

**SIGN MANUAL**

Working group participants had concerns about the design (complexity and size), the costs those designs imposed, how they were to be manufactured and the hold-ups in getting new signs. Some concerns were based on experiences in other states where by the use of manuals the rangers are given more autonomy.

**TOPTIC A:**Problem Solving – Issues to be addressed

<b>Sub Heading</b>	<b>Statements</b>	<b>Discussion &amp; Comments</b>
<b>Specifications:</b>	<p>Is it (the new Sign Manual) ...  <b>Negotiable or not</b>            (e.g. <b>Font size etc.</b>)?  <b>Especially Location</b> ...should font size be determined by location.            Example is ... <b>Shark Bay</b> low, flat, Horizontal, open landscape should have smaller signs in order to be less obtrusive.</p>	<p>This also relates to Sub-Heading: <b>Visual Impact.</b></p> <p>Angst about font size causing signs to be too large.</p> <p>Sign size cannot be set by Landscape alone. The Function &amp; Audience needs have to be satisfied for the sign to be affective.</p> <p>Font/Lettering sizes are set for legibility and it should be remembered that DEC spec's persist with the old Sign Manual that has set out effective criteria but are well below MRD/Austraods standards.</p> <p>Nevertheless, Process Graphic signs will be smaller than the equivalent routed timber sign simply because of the single Sign Plate will result in some space economies .</p> <p>Directional (road signs) and site identification signs should not be confused with Interpretation signs and so font/letter size criteria are different.</p> <p>Posts were considered excessive.</p> <p>The concrete footings were also considered excessive.</p> <p>Feedback from prototyping has been that the Interp Panel post brackets are using excessively thick materials (10mm). That could be reduced to 5mm plate. That will be addressed.</p>
<b>Visual Impact</b>	<p>Desirable to ...  <b>Meld into Background?</b> In this</p>	<p><b>Visual impact</b> criticisms apply to sign plate and the post/legs.</p> <p>The sign's blank/profile size is also a concern. Address by considering</p>

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	<p>context the size of the sign plate was raised as an issue, hence concern about font size above.</p> <p>Should there be a mandatory ...</p> <p><b>“Visual Impact”</b> assessment for every installation?</p> <p><b>Reflection</b> from the back of signs.</p>	<p>site before placement ... preferably with LA input.</p> <p>Sheet metal sheets are reflective. What should the specification for the back of the sign be; there is nothing definitive in the new manual?</p> <p>What colour should the back of the sign be painted; how is it determined?</p> <p><u>The new system’s graphics require the posts to be the colour of the sign. Posts are integral to the presentation of the sign.</u></p> <p>To camouflage sign-backs &amp; posts it was suggested that the signs be painted on the back with a colour to suite the back-drop rather than the sign’s “Design Colour” preferably not leaving as a raw, bright metal finish.</p> <p>Group had no consensus with members remaining unconvinced about the importance of coloured posts.</p> <p>Some members are very keen to be allowed use raw finishes like rusty &amp; Galvanised steel for the posts only. Raw metal post options introduce other issues like galvanic corrosion (corrosion caused by dissimilar metals touching). Raw material colours in the posts add more colours to the sign palette. The new sign system graphics wants 3 colours only; 1 background, 2 lettering &amp; 3 a splash colour used sparingly.</p> <p><b>Visual Impact</b> Sub-heading and related discussions highlighted that the new Sign System is not fully understood.</p> <p>The use of Unistrut Sign channels allows for an additional panel to be attached to the back (to hide the Unistruts and the cob webs etc.) That panel can either be the “Design Colour” of the sign or a camouflage colour of choice or may carry a separate message or a duplication of the front (dual sided signs)</p>
<p><b>Manufacture:</b></p>	<p><b>Quality Issues</b> ... how will DEC be certain of consistent quality?</p>	<p>The Production Office is considering a Panel Contract to manage the production and supply. It would help in achieving consistency.</p> <p><b>Quality</b> will be resolved with time and reported experiences will lead to adjustments in the specifications.</p> <p>The new sign system is still in draft mode though it is unlikely to be completely re-designed. Currently we are seeking feedback to refine</p>

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		<p>the design so that it can be finalised and properly implemented.</p> <p>Actual experiences with prototype signs found that sign plates did not fit as expected; more tolerance was need in the post centres.</p> <p>Manji' workshop supplied some sample sign frames. There was some concern about finish.</p> <p>Criticisms of the Manji' samples needs to be addressed because the Sign System, especially the new "Inclined Panel System", is not properly appreciated and to-date has not been built as drawn.</p> <p><u>See extended explanation below</u></p>
<p><b>Bottle-necks</b></p>	<p>The <b>Production</b> process, specifically going through the Kensington Production Office/Interps' Unit, was seen as a <b>Bottleneck</b>.</p>	<p>Doubts were expressed about the efficiency of funneling orders through the Kensington office.</p> <p>One suggestion, to get over the perceived <b>Bottleneck</b>, is to use "Do it yourself (DIY)" fill-in forms that are issued direct to the Signmaker... districts want direct access to the Signmakers.</p> <p>The production office is a means of quality control before a sign goes to fabrication.</p> <p>The responsibility of producing some sign types may be devolved to the districts but that will require larger sign manual and more training to keep the activity consistent across the state.</p>
<p><b>Fabric-ation</b></p>	<p>Keywords:  <b>Light-weight metal;</b>  <b>reflectivity;</b>  <b>easily changeable;</b>  <b>water based</b> paint;  <b>epoxy</b> paint?</p> <p>These are key words noted when Steve explained the design and intent of the new Sign System.</p>	<p><u>See extended explanation below</u></p> <p>The intent of the new Sign System's design was explained at length. The reasons for using Aluminium and the finishes as well as flexibilities of the design were explained.</p> <p>The facts why Aluminium and Stainless Steel were better subjects for Powder Coating and what it actually involved to properly Powder Coat other materials, like galvanised steel, were also explained. The fact that Powder Coating was not properly repairable was also explained. However, some group members remained unconvinced and this discussion was not conclusive.</p> <p>Waterbased paint is not seen as an appropriate finish on the Aluminium.</p> <p>This new system will require the districts to change some of their</p>

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		<p>customary sign management methods. There will be less need to paint on site and less need for fabricating workshops unless the district chooses to do in-house fabrication. Signs will mainly be in two components. The support structure or frame and then the sign.</p> <p>The design of the frames is such that various suppliers should be able to provide identical products so long as our purchasing officers do not allow contractors to change the Specs. That consistency is important for interchangeability and familiarity of product for all staff anywhere in the state.</p>
<p>Theme Colours ... <b>Watering Down Corp. Look</b></p>	Relates to Visual Impact.	<p>The expressed desire was to be allowed to use colours individually chosen for each park or even setting. There are only a few areas designated to have registered Theme Colour schemes.</p> <p>Allowing all areas to choose a Theme Colour would dilute (Water Down) Corporate Identity.</p> <p>Other than on Special Entry Signs &amp; where theme colours are registered all signs (including Reserves and Marine) will be the same colour throughout the state.</p>

**TOPTIC B:**Further Development of Manual

How to have input into the next phase of the Sign Manual's development & discussions .....The next steps/phases

<b>Sub Heading</b>	<b>Statements</b>	<b>Comments</b>
<b>Review &amp; Finalise Specifications</b>	<p>The sign Manual is still only a draft version.</p> <p>The task is to revise the existing DRAFT document to fix errors and make improvements as appropriate.</p>	<p>The new Sign System is already being implemented in some areas purely as a prototyping exercise.</p> <p>All districts and staff are invited to provide feedback for consideration.</p> <p>Concerns expressed by regional staff at the PVS workshop needs to be reiterated and if possible expanded in writing.</p> <p>Fix typos and other drafting errors.</p> <p>Make amendments relating to Design tolerances that proved inadequate in the prototyping phase.</p> <p>Some feed back has already been received but there appear to be</p>

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		<p>major reservations in the Mid-West Region. It would be healthy if those concerns were written out and forwarded to the Production Office.</p>
<p><b>Installation &amp; Construction Details</b></p>	<p>There was a concern that the draft was not clear enough on how to install a sign.</p>	<p>It was hoped that lengthy prose relating this task would not be necessary.</p> <p>The Draft does show the general (as designed) installation intent and requirements but could be expanded to cover more situations if necessary. It would be better to deal with this as a Drafting or pictorial exercise rather than a text exercise.</p> <p>One way or another the crews need prescriptions for installation.</p>
<p><b>Budget</b></p>	<p>This new system appears to be more expensive and so there is a concern of inadequate budgets especially if all existing sign plans are expected to be migrated to the new system.</p>	<p>There has not been a definitive "Opinion of Probable Cost" developed for the new sign system. However, the designers were mindful of the need to keep costs down and took a lot of time to research materials.</p> <p>The new Aluminium Sign System could impact on districts that have in the past relied heavily on in-house wood workshops to produce their sign requirements. For them the cost of labour and sourcing of materials was affectively heavily discounted and so the difference between their costs and actual market rates will have to be met. Loss of work should not be too dramatic because the Wood Workshops still have the potential to diversify into other park furniture and pre-cut structures.</p> <p>Admittedly the new Sign System is less accommodating for in-house production but if Regions are willing it would not be an excessive investment to tool-up for production of the new metal signs. Already, in the 12 months before the PVS Workshop, Manjimup has achieved that retooling and have prototyped many of the proposed sign structures.</p> <p>Costs savings are considered probable because this standardised sign system could be tendered to a panels of each "Support frame manufactures" and "sign manufactures". The collective contract value represents a tidy sum that should attract competitive discount Tendering.</p> <p>The design does allow for different contractors to do the fabrication but was also mindful of the fact that sign companies would already be set up for most the workshop requirements and so could competitively offer a full "Flat-Pack" type service – just unwrap bolt together and set</p>

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		<p>in ground.</p> <p>The Production Office will try to get some seed funding, to get the new system to a critical mass, but from the implementation date on-ward it is assumed that the costs are simply going to be calculated into proposals and so seamlessly absorbed into, into Project Budgets. The seed funding, if granted, can help off-set the additional costs of already funded but incomplete projects having to upgrade the signs.</p> <p>Though there is concern about the materials &amp; work causing a greater cost burden it was found during the design phase that the costs were neutral or only marginally extra.</p> <p>Timber prices have risen and so have lost the traditional price advantage.</p> <p>Over their service life these new metal signs will last longer than timber with less maintenance and will be easier to install or replace as well as cheaper to update the message/information.</p>
<p><b>Public Visitor Survey for acceptance</b></p>	<p><b>Noted topic to be discussed.</b>                  Not discussed @ PVS Workshop because time ran out.</p>	<p>This new Sign Manual is a draft but not for a <b>Public Visitor Survey For Acceptance</b> phase. The Sign system's purpose is for management needs.</p> <p>If the PVS Directorate believes that there are enough reasons to warrant Public Participation then it will engage with the public.</p> <p>The consequence of Public Participation will involve re-initiating the project requiring more concepts, evaluation, re-designing and developing construction documentation. There has already been 3 years of development to this point.</p> <p>It is hard enough to get a consensus in DEC. Imagine the complexity if, for a simple day to day management tool, the whole of the state were to be include in a "Design by Committee" process.</p>
<p><b>Endorsement by the Regions (Regional Manager – RM's)</b></p>	<p><b>Noted topic to be discussed.</b>                  Not discussed @ PVS Workshop because time ran out.</p>	<p>Because there are Operational &amp; Budgetary implications Gil Field wants to have the Final Draft endorsed by the RM's.</p> <p>Their concerns could be included in a conditional statement of endorsement to be considered by the Director.</p>
<p><b>Endorsement by the director of</b></p>	<p><b>Noted topic to be discussed.</b></p>	<p>The Director of PVS Division needs to be aware of implications even</p>

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<b>PVS Division</b>	Not discussed @ PVS Workshop because time ran out.	<p>though the impacts are only marginal in most instances.</p> <p>The PVS Director's endorsement ensures support and acceptance of the new Sign System through resourcing by the usual budgeting process.</p> <p>The Director's endorsement will also provide firm direction because it indicates that the migration to the new sign system is a priority to be built into all future projects and maintenance operations.</p>
<b>Endorsement by the Corporate Executive</b>	<p><b>Noted topic to be discussed.</b></p> <p>Not discussed @ PVS Workshop because time ran out.</p>	<p>The previous Sign Manual was declared "Unconditional" by the previous Executive Director and so this manual will again seek to have endorsement by the Director General.</p> <p>Corporate Identity is too important to be allowed to develop in an uncontrolled manner. The Director General's approval will highlight the importance of keeping to the new sign specifications.</p>
<b>Manufacture Chain &amp; Process</b>	Not discussed in great depth @ PVS Workshop because time ran out.	<p><u>See extended explanation below</u></p> <p>The new Sign System was designed with manufacturing in mind. However, it tried to endow the system with flexibility to allow any procurement method found to deliver the best product at the most competitive rate.</p> <p>The use of Aluminium also allows regional suppliers the opportunity to quote and be competitive. For example: a regionally based metal fabricator or Signmaker could manufacture any part of the sign system even if other parts are fabricated elsewhere. Otherwise totally local suppliers can be used.</p> <p>Once the Sign System Specifications are finalised the Production Office will seek tenders for the various parts and will make the contracts available to the Regions on a panel contract basis.</p>
<b>Roll-out</b>	<p><b>Noted topic to be discussed.</b></p> <p>Not discussed @ PVS Workshop because time ran out.</p>	<p>The Roll-out has more or less started since over the past 12 months some projects have started using the new specifications.</p> <p>It is not anticipated that existing signs will be replaced immediately. The Roll-out will be implemented on a project by project basis possibly taking 5 to 10 years. Old signs will be replaced as required <b>except</b>, to keep continuity, it will be done on a site by site basis and not sign by sign.</p> <p>In the meantime if parks are left with an array of signs then it would be reasonable to consider repainting all old signs in at least the standard</p>

Design Colours decided for that park (Note: most parks will be using the generic standard greyish colour that will be the unifying corporate colour for DEC).

## The Sign System

The new sign system chose Aluminium because:

- Aluminium is light weight but has good strength.
- Aluminium is a common material though some nominated sections are only available ex-east. That is not considered a problem. It was anticipated that the Signmakers would also be the Support Frame fabricator. If someone expects to be making a large number of frames per year they need relevant stock at hand. Even if DEC workshops do the work the workshop should stock itself with sufficient material to be able to work without being hindered by late deliveries.
- Aluminium is a relatively easy material to work.
- Aluminium is a material that performs well in a range of environments and is competitive cost wise. S/S is too expensive and Galvanised steel ends up being the equivalent cost in the end.
- Other materials like plastic or timber could be used for posts but the sign support mechanism remains Aluminium.
- Aluminium was an obvious choice because signs are invariably Aluminium and so by having the same materials there are fewer issues with Galvanic corrosion.
- Aluminium is relatively easily finished with paints but is very suitable for Powder Coating which is very often considered desirable. Powder Coating on materials other than Aluminium or S/steel is not very affective without considerable preparation. Nevertheless, Powder Coating is not a preferred finish.

Aluminium will remain relatively inert even when scratched:

- The new design is influenced by the old Timber Corral Sign design (see Old Sign Manual).
- Except where determined by the number of letters in a line (usually in Directional & Site ID) sign sizes have been standardised to the same 3:4 proportions (ratio = 0.75). Note, it is not quite the Metric "A" series proportions (A4=210:297=0.71) and so A1, A2, A3, A4, A5, A6 do not possess exactly transferable proportions. Making signs fit the Metric Paper sizes is not good economics because the salvage from stock sheets becomes wasteful and so costly.
- The design uses Aluminium sections commonly available and more importantly sections found in a typical sign workshop. Unistrut channels are a typical example.



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- Directional and Site ID Signs are a little different. Depending on which way the designed frame is used the sign can be fitted by either Double-sided taping or Pop-riveting (or Both) or by means of the captive Unistrut nut with a socket head screw fixed through the front of the sign. A secondary layer of Unistrut framework could be used to again fix the signs exactly as done on very large MRD Signs but that option has not been detail because resultant sandwich is too thick. The beauty of the latter is that Signmakers would be working totally in their own standardised environment.
- The new Sign System designers have conceded the possibility that some regions may still want to use timber posts (or even Plastic) for perceived convenience sake. The manual specifies how that can be done using timber posts with the Sign & Unistrut system being a single component (probably fully assembled by the Signmaker). Timber posts still need to be painted the Design Colour.
- Installation of signs does assume that either a Landscape Architect is involved in the process or that there is a strong latent understanding as learnt from the old sign manual. Nevertheless, Gil has promised to write a suitable document prescribing appropriate installation methods.
- The new sign system design(signs and Interp) is in two parts. The sign/interp panel itself should be supplied by the Signmaker with all needed Unistruts or Unistrut framing attached. That means no more messing around in the workshop to assemble the unit. The second part is the support structure or frame. This is has been deliberately separated from the sign so that it can be installed earlier without having to have the finished sign in-hand. The major benefit is that if ordering is rationalized then only two orders are required and, whenever needed, the sign (with its Unistruts attached) can be readily replaced with a minimum of fuss; straight out of the Bubble-wrap onto the sign support frame.
- As stated the trail side sign system has been redesigned nominally as a 2 part system. The support posts and then the Sign with the Unistrut frame attached. To date there has been some leeway allowed to satisfy some region's tendency to want their own systems. The most common alternative is to use a single plate welded at an angle to the post. That has been used often but removing signs that have been stuck on with d/sided tape or silicon is difficult, time consuming and to a degree damaging to the structure. The new system seeks to minimise the time involved and has made it simpler to replace old sign plates.
- The signs are nominally shown to be set in concrete. That saves on Aluminium but with interp panels, especially where two posts are required, it serves to fix the post positions more firmly. Bore hole type installation is still permitted but the length in ground must be at least 600mm with well compacted backfill which means that the purchasing officer must note the extra length.