

# RML Newsletter round-up

JULY 2015

LONG, LONG AGO, IN A LAND FAR, FAR AWAY.....

Long ago when the world and I were still young, I attended a meeting with a joint team from Alfred McAlpine and Babbie to discuss the preparation of a tender for the first Early Contractor Involvement contract in Wales. We crystal ball-gazed about new road design and what we could achieve. Then the proposed Project Manager for the contract thumped the table and said, in a voice that was meant to sound authoritative, pragmatic and well-informed, *“Heavens above! It’s only a motorway widening - not much more than a resurfacing job. Why do we need to involve these environmental types in the team?”*

Ten years on, in June 2015, I and the contractor’s original construction manager turned up on site to hand over to the client 26 kilometres of soft estate (the green bits) on the M4 Junction 29 to 32 contract. To get to this point we completed the statutory process in which numerous environmental commitments were made on behalf of the client in the published Environmental Statement (ES). Then we built the scheme over two and a half years of civil engineering construction. Then for five years we managed the soft estate including 25 hectares of established plantations, 10 hectares of new meadows, 9 balancing ponds and 5 hectares of young trees so that they can fulfil commitments made in the ES. We were now saying goodbye to this scheme which has been awarded a CEEQUAL ‘Excellent’ and had earned plaudits from the Audit Commission for completion on budget and to programme.

What stood out in my mind as we parted company after 10 years of hard work was the way that the new landscape said goodbye with a show of acres of newly created meadows filled with wildflowers, butterflies and bees. In amongst the common-place species that we had planted and seeded there were numerous self-sown Early Purple and Bee Orchids and there were damselflies and dragonflies darting across the balancing ponds. In the carefully managed plantations are viable populations of fat dormice, while satisfied badgers and bats forage at night. In the river and stream corridors otters feed and commute.

Dr Trevor Dines of Landlife, reporting on a recent study, wrote that *OVER 700 species of wild plants - almost half of the native flora of the British Isles - are found on road verges. 10% of these are plants at risk of extinction!*



We living generations may be among the last to see much of our indigenous wildlife. In our lifetimes the changes wrought to provide our burgeoning population with food, fuel, housing and transport have destroyed the vast majority of our native biodiversity and replaced it with improved varieties of pasture grass for livestock, arable cultivation to grow grain, exotic coniferous plantations, bijou housing estates and infrastructure to serve the global economy. We see urban gardens hard-paved, lawns and flower beds doused in chemicals. In other words we have taken all the areas over which

we have dominion and excluded our native flora and fauna. And mostly we do it without any sound purpose.

In my lifetime I have seen the once floriferous meadows and pastures of the 1960s become green deserts and our ancient woodland become coniferous plantations. The same thing happened to our once species-rich verges, when in the 1970s, highway authorities sprayed growth inhibitors to reduce the frequency of roadside mowing. These toxins were eventually abandoned in the 1980s and from the 1990s there has been a deluge of wildflower, insect, reptile, small mammal and bird species re-colonising verges. Species diversity can only increase and will do so with vigour if verges are managed effectively and sympathetically in the long term and the few remaining refuges of biodiversity can survive long enough.



So rural road verges are special, but what are we to do to sustain them? It is so simple, just continue to mow them in the correct season and in a careful, responsive and timely manner. If this work is guided by enlightened 'soft estate' managers, the vast roadside nature reserve will continue to sustain those 700 plants species and all that they support.

Meanwhile the back-office 'bean-counters' with red pens put on their blinkers, stick their heads in the sand, ignore binding commitments and question the need for any maintenance at all. 'After all,' they say, 'these are roads, not nature reserves. We are not obliged to cut the grass or look after biodiversity, are we?'

## A PAIN IN THE BUTT

It seems that only private individuals and companies now work on the basis that recognizes reputation, honesty and professionalism as being the most important characteristics of people that they want to do work with. One must assume that 'these people' have an interest in making the right choice - so why have the public sector ignored experience and good practice and adopted a system that is tediously beaurocratic, is costly, and not always successful in identifying the right team for the job. In a recent note at the end of June I commented on 'Integrity' and its importance in the private sector.

Are we really sure that the current procurement process is the most efficient and cost effective means to ensure competition? Is this system fair, is it legal? I'm not convinced. Margaret Hodge and the Public Accounts Committee weren't either! I fully recognise the need for a simple step by step process that informs, selects a list of tenderers and then identifies a single contractor. We had used one for years in construction and it grew out of many years of experience, it had a number of variants, it worked well and was seen to work well.

Despite the overall precautionary approach, which I despise, what I really don't understand is why this current process has to be so prolonged and so costly for those trying to prequalify and then to win a contract. Let's list just a few of the aspects that concern me. Why is it that:

- The Prequalification Questionnaire (PQQ) often asks irrelevant questions?
- Standard questionnaires, which are fine for 'standard information', are used without thought about the information that is really needed for the project in hand? Saving time, effort and money **for the procurement team** by using standard questionnaires seems more important than looking for the best possible result for the client by being specific about what is required;
- Completing a PQQ is often just as huge a task for low value contracts as high value ones. Is there no discrimination, or is it a matter of the easiest option for the procurement team?

The industry has been saddled with an inordinately expensive system which adds greatly to the cost of doing business but contributes little or nothing to producing a product.

Many of us are disturbed about the direction in which engineers and brother professionals are being driven, against their better judgement.

Have your read 'Public procurement 1' and 'Public procurement 2' both in May.



My words in March about using Willow as an engineering material prompted a question from one reader about the management of willows.

Willow spiling must be installed during the winter when the willows are dormant. During the following spring, fresh growth will appear as buds on both the stakes and the withies. Dependent on local conditions such as the nature of the soil and the availability of nutrients and water, and the variety of willow being used, growth in the early years will be vigorous.

Any soil which is known to support vegetation in a healthy condition will normally contain sufficient nutrients to support the willows; supplementary fertilizer is unlikely to be necessary.

In the first year, willow shoots up to 3.0m high will be produced and a maintenance visit by the installation team in the following 2 winters to trim and tie down the shoots on the withies is beneficial. These simple steps will avoid overcrowding the shoots developing from the stakes. It is likely that the withies will lose their vigour and disappear within a few years as the top growth on the larger stakes takes over. At this stage the willow stakes should be substantial trees with extensive root systems providing slope stability. These willow trees will benefit from pruning to maintain an even, dense cover so that individual plants are not shaded out.

The photograph above is of a project we designed and constructed for Norfolk County Council, taken in August 2014 after the client had carried out maintenance the winter before.



Maintenance work is simple to execute, and one must think in cycles of decades, even for willow. In time, consideration can be given to planting longer-living species such as slower-growing varieties of willow, or even oak or beech for the long term (say 200-300 years for some sites). Whilst these choices depend on the location, planning and creating patterns for the long term is a luxury that comes freely as part of the process.

Once vegetation has been used to re-establish control on a failed slope, such as a river bank where failure has been catastrophic or a slope weakened by water and creeping downhill, the day by day 'crisis management' can turn to thinking about engineering the future..

## TRUST IS POWERFUL

Discussing and agreeing with a client what he/she actually needs, what is possible and what it will cost seems such a sensible way to go about commissioning a project doesn't it? So why do so many organisations use this 'single tender' approach only as a last resort?

I commented in June that those thinking that their integrity, quality of service and past record will see them through to creating a successful business face a difficult time. I believe that business-to-business relationships can be made enjoyable from the outset if one can meet face-to-face, and integrity is a key element of being successful in these circumstances. Well, one has to have the confidence to trust your own judgement and I am pleased to report that at RML, negotiated contracts do come through the door from both the private and public sectors. We win these projects because we specialise in doing interesting things well, and clients are pleased to return with additional commissions.

- In our experience trust is powerful, and reciprocity in dealing with people brings its own rewards.
- Recently negotiated public and private sector commissions include:
- Preparing a planning application and restoration scheme for a borrow pit on a major highway project
- River bank reinforcement and repair
- Slope support using 'soft' engineering
- Assessing the impact of windfarms on the landscape
- Japanese Knotweed eradication for housing schemes
- Repairs to a listed building suffering from ground instability
- Daily environmental support and management on the construction of a very large windfarm.
- Preparing and submitting a planning application for a change of use in industrial premises.

We do tender for some works, and along with AECOM we were pleased to be awarded the Welsh Government WelTAG Stage 2 study for the A55/A494/A548 Deeside Corridor Improvement.

## LANDFILLING KNOTWEED IS UNNECESSARY

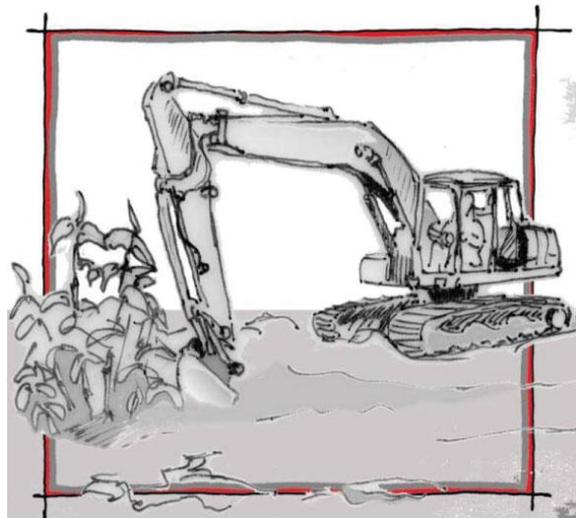
Japanese knotweed is a pernicious problem in the UK and many other countries that enjoy a temperate climate. Knotweed has been recognised as a virtually intractable problem, to such an extent that ‘bugs’ have been imported into the UK from Japan in the hope that the continuing spread of knotweed will be slowed down. The use of the bugs, after many years of research into the risks to indigenous species, is a measure of the seriousness of the problem posed by knotweed and the extent to which people will go in search of solutions.

After many years of studying knotweed Richards, Moorehead & Laing Ltd and Gerald Davies Ltd took an innovative step developing a process known as **Klaro**. **Klaro** eradicates the rhizomes of Japanese Knotweed within the soil. **Klaro** has operated successfully for 15 years, and is capable of treating substantial quantities of soil which can be re-used on the same site instead of being sent to landfill. Disposal charges and taxes can exceed £100/tonne even before handling and haulage costs are included. Landfilling knotweed is extremely expensive.

What the **Klaro** process cannot do is eradicate seeds from the soil. Japanese Knotweed does not produce viable seeds in the UK but, very occasionally, viable seeds can be produced through hybridisation with related species, so the possibility that soil processed by **Klaro** contains viable seeds cannot be ruled out absolutely. The licensing authorities insist that because viable seeds might be present in treated soil its re-use beyond the confines of the site on which the knotweed was found will not be permitted. This fail-safe approach considers the level of risk as being unacceptable, even though others in the field agree that this extremely small risk can be dealt with by site management. As a result, the opportunity to make substantial progress with the clearance of knotweed by taking advantage of innovation is being frustrated, and brownfield sites become unnecessarily expensive to develop.

The licensing limitations mean that **Klaro** can only be used at the infested site. The logistics and cost of moving the **Klaro** plant around limit its use for smaller infestations or sites. Inevitably, these development projects have to rely on landfill – a financially and environmentally-costly alternative since landfills licensed to accept knotweed are few and far apart.

### #1 Excavate infested material



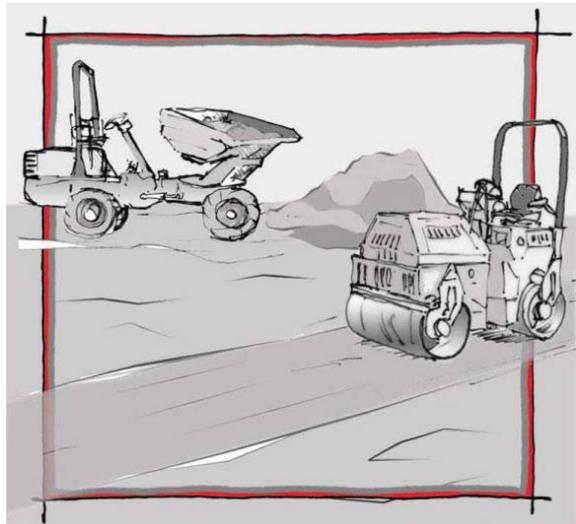
### #2 Process infested material



The presence of knotweed on many brownfield sites certainly deters developers from using this land to meet the urgent and critical demand for new homes and other buildings.

What we at RML would like to operate is a series of fixed sites, licensed to treat infested soil using *Klaro* and then to recycle the treated soil for well-managed developments. This would ease the problems of knotweed disposal for many developers - but the regulators will have none of it. They weighed the risks of bugs against the threat of uncontrolled knotweed before allowing their introduction. We suggest that they need to make a careful assessment of the risks from seeds and then balance them with the risks and consequences of having no solution to Japanese Knotweed on development sites when the landfills have closed.

### #3 Replace processed material



Through Guido Paalme's initiatives RML were asked to contribute to the EU's Phare programme in Estonia. Our task was to review the situation in which land ownership was being transferred from the state to private individuals and how this would affect the future practices and development of the oil shale industry. My second visit involved more meetings with Guido and with the senior managers of the oil shale industry. The general manager Mr. Lembit Volu attended along with Mr. Mae, General Director and Mr. Lokko a mine manager, the senior geologist Mr. Jurgenfeld, and representatives of the local council including Mr. Ado Endoja and Mr. Arvi Toomik. Over the course of the next few years we all became very close friends and working partners.



During this visit I was taken to see forestry plantations on previously mined areas and these were clearly growing successfully. In the photograph I am standing on the right next to a plaque which celebrates the planting of the forests in the 1960s, but such was Soviet control that not one member of the public had ever seen it.

The attempt to restore land to agriculture had been a disaster and the prospect of having to acquire land from private owners who had only just received back their land after having lost control of it during the Soviet period raised many problems in the minds of the managers of the Oil Shale industry. Obviously the landowners would want to see their land restored to a reasonable level of productivity. The restoration to agriculture had failed because no thought had been given to land drainage, the land was flat, very flat, and neither had there been any attempt to create a soil structure. It was hardly surprising that little or nothing was growing in an area that extended to several hectares.

I met Mr. Carr who was a principal aboriculturalist at Tartu University and I asked him to provide an appendix on forestation to the report on my findings. I would be able to pay him 500DMarks for his



trouble but he refused to accept the money until I insisted at some length. "Mr. Richards", he said, "I have been waiting 30 years to be asked my opinion". This was a reflection of Soviet control.

Mr. Mae wanted to extend their area of opencast working onto undisturbed land near to the village of Johvi. The oil shale lay just a few metres below the surface. A new approach to restoration was required that would lead to acceptance of the proposed works by the villagers, to an enhanced landscape and some improvement in the poor agricultural performance that the Oil Shale industry had achieved previously. This was the

brief which was discussed and agreed between RML and the Oil Shale management, the local authority and the Chief of Mineral Resource Planning.

During a visit underground with Lokko and being brought into his discussions with supervisors I was taught a few words of Russian that I subsequently learned sit at the very basic end of the Russian vocabulary, I was required by Lokko to repeat them that evening much to his amusement and the dismay of the other Estonian friends. On our return to the surface Lokko and I enjoyed the sauna which was attached to his office, all managed discreetly by his secretary. It was another world, saunas were important, as all of the RML team were to discover.

*“Good design begins with honesty, asks tough questions, comes from collaboration and from trusting your intuition.”*

By Freeman Thomas, Director of Strategic Design at Ford Motor Company

Well said Mr Thomas, I have been here before talking about trust in business (January and earlier this month) and Integrity (in June). The inability to place one's self in other people's shoes is a characteristic of modern selfish society. We see divisions that should not exist in a mature and urbane society. Why do towns' people and country dwellers regard each other as either more fortunate than, or inferior to, themselves? Why do the public sector and the private sector fail to trust one another? Why do contractors and designers in the construction industry not understand one another's working methods and challenges and so collaborate better and more efficiently?

Perhaps it is our innate tribalism – the kind that drives inexcusable behaviour among football fans, and between professions. Or is it just down to raw greed and competitiveness in the scramble for work?

In the days of raging Thatcherism we were all encouraged to embrace a more competitive and capitalist world because we would all benefit. Maybe we have, but in the process did we throw out some of our humanity? I certainly feel the Britain of today is rather better than the strike-bound land of the 1970s; but I also think the other consequence of Thatcherism, and of 'Blairism', is a failure to respect anything but self-interest, instant returns and power. Just look at our self-serving and allegedly cocaine-sniffing professional politicians; look at the increasing divide between rich and poor, see the unrivalled economic power of supermarkets strangling our market towns; look at the deplorable dishonesty of our financial institutions. I think I am right in saying that these are all fuelled by possession of power as Francis Underwood believed in his race to the White House in House of Cards and the frantic desire for more, rather than by honesty, respect, collaboration and merit.

Civil engineering is arguably the most “humane” activity practised by humanity. Its sole purpose is to better the life of the community served by improving access to resources or improving the quality of resources such as water, environment, sanitation, energy and food. The motto of the Worshipful Company of Water Conservators is ‘without water there is no life’ the engineers in the Company add that without sanitation life is short. One of the Company's aims is to become globally useful.



Rather than following the principles set out by

Mr. Freeman Thomas so much of our time and energy is wasted on competing for work instead of being spent productively, collaborating, designing, building and learning and spreading good practice.

How can we square this circle? For all of us to become globally useful we should avoid wasting our efforts on what I regard as pointless activities.

### ESTONIAN OIL SHALE – PART 3

In 1992 I received a call from the UK Baltic Society, they had heard through Antii Roose that I had been to Estonia. They told me that there were two Estonians studying postgraduate degrees at Manchester University and the Society wondered whether I would be prepared to meet them. Within a few weeks the two were collected on a Sunday morning and came to lunch, they were Erik Puura and Tamu Tammerk. Erik was a geologist and is now head of the department of geology at Tartu University. Tamu was a journalist who is now the ethics counsellor for public broadcasting in Estonia. I think that they came for lunch on about three Sundays and then Tamu returned to Estonia and Erik continued with his course. After dropping off Erik in Moss Side one Sunday I said to Marj “You should see where I drop Erik off, it is an appalling place”. We knew by now that Erik still had to complete his thesis but that lectures had been completed. The following Sunday Marj asked him if he would like to stay with us and complete his thesis by using our office facilities. Neither Marj nor I thought that Erik would accept since he was so shy; Erik moved in on the Tuesday! A former Soviet soldier had come to stay with us.

Erik stayed many very happy months. We used to take him on trips around North Wales and Erik could not get over the fact that he was seeing and in some cases actually standing on the rocks of the Ordovician series which he had heard and learned so much about as a geologist.

Erik recounted just the other day what an impact living with us had, he remembers helping himself to a banana from the fruit bowl, up to that time bananas were rare in Estonia, and he remembers too the Sunday lunches of roast lamb and gravy.

Erik went back to Estonia and very quickly went to Stockholm to do a PhD. During this period he was able to spend time with us in Estonia as our translator on a series of working visits during the next 5 years.

Erik did well as a translator when one considers that he had no training for the role, the only problem we had was that Erik would get involved in the discussions and leave us out. A sharp tug on his sleeve would bring him back into line.

On an early visit to Estonia Marj accompanied me and on at least one subsequent occasion too. We were accommodated in the company’s guest house which was managed by a housekeeper, everything was as we would have wished for. Erik stayed too. At our first dinner together Mr. Volu (Lembit) sat at the head of a long table with Marj and me either side of him. Down the centre of the table ranged a line of bottles of Estonian vodka, allegedly the best there is, and Fanta. At one point Lembit stood up and made a toast to the guests and added that he was most pleased to find they were ‘ordinary people’. Erik went back to my room and returned with a bottle of Highland Park malt whisky. The toasts flowed; I was ‘batting’ on my own for the UK! Erik has reminded me that the dinners were long, the toasts many and the whole event great fun.

One particular part of the toast making involved ‘cleansing the glasses’. After using our glasses to drink vodka I insisted that a small amount of whisky was put into each glass which was then twirled



and the whisky drank, it was only at this stage that I allowed the glasses to be charged with whisky. Erik has never forgotten this little piece of nonsense.

When Marj died in 2012 Antii wrote a long letter to me and to RML. Antii reminded us that,



*'Marj will be remembered professionally as an irreplaceable and inspirational team member. The values Marjorie displayed throughout our years of contact were hard work, commitment, innovation, punctuality, the personal touch, courage, loyalty and pride in RML. She helped us to understand British society and people, teaching us about all manner of things, from shopping and cooking to concise writing. During our trips to Wales she raised our awareness of the nation's history, culture, language and people. She made the Richards home a welcoming country refuge for Estonian students escaping from metropolitan Manchester. We will remember Marjorie as our Welsh mother, and teacher of the simplest and best things in life.'*

I hope that we meet up with our Estonian friends soon.

Photo from top David Marj and Erik in 1992 to bottom Marj. Guido and Antii in 1993.

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