

RML Newsletter round-up

OCTOBER 2015

OLD HABITS DIE HARD

*"It's not too difficult to have new ideas,
it's much more difficult to get rid of the old ones"*

J M Keynes

You may have read a lot from us recently about the value of innovation and the importance of introducing change through being both emotionally and scientifically involved in bringing new ideas to the fore.

Can one be both emotionally and scientifically involved in something at the same time? Oh yes indeed. Emotion is the driver that underlines everything and pushes us forward at RML. Think of Dr. John Snow in the 1850s and the shutting-off of the water supply in Broad (now Broadwick) Street in Soho which saw the birth of the new science of epidemiology and Hugh Myddelton's 'New River' that brought fresh water to London in 1613. Science is the window through which an open mind sees opportunities that might make a difference. There is a third element in this and it is action, action is what is required to bring a proposed change into being as a reality. Promoting change implies leading from the front. Leading from the front, in whatever field, is where all the excitement is found.



Emotion which is not exploited is such a waste of a wonderful human resource and failing to exploit it is unprofessional in Ivor's view. Emotion that is being discussed here is not superficial and temporary but is deep seated and permanent in the sense that it can be linked to a longstanding sense of purpose.

Keynes was quite correct in identifying the age-old problem of persuading people to drop ingrained ideas and habits. We all know that old habits die hard. If old ideas were plants some would have very deep roots.

Here are a few 'chestnuts' in construction that I and colleagues at RML have long railed against with some success;

- Procurers failing to appreciate what they are buying and the consequences of taking up the cheapest offer,
- Engineers as well as other professionals displaying dismissive attitudes to improved practice and innovation,
- Lack of appreciation of civil engineering methods by environmental specialists,
- Over-emphasis on initial costs rather than whole-life costs,
- Miss-handling of soil when being stripped, stored and reused,
- Failing to optimise the use of site generated soil-making materials,
- Soil erosion leading to pollution in water courses,
- Over-specification and complication, of planting techniques as one example

- Inadequate preparation and over-compaction of soil
- design and provide resources for long term management,
- Poorly recorded management works,
- Ignorance about plants and fauna,
- Avoidable damage to mature trees and shrubs,
- Work being undertaken during the wrong season,
- Ignoring local provenance,
- Overuse of fertilisers,
- Hydro-seeding will mask inadequate preparation.

Ivor discussed some of these ideas in June in 'Accepting new ideas takes time'.

WINNING ISN'T EVERYTHING

Perhaps not – but it can make all the difference.

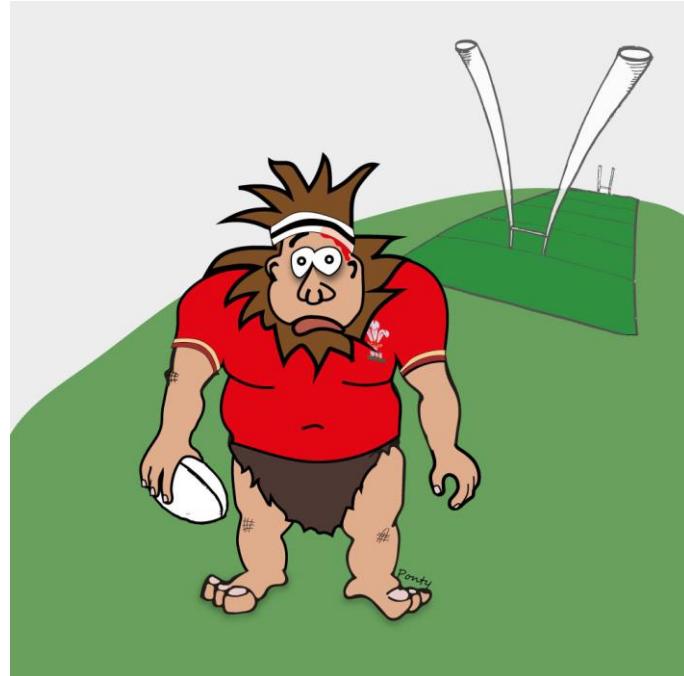
Winning exists in a wide variety of colours, black, green or gold for example, and in many shapes and sizes. Winning is usually seen as a blessing, why else would one enter a competition, but the initial joy can turn to dust when winning forecasts are found to have been over optimistic.

There is no doubt that winning a business contract releases bound-up energy and optimism in the winning team and the trick then is to maintain this over the period of the contract; this may well have to last for years. This optimism stems from having 'work in the bag'. Long term contracts do tend to provide a 'bottom line' of activity and income so they are to be particularly welcomed and they then do contain some elements of a forecast that might have some realism about them. Short term contracts that 'go well' can provide a short term boost to turnover and profitability. Winning short and long term should be a win-win situation then.

In construction tendering to win work creates problems of its own. Currently pre-qualification questionnaires as preliminaries to tenders for public works can be vague in the extreme in terms of what is required to be done and the conditions which will apply. Mostly, public sector tenders are conducted on a risk averse principle which is not a professional or comfortable way of conducting business. I mentioned in June that integrity is still an important element in business relationships in the private sector, integrity seems not to be valued at all in the public sector. Who suffers as a result?

Sometimes political will can lead to the cancellation of a public project or a contract; many of us have experienced this. Tender periods are often prolonged, longer than one thinks is sensible. "What on earth is taking them so long?" is a frequently heard cry of desperation. Occasionally winning a tender in this situation is not an occasion for joy since by the time of the award your world might well have moved on anyway. In addition, and most cruelly, if your contract goes well it makes not one scrap of difference to the likelihood that you will win more work from this source.

I consider that winning a negotiated contract is a much healthier situation than being awarded a tender in the public sector, negotiations in private can lead to a win-win for purchaser and supplier, a situation that is based on the integrity mentioned earlier and honesty too. One can safely assume that both parties have started off together on the 'right foot' such as actually wanting to do business together. Generally success in this field does lead to further opportunities, actually this is a forecast that one can rely on since one's own experience has



shown that this is the case. We all subscribe to the rule that existing clients are our most important ones. Not only are these clients the most likely source of further work but they can also be the source of commendations to others, the best marketing there is.

As Idris remarked a little while ago, these are people for whom standing on your head comes naturally.

ESTONIAN OIL SHALE – PART 6

In 1994 a group of 8 of our Estonian friends came to the UK on a technical visit, Erik came too; with so many things technical and non-technical needing an explanation Erik's presence was to be invaluable. For the first few days the visitors stayed in Ruthin close by our office. They arrived at Manchester airport on a Friday and spent Saturday with the Richards family and colleagues; they watched the Grand National on television, they had never seen anything like it before. We had a sweepstake and made sure that one of the visitors won. At our first dinner in Ruthin Castle I was presented with a stainless steel replica of the tool that senior men in the mine used to test the quality of the rock in the underground workings. It looks like an ice axe. It is a most handsome thing, most dangerous in the wrong hands, how they got it through customs I will never know.

Mr. Mae reported that he had seen a ghost in his room. My Volu visited a well-known bee keeper in the district. On Sunday we went to Portmeirion for lunch, Mr. Mae in particular did not understand what the village was all about, the lunch was excellent.

We held discussions in their hotel and our office about our approaches to the restoration of mined land.

Our site visits included trips to see lead mine restoration at Parc and Minera, Blaenau Ffestiniog to view our work on slate waste, Llysfaei Agricultural College talk about UK agricultural practices and the famous walls at Chester. We used a Llysfaei College bus for our travels, my colleague Gareth did the driving. During comfort stops we drank Estonian vodka which appeared most mysteriously.

We travelled south, calling at Fan lead mine where the new landscapes were still raw, there were wild ducks on the wetlands, which was impressive and then to Aberfan where our reclamation scheme was in full swing. At that stage we were recovering excellent coal that had been dumped on the surface at the mine as being unsuitable for sale. The British navy only took the best steam coal and were a key customer for Merthyr Vale coal. The coal recovery element of the scheme was of great interest. About 70,000 tons of coal were recovered in advance of re-grading. After a night in Cardiff and a journey up the A470 past Castell Coch, which looks like a castle in the Rhine Gorge, we visited an opencast mine where anthracite was being mined. At the mine we found a man who was cleaning the exposed surface of the anthracite with a sweeping brush, the attention to the quality of the product left a most vivid impression in the minds of the visitors. The man doing the sweeping turned out to be a Latvian, his surprise at hearing Estonian voices was rather special. The undisturbed seam of anthracite really did look like black gold.



We then set off for London, a visit to the capital was a must since most of the visitors thought that they might never have another chance to see London. A traditional beef dinner carved off the trolley at Simpkins in the Strand was well received and so all of the Estonians stood up and toasted the Queen, then the UK and then RML. Gareth and I had to join them in all of this except for the RML toast. The other guests in Simpkins seemed to enjoy our fun.

The next day we travelled up the M1 to an opencast mine in the east midlands where the work was on a different scale from what we had seen already



Our visitors had had full and interesting days and seen a variety of ways in which mineral working and restoration was tackled in the UK. Mr Mae, the General Director, wrote a letter to me in which he commented how valuable the whole cooperative effort had been. *"All of our initial doubts had been resolved, the technical visit was invaluable"* he said, and went on to report that *"The success of the programme is reflected in the situation where local farmers have expressed their willingness for the opencast work to go ahead provided that the reclamation work followed on from what they had seen of the pilot project. From this good beginning the Company wants RML to develop a master plan for the extension of the mine"*. The letter appeared in the House of Commons Environment Committee report on Pollution in Eastern Europe, printed in July 1995

As Antii said in an email to me only recently this was the start of a new era. (See Estonia 1.)

WHY WORK WITH NATURE?

"Nature is resourceful - but with vegetation it works slowly"

Ivor Richards

If one looks beyond the industrial messes and the urban sprawl in areas where heavy industry once dominated the coalfields of the UK many of these industries existed in locations where redevelopment for new housing or commercial uses was not appropriate on account of topography or the lack of basic infrastructure. The valleys of South Wales are a case in point. In many situations in the areas where these industries were once so vital but had disappeared almost overnight all that remained were severely disadvantaged communities where the environment too left a great deal to be desired. The emotional response was to recognise that environmental improvements were seen as important as new infrastructure but this was not a widely held view, emotion was not a common characteristic found amongst run-of-the-mill administrators and engineers. In some minds this vision of creating new landscapes for new lives involving the reclamation of derelict land for public amenity was hard to justify on the grounds of cost and a non-starter as a result. Fortunately there were some people who thought differently.

This identification of the need and benefits of public access to land and the benefits of environmental improvements was part of a deep emotional response to the Aberfan disaster. One legacy of Aberfan was that it was seen and felt by some that irrespective of cost, degraded societies required lifting and improvement. Early observation suggested that nature was already reclaiming land but at a slow pace. Could we accelerate this process? In later notes I will explain how we achieved this. The addition of low-cost techniques based on working with nature, following nature's lead, added to the range of treatment options that were available and enhanced the opportunity for returning unsightly land to the community for non-intensive uses. With low cost options available derelict land could be seen as a valuable asset for the community.

Low cost methods sought to produce an appropriate green vegetative cover by using simple methods. Close and detailed analysis of the character of a site rather than just an engineering site investigation enabled a multidisciplined design team to respond to this characterisation. For example matching vegetation types and vegetation capabilities to the existing site conditions often avoided unnecessary and expensive earthworks or other civil engineering activities. After-uses grouped around a public open space usually had fewer constraints so far as topography and land drainage were concerned. Low-cost reclamation provided multiple benefits by aiding conservation especially with large areas planted-up as woodlands for example.

The low-cost philosophy could be summarised as;

- Matching the after use objectives with the existing site conditions;
- Matching the proposed vegetation types with the site's characteristics;
- Working with nature and the site conditions rather than against them;
- Focusing on long term management to ensure that early vegetation would develop as required;
- Building-in low cost management techniques such as little cutting of grass and few applications of fertiliser for example;
- Explaining to the public what the scheme involved;

Encouraging the public to respond positively.



Working with Nature

LOW COST LAND RECLAMATION TECHNIQUES



Welsh Development Agency
January 1994

PLANNING THAT WORKED (IN THE END)

"No plan of operations extends with any certainty beyond the first contact with the main hostile force."

Field Marshall [Helmut Karl Bernhard Graf von Moltke](#)

Moltke's well-known quote which is often paraphrased as "No plan survives contact with the enemy", came to mind recently when starting a two week engineering works project for Norwich City Council. Despite our best efforts at planning, we were let down by the plant hire company who sent two machines that constantly broke down, and left out two vital pieces of plant they discovered that they did not have despite reassuring us they did when we ordered the equipment.

We were 250 miles from home, looking to keep a valued client happy, and with a strict deadline of completing the works in two working weeks. That was the plan. On day 1 we were having to do abortive works due to lack of equipment.

The area of excavation prior to works commencing, posts marking out the final route of the footpath surface, up to 2m below existing ground. First client to ever photo bomb an RML cameraman!

We were called in by Norwich City Council as their Engineer Duncan Cole had experience of using us on previous projects for Norfolk County Council where our 'soft' approach had been appreciated. Our task was to provide an options report on how to design and construct a cutting for a new cycle path through an area of heathland, with trees, mainly oak, that needed to be retained. An ancient oak that had to be protected stood at the top of an equally ancient footpath which the new path would intersect. We were subsequently asked to provide detailed design of the preferred option and then build it. Our consultants, Groundslove Ltd, provided geotechnical advice. With Groundslove we have used the timber piling system previously where the client wanted a 'low key' engineering approach. Duncan had told me he was excited about our starting on the project, and his colleagues having an opportunity of seeing what we could do. We did not want to disappoint. We had designed works that would protect the sensitive vegetation and cause minimum disruption. Clearly the client liked the lump-sum price too.



Special measures taken to protect the root zone of the ancient Oak when filling the hollow included a 400mm layer of clean, mostly site won stone, covered by geotextile and then as dug site won material to finished level.



Norwich Tree Consultant Colin McDonald carried out root pruning and protection at the extent of our excavation as well as in the root protection zones of the adjacent Oaks.

The first four or five days were frustrating for our team, but they worked hard and long, coming up with working methods to alleviate our plant supply problems, and working closely with the client's Tree Consultant who had a watching brief over the works. This working relationship developed quickly into one of collaboration, both parties wanting to construct the path in a practical way and yet respecting the requirements of the trees... A 'root protection' layer of coarse aggregate was for the most part riddled from the excavated soil and placed over the roots and then covered with a geotextile ready to receive general fill which was a mixture of sand and gravel drawn from the excavation.



Excavation down to final finished level of cycle path, Oak posts augured and grouted in place. Steel mesh and geotextile installed between posts, void behind backfilled and compacted.

The weekend arrived and the team were able to make real progress, having excellent and flexible support from the local suppliers of materials, a bit of luck with the weather and favourable ground conditions.

By Thursday night of the second week our works were complete, and a happy client came to site on Friday morning to see all was as he would like. The weather had turned wet, more reminiscent of Blaenau Ffestiniog than Norwich, but our smiles tell of a job well done, and the long drive back to North Wales commenced.



Subsoil, and a thin layer of topsoil, placed to form the final surface above our new retaining structure. Timber facing protects the underlying structure and softens the visual impact. All of the timber elements were treated with an appropriate preservative. Vegetation is expected to regenerate naturally from the seed bank and roots that are in the soil.



View of the works from across Gurney Road, Norwich. Ready for main contractor to construct the cycle path.



Site team, Sam, Brian and John in the completed cutting, can you tell who was in charge?

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