Southern Pacific Cascade Line

From Concept to "Buildable" Plan

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Outline

- Introduction
- Concept
- Structural Design
- Detail Design

Note: A number of images used in the original presentation were borrowed. They have been replaced in this copy with links to similar images available on Joel Ashcroft's Southern Pacific in the Cascades of Oregon website: http://spcascades.railfan.net/

Introduction

- Five decades of Model Railroading
- Retirement and return to native Oregon
- Dream House, Dream Space, Dream Layout







Byron Henderson Thematic Approach to Layout Design



Byron Henderson, Layout Design Journal # 40

Also used by Steve Moore, 2012 NMRA National: Track Planning and Layout Design



Southern Pacific Oregon Mainline



Mark Lestico LDSIG Wiki: http://www.macrodyn.com/ldsig/wiki/index.php?title=Cascade_Subdivision_-_N_-_Mark_Lestico

Concept: Theme Selection

- Southern Pacific Railroad
- Mountain and Valley Railroading
- North To Oregon
- Concept Selection Sequence
 - Shasta Division (2 years)
 - SP Cascade Line (1 year)
 - SP Santiam Line (4 years)
 - Proto-freelance diversion
 - SP Cascade Line (2012)



Concept Research

- Books
- Magazines
- Commercial Photos
- On-Site Recon

Books-1 Ed Austin and Tom Dill



Books-2 Additional Inspiration



On-Site Recon



Structural Design Givens

- Retirement Project
- New Basement
 - ICF walls
 - Radiant heat in concrete floor
 - Separate ventilation
 - No mechanical systems in basement
 - 9 ft. 6 in. Ceiling
 - Single support post



Druthers

- HO Scale Five decades of acquisition
- Location
 - Valley
 - Modest power
 - Industry
 - Mountain
 - Big power
 - Helpers
- Era: Schizophrenic: 1954 vs. 1984

<u>1954</u>

Cab Forwards Decks PAs

F-7s

<u>1984</u>

Tunnel Motors "Flare" 45s Cadillacs "Cruds" (SW1500)

Oakridge 1954

Will Trumbull photo from atop the signal bridge at the RR-West end of Oakridge, 1954. Tom Dill Collection

http://spcascades.railfan.net/photosOakridge.html

SP 8529W at Salt Creek Trestle



SP 8529W Mid-train Helper: Toledo Hauler Set



Detailed Research

- Books
 - Significant Scenes
 - Track Charts
- Maps
- RR Paper
 - Timetables
 - Station Plats
 - SPINS Diagrams
- Internet
- Regional Meets and SPH&TS
- Museums

Oakridge Track Layout



Internet

- Joel's Southern Pacific in the Cascades Website — http://spcascades.railfan.net/
- SP Yahoo Group
 - http://finance.groups.yahoo.com/group/Espee/
- SP in Oregon Yahoo Group
 http://groups.yahoo.com/group/EspeeOR/

RR Paper



Espee in Oregon Meets



Oakridge Museum







Layout Design Studies



SP "Santiam Line"



Design Notebooks



AL&W Lines SP Structures







http://alwlines.com/





LDEs: Layout Design Elements Wish List 1

- Oakridge: Historic helper station
- Cascade Summit: logical top and unique wye
- Mountain sidings: 3 desired between Oakridge and summit
- Base Yard: Eugene greatly condensed
- "Valley" towns: Eugene and Springfield

LDE Wish List-2 Scenic Vistas

- Salt Creek Trestle
- 'Mountain' Trestles
 - Noisy Creek
 - Shady Creek
- Tunnels
- Rock Sheds
- Rooster Rock

Salt Creek Trestle



Noisy Creek Trestle

http://spcascades.railfan.net/photos/UPSD-60westNoisyCreekBridge.jpg

http://spcascades.railfan.net/structuresNoisyCreekBridge.html

Shady Creek Trestle

http://spcascades.railfan.net/structuresShadyCreekBridge.html

Rock Sheds

http://spcascades.railfan.net/structuresCruzatte-Abernethy.html

http://spcascades.railfan.net/structuresFrazier-Cruzatte.html

Rooster Rock

http://spcascades.railfan.net/photos/SP8035westRoosterRockT21.jpg

LDE Wish List-3 Industry

- Western Lumber @Westfir
- Pope & Talbot @ Oakridge (geo east)
- Valley forest products mills: large and small
- (Western Kraft)
- Agri-Business
- Infrastructure: Bulk oil, cement, ...

LDE Wish List-4 Railroad Infrastructure

- Depots and Stations
- RR Station "Villages"
- RR Business
 - House tracks
 - Freight House (Eugene)
 - Express (REA at Eugene)
- Eugene Roundhouse and Engine Facilities

Wicopee

http://spcascades.railfan.net/photosWicopee-Fields.html

Cascade Summit

http://spcascades.railfan.net/photosCascadeSummit.html

Cascade Summit



Cascade Summit



Operations Planning

Types of operations requiring track considerations

- Mountain helper operation: manned mid-train helpers
- Individual car movements: on-line industry
- Passenger operations
 - Streamliners: Shasta Daylight and Cascade or Amtrak Coast Starlight
 - Klamath: mail and express
- Other First Class
 - North Coast Perishables
 - CZLAT and LABRT
- Local Freights: Turns and Switch Jobs
- Caboose swaps and loco hostling

SP Cascade Line Schematic



Crew Considerations

- Crew Size: 6 15+
 - "Satisfying" operations with only 6
 - Tough choices for Eugene Yard
 - CTC
 - Expansion to 12-15 or more
 - Aisle Space
 - Potential Timetable and Train Order Operations
- Core Jobs: Dispatcher, Helper engineer(s), Road engineers, local and switch crews, conductors

Layout Planning Factors

- Minimum radius
 - Mainline: 42"
 - Yards and Industry: 36"
- Turnouts
 - Mainline: #8
 - Secondary: #6
- Grade: 1.8%
- "Sincere" Plan (note real Cascade Line giant "S")
- Aisle Width
 - Desired 48" minimum
 - Settled for 36" minimum

Layout Design Sequence

- Locate the Wyes
- Locate the Aisles
- Locate the major turn lobes
- Key Scenic LDE's
 - Salt Creek Trestle
 - Mountain Sidings
- Yard Location and Design
 - Oakridge
 - Eugene (base yard) **ROADBLOCK!!!!**
- Down Select and De-Scope

Overcoming Analysis Paralysis

- Review other model RR solutions to similar functions
- Question assumptions and prior choices
 - Priorities?
 - How many classification tracks are <u>needed</u>?
 - Helix vs. reverse loops?
- Start from a different spot (RR-east vs. RR-west)
- Work from schematic (traffic function) to track layout

Detail Design

- Rough track configuration during "Structural" phase
- Specific station locations
- Specific track layouts
 - Paper and pencil
 - Full size with newsprint and photo copy track







Cascade (Santiam) Line: January, 2011

Cascade Summit Cross Section



SP Cascade Line: 12 Feb., 2012

CASCADE LINE FEB. 12, 2012



SP Cascade Line: 30 April, 2012

http://espeecascades.blogspot.com/