

OUTLINE SITE IDENTIFICATION AND DEVELOPMENT PLAN FOR A TWO-STOREY 'SAFE REFUGE' PROGRAMME ON THE WEST MORFA RHUDDLAN COASTAL FLOODPLAIN

Cllr Stuart Anderson, Chair of Partnerships Overview & Scrutiny Committee, Conwy CBC: July 2009



*Towyn Floods 1990: horizontal & vertical rescue work in progress.
NB: almost complete submergence of cars in the middle distance*

Photo: Philip Micheu

1. SUMMARY

A site identification and development plan is outlined to help improve the resilience to flood risk of the W Morfa Rhuddlan area - the largest and most severely affected during the 1990 North Wales Coastal Flood Disaster - on a whole-population basis. This plan is set out in the context of the area's history, geography and climate change prospects during the 21st C and beyond, and the need to comply with the objectives of the EU Convergence Funding programme for the coastal Strategic Regeneration Area of which Morfa Rhuddlan is a central part. Five refuge sites are suggested – three in Kinmel Bay, one in Towyn and one in Pensarn - suitability being gauged by (i) position in relation to identified vulnerable people population groups in need of proactive access during severe weather warnings; (ii) size and capacity in terms of fulfilling desired functions, including those pertaining to the emergency services; (iii) social sustainability in terms of site ownership, usage codes and prospects for population 'buy-in' to a sustainable resilience-building programme via a Flood Warden scheme; (iv) cross-benefits that reinforce social cohesion in the face of climate change challenges, especially by helping to create and maintain wider community awareness and preparedness. Thus this plan should serve as a spur towards, and in no sense a substitute for, the parallel building-in of better two-storey resilience to many existing bungalow properties, particularly where there are whole estates of these. Similar considerations also apply to the needs of the many highly vulnerable caravan sites, often tucked up against the sea defences. Furthermore, the programme must encourage rather than substitute for the need to address proper access and exit routes, and the setting up of a wider study of the desirable working dynamics of rescue and recovery operations. Via a unique harbour eco-centre partnership opportunity it could also catalyse shared LA beacon status aspirations.

2. INTRODUCTION

The key emphasis for purposeful flood resilience-building must be to base plans on the underlying natural and human geography, accepting that the whole area – as implied in the very name Morfa Rhuddlan – is and will remain a maritime one whatever past present or future plans are made to try and suit or optimise habitability.

The present living environment on Morfa Rhuddlan is based on a historical ‘two-stage development’ comprising (i) Edward 1’s canalisation of R Clwyd between Rhuddlan and the coast, essentially creating the first trading port through the conversion of a diffuse river delta into a single-channel river; and (ii) the Dutch-influenced enclosure of the 1790’s, comprising the building of the first clay bank sea defences and the 4-mile-long diversion of R Gele into R Clwyd with the fitting of tidal sluices.

Subsequent development overlays since the 1870’s include various additions to the sea defences, river embankments and drainage arrangements, starting with the Towyn sea wall - originally built as it was purely for protection of the Chester-Holyhead railway. However the recent Flood Consequence Assessments can be taken to emphasise the need not to lose sight of the basic geographic fact that the natural mean ground level remains around 4M above OD (an estimated 95% of the 20 sq km of floodplain being +/- 0.25M of this figure). This 4M AOD norm in turn means a ground level only approx 1.5M above mean sea level, and as much as 2.2M below the high-tide sea level during the 1990 storm surge (which itself involved base-line high tides that were around 0.6M below ‘highest astronomic’ tide levels).

Following the 1990 Flood Disaster the basic planning case for the desirability on Morfa Rhuddlan of two-storey-only buildings with (where necessary) encouragement to retrofit loft extensions with escape hatches was clearly and promptly (within 3 months) set out in the All-Party Commons Select Committee Report, along with other measures such as the need to raise ground floor levels to the crown of the causeway roads (i.e. around 4.8M above OD) while preserving reserve water capacity, and improving emergency exit routes in particular Gors Road in Towyn.

Unfortunately, however, these recommendations were entirely rejected by The Welsh Office on such grounds as that ‘many of those living in single storey buildings do so because they are elderly and handicapped and would not be able to gain access to a roof space’; furthermore that ‘access to (ground) floors raised above flood level might also be difficult in the event of a breach in sea defences’.

In response to such simplistic arguments a local flood defence group, emphasising the maritime nature of the Morfa Rhuddlan environment, in 1991 advocated what it called ‘the survivability principle’ and pointed out that ‘life-boats do not cease to be useful just because modest effort is required to get into them’; moreover that resilience-building would be likely in future to need to be linked to increasingly accurate weather-forecasting, opening the way for the potential to deal with the most elderly and/or handicapped sections of the population in a proactive way.

Yet, unfortunately again, these arguments still went unheeded by the governments (central and local) of the day. It was not until the turn-of-millennium experience of progressively more frequent flooding events elsewhere within the UK, often repeated in the same location, that the wider issues of resilience-building came back onto the agenda, culminating in the 2004 UK Civil Contingencies Act - for the first time putting statutory duties upon the police and all local authorities to work together towards improving the resilience of local communities to any known disaster risk.

In the meantime The Assembly's TAN 15 planning guidelines, while clearly being based on the aim of acting as a general quality control on future development in the floodplain, did little or nothing either to set out explicit rules or to improve the resilience of existing populations. Instead the emphasis has been on complicated dynamic Flood Consequences Assessments based on scenarios that look ahead up to 50 years hence, but giving no clear guidance on how more resilience is to be built in.

This brief account may help to explain why and how Conwy CBC and its partners are 'playing catch-up' as regards the building-in of flood resilience to the inhabited W Morfa Rhuddlan area. For example, even within the County boundary Dyffryn Conwy (which was flooded twice between late 2003 and early 2004) has taken the lead in terms of having had a Flood Resilience Forum since late 2004, whereas W Morfa Rhuddlan's only got started in late 2008 despite the enormously greater population-at-risk and its obvious historical and geographic front-line 'marker status' as regards needed responses to future sea level rise.

Finally, in framing the wider context for the present project it seems important to comment upon the two headline intentions expressed in Conwy's current Corporate Plan, namely (i) 'Revitalising our communities and putting Conwy at the centre of North Wales' and (ii) 'Planning for the future'.

The first of these two intentions can only fully help the residents of Morfa Rhuddlan via recognition that the historical, geographical, economic and social hub of this particular area is not centred on Conwy itself at all, but shared along the County boundary with Denbighshire – a fact recognised implicitly 10 years ago by WAG with its £5m cross-County Integrated Transport Package Grant, more recently confirmed by the appointment of a cross-County Head of Infrastructure & Highways, and by recognition that the midsection of the Strategic Regeneration Area (from Llanddulas to Kinnel Bay) throws up special needs and opportunities.

Here, fulfilling both intentions surely means emphasis not on top-down monologue (as might be read into commitments to 'talk to communities about the likelihood and possible consequences of flooding and coastal erosion' and 'working to understand and manage their expectations of us') but on using every opportunity to enter into an active dialogue to catalyse all the positive attitudinal and life-style changes needed to help all-round adaptation to climate change. Us-and-them attitudes are no substitute for a shared mindset optimising use of the already embedded carbon cost of the area's existing housing stock, along with that of much valuable regional and international transport infrastructure. The point is that on an area-under-the-curve basis, over the coming decades relevant emissions may well tend to be much higher than necessary if hastily managed retreat from Morfa Rhuddlan, with rebuilding at a higher elevation, is the only contingency plan as sea level rises progress.

3. SUMMARY OF THE DESIRABLE FUNCTIONS FOR TWO-STOREY REFUGES, WITH SOME LIKELY IMPLICATIONS

3.1 Within-area temporary places of refuge for vulnerable residents deemed unable safely to access first-floor of own residence in the event of serious flood risk warning (*e.g. likely to imply a need for adequate storing of inflatable mattresses, sleeping-bags etc*)

3.2 Within-area forward working zone for emergency and rescue services in the case of a serious flooding event (*likely to imply the need for installation of radio equipment, emergency diesel generator compatibility, stackable plastic boats etc*)

3.3 Reference building also for suitably trained residents in terms of access to rescue equipment (*implications much as in 3.1 & 3.2 above – one of the lessons of 1990 being the overstretch of emergency services and their reliance on insider help and local knowledge*).

3.4 Linkage to ordinary social and economic functions of chosen refuge sites: (*implies recognition that while in one sense such usage is a separate issue, nevertheless a two-way compatibility with the wider social functioning of such centres in their ‘host organisation context’ is crucial in terms of creating and maintaining a high level of ongoing community awareness of, and involvement in, the practical and wider issues of flood risk management – the obvious way to achieve being via a Flood Warden scheme, run along the lines of Neighbourhood Watch, in close conjunction with the statutory authorities but nevertheless with a strong sense of local ownership, centred explicitly on the role of the two-storey refuges*).

3.5 Local and wider ‘beacon project status’: (*implications are that, via the two-storey refuge programme, the seriousness with which vulnerable persons’ needs are taken must also be used to draw proper attention to the needs of non-handicapped residents and families, for example by going back to the 1990 APCSC report in an effort to see that each and every property on W Morfa Rhuddlan - including those on caravan sites - is encouraged to develop its own accessible dry refuge and escape route plan*).

3.6 Linkage to the EU Convergence Programme priorities - of housing, education, health and wellbeing, sustainable employment, green tourism and transport etc.: (*implications are that bids must be framed within the premise that sustainable development opportunities can, by definition, only be properly grasped through squaring up to threats rather than avoiding them*).

4. ISSUES AND RELATIONSHIPS AGAINST WHICH TO ADDRESS MORE DETAILED SITE-BY-SITE SURVEY WORK AND PLANNING

4.1 Positions of chosen sites in relation to vulnerable sections of the population and to exit routes – see map below for general arrangement and explanation:

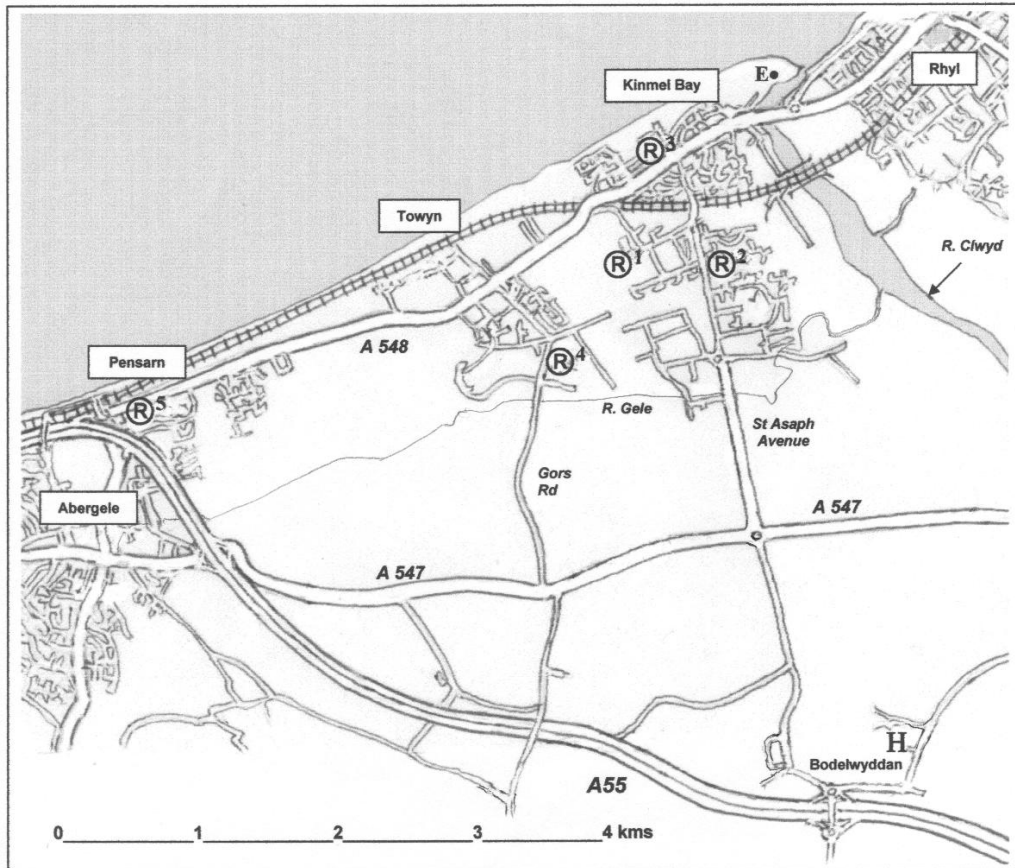


Fig 1: map of Morfa Rhuddlan. Suggested 2-storey safe refuge sites are marked **Ⓡ**1-5 as follows: 1 = on Y Morfa Leisure Centre site next to infant & junior schools; 2 = on Kinmel Bay Church site; 3 = on proposed new shared Health & Social Services Centre; 4 = on North Wales Coastal Church site; 5 = on Towyn Rd, Pensarn. Exit routes for Towyn & Kinmel Bay comprise Gors Rd (a winding causeway road with ditches on either side that in key places is presently only wide enough for one vehicle) and St Asaph Avenue (recently widened as far as the A547 roundabout, but continuation S to Bodelwyddan merits comparable attention). Bodelwyddan is at its lowest point 7 M above OD and has Glan Clwyd Hospital (H) & other emergency relief locations. Meanwhile the site marked **E●** at harbour is well placed to serve as a cross-County/regional 'coastal eco-centre' (qv section 6, p7).

4.2 Size and capacity of each site in relation to specified 'desirable purposes'

In one case – the proposed two-storey refuge at the Y Morfa Leisure Centre, adjoining the infant and junior schools – it is immediately clear how to set about a reasonable 'footprint study' for the required building, since refuge aspects are primarily for daytime use only and as such planning might reasonably proceed on the basis of capacity to provide floor-seating for the entire school and staff population.

In the remaining four cases, each refuge seems likely to need to address the needs of a frail subpopulation within a quota of between 3,000-3,500 residents in the adjoining area. If 0.5% of this population requires temporary evacuation that would amount to 15-18 people plus carers – say 25 in all. Including modest office space, this might roughly equate to the size of an old-style hospital 'Nightingale Ward'.

5. OWNERSHIP ISSUES & PROSPECTS FOR SOCIAL SUSTAINABILITY

The underlying philosophy behind any 'safe refuge plan' must be one based on the imperative need to develop and maintain a high-trust, risk-sharing ethos as regards the safety and wellbeing of the whole population of high flood risk areas, prioritising its most vulnerable members but by no means excluding the others – i.e. of a kind already implied in Conwy's Community Strategy and Corporate Plan for 2008-2012.

For each refuge a suitably binding memorandum of understanding over a co-operatively agreed shared usage code would, in the first instance, need to be signed between property owners and Conwy CBC's legal department.

Written into the usage code it is suggested that a prime aim of the two-storey refuge plan should be to foster confidence in, and 'buy-in' to, a Flood Warden scheme identifying the vulnerable people most likely to need access to the refuge in the event of a serious flood risk/consequences warning.

For example, the Board of the Y Morfa Sports Association would agree with the schools heads and the Education Department that, in the event of an emergency warning of above an agreed threshold, ordinary usage of the upper storey extension would accede to its emergency role for childrens' safety. The mode of running of the Sports Centre by the non-executive Board, its present chair being also the Chair of the arguably the most successful 'User Group' in terms of childrens' football, has been held up as a model for the future within Conwy CBC by the present Head of Service.

In the case of the proposed Health and Social Services Centre in Kinmel Bay N, clearly use of this site as an emergency refuge would be an opportunity to further develop the shared Health & Social Services ethos that has served Conwy so well during the past decade as a lever with which to develop its community infrastructure. Since the GP Practice developed its present medical centre only in 1991, in the aftermath of the 1990 floods, and pay-back is still not complete, it is suggested that Conwy's social services Dept should play the lead role in identifying and safeguarding the proposed new site, for which the ASDA move represents a unique opportunity that the developers have indicated willingness to co-operate over.

As regards the two proposed church sites these are both evangelical churches in the UK tradition, both present pastors involved as school governors, their establishments being regulated by a democratic process within their membership. This appears to be the 'growth zone' of churches within the UK as a whole, more 'establishment' churches tending to have declining and less broadly representative membership unless they are in the inner cities or also have an evangelical bias.

The site in Pensarn presents the least clear ownership profile. Assuming that the two-storey refuge idea is to be used as a lever with which to start a more comprehensive rebuilding programme for flats that have surely gone long past their 'sell-by date' it seems likely that a Housing Association would be the best placed organisation to take the lead, as such an opportunity could be in its own interests.

6. TIME-LINES FOR SUSTAINABLE DEVELOPMENT: PUTTING FUTURE NEEDS ON AN EQUAL FOOTING WITH PRESENT ONES

Since 1987 the principal definition of sustainable development has been the Brundtland one of 'development which meets the needs of the present while not compromising the ability of future generations to meet their own needs'.

However, in 2006 Conwy CBC decided to adopt the more explicitly proactive definition of 'development which meets the needs of the present whilst striving equally to allow for the needs of future generations'.

Comparing these two definitions, a moment's thought might easily allow the reader to see that whereas the first one sees the future as a far-off land that we do not necessarily yet have any moral duty to do anything deliberate about, the second one implies deliberately taking on the mantle of a much greater degree of care and forethought.

It also has the advantage of being shorter and positively worded.....

How can one possibly hope 'not to compromise' future generations without actively and positively trying to anticipate and allow for them?

As it becomes more and more clear that the UK must expect sea level rises of at least 1 M within the lifetime of people already born into our communities, so the injunction to look ahead in terms of using every opportunity to build in resilience becomes more and more imperative – not just from the immediate and future public safety interest, but also to feed into the wider mitigational imperative. The latter is unlikely to occur except by way of encouraging, across the spectrum from cradle to grave, the kind of cross-generational awareness that can grant 'permission' to a whole population, as in wartime, to take ownership of the core issues and choose to transform itself into an active state of mind that is willing to emerge from the cocoon of victim-hood to become an active and fully participatory part of the climate change solution.

Unspecified 'eco-centres' are in Conwy's corporate thinking. Generally such places tend to focus on terrestrial sustainability, and it is arguable that schools are where they stand to have the most sustainable whole-population impact. However, this is a holiday area that might do well, in order to try to attract back more of its traditional family clientele, to set out its stall more on activity based eco-tourism. On this basis the fact that the cross-County EU strategic convergence programme is centred on Morfa Rhuddlan, with the Foryd Harbour a key linking-up point, makes it reasonable to suggest that serious consideration be given to an Eco-Centre at the Foryd Harbour itself, majoring on shared heritage and coastal sustainability issues that show how threats if faced up to squarely can be converted into opportunities. The proposed shared-use 'Butterfly Bridge' at the harbourmouth is a novel and welcome feature for which funding is understood already to exist, making such an Eco-Centre accessible from both sides of the County boundary along with considerable inbuilt publicity potential via the Coastal Cycle Route. The obvious follow-on suggestion is for Denbighshire and Conwy to start working in partnership with other interested parties such as Sustrans to see what might be done to turn such an idea into reality.

7. SOME SUGGESTED EARLY AGENDA ITEMS TO CONSIDER

7.1 Proper and timely allocation of lead responsibilities over site identification and ownership: bearing in mind its Corporate Plan this is clearly the duty of Conwy CBC itself - the Social Services and Legal Depts (for example) having a particularly clear obligation to help over securing the refuge site N of the railway in Kinnel Bay. The proposed 'SPACE Programme' Board should clearly have this as a top priority, and shape its membership accordingly, to facilitate the turning of ideas into strategies, and of strategies into a working programme of projects.

7.2 Re-run of street-by-street housing stock survey done by NWFDG in 1991. In particular, such a survey (which could profitably and reasonably be done by elected members themselves, as was the first survey) would relevant updated information as regards the distribution and numbers of bungalows without upstairs refuges, and be useful towards the sort of contingency planning that it is hoped that Newcastle University's Civil Engineering Dept may provide.

7.3 Flood Warden Scheme: the need for this should already be anticipated. In view of the Corporate Plan this would surely be a worthy theme to run with from the outset, bearing in mind the key need for scoring early on overall credibility of the refuge scheme within the W Morfa Rhuddlan area - also remembering that, in essence, the agenda is more about people than it is about buildings. Nevertheless, it should be recognised that the financial squeeze has already created a situation whereby the necessary finance will almost certainly have to come from 'outside the box'. Community benefit moneys from the offshore wind farms would be one potentially very sustainable, and surely easily justifiable, source against which to seek matched funding from other partners. Again, Conwy CBC is the lead authority for arranging for appropriate distribution of this money (at least £90,000 p.a. from the Rhyl Flats scheme alone) hence it is suggested that this idea is put immediately to the Green Projects Board.

7.4 Fact-finding site visit(s): East Anglia &/or Holland would both seem appropriate. EA Wales would be expected to have an equal interest in attendance alongside Conwy representation and refuge site owners. If Holland was envisaged funding could and should be sought from the EU's INTERREG programme.

7.5 Coastal Eco-Centre idea for Foryd Harbour: a separate paper will be prepared for consideration by the SPACE and Green Projects Boards, the Regional Partnership Board, the Joint Head of Infrastructure & Highways, relevant WAG officers and EA Wales. In view of the fact that the first part of the Vale of Clwyd railway is being mooted as the likely new line of the main W R. Clwyd embankment it would seem likely that efforts should be made to see how this Eco-Centre might be combined with novel green transport links to Rhyl helped by a park-and-ride station at the end of the dual carriageway spur off the A55 to Rhuddlan.