

Construction photos

David #1 February 14, 2016, 10:33pm

For any interested, photos have finally been added to the Construction page under Phases 1-3 and the Wiring sections.

dcs

rnb3 #2 February 14, 2016, 10:33pm

WOW! You guys have been bussy! Only 2 more months of school! I can't wait! My basement bathroom is almost finished with only tile and finish plumbing left. That means the A&D Ratliff branch "home" and A&O beyond the basement staging will be next!

David #3 February 14, 2016, 10:33pm

Hi Rick-

Nice to hear from you. Sounds like you've been busy too. And with much anticipation for what lies ahead. I guess the A&O 2.0 is the A&D's "beyond the basement" staging. I'm going to need some A&D equipment when the time comes. And maybe an A&D Geep 9 in pool service.

dcs

Texas_Eastern #4 February 14, 2016, 10:33pm

Wonderful Dave...now we can see practical application of the harvested "ballast" from the field trip. I pray all is well. (Enjoying the early snow 😊)

Bob #5 February 14, 2016, 10:33pm

A couple of quick snaps from a November 7 work session.



The “bent stick” method creates smooth curves that floooooooooow.



Wiring power to tortoise motors with CAT5 cable.



Enjoy.

Bob #6 February 14, 2016, 10:33pm

Mark and Bob Brooks cutting stringers.



Craig: "That can't be right!"



Craig #7 February 14, 2016, 10:33pm

You'd be surprised...but that is what I look like most of the time 😊

Fred_Mullins #8 February 14, 2016, 10:33pm

David and the gang,

Thanks for posting the photos etc. Now are the folks helping you all O scale modelers or do they model in different scales?

Fred Mullins

Bob #9 February 14, 2016, 10:33pm

Fred -

A few of us in the work group already model in O. I was an unrepentant HO-scaler until I met David. Another long-time A&O crew member recently switched.

Over time the rest will be assimilated. Resistance is futile. 😊

David #10 February 14, 2016, 10:33pm

[size=150]MERRY CHRISTMAS!!![/size]

to all regulars and visitors of the A&O website
from David and the A&O gang

For those interested, a rather verbose description of laying out trackwork and glueing ties has been added to the Construction page.

Texas_Eastern #11 February 14, 2016, 10:33pm

[quote="David"] [size=150]MERRY CHRISTMAS!!![/size]

to all regulars and visitors of the A&O website
from David and the A&O gang

For those interested, a rather verbose description of laying out trackwork and glueing ties has been added to the Construction page.[/quote]

And to you and yours David... I pray you and the family are doing well.

PS- It WAS a white Christmas even for us!

Bob #12 February 14, 2016, 10:33pm

Construction photos have been pretty quiet lately, so here are some catch-up pix.

Not sure if this is "Got some 'splaining to do" or a re-enactment of "Washington crossing the

Delaware”



Vince demonstrates a painful way to drive spikes in Havens yard



Mark spikes rail using the Tres Amigos rolling track gage



Bob #13 February 14, 2016, 10:33pm

A few more pix, in no particular order.

A diamond in the rough, part of a curved double crossover. There is no straight rail to be found anywhere in the vicinity of CM Tower.



Trackwork in Havens yard, A/D tracks. For the record these are approximately #10 frog angle.

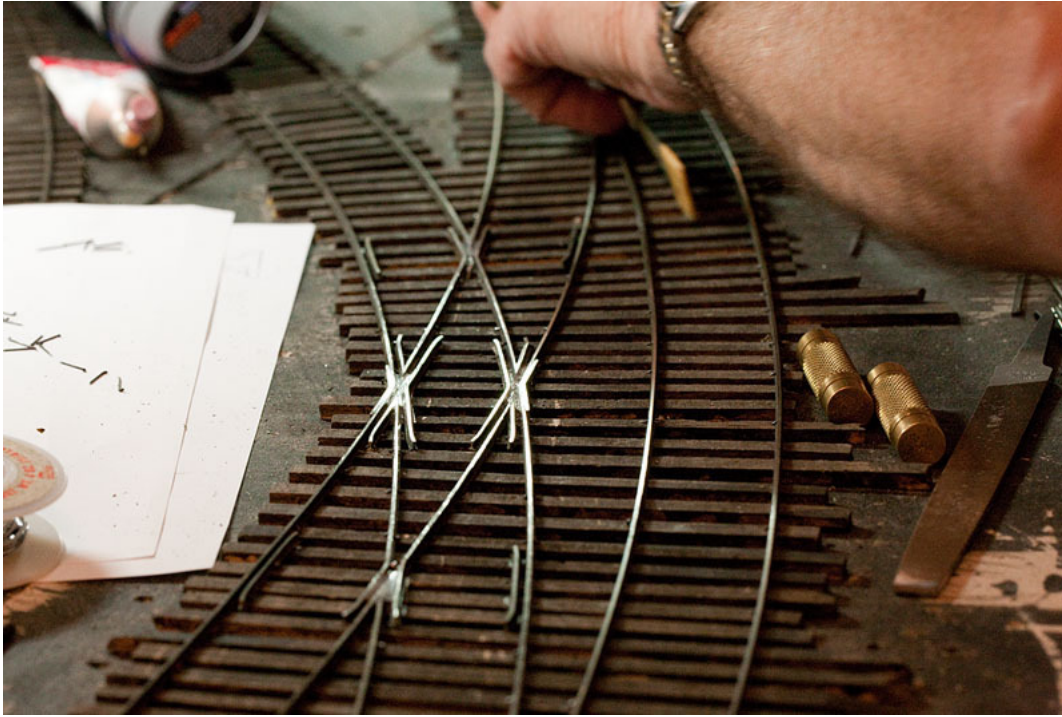


Virtuoso trackwork at the south end of Havens yard. Just try building **this** with Atlas turnouts! The two blurry “ghosts” are piano wire sticking up through the throw bars. These have not yet been clipped to length.



Bob #14 February 14, 2016, 10:33pm

The double crossover was almost done on Jan 23, 2010.



Although a rail shortage was imminent, a crisis was narrowly averted.



Bob #15 February 14, 2016, 10:33pm

The CM Tower - Point Vincent double crossover and diamond are done. The lone tree was donated

by Jackson, and came out of his new Tres Amigos Flockin' Tree Machine.



A sea of T-pins assist layout of the Havens Yard turning wye, an area now called "Wye Knot." The track at the bottom of the photo is one of the 16th St switch leads and forms part of a big reversing loop. The track just to the left heads into the Fillmore Heights industrial district.



Bob #16 February 14, 2016, 10:33pm

The track crew has started filling Fillmore Heights with rail while wiring continues under Havens yard.

In Fillmore Heights, Jackson builds a turnout for the yard at the Ford plant. A scenic divider filled with tall buildings, running just in front of the Ott lite, will eventually block this view.



Levi connecting Havens yard rail feeder wires to the DCC power bus.



Craig wiring turnout motors.



Bob #17 February 14, 2016, 10:33pm

Here's an overview of Havens yard (center), Fillmore (right, above Havens) and staging (lower level center and left.) Along the far wall can be seen the yard lead heading for the main 16th St classification yard, to be built over staging at the far left.

A scenic divider will hide Jackson and the higher Fillmore track from this aisle.

All the lighting is temporary. The single piece of valence holds the lighting test of a Philips F32T8/930 4' fluorescent bulb, as described in a previous thread.

Apologies for the mess, as it is definitely a work session in progress!



Moving well to the right of the preview photo we see the complex multi-level bench work that carries the Slauson cutoff and connection between Dogtown staging and Havens yard.



And as a teaser, surely nothing good can ever come of this. Or can it?



Bob #18 February 14, 2016, 10:33pm

Some April 2010 construction photos of A&O track in the Fillmore Heights aisle. A lot changed since my last visit.

“Somebody has some explaining to do!”



“I almost forgot about this turnout”



Jackson grinding a code 100 stock rail for a turnout in Fillmore Heights.



Bob #19 February 14, 2016, 10:33pm

Some overview shots from April 2010.

Here we look straight at Point Vincent, where Yard Limits end and CTC begins on the upper deck. This peninsula end is the new home of the paper mill, relocated from Glen Forge. Note that upper styrene (unpainted) sky backdrops have been erected to the ceiling. The remaining gap is planned to be filled with very tall building flats (very flats.)



Vincent laying a small yard at the north end of the Fillmore Heights operators aisle.



The south end of Havens yard, where the arrival/departure tracks serve 16th St classification yard, not yet built to the left of the far left aisle.



Note that Vince's loaned BN hard hat has received a lot of use during the latest construction. As Homer says, D'oh!

Bob #20 February 14, 2016, 10:33pm

This saved piece of A&O 1.0 finally found a home. It came from Fillmore Heights on the first layout, and that's where it landed on the new layout. For location, the horizontal blur of track at the top right of the photo is the tail track of the Havens Yard wye.



Craig #21 February 14, 2016, 10:33pm

Very Nice 😊 It's changed a bit since I was last there too. I think that Fillmore is going to be an amazing place to operate.

Thanks for sharing the pictures Bob.

Bob #22 February 14, 2016, 10:33pm

In the movie "Young Frankenstein" Eyegore said to the doctor "What hump?" Here is a peek at 16th Street classification yard from July of 2010.



This is certainly a work-in-process, but it appears that the twin switch leads in the original plan will be replaced by a single and fairly stout hump.

Texas_Eastern #23 February 14, 2016, 10:33pm

Sweet! Glad to see things moving along...Hi Dave! Yes I'm still out here... Bob, as always great photography

David #24 February 14, 2016, 10:33pm

This work was done at the end of May, and virtually nothing has been done since as summer travel and a huge landscaping project have consumed all my time and energy. Photos on those items will be posted when completed to plead my case.

This photo is before some hump lead work had been constructed, thus the roller coaster look when taken. At the moment it has no hump as the temporary risers have been removed to lower the roadbed so the rear track can be laid first. Then the hump lead will be raised into position and risers

adjusted for proper roll out into the 9 classification tracks of the various types of rolling stock. All preliminary tests on mock-up rails were positive enough to “go for it”.

Retarders? (I can hear the question already). They’re a work in progress, like everything else (in life). At the moment there will be a Master Retarder and then Group Retarders, as on the prototype. Currently there’s promise in a manual design with friction applied to the backside of the wheel to slow the passing car. The firmer the operator presses the knob, the more pressure is applied. We’ll see. But data will be shared. Just another project.

The goal is to eliminate the bottleneck that Millport’s 16th Street classification yard was on A&O 1.0, enabling trains to get broken down and classified much more quickly. With the separate Millport Havens Arrival/Departure and engine facility yard across the aisle, all the 16th st. guy has to do is classify. We’ll see how it all works out!

David

Craig #25 February 14, 2016, 10:33pm

Can’t wait 😊

David...if you need any additional man power on the landscape...let me know 😊

rnb3 #26 February 14, 2016, 10:33pm

Sooooooo... does everybody start out as a “Group Retarder” and work their way up to “Master Retarder”? Does Darwin have to take the retarder test, or can he grandfather in?

I’m just asking, some retarder-ed people want to know!

Bob #27 February 14, 2016, 10:33pm

Looks like the cat, er, hump, is out of the bag! Didn’t know it was a secret. 😊 But herr layout doctor told me not to disturb him when he was working... so I didn’t ask. 😊

Craig #28 February 14, 2016, 10:33pm

Well, it's been a while since we had some pictures, so I thought that I would take my trusty Canon T2i over with me to David's for a little up-date (and to make sure that Bob could stay focused on the panel wiring - aren't I such a nice guy!!) So here are some pictures for your viewing pleasure.







More to come...

Craig #29 February 14, 2016, 10:33pm

Here are the next three.





A few more to come...

Craig #30 February 14, 2016, 10:33pm

And the last series for this week...



Hope you enjoyed these. I won't be at the next couple of work sessions, but when I return I will try to

grab a few more pictures. Ya know, I think Bob likes having an assistant!



Bob #31 February 14, 2016, 10:33pm

Nice photos, Craig. But why do we only see a certain side of your older brother? 😊

Craig #32 February 14, 2016, 10:33pm

(Looks around from side to side...waves Bob over...)

It's because...because...

I'm the good looking one of the family 😊

hehehehehe

Craig #33 February 14, 2016, 10:33pm

Greetings Everyone,

Here are the next round of Photos for the work sessions held this past week. One of the days we had 6 of us working and the other saw 3 of us (smaller turn out due to the snow storm on Thursday).

So without further delay...here are the pictures 😊





More to come...

Craig #34 February 14, 2016, 10:33pm

Here is one more...



So over the past couple of days we saw the following happen:

- Jackson and Vince finished up Fillmore track laying. Craig finished up about half of the wiring in Fillmore, with ground throws still needing to be installed.
- Mark continued work on the 16th Yard tracks. He was able to get all of the track except one rail completed in these yards. At the next session we should see 16th St complete.
- Jackson started work on the track on the front side of the hump, which will service and ice reefers for use at Cambells and Swanson's.
- Vince completed track at the Swanson and Cambell sidings, and will start laying track towards Jackson.
- Bob and Craig worked on more wiring, doing some prep work in the 16th St Yards and Fillmore Heights area.
- David started work on the International Paper area, which marks the first track prep work outside of the yard areas.

And for something that will blow your minds. David mentioned yesterday that about half of the switches have been installed on the layout (just in the yards and Fillmore areas). Assuming I wasn't smoking something (and I don't believe I was)...just over 100 switches have been completed.

I would like so send all of my best thoughts and warmest wishes to everyone for a happy and joyous New Year. I can't WAIT to see what we accomplish in 2011 !!

Bob #35 February 14, 2016, 10:33pm

Craig -

It appears that we need to promote you to "Associate Historian" at the A&O Historical (Hysterical?) Society for your photojournalism skills! 😊

And thanks for your wiring expertise, even if your arms did feel like they would fall off (so did mine.)



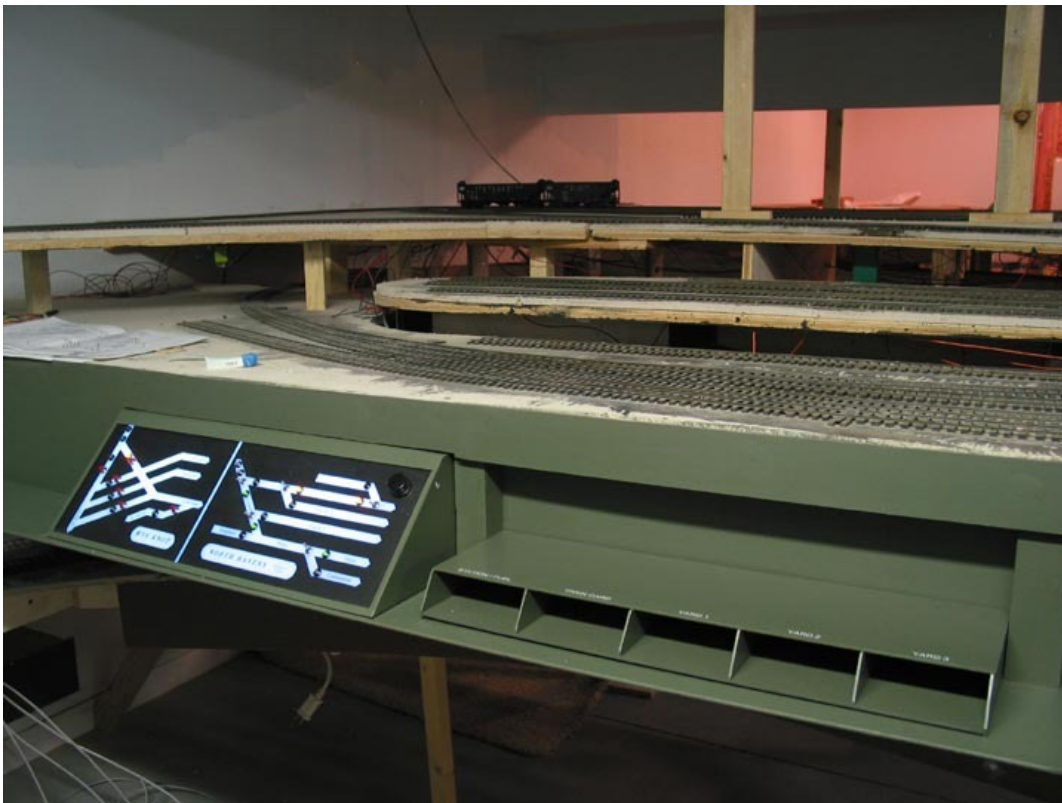
Craig #36 February 14, 2016, 10:33pm

You always know you're doing it right when you have lost feeling in both arms 😊 heheheheh

David #37 February 14, 2016, 10:34pm

Some shots from a wiring work session last Saturday, Feb.5.

David









Bob #38 February 14, 2016, 10:34pm

The hump yard is nearly complete.



This was the first test run. At least that's what David claimed. I think it was just an excuse to play trains! 😞



Rolling down to the bowl.



Bob #39 February 14, 2016, 10:34pm

Craig sets up to shoot video of hump yard testing with his fine new Canon Rebel T2i DSLR, using a

borrowed lens and tripod. (Clarification in case his fiancé sees this and thinks he's been hiding some new toys! They really are borrowed.)

We hope to produce a future feature-length "A&O 2.0 - THE DVD" for sale in the A&O Company Store. **Merchandising!** (think Mel Brook's Spaceballs.) 😞



Meanwhile, the floooooing track at Point Vincent starts its connection with the mainline and paper mill industry tracks.



The “whatever it takes” approach to fit and flow in-place constructed turnouts never ceases to amaze me. Here we see what may well become the longest frog on the layout, on the mainline diverging route of this 3-way at the paper mill. A limber SW switcher will service the three industry tracks to the distant left.



FYI this is all MicroEngineering Code 100 rail on home-sawn ties.

jkparker #40 February 14, 2016, 10:34pm

Hi Dave/crew. Excellent progress and craftsmanship, keep up the momentum and good work. I can't wait to see the progress in person.

John Parker
www.bnsfrr.net

Craig #41 February 14, 2016, 10:34pm

Well Gents...the new laptop is in hand. So I will see about editing the video soon 😊

Can't wait until the next work day. Mainline...here we come!!! (OK...Bob and I will be a little behind... but were OK with that). heheheheheh

Bob #42 February 14, 2016, 10:34pm

Today layout lighting valences started to go up. See the General Discussion thread on **Layout presentation through general lighting** for photos.

[Link to discussion thread](#)

Bob #43 February 14, 2016, 10:34pm

Lighting has been underway for a while now. Today valences went up and were lit for the first time between Point Vincent and Bayfield. Most of this area will be a large paper mill complex. CTC starts indirectly behind Vince (left) and continues towards David to the right. At present there are four 4-foot T32 fluorescent lamps behind the valence. A few 35 watt halogen spots will be added to create shadows and pop details.

Not shown: Mark, who needed to leave just before the wiring was complete. Shown: a typical mess we make while in the middle of a work session. 😊



From a different angle, Vince spikes rail at Point Vincent. To his left are various pieces of foam board used to explore basic sizes and shapes for buildings and other effects at the left (north) side of the paper mill complex. Full lighting for that area is not yet installed. It will be lit by track light cans reused from A&O 1.0.



There is a “short order window” that allows a track to burrow through the divider between the paper mill and Fillmore Heights. For now an old Saturday Night Live skit is remembered (my fault.) After all,

model railroading is supposed to be fun!



Chester #44 February 14, 2016, 10:34pm

The lighting looks great guys. David, will the paper mill have it's own switcher or will a "Turn" take care of it? Can't wait to see what it will look like.

Seeing we're in construction photos, I thought you mite like to see my progress. Since the photo was taken I've gotten the ties glued down and I am the process of detailing the ties before coloring. The siding will be laid with code 100 which I am waiting for some from Right-O-Way. Once the sidings rail is all down, the mill will be put in place and some scenery will be stated as the area in front of the mill will have the yard trackage 2" higher and the more I can get done before the rest goes in the easier it will be.

Keep up the work, I am.

Chester



Craig #45 February 14, 2016, 10:34pm

Looks like it is coming along nicely 😊

Wow...the lighting really makes you realize how dark it was before installation. I guess I never really noticed it though 😊 hehehhehe

David #46 February 14, 2016, 10:34pm

Hi Chester,

Lookin' good. I wish I had some mill buildings already done. Lots to build (understatement for the year).

The International Paper Co. complex will be served twice daily by turns out of Millport. With the large number of cars going in/out of the place it seemed reasonable to split this up. On 1.0 we had an "Early Bird" and "Night Owl" mill job. With hundred or so lights that will in the plant it should make for some fun night switching.

David

Bob #47 February 14, 2016, 10:34pm

Things have been much too quiet here, so it seemed time to toss in a photo or two. There's nothing artistic here, just a couple of snaps of good friends enjoying the journey together.

First up, David and Mark review A&O turnout throw bar installation before Mark pretty much finishes up the ready-to-finish paper mill turnouts. It looks like they are enjoying the task. Unseen to the left is Bill, who does the fastest layout production work I've ever seen.



David uses black Micarta (PC epoxy-glass material minus the copper) and fine quality jewelry finding pins donated by Ellie Bowman to attach the points in a way that allows the joint to rotate, and therefore, not break during extremely-heavy operating sessions. The idea of using pins (regular dressmakers pins) came from Doug Geiger. I replaced David's vinyl throwbars with Micarta obtained from a knife crafting web site because I couldn't make the solder joint I wanted without melting the vinyl.

Next up, Vince hooks up one of his Vince-O-Matic occupancy detectors on the lower staging yard ladders. These will help the hostler keep trains from running too far into staging tracks and fouling the exit ladders. Vince is a fellow electrical engineer and the signaling guru. He's the only one allowed to install blue CAT5 wiring as that's dedicated to signaling.



To Vince's left is the first installed A&O DCC ammeter, disguised as an EMD 2nd generation traction motor load meter used in the GP30+ era. 1000 amps indicated = 10 amps DCC. The current transformer and custom circuit board is in the DCC power supply behind Vince, which reads the load for the entire north region under David's garage. There may be up to 6 of these throughout the layout using meters from 2nd Generation EMD and GE locomotives to 1st generation EMD F3s. I'm thankful that David allowed me, an electrical engineer, to "geek out!" 😊

Craig #48 February 14, 2016, 10:34pm

Looking good!! Thanks for the update as well Bob. Sorry I couldn't be there last weekend. Hopefully I can be there for the next one.

Hmmmmmm...do I smell mainline trackage soon 😊 ??

Bob #49 February 14, 2016, 10:34pm

This part of the A&O forums has been quiet for way too long. I've been absent due to some issues including a blown Achilles tendon. Sherman set the "Wayback Machine" to April 2011 for this vignette from the day we hung the first lighting valences.

Submitted for your approval. This abstract is called "Clamp City", taken with a cell phone camera from a high angle over the hump yard throat.



Bob #50 February 14, 2016, 10:34pm

March 2012 brings the start of wall erection on a new part of the layout. Here is the future home of the coal marshaling town of Darwin, otherwise known as the place "where the sun don't shine." There will be perpetual rain, gloom and thunderstorms here.



The short doorway will be the nod-under operator access to the Kayford coal branch.

A curved wall divides Ricksburg (front side of the studs) from King Coal and the town of Brooks behind the studs. King Coal is an operating loader that fills hoppers with live coal loads.



Fire in the hole! Craig covers his ears as Kingston prepares to shoot a concrete nail.



Bob #51 February 14, 2016, 10:34pm

Meanwhile, the 16th Street Yard operator's aisle nears completion with valence and fascia work done. A few control panels remain on the punch list. Major scenery will not start until the last of the sawdust settles.



[rnb3](#) #52 February 14, 2016, 10:34pm

Ohhhhhh...I can't wait! Only 53 more days to go! The finished fascia and lighting is a home run! The presentation is definitely appealing, and really makes the layout POP!

Oh and by the way Bob, you call that a "fire in the hole"? Here is a fire in the hole! Nothing like a small IED and some C4 to call attention to yourself!



Craig #53 February 14, 2016, 10:34pm

I guess “fire in the hole” Rick 😊 Our much smaller 22 shells didn’t make quite that much sound either I’m sure 😊

David and I were talking as we were putting up the separation wall between Ricksburg and the area towards the King Coal facility...your namesake is starting to take shape 😊 Can’t wait for you to get back so you can start to help us with it!!

Stay safe and looking forward to seeing you back stateside!

David #54 February 14, 2016, 10:34pm

Rick,
There are no words except...many prayers. See you soon.
David

Bob #55 February 14, 2016, 10:34pm

Like the Energizer Bunny, we keep going, going, going... boom boom boom boom! Well, very tiny booms, thankfully. But the standard goal is: "Must work faster!" Since I'm guilty of being a "Mr. Yack-A-Lot" I intentionally tried to stay out of the way except for taking photos and making electrical measurements today.

First up is rocking the north-ish wall (according to house compass) out of Brooks along the narrow Kayford Valley corridor. "South-ish" is the top of the A&O track plan drawings. From left to right David shoots screws into wet drywall to establish the start of the bend while Levi and Craig lean into the job. The town of Ricksburg will be on the far side of this wall.



Who says you should not shoot backlit photos?



I'm standing at the operator's position for the King Coal operating flood loader in Brooks, WV. Track will run along the left wall towards the pinch point, where it will be in a side-daylighted tunnel. The Kayford branch starts to the right behind David and heads away from the camera. Since behind me is a nod-under from Durwood, er, Darvon, er, Darwin, where the sun never shines and there is a perpetual thunderstorm, this area will be dark too, and that should accentuate the many lights on the King Coal flood loader. A couple paces behind David there will be a "people tunnel" which transitions into a more brightly-lit area.



Bob #56 February 14, 2016, 10:34pm

Vince spikes rail off the end of the only track saved from A&O 1.0, not visible to the left of the photo.



Craig trims sheet rock and lets it know who is the master.



Craig #57 February 14, 2016, 10:34pm

Great shots Bob. Thanks for sharing those.

It really is coming along nicely now. It's funny at how a great big ole room like David's basement now seems to get smaller when you put "floooooowing" walls up.

Can't wait for the next session to see how things change.

Jeff_Tague #58 February 14, 2016, 10:34pm

I'm lovin' this new section but I'm a big pig and want to see more. How are'ya guys doin'?

David #59 February 14, 2016, 10:34pm

Hi Jeff,
Not much has happened since these pictures were taken on March 17. The next day (Mar. 18) I had

a medical emergency that put me in the hospital for a week (5 days in ICU). Seven units of blood later I was sent home to recuperate. And it took about a month to get back on my feet 😞 . Soooo, things have been at a standstill for awhile. But I expect to restart pretty soon with work sessions. Wish we could be more helpful with progress updates, but not a whole lot to report.

David

Jeff_Tague #60 February 14, 2016, 10:34pm

OUCH!!! We didn't want to hear such things but apparently the Good Lord decided that the railroad (and your family) needed your further attention. Seriously, I'm relieved that you are recovering and wish you the best.

Bob #61 February 14, 2016, 10:34pm

A very limited work session was held on May 5th, 2012. Since the last session, David installed the Whiting Rotaside rotary dump on foam vibration mounts and inside a temporary, protective cocoon. This side is the ramp down to the empty car receiving yard.



David built a sliding, removable access hatch for the water heater behind Glen Forge. Here he bores

tunnels to NYC staging under the basement stairs.



Vince and David measure the new track plan in the town of Glen Forge.

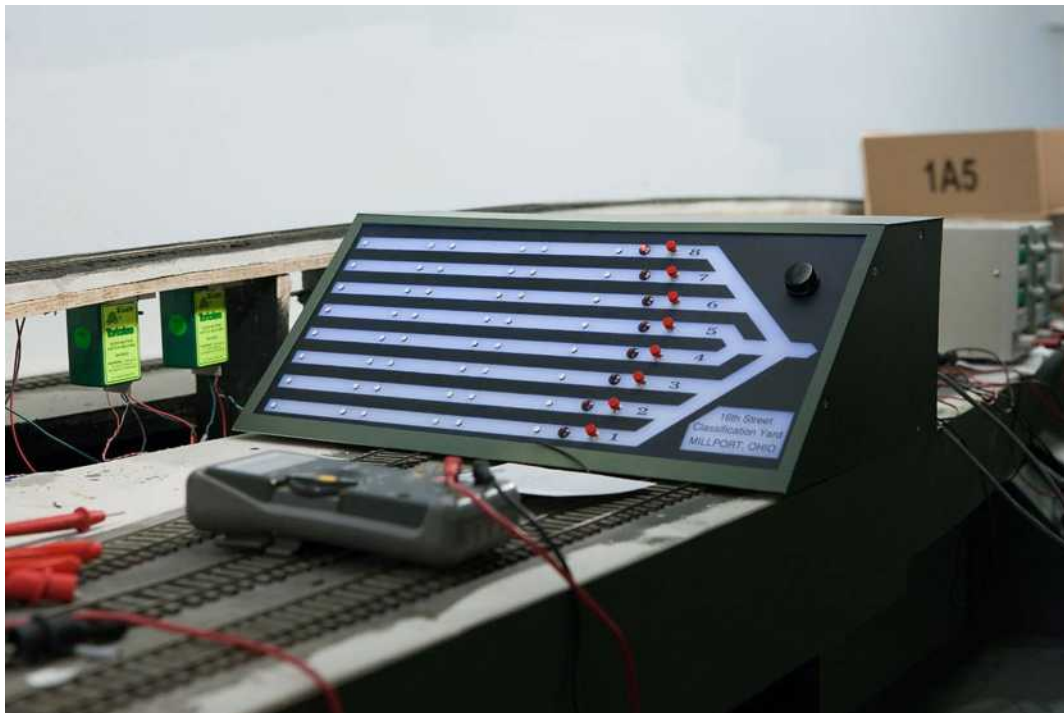


Bob #62 February 14, 2016, 10:34pm

Vince picked up where he left off last session, spiking industrial yard rails.



Bob returned the now wired hump yard control panel and brought-up servomotor retarders that David installed.



Small programming changes were planned to install a real truth table for the Tortoise turnout motors.

Temporary power from laboratory supplies made adjusting the retarder servomotors a little easier. To

increase reliability the computer turns off the servos after a few seconds. The green pushbutton at the bottom of the photo is the retarder actuator button.



Craig #63 February 14, 2016, 10:34pm

David - good to see you 'back at it' my friend 😊

Thanks, as always Bob, for the great photos!!!

Bob #64 February 14, 2016, 10:34pm

A little more progress on May 12, 2012.

Vince laid rails and built a turnout in the Owens Corning plant. Curiously this was not the Corning plant, but it was a good photo of Vince.



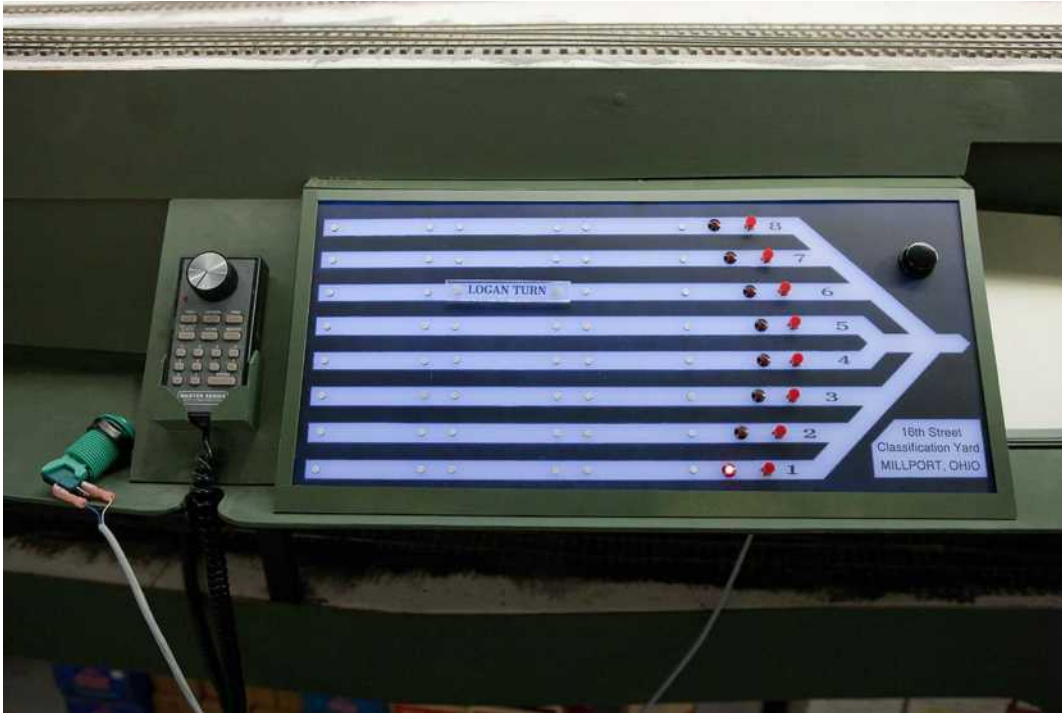
David and Jeff built and adjusted lighting valences for Glen Forge. I'm not sure about Christmas T-shirt in May; that could be rushing things a bit!



Bob #65 February 14, 2016, 10:34pm

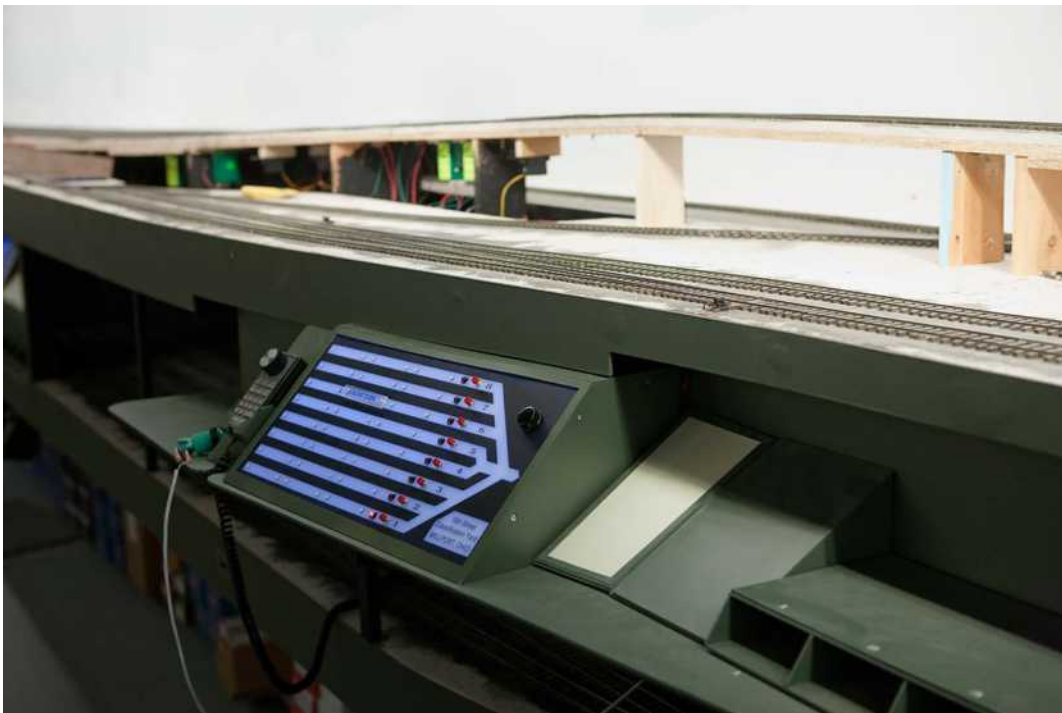
Meanwhile, Bob finished installation of the hump control panel and (hopefully) flashed final firmware tweaks in the Arduino Duemilanove embedded computer. David built the enclosure and panel. Bob built the control computer and wired everything up.

The control pushbutton (green) appears to the left. The best spot for it has not yet been identified. Bob has been lobbying for a spot just to the right of the panel.



Does it seem strange that Bob now refers to himself in the third person? ? Maybe Bob Dole knows.

Here we have another view of the panel as installed. In the background we see the crest of the hump and just to the left, the first retarder servo motor. The hump operator throttle sits in a clip to the left of the panel. An SW9 + former RS3 slug have been planned for initial hump service.



Bob #66 February 14, 2016, 10:34pm

[size=150]Playtime![/size]

David shoves a cut up the hump where a covered hopper begins to uncouple for its descent down through the master retarder. David holds the retarder control pushbutton in his right hand. I have a feeling the button will end up on the end of a custom machined pendant and coiled cord so that the hump operator can walk around with it in a preferred hand.

David's SW has a Lenz back-EMF decoder which gives perfect, smooth control even at a slow scale walking speed.



The car uncouples on fixed permanent magnets and starts the roll through the master retarder. Secondary retarders only actuate for the selected track to reduce wear on the model airplane RC servo motors and gear trains.



The only thing I know for sure is that a lot more playtime 😊 will be needed before the hump yard control becomes final.

rnb3 #67 February 14, 2016, 10:34pm

Rick thinks Bob, David, and everybody else are having too much fun by themselves! Rick thinks it's time for him to play too.

Looking great guys! I can't wait to see the hump yard working in person!

Craig #68 February 14, 2016, 10:34pm

Rick - great to hear from you!! Are you back in Colorado???

Thanks for the update guys. And great to see Jeff too!

rnb3 #69 February 14, 2016, 10:34pm

[quote="Craig"]Rick - great to hear from you!! Are you back in Colorado???

I've been home for a week. Been hanging out with my wife and our kids and keeping a low profile. We have a vacation trip next week, and I won't return to work till middle of June.

It's good to be home![/quote]

Craig #70 February 14, 2016, 10:34pm

Awesome to hear my friend!!!

Welcome back and Job WELL Done!!!

Bob #71 February 14, 2016, 10:34pm

Here are a couple more progress photos. To get a smooth serpentine floooooooow through River Gorge, David and Bill use the "bent stick" method to locate the stud walls that enclose the Kayford branch. Benchwork to the far left is the future home of the Morrison coal prep plant.



Rick and David hang wall studs from floor joists so that the floor slab can float.



At this point track work is about half complete, with well over 100 turnouts built in place. I'm way behind building control panel electronics and fast clocks.

Craig #72 February 14, 2016, 10:34pm

Awesome Awesome Awesome!!!

It is great to see the wall down the Kayford branch taking shape 😊

And another good thing...to see Rick back in the work crew 😊

Craig #73 February 14, 2016, 10:34pm

Awesome Awesome Awesome!!!

It is great to see the wall down the Kayford branch taking shape 😊

And another good thing...to see Rick back in the work crew 😊

rnb3 #74 February 14, 2016, 10:34pm

Thanks Craig! It is good to be home for sure! It is also pretty cool to see how far A&O 2.0 has come along.

Bob #75 February 14, 2016, 10:34pm

Something has invaded the Kayford valley. Run away!



rnb3 #76 February 14, 2016, 10:34pm

So I “washed” the image through my secret government software and was able to enhance and sharpen it. Turns out...



David #77 February 14, 2016, 10:34pm

Who took my picture!?! I was having a bad hair day anyway.
David

coaltrain #78 February 14, 2016, 10:34pm

your photo is interesting, it made me go back and take a look through the photos and I think I see something in that background in one of the photos.



Craig #79 February 14, 2016, 10:34pm

Howdy everyone. We have another update to share on the progress of "A&O 2.0 The Layout" to show you. I gave Bob the day off from shooting photos so please forgive the much lower quality of these shots.





More to come below...

Craig #80 February 14, 2016, 10:34pm

And here are what Vince, Bob and I were working on today.





More below...

Craig #81 February 14, 2016, 10:34pm



It was a great day to spend with friends, and we got a LOT done. Things are REALLY coming

together!

Thanks for having me over today David...had a GREAT time!

Mark_Boyce #82 February 14, 2016, 10:34pm

David,
It has been a while since I logged into your forum. Looks like you have made a lot of progress. Very impressive. 😊

I just want to say that reading about your previous layout and this one was one of the main factors that convinced me to switch from HO to O. Actually, I started with On30 and am planning an small (tiny, by A&O standards;-)) O/On30 layout. Thank you for posting your progress on this forum.

Happy Model Railroading,

Mark Boyce

Butler, Pennsylvania

Bob #83 February 14, 2016, 10:34pm

It is November 17, 2012. Where do the days go? Here are a few update photos of construction.

This people tunnel doglegs to the left as one enters the “rain room” of Ridge and Darwin, towns where the “sun don’t shine.” Here the rails will be quite high, so a ramp and platform lift the operator for a better reach. Very shallow single-track scenes near eye level will be built on both sides of this aisle.

The nod-under passage to enter the Kayford valley is just visible through the tunnel portal. Benchwork level will be a little above the top of the nod-under, and high enough to clear three hidden King Coal loader tail tracks visible along the back wall.



Portions of the stud walls for the coal branch through Kayford Valley are built. At the far end, in the town of Brooks, Vince works on a turnout that will eventually reside below the large King Coal operating loader. Track to Darwin will punch-through the wall on the left. The post on the right marks the location of another people tunnel.



Walking down the aisle we see Vince hard at work building a turnout on the to-be-hidden tail track of the Ricksburg turning wye. We plan to install Boulder Creek Engineering NightScope optical detectors for turnout clearance and end-of-track. The operating Kayford loader will be installed above this turnout.



Bob #84 February 14, 2016, 10:34pm

David uses the classic “bent stick” method to locate smoothly-flowing tracks. Here he lays-out the Ricksburg engine terminal. On the original track plan the turntable would be found behind David in the far corner. This improvement gives excellent access to the turntable and makes the area a scene unto itself.



The Ricksburg turning wye punches through the wall behind David. Through the opening we can see Vince hard at work (thanks for the photo idea, David.)



Craig #85 February 14, 2016, 10:34pm

VERY nice guys. The first people tunnel. 😊😊😊

So Bob...is everything done electronically in the Dogtown area and yard area? Are we pushing out to the paper mill area now?

Bob #86 February 14, 2016, 10:34pm

Craig -

There are two smaller panels remaining to build, one for CM Tower and one for Willow Creek. Both will interact with the CMRI system through traffic levers. CM Tower can also lock a few turnouts used by the paper mill, but before the start of CTC.

Beyond those, the next panels to install will be along the paper mill as you surmised. For the mill area panels I will need to build more OS turnout drivers and also make signal driver boards. Once these are in, and Vince wires the signals to the first SMINI, we should be ready to start bringing up JMRI. Of course we will unplug and store the signals when we are not "testing" to keep them safe from David's 2-YO grandchild. (This work won't actually be playing! Honest!)

Edit - Oh yeah, one more thing. David just installed another uncoupling electromagnet under the garage, immediately prior to entering the righthand side of the "wye knot" turning wye in Havens Yard. I'm glad he thinks of these things *before* it gets *really* difficult to retrofit. 😬 So I'll need to start building my own 555/power MOSFET timer modules until David runs out of his stock of electromagnetic uncouplers. Two of his original Cuda Technologies timers already share the interior of two Bud aluminum boxes with switching power supplies. One lives behind the hump yard lead in a hard-to-reach industrial track, and a second on the grade up to Wye Knot. Every timer has its own power supply, unlike the first O-scale A&O for which we shared a single computer power supply and ran the 12 volt supply wires inside floor concrete expansion gaps. 😬

Ya know, instead of using an analog circuit with a 555 timer, I could just program another 8-pin Atmel ATTINY85 microprocessor to read an analog input through its 10-bit A/D converter, connected to a time-set pot, and use a digital output to drive the MOSFET directly. Hmm... must consider the alternative! But that way would be more difficult for folks to follow in my footsteps, as I haven't yet found someone to be my successor for all things A&O digital. 😊

David #87 February 14, 2016, 10:34pm

Hi Mark,

Thanks for checking in. And yes, progress continues. Thanks to others on the work crew for posting the construction photo updates. I'd like to encourage you to post some pix of your project as well. It's always fun to see what folks are doing.

David

Bob #88 February 14, 2016, 10:34pm

The build-out of Ricksburg continued over the Thanksgiving 2012 weekend. Lighting valences started to go up over the south end of Ricksburg. The unusually-low cabinet hanging over the stub-end of roadbed will eventually hold two control panels and car card sorting bins. It will serve as a scene-separating view block between Ricksburg and the Morrison coal prep plant scene just around the corner. It also blocks lighting glare on the convex curve. Underneath the cabinet we plan to install dimmable warm white LED strip lights.



Bob #89 February 14, 2016, 10:34pm

Saturday's construction efforts focused on the operating areas of Morrison and Ricksburg.

Vince builds turnouts in the yard throat to the Morrison prep plant.



Vince grinds the point of a turnout frog.



Kingston receives a mini-clinic from Vince in hand-laid track as he lays his first rail.



Bob #90 February 14, 2016, 10:34pm

Here's a couple more. David takes time off work for a little "locomotive testing." The locomotive is a Car & Locomotive Shop RSD-12 temporarily powered by an HO Tsunami 1000. The locomotive draws only a bit over 1 amp at 12 volts with the motor locked.



Bill hangs light fixtures over the engine service terminal in Ricksburg.



We want non-glare light over the engine terminal, but a conventional valence won't hide the lights. This experiment seems reasonably successful, even if the valence work is a bit tricky. Mounting the fluorescent bulb a bit skewed from the direction of the egg crate divider avoids visible shadow lines on the layout. The formerly dark cave of Ricksburg is coming to life.



Bob #91 February 14, 2016, 10:34pm

A lot of benchwork just went up in Brooks and the “town formerly known as Darwin.” It was great fun observing how much progress Bill and David made in just a single work session.

Here Bill levels the future home of the operating coal loader in Brooks. The lower level holds the tail track of the Ricksburg turning wye.



The Kayford branch will run along this narrow shelf to arrive at King Coal. The aisle is comfortably wide but not a passing zone. Track enters the Kayford valley behind and to the left of the photographer, at a much wider spot.



Bob #92 February 14, 2016, 10:34pm

Looking through a “people tunnel” we see progress in the “town formerly known as Darwin.” Plans for this dark and stormy area include thunderstorm sound and lighting effects. The people tunnel isolates the room, limits light pollution, and gives it an individual sense of “place.”

Because the benchwork is so high, a raised floor improves reach across the layout.



Passing through the tunnel and standing at a separate site for the small town of Ridge, we get a better view of progress and can look through the nod-under passage to Brooks. Tracks will soon run across the wall and above the passage. The hidden lower deck holds stub-end receiving tracks for the King Coal loader. The upper cutout behind David marks the entrance of C&O staging.



Bob #93 February 14, 2016, 10:34pm

On December 29, 2012 David held another limited work session. Vince continued to lay rails and turnouts in the Morrison coal yard (not pictured.)

David pushed forward a number of projects, including a control panel box held together by many iffy Harbor Freight clamps (you get what you pay for, and I [Bob] bought them!)



Craig alternated between helping David aim screws into benchwork and installing CTC detection resistors on Atlas cars.



On the A&O we install a 7.5K ohm resistor on each end of an O-scale car. Here we see part of David's workbench as we both wait for the nickel conductive paint to dry.



Jeff_Tague #94 February 14, 2016, 10:34pm

Help! I'm suffering deprivation! No progress since December!?

Bob #95 February 14, 2016, 10:34pm

Jeff -

I did not realize that it has been over 6 months since the last update here. There has been considerable progress, but I haven't kept up taking photographs. David and Katie uploaded major updates to the construction web pages just off the A&O home page, so a lot of the story can be found there.

The Morrison coal prep plant yard is laid and waiting for its control panel. Here David gives a tour to Larry Hanlon, a guest who came out from Oregon to attend this year's RockyOp. They are standing in Morrison. Right behind Larry is the future home of the revived River Gorge scene, which turned out to be *the* signature scene on the old A&O. A photo from the previous layout appeared on the cover of Model Railroader back in 2006.



Next up, the ties are laid in Ricksburg and a lot of rail is already in. Here David builds a turnout in-place for the general merchandise yard. The two center tracks are mainline and passing. Underneath boxes of supplies sit the start of the separate coal yard. Of all the jobs we encounter when building a layout, scratch building turnouts is one of David's favorites.



In the early summer David received a request from a fellow named Tony for a progress photo. Meanwhile, I also received a request from our local model railroad club newsletter. I can't show you the one we shot for Tony, but here is a peek at the one for the newsletter. This is Point Vincent, a spot on the north end of 28 foot long International Paper. A lot of old friends were pulled out of storage and staged for this photo.



It is a little hard to see in the photo above, but a lot of finish work has been completed, including fascia and control panels through the paper mill. With all the panels in place, David started a couple of test operating sessions for the paper mill switch job. I've had the pleasure of running that job with the SW1200 (far right). This should be one of the coveted jobs on the layout, taking about 3 actual hours to complete, not counting time required to prepare the switch list. Although space is tight, the job can be done in a single trip without calling for track and time.

Not visible, hidden under the layout off the right side of the photo, is the spot where Vince and I installed the start of the CMRI system. The SMINI and occupancy detectors are all in and wired, and cable pulled to the location of each signal head. This SMINI serves the paper mill complex and around the south end to the Bayfield scissor crossover. The corresponding CTC-controlled turnout driver boards are also installed. Boards that plug onto the SMINI connectors hold all parts needed to drive signal LEDs. Scratch-built signal bridges are still needed.

Craig #96 February 14, 2016, 10:34pm

Hey...I remember those engines 😊

Mmmmmmmmm I can almost FEEL the op sessions...and the ridicule to Darwin.

“DARRRRRRRRWIIIIIIINNNNNNNNNNNN”



Bob #97 February 14, 2016, 10:34pm

A construction push is on to get ready for a layout tour in September.

First up: Vince finishes laying merchandise yard tracks in Ricksburg. Next week a wiring crew will pull the DCC power buses and give the below-layout “Medusa” a haircut.



Next up: Bill and David saw lumber for lighting valences in Linnwood (the town formerly known as Darwin), a/k/a the “rain room.” On this Saturday they also worked on a couple people tunnels.



Bob #98 February 14, 2016, 10:34pm

A couple of people tunnels received attention this last weekend. Here we see an “oversize person detector” (a Nephalim detector?) The photographer is standing near the town of Brooks in the isolated Kayford valley. The area beyond the tunnel will soon be enclosed with stud walls and isolated from the outer room.



Looking the other way through the tunnel, we see newly-installed lighting valences. This area will be modeled as a heavy overcast day, with distant rain and thunderstorm sound coming through the nod-under into Linwood (the rain room) visible through cutouts on the left wall. The Kayford coal branch leaves the Linwood yard and passes through the leftmost cutout.



The top of the people tunnel portal looks purplish because I set the photo white balance to match the somewhat greenish LED strips. I do wish we could have found better quality warm-white LED strings that didn't have the greenish color cast, but we will have to live with these.

In areas where we mount the LED strips facing up or sideways, we apply heavy-gage aluminum duct tape to the inside of the valence to improve the mounting surface. This serves two purposes—provide a clean, smooth surface for bonding the LED strip's 3M adhesive backing, and conduct heat away from the strip, thus keeping the adhesive and LEDs cooler.

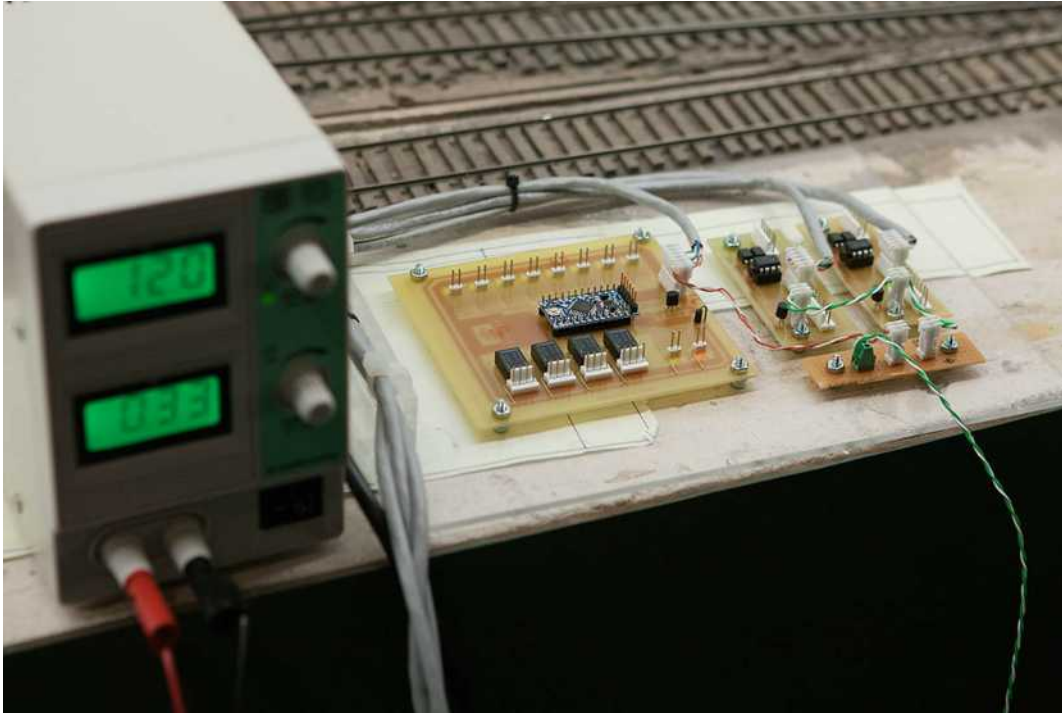
In areas where we mount the LEDs facing downward, they are first attached to 4 foot lengths of 3/4x1/8 aluminum strips, cleaned with IPA, with tie-wraps every foot or so for added security. Over time this should keep gravity from delaminating the LEDs from the aluminum.

Bob #99 February 14, 2016, 10:34pm

The town of Sobol Springs was the first part of the layout that David built, and we are finally getting around to installing the control panel and fascia. To maintain better aisle clearance, this panel is installed facing up in a ball-bearing slide drawer. It is easy to slide out when the NR&W local works the area.



Since the control panel is in a free-sliding drawer, we don't want a thick bundle of cables tugging on the panel, nor do we want the panel tugging on a thick bundle of cables (and potentially breaking a connection.) Even though the cable length is short, I resorted to another Arduino Pro Mini based controller. This allows the majority of the cabling to be replaced by a single CAT5 cable (middle of the photo) running between the controller and panel. A lot of CAT5 Tortoise cables have not yet been attached to the controller.



Most of the circuitry is surface-mount parts on the back side of the board. The 4 black rectangular parts are relays for controlling two Atomic Fuels operating coal loaders. The two small boards to the right are ATTINY-based OS section Tortoise motor drivers for turnouts that can be locked out by the Dispatcher.

Bob #100 February 14, 2016, 10:34pm

Last weekend the A&O General Manager had to grieve. His old Delta table saw bit the dust for the last time, and the repair bill became excessive.

Here we find David with his new table saw, one warranted for life. And that's good, because David is not afraid to use his tools. The blade turns faster than his old Delta and the saw has a lot more torque. It is incredibly easy to move around and set up.

Today David was very happy as he cut white Plexiglass for control panels.



Craig #101 February 14, 2016, 10:34pm

RIP Delta Table Saw. May you cut pine in the sky 😊

Welcome new table saw. You had better keep up 😊 hehehehehe

Bob #102 February 14, 2016, 10:34pm

Another Saturday work session, the last one prior to the September 2013 layout tour, finds a lot of work progressing.

First up: We probably have all heard of using splines to lay out tracks in flowing countryside scenes,

but splines to lay out a stud wall? Only on the A&O! This was the start of a feeling that the basement was suddenly getting a LOT smaller, and with a lot more twists and turns in the aisles!



Vince worked on the Ricksburg engine terminal tracks. These will not yet operate for the open house.



Finally Bill and David erect an extension of the stud wall that defines the main operator's aisle from the interior of the Kayford coal branch. David kneels inside the Kayford while Bill locates wall studs. The outside mainline is still marked on the floor at 59 inch radius.



Meanwhile the lightning and thunder effects in Linnwood (the rain room formerly known as Darwin) are installed and that is a bittersweet installation, given the context of recent floods in Northern Colorado and the effects on so many people. Our prayers go out for them.

Craig #103 February 14, 2016, 10:34pm

Boy...you guys been busy since I was last over (less then a month ago). 😊 WOW! Can't wait for the tour this weekend. I know a LOT of folks that are pretty darn excited to see the new empire.

Bob #104 February 14, 2016, 10:35pm

Posts have been infrequent, so here is something for early December 2013.

David erected temporary supports for the River Gorge scene across the aisle from the Morrison coal prep plant. River Gorge was a favorite and signature scene on his previous layout, and this one should also be stunning. All flat-top bench work is done so from now on most everything will be Homasote spline roadbed. The "bent stick" method produces smoothly-flowing track alignments with natural-looking easements.

Why temporary? Sometimes a designer needs to flesh things out full-size to refine the plan, and that's precisely what David is doing here. He explained his thinking about the Joel Beach (Joel's Beach?) area approximately where the long white level sits on the stringers. What David learned by constructing this 3-D mockup will greatly add to the railfanning impact of the scene compared to the track alignment shown here.

The duck-under to the left will be an emergency escape from the Kayford valley coal branch and located inside a "people tunnel" extending across the aisle from the long horizontal stringers to the end of the lighting valence in the upper right. The hole is sized for reasonably-comfortable egress while affording passage for scenery and tool supply carts, and will be normally closed using a sliding door arrangement. It is not so low that, borrowing from an Indiana Jones movie, "Only the penitent shall pass!"

At the distant end track leaves Ricksburg yard on a 1.75% grade to rise over and clear the duck-under.



All this means that I need to get busy rebuilding a battered Overland pin-connected truss bridge to be installed towards the viewer and stopping where the first green-handle clamp appears near the center of the photo. This bridge arrived badly-smashed. Although the superstructure is now straight and in need of a bit of touch-up soldering, the walkway/floor is a total loss (it was badly done to start with) and so needs total replacement. I have a supply of rail, spikes, tie plates and scale basswood custom cut on a Byrnes precision miniature table saw.

Also of note: David recently tabulated the scratch-built-in-place turnouts. Counting a 3-way as two, and a lap switch as two, there are currently 176 built by David, Vince Griesemer, and Jack Heier. I made the current black epoxy-glass PC board throw bars and Ellie Bowman donated high-quality gold-plated jewelry head-pins to attach the throw bars to the turnout points.

Jeff_Tague #105 February 14, 2016, 10:35pm

Thanks for the update, Bob. The amount of work done is always impressive. I do have a question: during the open house, Craig was using a new panel at Point Vincent that has CTC-like levers on it. Could you give a short description of the functions?

Bob #106 February 14, 2016, 10:35pm

Jeff -

I believe the panel you're referring to is the upper one.



CM Tower is primarily a curved scissor crossover and the launch point for trains onto CTC. The left two switches labeled 1 and 3 are wired as double pole double throw reversing switches. The toggle switch unlocks mainline (but not yet in CTC) turnouts so the local crew can service pulpwood and coal tracks in the paper mill, hidden by the panel and just to Jack's right (blue shirt.)

The rightmost toggle is the only lever that will eventually interact with the CTC machine once we start building the hardware panel. It is a correspondence lever, and that is why there is a code button beneath it. If the operator wants to send a train out of the yard southbound, he throws the lever from center to right and codes the move. That will cause both the right LED on the lever to flash, and the corresponding LED on the dispatcher's panel to flash, indicating that the two machines are "out of correspondence." When the dispatcher accepts the train, he moves his correspondence lever to the right and codes it. Now both levers are "in correspondence" and both LEDs turn solid green. The trackside signal changes from red to a permissive aspect (green or yellow) until the train enters the first OS section and "knocks down" the signal, at which time the LED on this panel goes out.

When the dispatcher wants to send a train into the CM Tower plant, he initiates it by setting his correspondence lever to the left and coding. Note that the train is sitting at a red signal. Next the tower operator flips his lever to the left and codes it. The rightmost correspondence LED changes from flashing to solid, and the trackside signal changes to yellow.

The lower panel that Craig is operating controls the south end yard ladder.

Most of the time turnout 1 will be left in "reverse" and the second turnout of that crossover also left reverse (toggle switch just above Craig's thumb.) That allows the south-end yard switcher to gain a very long drill lead along the hollow-line track shown on the CM Tower panel.

The upper-left track on the CM Tower panel says "Hump/Engine Lead" and that is a back-track used to shove cuts of cars up to the hump yard, and give the hostler access to the engine service terminal.

David #107 February 14, 2016, 10:35pm

Hi Jeff,

I'll add a thought or two as well.

The reason for the two panels is that the CTC-like upper panel would be what might found in a regional tower at just such an interlocking as CM Tower presents- a connection from a yard/industrial area onto CTC. Any turnouts on such a route would be Tower controlled and not available to the local crews without being tower-unlocked for the required movements. As Bob mentioned, the lower panel does not include such turnouts.

You'll notice that we made the bottom local panel back-lit for night ops like others on the A&O so far. But the upper being CTC-ish is front lit by LED from behind the valence. CTC panels often had their own florescents shining down on them for light. Thus, our attempt to simulate this and create a distinction between the function and purpose of the two panels.

It is possible that if we have enough crews, the south end yard switcher and the CM Tower operator will be separate operating positions. There is another similar panel directly across the aisle from CM Tower that serves the Willow Creek yard and is the New River Diamond Tower. It controls traffic in/out of the Willow Creek- the south end of the RR. Thus one Tower Operator can handle/coordinate with the dispatcher all traffic onto CTC from both Millport on the north, and Willow Creek from the south. This panel is also a CTC-like tower panel with similar lighting. It hangs on the light valence above Campbell's.

It was fun to actually use them for the first time Nov. 3 for the first (mini) op session.

David

Jeff_Tague #108 February 14, 2016, 10:35pm

Ah Ha! Thanks to both David and Bob for taking time for curious questions. And even though I'm old, I enjoy learning each day to forstall grey mush atrophy. Didn't know how CTC was entered and exited. Thanx again.

Bob #109 February 14, 2016, 10:35pm

Here are a couple of straight-on shots of the control panels under discussion that should more clearly show the operation. In the first photo of CM Tower, I need to reverse the direction of the toggle switch as unlock is up, not down. This required a one character change and reprogramming of the ATTINY85 OS Section controller chips.



The Willow Creek / New River Diamond panel that David referred to can be see here during

installation. The rightmost rotary dial selects which track in Willow Creek staging is selected and powered. This dial has a code button below so that the diode-matrix boards don't needlessly throw switches when rotating the dial (and today I would use an Arduino instead of a diode matrix as it saves drilling many hundreds of holes.)



Bob #110 February 14, 2016, 10:35pm

A lot of progress has been made since the last open house. First up, Bill and David install another "people tunnel" between Morrison (right, behind David) and the north end of Sobol Springs (lower right.) There will be railroad tunnels on either side of the aisle. These tunnels visually break the A&O into individual scenes, perhaps discrete stages as described by the late Frank Ellison. They make the layout feel a lot longer and give the operator more of a sense of being at a specific place.

Behind Bill can be seen the opening for an emergency escape crawl. Along the left side of the aisle, almost against the wall, and mostly behind David, spline roadbed snakes through what will become River Gorge.



Rick and Bob K installed subroadbed for a pair of Antioch & Dover (Rick's railroad) staging tracks along the interior of a Kayford Valley stud wall. These tracks will be about 19 feet long. As Rick likes to say, "There must be a way to use a laser for that!"



Vince spent the day spiking rail and building turnouts at the Southern Baking Company, an industry in Glen Forge. This was more comfortable than it looks because Vince was sitting on a rather tall stool. He also took a time-out to review some design issues with the CMRI system.



Craig #111 February 14, 2016, 10:35pm

Looking great guys!!!

And if Rick ever says "there has to be a use for some C4..." We should be worried. 😊

rnb3 #112 February 14, 2016, 10:35pm

[quote="Craig"]

...And if Rick ever says "there has to be a use for some C4..."[/quote]

The plans do call for a few tunnels!

Craig #113 February 14, 2016, 10:35pm

FIRE IN THE HOLE!!!



Bob #114 February 14, 2016, 10:35pm

Benchmark went up this week between Glen Forge (off camera to the left) and Ohio Bridge. The upper level is hidden staging for the New York Central. The lower level will support a 2 track mainline climb to the bridge at 2.2%, with a 60 inch minimum radius.



At the far right we see a glimpse of the crew lounge. The Ohio River bridge starts at the end of this benchwork and crosses the opening to the crew lounge. There was a lot of lively lunchtime discussion about bridge structural design, including ways to avoid damage to the bridge if an operator doesn't duck. Damage to the operator is OK.



Craig #115 February 14, 2016, 10:35pm

I think that perhaps we could use Rick's C4 we were talking about above to protect the bridge. hehehehehe

Great progress 😊

And potentially dumb question here. In the second shot...what is the open 'door'? In all of the time I have been going over to help out, I have NEVER notice that opening. hehehehehe Situational awareness I guess 😊

David #116 February 14, 2016, 10:35pm

Craig,

The small door is an access to the furnace humidifier and water and gas main. The main furnace access is thru the Dispatchers Office, as you may remember. A sky board will added, and access maintained to the humidifer space by ducking under. The facia will be over 4' above the floor here.

David

Russell_Idaho_USA #117 February 14, 2016, 10:35pm

Really love following the construction photos, any idea of the approximate start date of scenery work?

Russell - Idaho USA

David #118 February 14, 2016, 10:35pm

Hi Russell,

I won't start scenery, per se, until all the dust-making construction is completed and the floor carpet squares are down. This will keep the landforms and textures looking better longer. And I like to have

a chance to operate first so I can trouble-shoot without worrying about scenery in the way.

All of which is to say, the Home Page photo (A&O 1.0) will remain into the near future. But I have the many scene compositions and sketches ready to go when the time comes!

David

Bob #119 February 14, 2016, 10:35pm

Vince lays rails on the two hidden Antioch & Dover staging/interchange tracks. To make the job go faster he used a technique borrowed from his own HO layout. Vince applied Pliobond to the bottom of the rails (and I think to the ties.) When it dried, he aligned the rail and heated it with an old soldering gun.



A lot of lighting valences have recently been installed. Here Bill confirms the location of a ceiling joist above River Gorge.



Mark wires ceiling fixtures above Mount Union. Behind Mark we see a portion of the paper mill and Fillmore Heights, both areas under the garage.

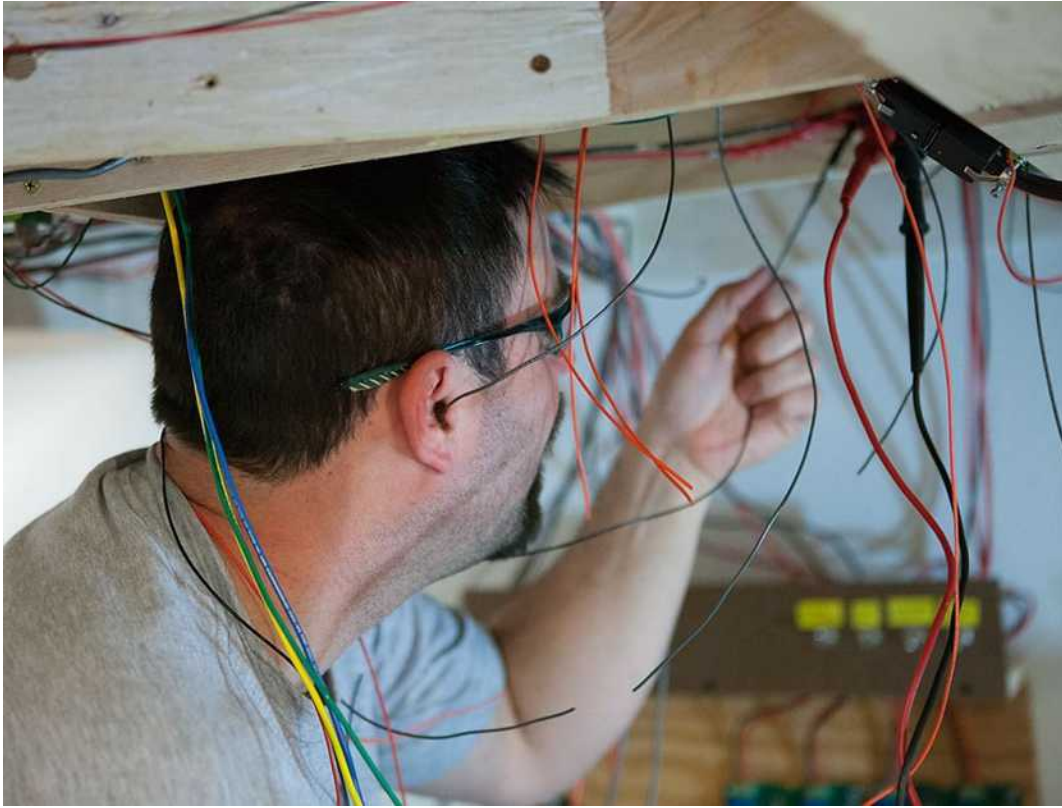


Bob #120 February 14, 2016, 10:35pm

Craig, Mark and David hang a lighting valence above the A&D interchange and Rock Bottom. The fluorescent light fixtures are intentionally skewed to avoid casting shadow lines when a “grid” anti-glare screen is hung along the bottom of the valence. Here we can also see the dramatic color difference between high CRI fluorescent tubes and a horrible spiral compact fluorescent bulb.



Craig gets into the Matrix underneath Glen Forge.



Short circuits are one of the more frustrating problems that crop up when wiring. We found an easy way to locate crossed wires. This is a really cheap AC/DC Hall-effect current probe. We feed about 1 amp from a current-limited laboratory supply (upper left corner) into the shorted rails. The probe attaches to a digital voltmeter, and clamps around a wire to be measured. It is quick and easy to identify which rail drops carry the short circuit current.



Bob #121 February 14, 2016, 10:35pm

Yikes! It has been 4 months since the last construction photos.

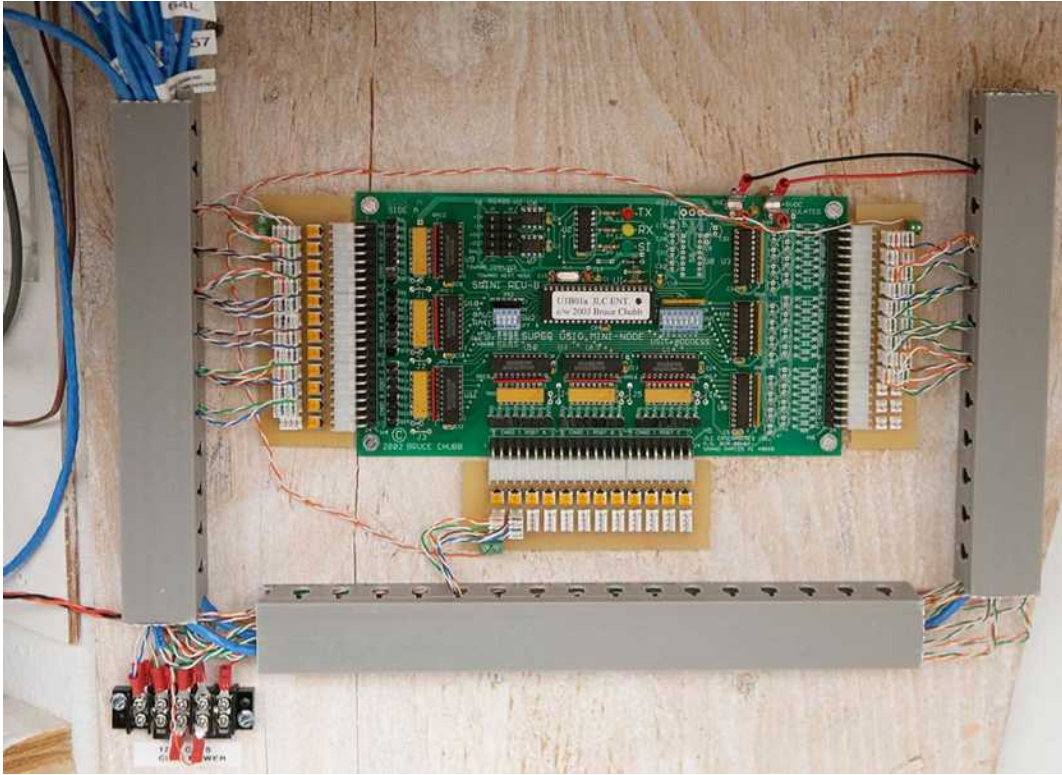
Since then, Jackson scratch built 6 brass signal bridges. His work is immaculate with no sloppy solder joints. Jack is a master craftsman who builds custom fixtures for everything he makes.



Rails are going down at the end of the Kayford coal branch, in the town of Brooks. Here David built a 3-way switch with the third leg connecting to a lap switch. It is surprising how much space can be saved by hand laying custom turnouts in-place.



Build-out of the signaling system continues. This is a CMRI SMINI board installed under Morrison. The left and bottom “wing” boards are home etched and each connector directly drives a 3-lead searchlight signal or two other digital outputs (with a very strong pullup to +5.) The right wing board translates the inputs from an old, bulky connector to more modern IDC connectors that work great with CAT5 cable.



Bob #122 February 14, 2016, 10:35pm

Most of the stud walls that enclose the Kayford coal branch have been erected. This means that work spaces are getting tight, and overview photography requires extreme wide angle lenses. Here are a few photos taken with a 16mm fisheye lens, which sees a full 180 degrees across diagonal corners.

This is the Ohio River grade up from Glen Forge on the left to Jackson and the Ohio River bridge (to be installed) on the right. This is the ruling grade, about 2.5% uncompensated. The upper deck is hidden NYC staging. Light fixtures in this area are still under construction. There will be an anti-glare grid erected for the right side fluorescent lights.

The wall to the left contains the “blob” for the town of Kayford on the coal branch. Just visible on the Masonite wall panels are supports for a narrow track hugging the wall from Mount Union to Linnwood.



Here we step inside the Kayford blob. Tracks to the left are Rick Bacon's Antioch & Dover staging. The Kayford coal branch will run about a foot above those tracks. The King Coal loader from A&O 1.0 will live along a hillside above the box of raw tie stock. The mainline curve will be 48", so operation here calls for the more limber locomotives and rolling stock. Elsewhere the minimum radius is 60".



The aisle in the Kayford does get pretty narrow in one place. That is inside a "people tunnel" where there are emergency duck-under's that also permit work carts to roll inside.