



Minsmere Levels Stakeholders Group. Newsletter No 6. November 2011.

Despite the national gloom, some progress for the Levels.....

Welcome to our 2011 newsletter. When we last wrote to you twelve months ago, we were reflecting with both apprehension and interest on what the change of government and the economic crisis might mean for the Minsmere Levels and their coastline. We hope that MLSG has made its own modest contribution to the fact that so far things have not turned out as badly as we had feared. Over the last year we have collaborated with the Internal Drainage Board and the RSPB in our representations, and have been encouraged that the Environment Agency appears increasingly willing to listen to, and communicate with, us. The possible new Sizewell C nuclear development, the probable eventual loss of the North Marsh and the future of the Minsmere sluice have continued to be our major preoccupations, and they are likely to remain so for some years.

The proposed Nuclear Development at Sizewell C

Dr Mike Weightman's full review of Nuclear safety in the light of the Japanese earthquake and tsunami in March has recently confirmed that there are no show-stopping conclusions, but that more consideration should be taken of external events, and of multiple failures. EDF are therefore pushing forward with the design of two new power stations, at Hinkley Point in Somerset as the lead design, and with a one to two year lag, at Sizewell.

At the MLSG public meeting in May 2011, Alan McGoff from the Environment Agency nuclear new build group explained that a new form of planning application would be used for large projects. The proposed developer would publish a draft proposal which would be open to public scrutiny. They would then review the comments received and, if required, amend their proposal to mitigate objections. This revised proposal would be published for comment. The EA will have significant input to the proposals. The government hopes to reduce the very long time taken with public enquiries in the past over major planning applications.

We have reported previously on our responses to the successive central government consultations on the possible Sizewell development. Over the year this has moved closer to becoming a reality. From the start of these discussions, MLSG has been strictly neutral on the arguments for and against the Government's national policy on nuclear power and this will remain our position. Our concerns are entirely focussed on the impact that any development will have on the Minsmere Levels and their coastline over the short, medium and long term. We were heartened when the two local representatives of EDF, the probable developers of the site, attended our public meeting in May and introduced themselves and made it clear that they wished to open a dialogue with MLSG at a very early stage, even though formal consultation was not planned to start until March 2012

We therefore co-ordinated a meeting that took place at EDF's new offices in Leiston in July at

which the IDB and RSPB joined us. This was very much a preliminary discussion which allowed us the outline the issues that we felt would need to be covered in the statutory consultation. These included the impact on the shoreline and the sluice of the temporary docking pier required during the construction, the probable increased flow through the sewage works which will result from a workforce of several thousand, and the longer term impact of the further reinforcement of the site and the new access road causeway on both the inland water system and the coastline. We stressed that from the outset of the consultation we would be concerned to learn how EDF intended to mitigate the consequences of the development on these and other aspects of the fragile Minsmere environment in accordance with their obligations under section 106 of the Town and Country Planning Act 1990.

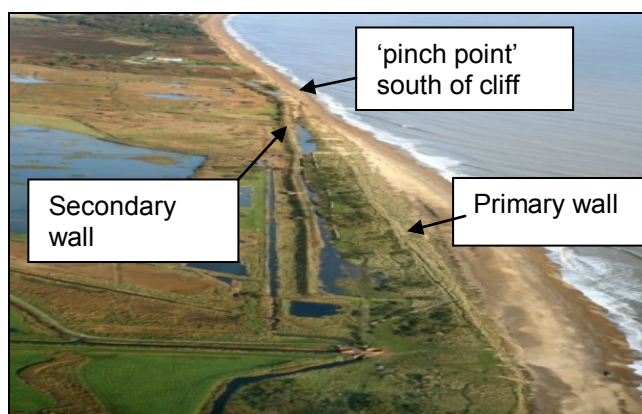
We were glad that EDF appeared to recognise that the environmental impact of the development would have to be one of the highest priorities in the consultation process. They indicated that their specialists were already undertaking a range of studies investigating both off shore tidal process as well as inland water flow and soil structure and that these would become public at the start of the consultation.

There will in fact be two consultative staged over 2 to 3 years in both of which flood risk assessments will be a key component. The second stage will focus on EDF's response to the issues raised by the first phase. The outcome of this second stage of consultation will then be presented alongside EDF's formal application for consideration by the Infrastructure Planning Commission, or its successor body, a process which is likely to last a year. It is hoped that construction of the station itself will start in 2015 to be completed by 2022 and the plant will be in production by 2025. The preparatory groundworks and the work on the new causeway, both of which may have a major impact on the Levels, may start well before 2015. This means that Sizewell C presents immediate issues for MLSG.

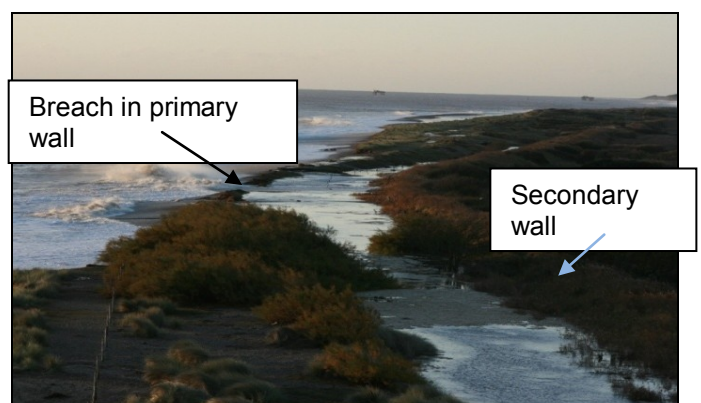
The consultative process is being piloted at EDF's lead nuclear development at Hinkley in Somerset, where EDF hope that it will be possible to iron out many of the glitches that reveal themselves. EDF seemed very receptive to the idea that reports from their specialists on the outcome of their studies should form a major part of the agenda for the MLSG annual public meeting in June next year.

The North Marsh

The proposal within the Shoreline Management Review that the coastline of the North Marsh should no longer be actively protected is one which MLSG has reluctantly accepted as the "least worst" option. The left picture below shows the narrow region of shingle close to the Dunwich cliffs and the primary and secondary sea walls; the right picture, from the cliff, shows the flooding in November 2006 storm surge.



RSPB site looking north from Sluice to Dunwich Cliff

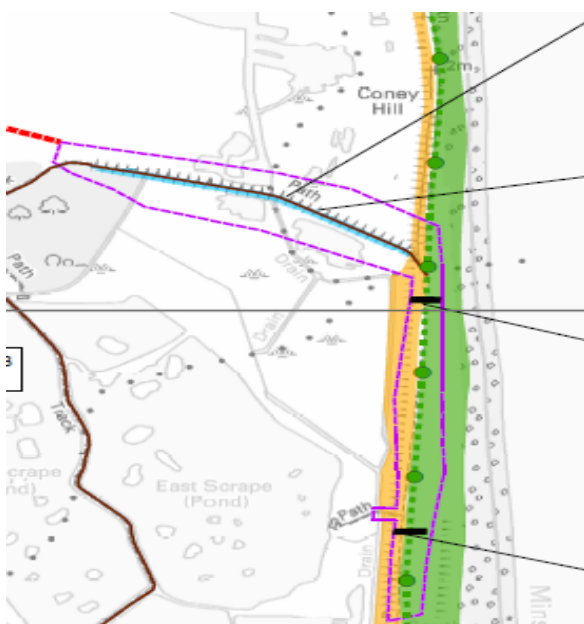


*Shore looking south from Dunwich cliff.
November 2006 storm surge flooding*

The gain will be the reduction of the pressure on, and consequent erosion of, Dunwich Cliffs to the north and the remaining Minsmere coastline to the south. The timescale over which the North Marsh will develop into saltmarsh will depend greatly on tidal events and the weather. The experience to date suggest that at the northern end of the marsh a substantial shingle bank is moving inwards and reinforcing the banks that hitherto have been the secondary defences. This may be mirroring the experience on the Dingle Marshes to the north of Dunwich where the consequence of the policy of no active intervention appears to have resulted in a comparable landward move of the shingle banks which have in practice only been overtopped by the sea on the occasion of exceptional tidal events. The Dingle Marshes only have a single raised shingle sea wall.

The news that the Environment Agency had secured the funds for the work on the reinforcement of the Coney Hill Bank at the southern end of the Marsh to be undertaken in the current year was very welcome as this is the only way that the rest of the Minsmere Levels will be protected in the long term given the policy of no active intervention on the coastline to the north. It is good to be able to report that good weather has allowed to progress ahead of schedule and that it is now nearing completion. The bank itself has been raised in height by up to one metre and widened to a shallower (and therefore more resistant to flood water) 1 in 3 slope. This work has involved importing large quantities of clay though the narrow road into the RSPB Minsmere reserve and along a specially constructed access track. It was estimated that this could require up to 1000 large truck loads, although in the event only around 300 have been required, and the disruption to both the reserve and the surrounding communities has been much less than had been previously feared. During a site visit in mid October one of the construction company Inter-serve's engineers commented that the original clay bank, built in 1900/01 from adjacent clay ponds, was very good quality clay.

The map below shows the planned works. The work has also involved the construction of a much larger control culvert to control the flow of water from the North Marsh into the RSPB reserve's "Scrape" on the south side of the bank.



- Raising and widening the embankment with 4m crest width and 1 in 3 side slopes.
- Widening the north side of the bank on the eastern end of the existing water control structure and to the south side on the western end (shifting slightly the orientation of the bank)
- Higher crest level on the seaward end as this will more likely be exposed to wave overtopping and needs to tie in to the secondary defence.
- construct two clay bunds with large membrane covers between primary and secondary sea walls.

It has also involved the building of two clay bunds between the primary and secondary sea walls, to stop overtopping sea water flowing south between the two walls. These bunds were finished by 23rd September, well ahead of the original schedule.

The pictures below show stages the construction:



Placing geotextile and granular foundation



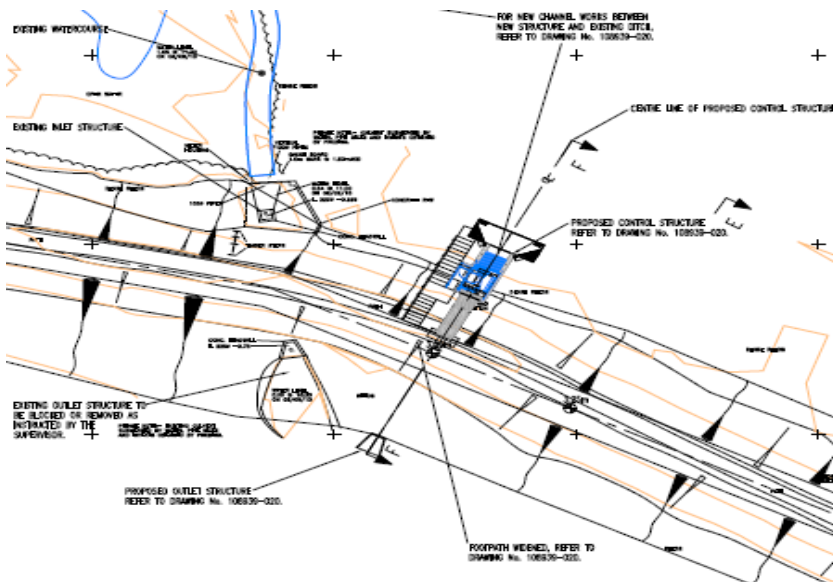
Placing and compacting clay layers



Cutting to surface of clay at an angle of 1 in 3



Footpath construction



Plan and construction of new culvert from North Marsh into RSPB reserve.



The Future of the Minsmere Sluice

From its inception MLSG has been much concerned about the condition of the sluice. In last year's newsletter we reported that during the early summer of 2010, Jacobs Engineering and Reds Divers had undertaken an internal investigation of the chamber and the sluices and taken detailed measurements and dimensions. When they tried to pump the sluice chamber high levels of water

leakage around the structure stopped complete inspection. Following this inspection the EA has told us that it is forming a scope of works and design in preparation for a construction programme which will include:

1. Replacing all the gates for all three drains – Scot's Head Drain, the New Cut and Leiston Ditch, designing them in such a way as to require minimum maintenance so that the need for access to the chamber will be reduced.
2. The inclusion of eel passages in all three gates.
3. The repair of all failing brickwork and deteriorated steel girder and concrete inside the chamber.
4. The design of safe access for maintenance into the chamber – i.e. platform, ladders, davit points.

In 2008 an EA worker was injured when working in the sluice chamber and it proved difficult to extract him. The EA put a ban on any work in the sluice chamber until a safe working area has been established. Since then no maintenance has been possible to the sluice gates or sluice chamber.

The EA proved unable, as originally hoped, to fund these works in the current financial year, but it seems confident that it will be able to do so in 2012. However, as this appeared to represent an essentially short, and possibly medium, term remedial programme MLSG has been trying to establish what these investigations revealed about the longer term future of the sluice.

We therefore enquired further of Mark Johnson, the Environment Agency's Area Coastal Manager. He responded that the remaining residual life of the Minsmere Sluice structure would be determined by two mutually exclusive factors - the failure of the seaward end of the outfall due to coastal erosion and the structural failure of any point of the main sluice. As regards the sluice chamber, the investigations had involved dewatering and a visual inspection of the entire structure. The inspector had found no significant reasons for concern regarding the integrity of the structure. Mark Johnson envisaged that the programme of works outlined above would allow the Agency to maintain mechanical components and undertake repairs as and when necessary, and ensure that it was also possible to fully inspect the chamber and the outfall pipes. With this in place he said it should be possible to maintain the structure for up to 50 years.

In regard to the outfall pipe (rather than the sluice) the impact of coastal erosion was much more difficult to predict, as rates of erosion were highly variable and dependant on prevailing weather conditions. However the Agency had significantly increased the amount of coastal monitoring on the Minsmere frontage and that the data derived from this would inform the engineering options for the appropriate management of the outfall structure.

We much appreciated Mark Johnson's full response to us, and we recognise the unknowns that make the future difficult to predict. However we remain apprehensive about how the sluice in its present form will cope with the consequences of climate change –increasing rainfall, combined with rising sea levels, which will ever further restrict the periods during which the increasing flow of inland water can be discharged. We think that further pressure on the sluice could result from the construction of Sizewell C. We know that the docking pier in place during the building of Sizewell B resulted in a change in the configuration of the sandbanks in the area around the outfall pipe and thus had the potential to affect the free discharge from the sluice and also possibly cause coastal damage during storm surge conditions. On the landward side, further pressure on the sluice could well result from any increased outflow from Leiston sewage works during the construction of Sizewell C as well and the longer term impact of the new structures on inland water volumes generally. We think that sooner rather than later it may be necessary to look to a power assisted system to replace the present gravity controlled arrangement

It is therefore clear that the impact of Sizewell C, both during the construction phase, and over the long term must be a central subject discussion with EDF throughout the consultation phase, and thereafter in our submissions to the Infrastructure Planning Commission.

MLSG priorities for 2012

It will be evident from what we have written above that our energies for 2012 – and for the foreseeable future- are likely to be fully consumed by Sizewell C. It is likely that this will be the major topic of our public meeting next year, when we plan to invite relevant specialists from EDF to make substantial contributions.

John Rea Price
Secretary, MLSG
Email: John.reaprice@btinternet.com
Telephone : 01728 635083