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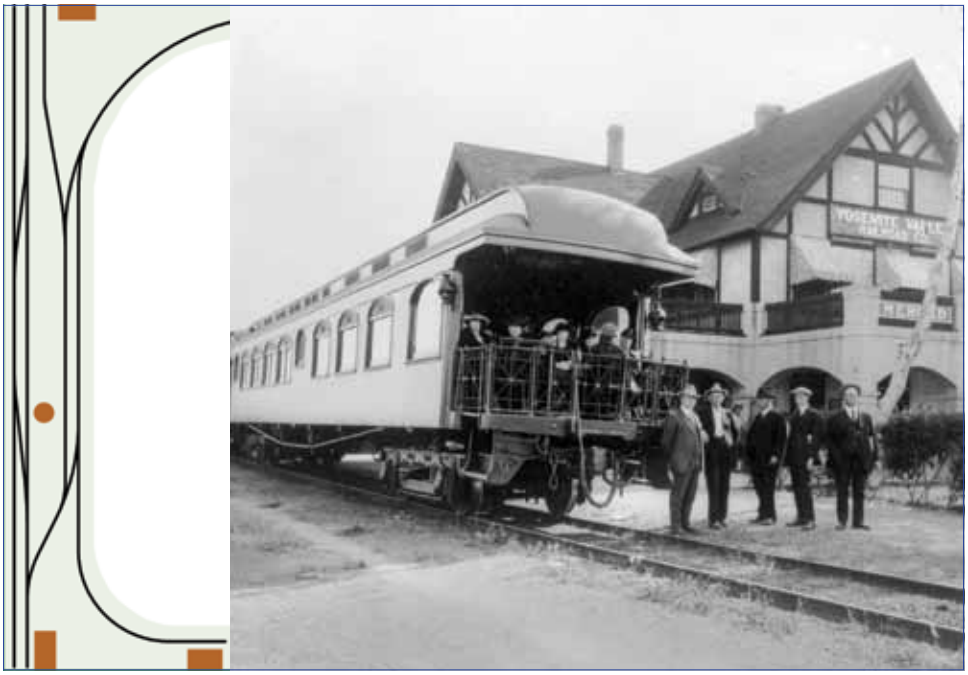
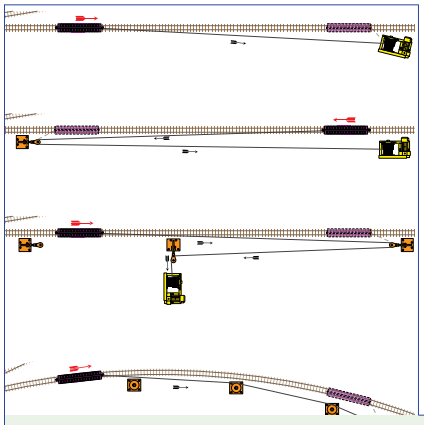
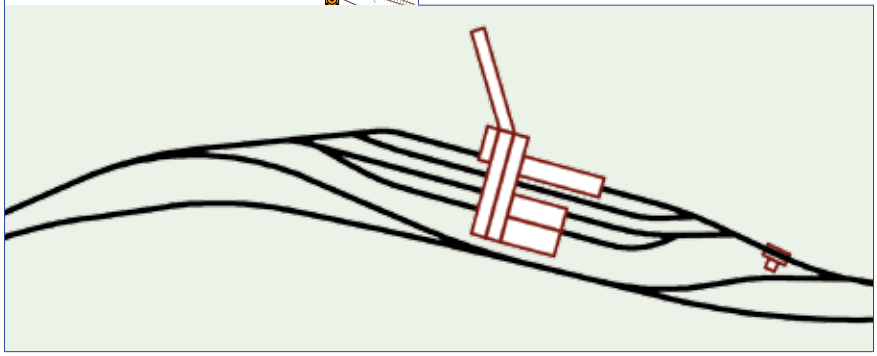
LAYOUT DESIGN

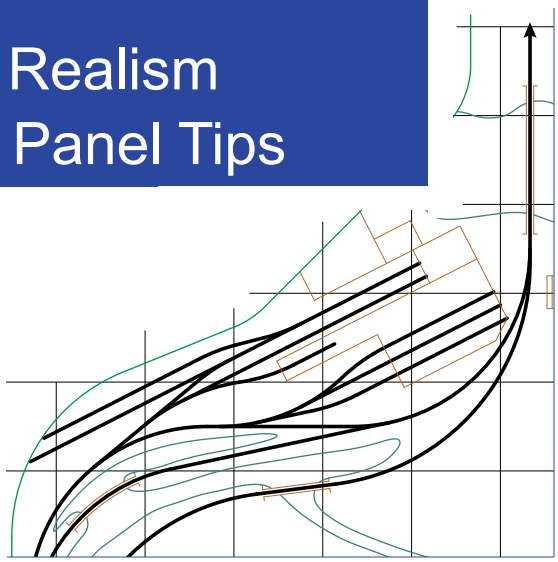
JOURNAL 56





Designing for Interchange
Staging Evolves to Active Yard
Pulp Mill LDE
Room to Roll for Realism
"Do Differently?" Panel Tips





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Designing for Passenger and Freight Interchange

Planning Merced on the Yosemite Valley & Southern Pacific

by Jeremy Dummler

I prefer to design and build a model railroad from a logical starting location. To me, this just makes things simple as the layout progresses from planning to construction and on to operation. My general plan involves building a temporary staging yard that attaches to the permanent layout and is then moved further and further and further along the line until it is no longer necessary when the layout is completed.

A place to start

Selecting a starting point for modeling the Yosemite Valley Railroad is made easier by having the prototype railroad be a point-to-point affair, operating from Merced over roughly 78 miles of track to El Portal (at the entrance to Yosemite National Park). Hence, the logical starting point for constructing a layout then becomes either Merced or El Portal, with the staging yard being either the lines to the east or west depending on which terminus is chosen. A similar approach using two temporary staging yards could be selected if one was building outward in two directions from a central starting point.

To my mind, the logical place to start building is where the prototype "starts" – so the interchange with the Southern Pacific Railroad in Merced, California makes the best place to begin planning.

Interchange at Merced

The majority of the interchange traffic on the Yosemite Valley Railroad came from the connection to the Southern Pacific. The two railroads worked together on passenger train scheduling, with the Yosemite Valley eventually scheduling Pullman service only based on the Southern Pacific schedule. The other passengers arriving in Merced, who were headed to Yosemite via the Aitchison Topeka and Santa Fe, required passengers to cross Merced from the ATSF station to meet the Yosemite Valley passenger trains, instead of riding full Pullman service all the way to El Portal.

Merced also provides some interesting traffic, with the Yosemite Valley shops and roundhouse located on the east end of the relatively small yard, a wye for turning passenger equipment, the large Yosemite Valley Railroad station and freight house, and local industries within Merced served by the YV house track. A small facility for producing ice, the Merced Ice and Cold Storage Company, also was located in Merced and near the interchange. The Yosemite Valley Railroad hauled the occasional refrigerator car of ice to El Portal to serve the hotels from this facility along with ice that came from other sources nearby.

Looking railroad east (compass north) toward the YV yards in Merced. The station is on the right along R Street with the roundhouse in the background. Barely visible in the distance is the YV crossing with the ATSF tracks. Jack Burgess Collection.

These factors make Merced an excellent place to start planning and building my version of the Yosemite Valley Railroad be-

cause almost as soon as track goes down, operation can begin.

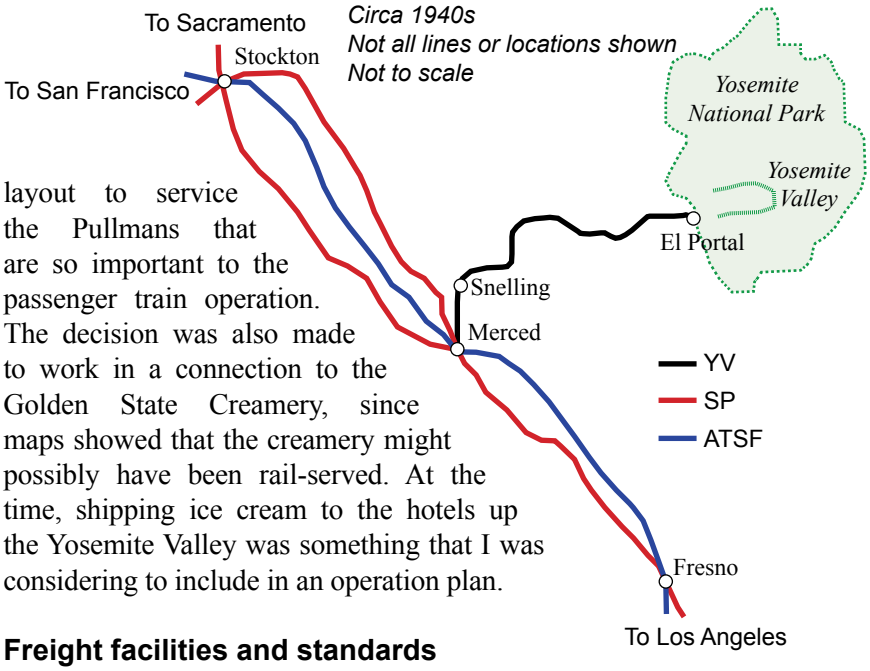
Too much modeler's license, not enough prototype

When I started planning and building a layout based on the Yosemite Valley Railroad for the first time, the layout room I had available was a large L-shaped three-car garage. Within that space, I set aside a 10-foot-long by 4-foot-deep area right next to the layout room entry to plan the Yosemite Valley's interchange with the Southern Pacific. The overall area was 12 feet long, but the need to accommodate the entry door restricted the useable space to the 10 feet of length. (See Track Plan 1 middle right.)

Optimized initially for ops vs. fidelity

At the outset, the focus of planning was more heavily weighted toward squeezing in as much operation as possible, and adherence to the prototype was somewhat looser than my standards have evolved into today. Working with my friend Dennis Drury, I began to plan the interchange and to construct the layout almost at the same time. Several key locations of the area in Merced where the Yosemite Valley interchanged with the Southern Pacific jumped out as being important in viewing available maps.

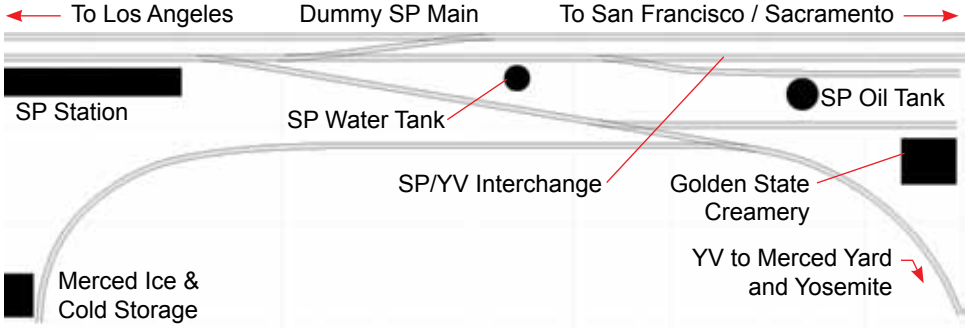
Initially, I set a goal of being able to fit a full-size model of the Southern Pacific station in Merced on the layout to service the Pullmans that are so important to the passenger train operation. The decision was also made to work in a connection to the Golden State Creamery, since maps showed that the creamery might possibly have been rail-served. At the time, shipping ice cream to the hotels up the Yosemite Valley was something that I was considering to include in an operation plan.



Freight facilities and standards

Since I wanted to focus on operation, the track to interchange freight from the Southern Pacific to the Yosemite Valley was made as long as possible. The Southern Pacific had an oil tank that was located near the interchange, so additional track was included for a switch

YV/SP Interchange
Merced, Track Plan 1
HO scale, ~4' X 10'
YV Main 32" radius
#5 min. turnout



Track Plan 1 (middle right). This first track plan for the Southern Pacific-to-Yosemite Valley Railroad interchange was partially built before being torn down for a household move.

(Lower right) This view of the partially completed layout section is from the south. The Southern Pacific station at Merced would have been on the left (where the paint can is seen in the photo), while the track running along the open area in the right foreground is the lead to the Merced Ice and Cold Storage Company. A Yosemite Valley 4-4-0 is sitting on the dividing point between Southern Pacific and Yosemite Valley railroad property. Photos by author except as noted.

The Evolution of Big Stone Gap Yard

Simple stub-end staging to important operating element

by Roger Sekera

Following a recent operating session I asked Travers Stavac (who had served as the dispatcher) if anything on my layout, The Clinch Valley Lines (CVL), might be worthy of an LDSIG article. Travers thought the various stages and configurations of what has become the Big Stone Gap, Virginia Yard deserved such a spotlight and then forwarded a string of questions that precipitated this article.

Layout concept

Briefly, the CVL is a point-to-point HO scale line set in the very southwestern part of Virginia in 1959. Today Big Stone Gap Yard (BSG) is at the western end of the CVL and the yard at Bluefield, WV (BLF) bookends the layout on the eastern end of the Bluefield Subdivision: what we call the "overhead route."

This overhead route is imagined to be jointly owned by the Louisville & Nashville (L&N) and Norfolk & Western (N&W). The CVL itself is a longish branch off this route, leaving this line at Ramsey Junction. A further description of the operating scheme and a string diagram and timetable were published in the OpSIG *Dispatcher's Office* in January, 2012.

Hauling roughly 45% coal and 45% general merchandise (with a money-losing, annoying 10% passenger service), the CVL leans hard against the grades and "hollers" to serve the mines and industries that support this coal-heavy world.

The CVL is independent, but the N&W, Clinchfield (CRR), and L&N all have trackage rights (L&N and CRR from Big Stone Gap to Coeburn and the N&W from Bluefield through to Appalachia) – and these Class 1s are ready to swoop in should CVL management falter (see timetable at right).

Congestion leads to land grab

The layout has been operational for twelve years; and two dozen CVL operating sessions have been held, most of them successful. Until about seven years ago, the CVL was totally confined to the "layout room", but traffic started to pile up at the end points: Appalachia at the west and Dante at the east.

The CVL needed staging yards, but management advised that the CVL should confine itself to that room. Then this same dear management went shopping – and the CVL took the opportunity to break through the walls on both ends of the railroad.

"The CVL needed staging yards ... took the opportunity to break through the walls ..."

Simple staging to begin

The original intent was to simply store full trains before- and after their runs as well as to alleviate congestion in the towns (Appalachia and Dante) that were the ends of the layout at that time. Thus, the first iteration of the Big Stone Gap track plan was a simple five-track yard as seen in Figure 1 on page 14.

Please note that only ground throws were used, placed on the far side of the ladder from the aisle. Tracks were each made up of two 3-foot-sections of Atlas flextrack, and thus some six feet long. There was no run-around, so this was "muzzle-loaded" staging at its finest. Overall length was about eight feet.

CLINCH VALLEY LINES BLUEFIELD SUBDIVISION

Eastward READ DOWN										Westward READ UP					
THIRD CLASS				FIRST CLASS		Miles from Big Stone Gap	Train Order Stations	Bluefield Subdivision TIME TABLE No. 10 August 1, 1959	Passing Sidings Capacity (67'6" Cars Excluding Engine and Caboose)	FIRST CLASS		THIRD CLASS			
94	88	92	70	16	2					15	3	91	71	87	93
Second Coeburn Turn	Dante Sweeper East	First Coeburn Turn	Empty Hoppers	Norton Mail	Green Arrow					Norton Mail	Green Arrow	First Coeburn Turn	Loaded Hoppers	Dante Sweeper West	Second Coeburn Turn
P.M.	P.M.	A.M.	A.M.	P.M	A.M.					P.M.	P.M.	A.M.	A.M.	P.M.	P.M.
.....	12.15	.....	11.00	.....	10.10	0.0	DN	BIG STONE GAP	Yard	.....	A 1.55	.....	A11.50	A12.07	.....
								1.1							
.....	12.16	.....	11.01	.....	10.11	1.1		WEST SWITCH		.....	1.53	.....	11.49	12.06	.....
								(East End Double Track)							
								8.3							
.....	12.20	.....	11.02	.....	S10.12	9.4	D	APPALACHIA	7	.....	S 1.52	.....	11.48	12.05	.....
								11.8							
.....	12.25	.....	11.04	1.15	S10.14	21.2	D	NORTON		A 1.08	S 1.50	.....	11.46	12.01	.....
								21.4							
1.45	12.30	**11.45**	11.06	S 1.18	S10.15	42.6	DN	COEBURN	12	S 1.06	**1.44**	A11.25	**11.44**	11.55	A 1.20
(3)		(71)						7.9			(94)		(92)		
1.46	12.31	11.46	11.07	1.19	10.16	50.5		RAMSEY JCT.	12	1.04	1.43	11.24	11.43	11.51	1.22
								12.3							
.....	A12.32	.....	.....	.....	S10.18	62.8		DANTE	6	.....	f 1.42	.....	.....	11.50	.....
								6.3							
								(West End Double Track)							
.....	.....	.....	.....	.....	10.19	69.1		BLUEFIELD SWITCH		.....	1.41	.....	.....	.....	.....
								0.9							
.....	.....	.....	.....	.....	A10.20	70.0	DN	BLUEFIELD	Yard	.....	1.40	.....	.....	.....	.....
P.M.	P.M.	A.M.	A.M.	P.M.	A.M.					P.M.	P.M.	A.M.	A.M.	A.M	P.M.

Passenger trains will not exceed 45 miles per hour.
Speed as shown in Special Instruction 5, and such other restrictions as may be in effect, will not be exceeded.
EASTWARD TRAINS ARE SUPERIOR TO WESTWARD TRAINS OF THE SAME CLASS
Except: No. 15 is superior to No. 16 and No. 87 is superior to No. 88

This timetable from the January 2012 Dispatcher's Office *shows the location of the original end-of-line towns of Appalachia and Dante which had become congested as Roger's operations developed. After breaking through the walls of the train room, new yards were added at Big Stone Gap and Bluefield. (Reprinted with permission.)*

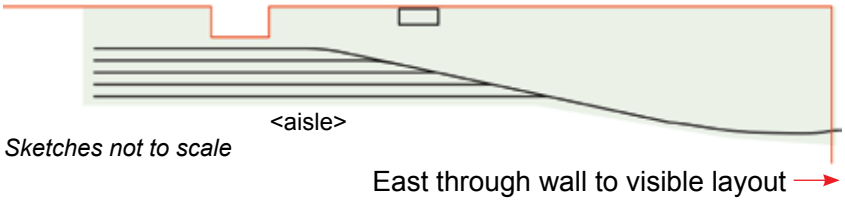


Figure 1. Originally the yard at Big Stone Gap was simply intended as stub-end staging, accessed via an unauthorized opening into the train room itself. Overall length was about 8 feet. Yard sketches by K. Travers Stavac.

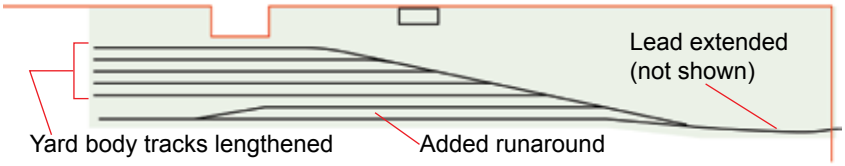


Figure 2. The next phase added a double-ended runaround siding. Although not represented in the sketch, the original five stub-end tracks grew in length and moved farther into the room (to the left in this view). Overall length grew to about 15 feet.

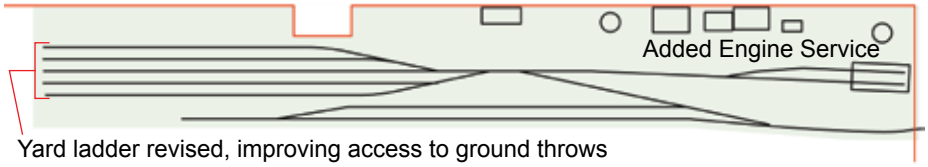


Figure 3. The next phase included significant changes, both in the track arrangement and in the usage of the yard tracks themselves. Added length permitted the incorporation of a small engine service area, which allowed trains to originate or terminate in Big Stone Gap Yard. In addition, the yard tracks themselves were shifted to a classification role as opposed to simply storage of complete staged trains.

I used dimensional lumber (horizontal boards as opposed to plywood) for the subroadbed. This has been extremely helpful over the years; all track is easily fastened by track nails which are far easier to drive home – *and to pull up and change* – than would be the case with plywood. That decision has been critical to facilitating the evolution of Big Stone Gap. Commercial turnouts combined with track nails made the changes to the track design easy. (Although I still had to drill through the lumber for leads to the rails.)

Adding a runaround

An expansion of the flat-switched classification tracks and the introduction of a run around happened over a two- or three-year period. For most of this period, the track layout looked like Figure 2 above, more or less.

The same five flat classification tracks were used, but they were somewhat lengthened to accommodate longer trains. Like the proverbial aircraft carrier, the yard physically moved "railroad west" in the room. Trains accessed this area via a new six-foot-long, six-inch-wide board.

But the ground throws were *still* on the wrong side of the ladder for easy hand access over cars standing in the yard. Sliding the yard to the left (relative to the aisle) also left a fairly good-sized hole in the benchwork (that I would later put to good use).

In addition, the train line-up by sequence had no provision for an out-and-back "turn" in this area; full trains simply were stuffed or pulled into- and out of staging. But this phase did allow trains to access the runaround and then be stored, engine at the head end, ready for the next run. At this point, the overall length of BSG had increased to about 15 feet.

Changing roles, engine service

Somewhere along the line, there were two significant revisions: a major change in the usage of the flat tracks and the introduction of the engine servicing concept. The revised version is seen as Figure 3 at left. But the overall length was still less than 15 feet and the engine service area was small, if not totally undefined. Two other developments are worthy of note:

1) The role of the yard body tracks also changed, at Steve King's suggestion, from merely storing full trains to assigning each track to a different role: one for passenger, one for coal/hopper traffic, one for cars with a Big Stone Gap waybill destination (propers[1]), one for cars with a CRR or an L&N waybill and one for "build." For the first time, cars were sorted by their blocking code[2]. This yard had become a *classification* location.

2) Because an engine house and service area now existed, power would be pulled at the end of the run and then held at the engine facility, to be serviced at the onset of the next run. The engineer now picked up his engine at the engine facility and returned to the engine facility at the end of his run, rather than simply picking up or dropping a made-up train in staging.

The last development was the creation of a double-ended caboose track, this coming after strident complaints from the Conduc-

1 "Proper" refers to a car bound for a local destination near the yard. – BH
2 All CVL rolling stock has its own car number and each waybill has a blocking code.

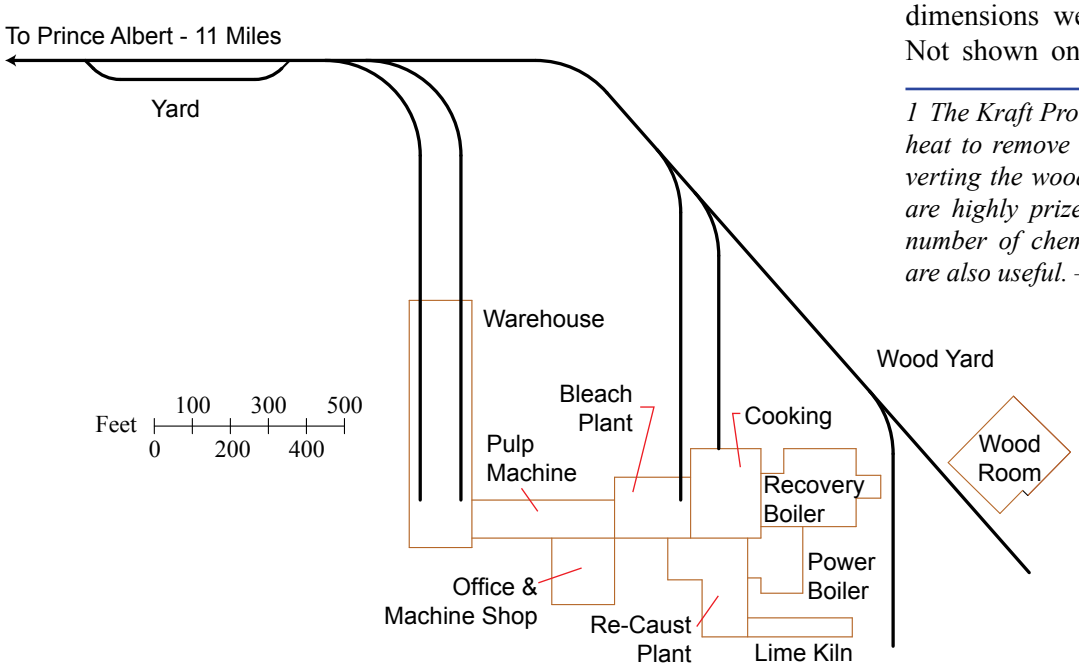
Prince Albert Pulp Co. Pulp Mill LDE

HO operating element from summer student memories

by Cal Sexmsith

In 1977 I was an Engineering Summer Student at the Prince Albert Pulp Company's (PAPCO) pulp mill just outside of Prince Albert, Saskatchewan. The PAPCO mill opened in 1968 and operated continuously until it was shut down in 2007. Originally it produced pulp board, which is further refined into paper. In the 1980s a paper mill was also added to the plant.

After the pulp mill was mothballed and the paper mill dismantled in 2007, the mill operated for a time producing rayon from wood fiber using most of the same machinery, but recently was again mothballed due to falling prices for rayon. In addition, from 2012 to 2014 the existing boiler and turbo-generator equipment at the mill was being used to burn waste wood for creation of electricity that was distributed on the provincial power grid.



(Middle left) Satellite imagery shows the huge mill complex and the adjacent industry support yard (red arrow). Copyright 2015 DigitalGlobe via Google Earth.

(Lower left) Cal's simplified sketch shows the major elements of the pulp mill referenced for his track plan.

Wood to pulp board

The PAPCO mill used the Kraft process[1] to convert wood into bleached pulp board. Pulp board has a similar stiffness and thickness to cardboard, but with a very rough surface. Pulp from a variety of sources is blended in paper mills to create a wide range of paper products and qualities.

The pulp from the PAPCO plant was considered to be of high quality and would often be mixed with lower-quality pulp depending upon the type of paper being produced. When the adjoining paper mill was operating, a large proportion of the output was photocopy paper, with much of it shipped from the mill under the Xerox brand name.

Massive physical plant

The satellite image middle left and sketch lower left show the basic layout of the prototype mill. The outline of the structure and the dimensions were taken from Google Maps. Not shown on the drawing, which one may

1 The Kraft Process uses chemicals, pressure, and heat to remove the lignin from wood fibers, converting the wood into strong cellulosic fibers that are highly prized for papermaking along with a number of chemical by-products, some of which are also useful. – BH