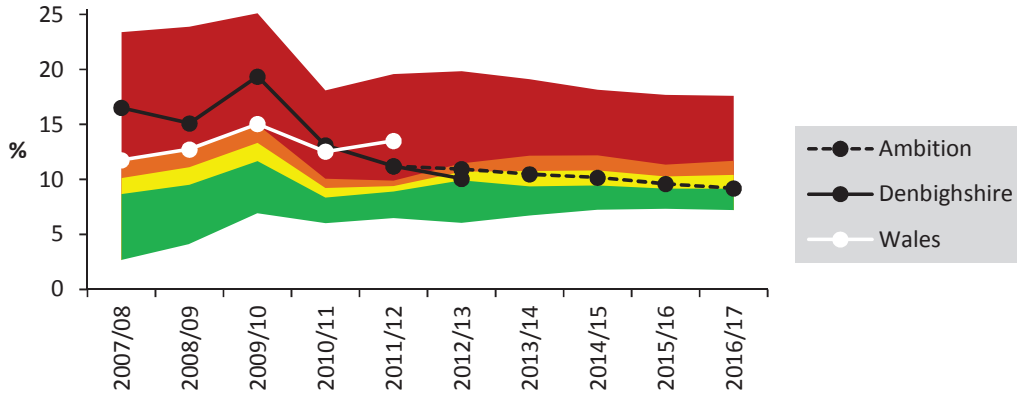


Figure 1: the combined road condition indicators presenting Denbighshire data, the background context against all local authorities in Wales, and our ambition to have reached a position of excellence by 2017.

The background colours in Figure 1 represent quartiles 1 (green), 2 (yellow), 3 (orange) and 4 (red).

## Education Improvements

Another example is the measures at key stage 4 which offer an insight into the improvement path of education in Denbighshire.

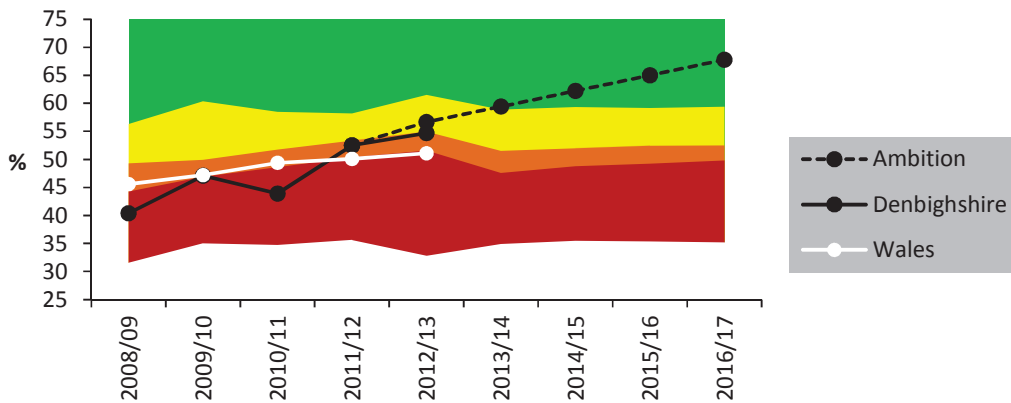
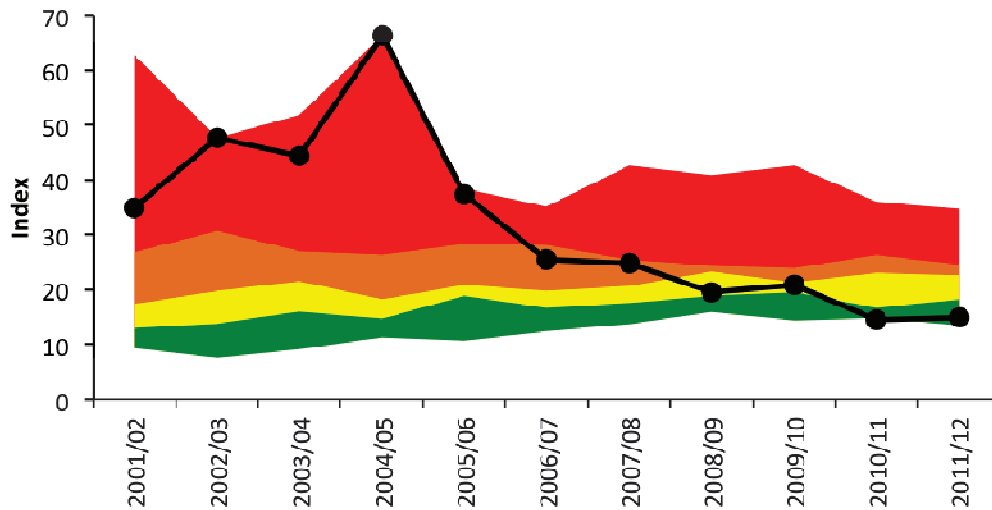


Figure 2: the percentage of pupils leaving education (at key stage 4) with the level 2 threshold including English/Welsh and maths

Figure 3 (below) is a measure to combine the current 2013/14 NSI set using all available historic data. It combines the measures by transforming the values based on rank similar to that used in the WIMD. An average score (or index) is taken from the returned values.



## Relationship between Leadership and Performance

A cynic could argue that in fact performance could improve without good leadership or that good leadership does not necessarily improve performance because the challenges are too great. For example, it is possible to show that some services in Denbighshire were performing well, even when its education service and corporate governance were failing. Similarly, it can be argued that social deprivation effectively places a ceiling on how much leadership can improve performance. This was an argument used to justify low attainment of secondary aged students.

Denbighshire's experience demonstrates the direct, causal relationship between good leadership and improved performance as can be illustrated by the following four case studied.

### Case Study 1 : High Performing Council

One of the criticisms of corporate leadership in Denbighshire before 2008 was that the council didn't know itself very well. It relied on external inspections to tell it how well it was performing in key service areas such as education or the state of the roads. Some services were high performing e.g., waste recycling and council tax collection and others were poorly performing but the council could not comment on its own overall performance or use good practice in one area to improve performance in another.

The new CEO made it a personal objective to clarify and raise the council's ambition and to establish mechanisms for measuring and reporting on progress against it. The council agreed to aspire to becoming one of the top performing councils in Wales. It defined this as a basket of strategic national performance indications, benchmarked its performance and started a drive to improve.

All members of the senior team embraced this challenge and adopted appropriate targets within their own personal objectives and service plans. There was strong political support and leadership for the aspiration and both the Corporate Governance Committee and the scrutiny function were fully engaged in driving the agenda.

For 2009/10, 2010/11 and 2011/12 Denbighshire outperformed all 21 local authorities in Wales (even though the aspiration was to be amongst the best). The culture and expectation in Denbighshire now is that the authority performs well (even if not the best) every year.

This transformation of culture and outcomes would not have happened without good leadership.

### **Case Study 2: Quality of education**

The ESTYN inspection of Denbighshire's education services in 2007 was the most critical in Wales with most judgements 'unsatisfactory' and one or two 'adequate'. The performance of schools was a cause for concern with secondary school outcomes either 21<sup>st</sup> or 22<sup>nd</sup> out of 22 local authorities.

A new Corporate Director and two new Heads of Service were appointed to lead the changes to the Education Service. A critically important strategy has been to improve leadership at school level. This has meant that a number of new headteachers have been appointed to key headship positions across primary, secondary and special schools. This change of leadership has almost invariably led to much improved schools and better standards, with only one school now in statutory category and the overall inspection profile is very positive.

The introduction of the Schools Standards Monitoring Group, as an extension of the formal scrutiny processes within the Council, has also had a significant impact. This is a Member/Officer group, where schools are invited on a rotational basis to attend and to be challenged. An additional element of challenge is the challenge for officers in the quality of support that they provide to the schools.

In order to release headteachers to concentrate more on the standards agenda, additional capacity in the form of Business and Finance Managers has been made available to all schools on a cluster basis.

### **Case Study 3: Effective Scrutiny**

Members led the debate about how to modernise Scrutiny in the Council. By working closely with officers and with senior support from the Leader and the Chief Executive, Scrutiny arrangements were transformed from the traditional service based model to a much more holistic approach based on Performance, Communities and Partnerships.

*'Councillors have played a significant role in shaping the new scrutiny approach and many councillors (including scrutiny chairs) are committed to making it a success.'* WAO AIR 2012

#### **Case Study 4: Strong programme/project management**

Strong project and programme management systems have been championed by the Corporate Executive Team in response to what was a real deficit in the Council. All Council Projects are reviewed monthly at the Corporate Executive Team and there is confidence that all major projects and programmes are captured, progress reported and appropriate intervention action taken as early as possible. An extensive programme of professional training has been delivered to Senior and Middle managers. Executive leadership has ensured a transformation in the way that the Council delivers change and that proper systems are now used routinely. Some of the successfully completed major projects of the past five years have included:

- A major schools' review programme
- Completion of the Rhyl Harbour Bridge project – the largest single project the council has managed to date
- A major reorganisation of the council's structures
- Acquisition and development on 'risky' assets, e.g., The Honey Club in Rhyl

#### **Conclusion**

This paper has set out Denbighshire County Council's approach to leadership and aimed to explain how this model of leadership works and how it directly impacts on improved performance, better culture and enhanced capacity. The model is now embedded within the council's 'operating system' and is clearly one of its significant strengths.

The paper does not discuss whether or not the model is transferable to other settings, but it does offer a contribution to the current debate about leadership capacity, how we build such capacity and its importance in driving up standards.

The paper has not considered the impact of scale on either the quality or the capacity of leadership. However, what Denbighshire has shown is that leadership capacity can be built in a relatively small local authority and that this, together with clear local governance arrangements and strong local political support can make an enormous difference to the performance of an organisation.

Mohammed Mehmet

Chief Executive, Denbighshire County Council

Mae tudalen hwn yn fwriadol wag



Cynllun Gwaith i'r Dyfodol y Cyngor

Cyfarfod	Eitem (disgrifiad / teitl)		Pwrpas yr Adroddiad	A oes angen penderfyniad gan y Cyngor (oes/nac oes)	Awdur - Aelod Arweiniol a swyddog cyswllt
<b>10 Medi</b>	1	Adroddiad Ymchwilwyr ar Lifogydd yng Nglasdir, Rhuthun	Ystyried canfyddiadau'r adroddiad ar lifogydd yng Nglasdir, Rhuthun	I'w gadarnhau	Cyng. David Smith / Rebecca Maxwell
	2	Datganiad Polisi Tâl	Cefnogi'r datganiad polisi tâl	Oes	Linda Atkin
	3	Ymateb i Ymgynghoriad y Comisiwn ar Lywodraethu a Darparu Gwasanaethau Cyhoeddus	Ystyried yr ymateb drafft i ymgynghoriad y Comisiwn	Oes	Mohammed Mehmet / Alan Smith
	4	Y Diweddaraf ar y Gyllideb		I'w gadarnhau	Paul McGrady
<b>Briffio'r Cyngor 16 Medi</b>	1	Strategaeth Adfywio		Amh.	Rebecca Maxwell
	2	Alliance Leisure (Dim mwy o eitemau i'w hychwanegu at y sesiwn hon)	Esbonio mewn manylder y trefniadau fframwaith rhwng Alliance Leisure a'r Cyngor	Amh.	Jamie Groves / Alastair McNab

Cynllun Gwaith i'r Dyfodol y Cyngor

Tudalen 202

Cyfarfod	Eitem (disgrifiad / teitl)		Pwrpas yr Adroddiad	A oes angen penderfyniad gan y Cyngor (oes/nac oes)	Awdur - Aelod Arweiniol a swyddog cyswllt
<b>8 Hydref</b>	1	Adolygiad Perfformiad Blynyddol 2012-13	Adolygu drafft terfynol Adolygiad Perfformiad Blynyddol y Cyngor 2012-13 a chymeradwyo'r ddogfen i'w chyhoeddi cyn y dyddiad cau statudol o 31 Hydref 2013		Cyng. Barbara Smith / Tony Ward
	2	Strategaeth Uchelgais Economaidd a Chymunedol Ddrafft	Ystyried cymeradwyo'r Strategaeth yn dilyn ymgynghoriad cyhoeddus	Oes	Cyng. Hugh Evans / Rebecca Maxwell
	3	Achos Busnes Datblygu Cyfleusterau Arfordirol y Rhyl/Prestatyn	Ystyried yr achos busnes ar gyfer datblygu cyfleusterau arfordirol	Oes	Jamie Groves / Alastair McNab / Tom Booty
	4	Polisi a Phanel Diogelu Corfforaethol	Ystyried y polisi a'r panel arfaethedig	Oes	Cyng Bobby Feeley / Sally Ellis
<b>Briffio'r Cyngor - Cyllideb 21 Hydref</b>	Wedi'i gadw ar gyfer gweithdy cyllideb i'r Cyngor cyfan				Cyng. Julian Thompson-Hill / Paul McGrady
<b>5 Tachwedd</b>					

Cynllun Gwaith i'r Dyfodol y Cyngor

Cyfarfod	Eitem (disgrifiad / teitl)		Pwrpas yr Adroddiad	A oes angen penderfyniad gan y Cyngor (oes/nac oes)	Awdur - Aelod Arweiniol a swyddog cyswllt
<b>Briffio'r Cyngor - 18 Tachwedd</b>	1	Cyfoeth Naturiol Cymru	Ystyried materion yn ymwneud â'r corff newydd a rheoli adnoddau naturiol	Amh.	Rebecca Maxwell
	2	Materion Bioamrywiaeth	Ystyried gofynion deddfwriaethol bioamrywiaeth a chamau gweithredu CSDd	Amh.	Cyng. Huw Jones / Elizabeth Webster / Huw Rees
	3	Comisiynydd Pobl Hŷn Cymru	Rhoi briff i'r Aelodau ar waith y Comisiynydd	Amh.	Cyng. Bobby Feeley / Sally Ellis
	4	Briff Risg	Rhoi briff i'r aelodau ar adnabod a rheoli risgiau	Amh.	Cyng. Barbara Smith / Tony Ward
<b>3 Rhagfyr</b>	1	Diweddariad ar y gyllideb ddrafft 2014 / 15	Ystyried diweddariad ar y gyllideb sy'n datblygu	Nac oes	Cyng. Julian Thompson-Hill / Paul McGrady
	2	Strategaeth Tai Lleol	Cytuno ar y Strategaeth Tai Lleol	Oes	Cyng. Hugh Irving / Peter McHugh / Sue Lewis
<b>Briffio'r Cyngor -</b>	Wedi'i gadw ar gyfer gweithdy cyllideb i'r Cyngor cyfan				Cyng. Julian Thompson-Hill / Paul

Cynllun Gwaith i'r Dyfodol y Cyngor

Cyfarfod	Eitem (disgrifiad / teitl)	Pwrpas yr Adroddiad	A oes angen penderfyniad gan y Cyngor (oes/nac oes)	Awdur - Aelod Arweiniol a swyddog cyswllt
9 Rhagfyr				McGrady
<b>Briffio'r Cyngor</b> 27 Ionawr	1 Hyfforddiant Cyfryngau Cymdeithasol (awr – yr eitem gyntaf ar y rhaglen os yn bosib)	Sesiwn fer i aelodau ar ddefnyddio'r cyfryngau cymdeithasol	Amh.	Sue License / Eleri Woolford
<b>4 Chwefror</b>				
<b>25 Chwefror</b>	1 Prif Gynllun Canllawiau Cynllunio Atodol ar gyfer Ysbyty Gogledd Cymru	Ceisio cymeradwyaeth i fabwysiadu'r SPG	Oes	Graham Boase
<b>8 Ebrill</b>				
<b>Briffio'r Cyngor</b> 28 Ebrill				
<b>13 Mai</b> <b>CYFARFOD</b> <b>BLYNYDDOL</b>				

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Cynllun Gwaith i'r Dyfodol y Cyngor

Nodyn i swyddogion – Dyddiad cau Adroddiadau'r Cyngor Llawn

<i>Cyfarfod</i>	<b><i>Dyddiad Cau</i></b>	<i>Cyfarfod</i>	<b><i>Dyddiad Cau</i></b>	<i>Cyfarfod</i>	<b><i>Dyddiad Cau</i></b>
<i>Medi</i>	<b><i>27 Awst</i></b>	<i>Hydref</i>	<b><i>24 Medi</i></b>	<i>Tachwedd</i>	<b><i>22 Hydref</i></b>

Diweddarwyd 23/08/2013 – SP

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Mae tudalen hwn yn fwriadol wag