WESTERN CHAPTER
International Erosion Control Association

Western Chapter News

SERVING EROSION CONTROL PROFESSIONALS IN ARIZONA, CALIFORNIA, NEVADA AND HAWAII

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In this Issue...

We Need Your E-mail Address!

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Symposium Success at *Tahoe & Beyond*

A highly successful and profitable symposium entitled *Tahoe & Beyond* took place in August 2005 at Camp Richardson along the shores of beautiful Lake Tahoe, California. The conference was sponsored primarily by the Western Chapter and the California Tahoe Conservancy.

Attending were many first-timers to an IECA/WCIECA sponsored educational event. The two-day program consisted of a CPESC tutorial concurrent with technical sessions, and a field day with a total of 119 participants, and a small trade show.

Technical sessions covered a broad variety of topics, including fire rehabilitation, storm-water BMPs, creek restoration, highway slope stabilization and soil fertility and biology.

An excellent barbecue on the lawn at Camp Richardson, sponsored by Earthsaver® concluded the first day.

The following day, two buses filled with 75 professionals from various backgrounds toured numerous sites around the Lake. A broad spectrum of erosion control, water quality improvement, wetland, and stream restoration projects were visited with project designers and funding agencies available to explain various aspects of the projects.

Each participant also received a handout showing project locations and summaries of pertinent information. Discussions were lively and informative. In general, comments regarding the events were very positive, but symposiums can always benefit from critical input.

Carol Forest and Mike Harding headed the list of most informative technical presentations, although all were well-received. Feedback on the CPESC tutorial was generally positive, although several students requested that the presentations and handouts be updated.

Another common comment was that although the field trip was generally very informative, it was too long and could have made less stops.

Professor Mir Seyedbagheri from University of Idaho at Cyndie Walck's Angora Creek Restoration site during the Field Tour. A day earlier, Mir had spoken to the Symposium on the topic *Effects of Humic Substances on Soil and Plant Metabolism*.

Suggested topics for future Symposia or Conferences included:

- Non-standard approaches in unique settings
- "Lessons learned"
- Bioremediation technologies LID concepts and lake/pond management
- Description of "real life", on-the-job, storm BMP's implementation procedures, "common sense" BMP's versus mandated BMP's, by contractors of major construction projects
- Slope stabilization
- Dewatering practices, dust control additives, erosion control product applications
- Writing and amending SWPPPs; Avoiding enforcement actions
- Reconstructing & reclaiming soils
- PAM or polymers for source control
- Uses of the various types of erosion control products
- Advanced treatment technologies and regulations.
- Agriculture and land development issues
- "Cutting Edge" technology around the world
- Benefits of humus in erosion control projects

Stay tuned for the next Western Chapter event in Hawaii 2006!

Julie Etra, WCIECA Member, Owner, Western Botanical Services, 775-849-3223

President's Message

Volunteers are our seeds to success

Once again the commitment and dedication from our Western Chapter (WCIECA) membership has allowed us to put on two successful events in 2005. Both events were co-sponsored with WCIECA. The first event was a workshop with the City of Roseville. The chapter's second event was "Tahoe and Beyond", co-sponsored with the California Tahoe Conservancy. I would like to thank the City of Roseville and the California Tahoe Conservancy for partnering with their local IECA chapter. Thank you to all who attended and all who volunteered, making WCIECA events a true success. A special thanks to Janice Bridges, Julie Etra, Kym Kelly, Steve Bachman, Mark Queipo, Guy Howes and Delyn Ellison-Lloyd.

2006 is here and the Western Chapter is in preparation for the following upcoming events. The year is anticipated to start with a co-sponsored event "Putting Conservation Programs to Work" with the California and Nevada Chapters of the Soil & Water Conservation Society of America in San Diego, California, March 22-24, 2006. The second event "Ahu Pu'a" — translation "From the Mountains to the Sea" — will be held in Honolulu, HI. The planning meeting was held November 17, 2005. Ahu Pu'a is tentatively scheduled for November 2006. The specific aspects of the conference have been broken down into multiple committees. Please call me with your interest in participation, we welcome your support. A special thanks to the attendees at the planning meeting and the tasks they have taken on.

Tony Pitts, *WCIECA President & Director*
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Contractor's Corner

Question – What is the difference between a water retention pond and a water detention pond?

A detention pond is a typically a flood control measure foremost. Large amounts of rain can cause flash flooding if not dealt with properly. When an area is paved, or covered with a building, water runs off the property much faster than when it is in a natural state. The total amount of discharge is the same, but the discharge happens over a shorter amount of time. A hydrologist will design a water detention pond to temporarily detain the water and keep the runoff to the desired rate. When the rain ends, though, the water detention pond will be empty shortly afterwards. For example, a detention pond may be a grassy field fed by a number of culverts. The field dewaters through a controlled outfall. During low to moderate rain events, the field is constantly dewatering. During heavy storms, the flow will back up on the field and the water level will rise. The January 1st flooding in Northern California demonstrated the significance of having (or not having) sufficient detention measures in place. Detention ponds, in addition to mitigating runoff increases due to increased impermeable land (paving paradise and putting up a parking lot), can also help to address changes in land management practices (different kinds of agricultural cover or building in flood prone zones) and dare we say it "global warming"!

A retention pond is designed to hold water indefinitely, and is therefore sometimes called a wet pond. A retention pond is typically used to improve water quality by settling of sediment and if vegetated, by biological update. The pond is designed to drain to another location when the water level gets above the designed capacity. The pond level may go up and down, but ordinarily the pond has some water in it. The oscillation of water level in a retention pond may offer some flood control value, albeit less certain, than a detention pond. Other retention pond benefits may include the creation of wetlands, habitat enhancement (both for wildlife and homeowners borrowing the view), and strengthening the golf ball manufacturing industry.

So, if the pond is typically empty except during and shortly after precipitation, it is a detention pond. If the pond always has water in it, then it is a retention pond.

David Franklin, *CPESC, WCIECA Technical VP & Director*
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Tahoe Regional Conference Photos

Incoming Board President Tony Pitts sets up for the barbecue generously provided by Earthsaver®, pioneers of the straw wattle.

Ramon Godinez, Cathy and Kevin McPhillips putting the same amount of care into their sumptuous dinner offering, as they do into their Earthsaver straw wattles.

The Main Hall at Valhalla where the CPESC tutorial was conducted.

Early morning at Valhalla - early bird catches the... touch-down?

Speaking Your Mind

Shortcomings of Native Seeding Project Implementation

(A Pathway to Enlightenment)

Part Three in a Series of Three Articles.

At "IECA Nashville 1997" we all concluded that the "low bid mandate leads to the most expensive pathway to revegetating disturbed soil". Why? The repeated funding of seeding failures is the foremost reason is everyone's mind, with such failures largely occurring because of shortcomings in conventional native seeding designs that haven't a prayer of succeeding in the first place (see Article #2 "Seeding Design Shortcomings: Growing Carrots in the Desert", Spring 2003). Certainly, these shortcomings in conventional seeding designs are a major cause of our industry's dismal 85% failure rate of native seeding projects.

Yet even when designers embrace a seeding technology that has demonstrated success in the field, many invariably continue to meet with disappointment. Why?

The answer: shortcomings of implementation.

Seeds of Failure Planted Early

Our failure starts way before anyone shows up in the field to begin seeding. While we may have stumbled upon a seeding technology that has the ghost of a chance of being successful, unless we can articulate that design in clear-cut written directions as to what the seeding project entails, our well-intentioned efforts founder on the bid table. After "flawed seeding designs", the Number #1 reason why 85% of our seeding projects end up as disappointments is attributable to two (2) key failings:

Ⓐ Weak contract specification writing; followed by
Ⓑ Weak supervision of project implementation.

Both of which two key failings leave a seeding design "wide open" to disingenuous seeding contractors and their efforts to undermine the best intentions of project proponents by failing to implement as per contract.

COMPETENT CONTRACT SPECIFICATION WRITING

Whether one embraces the "Betty Crocker" or "Martha Stewart" or "Naked Chef" recipes of approach for seeding native species, it is crucial to stipulate exactly what ingredients and step-by-step procedures you wish to be followed in the contract specifications that are bid on. While "mixing and matching" recipes of approach is a fool's game (I'll return to this "no-no" later), ambiguity as to exactly what is being asked for by the designer is the greater evil. It throws the door wide open to compromising the success of the seeding effort before you even get out of the starting gate. Contract specification language needs to be clear and unambiguous, with step-by-step procedures for implementation.

Designers Unqualified to Design

Time and time again we are asked to interpret bid document specifications that are ambiguous as to what is being demanded, if not downright incomprehensible. Clearly, the designer has had little understanding of the technologies he is attempting to include in his seeding project, presumably trusting that someone of greater capability and experience will sort out the mess and gerrymander a workable solution in the field. Clear concise bid language is imperative. Language that is clear as to what is intended in the field so that contractors can build in real field-costing at the earliest possible stage.

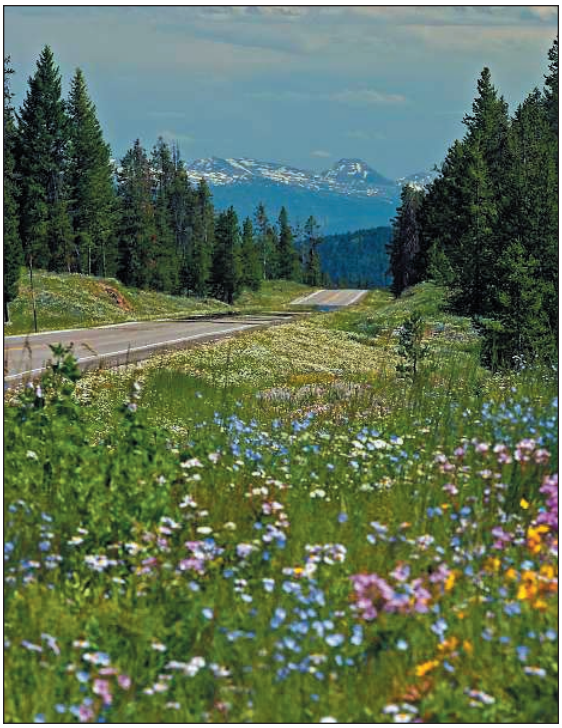
Mesa Falls Scenic Byway: An award-winning *Growing Soils* technologies native re-vegetation success story, produced by the late FHWA project engineer John Arriaga despite the extreme handicaps of a "low-bid" mandate.

That 90%-95% of the bid document specifications reviewed pay zero attention to the soil properties on site, no longer surprises us. No matter that re-building sterile and imbalanced soil has been empirically shown to be the most critical element in any seeding design. However, the process of managing soil analysis is complicated and often beyond the expertise of many conventional seeding practitioners. At times there is the inconvenience of not being able to sample the seedbed soil at the time of designing the project. This soil will be brought in after construction. The sampling and treatment of this soil should become the objective of a pre-disclosed future change order anticipated at the time the seeding contract is bid. Unless accurate soil data is available to enable balancing of soil and buffering for imbalances through accurate use of soil amendments, the project has probably failed before leaving the designer's desk. This has to be Step One in a successful revegetation project. Collect site-specific soil samples and complete lab analyses to obtain data required to balance the growth medium.

Monitoring of successful re-establishment of native species at FHWA Flowery Trail Scenic Byway. *Growing Soils* technologies design, explicit contract specifications, and "hands on" participatory supervision overcame shortcomings of "low bid" mandate.

There is, however, no excuse for writing vague contract specifications. For example, when addressing the "Holding Soil" requirements of a seeding project, a designer should demonstrate an understanding of the differing performance parameters (and associated cost structures) between soil tackifiers versus a heavy-duty soil binder. Yet we often see such "light-duty" tackifiers and "heavy-duty" soil binders specified as interchangeable options. Either a project site's terrain demands the armoring of a heavy-duty soil binder, or it doesn't. The responsibility to make such a determination lies squarely with the designer, not a bidding contractor. When the design specifications leave this product category open to the discretion of a supplying contractor, one wonders why anyone would supply, for example, 20,000 lbs of a $100.00/lb material, when the designer offers up an alternate option to supply 20,000 lbs of an inferior material costing $20.00/lb? A thorough understanding of the project requirements as they pertain to materials specifications is a prerequisite.

Taking the above "Holding Soil" example a step further, it is also fairly common to see bid document specifications calling for a "light-duty" tackifier on slopes 3:1 or flatter; and a heavy-duty soil binder (higher performance, higher price) on slopes steeper than 3:1. So far so good. But then the designer is silent on stipulating what % of the project is "3:1 or flatter", versus what % of the project is "steeper than 3:1". Who better than the designer to make a stab at estimating the % breakdown? If there is doubt as to the appropriate % breakdown between "3:1 or flatter" and "steeper than 3:1", as may well be the case prior to project construction, we recommend that the specifications stipulate an explicit % to be used by the seeding contractor for bidding purposes. By doing so, one maintains a level playing field throughout the bid process so essential to comparative bid evaluation. The ultimate % breakdown can be fine-tuned via change order once construction is completed. One certainly does not leave such a % determination to the whim of bidding contractors. Clarity of specification language is required such that bidders are not subjecting the project to their interpretation of site variables. Specification language needs to be clear, concise, precise and inclusive.



Mesa Falls Scenic Byway was an FHWA "sole-sourced" seeding project that followed hard on the heels of ITD's successful re-do seeding of the 7,000' Lost Trail Pass highway project. Two years earlier, the Lost Trail Pass highway construction project had responded disappointingly to the "soil-blind" conventional seeding practice of BFM in tandem with mycorrhizae-innoculated seedling plantings.

Father Knows Best

Another shortcoming in specification language leading to danger is one that directs the contractor to supply and apply a product "pursuant to manufacturer's recommendations", but provides no directive as to the quantity of product to be supplied. By now, it should be recognized that each seeding site's soil characteristics, terrain, aspect, likely precipitation etc. are unique to that site. Are we talking 1:1 slopes? 3:1 medium slopes? Flat terrain? Are we talking seeding into vibrant native topsoil? Sterile, but minerals-balanced soil? Imbalanced soil? Bedrock? The designer should be familiar with the manufacturer's recommended application rates relative to the site-specific performance parameters he is seeking. If not, the designer should contact the manufacturer to upgrade his knowledge sufficient to be able to dictate exactly how he wishes the product to be used (pursuant to the manufacturer's recommendations, before releasing the specifications for bidding.

For in the face of vague and half-hearted design language, prime contractors and seeding applicators have every right and opportunity to re-design the project to suit their "low cost" mandate for financial gain. After all, it is a contractor's duty to exploit the specifications as written to his competitive advantage. It is important to acknowledge this truth, rise above it, and proactively design to accommodate it. Consequently, if a "would be" designer does not possess the basic skills to properly design a seeding project, he or she would do well to retain the assistance of a specialist who does possess the requisite skills. This is especially true for landscape architect designers, those inexperienced with native species, venturing out into the realm of re-establishing native plant species on drastically disturbed soils in harsh environments.

Soul Searching Over Sole-Sourcing

Occasionally we come across agency-related prejudices against sole-sourcing products, in all likelihood inspired by a well-intentioned wish for "free and open competition". As with the "low bid" mandate, the aversion against sole sourcing has its roots in an era no one can quite remember, possessing objectives no one can quite articulate. In reality, the urge to specify seeding materials in generic language (no trade names, no contact information) merely introduces vagueness into a design which spells trouble for quality bidding contractors and clients alike. It seems somewhat ironic that after a specialist has invested all the educational effort required to master a seeding technology, he must delete the "specifity" out of his specifications because of somebody's misguided notion that we are dealing with generic soils on generic terrains in generic climates. Solutions to this dilemma are complex and beyond the scope of this paper.

From wrenching past experience where attempts were made to "dumb down" specialized state-of-the-art seeding materials into generic terminology, vagueness has no place where the wonder and complexity of Nature is at stake. After all, we are dealing with ecosystems that are every bit as complex as the human body. Would you be excited about having a triple by-pass procedure at the hands of an independent "low bid" third party who may (or may not) have successfully run the gauntlet of tracking down the generic heart by-pass device to be inserted into your chest, let alone secured and supplied the discount-priced generic blood for transfusion? If your experience paralleled what more than occasionally occurs in the seeding industry, you'll get the surgeon who bid as blind to your body characteristics as he bid low, and on the operating table is exercising his imagination as to how best he can get away with expanding (if not creating) a profit margin for himself.

Especially where it is not spelled out as to who will be charged with the responsibility and accountability for ensuring that the planting/seeding/surgery design is implemented properly. Will the qualifica-

tion of an "approved generic" be based upon "content" parameters, or "performance" parameters? And whose scientific personnel will field the research effort required to address (and invoice for) the product substitution challenges? How does one ensure the maintenance of a level playing field throughout the competitive bidding process?

In short, "genericification" of specifications inevitably leads to frustration for everyone involved, acrimony, corner cutting, the squandering of time and funds, and invariably leads to ultimate disappointment with revegetation performance.

Opportunities for All

If agency clients feel compelled to share their taxpayer dollars largesse amongst competing seeding technologies for the sake of spreading the wealth, I recommend that they consider apportioning their total seeding projects amongst those precious few seeding technologies that have a demonstrated propensity to be successful. For example, a portion of their projects would be designed to implement good old conventional "wood mulch + fertilizer" practices; a portion of their projects would be designed to implement the consistently successful *Growing Soils* technologies; a portion designed to implement the latest fad "compost" technologies; and a portion might be reserved for sites where the immediate transfer of live topsoil would be feasible. A sage agency official, now retired, was quite successful at dividing the financial pie of his state roadside revegetation budgets in this way – insuring that a modicum of tax payer monies spent actually resulted in successful revegetation efforts. No, it's not perfect, but part of the pie is far better than no success at all.

If such a strategy freed up designers to write their specifications with greater explicitness, this, on its own, would dramatically improve the industry's reputation by increasing the number of seeding projects that are successful. Project successes would also be boosted by the fact that one technology would not become diluted (if not completely compromised) by the mixing in of ingredients of another technology (the "Betty Crocker versus Martha Stewart" clash discussed above). Each of us could focus our energies on meticulously implementing the assigned technologies we understand best on the project at hand, giving ourselves a fighting chance at successfully working with Mother Nature.

Consequences of Weak Specification Writing

Weak contract specification writing is unfortunate for obvious project failure and high cost reasons, but also troubling for less-apparent reasons:

First, the creation of a less-than-level playing field. Experienced seeding contractors who bid these contracts on the basis of upgrading to give effect to what they realize is the designer's well-meaning intentions, are at a disadvantage to those contractors bidding on the basis of exploiting the specification writing incompetence of a rookie designer.

The same goes for projects where even explicitly-written design specifications are subsequently compromised by less-than-qualified (for revegetation challenges) Project Engineers who give in to seeding contractor demands to substitute cheaper plant species and/or seeding materials that are touted as being "equal".

Again, the level playing field has been unfairly compromised, albeit subsequent to the award of the contract, and in most cases the integrity of the seeding project has been destroyed. What the bean counters never seem to catch on to is the fact that they are not attaining their successful revegetation objective for a low bid price. They are simply securing a "go through the motions" doomed project for that low bid price, and will simply have to re-do the seeding project in the future.

Second, as was the case with all the "top-of-the-line" seeding contractors sitting on the Workshop Panel at "IECA Nashville", the more astute and capable seeding contractors simply do not bother to offer their services to implement poorly-specified seeding projects (unless the designer can clean up the mess ahead of bidding time). Instead, these contractors allocate their marketing resources to developing long-term relationships with higher-caliber clients; clients who are seeking quality work for a fair and reasonable price. The waste and inequities of the "low bid" mandate are thereby superseded by mutual trust built on higher education and long-term performance (with intermittent price cross-checking to stay abreast of inflation and technology enhancements).

Search for a Revegetation Design Specialist, and "Damn the Torpedoes"

One obvious answer to solving this "weak contract specification writing" shortcoming is to encourage better and more widespread education, both for designers and for project engineers charged with supervising the implementation of these designs. Easier said than done. Much of the native revegetation seeding work being attempted is being done by government agencies where job re-assignments occur with frequency, where there is minimal institutional memory, and where any change to conventional practices is viewed with suspicion. As fast as one is able to bring enlightenment to the needy, such expertise may be lost to career advancement or retirement.

A second and more realistic answer is to hire a revegetation specialist whose credentials include, more than academic diplomas, a track record of successful seeding successes. Like any professional consultant, his livelihood is dependent upon his ongoing successful performance. He's only as good as his last job when viewed through the lens of actual success revegetating with native species.

Free the revegetation specialist to choose and explicitly specify a comprehensive seeding technology (such as "direct transfer of vibrant native topsoil", the *Growing Soils* technologies, conventional "wood fiber mulch + fertilizer", or new age "compost") based upon performance in the field, and then implement it faithfully. Do not bumble about selectively picking ingredients out of a Martha Stewart "recipe of approach" and mixing them with portions of a Betty Crocker recipe. A Mercedes automatic gearbox does not take kindly to being coupled with a Lexus automobile, notwithstanding the fact that both cars (and their respective gearboxes) perform superbly if their cohesive technologies are not tampered with.

Idaho Transportation Dept. figured this out early and has developed explicit specification language that cautions against sabotaging the workings of an integrated grouping of seeding materials with the insertion of a substituted single "look-alike" material. However wondrous that look-alike material may be.

Similarly, the U.S. Federal Highway Administration ("FHWA") has developed specification language to effectively take the wind out of bidding contractors' sails who might otherwise be inclined to push inferior (and cheaper) substitute products into the FHWA seeding designs (see below). This commitment to hold firm against the ongoing "substitution party game" was born out of FHWA's 15 years of abject revegetation failure prompting the realization that re-establishing native plant

growth on drastically disturbed soils was a challenge far more complex than their conventional seeding practices could handle.

Whatever seeding technology your consultant designer embraces, don't be surprised to see evidence of the following strategies being employed to safeguard the integrity of his/her explicitly-written iron-clad design specifications:

Safeguarding the Integrity of Specifications

1. Proposals for soil amendment and seed species substitutions (if any are allowed) will be dealt with prior to close of bids. Allowance of such proposals opens up a Pandora's box of additional billable hours for the Revegetation Specialist (who should be responsible for managing the contract bidding process) to deal with, but this is the cross one must bear when one is half-hearted about the integrity of one's design. RFP's should make clear that substitution will not be acceptable in any form, and that substitution will be grounds for disqualification of said bidder. You have to get their attention.

It is appropriate that the burden of proving the equality of the proposed substitute seed species/soil amendment be placed upon the bidding contractor. Any proposed substitutions that are approved will be communicated to all bidding contractors along with an invitation to adjust and re-submit their bid utilizing such "equal" seed species/soil amendments if they so wish. It's quite amazing how these touted "equal" substitution products fade back into obscurity.

2. Substitutions must be submitted as a package of seeding materials along with independent, empirical proof of equivalent seeding performances. The idea here is to not tinker with what ain't broke, while keeping a sharp eye out to protect performance-enhancing material combinations. If the "Betty Crocker" recipe of approach has been designed for the seeding project, stick with Betty Crocker. Don't insert a little Martha Stewart (or Mercedes gearboxes to compromise Lexus cars; salt-based fertilizer and/or wood fibers have high potential to sabotage *Growing Soils* technologies designs).

3. The Revegetation Specialist will take control of the specified and unmixed seed at least 30 days prior to commencement of seeding. Such unmixed seed will be sampled by the Revegetation Specialist for purposes of independent testing prior to blending, to confirm purity, viability and percent germination. Thereafter, the Revegetation Specialist will maintain control over the seed at all times prior to placement on the project site.

This simple change to the process has effectively eliminated much of the cheating by "low bid" contractors in many agencies. It seems simple, but initial testing showed dramatic discrepancies – what was displayed on the seed bag tag was not what was in the bag. A few vendors working with some bad-egg contractors took advantage of the blind agencies and supplied garbage for seed, with predictable results.

COMPETENT SUPERVISION OF PROJECT IMPLEMENTATION

So, you have opted for a winning seeding design that is appropriate for your specific seeding challenge, and you have written a set of ironclad specifications that explicitly details what is to be supplied and how the seeding design is to be implemented at a favorable time of year for your site. Are you home free? Unfortunately not.

"If you didn't see it happen, it didn't." Native Plants Alliance professional team (top) representing seed supplier, seeding designer and project superintendent at Shell Oil's Standard Hill Mine, Mojave, CA (bottom) supervising seeding implementation. Seed and mineral amendments, chosen to address site-specific soil and climate conditions, were purchased directly by Shell Oil.

The Nightmare of "Specification Evasion"

The late John Arriaga, a direct-spoken project engineer for FHWA who brought in such successful roadside revegetation projects as Mesa Falls Scenic Byway and the Bogus Basin Highway, maintained that by the time one arrived at the seeding site with all the correct seeding materials delivered, your main challenges were yet to come.

Arriaga operated on the principle that "If you didn't see it happen, it didn't". The exploits of seeding contractor "characters" in the face of John's strict supervision of *Growing Soils* technologies are legendary. Unsanctioned "weekend seeding" prior to the delivery of seed, the uncanny ability of product to "walk" from the project site, the "pistachio nut mystery", the "seed bag tag sewing switch", the "flailing hose flunky", the "siesta queen", the "2 strikes and your busted" rule and the "50-lb bag love affair" were all but a sampling of seeding debacles short-circuited by vigilant and bruising supervision. These exploits, often hilarious, were at times so extraordinary as to be beyond belief.

And therein lies the problem: rookie project engineers are usually no match for the antics of operators experienced in the fine art of "specification evasion" (a fraudulent behavior quite different from the quite acceptable art of "specification exploitation") largely because they cannot conceive of, and thereby do not protect themselves against, the lengths some dishonest contractors will go to evade the specifications they bid on.

A couple of truths should be acknowledged: First, Arriaga was obliged to administer his highway construction projects pursuant to the Federal "low bid" mandate regulations, which placed him in a disadvantaged position from the outset. In reality, the FHWA selects its prime contractor to construct the highway, but the choice of the seeding contractor is

the responsibility of that prime contractor, not the FHWA. If you drew a known crook, you had little option but to hunker down, organize your defenses and keep a sharp lookout.

Second, these "character" contractors are increasingly in the minority. This may be small solace to some, for in the presence of weak specifications and limited to non-existent supervision, the existence of even a single "character" contractor "queers the pitch" for all the honorable contractors attempting to earn an honest living. For example, we have occasionally experienced winning "low bids" that amounted to less than the cost of purchasing the specified seed + soil amendments, let alone the additional costs for machinery and labor to apply such seeding slurry.

Almost two years after seeding, diverse native species flourishing at Shell's Standard Hill Mine, Mojave, CA.

Combine this powerlessness to select your seeding contractor with Nature's intolerance for any "weak link" in the design technology and/or implementation thereof, and you soon realize the odds are stacked up against you for bringing in a successful revegetation effort. What to do?

Standing Up to the Tyranny of the "Low Bid" Mandate: Strategies to Consider

First, abandon the "low bid" mandate in favor of "value-based" criteria for selecting seeding contractors to implement your seeding designs. To a certain extent, this has already begun with the power being vested in Federal and State agencies to decline a "low bid" candidate on grounds of incapacity to perform.

Second, if you are stuck with being bound by the "low bid" mandate, separate out the revegetation effort from the construction (road building; bridge building; etc) effort. By such foresight you will have retained the power to "hire and fire" your seeding contractor and can search the field for one with a stellar reputation.

Third, purchase your own seeding materials. In some cases, you will immediately reap cost savings of up to 32% on seed and seeding slurry components (15% materials mark-up allowance for the prime contractor; 15% for the seeding contractor). The far more significant benefit is that you are assured of securing exactly what seeding materials your seeding designer specified. No phony "or equal" product substitutes, no shorting on shipments, no dead or clover seed substitutes. This simple, cost-effective change by agencies or private contractors/developers can probably do more to foil the efforts of dishonest contractors than any other change.

Invariably, this is a "win-win" situation for everyone. Clients get what they believe they are paying for. Suppliers get to deal with a far healthier (financially) client directly, by-passing the typical "three parties processing" 90-day delays in receiving payments for shipments, and seeding contractors get to do what top-of-the-line seeding contractors specialize at: winning "level-playing field" value-for-money contracts, and efficiently loading and applying seeding slurry materials as per winning design specifications. Gone are the in-field modifications to seeding plans, the ubiquitous proposals for "or equal" product substitutions, the cheaper dead seed and/or substituted species seed, the "shorting" of seeding slurries. In short, gone are many of the typical "weak links" that sabotage otherwise successful designs.

If you are unable to institute Strategies 1 - 3 above, you will have your work cut out for you to avoid the ever-present threat of the "weak link" sabotaging even the best seeding designs. Your first line of defense will depend upon how well your seeding designer has safeguarded the integrity of the design specifications. Thereafter, stringent supervision becomes critical, to be conducted preferably by the seeding designer or by someone who has been trained by experience to operate on the "Arriaga principle" described above.

Yet time and time again we witness clients spending monies on quality seeding designs, and maybe even funding monitoring activities for 2 to 5 years after a seeding project is implemented, but rarely does one see monies being expended upon competent field supervision of the actual seeding itself to insure the materials and seed are applied as intended by the designer. Honest mistakes, and cheating, happen. Even a good contractor can forget to put seed into the hydroseeder tank on occasion. This prompts the observation: What is the value of monitoring a revegetation site when one can't be sure exactly what was implemented, and what was not implemented, during the seeding phase?

For this reason alone, the Native Plants Alliance technical designers believe it is just as important to teach the underlying principles of the *Growing Soils* technologies to agency project engineers, to promote proper supervision at the time of seeding implementation, as it is important for revegetation designers to be trained to understand these technologies when preparing their designs.

To facilitate this "stringent supervision" objective, the creation of a team relationship between the client, revegetation designer, suppliers, seeding contractor, project supervisor and post-implementation monitoring scientist is strongly recommended. Designate one party to take the "lead" role, someone to lie awake at night thinking about where the next "weak link" might infiltrate from to compromise your seeding design. Comprehensive checklists must be employed to insure that the contractor is rigidly following the specifications and implementing the revegetation plan. This is especially important when a given job has a variety of mineral amendments and seed blends for various sub-sites within a single project.

Ongoing and constant communication between all parties keeps schedules on track and avoids key items falling through the cracks. While there is no substitute for field experience, supervision punch lists and contacts schedules for answering last minute questions geared to the specific seeding design being implemented are helpful.

A Winning Recipe of Approach

The challenge of successfully re-establishing sustainable and diverse native plant growth on drastically disturbed soils in harsh environments is no easy task. Few practitioners can claim to have enjoyed

consistent success, if any at all. Of the "15% or less" attempted projects that are successful, sound soil-building design and near-compulsive adherence to specifications and accurate design implementation are the keys to winning over the ever-threatening "weak links" that linger in the wings ready to sabotage even the best-laid plans.

By retaining control of your project with explicitly written contract specifications and zealous supervision of their implementation, sites that have not responded positively to conventional seeding practices can be reclaimed. And successfully reclaimed notwithstanding being saddled with the vagaries of the "low bid" mandate. When one is free to choose what one wants, and hire who one wants, the seeding challenge becomes significantly more straightforward. Without a doubt, these are the native seeding projects that are successful, time and time again.

Yet even when one is saddled with the vagaries of the "low-bid" mandate, revegetation success is attainable and repeatable, even on complex sites, in multiple states administered by complex agencies, corporate clients and private entities. It simply takes greater determination and organization to eliminate the ever-present "weak links" through more stringent design, careful planning and effective implementation. To do otherwise is likely to perpetuate the consensus view expressed at IECA Nashville 1997: that the contract winning "low bid" invariably turns out to become the most expensive route to implementing a seeding project.

Peter McRae, *WCIECA Director, President*
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The *Growing Soils* technologies "recipe of approach" proved to be equally effective at restoring Sage Grouse habitat on BLM land at Shell Oil's gas fields in Pinedale, Wyoming. This ground breaking achievement was accomplished on a mosaic of imbalanced soil types in a harsh climate with a very short growing season.

Abandoning the "low bid" mandate in favor of a "value-based" criteria for selecting quality hydroseeding contractors landed VSI the job of stabilizing steep ski runs at Tamarack Resort, Idaho.

See you at EC 06!

Visit the Western Chapter booth in the EC 06 Expo Hall to pick up your new membership name tags and to welcome and introduce yourself to our incoming Administrative Director **Janice Bridge**, from Davis, California.

Professional Listings

Marvin E. Davis & Associates, Inc., a provider of geotechnical engineering services in the Northern NV and Tahoe, CA areas, seeks experienced engineers, registered in NV and/or CA, for design and project management of geotechnical and materials testing projects. M.S. in geotechnical engineering and at least three years experience conducting geotechnical investigations required. Please fax resume to Personnel Manager @ 775-853-9199, or Email to MDA12000@aol.com.

Western Botanical Services, Julie Etra, Owner. 775-849-3223, 775-849-3303. WBS provides consulting services for design of erosion control, wetlands and riparian areas as well as botanical surveys and wetland delineations. Construction management services are also available.

Calendar of Events

Know of an upcoming training session, event, or conference that might be of general interest to the Chapter members? Send your calendar items to Sandy Mathews, mathews6@llnl.gov.

February 20-23 (Long Beach, CA) *ECO6*; see http://www.ieca.org for details.

February 23-24 (Woodland, CA) *Rangeland Water Quality Conference*; see http://nature.berkeley.edu/forestry/rangelandwq/ for details.

February 27-28 (Phoenix, AZ) *Design of Storm Sewers and Pavement Drainage*; see http://www.waterlearning.org/ for details.

February 28 - March 2 (Albuquerque, NM) *Riparian Restoration in the Southwest Workshop*, contact Steve Kadas, 505-761-4422, Steve.Kadas@nm.usda.gov for details.

March 22 (Sacramento, CA) *Association of California Water Agencies' Legislative Symposium*; see http://www.acwanet.com/events/ontap.asp for details.

March 22-24 (San Diego, CA), *Putting Conservation Programs to Work*, SWCS California and Nevada Annual Conference; see http://www.caswcs.org/ for details.

March 30 - April 2 (Fortuna, CA) 23rd Annual Salmonid Restoration Conference - *Thinking Like a Watershed: From the Headwaters to the Sea*; see http://www.calsalmon.org for details.

April 5-7 *Lower Colorado River Tour*; (Tour starts at Clarion Hotel, Las Vegas, NV and ends at Ontario International Airport, CA) The tour travels along the Lower Colorado River from Hoover Dam to the Salton Sea and the Coachella Valley; see http://www.watereducation.org/tours.asp for details.

April 7-8 (Newport Beach, CA) 4th Annual Clean Water Act Conference *Making Clean Water Regulations Work*; see http://www.urbanwater.com for details.

April 14-16 (Woodland, CA) 15th Annual Conference - *California Native Grasslands Association*; see http://www.cgna.org for details.

April 24-27 (Portland, OR), *9th National Mitigation & Conservation Banking Conference*; see http://www.mitigationbankingconference.com for details.

May 10-12 (Arroyo Grande, CA) *Culvert and Road Drainage Practices to Protect and Benefit Salmon and Steelhead in the Central Coast Region*; contact CDFG Central Coast Salmon Enhancement, 805/473-8221 for details.

May 13 (Irvine, CA) *BMPs: Pollutants, Selection & Maintenance Workshop*; see http://www.stormcon.com/events for details.

May 17 (Los Angeles, CA) *California Flash: Effects of Extreme High Water Events*; see http://www.floodplain.org for details.

June 15-17 (Tour begins and ends at Sacramento International Airport) *Bay Delta Tour*; see http://www.watereducation.org for details.

July 24-27 (Denver, CO) *StormCon '06*; see http://www.stormcon.com/ for details.

Sept. 7-9 (Davis, CA) *Aquatic Ecological Assessment Workshops (Part 1)*; contact David Crane, dcrane@OSPR.DFG.CA.GOV or Inge Werner at iwerner@ucdavis.edu for details. (Note Part 2 will be held on Dec. 19-21.)

Sept 25-27 (Sacramento, CA) CASQA Conference, *STORM, Stormwater, Treatment, Operations, Research, and Management*; see http://www.CASQA.org for details.

February 12-16 2007 (Reno, NV) *ECO7 Environmental Connections*; see http://www.ieca.org for details.

For the latest event listings, visit *http://www.wcieca.org* and click on the Chapter Events button.

c/o Quattro Environmental, Inc.
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Regulatory Update

Numeric Effluent Limits for CA Construction Storm Water Permits?

In September 2005, the California State Water Resources Control Board convened a blue ribbon panel of experts to address the question of whether numeric effluent limits were feasible for storm water permits. The question broadly addresses all forms of storm water permits, but of particular interest to WCIECA members is whether numeric effluent limits can be developed for the construction general permit.

Several reasons are put forth as to why this question is being asked now, including the multiple court challenges in CA on whether numeric limits are truly infeasible, the challenges faced by regulatory agencies in determining compliance (especially as agency staff shrinks and SWPPPs grow), and the uncertainty faced by Discharges in figuring out if they are in compliance and doing a good job at protecting water quality.

Results from the blue ribbon panel are expected in early 2006. Meanwhile, CA projects continue to operate under the construction general permit issues in 1999, which expired in 2004. "The Question" being addressed by the blue ribbon panel should feed directly into the reissuance of the CA construction general permit, and is quite likely to have a ripple effect across the US.

The California Stormwater Quality Association or CASQA took the lead for the discharger community in providing testimony to the blue ribbon panel on September 14th. CASQA's testimony provided detail on why numeric effluent limits were not feasible and offered alternative quantifiable measures that could help remedy issues of accountability and compliance assessments.

The efforts to develop alternative quantifiable measures have continued with a series of workgroups that are examining the issues for each permit type, construction, industrial, and municipal. The construction perspective includes recommendations for more rigorous (auditable SWPPPs), establishment of a professional qualification for SWPPP writers and inspectors, and in-field benchmark monitoring for turbidity and pH.

CASQA welcomes members of the construction storm water community to participate in these efforts, even if you are not a CASQA member WCIECA members should contact Sandy Mathews, a CASQA Director, as well as a WCIECA Director to get more information on how to participate.

Details on the September 14th workshop including the public comments, and presentations by the Environmental Groups and CASQA are available at: http://www.waterboards.ca.gov/stormwtr/. See the link for the Public Notice for the September 14 & 15, 2005 to discuss the applicability of numeric effluents limits in Storm Water Permits.

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