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MODEL RAILWAY

MAGAZINE

Bethungra Spiral



Perspective in Backdrops
Modelling SA Stone Stations
Billabong Marina Part 2
Reviews • Mailbag • AMRM News

Issue 330 Vol. 28 No.9

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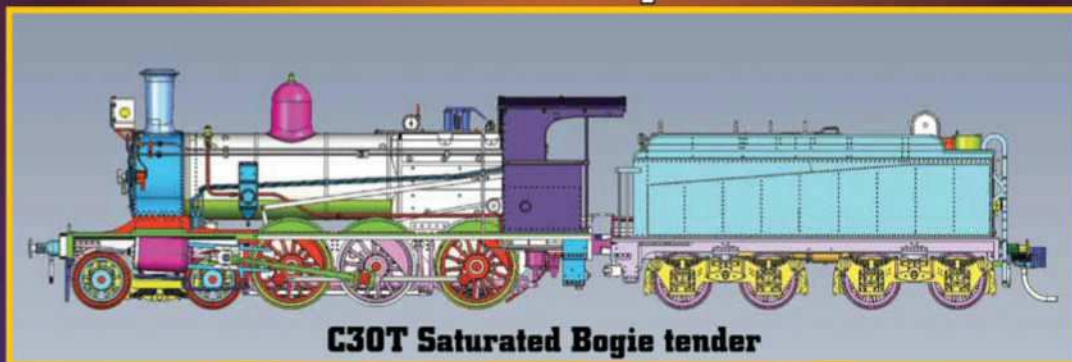
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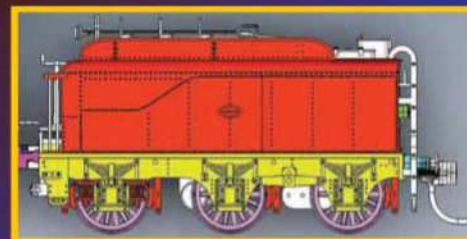


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Members of the Epping Model Railway Club describe the latest HO scale exhibition layout to be constructed by the club.



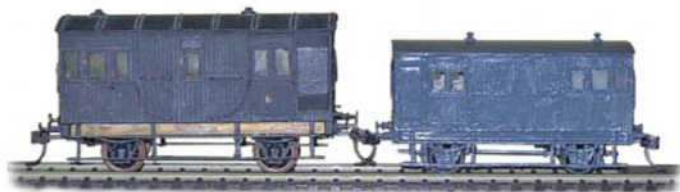
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ON THE COVER: Getting away from the exhibition cliché of modelling a station that merely serves as background for the procession of trains, the Epping Model Railway Club has modelled an iconic scenic feature, the Bethungra Spiral in southern NSW, as the centrepiece of their latest HO scale exhibition layout. A full description of the layout begins on p.18. Photo by James McNerney.



Innovation

There are many ways in which we can enjoy our model railways. The simplest is a board with a circle of track, a scenario that many of us started with. But making this environment look realistic is always a problem for, despite our best wishes, the earth is not flat. Not flat at all and the better engineered railways were based upon how they negotiated the hills and the valleys. Long term *Model Railroader* editor, Linn Westcott, saw how to cater for hills and dales when he came up with the 'L-girder' sub-frame system. Linn thought outside the box and created innovation with a now-classic timber baseboard structural system that to this very day provides a foundation for realistic scenery on thousands of layouts, world-wide.

Linn also is credited with creating the 'Zip Texturing' scenery process, whereby dry powder colours are mixed with plaster, sprinkled onto a plaster scenery base and then sprayed with water (to 'set' the coloured plaster/powder mix). A brilliant innovation that has only gone out of style because dry powder colours are now so difficult to find. With a little skill, the various hues of nature could be created and the scenery refreshed ever so quickly. Linn was also credited with many other innovations that he willingly shared with us through the pages of the Kalmbach publication, *Model Railroader*.

In his writings Linn more or less encouraged us all to look outside the box and to innovate. It may be much easier to lay track and scenery on a flat board, but the advantages allowed by an elevated track bed, enabled by the L-girder principle, are considerable. Likewise, I'm not sure who invented the concept of using multi-levels on a model railway, but this idea enabled a long run of track in a small space on many layouts, and whoever thought of using dyed shredded/teased foam rubber instead of dyed sawdust or cork has allowed many layouts to look far more realistic.

In our own way many of us are innovative in the various processes we use in modelling. Cutting styrene was always a problem until we realised that the cut and snap process not only sped up the process, but also provided a very straight edge, ever so quickly. Look around you and you will see the innovations created by your friends and you have probably been innovative in your own work. In my over forty years spent in the hobby I have witnessed many innovations that created some brilliant results. An associate has always put forward the proposition 'why have a straight track when a curve can make it look better?' He also advocates that the edge of the layout should never parallel a straight section of track.

The design of my model railways followed these trends and the immediate benefits were found in the coal mine/coal exchange scene. The mine, being small, was to be operated by a fleet of diminutive locomotives, Manning Wardles (70mm long in HO scale), for those who know NSWGR and English practice. The train operation is simple, the exchange sidings are fed off a main line by short trip trains with the mine-owned engines hauling shorter trains still up a grade to the mine. The length of these trains was originally determined by the size of the locomotive, the diminutive 0-6-0 being expected to haul five or so hoppers and a van. That the models could haul many more hoppers now is due to the advancements of gearing, a solid wheelbase and well-laid track.

The road from the exchange sidings has to climb over the main line, then traverse a deep valley before entering the mine loading screens precinct. Adding an extra curve or two in the track made it look more 'natural' and has provided many moments of enjoyment, observing a train swinging around these curves, even though the train is short. Another innovation was to make the exchange sidings a bit different, the departure road being elevated above the other track. This has given what was a flat area an interesting perspective and was never thought to be an operational issue in the days of not very free-rolling wagons. However, the advent of ready-to-run, very free running wagons almost proved to be an undoing, for as the mine engine stabled the loaded wagons on the graded track, the wagons wanted to follow the locomotive out of the siding. Thankfully, the problem was overcome by an innovation from another source that showed how to use the bristles from a tooth brush as a scale 'hand brake'!

'Thinking outside the square' can bring its own problems that sometimes need further innovation to overcome, but more often than not the original innovation becomes most rewarding. Put your thinking cap on and see what you can come up with, and if you come up with something good, share it with us all!

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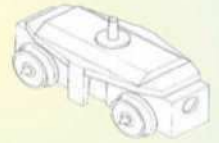
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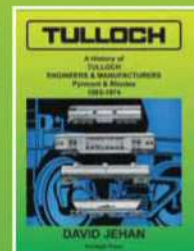


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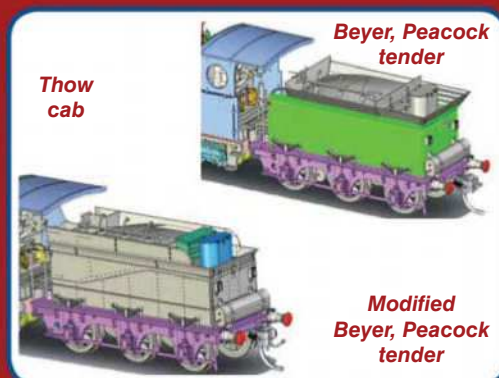
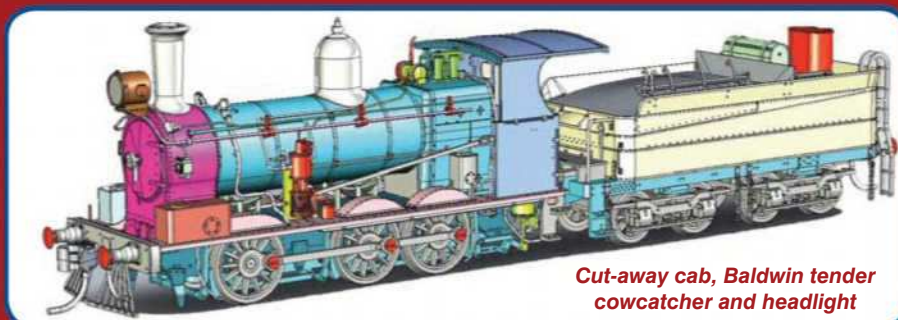
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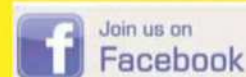
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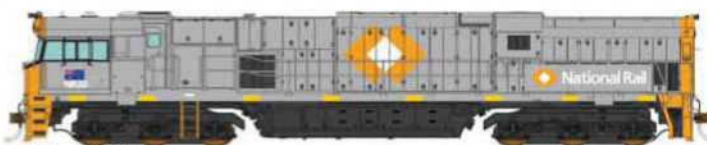
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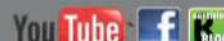
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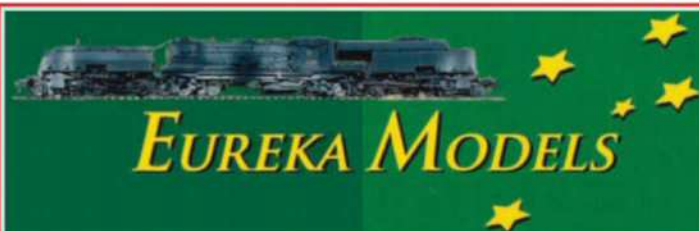


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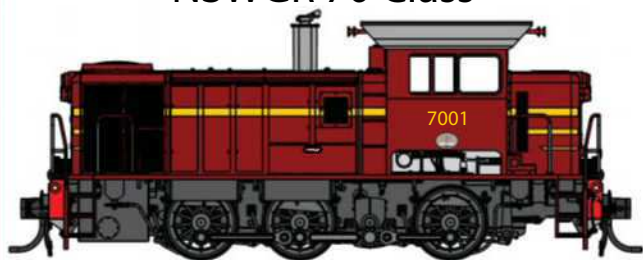
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▲ We are now in the early 1950s as the Melbourne Limited, headed by a shiny green 38 class, races down hill and over the bridge across Wandalybingel Creek as, in the background, a 57 class laboriously lifts its heavy load up the 1 in 66 grade of the spiral.

Bethungra Spiral

Garth Wiseman, Mike Lillie, Trevor Moore and Phil Collins describe the Epping Model Railway Club's HO scale exhibition layout. Photos by James McNerney.

▼ One of the advantages of modelling a stretch of railway line, rather than a station, is that the era is set primarily by the trains, rather than the infrastructure. This scene could only be the early 1980s, as a relatively clean 'candy' 421 class drops downhill on a bulk load of superphosphate as Indian red 42216 and 4536, having traversed the spiral with their Sydney-bound fast freight, cross over the down line to regain the correct side for left hand running on the double track ahead.

◀ A time warp in progress, as late 2000s era, Independent Rail 'Helga' 1428, rolls downhill with an empty rail set, passing over the tunnel carrying the up line under the down line. After a short cutting, the up line enters another tunnel under the top section of the spiral, where a 1990s era National Rail steel train, hauled by an NR and a DL, proceeds towards Cootamundra after traversing the section around Bethungra Hill.

The Bethungra Spiral is a section of the Main South line between Cootamundra and Junee, just north of the village of Bethungra. When this section of the Main South line was duplicated in the 1940s the new uphill track was built around a small hill to enable a reduced gradient to north-bound trains, although making it slightly longer. The current downhill track is the original single track line.

The Epping Model Railway Club layout is a representation of this location on the Main South line which runs alongside the Olympic Highway. It covers the period from late steam to present day and features the diverse range of freight and passenger trains that operated during this period.

The statement above is what is written in the exhibition guide for the Bethungra Spiral layout which is the latest in a long line of exhibition layouts built by the members of the Epping Model Railway Club over the last 40 years. Built using lightweight construction and a shared fiddle yard, this is the second in a new series of exhibition layouts. The first, *Binalong*, was also based on the station of the same name on the Main South and was extended the year after its debut with a section based on nearby Illalong. Whilst both *Binalong* and

Bethungra Spiral feature double track (as on the prototype) the shared fiddle yard was built to enable four track operation if such a feature is incorporated on a future layout.

The up track at Bethungra, which forms the actual spiral, adds 2.8km to the distance travelled between Melbourne and Sydney, which in scale form set a challenge as we could only use eight of the sixteen layout modules for the scenic section of the layout, which gave us 3.6m x 2.25m to construct the hill and including the area where three lines are clearly visible (the two up lines forming

the spiral top and bottom, with the down line going through the middle of the scene). There are no crossovers or sidings on the area modelled, so all the track visible on the scenic section is plain main line.

Construction

The baseboards are of plywood construction using 7mm marine ply for strength and 3mm for the tops. Each of the twelve modules has its own legs formed from 19mm x 38mm pine. There are four 1800mm x 750mm boards for the

fiddle yard and eight of the same dimensions for the scenic area. There are four corners, two of which are scenicked and two unscenicked; the latter form the entry to the fiddle yard. A separate lift-out section for the hill sits on top of the four central modules; this section is the centrepiece of the scenic hill and travels in its own special storage box. The two fiddle yard corners also include the electrical connections to the track. In order to run longer trains two new fiddle yard entry modules are being constructed with a combination of curved and straight large radius points so that the fiddle yard will offer a minimum of 7.2m in straight track storage in the future.

Each of the baseboards uses a dowel and bolt system using aluminium plates, so that when the modules are assembled the track always lines up. Connectors are used for the electrics in the ends of each module. The track is Peco code 75 and Electrofrog turnouts are used in the fiddle yard. The track in the fiddle yard is laid directly onto the plywood. On the front scenic modules it is laid on 3mm cork.

Structures

In line with the prototype, there are no buildings to speak of with the exception of a relay hut close to the level crossing where the Olympic Highway crosses the line. The crossing itself was made using sheet styrene where the road crosses the tracks and adjacent to the tracks on each side and painted to match the bitumen roadway. The bitumen roadways were made by forming the roadbed with plaster and painting in a suitable colour. Dirt roads were made with a layer of PVA glue covered with fine sand and appropriately coloured dirt, mixed from various items in a local ballast supplier's range.

The other structures on the layout are bridges, tunnel portals and culverts. The appearance of these is very austere concrete and offcuts of plywood were used for the abutments and piers and painted to look like weathered concrete. The steel girders are components from various Micro Engineering and Central Valley kits, modified to fit the location.

Scenery

The scenery on *Bethungra Spiral* is constructed using a number of common techniques to achieve a realistic simulation of the Australian countryside in southern New South Wales. The land has changes in gradient and topography representative of the western slopes of the Great Dividing Range. Construction of the layout modules was designed to allow for the changes in track gradient, as well as for the topography of the hills and the rocky cuttings.

Polystyrene foam sheets were used as the base for the scenery. These were glued to the baseboards and carved to form the terrain. For a portable exhibition layout the expanded polystyrene foam sheets carved to the landscape contours provide a stable base for plaster scenery. This will handle the storage and multiple setups for exhibitions and other displays with minimal damage.

For the rock cuttings and outcrops rubber moulds were used with casting plaster to achieve realistic rock faces. The plaster-filled moulds were applied directly to carved polystyrene when wet. These then conform to the shape of the hill or cutting that has been carved. The polystyrene is sprayed with water before applying the plaster to ensure a good bond. The plaster is allowed to partly dry; it is still very plastic, but not dripping, when it is applied.

The rock faces were then painted with multiple washes of water-based acrylic paints. Different colours were used in random application to achieve the mottled effect of the prototype. Each wash is dilute so that the colours build up. Water is sprayed on the plaster initially to allow for the washes to readily soak into the plaster. If too much colour is applied then vigorous application of more water from a spray bottle will tone it down. Light washes of dirty colours are applied last to represent all the grime and dirt that has washed into the rock faces over many years.

Ground cover was mainly ground foam products from various suppliers. It is hard to glue this directly to the polystyrene foam. A thin coat of plaster over the foam provides a good base for affixing the

At A Glance

Scale: HO

Prototype: The Bethungra Spiral, a prototype location on the NSW Main South line about 280 miles from Sydney

Period: 1960s-1990s

Layout type: Continuous run exhibition layout, scene at the front, fiddle yard at the back

Layout size: 9.6m wide x 2.7m deep

Rail height above floor: 1.0m

Baseboards: Twelve rectangular baseboards, 1.8m x 0.75m, and four corner baseboards 'banana' shaped. Baseboards constructed of AB grade 7mm and 4mm plywood

Track: Peco code 75 with Electrofrog turnouts and Tortoise point motors

Control: Both DCC and DC available

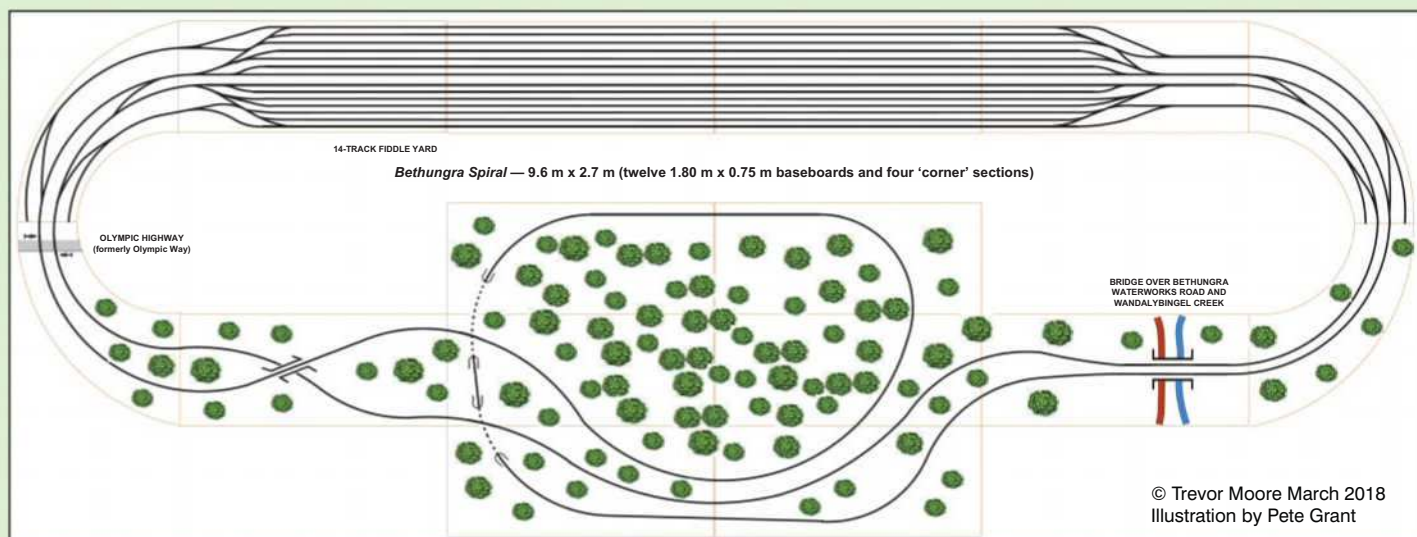
Structures: Bridges and tunnel mouths, kit and scratchbuilt; no other structures

Scenery: Formed with polystyrene foam, covered with plaster, ground foam and other scenic materials as appropriate

Locomotives: r-t-r, kit-built and scratchbuilt, provided by the club members

Rolling Stock: r-t-r, kit-built and scratchbuilt, provided by the club members

Builders: Members of the Epping Model Railway Club



ground foam products with white PVA wood glue diluted or neat. The thin coat can also be given a coat of acrylic paint to represent the ground underneath the vegetation cover.

The ground area is painted with diluted PVA and then the grass cover is sprinkled onto the glue. Several layers of grass are made as a mixture of colours to give a mottled effect when applied. Then a spray bottle is used to mist water onto the grass cover. This aids in the glue below rising up by capillary action to attach much of the grass that was applied. A little sieve can also be used to sprinkle the grass cover materials when larger areas are to be covered. The more different hues and grades of material that are combined the more realistic the effect.

Static grass of both 12mm and 6mm lengths were blended with different colours used and applied using a homemade applicator. Some 12mm grass mat has also been used, cut into small strips 3mm or 4mm wide, for use alongside the track or in gullies or rock faces. These small pieces of grass mat also work as clumps of grasses glued amongst trees, foliage or rough grass areas. Various dirt samples and small rocks were also randomly glued onto the surface.

Many trees have been made and planted on the layout scenes. These are made by club members, with Phil Skelton contributing a lot of them. The general technique is the use of a copper wire structure to represent the tree trunk and branches. This is twisted to the desired shape and soldered for strength, then covered with



▲ A view over the extensive fiddle yard showing the variety of train types and eras modelled by the members of the club, two of whom, Phil Skelton and George Low, can be seen attending to operations.

diluted 'No More Gaps' on all of the main trunk and large branches. The tree structure is painted to represent the bark colour, then foliage material is stretched over the wire frame to represent the leaves. Additional fine grass of different colours may also be sprinkled over the foliage and held in place with hair spray. In some cases dark grass was sprinkled on the bottom of the up-turned tree and hair-sprayed. This represents darker leaves underneath or

leaves in shade. The trees range in size from small to large. They are planted to represent clusters as happens in nature. Dead trees and broken branches are also glued onto the layout. Many of the twigs and branches come from the garden.

The track has been ballasted, which is prototypically sized and coloured for the area. This is applied dry and then glued with diluted PVA glue. A range of colours has been used to represent the different

Prototypical Notes

The Bethungra Spiral – Historical Notes

The Bethungra Spiral – 20km from Cootamundra – was regarded as a marvel of engineering. It was instigated as a means of ascending a significant mountain range with easier grades than the original single line, which opened in 1878. The main up line (towards Sydney) coils around Bethungra Hill, crossing both itself and the down line. Included in the deviation are two single-track tunnels, a bridge and some of the deepest railway cuttings found in Australia.

There was a dramatic increase in traffic on the Main South line in the early 1900s and because of a steep grade over the Bethungra Range between Cootamundra and Junee, bank engines had to be used at the rear of all goods trains, working in both directions. Even the introduction of the mighty 57 class in 1929 didn't ease the problem, as the state of the track restricted them to north of Cootamundra.

With the declaration of war in 1939 it was realised that the steep grades (1 in 40 and 1 in 45) of the single line between Bethungra and Sydney would hinder rapid movement of heavy traffic and cause bottlenecks in the transportation of war materials. A reduction of the steep grades was a strategic necessity. A spiral deviation was resolved as the best solution. Its utilisation would provide a 1 in 66 grade, compensated for curvature.

Construction began in January 1941. Total excavation on the spiral amounted to about 280,000 cubic metres and almost all of it was in solid rock. A special gang of blacksmiths and sharpeners had to be employed to maintain the supply of tools. A local man recalled that at the height of work, there were 650 men on

the site, 40 heavy lorries and three light trucks, plus some horses and drays. At some stages, men and trucks worked around the clock in three shifts, labouring by carbide lights.

Despite work starting in 1941, the manpower and material shortages brought about by the war delayed completion of the deviation until after the war was won; it opened to rail traffic on July 15 1946. The spiral finally eliminated the need for bank engines and locomotive crews to be provided at Bethungra.

Because of the looped nature of the Bethungra Spiral deviation, traffic on the up line (to Sydney) travels 2.8km further than trains on the down line.

At one point on the Olympic Highway, Cootamundra-Bethungra, the three tracks of the spiral are visible.

The Bethungra Spiral was listed on the State Heritage Register, gazetted on April 2, 1999.

Rectification work on the Bethungra Spiral in 1994 modified the three main cuttings by widening and regrading the cutting slopes.

During construction of the spiral, the population of Bethungra increased from a little over 300 to almost 1000.

Due to the narrow, 27m deep cuttings through granite, the line suffered continually from rock falls, with twelve significant falls between 1960 and 1987. In January 1994, the spiral line closed for a four-month rebuild which saw the cuttings widened and reprofiled with benched 55° slopes as part of the Federal One Nation rail infrastructure funding project.

This work materially changed the appearance of the spiral, so the layout only represents the spiral from 1946 to 1994.



◀ During the 1950s, the majority of the heavy goods traffic north of Junee on the Main South was in the capable hands of the 57 (and 58) class 4-8-2 locomotives. Reproducing a scene that was commonplace from the opening of the spiral in 1946 through to 1960, 5714 rushes a heavy goods train across the plate girder bridge over Wandalybingel Creek, building up momentum for the climb up the spiral, just ahead.

states of the ballast. As time goes by the prototype ballast becomes dirtier and darker in colour. New ballast is applied in sections at a time which provides contrasting colours. We have tried to achieve the same effect.

Electrics

The track is set up so that it can be operated as DCC or DC analogue operation for either the up track or the down track or both. Typically the layout is configured with DC track on the down and DCC on the up track. This allows club members to use a large variety of rolling-stock and trains at exhibitions.

The layout power is connected to the 'fiddle yard' which is then fed to the front sections via the baseboard connections through section current limiting globes. The outer main line is operated with NCE DCC. The inner main line can be operated

with a DC controller or a DCC booster with drive signal from the main command station by plugging in the required system. The controllers are NCE Pro-Cab and radio cab. These have worked well and reliably.

The points are all live frog and have been modified to suit DCC. All the points are operated using Tortoise point motors driven from DCC accessory decoders which have been programmed with their own accessory address and powered from the outer main track bus. The command station has been programmed with multiple macros for aligning all the points for the required road using one or two macro commands selected from two mini panels or the DCC controllers.

Layout lighting is provided by two clusters of mains powered LED flood lights mounted on tripods and placed at the ends of the layout.

Operations

The appearance of the layout covers the period from the 1960s to the early 1990s, so is prototypical for the late steam to early privatisation period, which give a multitude of opportunities when operating trains at exhibitions. All trains operated are owned by members and they are encouraged to set up appropriate trains of the period. A minimum of two operators is required on the layout at all times, each responsible for trains on either the up or down sides. For exhibitions a team of six is normally rostered each day, to allow time off, although this can be managed by a team of four, alternating, but with 'all hands on deck' during peak periods.

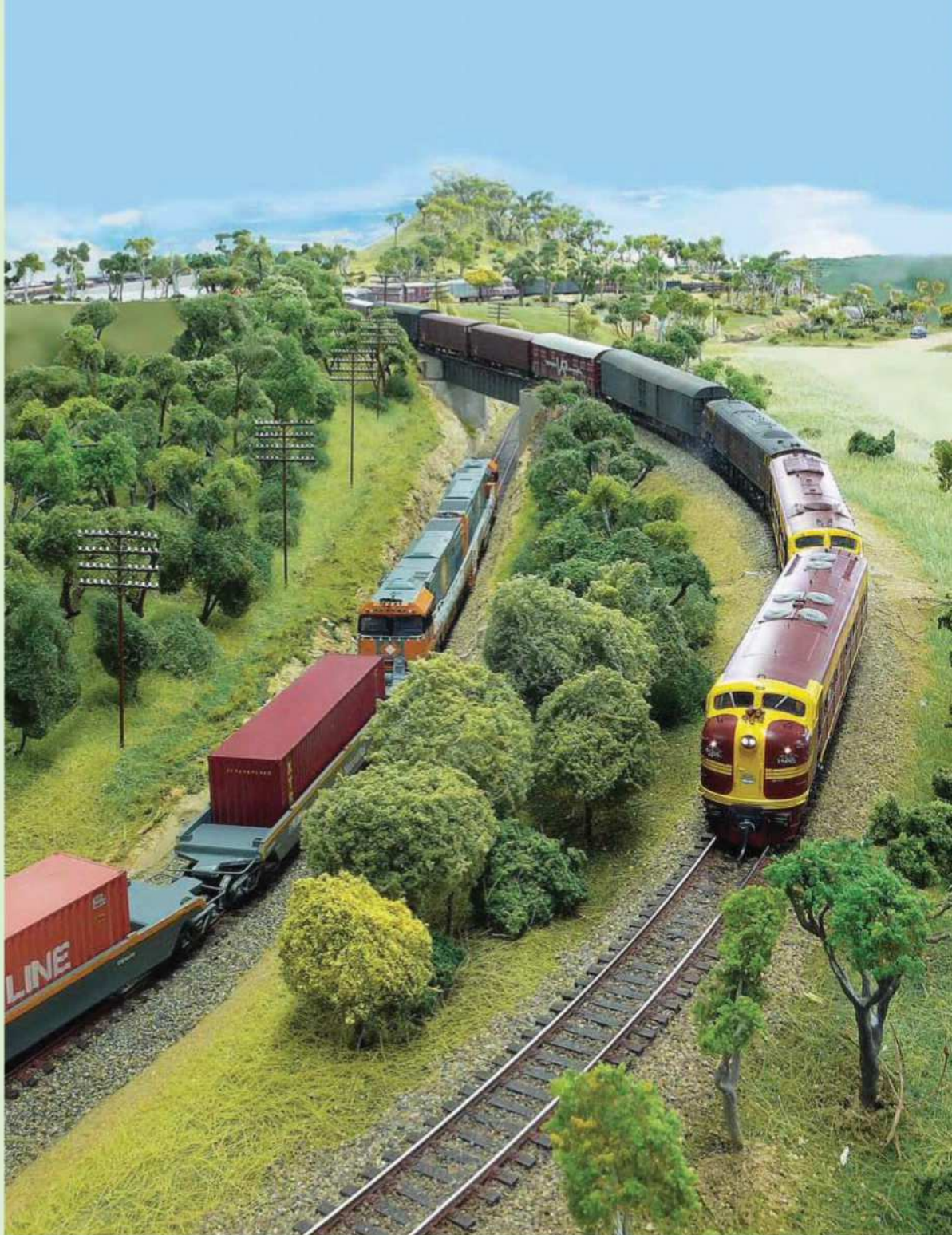
Exhibitions

Bethungra Spiral made its debut at the Epping Model Railway Club Exhibition at Thornleigh during the Queen's Birthday



◀ Right up to the opening of the 'Gauge', the extension of the NSWGR standard gauge line from Albury to Melbourne in 1962, most of the traffic on the Main South was still steam hauled. Here we see black 3803 rushing downhill with a fruit express bound for Albury, where the contents of the louvered vans would be transhipped to VR broad gauge vans for onward transit to Melbourne, while 3628 climbs the spiral with a relief 'Riverina Express' of non-air conditioned cars.

► The 1970s meet the 1990s as a typical interstate freight of the 1970s, comprised mostly of louvered vans and hauled by 42, 421 and 44 class locomotives, meets a typical interstate freight of the 1990s, a container train hauled by two NR class locomotives, at the top of the spiral.



► Reproducing a scene that was common right through the 1960s and into the 1970s, a 44 class hauls a long rake of loaded RU four-wheel bulk wheat wagons over the (then) Olympic Way level crossing at the top of the spiral. The Olympic Way name was bestowed on this major rural road in 1963, in honour of its use as part of the route of the Olympic torch in the run up to the 1956 Melbourne Olympics. The road was renamed the Olympic Highway in 1996.





◀ Heavy traffic on the spiral around the turn of the 21st century, echoing a famous NSWGR publicity photo of the early 1960s. This image illustrates the staple traffic of the line in the 21st century, bulk wheat and interstate containers.

long weekend in June 2016. In the last two years the layout has made limited visits to some of the major shows around NSW and the ACT, with plans afoot to take it to new venues in 2018, including a trip over the border to Melbourne. Its next show, featuring additional scenic work, will be the 2018 Epping Model Railway Club Exhibition on the June long weekend, at the new location at Rosehill Gardens Racecourse. The layout has won major awards at exhibitions in Liverpool, Forestville, Kaleen (ACT), Malkara (ACT) and Wagga Wagga.

Transport to the exhibitions is provided by club members, using a specially designed and constructed trailer with a capacity for all sixteen modules, which are assembled into eight pairs with the scenery facing inwards to protect the ground cover, trees and structures. The hill section is enclosed in a purpose-built box and is stored with the electrical operating equipment, lights and drapes in a special compartment at the rear of the trailer.

Future

While *Bethungra Spiral* is still evolving, with more scenery, especially trees, being added all the time, we anticipate that it will be seen on the exhibition circuit for many years to come. The club has commenced construction of a four-road, suburban Sydney layout. This new layout will provide a variation to the Main South operational scenes viewable on both *Bethungra Spiral* and *Binalong*. ▶



◀ An up general goods train climbs the spiral some time in the late 1970s, past a farmer moving sheep in the traditional way with horse and dogs.



▲ Up to the early 1980s, single engine loads could still be seen on the Main South. Here, a 45 class climbs the spiral with a mixed load, typical of intrastate goods trains of the period.

► Just prior to the SRA's introduction of the 'candy' colour scheme in the early 1980s, a newly outshopped 421 leads a grubby 44 class on an interstate freight up the spiral as a load of bulk cement wagons drops down the spiral behind three 48 class locomotives, each sporting one of the three 48 class colour schemes that could be seen at the time, 4836's unique 1980 green and yellow '125 years of rail service' scheme, then the 'reverse' red scheme introduced in 1979 and the final locomotive still bearing the original Indian red scheme introduced with the class in 1959.



South Australian SOC/SO (AOQY) Ore Wagons in NSW



1

Almost spotlessly clean 'candy' 4913 departs Goobang West, heading for Broken Hill, with a block load of AOQY wagons, most in AN green and gold, on 24 February 1985. At this date, brake vans were still in use west of Parkes.



2

Further to the review of the SDS SAR SOC/SO ore wagons in AMRM Issue 329 (April 2018), *Graham Ahearn* has delved into his extensive collection of photographs and come up with these images of AOQY wagons running in NSW during the 1980s. For those for whom prototypical accuracy is important, we now have proof of the use of these vehicles in NSW east of Broken Hill.

The AN ore wagons, conveying silver/lead/zinc ore, started their journey at Cobar, marshalled in a train with the NSW wagons that carried copper ore to Port Kembla. At (one assumes) either Dubbo or Orange, the South Australian wagons were detached and forwarded to Broken Hill for onward transit to Port Pirie.

If there was enough loading, the vehicles would form a block load [Photo 1], otherwise the wagons would be attached to the front of an interstate service [Photos 2 and 3].



3

On 20 July 1985, 8006 approached Goobang East with train 1861 to Broken Hill, with three AOQY ore wagons at the front of the train. Another interesting (and modelable) aspect of the train is the use of a brake van right behind the locomotive. This was the time when the use of the 'end of train' device (BOG) was in its infancy and, as Parkes often had parcels to send west, particularly at weekends, a brake van was placed behind the locomotive on most services to Broken Hill to convey same.

Building an HG Brake Van in OO Scale



Michael Gourlay describes how he scratchbuilt a model 65 years ago; techniques that work just as well today. Photos by the author.

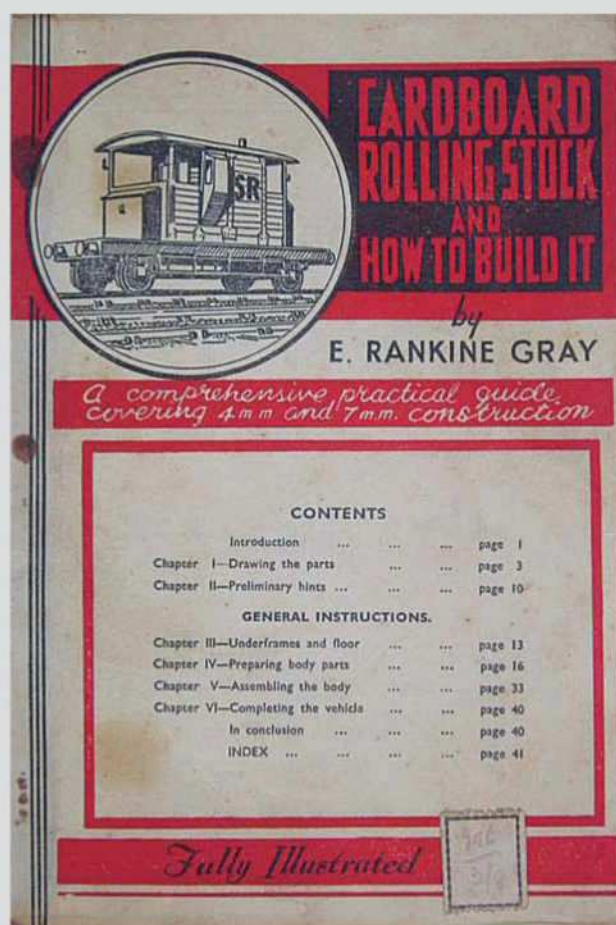
The announcement by Casula Hobbies in AMRM Issue 327 (December 2017) that a ready-to-run HO scale model of the NSWGR HG four-wheel brake van would be available this year has been of great interest to me.

In my display cupboard are several scratchbuilt OO scale models (4mm to the foot) of NSW rolling stock, together with one locomotive.

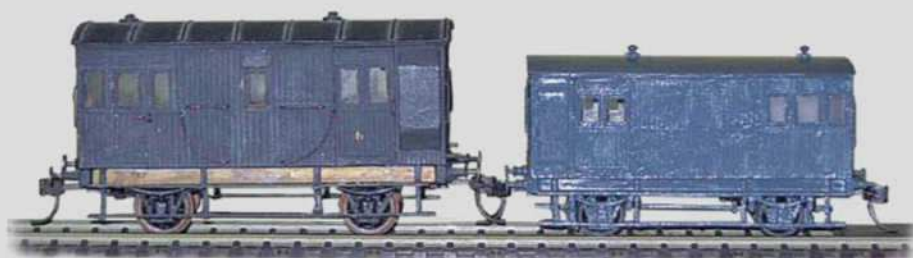
These were all built 50 years or more ago, before HO scale kits of Australian prototypes were available. Indeed, the oldest of these items, an HG brake van, is about 65 years old. As a teenager in the late 1940s, my interest in model railways was stimulated by reading the English magazine *Model Railway News* (MRN) with its articles about John Ahern's *Madder Valley Railway*, as well as his three books about building model locomotives, buildings and miniature landscapes. Ready-to-run OO scale models of English locos and rolling stock were available from Hornby and Trix, but if one wanted an Australian model, it was DIY – scratchbuilding. Drawings could be obtained from the NSW railways publicity section ($\frac{1}{4}$ " = 1' blueprints, which I redrew to 4mm = 1'). Some OO scale parts – buffers, couplings, W-irons and wheels – were sold in local hobby shops in Sydney. Also, there were magazines such as *MRN* and, later, *Railway Modeller*, as well as various how-to-do-it books.

The most useful book for constructing the HG model was *Cardboard Rolling Stock And How To Build It* by E. Rankine Gray (ERG), published in England in the late 1940s/early 1950s. ERG supplied cardboard kits for English rolling stock in both 4mm and 7mm scales. However the book also provided instructions for those modellers who wanted to build models from scratch. The sides and ends of my brake van model were built up out of several layers of Manilla cardboard (old folders) which had been pre-coated with Shellac to seal/stiffen their surfaces. Windows and doors were cut out with a sharp single-bladed Valet razor blade. Planking was scribed on the outer layer using either the razor blade or a metal scribe. Glazing was celluloid sheet from old shirt boxes and each side was glued together using Secotone or similar glue. The sides were placed on a flat sheet of glass under a weight to prevent distortion while the glue was setting.

The floor was either a piece of thick cardboard or thin plywood.



The 'bible' for constructing rolling stock, circa 1950, E. Rankine Gray's *'Cardboard Rolling Stock And How To Build It'*.



There might only be a difference of 0.5mm per foot, but it soon adds up, even with a relatively small vehicle as an HG brake van. The author's scratchbuilt OO (4mm = 1') scale HG brake van (left) compared to an HO (3.5mm = 1') scale HG built from a Lloyd's Model Railways white metal kit.

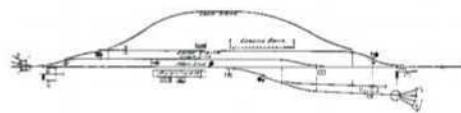


Internal partitions and seats were also fitted, together with a false flat roof. The roof itself was formed from an upper surface of Manilla card and a piece of thicker cardboard – the back of a writing pad. Both pieces were bent to shape before being glued together and to the body. Hand rails and door handles were made from thin copper wire salvaged from an old electric motor. The buffer beams were pieces of homemade soft pine stripwood.

The chassis was made and rebuilt several times. The existing one, which is about 50 years old, is constructed from a flat sheet of brass with solebars cut from 1/16" flat brass strip. These parts were soldered together. The white metal W-irons are secured to the brass plate with 6 BA bolts and nuts. The steps and their supports were made from thin brass strip cut from a sheet of brass and soldered together. The chassis is bolted to the floor of the body, holding the bent ends of the step supports firmly in place at the same time. (It is possible that the steps are also secured to the chassis using Araldite.)

Originally, the van was fitted with ERG's ingenious movable buffers and spring loaded three-link chain and hook couplings. The latter mechanism has since been removed and the buffers no longer move. Standard Kadee long shank knuckle couplers have now been fitted under the buffer beam. Steel-tired, plastic-centred spoked wheels are fitted, probably with Peco brass cup bearings. No brake gear or other under body-detail has been modelled.

While some of the materials used, not to mention the scale/gauge combination, are well obsolete, the basic techniques are just as valid today as they were 65 years ago. Not everything one might want to see on the layout has been produced r-t-r (yet!), but that doesn't mean that one can't still build what one wants!



IN THE LOOP

Looking into the Void

Trevor Hodges muses on the concept of 'courage' as it applies to railway modelling. Photo by the author.

If you're old enough to remember the 1970s, then you'll probably also remember the Michael Parkinson show which was that era's version of the Graham Norton show. If you don't know who Graham Norton is, don't worry, he isn't a patch on 'Parky'. It was on the Michael Parkinson show I first heard the story about a fairly famous exchange between US actor Dustin Hoffman and Sir Laurence Olivier on the set of the 1976 film *Marathon Man*. I can't actually remember who told this story on the Parkinson show, but it wouldn't surprise me if it was David Niven.

The bare bones of the story are that Hoffman is famous for being a 'method actor', which evidently means actors going to extraordinary lengths to immerse themselves in the characters they're playing on stage and screen. One scene in *Marathon Man* required Hoffman to portray his character as though he hadn't slept for three days. He turned up on set looking dishevelled and unshaven, not having slept for seventy two hours to help him 'get into' his character. Hoffman was telling Olivier that he hadn't slept in days to help him to give his portrayal more emotional authenticity when Olivier evidently said to him: "My dear boy, why don't you just try acting?"

This story came to mind the other evening, as I sat talking to a friend on the phone about his lack of progress building a layout. As he described the whys and wherefores of several years of changing scales (twice), switching prototypes from Victorian to NSW and now to US outline and the constraints he was facing in terms of budget I felt like playing Olivier to his Hoffman and asking "My dear boy, why don't you just try building it?" The problem was that he had already done so. He'd made two starts on layouts in two different scales, but soon became dissatisfied with the resulting layout. He'd ripped up what he'd built and sold off his locomotives and rolling stock. He mentioned that another friend of his had told him he was suffering from 'analysis paralysis'. If he is, he's suffering a fairly mild form. I know of modellers who, having started a layout, haven't progressed any further than track laying in decades and have barely run a train in all that time.

I know of another who purchased thousands of dollars' worth of locomotive and rolling stock

kits only to sell the lot because he wasn't happy with the level of detail in the kits. This before he'd built a single kit! I would describe these individuals as sufferers of 'analysis paralysis', over-thinking everything and achieving very little. Compared to these modellers my friend is an absolute whirlwind of activity in a layout building sense. The problem is that he becomes dissatisfied with the quality of the modelling he has achieved and abruptly changes tack and seems to have fallen into a bit of a vicious cycle. He tells me he's reached a stage where he's considering getting out of the hobby.

I think to some degree we're all subject to a bit of modeller's block (our hobby's version of writer's block) from time to time. After either building solo, or being involved with others, in the building of something like seventeen layouts over the past 30 years, no one could accuse me of being afraid to start a layout project. However, this does have its downside; after working in my current scale (1:43.5) for something like eighteen years I only have five running locomotives (two of which came ready-to-run) and about fifteen pieces of rolling stock assembled. After this sorry record of rolling stock accumulation, I don't imagine it would come as any surprise if I revealed that building rolling stock kits is not one of my favourite aspects of the hobby. As a matter of fact, it was the prospect of having to build multiple copies of a coal wagon that drove home the final nail into the coffin of my involvement in HO modelling around eighteen years ago, just a couple of years before the HO scale r-t-r revolution really kicked into gear.

This phone conversation with my friend resonated with me, as the day he rang I'd avoided making a move on a particular aspect of building my new layout by mowing the lawn. You might get some hint of how serious this avoidance behaviour was when I reveal that there are some things I enjoy even less than building rolling stock kits, and mowing the lawn is most definitely one of them. The task that had brought on this sudden desire to fire up the Victa was cutting three small holes through the plasterboard walls of my recently lined and painted layout room. These openings will allow trains to pass out of the room, make their way over the empty space above the staircase that leads up to

the layout room and back into the room via a hole cut next to the entry door at the top of the stairs.

I'd been planning, measuring and thinking about this particular job for approximately six months and the time had finally arrived where I'd run out of excuses not to wield the plasterboard saw (specifically purchased to carry out this job). I'd been skirting around the cutting of these holes and coming up with a succession of other layout jobs to do; a much-needed control panel for the storage yard was installed and wired up, all the basic benchwork was built, a handlaid turnout and track had been made and the backdrop on two different sections of the layout had been installed. However, the time had come to cut the holes in the walls if I wanted tracklaying to progress any further and allow me to run a train around the entire layout. It was crunch time, but I couldn't seem to summon the courage to do the deed.

Courage isn't a word often associated with the hobby of railway modelling. When you think of hobbies that require courage I suppose mountain climbing, sky diving and scuba diving on shark-infested reefs are the activities that tend to spring to mind. From all reports (not having ever participated in any of these personally I must rely on the accounts of others), these activities require a good dose of courage to participate in, mixed in with a fair measure of insanity! However, while there isn't a lot of call for physical courage in building a layout or running a train, courage of a different kind is sometimes needed.

Many years ago, when I was a member of the Wyong and District Model Railway Club on the central coast of NSW, the club was contemplating constructing a large layout to fill a double-car garage. After much discussion and planning we finally made the decisions about the plan we would go with and how we were going to fund such a large undertaking. The layout was to be on two levels with a spiral connecting the levels and would have a couple of scale miles of track so it was a big undertaking for a very small club. I'd developed the design of the layout in conjunction with the club's current president, Gary Flack, but coming up with a track plan turned out to be the easy part. None of us had any experience building such a large layout and especially not one on two levels with complicated benchwork, such as helixes.

I have a vague memory of a club meeting where we were discussing whether or not we would go ahead with the layout and one of the members turned to me and asked whether I thought we could build the benchwork, the implication being that as I'd been pushing for it I'd better be sure I could actually build it. I'd built a medium-sized home layout and owned a Triton workbench so I assume this signified I must have looked like I knew what I was talking about. To be honest I had absolutely no idea whether I could guide the club in building the benchwork for the layout, but I blithely replied that I was sure I could and we decided to proceed. *Upper Hunter* was the result. [*'Upper Hunter Layout Building' by Trevor Hodges, AMRM Issue 251 (April 2005) and 'Operating Upper Hunter' by Gary Flack, AMRM Issue 252 (June 2005) – Editor*]

Looking back on it now, I feel there was more stupidity than courage in my reply at that meeting, but I think the other members of the club showed a fair degree of courage in the faith they placed in me. Clubs and individuals who commence building new model railway layouts are displaying a degree of courage in their willingness to commit money, time and energy to a project that has no guarantee of success. And perhaps that's the problem faced by my friend on the phone: his notion of success is something set entirely in his own head and his struggle is in trying to match the vision he has with the reality of his layout building skills.

I told him that if the hobby is making him unhappy then he should stop doing it for a while, but I have to admit that this was hard for me to say. I'm one of those people who use this hobby as a pleasurable escape from the pressures of the real world: I find it difficult to conceive of a situation where I'd find myself being so frustrated and tied up in knots over a hobby

task that I'd contemplate leaving it to take up something else. I do just 'get on and build it', but I also tend to accept the results of my efforts, not getting too caught up with less than flattering comparisons I might make with the work of other modellers.

No matter what size layout you're building, you need a vision for what you want to achieve but, perhaps, it's no bad thing if this vision remains slightly out of focus and blurry. If your vision of this perfect layout you're going to build becomes too sharply focussed then it's no surprise if the reality fails to live up to the vision. Perhaps railway modellers should live by the motto: *plan in detail, envisage vaguely...*

There's only one way to build a layout and it's the same way you might eat an elephant: one mouthful at a time. I took up my plasterboard saw and cut two of the three holes I need in the walls of my layout room [Photo]. In spite of discovering that both locations had noggins in the precise spot where I needed the openings to be, the job turned out to be surprisingly easy and pain free. After I'd chopped the holes and made an attempt to clean up the mess I bent down and peered out of one of them into the void over the staircase.

There's a drop of something like 2.5m straight down on the other side of this hole and, if all my plans come to fruition, trains will soon be plunging through the opening and traversing a piece of track bed that will hang suspended over the space like some sort of model railway cable car. Considering the amount of time, money and effort I've invested in my collection of locomotives and rolling stock, no matter how paltry in number they may be, if having them tip-toe their way along a 90mm wide shelf suspended well over 2m from the ground doesn't equate to a modicum of courage, then I don't know what does!

Just try building it; you might be surprised at what you can achieve.



It looks like just a simple hole in the wall...



BUILDING BILLABONG MARINA: 2

What can you do in fifteen minutes?

Tom Carlos continues construction of a minimum space HO scale layout and completes a dairy. Photos by the author.

Fifteen minutes a day is an hour and 45 minutes a week or seven hours in four weeks. Seven hours. That is a whole work day with an hour off for lunch. Imagine if you could spend a whole day on your model railway.

Last year I was insanely busy during the last three months. I looked at my little model railway which was still a 'Plywood Central' after four months and wondered when I would find the time to finish it. My calendar was pretty much chock-a-block full. I had meetings after work and other community commitments some evenings. In my line of trade, there is always work that I have to take home and the last three months is the real business end of the year.

If I wanted to spend time on my model railway, I would need to set aside some time. Health experts are always telling us that we need to make time for personal exercise. Why not set aside some time for a more relaxing activity? (Don't forsake exercise though – that's important too.) Fifteen minutes a day isn't that hard to find these days, not really. Some of us will spend that time alone on the can, or checking social media sites. Sometimes at the same time... Fifteen minutes is like a coffee break with your railway. I find model railways relaxing and a great artistic and creative outlet. Setting aside fifteen minutes a day forces you to take time out and relax in a useful way without sitting in the smallest room in the house checking out Facebook or YouTube.

Here are some things that I have learnt from my fifteen minutes a day experience. Some days, you aren't going to make it and that doesn't matter. Before my experience even started, I had a couple of days that were already wiped out.

Some days you will have a lot more time. Some days, I headed straight to the layout when I arrived home from work. I saw it like school homework. Teachers always insist that the best time to do it is

as soon as you get home. My fifteen minutes could sometimes blow out to half an hour or more. Sunday evenings are good. Put a roast on and head to the layout while it cooks. That's more than fifteen minutes and you've cooked a great dinner.

You need to be able to walk away at the end of your time and pick up where you left off. I'm lucky; I have a dedicated space so I don't need to tidy up too much. I can leave a building or the layout where it is. You still need to be tidy and organised. Some of my fifteen minutes were spent trying to hunt out that bit of a kit that I hadn't used and I knew it was there somewhere. I probably shouldn't put this on the list. I'm still a messy worker and some of my fifteen-minute sessions are spent tidying up.

You need a plan. As mentioned in the previous instalment (AMRM Issue 325, August 2017), I have a blog. Every now and then I write a list of jobs for the following week. This can be used to think through construction or assembly processes or a brainstorm of things that need to be done. With the list made, it's then a case of selecting the best job for the time that you have.

You'll see a lot of progress. You can be surprised at how much you can achieve. I'd go so far as to say that you can achieve more in fifteen minutes a day over four weeks than you can in seven hours, once a month. The best way to track this is to take a photo at the end of your fifteen minutes. Most of us have smart phones with cameras which take some decent images. You can then show off your progress to family and friends. Most importantly, you actually feel better. Achievement makes us feel good. Relaxing makes us feel good. It's what any hobby is all about.

What does this look like? One way to explore this is to look at one section of the layout. I have to be honest; sometimes I spend more than half an hour

doing this. In this case we'll look at the dairy [Photo 1].

It started life as a DPM kit 103, Cutting's Scissors Co. I picked it up from Model Railroad Craftsman at the Epping Model Railway Club's exhibition at Thornleigh. It was the rear of the building that I thought would be handy for a dairy. Three doors at platform height looked good.

With an HO scale layout measuring only 600mm deep and having an oval of track, you need more than low-relief background buildings. You need extreme low-relief! For the dairy, I would need only the back wall with the three doors. However, the building needed to take up more wall space. To solve this, I added one of the side doors. With DPM kits the edges of some walls are slightly bevelled. This was sanded with some wet and dry sandpaper and glued together. When dry the building was given a coat of primer and, in turn, a nice shade of brown. This was a mix. I had used some white paint and poured some brown into the jar of the airbrush. This caused some touch up problems later.

How long has this taken? Sanding and gluing can be completed in one night. The primer the next night and the top coat the night after that. The next couple of nights could be spent painting the windows white. Another night or two could be spent on a final coat of white and the grey concrete trims highlighted. I didn't do this in this strict order. In fact, the bricks were painted weeks before the rest of the building, but you can see the idea. Some of these tasks may take longer than fifteen minutes. The windows took longer and there was a bit of clumsiness with the paint onto the bricks.

When I went to touch up the paint with the brick coloured paint, I realised that I had created a one-off blend. I then had to repaint the bricks in a darker shade. Therefore, within a week, we have a painted building. The sign was created

in Microsoft Publisher using Word Art, printed on photo paper and sealed with a matt varnish, just in case any moisture gets onto it. The sign was glued onto the model with a glue stick [Photo 2].

The wooden platform in Photo 2 was a bonus. It's a jetty from the Kibri marina kit which contributed to the origins of the layout. Fortunately it was spare and, if assembled with the legs upside down, it was the perfect fit. A coat of weathered black later and it was ready to place.

Most obvious is the sky poking through the building. A real building has a back wall which often doesn't let light through. Once the windows were glazed with clear plastic (I think it came from a Peco turnout box), a bit of thin black cardboard was stuck on the back. Now it was ready to be glued into place, though it wasn't glued straight away; the back scene had to be added first.

Next came the milk tanks. I drew inspiration from the Richmond Dairy in Casino. They needed to be tall and white. The tanks were sourced from a Walthers Interstate Fuel and Oil kit. The kit was bought for a layout I was building in my previous house, but it hadn't been assembled, except for two vertical tanks, which I had used on a different layout! I could put the horizontal tanks to good use. They are sectional, but I could afford only half of the width. One Sunday afternoon later and I had two low relief milk storage tanks. They were glued together and painted white.

In just over a fortnight's lot of fifteen minutes a day, the job is well under way. With a little bit of decoration, you could leave it there and it would look good. I wanted a bit more presence though. I needed a fence to stretch out the dairy.



While pondering many modelling options at Hobbyland in Hornsby, I came across a packet of Walthers Wood Fence. This was perfect. I confess that I didn't give it the attention of individual palings painted as the packet suggests. I assembled the fence for both sides of the building and painted them grey. I made sure that the rails were on the railway side; this would have been easier for the dairy workers to nail the palings to the fence.

To give a little more depth, I placed a container next to the fence. This involved cutting the side off an Athearn container. It was bought a long time ago and didn't cost too much. This is fortunate as not much is seen over the fence. The tree was a Hornby Scenic tree from a kit. It is very two-dimensional and ideal for this space. A bit of PVA glue was dabbed on the branches, which were then dabbed onto a plate of Woodland Scenic foam and finally, a coat of 'firm hold' hairspray to keep the leaves in place. All this was a couple of nights' work at fifteen minutes apiece [Photo 3].

I still needed a 'third dimension'. A small awning over the siding was required. Sometimes internet auction sites can be your friend. A small 3D printed awning was sourced for not very much at all. Once it arrived (it took a couple of weeks because of free postage) it was assembled and painted grey. Another couple of nights. There was one problem; the awning would rest on the wooden platform on one side of the track and nothing on the other. I built a small wall from a bit of offcut timber and brick embossed styrene.

I did install some lights under the awning as well so that my little plastic population can load or empty milk tanks in the dark. This involved a bit of precision drilling and a bit of channel to hide the wires as they couldn't go behind the wall. That took a lot longer than fifteen minutes and was awkward!

You may have noticed with the images that I didn't work solely on the dairy. I had made lots of lists and I looked at what was sometimes easier to do in the time that I had available that day. I may have had to wait for something to arrive or dry, or I was keen to try something else, such as static grass.

One thing to remember is that your fifteen minutes a day can be longer or shorter, depending upon the time you have. The important thing is to set some time aside for your hobby. Hobbies help us relax and by setting small, achievable goals a great sense of accomplishment can be achieved when they are completed. 

Two- or Multi-Way Switching of Motor Driven Point Motors

Robert Kosmider shows how to wire up stall point motors so they can be operated from multiple locations. Images by the author.

On my layout, the point motors of choice are motor-driven units, usually Tortoise by Circuitron, that require a constant power source and hence there are problems with two-way switching. This article describes how I managed to solve the problem.

Definitions

'Two-' or 'multi-way switching' means operating a single turnout from more than one location (e.g. from two separate control panels at opposite ends of a layout).

'Point motor' means a mechanism for switching the point blades of a turnout that is based upon a motor-driven gearbox slowly moving the point blades. Examples of this would be the Tortoise point motor from the USA-based Circuitron Corporation and the Cobalt from DCC Concepts of Western Australia.

'Solenoid' (or Solenoid Motor) means the mechanism produced by manufacturers such as H&M (no longer made, but still around) and Peco, which are often called point motors, but are in fact based upon the snap action of a solenoid to move the point blades.

Layout Situation

The train operation on my layout (under construction) is such that quite a number of particular turnouts need to be controlled from more than one location. This is not an issue when solenoids are used, as switching from two or more loca-

tions can easily be arranged by having push buttons (or biased toggle switches) wired in parallel (Figure 1).

In my case, though, I elected to use Tortoise point motors, chosen mainly for their slow (and gentle) action as all my turnouts are hand-built and I was conscious of the possible 'rough' nature of the solenoid. I also liked the built-in micro-switches for switching the crossing V on the turnouts.

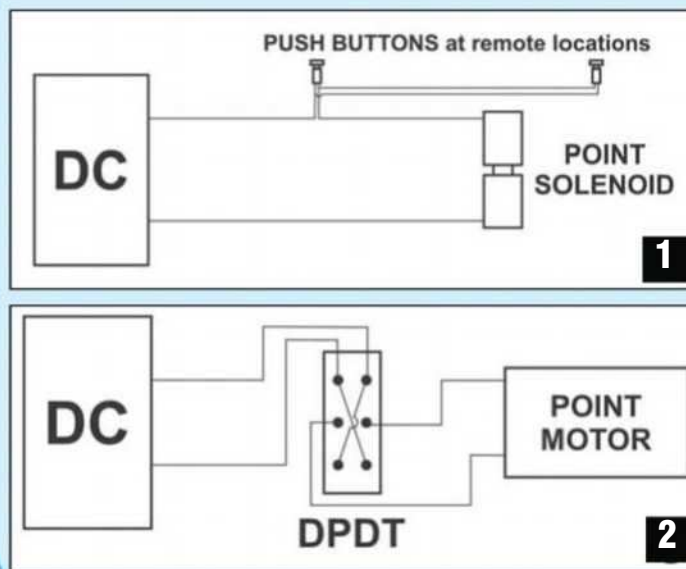
Workings of the Tortoise Point Motor

The Tortoise point motor (TPM) works rather differently from the snap action of a solenoid. On applying a voltage the inbuilt motor turns and an internal gearbox drives a cam that (via a spring wire) slowly moves the point tie bar/blades. There is no in-built micro-switch (or other control) that cuts out the power. Once the blades make contact with the stock rail and are obstructed from moving further the motor simply stalls under power.

To move the point blades back, power to the motor is simply reversed and the motor stalls again when it reaches the other stock rail. Figure 2 shows one of the wiring alternatives (as suggested by Circuitron) using the 12V DC power required and this uses a cross-wired toggle switch, whereby throwing the switch reverses the polarity. (Other wiring alternatives are shown in the instructions, but the motor/switch action and problems are the same). You'll note that momentary push buttons cannot be used.

Problem with Two-way Switching

The problem arises in that the motor is powered continuously and the momentary power is switched off the gearbox 'slackens' and the point blades move to a 'neutral' position where neither route is chosen. Therefore a simple solution, such as replacing the on-off DPDT switches in Figure 2 with three position momentary (biased) on - off



switches (mom – off – mom) wired in parallel for multi-way switching, will not work.

Wiring Solution

The problem is solved by reversing the voltage to the point motor using the action of a double pole/double throw (DPDT) relay and cross-wiring the relay contacts in a similar manner to the above toggle switch (Figure 3). The toggle switch is replaced by a simple on-off switch that switches the relay coil on and off. The on-off action of the relay coil reverses the power to the motor contacts.

You'll note in Figure 3 that the relay coils have a different power supply from that of the point motors. This is only because I chose 5V PCB relays, whereas 12V PCB or cradle relays could be used. (In fact, I used the latter during testing).

Many Turnouts/Printed Circuit Board

I have several turnouts that need to be two- or multi-way switched from a number of locations. The one location (control box/panel) that houses the associated relays would need about fifty plus wires, which I didn't really wish to wire up and then fault find! I therefore designed a simple printed circuit board which I drew up and etched (Figure 4). This board has the capacity to switch up to ten turnouts. Figure 5 shows the relay board installed in the control panel.

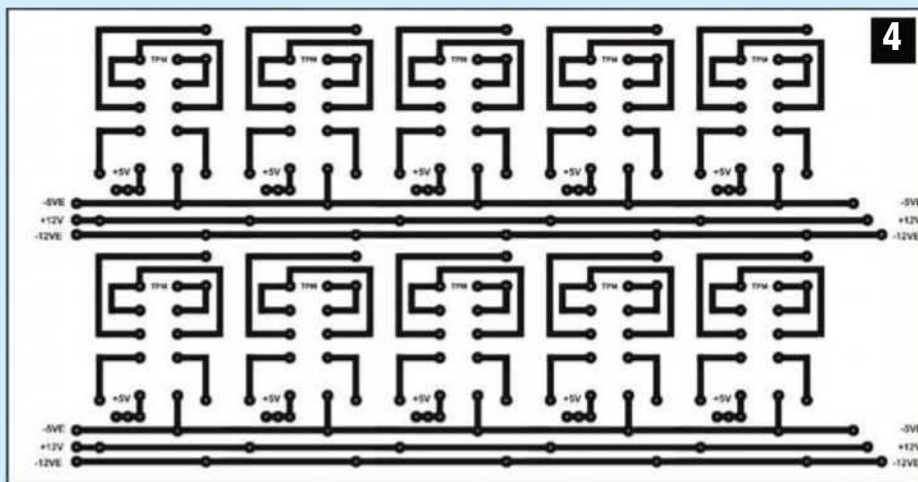
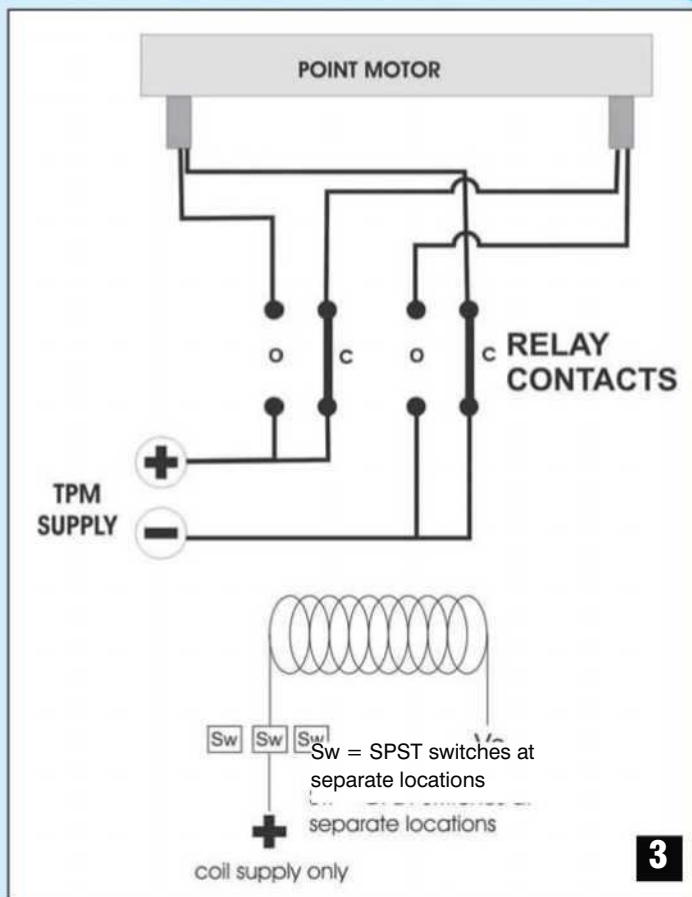
The toggle on-off switches are wired in parallel and you'll note that push button switches still cannot be used directly. (In fact, push buttons could be used in this instance if used with latching relay pairs).

Just for the record – I used neither toggle nor push button, but slide switches which in turn are operated by ancient Gem lever frames mounted on the control box.

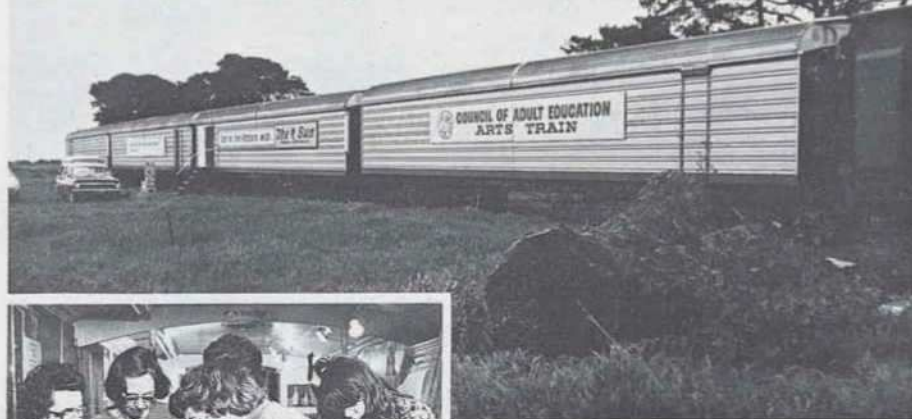
One Drawback

It would be dishonest of me not to mention one drawback of this method. Unless using latching relays in the circuit, to operate a turnout all the other 'wayed' switches must be in the (relay coil) off position. Operationally this means that if the turnout needs to be switched on for the correct road, then after the train has passed the relay must be switched off and the turnout allowed to revert to its original position. This is not a problem if you can see the turnout from your remote switching position and can see when the train has passed. Also it is not a problem as you can easily arrange the point motor wiring in such a way that the main (mostly used) road is set when the relay is off. *[This is how the prototype operates; interlocked turnouts are always returned to the 'normal' position after a movement has occurred. – Editor]*

If you cannot see your remote location, then some sort of track occupancy circuit will need to be used, or a system of latching each relay may be devised. I'm told this latter option is possible, but I haven't worked that one out yet! If it's a problem then I may tackle it after I've finished my scenery!



Bringing arts & crafts to the Victorian country



A tutor teaching leather work to a group of interested people in the arts train.

Country people of Victoria are well served by an arts train which shortly will make its fifteenth tour. Since its inception in 1973, the train, which is operated by the Victorian Council of Adult Education, has generally made two trips each year, giving local residents an opportunity to learn about and practise a wide variety of arts and crafts.

The next trip, which is due to start early in August, will take the train through the Goulburn Valley and into parts of northern Victoria along the Murray River, stopping for several days at a time at the various towns en route.

The word "train" is something of a misnomer, for it does not have its own locomotive, but comprises four special carriages that are attached to a convenient goods train for travel from one town to the next.

The carriages were originally rebuilt from passenger coaches for an exhibition train which was widely used by various bodies, including the former

Australian Wool Board, during the 1950's and 1960's. They are painted silver and carry distinguishing signs to let everybody know that the arts train is in town.

Many different arts and crafts have been brought to the country by the train on its tours which are of about two months' duration. On the latest trip, which was to the Mallee, the emphasis was on stained glass, pottery and painting; next time it will be on stained glass, pottery and wood turning.

Skilled, professional tutors accompany the train — which really is a fully equipped, mobile workshop — to

instruct and work with those wishing to learn about the various activities.

In addition, there is a display carriage in which examples of different arts and crafts can be seen. These include such things as leatherwork, screen printing, basketry, ceramics, photography, painting, and spinning and weaving.

During the forthcoming tour, there will also be a display relating to the new Victorian Arts Centre, presented by the Victorian Arts Centre Trust, while the Museum of Performing Arts and the Melbourne Theatre Company will combine to put on an exhibition of theatrical costumes and set design.

AUSTRALIAN COUNTRY MAGAZINE, AUGUST 1980 19

The Council of Adult Education Arts Train Addendum

Scott Ramsay has sent us these two images connected with the Council of Adult Education's 'Arts Train' that was the subject of his letter to the editor in the 'Mailbag' section of AMRM Issue 329 (April 2018).

▲ This clipping from the August 1980 edition of 'Australian Country Magazine' promotes the 1980 visit of the train to the Goulburn Valley and parts of northern Victoria.

▼ Scott's undated photo of 1CV, the regular guard's van on the Arts Train (the corner of the vehicle is visible in the photo published in the 'Australian Country Magazine'). This vehicle also housed the generator used to provide power for the train.



Perspective in Backdrops

Doug Simpson constructs a '3D' backdrop. Photos by the author unless otherwise credited.

► The author's 3D backscene temporarily transforms the usual rural ambiance of the editor's 'Lambing Flat' layout into something more akin to the inner city grime of Darling Harbour. Photo by James McInerney.

I have often wondered how one could give some depth to backdrop scenes. I have now tried to do so using layers, like movie cartoon animators do, or like layers that pop up when I open some children's books. The word 'layers' immediately brings to mind photography and photo editing programs, in my case, Adobe Photoshop. I wanted a scene with numerous objects in it, at varying distances. I wanted plenty of hard-edged objects, e.g. buildings, more than soft-edged, e.g., foliage. I found a suitable scene [Photo 1] while travelling by ferry to Darling Harbour, Sydney – a scene of CBD buildings looking to the east. I cropped it as per Photo 2.

I wanted my perspective scene to span a wall-space 600mm wide at the back of a city scene (not yet built) on my layout, so with the *Image/Image Resize* facility I increased the width to 600mm (the height automatically adjusted itself). I found it necessary to insert a thin line along the top edge to keep everything in proportion when splitting up the image. At 600mm width, I needed a height of 270mm so I could not use Landscape mode as A4 paper would only give me 300mm width and 210mm height, so I had to split the image for printing. It was easiest to split the image into four sections (giving each a file name), print them in Portrait mode, and glue them together after cutting off overlaps. I printed using *Draft mode, Greyscale* to save ink [Photo 3].

I decided to have five layers and allocated buildings to each by layer number. The five layers are No.1 Foreground, then red, green, blue and yellow.

In Photoshop I then made five copies of the whole scene, and filed them as



▼ The original image.

► The original image cropped for the backscene.



3

The four A4 portrait panels of the backscene printed in Greyscale and assembled and numbered as a guide for placement of the various building 'elements'. I decided to have five layers and allocated buildings to each layer by layer number.



4

The five layers coloured for ease of working out which was which. No.1 is the foreground layer, then 2 is red, 3 is green, 4 is blue and 5 is yellow.

About the Author

Me? I am 75, an idle layabout... err, I mean, a retired gentleman... I have been enjoying the hobby and AMRM for many years. My layout was originally under the house in among the piers, but I had to move it as the continual stooping was giving me backache! I love reading about the inventiveness and skill of my fellow railway modellers.

'Layer 1', 'Layer 2' and so on. In each file I erased buildings not in that layer (although keeping Layer 1 in each to aid in placement later) and saved each with a file name including the layer number.

It is important to keep the black line at the top of each to retain consistency in proportions when later printing individual buildings, and important to always use the *Scale to fit media* facility when setting Print parameters.

I then had to print each layer. I split the layer file into four parts as described above, printed each part in *Draft/Greyscale*, and joined them. I cut out the outline and glued this to a sheet of 3mm picture framing foam board which I purchased at a picture framer. When the glue had set, I cut the foam board with a hobby blade around the outline. Layer 2, say, then looked like Photo 6 in greyscale. I did this for the other layers.

I laid the five on top of each other to check against Photo 4. I now had to make a print of each building in colour on good inkjet paper, to be glued onto its outline on the foam board. For each building I 'selected' the segment (from black line at top, to the bottom) which contained the building, clicked on *copy*, clicked on *New File*, then pasted the segment onto that new file, naming it appropriately. (Note: it is important to select not just the building, but all of the picture from black line at top to the bottom in order to keep prints in proportion to each other and help in placement). For example, the second building in Layer 2 (see Photo 6) became file 'Layer 2, building 2' as in Photo 7 (note the top black line).

Before printing each building, I had to deal with this problem: because the foam board is 3mm wide the cut edges can be seen when looking at an angle so with each building I added a bit at the sides so that it could fold around the edges of the foam board. I did this by selecting about 3mm of, for example, the right hand edge of the building, from top to bottom, copying the selection, pasting it, then moving it 3mm to the right and *merging* the two [Photo 8].

After that alteration I printed each building file in colour on good quality inkjet paper, cut out the building's outline (including the bit of Layer 1 underneath, and glued it onto its foam board backing).



5

Layer 1 printed and ready to cut out and mount.



6

Layer 2 also printed and ready to cut and mount.

I then thought, belatedly, that the two taller buildings on the right in Layer 1 should have their own layer, between Layer 1 and Layer 2, so I created them on two pieces of foam board.

I glued the layers together, inserting hidden bits of foam board as packing where necessary. The layers by now had bowed so I glued them onto a length of 5mm corrugated cardboard with a weight on top until the glue set. This gave a scene of about 27mm depth to be fixed to a wall suitably painted blue with clouds [Photo 9].



7

▶ Printed file for an individual building in Layer 2.

▶ Extending the edges of individual buildings in Photoshop to allow for wrapping around the edges of the foam board. This building from Layer 2 shows 'before' on the left and 'after' on the right.



8



9

The complete section of '3D' backscene assembled and ready to mount on the layout.



Another of the author's backscenes; a suitably industrial scene arrived at by multiple copying, pasting, resizing, and horizontal flipping of an original image taken at Port Botany in December 2008.



A version of this article was published in the 2008 'Modelling the Railways of South Australia' convention notes and is adapted here with the permission of the convention organisers.

While the author has constructed a model of an SAR station building, the techniques described here are the same for brick/stone buildings of any prototype, railway or 'civilian' – Editor.

Modelling a Dressed Stone Station Building

*Gavin Thrum shows how to scratchbuild a once common style of SAR station building.
Photos by the author.*

South Australia's railway buildings from the steam era have a distinctive architectural look about them. Built in stone, brick or timber, their design was unique to the system, but the building techniques used were those of the domestic housing of the day. This model is based on one of the smallest of the type on the SAR, examples of which were located at Oodlawirra on the Peterborough to Broken Hill line, Booleroo Centre on the Gladstone to Wilmington line and Owen in the Clare Valley, though the latter was to a slightly different arrangement; it had a skillion roof instead of the gable style of the others.

I have selected a building with smallish dimensions and reasonably simple proportions for this project in HO scale, so the materials mentioned are optimised for this scale. Scratchbuilders in other scales will need to adapt materials and dimensions as appropriate.

Research

To prepare for this model some research was required. Of course the internet was a huge help in the research and photos from differing sources came to light. A copy of the original SAR station drawing was also obtained and redrawn to reflect the needs of the modeller.

The foundation at the base of the building has been drawn to a depth where the soil level would be settled. Like many of the ground level station buildings, the area in and around the waiting area was usually bituminised. I have included most of the red brick quoining and trimming which was not detailed on the original drawings (quoins are the stones or bricks forming the corners of a wall). While this type of building was constructed as a ground level building, that does not mean you can't use it on a platform.

Materials Needed

Box Structure: I have successfully used thick card in the order of 1mm-2mm over many years and rely on its rigidity and

ability to withstand the extremes in temperature that South Australians endure. The cardstock you can use is plain, pressed card, which has a high degree of stiffness about it. It is a light brown to grey colour.

The thickness of card used in this project is 1mm and 2mm, which reduces the need for the modeller to put in strengthening braces and multiple corner bracing. Four corner braces are all that is needed in this project. This will become evident when you start working with this material and see how well the structure holds its shape.

Embossed card, which is commonly used in masking of pictures in picture frames is available in many colours, including white, and can be used as well. This type of card will have a matt finish if coloured or, if white, will usually be glossy. Any large newsagent should stock the above-mentioned materials.

Stone Walls: For the stone walls my choice has been printed, embossed card available in the Faller range, as No.615 or 170-615, 'Brown Cut Stone'. Other colours of stone are also available. The Brown Cut Stone has a rich, clean, tan, sandstone colour, which can be washed over with thinned paint to dull it down if needed. I find after light weathering and a coat of matt finish, it looks the part. There are other colours in their range that may be used including mid-coloured browns and greys. There are other manufacturers who make simulated stone wall finishes, such as Noch or Vollmer. If you are handy on the computer, then you can take photos of building walls in sunlight and reproduce them with your printer.

Red brick: Brick papers are available from the Peco range as 'Red Brick' or the Metcalfe range as 'Red Brick Sheets'. If you are handy on the computer you might like to design and print your own. In Australia the stretcher bond style of bricklaying was the most common from the 20th century on, but other styles were used earlier.

You will see that the two English paper

makers have a Flemish bond, which was common in England. This is what I used, but it is hard to notice in passing. See Drawing 4 which shows both Flemish bond and stretcher bond.

The following materials are often still sold in Imperial dimensions because of their US source, so they're the dimensions I've given. Their metric equivalents are:

0.010" = 0.25 mm

0.020" = 0.5 mm

0.025" = 0.64 mm

0.030" = 0.76 mm

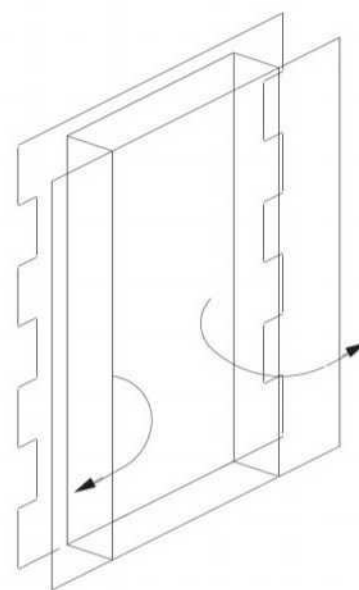
0.040" = 1 mm

1/16" = 1.6 mm

Foundations and Window Sills: Shoebox card, about 0.020" thick.

Corrugated Iron: Roofing iron is supplied

Fold brick paper through window opening and around on inside



Drawing 3

by a number of manufacturers, commonly pressed card or styrene plastic.

Guttering: Styrene of 1/16" angle.

Fascia: Cut from 0.020" styrene sheet.

Awning and Corbel Brackets: Styrene strip, 0.040" x 0.040".

Downpipes and Ridge Capping: Brass or copper wire of 0.025" to 0.030" diameter and copier paper.

Windows: Styrene strip 0.020" x 0.020", 0.020" x 0.030", 0.010" x 0.030" and clear plastic (I usually use shirt box lid or similar).

Paints: Red or green for the roof, white or off-white for the fascias, gutters, downpipes and timber trims.

Name Board: Styrene 0.030" or 0.040" sheet. Create your station name on a computer. If you are modelling Booleroo Centre, just photocopy off the drawing, which is a reproduction of the name taken from the photograph.

Water Tank: If you are putting in a water tank, either purchase one or make one up as per the instructions near the end of this article.

Aquadhere: I have found this type of glue quite adequate for the assembly of card and paper material. Don't be fooled by its slow setting time when used with timber. It sets in a matter of 20 to 30 seconds with card and paper, because of the high absorption rate. A damp cloth is also handy if too much glue has been applied and it squeezes out from under what you have just glued. Have a tube of Superglue handy as well for some applications.

Construction

I nearly always use 2mm card for the body of the structure. This requires some heavy cutting pressure with a sharp box-cutter knife. If you have difficulty with cutting thick materials with your hands then use the 1mm or 1.5mm card, but you will have to laminate your thin card to reproduce the wall thickness, especially at the arch section wall. This is necessary as the thick wall cross-section of old stone buildings needs to be replicated. Firstly, cut out four triangles from the card, approximately 20mm x 20mm. These will be needed in the assembly of your walls. An easy way to do this is to cut out a square or rectangle of card, then cut it in half diagonally.

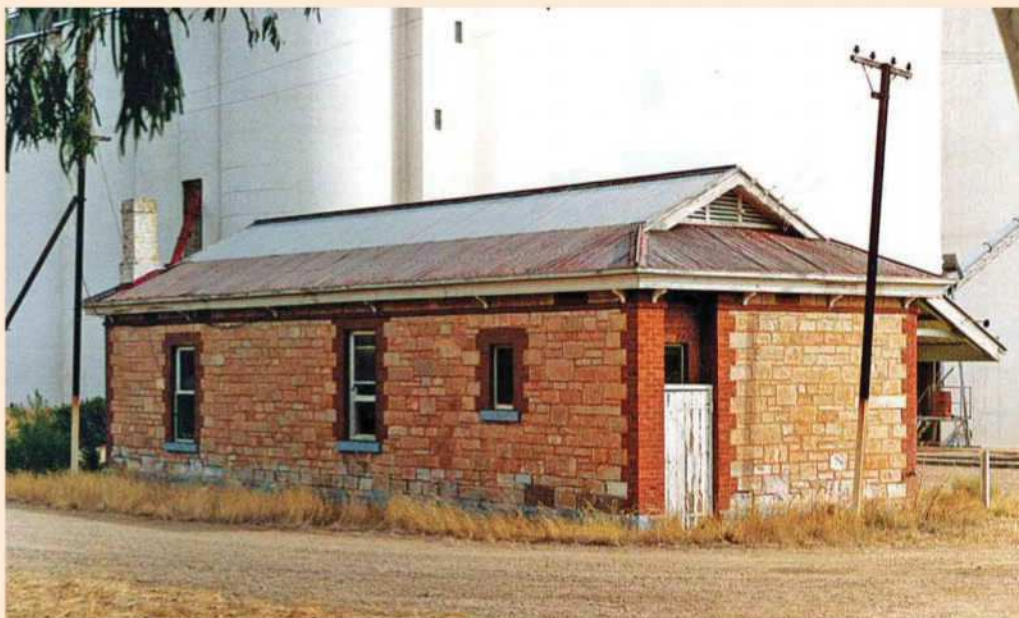
Mark out on one piece of card all sides of the building, including the window and door positions. When marking the windows and doors, add 0.5mm to the width of the openings. This allows for the thickness of the brick paper, otherwise the openings will be narrower than they should be.

Cut the walls to the lengths shown in Drawing 2. Note how the side walls overlap the end walls. This saves you recutting or throwing away a wall that is too short. As can be seen in Photo 1, as you

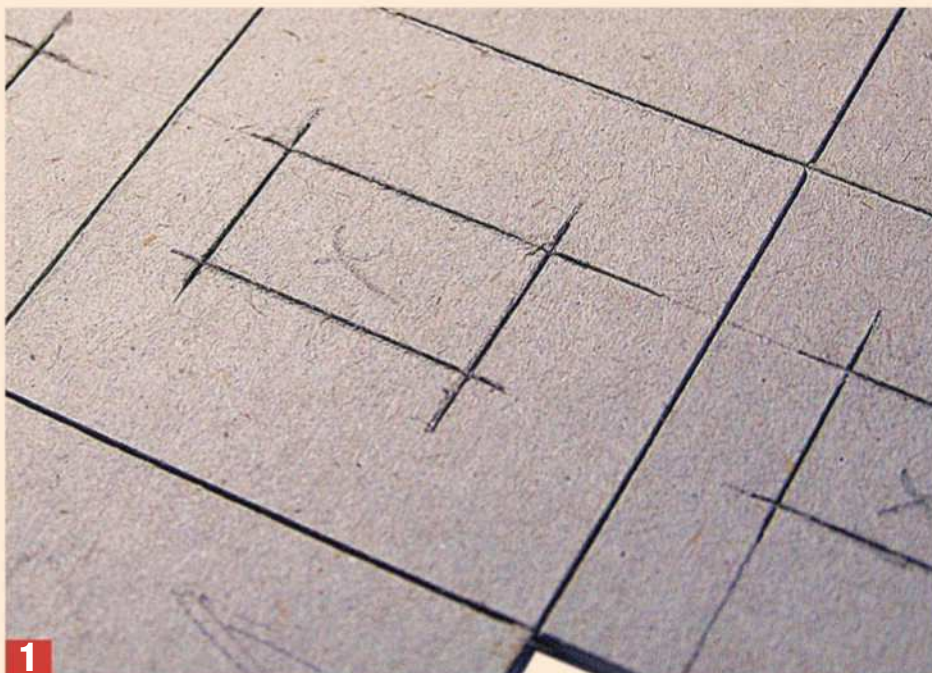
► Marking out and beginning to cut out the windows.



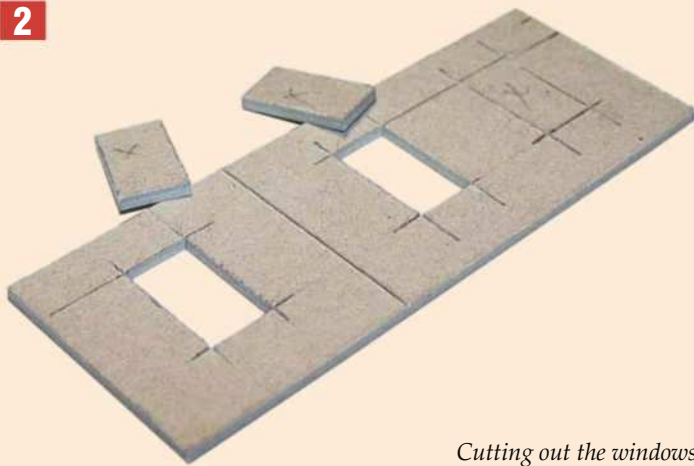
The rail side of the dressed stone building at Booleroo Centre, photographed during the late 1980s.



The road side of the building at Booleroo Centre.



2



Cutting out the windows.

pierce through the card at the corners of each window don't be afraid to cut a little further across the corner. Doing this makes pressing out the window blank easier, leaving a nice sharp-edged cut. The stone and brick quoining will cover the over-cut marks left in the wall [Photo 2].

Assembly

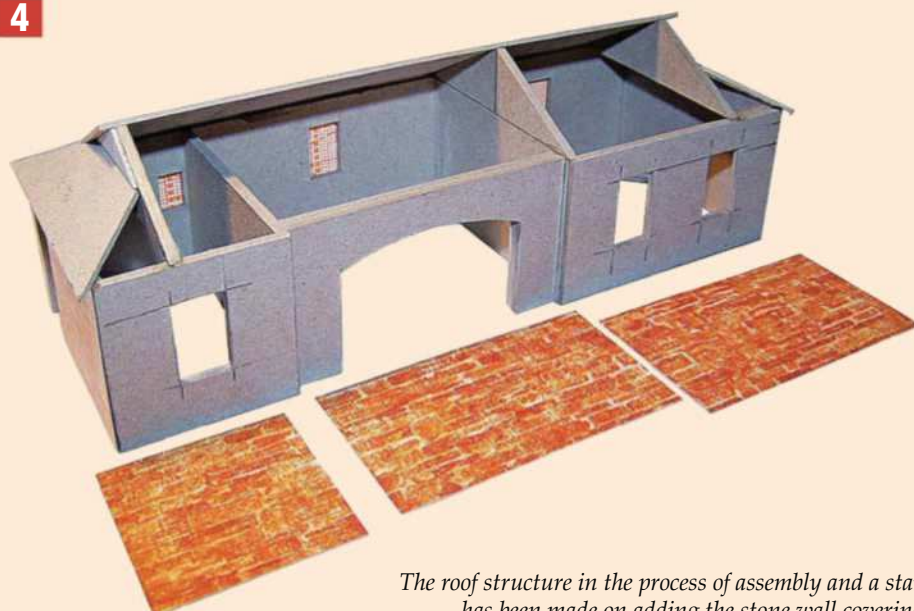
Start with the larger sized pieces first, as these assembled walls will stand on your bench top on their own and adding to it is made easier as well. As each corner is assembled, glue in one of your small triangle braces flush with the bottom of the wall. Your model wall boxing should look like that shown in Photo 3.

3



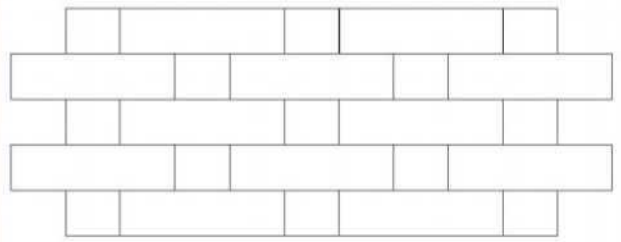
The shell of the building assembled.

4

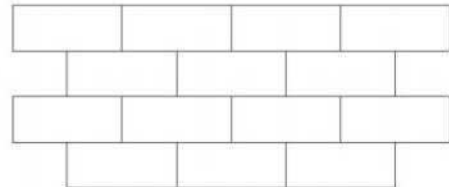


The roof structure in the process of assembly and a start has been made on adding the stone wall covering.

Flemish bond pattern



Stretcher bond pattern



Drawing 4

Roof and Vent Louvres

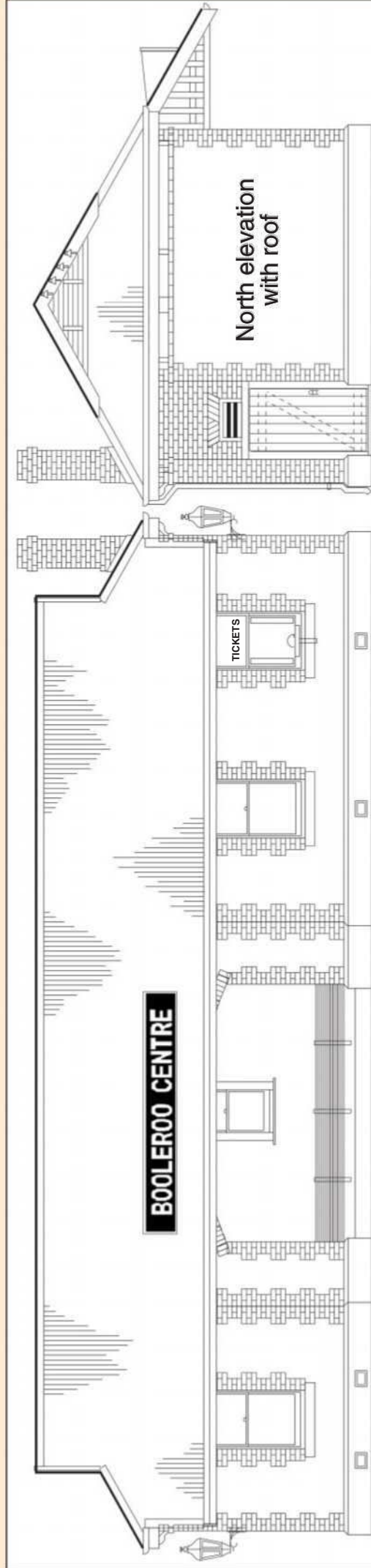
Measuring from Drawing 1, three triangular roof support braces can be cut out and glued in place, which will aid in the measuring of the end roof panels. The measurements of the pieces must take into account the thickness of card and wall height. I have made this a common approach to assembling a roof, as it is the more difficult area to get right when marking out the roof panels so they fit.

Draw a mark on the roof supports where the end panels meet the bottom of the end louvres. Using Drawing 2 as a guide, place two roof braces at the positions where the gable louvre vents in the roof are. Then glue the third brace on top of the central waiting area wall [Photo 4]. Special note: be aware that the measurements for the roof panels will be taken from your model, not the drawing. The roof pieces will need to protrude past the top of the walls by 2mm, thereby creating the eaves.

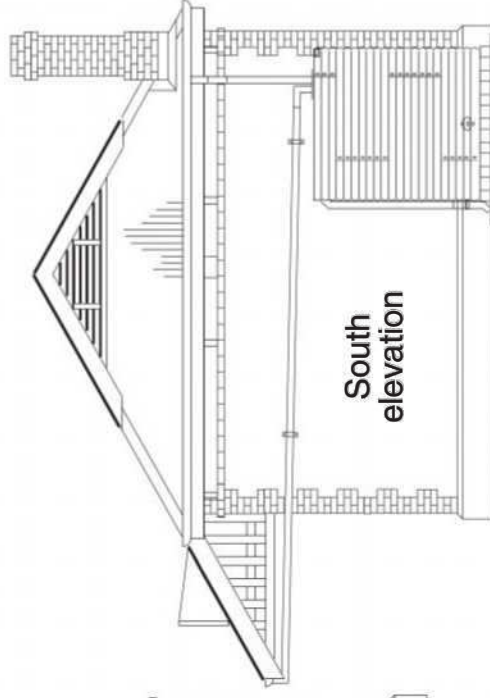
Using 1mm card, mark and cut out the end roof panels, making sure these panels sit correctly at each end of the building and meet at the mark that was put on the end louvre supports. Mark out the large roof panels and try for fit. Glue on the rear half of the roof, but leave the front half with the awning off the model for now. Cut out and glue on the two vents from some clapboard sheet [Photo 4].

Stone Walling

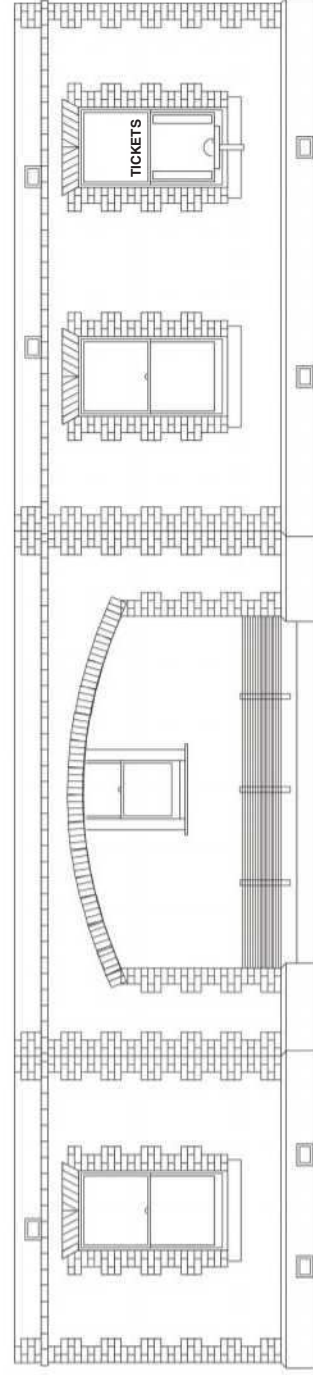
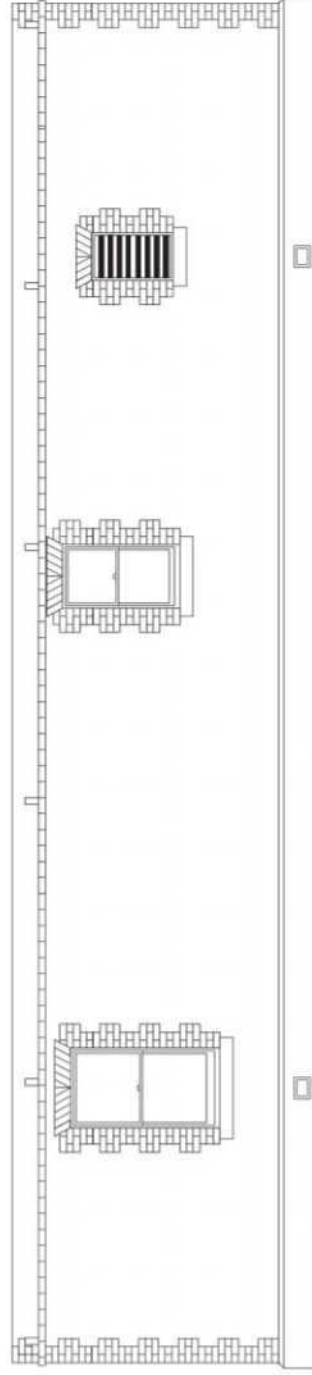
Measure your model walls for this step. Don't worry about messing around trying to mark and cut out the positions of the doors and windows. They always seem to not line up directly over the holes cut in the walls. Cut out one wall at a time. Glue them on, being sure to smear the Aquadhere evenly over the whole wall right to the edges. Make sure they sit flush along the bottom edges. Try to get a



Platform elevation with roof



Rear elevation



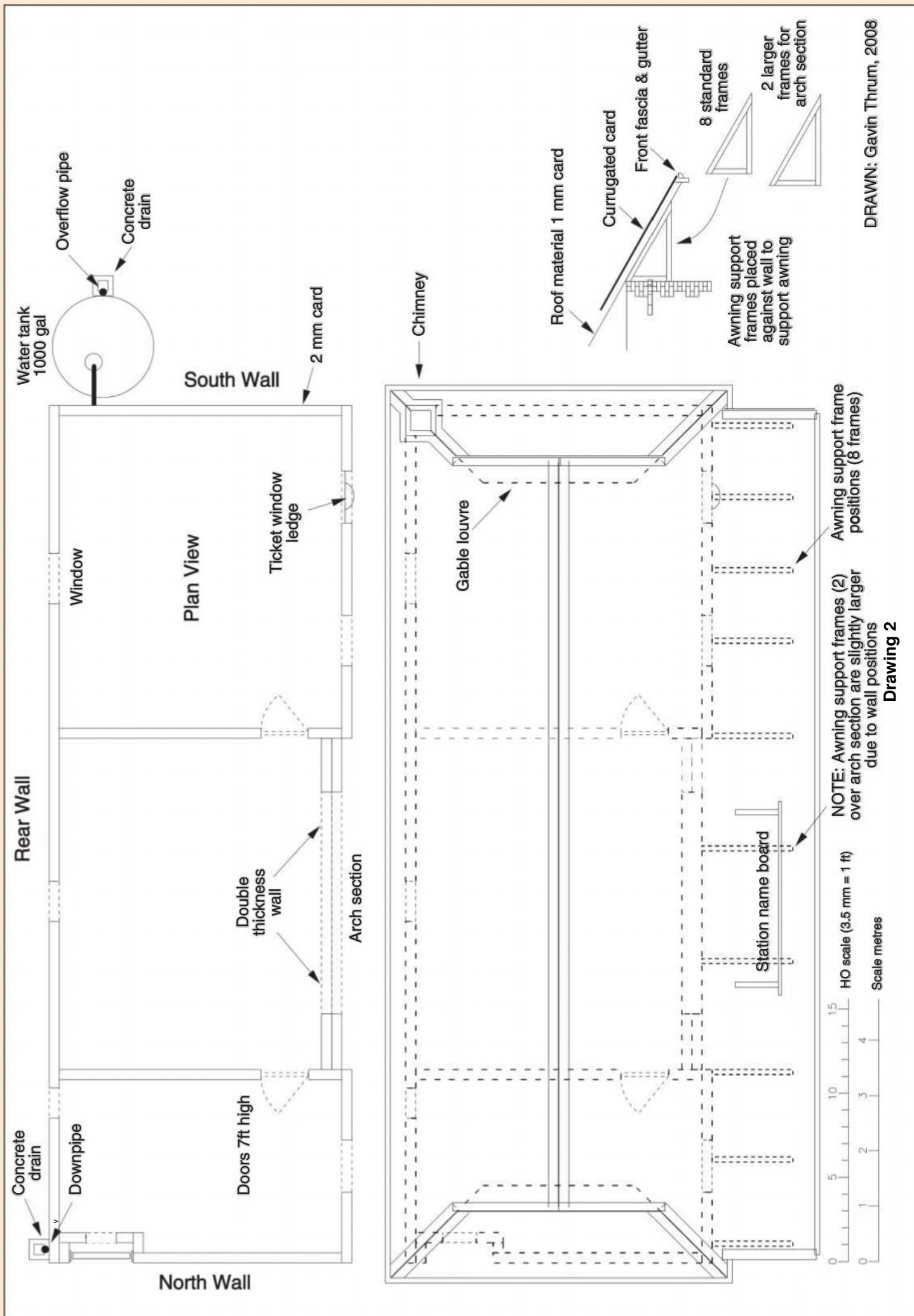
HO scale (3.5 mm = 1 ft)

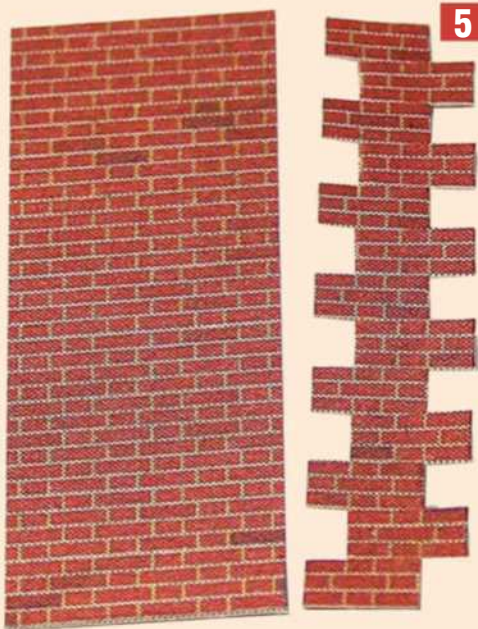
Scale metres

0 1 2 3 4 5 10 15

0 1 2 3 4 5 10 15

DRAWN: Gavin Thrum, 2008





5

Cutting out the brick corner and window quoining from the printed brick paper; each quoin should be three bricks high.

nice sharp edge at each corner of the building so that when you glue on your brick quoining, its appearance is clean and sharp.

Once all walls are covered, the window and door openings can be made. Poke your pointed knife through the centre of an opening, e.g. a window. Cut along the top, bottom and side edges to the card to reveal all the openings. Complete all doors and windows this way.

Brickwork and Foundations

The foundation formed around the base of the building can now be added. Cut some strips of thin card (the same used for the window sills) to the height required and glue to the base of the walls. Be sure to keep those corners sharp. For the quoining, the drawing shows each step section as three bricks high [Photo 5]. Cut out a test piece of brick paper with the stepped cut-outs and bend around a corner for fit. You should achieve a symmetrical pattern on each wall face [Photo 6].

Paste on all of the corner quoins first, then the door and window openings [Drawing 3]. The bricks above the windows and doors are set at an angle [Photo 7]. If you wish to choose an easier or different style to apply on your model, see Photos 8 and 9 for some alternatives. The waiting room arch needs to have the upper bricks arranged with a strip of plain side-by-side bricks which can be cut out of the capping strip on your brick paper sheet [Photo 10].

At the bottom of each window is a sill or ledge. Use some thin card to form them. Glue them on flush with the bottom of the window openings. You will notice a single course of brick near the top of the walls. This can be achieved by gluing a number of courses of brick paper off a sheet to some thin card or thick paper, then cutting a single course of brick from that with a sharp knife. The strips can



8

A slightly different arrangement of the brick quoining around another window of a community centre building in the southern suburbs of Adelaide.



9

Yet another variation to the quoining typical of the era during which the Booleroo Centre building was built, once more from that community centre in southern Adelaide.



6

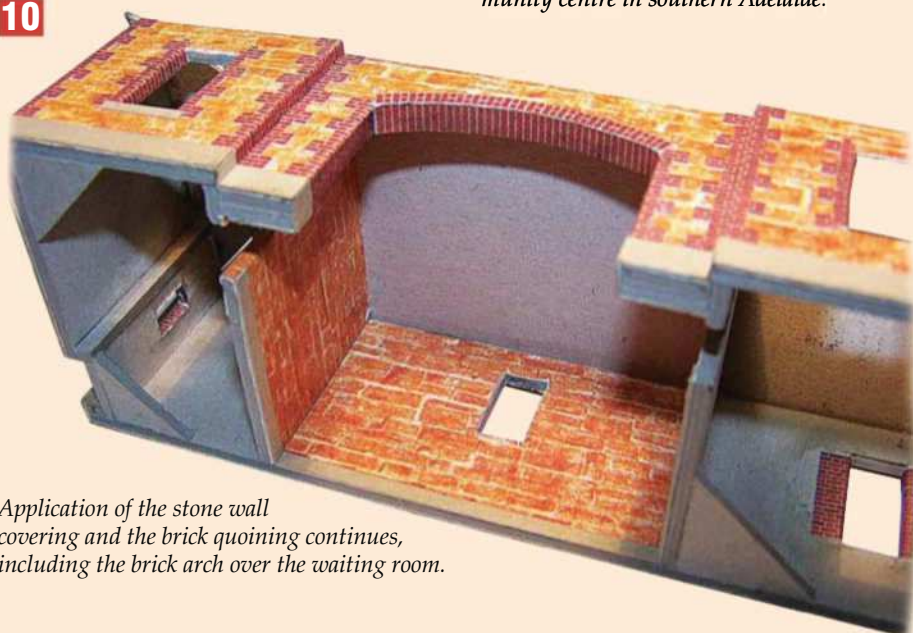
▲ The overlay of brick quoining on the corners and around the windows. This photo also shows other details, such as the downpipes, guttering, brackets and concrete window sills and foundations.

▼ Detail of the brickwork around the windows and the ventilator above on a community centre building in the southern suburbs of Adelaide. It is typical of the window and vent treatments of the era during which the Booleroo Centre station building was built.



7

10



Application of the stone wall covering and the brick quoining continues, including the brick arch over the waiting room.

then be trimmed and glued in position, making sure the strips meet sharply at each corner.

Corrugated Iron Roofing

The front roof and awning piece can now be glued in position. Take some measurements from your model and draw out on the corrugated card, noting the orientation of the fluting. Take note: allow an overhang of 1mm at the gutter edge of the pieces you cut out. When glued on, that 1mm overhang will create a pocket to attach the fascia boards [Photo 11].

Attach trimmed lengths of wire to the edge of each ridge-capped join on the roof with superglue. Make sure they are glued right at the join. Cut out some strips of copier paper, 6.5mm wide. To cre-

ate the formed ridge cap, fold the strips longitudinally in half and open back out again. Trim the ends of each piece to suit, smear Aquadhere to the underside, then place over the wire centrally. Use the crease to locate over the wire. Flatten down the paper by gently pinching with your fingers, making sure it stays central over the wire. Now gently run your fingernails or a blunt pointed object such as a pencil or tweezers down both sides of the wire to create the formed look of the ridge cap. The Aquadhere will allow you to slide the paper in snugly around the wire if you are reasonably quick with this procedure. Clean off any excess glue with a lightly dampened cloth.

Fascias

Cut out strips from 0.020" styrene to the correct width using the drawings, remembering to measure the width as though the gutters are not there. Trim to length and Superglue into position around the whole roofline, including the awning section. At the end of the awning and gable vent areas, the fascia is flush with the corrugated iron (corrugated card does not overhang). Using some wire, form the rolled end capping by gluing some wire on at the upper edge of the fascia, flush with the corrugated card. Glue on some half flashing over the wire bridging to the corrugated card. The fascia should now run the entire perimeter of the roofline.

Chimney

Form a chimney using styrene and decorate with brick paper. The bottom of the chimney will need to be angled and made to clear the ridge cap. Glue on, then place the flashing around the base as in the drawing. Use the leftover 6.5mm strips of paper ridge capping for flashing, gluing it on with Aquadhere.

Gutters

Gutters can now be attached using $\frac{1}{16}$ " angle section. Fit them directly up underneath the corrugated iron overhang at the top of the fascias.

If you are putting on the corbel brackets that are mounted under the eaves, these are shaped from 0.040" x 0.040" styrene and placed with tweezers in the correct position as per the drawing. They nestle between the eaves and the line of bricks, behind the fascia.

Awning Brackets

I have shown their position on the drawings, but it's up to you whether you want to put them in under the awning. They can't be easily seen so leaving them out is an option. The end brackets with

the vertical Federation style slats need to be attached as the finishing touch to the awning. These can be made up as a separate bracket or assembled under the awning, it's your choice. Use some 0.040" x 0.040" strip to form the end brackets.

Painting, Downpipes and Vents

Start by painting the roof first, with its flashings and end capping. Corrugated card needs to have an undercoat before applying the colour. If using acrylic paint, brushing will suffice. Oil paints cover card better if sprayed. Next paint all the timberwork and gutters together. Your paint scheme is of course up to you and the guttering may be made a different colour.

Make up the downpipes by forming them with small, pointy-nose pliers and paint before gluing on to the walls. These can be the roof colour or white. Wall vents are simply small pieces of 0.010" styrene or card, shaped as a rectangle and glued on to the building. There are vents up under the eaves as well as along the foundation.

Foundations and window sills were not painted when the building was built, but later in the building's life. I painted them with Floquil Concrete, a good natural weathered mortar colour. Paint the vents a dark grey.

Windows and Doors

Cut out some clear plastic pieces at least 6mm to 10mm larger than the openings to ensure there is enough gluing area made available. Scribe the opening size on to each window or door. Window frames can now be fabricated, using tweezers to place each strip of styrene, using a minute amount of Aquadhere or, if you are confident, Superglue [Photo 12]. The strips used for the windows are left unpainted, but if you choose to have coloured frames, then pre-paint the strips before assembling. Try the windows for fit and glue in with Aquadhere but apply the glue only to the outer edges of the clear plastic so no glue seeps into the window frame.

Doors are also made using styrene strip and sheet and painted before gluing inside the openings. Door knobs can be made by cutting off a tiny piece of 0.020" x 0.020" strip and gluing on at the appropriate height. Form the timber toilet door with styrene and paint white.

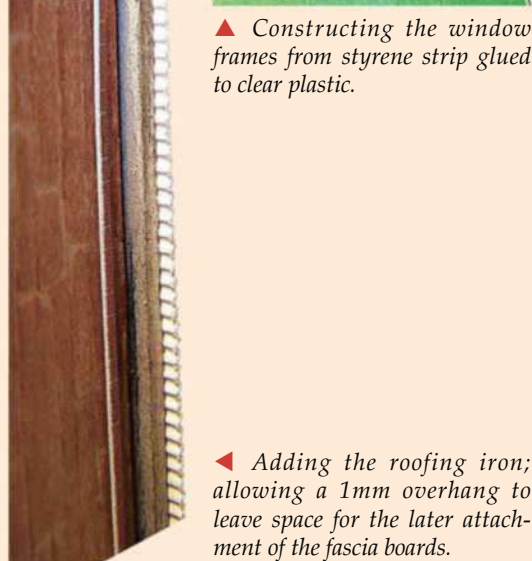
The vented windows are modelled using the same clapboard used for the gable louvre vents. Glue them to a clear plastic piece as with the windows. The ticket window had a mesh insert and can be modelled using some etched brass grille or similar. If you haven't any mesh, try a piece of cigarette paper painted matt black.

Name Board

Use some styrene cut to the right size for your station name. Paint the back and edges black, and Aquadhere the



▲ Constructing the window frames from styrene strip glued to clear plastic.



◀ Adding the roofing iron; allowing a 1mm overhang to leave space for the later attachment of the fascia boards.



The water tank has been constructed and installed.

trimmed station name of your choice to the front. Mark on the roof a line parallel with the awning edge, using Drawing 1 for position, and superglue the sign on centrally along the line, over the arched wall section. Use tweezers to hold and adjust vertically until set. Cut two braces from a piece of wire, 8mm long and superglue at each corner as per Drawing 1. Paint the braces black.

Other Details

The ceramic telegraph insulators can be made with short pieces of small diameter wire bent to a hook shape and fixed to the upper gable fascia as per the drawing. Paint the hooks with a dab of white or, if you want glass insulators, dab some jade green or tan brown on the ends of the hooks. Make sure you have telegraph

poles nearby, typical of all South Australian stations.

A rain water tank is mandatory and, if making one, here is one way of creating a flat top tank. Start with a trimmed piece of tube. It may be some electrical conduit or water pipe, or even solid round timber works well. Mark a vertical line from top to bottom of the tank. Cut a strip of corrugated card the right height of your tank, and superglue one end at the line marked on your tank. Wrap the strip around the tank and mark where it meets. Trim and glue the other end of the strip around the tank.

If you want a cone top, fashion the cone from 0.010" styrene, trimmed to fit neatly on top. Glue a small diameter plate on top of the tank for the downpipe access. Tanks usually rest on a timber

stand, much like a crate in construction. Fashion one from balsawood or styrene strips and paint grey. A tap at the bottom over a drain makes for good detail. The tank can be painted silver and weathered, or painted the same colour as the building roof [Photo 13].

Weather the building with your favourite method. Take note of certain effects such as fading paint, salt damp, pigeon droppings and even rotting timber.

A men's toilet was provided a short distance from the building, so make it a part of your surrounding detail along with any fencing, bollards, bins, pot plants and signs, even a fire hose box. Place the slat seat inside the waiting area. If you're modelling the 1970s to 1990s era, then a bicycle or car parked under the awning makes a realistic detail. 

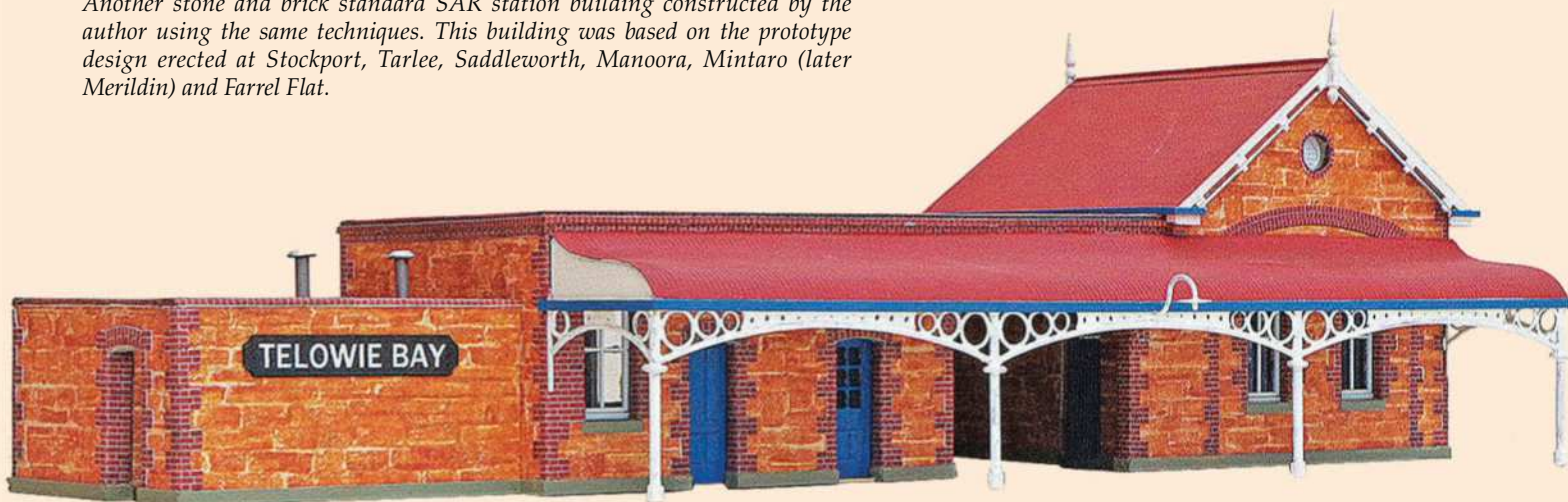
► The completed station building.



► Not enough room on your layout for a full-width station building? Not a problem, build it in low relief and butt it up against the backscene.



Another stone and brick standard SAR station building constructed by the author using the same techniques. This building was based on the prototype design erected at Stockport, Tarlee, Saddleworth, Manoora, Mintaro (later Merildin) and Farrel Flat.





DESIGN AND BUILD A LAYOUT

Computer Train Simulation

*Brian Peacock describes the advantages of using a computer train simulation program to assist in layout design.
Photos by the author.*

In my previous article *Computer Aided Design* [p.25 AMRM Issue 328, February 2018], I showed how a computer program can be used to design a model railway layout. Although such programs can be a wonderful aid in designing your layout with accurate specification of track elements (flexible track straights, turnouts, slips etc.), they only provide a basic 3D image of how the layout will look. More importantly, they can only offer a static image of the layout i.e. they do not show the trains actually moving around the layout and interacting with each other. To do this, we need to move into the world of computer train simulation. In this article, I will explain what computer train simulation is, how it can be used and, via a link to a video, I will demonstrate the results of a simulation of my own, under construction, layout.

What is it, and is this really a part of our model train hobby?

Some readers may be thinking that computer train simulation is just a computer game and has no role in our 'real life' model train hobby. Yes, some com-

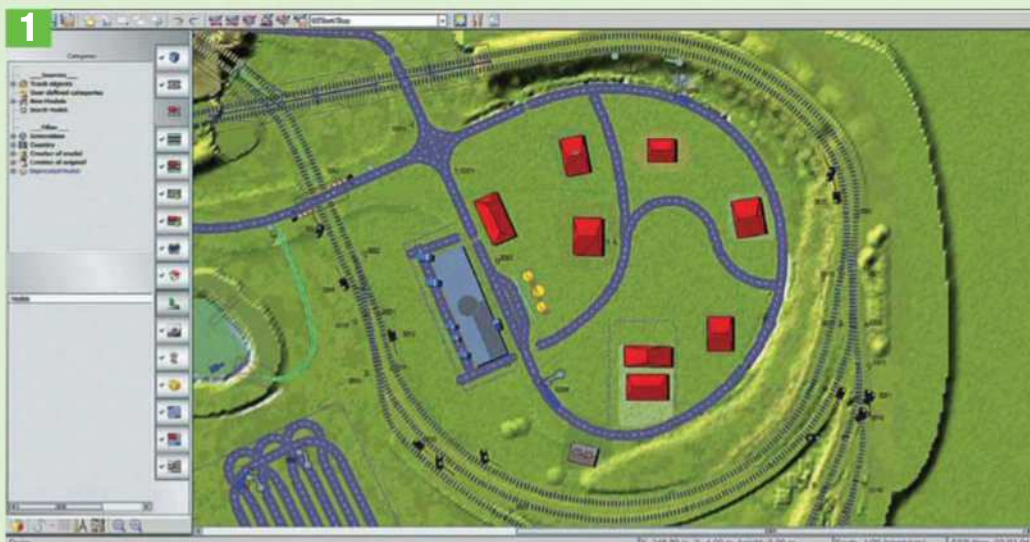
puter train simulation programs are primarily designed for game play. Programs such as Trainz and Train Simulator have a strong emphasis on game play by providing many cab controls to drive the train, with competition points awarded for mastering various skills. Some of these programs even provide multi-player modes and can be played on all manner of desktops, laptops and mobile devices. However, there is a completely different category of computer train simulation whereby the emphasis is on the design of the track layout and the interaction of the trains. In fact, the program called EEP (Eisenbahn.exe Professional) is not even listed as a train simulation program by Wikipedia. It can be more accurately described as a 'construction and control simulation program'.

With EEP, you can design a layout in a similar manner to a CAD program. However, the level of scenery that can be added to the layout takes it way beyond the relatively simple graphics available in the CAD program. In particular, it is the ability to add rolling stock and locomotives which can travel around the 'virtual' layout that puts this program in an entire-

ly different category. You can design a layout similar to the one that you plan to build, but, importantly, you can also create routes for trains to travel along, just as they will when you have created your physical layout. Trains 'move' and interact with each other as routes cross over. With this level of train animation, you can determine whether your planned layout offers sufficient variety and interest. If you are disappointed with how the layout operates, you can easily make changes without the effort and expense of changing a 'real world' layout. It is recommended that you run the simulation for some time to ensure that you are happy with the operational aspects of the layout before beginning the process of building the corresponding physical layout. For this reason, I feel that computer train simulation can be an integral part of planning, designing and building a model train layout.

However, there are other advantages of using a computer train simulation, even if you are not planning to build a physical layout. These include:

Cost – Let's be honest. Unless you can scratchbuild your rolling stock and track,



A screen shot showing the layout element construction process taking place in 2D.

or use second hand items, the cost of building a layout can be in the hundreds or, more likely, thousands of dollars, particularly if you are planning a DCC layout. The EEP program costs around \$75.00 and can be used to 'build' an infinite number of train layouts. Of course, I am assuming that you already have a reasonably powerful computer. A minimum configuration of Windows 7/8/10, 32 bit with 4GB memory and dual-core 2.5GHz processor is suggested, while a configuration of Windows 7/8/10, 64 bit with 16GB memory, dual-core 3.2GHz processor and 2GB graphics card is recommended for smooth movement of moving vehicles.

Space – An increasing proportion of the population is living in smaller dwellings, including apartments, particularly as we grow older, and this trend will only increase. Although the smaller N scale and Z scale are always a possibility, failing eyesight or limited dexterity may rule out these options. A computer simulation enables a person to still enjoy designing a layout, constructing detailed scenery, assembling an extensive array of rolling stock and operating the trains on that layout, albeit in the virtual world.

Mobility – Layouts, particularly more complex ones with turnouts operated by motors, track wiring, lights and other animations, require a lot of 'under the table' work. As we get older, or for those with physical disabilities, this becomes more of a chore until it reaches a stage where it becomes untenable. A computer simulation requires no more movement than the mobility to operate a keyboard and a mouse.

Building a Virtual Layout

In a similar manner to the CAD programs, construction of a computer simulated layout begins with the laying of track. Again, track elements such as straights (that can be bent to any desired angle), turnouts, slips, and track ends can be selected from a library of different track styles and placed on the screen to be joined in the desired combination. Although a layout designed in SCARM (a model railway CAD program mentioned in the previous article) cannot be directly imported into EEP, Ruud Boer in his YouTube video *EEP-X Tutorial 34 – Use an Image as Template for Laying Track – Model Train Simulator* (tinyurl.com/EEPTemplate) explains how an image of your SCARM layout can be used as a template for your EEP layout. Of course, you can always lay track using a design from a book or your own design. Besides the track, you can add track objects from the provided libraries, such as stations, platforms, bridges, tunnels, turntables, roundhouses, locomotive sheds and coal gantries.

Further to your railway track, you can also add a road system with intersections and road crossings over your railway. A smaller range of road objects can also be added to the road system. In keeping with modern transport options, even a light rail network can be modelled. In

addition, waterways with moving vessels such as sailing yachts and motor boats can be incorporated.

Next, you will probably want to add signals to control train operations. You can operate your layout in manual or automatic mode. In manual mode, you can operate all aspects of the train, such as direction and speed, and the route that it will travel by setting signals to stop or go and switching turnouts to the closed or thrown positions. Automatic mode is achieved by adding signal and turnout contacts on the tracks that will automatically set the signals and turnouts according to predefined routes.

Rolling stock such as locomotives, passenger carriages, freight wagons, trams, road vehicles and marine craft can be placed on their appropriate pathways. You now have all the elements of a working layout with vehicles and vessels moving around and controlled either manually by the operator or automatically via the sensor contacts placed on the tracks and roads.

After that, you will want to add scenery to add realism such as you would do on your 'real world' layout. Rich and diverse scenery elements can be added with amazing results. Mountains, hills, gorges, rocky outcrops, and waterways can be created and finished with a diverse range of coverings such as grass, leaves, trees, bushes and flowers. There is really no limit to the scenery detail that you can add. It just takes some experimentation with different textures and colours to create the effect that you are seeking. Just as with a physical layout, with perseverance and trial and error you can create a beautiful and realistic layout. Editing can be done in 2D and 3D modes. See Photo 1 for a screenshot of editing in 2D while Photo 2 shows a piece of track being edited in 3D.

Finally, the EEP software has a comprehensive camera management system. Via use of these software cameras you will see, in 3D view, whatever appears from the angle of the camera that you control

using the mouse and/or keyboard. Depending on the camera mode, you can move the camera freely and explore the layout under your own control or couple the camera to a train and enjoy the railway landscape from the perspective of a passenger or the driver. You can place cameras in multiple positions around the track and save these positions so they can be recalled via a menu of camera positions.

You can even automatically activate these camera positions via contact sensors located at points around the track. If you have screen capture software (a simple version comes with Windows 10 – refer to YouTube video tinyurl.com/Win10ScreenCapture for more details), you can take a screen capture video of your operating layout and post it to YouTube or something similar without the need for a physical video camera. A video of the simulation of my physical model railway layout can be viewed on YouTube (tinyurl.com/EEPModelRailway). Photos 3, 4 and 5 are screenshots from that video with a corresponding photo of the physical layout under construction.

Training videos are once again the best way to learn the various aspects of EEP. The software now comes with a set of 90 (yes 90!, and you will want to follow every one of them) short tutorials, each of around 90 seconds' duration. Then, there is the set of Ruud Boer YouTube tutorials (tinyurl.com/EEPBoer) consisting of 82 videos of much longer duration. However, of these videos, numbers 1-21 have been largely superseded by EEP's own tutorials, and numbers 22-70 cover the now antiquated control circuits for train operations. Numbers 71-82 cover the LUA language, but I recommend that you just focus on numbers 79-82 as noted below.

Train Operations

As mentioned previously, the huge advancement of train simulation over CAD is the movement of the trains along the layout. It is possible to do just about



A screen shot of the layout building process using the 3D compiler.

everything via the simulation as can be done on a physical layout. Trains can be started and stopped, speed changed up and down, direction changed from forward to reverse, horn sounded, lights turned on/off, and turnouts, including single and double slips, changed. You can control the trains manually or via automated schedules. As part of your operations, you can even operate animated objects such as a crane transferring crates from a train wagon to a truck trailer.

My physical layout has a number of schedules that involve the uncoupling and coupling of locomotives to different carriages or wagons. EEP handily supports this functionality via its recently introduced 'soft coupling' feature which automatically slows and couples a locomotive to a carriage or wagon. Likewise, for uncoupling, there are controls to release the front or rear couplers.

You can achieve complex, automated operations in one of two ways. The older facility used 'control circuits' which are logic switching circuits used to control the settings of signals and turnouts to create routes with collision protection. These control circuits can become quite complex

and although they avoid the use of any sort of programming language, they are difficult to master and are not recommended.

In the last couple of years, the developers of EEP (Trend) have included the LUA language that can be used to control train traffic. Now, for some of you, the mention of a programming language will be the final straw and you may conclude that this is not for you, but hang in there. Even if you don't understand a programming language, nor have any desire to do so, help is available. Again, Ruud Boer, whom I have mentioned several times, has developed an LUA code set that can be adapted to any layout via the use of parameters. His EEP-X tutorials numbered 71 onwards explain how he has used the LUA code, but I suggest that you focus on tutorials numbered 79, 80, 81 and 82. He has provided a download of his code in tutorial No.82.

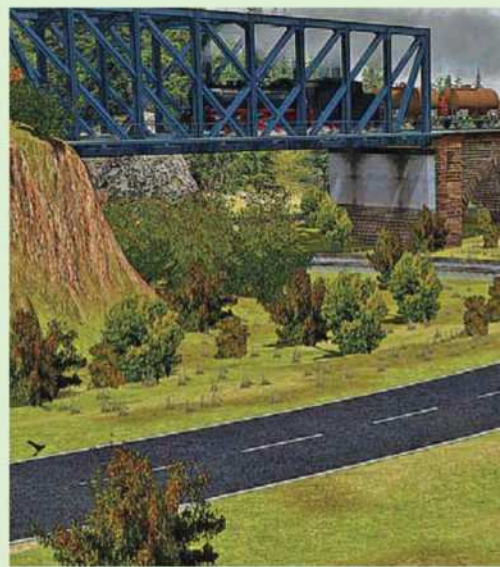
By very closely following those videos and his instructions within the code, you will be able to adapt his code to any layout without writing a single line of LUA code. You must have a complete understanding of what he is explaining in those

videos and be very careful and accurate when defining the block and route parameters but this facility makes it possible for anyone to create complex automated schedules. However, like any new skill, I suggest that you start with a simple test track layout and gradually add more complexity until you have the competency to work on your major layout.

The Good, the Bad and the Ugly

Finally, I would like to offer some overall comments on computer train simulation. Firstly, if you take the time and effort to master the EEP program, you can create a layout that is vast and wide ranging, or you can simulate a layout that you are planning to build. In either case, the end result can be a stunning representation of the landscape with highly detailed train consists, road vehicles and marine vessels

▲▼▲ Screenshots from the video compiled from the layout simulation software compared with the same locations on the author's under construction layout.



travelling along automated routes with signals providing collision protection. This can all be done at little cost if you have the appropriate computer, requiring no additional physical space, and places no demands on mobility and dexterity beyond what is required to operate a keyboard and a mouse. To add even more variety, Trend offers thousands of downloadable items from their online shop (but note that even the English section of this online shop has a lot of German language rather than English). These items include additional types of trains, carriages, vehicles, structures etc. and cost from a little over \$4.00 upwards, but none of these are necessary to build a wonderful layout.

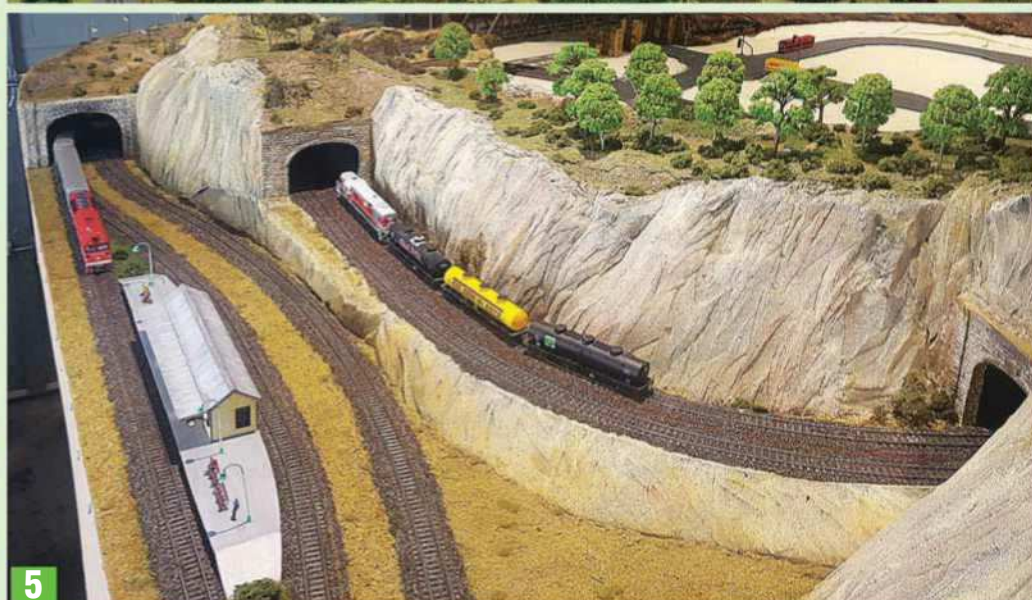
Secondly however, EEP is a large and complex program, particularly if you are planning a varied layout with rail, road, waterways and automated operations. Like anything new, it will be challenging in the beginning and it does take some perseverance to master how it works. The EEP software has evolved over many years and as a result has some quirks that make life more difficult than it needs to be. Many design actions can be done either in 2D or 3D mode, some can only

be done in 3D mode and it takes some trial and error to determine what is best done in either mode or even a combination of both. The use of the parameterised LUA code from Ruud Boer is challenging. To successfully get to the end point, you need to be sustained by little victories along the way. The end result is worth it.

Two other issues are worth noting. First, EEP is not specifically designed for model railways, unlike SCARM with its model railway tracks that have the correct specifications of the model railway track suppliers. Nevertheless, the track editor is flexible so that any length track with any required angle can be specified, thus a model railway track design is achievable. The second is that EEP is German software (with a version supporting the English language) offering only European rolling stock and objects, with just a minuscule number of USA elements. Sadly, there is no Australian rolling stock, vehicles are left-hand drive and the stations and other structures have a very European look about them. Nevertheless, a very realistic simulation of a real-world train scene or of a model railway layout can be achieved.

Certainly, computer train simulation is not for everyone but, for some people, it may be the only option. Also, it can be another valuable tool in building a physical layout, whereby the track design is done using a CAD program, the train operations and scenery can be modelled using a train simulation program, and then the physical layout can be built with full confidence that the end result will look good and provide interesting train operations. With its concepts of blocks and routes, it can also lead into using train automation software to enable complete automation of complex train schedules operating on your newly built physical layout. This will be covered in a future article.

(Note: The English language version of EEP 13 (the latest version) needs to be acquired via Steam, the distributor of EEP for the English-speaking world – go to tinyurl.com/EEPSteam and search for EEP 13 and then decide whether you want the Standard or Expert version. I am on the Expert version.)



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GALLERY

A-tracktiv Effort

Newcastle's Peter Lewis has made a bit of a specialty of constructing very highly detailed HO scale exhibition layouts that relegate the trains to the background and focus on his beautifully scratchbuilt from styrene buildings, modelled (mostly) from prototypes found around his home town. The first was *Time & Patience*, featured in AMRM Issue 268 (February 2008). Since then he has completed four more, including this one, *A-tracktiv Effort*, photographed by James McInerney at the 2017 Thornleigh model railway exhibition, organised by the Epping Model Railway Club.



This fine brick cottage, typical of its era, is based on a prototype seen in the Newcastle suburb of Teralba. The tiled roof was constructed using Slater's formed styrene tile sheeting, while the cast iron fencing and gate were scratchbuilt from brass.

This grouping of buildings, garage, church and two houses, were all modelled from prototypes found in Teralba. The roofing material is made from handmade corrugated aluminium, locally produced in Tasmania and the railings/fencing at the front of the church were handmade from brass strip. In fact, the only items on the entire layout that were not scratchbuilt are the railway track, 'wheelie bins', cars and people.



This modern era house, based on the structure at Teralba once occupied by the builder's uncle, utilises Slater's moulded styrene brick sheets for its basic structure. While the trains running on the layout are normally representative of the government system, the testing of a pre-production sample of Southern Rail's SMR 10 class at the 2017 exhibition gave the layout a certain Cessnock area ambiance!

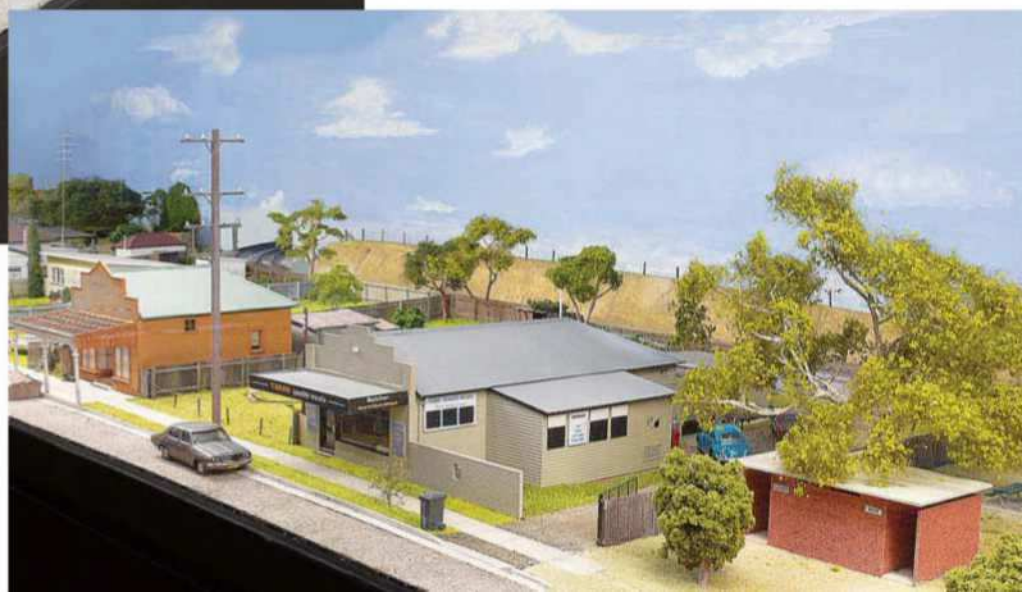


◀ Next to the fibro house is a classic Grace Bros. home plan service, built using the builder's drawings, rather than a particular real life prototype.



◀ Looking down the street shows a typical Australian urban scene, representing many of the types of houses and commercial buildings found in outer urban and country town landscapes all over the country. The nearest house, clad in HardiePlank, is a model of the minister's house, associated with the prototype Teralba church building modelled to its left. The HardiePlank wall cladding is modelled using appropriate Evergreen styrene sheeting, while the Venetian blinds in the front window were cut from a suitably sized image that appeared in a Bunnings catalogue, which has been an ongoing source of curtains and blind images for many buildings. The next house is modelled on a prototype from another Newcastle suburb, Mayfield, while the next house along, the pale green-painted fibro-clad building, is from Teralba.

► Further down the street are these two commercial buildings, an old shop, in the process of having its verandah reclad in corrugated iron, copied from a painting discovered on an ornamental plate, and a butcher's shop, copied from the real thing, still standing, substantially as modelled, in Tarro, another Newcastle suburb. Next door is a local park, complete with brick toilet block modelled on a prototype in Beresfield, also a Newcastle suburb.





The locomotive, straight out of the box, still fitted with smaller than scale bogie wheels to enable operation on tight radius curves.

NSWGR 30 class 4-6-4T Steam Locomotive, r-t-r in HO scale by Austrains Pty Ltd, PO Box 3076, Putney 2112. Website: www.austrains.com.au. Price: \$595.00.

Prototype

The 30 class 4-6-4 tank locomotive, introduced into service in 1902 as the S class, was one of the trio of William Thow designs that transformed the NSWGR system, beginning in 1892 with the introduction of the P (later 32) class 4-6-0 passenger locomotive and then the T (later 50) class in 1896. These three classes (together with the Lucy modified TF (53) and K (55) classes that were developed from the T class) remained the backbone of the NSW system right up to the demise of steam in the early 1970s, despite the advent of more powerful and glamorous classes in the mid-20th century.

The S class was developed to handle the burgeoning Sydney suburban traffic and represented a major advance over the older and less powerful tank and tender locomotives that were struggling with the increased loads and service frequency demanded by Sydney's growing population.

A very successful design from the first turn of the wheel, the 145 members of the S class, all delivered between 1902 and 1917, quickly settled into the routine of whisking long rakes of 'American' end-platform suburban cars throughout the Sydney and Wollongong suburban areas. In

1914, they also began working around Newcastle.

Traffic continued to increase on the Sydney suburban system, so it was resolved to electrify much of the system, with the first line, St James to Mortdale, opening in 1926. Prior to the opening of the electrified sections, many of the new wide-bodied electric suburban cars had been delivered and were pressed into service as steam-hauled carriages behind the S class. With the reclassification of NSWGR locomotive classes in 1924, the S class became the 30 class, a classification they retained for the rest of their existence.

With the spread of electrification from 1926, many of the 30 class found themselves with insufficient work, but they were too new and useful to scrap, so 77 of them were converted into light 4-6-0 tender locomotives, replacing many obsolete 19th century classes employed in light branch line work. However, the remaining 68 tank locomotives still found gainful employment working outer suburban passenger trains around Sydney on the non-electrified sections, as well as continuing with their existing duties on the Newcastle and Wollongong suburban services.

Others found themselves employed in country areas, covering such varied duties as the daily Wollongong-Moss Vale passenger service, the Camden branch, local services around Leeton and Casino, as well as shunting in country yards such as Bathurst.

Another major yard graced by their presence was Sydney Yard, where much of the shunting involved in the processing of the system's country passenger trains was handled by the 30 class (and after WW2, the two 79 class diesels) right up to the 1970s.

Due to the distances involved (not enough water capacity in tank engine form) and their heavy axle load, they were not normally employed on 'pioneer' type country branch lines, though 3139 was used on the Merriwa branch during World War 2, fitted with piped connections to allow the hauling of a water gin to provide extra water capacity.

The design was not only used by the NSWGR; three locomotives, Nos 15, 16 (delivered 1912) and 29 (delivered 1923), which differed from the S class only in minor details, were obtained by the South Maitland Railway for use on their Cessnock-Maitland passenger services. A modified version of the S class, named *Iron Duke*, was built for G & C Hoskins in 1919 and used to haul trains on that company's Spring Hill-Cadia ironstone railway in the Central West of NSW. When that line closed in 1929 the locomotive was transferred to the company's new Port Kembla steel works, where it hauled the company's Wongawilli-Cringila coal trains until scrapped in 1957.

All the way up to 1972, when the last 30 class locomotive was withdrawn, the locomotives were still performing the tasks they had

been designed to do, hauling rakes of 'American' end-platform carriages in intensive suburban service, as well as metropolitan goods services and shunting.

If you want to know more about the 'life and times' of the 30 class, as well as more details of the types of trains hauled by them in regular service, I can only refer you to the late Ron Preston's definitive tome, *Standards in Steam The 30 Class*, published by the NSWRTM in 1985.

Model

The model arrived packed in the usual stout, orange, Austrains heavy card box, amply protected by a foam insert and wrapped in a plastic film. The model is easily extracted from the box and is ready to go with standard DC by merely placing on the tracks and turning on the power.

Included in the box is an instruction sheet; one side has an 'exploded' drawing of the locomotive while the other contains a comprehensive, illustrated guide to fitting DCC. The box also contains a set of scale diameter bogie wheels (for replacing the smaller than scale set fitted as standard) and what appears to be a tool for removing the six-sided bolts that hold the side rods on (it is not mentioned in the instructions).

The already-fitted underscale bogie wheels are easily clipped out and the replacement scale-sized wheels pop straight in, with no need to remove the bogies (indeed, the instructions specifically state

that you should not remove the bogies to change the wheels, as this will damage the pick-up wires).

The first thing I check with a new locomotive is the wheel back-to-backs and the coupler heights. This locomotive was spot-on with both the wheel back-to-backs and the coupler heights (the locomotive is fitted with Kadee-type couplers front and rear), though the trip pins were slightly low, which was quickly adjusted with a pair of pliers.

The model provided for this review was 3067, fitted with an extended 'coal rail' bunker and without electric lighting, from the first batch released at the Forestville exhibition in March 2018 (the electrically lit versions will follow with the next batch, due May 2018).

This is a superb model, well assembled, dimensionally accurate and smooth running. It looks like a 30 class tank and the detail is second to none. Even the shape of the chimney and dome, notoriously difficult to get right, is pretty much spot-on (though there is a faintly visible moulding seam on the sides of the chimney, which could easily be scraped/filed off if it offends).

Comparing the model with photos of the real 3067 does not reveal any missing or misshapen detail, other than the lack of top lamp irons on the smokebox and rear of the bunker (left off, I expect, to allow fitting of the headlights on the 'lit' versions). The pipe work, handrails and other detail items are all commendably fine and, as far as I can tell, all present and properly shaped and located. Even the lamp irons on the side of the smokebox are modelled! The whistle, which



The front bogie has had the scale-sized wheels fitted, while the rear bogie retains the standard, smaller than scale, wheels. Fitting the optional wheels is a simple matter of popping out the old wheels and then slotting the optional wheels back into the axle slots. It is not even necessary to remove the bogies to do so and the instructions included in the box specifically advise that it is neither necessary nor advisable to remove the bogies to fit the optional wheels.



The optional scale wheels have been fitted to both bogies.

stands above the cab roof, is vulnerable to knocks though, especially when working on the model when it is upside down, such as when removing the cab to fit DCC, so be careful (speaking from experience here...)

The wheels are black, other than the tyres, which appear to be a shiny metal, perhaps nickel silver or stainless steel. Pickup is from all wheels and the model, which has a lot of cast metal parts, is quite heavy, giving plenty of adhesive weight available for haulage.

The paint is an excellent shade

of satin black, which looks good straight out of the box, and also provides a good basis for weathering, should the purchaser be so inclined. The red lining is fine and neatly applied, though the placing of the numbers on the tank sides and rear of the bunker is not correct for 3067, according to mid- to late-1960s era photos of the prototype, though it appears they are correctly placed for many of the other members of the class.

Straight out of the box on DC, it runs smoothly and quietly, accelerating and decelerating without hesi-

tation. It will run around 18" (457mm) radius train set curves, but it definitely prefers a more sensible radius, even with the smaller diameter wheels fitted. With pick-ups on every wheel and two flywheels on the can motor, it copes quite well with dirty track.

Unfortunately, my mail ordered DCC chip didn't arrive in time to be installed and tested before the print deadline for this review, so I cannot comment on how easy it is to fit DCC (it does seem quite straightforward from the instructions included with the locomotive) or on how it performs on the layout.

All in all though, this is another superb steam locomotive model from Austrains, definitely 'state of the art' and showing many signs of having learnt from both previous Austrains steam locomotives and from the experiences of other manufacturers. It looks and runs beautifully, so all I have left to say is, John, hurry up with that 30T!

James McInerney

REVIEWS

The products covered in the Review pages have been supplied or made available by the manufacturer, producer, importer or retailer listed in each product heading. AMRM welcomes access to new product lines for inclusion in the Review pages and requests items be addressed to the Editor at Australian Model Railway Magazine, PO Box 345, Matraville 2036. Readers are reminded that the prices quoted in the reviews are those applicable at the time of going to press. Those using the prices as a guide to purchasing products by mail order should always add extra for postage, or contact the supplier for the additional cost for mail order.

Editor

Dimensions	Prototype	Model
Length (over buffers)	40'10"	40'10"
Width (over cylinders)	8'9"	8'11"
Height	13'10"	13'10"
Total wheelbase	32'3"	32'4"
Driving wheel diameter	4'7"	4'7"
Bogie wheel diameter	3'1"	(option) 3'1" (as fitted) 2'9"



Mechanical Branch Models have released a range of NSWGR locomotive crews (sitting driver illustrated) and 'Traffic' branch staff, such as guards, station assistants and signalmen, in both HO and G scales. The figures are scanned from real people wearing authentic NSWGR steam era clothing and 3D printed locally. The locomotive crews are available in both standing and sitting poses.



Comrails Models have released an HO scale 3D printed body for the CR narrow gauge NC class 0-6-0 diesel-hydraulic locomotive. The two locomotives of this class were built for Kalgoorlie's Lakewood Firewood Company in 1956 and were sold to the CR in 1965 when the firewood line closed. They were used as shunters and operated works trains on the CR and both were later preserved.



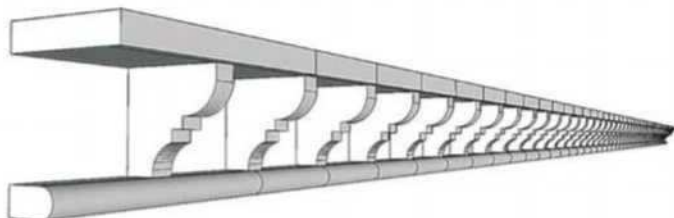
Mike Petts' Supercast have released 4mm (illustrated) and 7mm scale models of Michael Portillo, the British ex-MP, now known for his 'great railway journeys' TV series. For those who might want to include the figure on their modern era layout (he is currently in Australia filming 'Great Australian Railway Journeys') the figures can be obtained directly from the manufacturer in Britain. The figure is available unpainted, or painted with either a yellow or green jacket and is modelled carrying a copy of the Bradshaw's 19th century railway guide that is the centrepiece of the TV show. The scene depicted here shows filming for the TV series using the cameraman from the Preiser TV team set, No.10421. The Mike Petts Supercast range of figures contains a number of railway oriented figures, as well as 'famous' figures such as Sherlock Holmes.



Comrails Models have released HO scale 3D printed SAR/CR 'Short Tom' (illustrated) and the similar 'Long Tom' passenger cars.



Peter Boorman's Workshop has released an HO scale kit allowing construction of a number of variations of the NSWGR WT six-wheel locomotive water gin. The kit comprises a cast polyurethane tank and chassis, lost-wax cast brass buffers (Turton or Cammell types), etched brass W-irons, brake rigging and accessories, plus wheels.



Signals Branch have released further detail items in their 3D printed range of detail items available from the Shapeways site. In HO scale there is a 269mm long corbel strip (illustrated) for VR stations, based on that found on the VR station building at Wodonga Station, as well as a replacement chimney for the Austrains 30 class tank locomotive that features the prominent bolts around the flange.

Holzmann Modelismo have released an HO scale, laser-cut office annex kit, designed to add on to their freight terminal building kit. Many of the products of this Brazilian manufacturer are 'international' in character and would fit into any modern era Australian layout.



Com rails Models have released HO scale, 3D printed, one-piece castings for the AZSY genset wagon (right)

that supplied power for the air-conditioned relay vans on the Trans Australian Railway and the AZTF 35' steel deck flat wagon (far right), that was fitted with a small fuel tank for refuelling generator sets on the TAR.



AMRM News



Staff Changes

We have received a number of very welcome offers of voluntary assistance to fill the void left by the departure of our long-time draftsman, Jonathan Llewelyn. One of our 'final' proofreaders, Pete Grant, has expanded his input by offering to illustrate the feature layout track-plans needed for every issue, while first-time volunteer, Mitch Camp-ton, has put his hand up to provide drawings on an 'as required' basis. Mitch's first drawing, a rather unusual VR louvred van, will appear in a near-future issue of AMRM, while Pete's handiwork can be perused on p.20 of this issue.

As well, in order to cover the impending retirement of our excellent 'first' proofreader, Bob Comerford, we have persuaded one of our very practised past 'final' proof-readers (2009-2013), the delightful Louise Smithers, to return to the fold to cover the 'first' round of proofreading.

We trust that Pete, Mitch and Louise will enjoy their new duties as much as we enjoy the fruits of their labour!

Good News for Eureka Models

A major step forward for Eureka occurred in March when a last minute intervention by interested third parties broke the impasse that had developed between Eureka and one of their previous Chinese factories. This impasse had threatened the very existence of a substantial proportion of Eureka's tooling, but some hard-nosed negotiation resulted in the recovery of all the outstanding tooling from the previous factory and its transfer to the premises of another manufacturer for safe storage. Talks are now underway with several Chinese manufacturers for the completion of all outstanding projects, with the aim of delivering these projects in 2018/2019, though not all will be marketed under the Eureka brand (some, at least, will be marketed under the name 'Phoenix Reproductions'). We await further developments with interest...

ARMDEX/PMF Date Clash

The Macedon Ranges Model Railway Club, in association with the Cottage Industry Consortium,

will hold the second Australian Railway Modellers Manufacturing Exposition (ARMDEX) at the Masonic Hall, Yaldwyn Street, Kyneton (Vic) over the weekend of 15-16 September 2018. On Sunday, 16 September, the Victorian Model Railway Society will hold its Prototype Modellers Forum (PMF). Unfortunately, organisation of both events was too far advanced when the clash was noticed to permit a change of date for 2018. However, the organisers of both events are working together to avoid a clash in future years.

The organisers of both events advise that if you wish to attend both fixtures, enjoy ARMDEX on Saturday, 15 September 2018, then attend the PMF on Sunday 16 September.

ARMDEX showcases the work of the smaller manufacturers here in Australia, while the PMF highlights the accurate modelling of the railways of Victoria, so it would be expected that many will wish to attend both.

Another One Gone...

The Model Railway Store, part of Bendigo Electronics, is to close with the retirement of Geoff Bock, the genial model railway specialist who oversaw that section of the wider Bendigo Electronics business, on 30 June 2018. The online 'shop' has already closed and the remaining (heavily discounted) stock is only available instore or via phone order. With Geoff's retirement, there will no longer be a model railway outlet in the Bendigo area. Older AMRM readers may remember Geoff from his previous business *Southline Hobbies* at Ironbark (a suburb of Bendigo). AMRM and all his satisfied cus-

tomers wish Geoff a long and happy retirement.

DCCconcepts Moves Overseas

With most of DCCconcepts' business now being transacted in the northern hemisphere, the cost of maintaining two offices and distribution centres, one in the United Kingdom and the other at the original WA location, has forced a rationalisation. From the end of March 2018, when the Western Australian office and distribution centre closed, all orders, plus most customer service, are now being handled from the UK.

The most obvious change is that the DCCconcepts website is now priced in £UK (a currency converter is included in the site to convert £UK to \$AU) and Australian, Oceania and all other 'Outside the Eurozone' retail customers do not pay the UK 20% VAT on purchases. Mail order delivery times from the UK to Australia are similar to Australia Post's standards for internal postings. Orders are dispatched 'same day' and the special rates negotiated with the Royal Mail and DHL are quite reasonable.

Customer service via phone or email is available from the UK location (open seven days a week, though check time zone differences before phoning). DCCconcepts also offer a service where you email them with your phone number and they will call you back at the first opportunity.

There is still a WA presence for basic product testing or repair, details of which are on the website.

Models and Miniatures at the NSW Rail Museum

The second annual 'Models and Miniatures' event at the NSW Rail Museum, to be held on the week-

end of 13-15 July 2018, will feature a selection of NSW prototype layouts including the NSW N-Scale Group's *Cockle Creek*, Epping Model Railway Club's *Bethungra Spiral*, as well as various privately owned layouts, such as *The Beach*, *Koolabar* and *Central Station*.

Many historic models from the NSWGR model collection will be on display, including those of well-known prototypes, as well as some obscure models from the State Collection, many of which will be on public display for the first time in many years.

The event will also feature large-scale, live-steam models, including the Coleman and Son's 12" gauge miniature railway, the Meccano Modellers Association's display of working models of NSW locomo-

tives and other steam powered machinery, as well as steam train rides on the Thirlmere Loop Line and child-oriented activities, such as mini-train rides, model car rides and a jumping castle, to name just a few.

Full details of the event can be found on the NSW Rail Museum website.

New Products

HO Scale

Austrains released the balance of their NSWGR 30 class 4-6-4 tank locomotives in May. Distribution of existing orders has begun, but it will take some time to process all of them.

Broad Gauge Models, have, with the successful release of the SAR 500B 4-8-4 steam locomotive kit,

moved on and are preparing for the arrival of the VR D³ 4-6-0 steam locomotive kits, of which a few are still available to pre-order. In conjunction with this release a limited number of D² and D¹ numberplates will be produced, but they must be pre-ordered from BGM prior to the arrival of the kit. The VR N/SAR 750 class 2-8-2 steam locomotive kits are expected to follow the D³ kits later in the year. The Australian-manufactured cast brass, VR level crossing gates are also back in stock and available now.

Comrails Models continue to expand their 3D printed range of Commonwealth Railways models, available via the i.materialise site. The Trans Australian Railways staff station buildings mentioned in the *News* section of the last issue are now available, along with the standard gauge TOG and ATOL rail tank cars, PA pay van, Q heavy lift wagon and CR/SAR narrow gauge 'Short Tom' and 'Long Tom' passenger carriages.

The complete set of Wegmann passenger carriages, HRGA (two different versions), BRB, BRF, DC, AFA, ARD and ARF, required to model the 1950s-1970s era *Trans Australian* passenger train is also now available. Some of these carriages also ran on the Central Australian Railway in narrow gauge days, a few have been used as crew cars and some have been preserved.

In development are the Comeng and Kinki-Sharyo-built carriages also used on the *Trans Australian*, as well as later on the standard gauge *The Ghan* passenger trains. Eventually, carriages of the HRGB, HRBC, BA, BRFB, BRFC, BRD, BRE, DD, AFB and ARH codes will be available.

Eureka Models report that the recovery of all their outstanding tooling has spurred progress on their VR K class 2-8-0 steam locomotive project, which will now be completed by the factory that designed and manufactured the original tooling (and who was also responsible for the tooling for the VR R class) under sub-contract to the manufacturer responsible for many of Eureka's recent grey hairs. The new factory is currently quoting a delivery window of around the end of 2018/early 2019. Further information on the K class, including

the variations to be produced, should by now be available on the Eureka website (now that the website can once more be updated, thanks to the engagement of a new webmaster).

The VR E/SAR O bogie open and VR S flat wagons, along with the NSW NTAf rail tank cars and the Newcastle private-owner four-wheel hopper wagons, will be produced under a new brand, Phoenix Reproductions, and should also appear later in 2018/early 2019.

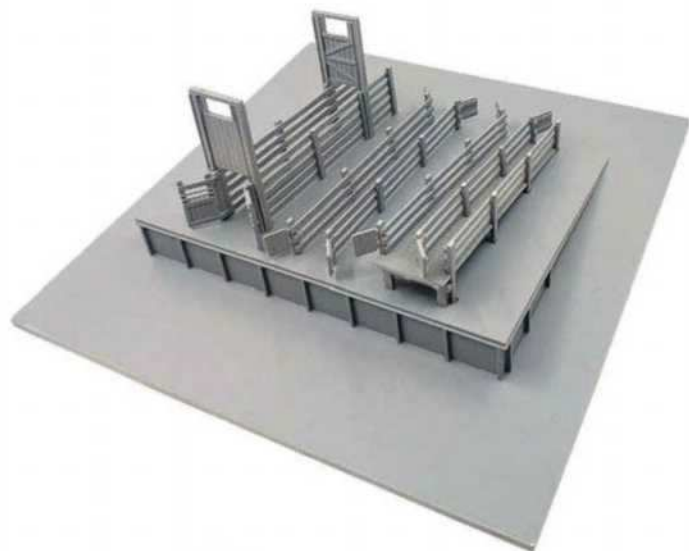
The recovery of the outstanding tooling should not affect the already announced timetable of releases of models presently under development. The steel-bodied four-wheel RH cement and LCH coal hopper (new hoppers in the existing LCH hopper underframes) are still on schedule with the RH tentatively scheduled for release at the AMRA (NSW) Liverpool exhibition in October.

Also pencilled in for delivery at the Liverpool exhibition is the next in the series of NSW 72'6", twelve-wheeler passenger cars, the TAM sleeping car, in modern form with plain plywood sides and no crownlights. These carriages will be available in 1950s/1980s era Indian red and the 1980s era 'candy' colours.

Scheduled for early 2019 is the re-run of the NSWGR 38 class 4-6-2 steam locomotive and the 620/720 class two-car diesel trains. New tools are being cut to allow concurrent production of the 600/700 variation on the two-car diesel trains and, if the stars align, production of the 900 class DEB sets may also be able to be done at the same time.

Once those projects are cleared off the production line, work is expected to commence on the NSWGR 59 class 2-8-2, VR A² 4-6-0 plus a re-run of the NSWGR AD60 class 4-8-4+4-8-4 Beyer Garratt steam locomotives and the air-conditioned HUB set carriages, with delivery scheduled later in 2019.

Latitude 32 Models, Paul Grundy's brand name for his 3D printed models of Western Australian prototypes, currently have available 3D printed bodies for the F, A, AA, AB, DB, X and XA locomotives, plus WN and WNA nickel concentrate tank wagons, as well as the ACL passenger car. In development is a



Unpainted samples of the HO scale sand tower and stockrace under development by Southern Rail in HO scale. Some changes are expected to be made to the models before production is approved later in 2018. The completed models will be available assembled and painted, as is the standard with SRM's 'Trackside' range of infrastructure models.



body for the WAGR B class 0-6-0 diesel-hydraulic shunting locomotive.

Peter Boorman's Workshop will follow up the release of their NSWGR six-wheel water gin kit (see *Recent Releases* section) with a kit for the NSWGR six-wheel brake van that entered service in 1867. A firm delivery date has not been advised yet, but it is expected to be later in 2018.

SDS Models are expecting the arrival of their latest series of r-t-r NSW 10000 gallon rail tank cars in late May 2018. In this release there will be five all-new designs; the unique Mobil three-dome vehicle, a new Shell three-dome car, a two oval-domed Caltex car, the two-dome Ampol and BP design, plus a BP single-dome car.

Following on from the NSW RTCs will be another series of VR tank cars, featuring the late 1950s Bitumen cars from Vacuum, which carried the names of prominent Victorian road builders. In addition, there will be more of the popular Ampol, Golden Fleece, Esso and BP single-dome cars.

The first release of the improved ex-Austrains NSWGR 'American' end-platform carriages are due to arrive late July. This will include the blue WWII RAAF Recruitment train, the H W Rice travelling toy showroom carriage and the pair of Email/Westinghouse advertising carriages. There will also be some single- and twin-packs of the CCA composite/guard's carriage, plus independent end-platform carriages of various codes.

The 81 class project is progressing nicely with the design and testing of the electronic components under way with the help of ESU LLC. The first SRA-liveried locomotives are due to commence production in July 2018, with delivery slated just prior to the Liverpool exhibition in October.

SDS also had the opportunity to engage in the design and manufacturing of products for Phoenix Reproductions Pty Ltd, who are co-operating with Eureka Models in expediting the delivery of some older Eureka products that were recently 'rescued' from one of Eureka's previous factories. SDS expect to have samples of the first products on display at the EMRC exhibition at Rosehill Gardens on the June long weekend.

Sales of the Austrains NEO NR

class Co-Co locomotives, particularly the Pacific National 'five stars' colour scheme, have proven very strong, so SDS has requested another short production run of the 'five stars' scheme for delivery in late September 2018, along with reruns of some of the other more popular colour schemes.

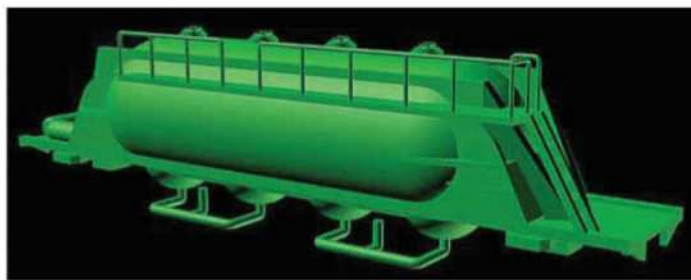
Southern Rail have completed the necessary adjustments to their r-t-r QR 2300/2400 class Co-Co diesel locomotive tooling and these models are now in production. Also in production are the related 1550 class, to be made available at the same time, in both high and low nose versions, painted in either the traditional QR blue, grey and white or the red and yellow 'Broncos' colour scheme. But wait, there's more! Two variations of the QR 2170 class have also been tooled and will be added to the 2300 class production run, to be available in 'Bronco', 'Eagle' and 'Banana' colour schemes.

There will also be a limited run of two variations of the 2170 class, as currently running in South Africa in Transnet colours, along with a special 2400 model in South African 'Grindrod' colours. The Western Australians have not been forgotten either as added to the 2300 class production run there will be a limited run of locomotive No.2370, as running in Western Australia for QR subsidiary ARG, which will also incorporate the vertical grill and handrail differences from the original 2300 class locomotives.

The additional tooling required for the QR OL/OVO, NSW Ampol and the related miscellaneous rail tank cars has also been completed and merely awaits a production slot. Tooling is also complete for the LL South Maitland four-wheel private owner coal hopper wagons. The first test shots should have arrived by the time you read this and, if the test shots are OK, the model should be in production by the end of May 2018.

The new additions to the 'Trackside' range, the sanding tower and the stock race, went into production in mid-April and are expected to arrive in Australia in June 2018.

The SMR 10 class 2-8-2T steam locomotive continues to exceed sales expectations and many versions are close to selling



A drawing of the Western Australian WNA nickel concentrate tank wagon, which should be available as a 3D printed one-piece body casting in HO scale from Latitude 32, along with the related WN version, when you read this.

out so, if you want one, don't hesitate too long!

O Scale

Model O Kits have confirmed that they will be proceeding with their NSWGR 13 class 4-4-2T steam locomotive kit. The last of the pre-ordered r-t-r NSWGR 59 class 2-8-2 steam locomotives was expected to have arrived in early May, just before you read this. There are a few r-t-r 59 class still available 'off the shelf' as well as the kit version. Orders can still be made for the r-t-r version. A small number of AD60 class 4-8-4+4-8-4 Beyer Garratt kits are still available.

Due for release at the end of April was a laser-cut kit for the timber NSWGR Station Master's house, which includes 3D printed brick chimneys.

Also now available is a range of 3D printed and resin-cast NSWGR lineside products, such as LCL containers, a fettler's 'trike', drum loads for wagons, a stationary steam boiler, 'stink pipe' vents and chimneys for buildings. Model O Kits are also now stocking some of the Dapol r-t-r range

of British models, some of which are adaptable to NSWGR practice, such as the 'Terrier' 0-6-0T that can be converted into a NSWGR 'early days' 67 (N) class 0-6-0T. The range of Heljan r-t-r British outline models is also expected to be available sometime in June 2018.

Signals Branch have released 7mm scale versions of the NSWGR steel trestle (illustrated in the last issue), standard sleeper take off, signal relay hut and grazing sheep previously released in HO scale. All items are available in the 'white strong and flexible' (WSF) material.

Transit Classics are now expecting delivery of their Sydney PR1 trams in June 2018, with the Brisbane FM trams scheduled to follow in July/August.

N Scale

Comrails Models have released N scale versions of their Commonwealth Railways NSU and the NT (second version) narrow gauge diesel locomotives as an experiment to gauge demand.

Compiled by James McInerney



An unpainted factory sample of one of the versions of Southern Rail Models' r-t-r, HO scale, Hunter Valley private-owner, non-air, four-wheel coal hoppers. This is one of two different samples that arrived in Australia a few days before we went to press

SCMRA ACTIVITIES

For all activities contact Eastern Division representative

Graham Windmill on (02) 9626 0351.

- 9-11 June Stand at the Epping Model Railway Exhibition, Rosehill Gardens Grand Pavilion, off Grand Parade Rosehill.
- 14 July Open Day by SCMRA and EMRCI at Epping Creative Centre, 26 Stanley Rd, Epping. 10am to 3.30pm. Layout operation. Getting Started clinic at 11.00am. Free sausage sizzle lunch. Details from Trevor Moore (02) 9876 3522.

EXHIBITIONS

RICHMOND VALE – NSW. May 19-20, 2018. The Annual Model Exhibition, Richmond Vale Railway Museum, Leggetts Drive. 9.30am-4.00pm (Sat & Sun). Due to fire damage in September 2017 there will be no train ride to Pelaw Main but hoping to have some of the Mulbring Road line open. Facebook or www.richmondvalerailwaymuseum.org

BALLARAT – VIC. June 9-11, 2018. Ballarat Model Railway Show, Ballarat Specialist School Farm Campus, 800 Norman Street, Invermay Park. 10.00am-5.00pm (Sat & Sun), 9.00am-4.00pm (Mon). John McClure Secretary, (03) 53357765. jkmccclure8@bigpond.com.

GLEN WAVERLEY – VIC. June 9-11, 2018. Waverley Model Railway Club Annual Exhibition, Brandon Park Community Centre, 654 Ferntree Gully Road, Glen Waverley. 10.00am-6.00pm (Sat) 10.00am-5.00pm (Sun) 10.00am-4.00pm (Mon). Adults \$10, Children \$6, Family \$25. exhibitions@waverleymrc.org.au

ROSEHILL – NSW. June 9-11 2018. Epping Model Railway Exhibition, Rosehill Gardens Grand Pavilion, off Grand Parade, Rosehill. 10.00am-5.00pm (Sat & Sun) 10.00am-4.00pm (Mon). Adult \$15, Senior \$11, Child \$8, Family \$40. David Dalzell, 0423 362 324. contact@eppingmodelrailway.org.au

STAWELL – VIC. July 7-8, 2018. SES Hall, Sloane St, Stawell. 9.00am-5.30pm (Sat), 9.30am-4.00pm (Sun). Colin 0428 056 121. Grampian Model Railroaders Inc. www.gmrinc.org.au

THIRLMERE – NSW. July 13-15, 2018. Models and Miniatures at NSW Rail Museum. 10.00am-4.00pm (Fri) and 9.00am-5.00pm (Sat & Sun). Adult \$15, Conc \$10, Child \$5. Additional charge applies for steam train rides. Phone: (02) 4683 6800.

info@nswrailmuseum.com.au

www.nswrailmuseum.com.au

CASTLE HILL – NSW. July 21-22, 2018. Hills Model Railway Society (HMRS) exhibition, Harvey Lowe Pavilion, Castle Hill Showground, entry from Showground Road. 9.00am-5.00pm (Sat), 9.00am-4.00pm (Sun). Adults \$12, Children \$6, Senior \$8, Family \$25. Secretary on 0421 603 240.

info@hmrs.org.au

www.hmrs.org.au

BRAYBROOK – VIC. August 4-5, 2018. Sunshine Model Railway Club Exhibition. Braybrook Secondary College, Burke Street, Braybrook. 9.30am-5.00pm (Sat), 9.30am-4.00pm (Sun). \$8 adult (under 16 free with adult). Joe 0407 560 360 or Ted (03) 9311 8389.

CANBERRA – ACT. August 4-5, 2018. 46th Model Railway & Scale Model Exhibition, Malkara Special School, Wisdon Street, Garran. 9.30am-5.00pm (Sat), 9.30am-4.00pm (Sun). ACT Model Railway Society Inc and Malkara Special School P&C Inc. Gavan Bennett 0401 308 926. gavanbennett@inet.net.au

STRATHPINE – QLD. August 4-5, 2018. The Railway Modellers Club of Queensland Inc. Strathpine Community Centre, 199 Gympie Road Strathpine (enter Mecklenburg Street). 9.00am-4.00pm (Sat & Sun). Paul Hucklebridge (Show Co-ordinator). Phone: 07 3284 8518 or 0408 706 411. Adults \$7, Senior/Concession \$6, Children \$2, Family (2A + 3C) \$17. show.coordinator@rmcq.org.au

THORNLEIGH – NSW. August 11-12, 2018. Marklin Modellers Exhibition, Thornleigh Community Centre, Cnr Phyllis and Central Avenues, Thornleigh (next to Bunnings). Models trains of European, American, Australian and British prototypes on display and for sale in

second hand stand. 9.00am-5.00pm (Sat), 9.00am-4.00pm (Sun). Adults \$10, Seniors/Pensioners \$8, Child \$5 and Family \$25. Norm 02 9918 3575. marklin.modellers.sydneymail.com

CAULFIELD – VIC. August 25-26, 2018. AMRA Victorian Branch Exhibition, Caulfield Racecourse, Station Street, Caulfield. Melway Map 68 Ref E1. 9.00am to 6.00pm (Sat), 9.00am to 5.00pm (Sun). Clubrooms (03) 9885 7034. amravix.exhibition@amra-vic.org.au

LIVERPOOL – NSW. September 29-30 & October 1, 2018. Sydney Model Railway Exhibition, Whitlam Leisure Centre, Memorial Ave, Liverpool. 9.00am-5.00pm (Sat & Sun) & 9.00am-4.00pm (Mon). A\$17/S\$12/C\$9/F\$43. Australian Model Railway Association NSW Inc. Phone (02) 9153 5901, Fax (02) 9153 5905.

president@amransw.asn.au or

www.sydneymodelrailwayexhibition.com

SUNBURY – VIC. October 20-21, 2018. Sunbury Model Railway Club Exhibition. Memorial Hall, Barkley Street, Sunbury. 10.00am-5.00pm (Sat), 10.00am-4.00pm (Sun). Enquiries 0427 047 41.

FORUMS

THORNBURY – VIC. September 16, 2018. The Victorian Model Railway Society's Prototype Modellers Forum. Thornbury High School. Details and registration forms available at <http://www.vmrns.net/>

SEMINARS & CONVENTIONS

LOFTUS – NSW. May 19, 2018. Modelling the Railway of NSW Convention 35 at Loftus TAFE. Modelling the Railway of NSW Convention. Details: info@mrns.org.au www.mrns.org.au and Facebook:

EPPING – NSW. July 28, 2018. Modelling the Early Days of the NSW Railways at Dence Park. Registration essential. Attendees for previous three years will be contacted directly. Details: ammagzn@tpg.com.au

ADELAIDE – SA. September 1, 2018. Modelling the Railways of South Australia 23, Flinders Medical Centre lecture theatres, Bedford Park. 8.30am registration. 9.00am-5.00pm (Sat). Registration forms: MRSAC, PO Box 356, Parkholm SA 5043 or selected hobby shops. Contact at the above address or email at convention@mrsac.com.

www.mrsac.com;

BEENLEIGH – QLD. October 13, 2018. Modelling the Railways of Queensland Convention, The Beenleigh Events Centre, 9.00am (Sat). www.qldrailheritage.com/mrqc

ARMIDALE – NSW. November 17-18, 2018. New England Convention at Armidale Bowling Club, Dumaresq Street, Armidale. 8.30-5.00 (Sat), 8.30-3.30 (Sun). Attendance by pre-registration only. Warren Herbert (02) 6732 5711. www.newenglandmodelrailwayclub.com

EXPOS

TOOWOOMBA – QLD. June 2-3 2018. Toowoomba Model Trains, Craft & Hobby Expo, Toowoomba Showgrounds, Glenvale Road. 9.00am-5.00pm (Sat), 9.00am-4.00pm (Sun). Adults, \$14, Concession \$10, accompanied children Free. Secretary (07) 4638 0397. Facebook: Toowoomba Model Railway Club Inc.

admin@toowoombamodelrailwayclub.com.au

KYNETON – VIC. September 15-16, 2018. ARRME 18 (Manufacturers Expo). Cottage Industry Consortium and Macedon Ranges MRC, Masonic Hall, Yaldwyn Street, Kyneton. 10.00am-5.00pm (Sat), 10.00am-4.00pm (Sun). Enquiries 0417 047 411.

OPEN DAYS

EPPING – NSW. July 14, 2018. SCMRA and Epping Model Railway Club at Epping Creative Centre, 26 Stanley Road, Epping. 10.00am-3.30pm. Layout operation, clinic on *Getting Started in Model Railways* at 11.00am. Trevor Moore 9876 3522 AH.

BRISBANE – QLD. September 9, 2018. Union Pacific Model Railroad Club welcomes visitors to our American model trains in operation at Clubrooms, rear of Holland Park Sports and Community Club, 49 Abbotsleigh St, Holland Park. 9.00am-2.00pm (Sun). Table Sales available to non-members limited to 6 tables, early bookings essential. For table space and other enquiries: 0439 435 366 sec_upmrc@bigpond.com

Maldon Again

In my letter regarding Maldon, published in AMRM Issue 329 (April 2018) I wrote regarding operations at Pollard "*Pollard did not have a siding, so if Farmer Brown desired a GY to load with hay, the GY would be attached to the Shelbourne train, trundle through Pollard then on arrival at Shelbourne the train would be shunted for the return journey with the GY for Pollard behind the guard's van.*"

At Pollard the GY would be uncoupled from the guard's van and left on the main line (chained to the rail by the guard). A week later and with Farmer Brown's GY loaded with hay, the train running under special regulations would approach Pollard and couple the GY in front of the tender (the loco usually ran tender first) and continue on to Shelbourne pushing the GY. At Shelbourne the train would be shunted, ending up with the GY in its correct location for the trip back to Maldon."

It appears that was not the only way traffic for Pollard was handled. According to Wal Larsen in his *Change Here For* booklet, the truck(s) for Pollard could be attached behind the guard's van leaving Maldon for Shelbourne. Arriving at Pollard the truck would be uncoupled to be either loaded or emptied and the train would proceed to Shelbourne. Returning to Maldon on the same day the truck would be coupled to the front of the loco and propelled to Maldon.

It would appear that which particular method was used (left for the one day or the whole week) depended on what loading/unloading arrangements had been made with the customer.

It just goes to show that one doesn't even need a siding to have interesting shunting operations on a layout!

Tony Sedawie
Bendigo 3550

In Search of a Term

I read with interest Trevor Hodges' *In the Loop* column entitled *In Search of a Term* in AMRM Issue 329 (April 2018). Certainly there would appear to be no collective term for the practitioners of this hobby of ours.

However, some years ago I remember reading, in a well-known British railway magazine, that 'trainies' (train enthusiasts, train spotters, model railroaders, railway modellers, train buffs, etc.), are now collectively known as 'Ferro-

MAILBAG

Australian MODEL RAILWAY Magazine welcomes letters on any pertinent model railway subject for inclusion in Mailbag. Letters should be sent to Mailbag, SCR Publications, PO Box 345, Matraville 2036, emailed to ammagzn@tpg.com.au or faxed to (02) 9661 4323. All Mailbag contributions must include the writer's name, address and phone number to permit verification. Contributions without this information will not be considered for publication.

Editor

equinologists' in some quarters! Perhaps this will send Trevor's friend searching through his dictionary where, I am sure, there is no such entry. So what is the meaning of this term, 'Ferroequinologists'? It is, of course, a mock-Latin translation of the phrase 'lover of the iron horse' and, let's face it, isn't that what we perceive to be the true basis of our hobby.

Garry Kahler
Moss Vale 2577

Regarding Trevor Hodges' *In the Loop* column entitled *In Search of a Term* in AMRM Issue 329 (April 2018). One of my mates calls me 'Casey', as in Casey Jones, the American locomotive engineer of folklore, which I don't mind, as it is reasonably relevant and most nicknames are terms of endearment. Probably easier than being called 'Isambard'...

Returning to Trevor's question in the column, maybe we should be 'rakes of railwaymen', or simply, 'rakes'...

Lee Taylor
Taylors Lakes 3038

Does that mean we should now regard Cleaver Greene as a railway enthusiast? – Editor.

Cars on Layouts – 2

I was interested in what Tony Carlin wrote on

the subject of model cars suitable for Australian model railway layouts in the *Mailbag* section of the most recent AMRM (Issue 329, April 2018).

Here is a photo [see *sidebox –Editor*] of some of the cars on my 'under construction' layout. Not all are HO scale, but with judicious placement you can get away with slight differences in scale. They have been collected over about 40 years of modelling.

The models represent the era I grew up in,

the 1950s and 1960s when, as Tony wrote, most cars on Australian roads were British or Australian.

I have provided the editor of this magazine with some other photos, showing various vehicles I have adapted for my layout, that will appear in a future issue once I have completed captions for them!

John Casey
Engadine 2233



Some of the model cars John Casey (see adjacent letter) has on his under construction layout. The Holden FJ (beige), FC (two-tone blue) and EK sedans are from the Road Rager range of Australian vehicles. The semi-trailer tanker was bought from a Reject Shop many years ago for a couple of dollars and was repainted and decaled, while the smaller, light blue, Austin tray-truck carrying milk churns is from the Pocketbond Classix range.

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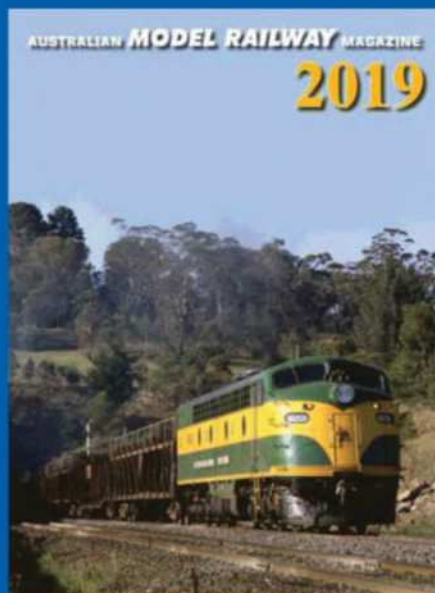
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The 2019 diesel calendar features 4201 on the cover in 1980; Freightlink No.7AD1 north of Alice Springs; the *Indian Pacific* at Sodwalls in 1994; QR container train with English Electric locomotives 1281 and 2354 in 1965; SCT freight at Bogan Gate hauled by SCT001 & SCT015 in 2009; ANR ZA1 at East Tamar, Launceston in 1989; NSW 8010, 8045 and 4526 hauling a freight at Sodwalls in 1990; BHP-Billiton 4393 leads 5637 on an empty ore train through the Chichester Ranges; Patrick Freight hauled by CLP12/CLP13/GM27 & GM43 in the Adelaide Hills near Balyarta in 1969; Tully Sugar locomotive No.9 with a rake of empty bins in 2014; V/Line P12 heads a H set with P17 trailing north of Tarnet; 8005 & 8109 with empty cement hoppers north of Cullen Bullen in 2011.



The 2019 steam calendar features Silverton Tramway Company W22 in the locomotive depot in 1965; NSW 3636 climbing the grade east of Brewongle with W88 *Relief Central West Express*; VR N428 with empty rail wagon in 1966; QR AC16 class 2-8-2 locomotive 223A near Toowoomba in 1968; SAR narrow gauge Garratt 401 at Crystal Brook in 1969; Standard Goods 5263 on the Toronto Branch; WAGR W class Beyer-Garratt at Donnybrook in 1971; Pacific locomotive MA4 taking water at Scottsdale in 1970; SAR T44 Hawker to Quorn goods service in 1969; NSW 3315 on No.13 *Glen Innes Mail* at Black Mountain in 1966; PB14 412 approaching Vulture Street in 1967; VR R719 approaches Ararat in 1966; Beyer-Garratt 6015 east of Borenore in 1967.

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Doug Colquhoun's name is synonymous with quality South Australian Railways photography. Over many years Doug, accompanied by long-term friend Neil Mackintosh, travelled South Australia recording the railway scene. Neil, under Doug's guidance, prepared the photographic and text coverage for this volume.

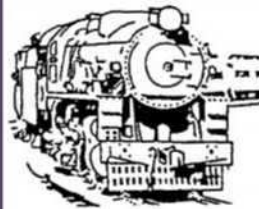
In 1949, when Doug Colquhoun began to take railway photographs, there were five separate fleets of steam locomotives in South Australia; indeed six, if the Silverton Tramway Company between Broken Hill in far western New South Wales and the South Australian border is included, in view of its crucial role in the operation of the main line from Port Pirie to Broken Hill. They were broad-gauge SAR, narrow-gauge SAR, located in three separate divisions, narrow-gauge Silverton Tramway, narrow-gauge Whyalla Tramway, narrow-gauge Commonwealth Railways and standard-gauge Commonwealth Railways. In addition to this, there were a number of private railways working around the industrial sites and export wharves. The origins of these lines are a long story, a very long story going back 150 years and Doug presents some of what he has seen without going too deeply into the history. However, the book is structured to illustrate the individual nature of each system, so that the reader will have pleasant and, if old enough, nostalgic recollections of what he found so fascinating back in the nineteen-fifties and early sixties. The setting for the book is the South Australian railway scene in the early nineteen-fifties, which is the heart of this book. Presented is a broad guide to the systems as they were then, together with fleet lists and principal dimensions of most of the locomotives that operated on them.

South Australia Steam Memories is a 136 page, landscape format, card-covered book, sixteen pages of which are colour images from the period.

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VICTORIAN MODEL RAILWAY SOCIETY Prototype Modellers Forum

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**Sunday,
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Thornbury High School,
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Full details and registration forms available from:

- The VMRS stand at the Waverley Model Railway Club Exhibition on the Queen's Birthday long weekend, 9 - 11 June 2018.
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BYWAYS OF STEAM 31

Eveleigh Press, Australian MODEL RAILWAY Magazine's associate publisher, has released another book on railway operation. All AMRM retail outlets are invited to participate in the sale of the book that will offer modellers and prototype enthusiasts alike, an insight into the days of steam. Two well-known and highly respected authors are again involved in the publication. Although a book on prototype operation, all subject matter relates to modelling, especially the operation of a prototype based model railway layout.

Byways of Steam 31 features 216 pages with two essays based on Lithgow, once seen as the Birmingham of NSW, the industries were so prominent.

The Industries and Railways of the Lithgow Valley. Mark Langdon has researched the rise of Lithgow as an industrial centre, including numerous mines and industries and the various rail links in the valley, west of the Blue Mountains. These are accompanied by another superb Dean Oliver drawing showing the location of the industries and mines and the rail lines.

Steam Locomotive Depots in NSW: Lithgow. The feature essay in this volume is Ray Love's coverage of this steam locomotive depot, which was built in 1924, replacing the depot at Eskbank. The expanded facilities at Lithgow covered the locomotives which worked over the mountains, including the 'Big Engines' and those that worked to Bathurst and Mudgee, on the branch line.

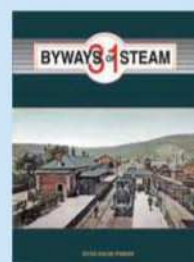
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BYWAYS OF STEAM 32

Byways of Steam 32 includes coverage of the Steam Locomotive Depots at Wallerawang, Mudgee, Eskbank, Dunedoo and Coolah as well as essays on Ken Groves, the 26 class saddle-tank locomotives and Goulburn driver R K. Brown.

Byways of Steam 32 is scheduled for release in time for a December sale. This mammoth 232 page volume returns to the normal coverage of steam depots, locomotives and steam locomotive drivers.

- **Steam Locomotive Depots in NSW:** Wallerawang, Mudgee, Eskbank, Dunedoo and Coolah. In these essays, rail historian Ray Love covers the steam locomotive depot scene after the crossing of the Blue Mountains with the completion of the great Zig Zag into Lithgow. Commencing with the first depot opened, Wallerawang, Ray describes the history of the construction of the depot, the building of the infrastructure and the steam operations up until the time of closure. Interspersed throughout the detailed text are photographs and track diagrams.
- **Kenneth Thomas Groves.** Ken joined the Railways in 1943 and rose through the ranks of a steam engine crewman until he was a driver capable of handling the mighty 38, 57, 58 and AD60 classes. Stephen Halgren briefly describes Ken's career illustrating his work with photographs from Ken's collection.
- **An Eye for an 'I'.** Most rail historians have a favourite locomotive and author Ian Wallace unashamedly favours the Dübs-built, NSW I class, the 2-6-2 saddle tank engines, reclassified as the 26 class in 1924. Ian has dug deep in many photographic collections to cover this 20 strong class that saw sterling service in NSW.
- **Out Of Goulburn.** In 1954, a 24-year old Keith Brown commenced work on the NSW Railways at Goulburn depot. From his 'My Railway Life' story, the essay covers the many tasks performed in a large railway locomotive depot in the post WWII period, when steam was still king.

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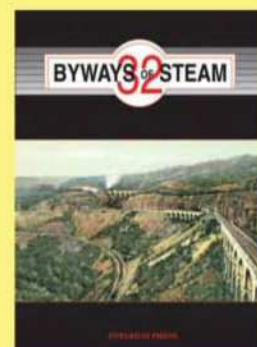
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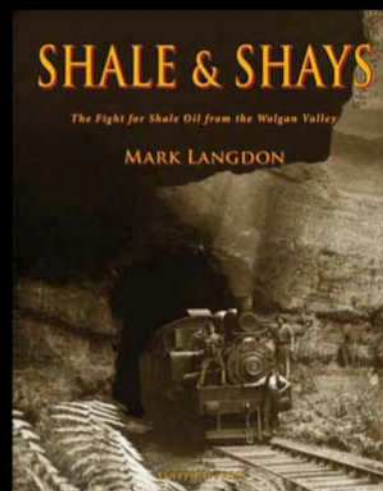
The Fight for Shale Oil from the Wolgan Valley

*A fresh look at life working in the shale oil industry
in the Wolgan Valley*

Mark Langdon, an upper Blue Mountains resident and trained historian, presents a fresh look at the exhilarating shale-oil mining days of 1906–1932 in the Wolgan Valley in New South Wales. Researched from existing company and government documentation and newspaper reports of the day, the book begins with the story of the Commonwealth Oil Corporation's inception, financed and run from the London offices, continues through the building of the works at Newnes and the railway to Newnes Junction, and rounds out with the final days in the 1930s, when the fate of Newnes resided in the hands of the Commonwealth Government and National Oil Pty Ltd. The work includes the decline of the C.O.C. and John Fell's becoming the owner. The problems faced are covered in detail, as is the life of the miners and residents living in the valley.

Special attention has been given to the railway – locomotives and rolling stock – including exhaustive research detailing the building and use of the railway that carried the precious shale and oil to the main N.S.W.G.R. Western Line at Newnes Junction and then on to Torbane in the west and to the Sydney export seaboard. Each vehicle type built specifically for and purchased by the COC is covered, with a history and photos and a scale drawing of each vehicle type included. The work is rounded out with superb maps and a Phil Belbin painting.

The book is 279 x 215mm portrait, of 300 pages in size and includes three- and four-page fold-outs and gate-folds to best display the many pictorial images sourced. While most images are black and white, a number of available colour images have been used. Some of these images had been hand-coloured by the original photographer.



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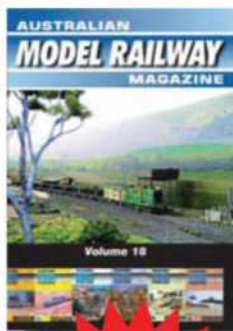
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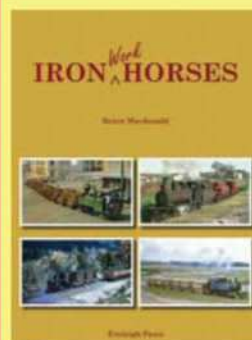
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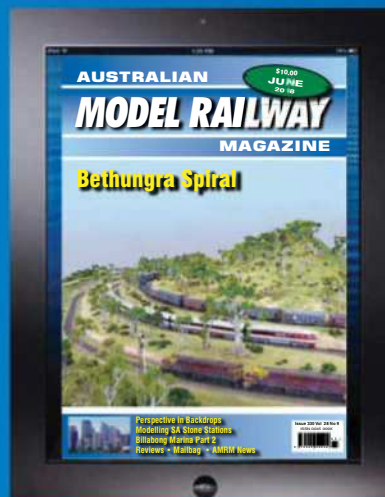
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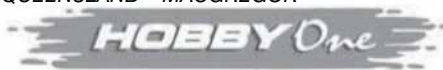
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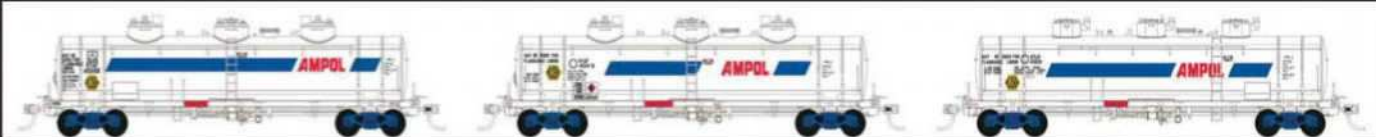


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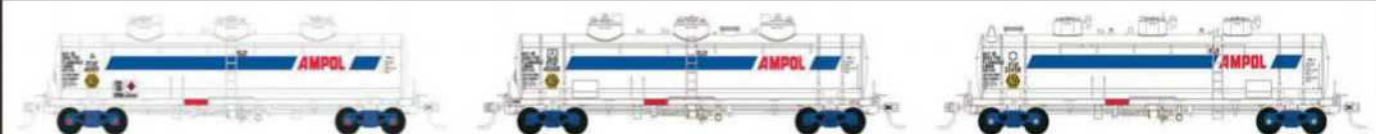
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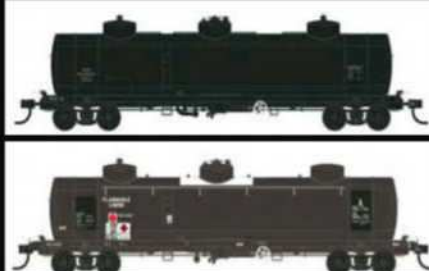


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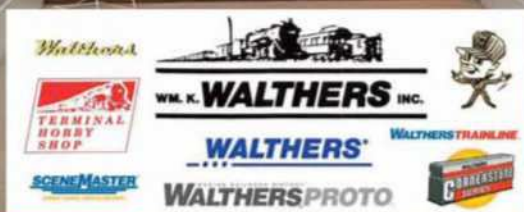


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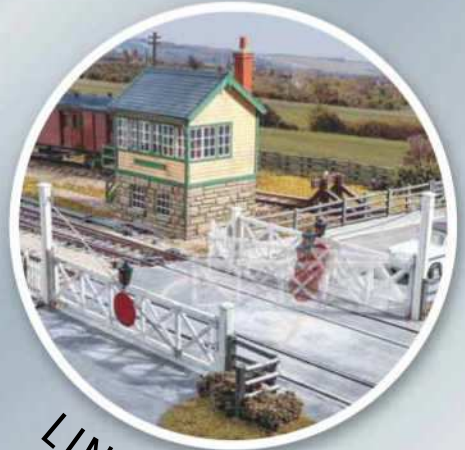
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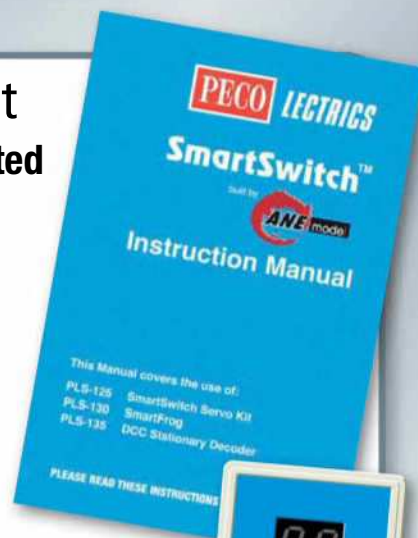
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