Trail Project

- February 1992
- Discussion at a Parks and Recreation Commission meeting
- Forwarded to Town Council for consideration
- No action

January 1997

THE COAST GUARD, Shelburne, N.S., Tuesday, January 14, 1997

Jordan Fall to Birchtown

Shelburne man revives rails to trails idea

by HAROLD HART

John Firth-Warland wants to see the abandoned railway line from Jordan Falls to Birchtown developed into a public trail.

Firth-Warland, who just moved to the area this past July with his wife Sheila, the new United Church minister in Shelburne, says he is prepared to form a committee of interested parties to pursue the venture starting this spring.

John and Sheila spearheaded a similar committee when they lived in Lennoxville, Quebec in [illegible], turning some 40 kilometres of abandoned railway line into a walking, bicycling, horseback riding and cross-country ski trail.

The trail linked up to one in the

planked the bridge across the Jordan River and constructed railings on it, making it easily passable for pedestrians.

Questionnaires have been sent out to residents in the area soliciting their response to the development of a community walking trail from the railbed's crossing of the Jordan Branch Road and on across the river to the driveway leading to Camp Jordan.

In 1990 a local community group, Queens County Rails to Trails Association, developed nine kilometres of roadbed from Liverpool to Hunts Point into a trail under a lease arrangement from the province at $100 per year.

The roadbed was graded and cov-

rail line between Jordan Falls and Birchtown will be to a proposal to develop a trail is as yet unknown. There is not a large concentration of homes close to the roadbed along the proposed route except in the Town of Shelburne.

RESISTED IN PAST

Back in 1994, a proposed Black Heritage trail along the rail bed from Island's Park to Birchtown was opposed by a group of residents in Churchover and Gunning Cove who feared such a trail might be extended to their area.

The residents, led by Queenie Acker and David Mahoney, succeeded in having Natural Resources provide a licensing arrangement that enabled landown-

efforts to utilize the rail bed in the two communities for a public trail.

Citizens in Baris Point, situated between Shelburne and Birchtown, have also expressed opposition to a trail on the former railway in the past, but have not approached the province on the matter.

"The experience has been that property values go up where there is a trail nearby," John Firth-Warland claims. "Everybody has enjoyed them once they are in."

While some people fear damage to their properties from users of trails, John says vandals are more likely to access a property from the highway. "There is little vandalism if trails are limited to pedestrians and bicyclists," he says.

to reclaim the land for purposes of a railway.

TOURISM POTENTIAL

Besides the obvious recreational uses for locals, John Firth-Warland sees tourism potential for the trail. Many people take to the highways every summer on journeys of hundreds of miles. Often they are looking for a trail to get away from the traffic and avoid climbs up steep hills. The former railway line offers a level grade with gradual slopes and, in places, scenic views of Shelburne Harbour and the mouth of the Jordan River.

"And," John points out, "it would bring bicycling tourists right into the Town of Shelburne."

John is also looking at the spur line just off Barrett Street in the south end of Shelburne as a walkway.

John says the youth group at the United Church in Shelburne are prepared to work on the rail bed to remove rocks and cut trees that have closed in around it. He says he will approach other youth groups to see if they are willing to pitch in.

The abandoned railway lines represent the last chance to preserve trails in this country, John says. "If you go to Europe you can walk on trails created by the Romans, the Saxons. Here there is very little of that. We went immediately into the highway age after the colonial period and the trails were lost."

The snow covered path Shelburne resident John Firth-Warland is pointing to is the former railway line in the south end of Shelburne. John wants to see the abandoned railway line from Jordan Falls to Birchtown developed into a public trail. He says he is prepared to form a committee of interested parties to pursue the venture starting this spring. (Harold Hart photo)

April 1997

- Shelburne County Trails Association forming
- Their goal – develop the trail from Jordan Fall to Birchtown.
- Trails within the Town as a part of their overall plans

THE COAST GUARD, Shelburne, N.S., Tuesday, April 1, 1997 —

Local trails organization taking shape

by CATHY HOLMES

An organization will be formed of citizens interested in developing the abandoned rail line right of way from Jordan Falls to Birchtown as a walking/cycling trail.

Instigator John Firth-Warland says the organization will incorporate as a non-profit group which will then contact government organizations for funding.

About 35 people gathered at the Shelburne community centre on March 26 to hear from Ted Scruton, outdoor recreation coordinator for the Nova Scotia Sport and Recreation Commission and Debbi Smith, regional representative for the west region (Annapolis, Digby, Yarmouth, Shelburne, Queens and Lunenburg counties.) for the same organization.

A slide presentation by Shelburne municipal recreation director, Marilyn Johnston, showed details of the work the municipality has undertaken on the Jordan Falls community trail.

Shelburne recreation director Jerry Locke showed how back streets of Shelburne can connect with abandoned rail lines throughout the town to provide walking trails to townspeople.

Organizer of the event John Firth-Warland, Shelburne, has billed walking trails as a possible tourist attraction, but Locke stated the opposite. "This is not a tourist attraction." He stressed the importance of a trail to the many people who walk regularly in Shelburne.

He said abandoned lines in Shelburne are "basically in good shape" and that a trail project in Shelburne is "very do-able."

Not everyone at the meeting agreed with the enthusiasm of the presenters. Brian Klut, a logger in Port Razon, was concerned that if trails were used in his area, he would lose access to woodlands, which he now can only access by the old rail bed.

Ted Scruton suggested that there are ways around problems like that — a section may have a "whole different surface on it" — and if there is no way around it, "There will be sections we won't be able to use. We have no intention of putting anybody out of business."

And, he added "We have no interest in going through somebody's back yard."

Marilyn Johnston said "If people want a trail, it will happen, if they don't want a trail, it won't happen." Community consultation and implementation are essential ingredients of the project.

David Mahoney voiced his opposition, as he had four years ago when the Shelburne County Cultural Society proposed a trail from Shelburne to Birchtown. Mahoney suggested that the group "Make a Shelburne County plan and be done with it." He said when the issue of trails is raised every few years "It's aggravating people because you don't know what's going on."

Mahoney's Churchover land abuts the abandoned rail line. Others in Churchover have the line running right through their back yards.

Jan DeBrick, in the audience made the point that the group is a talking about a trail in Churchove The proposed trail this group interested in will go from Jorda Falls to Birchtown.

ATV driver Scott Dolliver recen ly helped to organize an an AT rally for the Lockeport Fi Department. He told the meetin that the rally, which used aba doned rail lines in easter Shelburne and Queens counties attracted over 100 people and wa an excellent fund raiser for th department.

He was concerned that ATV us might prohibited on trails , an AT use is on Jordan Falls and Sabl River community trails.

"That's why you need to be on th committee," said John Firth Warland.

Marilyn Johnston emphasize that trail use is a community deci sion. "So much depends on what th community wants."

At the March 26 meeting of a community trail meeting, Shelburne recreation director Jerry Locke showed a map of Shelburne, with identified abandoned rail lines he suggests would make an excellent network of trails connecting to the streets of Shelburne. (Cathy Holmes photo)

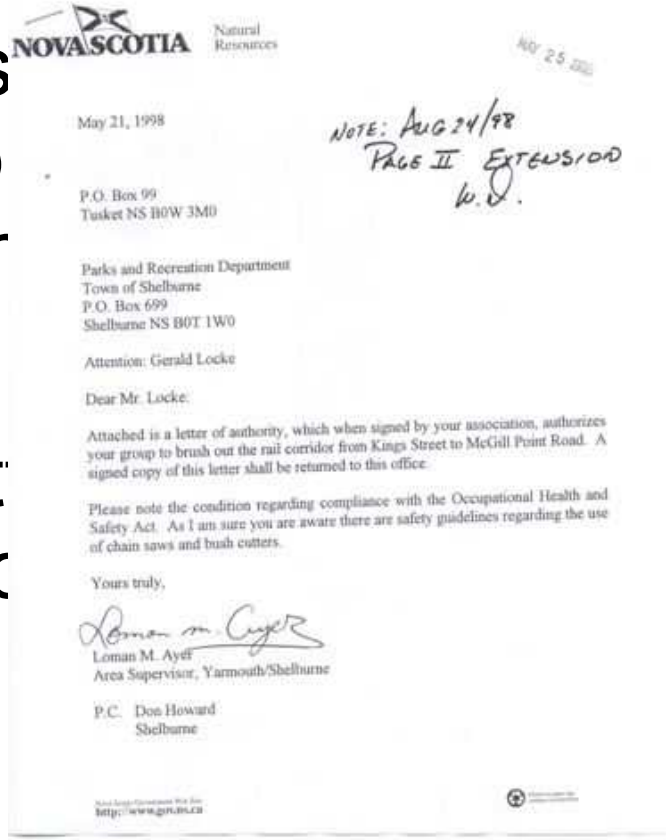
November 1997

- ATV use of trail within town increasing.
- Complaints from adjacent landowners to DNR
- DNR moves to block sections from Bulkley to Minto Streets from motorized use.
- Parks and Recreation Commission requests DNR consideration for maintaining pedestrian use

January – April 1998

- Trails Association looks to secure funding for project. First phase – Falls Lane to Island Park
- Parks and Recreation Commission considers trail development in the Town. Contact made with DNR to begin discussion on Letter of Authority

- May 20, 1998
- Trail walk with DNR staff
- Shelburne County Trails Association and DNR staff meet with Parks and Recreation Commission. Commission endorses Trails Association project, Trails supports a Commission p develop the trail section ir
- May 21, 1998
- Town receives its first Let begin work on the trail! Nc



NOVA SCOTIA Natural Resources

AUG 25

May 21, 1998

NOTE: AUG 24/98
PAGE II EXTENSION
W.D.

P.O. Box 99
Tusket NS B0W 3M0

Parks and Recreation Department
Town of Shelburne
P.O. Box 699
Shelburne NS B0T 1W0

Attention: Gerald Locke

Dear Mr. Locke:

Attached is a letter of authority, which when signed by your association, authorizes your group to brush out the rail corridor from Kings Street to McGill Point Road. A signed copy of this letter shall be returned to this office.

Please note the condition regarding compliance with the Occupational Health and Safety Act. As I am sure you are aware there are safety guidelines regarding the use of chain saws and bush cutters.

Yours truly,

Loman M. Ayer
Area Supervisor, Yarmouth/Shelburne

P.C. Don Howard
Shelburne

- June 17, 1998
- Parks and Recreation Commission agrees to begin processes to start trail development in the Town – King Street to Falls Lane.
- July 1998
- Brush clearing begins
- Town approves capital funding to start
- Brush clearing completed by September
- October 1998
- Work begins – bollards, signage, bridge

- January 1999
- Job Creation Pr
- -community pro
  some trail work
- -researcher to c
  work and gathe
  trail – history, pi
  technology
- February 1999
- Trails Associati
  from Islands Pa

At the South Fair held in Shelburne on Saturday, Shelburne County Trails Association secretary Joel Cox (left) shows Lower Ohio resident Michael Raymond the path of the abandoned rail line from Islands Park to Birchtown that the association plans to develop into a walking trail this coming summer. (Harold Hart photo)

Islands Park to Birchtown

2/16/99

Trail may be extended

by CATHY HOLMES

The established walking trail from the north end of Shelburne will be extended along the abandoned rail line from Islands Park to Birchtown this summer, if a collaborative application for funding is approved.

That's the word from Shelburne County Trails Association president, Harold Hart, who attended a meeting last week with the Black Loyalist Heritage Society.

In the long run, the trail from Islands' Park to Birchtown will probably become know as the Black Loyalist trail.

The Black Loyalist Heritage Society came to Hart, having heard that the trails association was looking for funding to continue the walking trail from Islands Park to the Black Loyalist site at Birchtown.

The trails association completed a two kilometre section from the north end of Falls Lane in Shelburne to Islands Park last fall, enough for planking the two railway bridges.

According to Lawrence Brace, vice president of the Black Loyalist Heritage Society, the society plans to apply for funding to, build a boardwalk at the black heritage site in Birchtown.

Along with this, another partner in the funding application the Birchtown Community Centre, hopes to have work done on the community centre and beautify the corner of the old Birchtown land. That corner was cleared of brush last fall, funded by a Youth Services Learning Network grant.

All this, Hart says, will go hand in hand with the cutting out and capping the trail from Islands Park to Birchtown with crusher dust that will form a hard-packed surface.

The railway bed from Islands Park to Birchtown measures seven kilometres. Hart says that, if added to the Town of Shelburne's section from the Scotia Lunch to Falls Lane, and from Falls Lane to the Islands Park, the trail will be 10 kilometres in total.

But first, before anything else is done, landowners must be consulted and permission gained from the Department of Natural Resources, says Hart.

The Municipality of Shelburne will share in the project by being the "facilitator, supporter" and anything else, according to Clerk Treasurer Alan Merritt, that is required to get the job done.

Hart walked the trail last week. "It's not what you call a coastal trail," but, he said "You can see the harbour from three or four points along the way to Harts Point."

He said if funding through the Black Loyalist Heritage Society does not come through (they are applying for residual TAGS funding), trails association volunteers will cut out about four kilometres of the trail, to the first intersection of the rail line with the Harts Point Road.

- Spring 1999
- Work is completed – Town section
- Official opening set for May 15
- Waiting on DNR for “Management Agreement”
- Operating on Letter of Authority at the time

- July 1999
- Letter of Authority will be in effect until a Management Agreement is developed
- Official opening set for October 17, 1999.

You are Invited to attend the Opening Ceremonies of the Shelburne Railway Trail

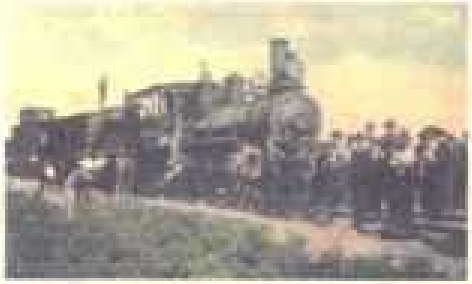
Sunday, October 17, 1999
1:00 pm
Parr Street Park
(just beside the
Shelburne Fire Hall / Community
Centre)

(Rain date is Sat. Oct 23)

- Please dress appropriately -

The Shelburne County Trails Association walk/hikes on the trail to the Islands Park and back is immediately following the ceremony - you are invited to take part

RSVP by Wed. Oct. 12, 1999
Shelburne Parks and Recreation
Department
875-3873



First Engine of the HCSW at Shelburne

February 2003

THE COAST GUARD, Shelburne, N.S., Tuesday, February 18, 2003 — 13

Shelburne Co. Trails Assn. disbanding

by LONNIE TOWNSEND

The Shelburne County Trails Association has notified the Nova Scotia Trails Federation, along with the Department of Natural Resources that they are disbanding.

In an interview, association president Harold Hart said "their letter of authority," from the Department of Natural Resources, "to develop a trial between Shelburne and Birchtown, was terminated on August 31, at which time we ceased activities."

Hart said since then, Natural Resources and the Provincial Trails Federation was officially notified of the local association's intentions.

Hart said association members decided to abandon the project because of "rising insurance costs and more stringent conditions attached by a new insurance company.

"We felt, in particular, the requirement to maintain a training and educational program for a trail manager and staff as a condition to maintaining insurance placed too much responsibility on us as volunteers and left us open to personal liability".

The trail joined up with an existing town trail at the mouth of the Roseway River and continued on to the Islands Park.

Originally, the association had planned a trail to continue on past Islands Park through to Birchtown, but Hart said these plans were abandoned when it became clear that contractors would have to be hired, resulting in the extension becoming too costly.

Talks are being held with the Municipality of Shelburne to take over the trail from the Roseway River to Islands Park. The matter is now in the hands of the municipality's recreation committee.

When contacted, recreation coordinator Marilyn Johnson said the committee has discussed the proposal and does have some concerns.

Johnson said the committee is checking into a number of issues, such as how much added insurance cost would be involved if the municipality took over the one kilometer addition, who would be responsible for carrying the maintenance and upkeep and how much that would cost, along with how many additional labor hours would be involved.

The Shelburne County Trails Association is hoping for a response from the municipality by April 1st. Johnson said she expects they will be able to provide an answer by then.

Hart said if the municipality refuses to take over the trail, the committee is prepared to "let it go back to nature."

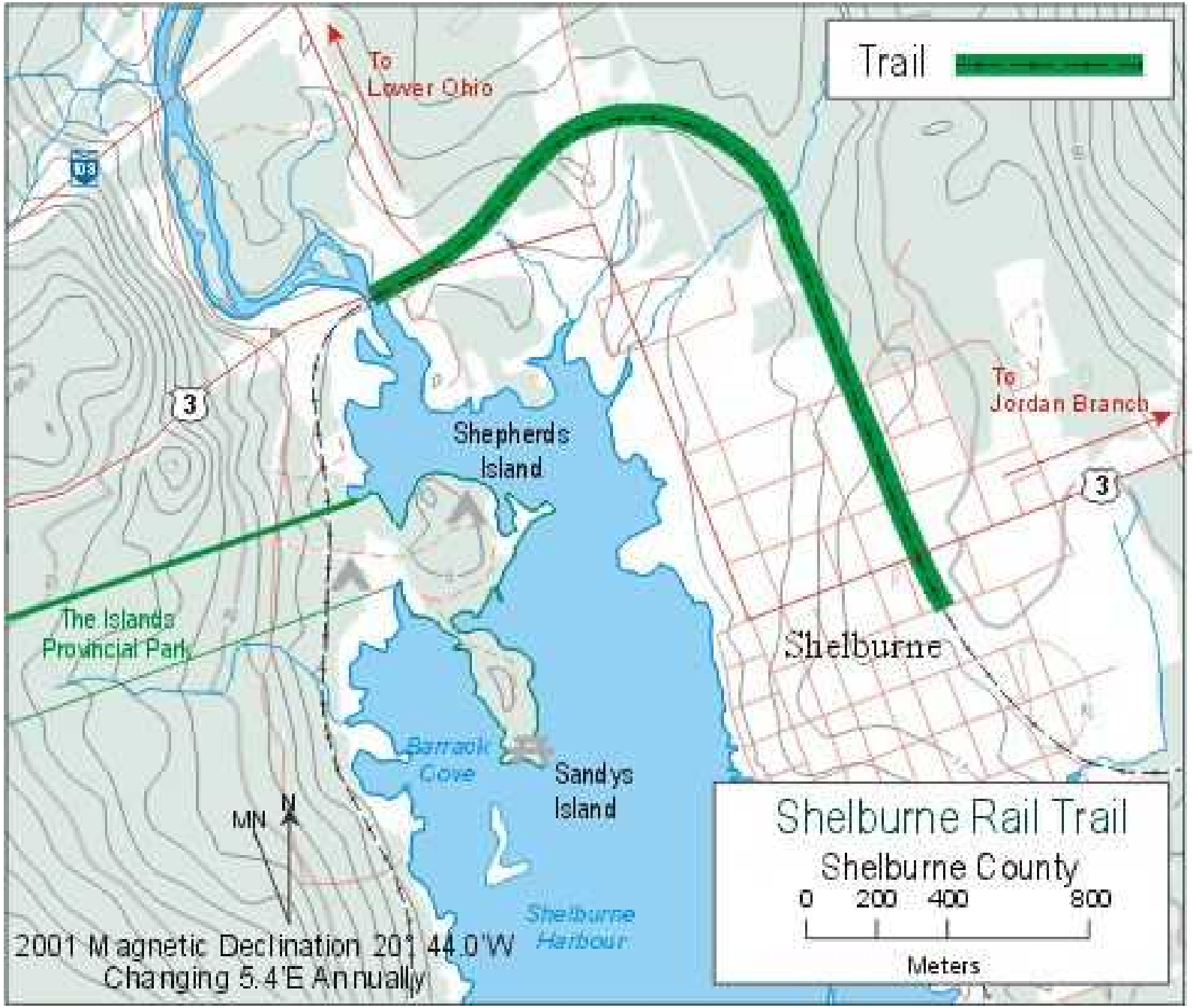
The Shelburne Trails Association had been in existence for more than five years, and has spent over $6,000 in constructing and maintaining the one-kilometer trail.

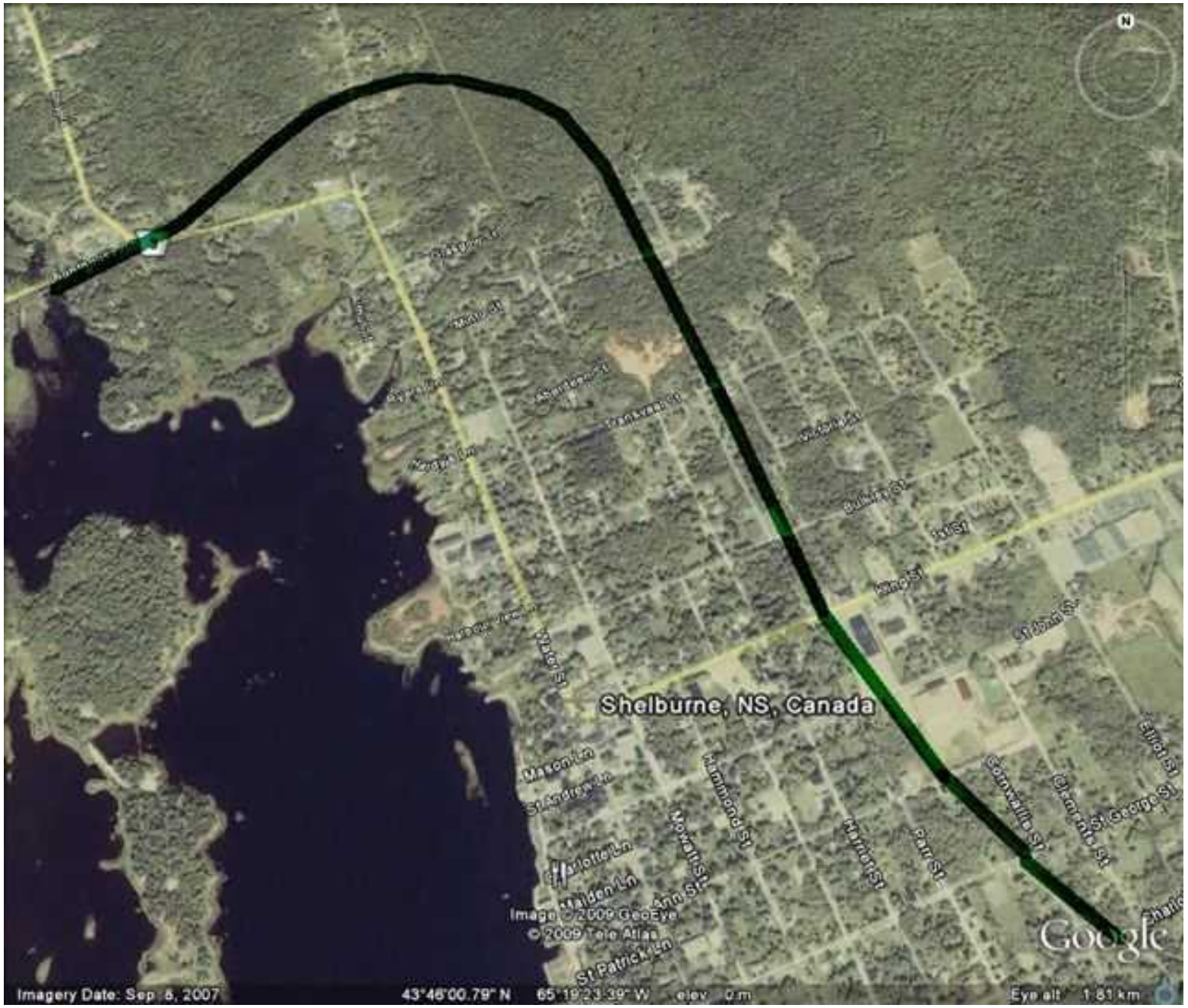
Harold Hart, president of the Shelburne Trials Association, stands at one of the lookout sites built into the wooden bridge spanning the Roseway River. The bridge is one of two making up the one-kilometer portion of the trail the association is asking the Municipality of Shelburne to take over. (Lonnie Townsend photo)

- Municipality of Shelburne agrees to take over responsibility for the section from Roseway River to Islands Park Road – 1.1km

March 2004

- Trail extension – South – John St. to Charlotte St.
- .75 km +/-


Trail
To
Lower Ohio
103
3
Shepherds
Island
To
Jordan Branch
3
The Islands
Provincial Park
Shelburne
Barrack
Cove
Sandys
Island
MN
N
Shelburne
Harbour
2001 Magnetic Declination 20° 44.0'W
Changing 5.4'E Annually
Shelburne Rail Trail
Shelburne County
0 200 400 800
Meters


Shelburne, NS, Canada
Mason Ln
St Andrews Ln
Charlotte Ln
Walden Ln
St Patrick's Ln
Norval St
Ann St
Hammond St
Harriet St
Parr St
Cornwallis St
Charlotte St
St George St
Elliot St
Google
Image © 2009 GeoEye
© 2009 Tele Atlas
Imagery Date: Sep 8, 2007
43°46'00.79" N
65°19'23.39" W
elev 0 m
Eye alt 1.81 km

Features

- 3.25 km +/- of trail
- “urban” setting
- Lots of intersections with Town streets
- 11 x
- Links to streets and sidewalks
- creates lots of options for distances – loops

Typical trail sections

Black's Brook Bridge

Roseway River Bridge

Constructed by Trails Association

Charlotte St extension - 2004


ABANDONED
RAILWAY
ENTER AT YOUR

Skills Enhancement crew helps

Town Public Works Dept. too


ABANDON
RAILWA

Exhibition grounds fence moved

just the corner…

“More than just a trail”

- Research the other aspects of “the trail”
- (grant project 1999)
- **History of rail development**
- Construction of the tracks, station, etc.
- Trains
- **Science & Technology**
- Steam engines, rail design, water pumps
- Natural environments – not yet

Rail line History

Trail Brochure Intro to History

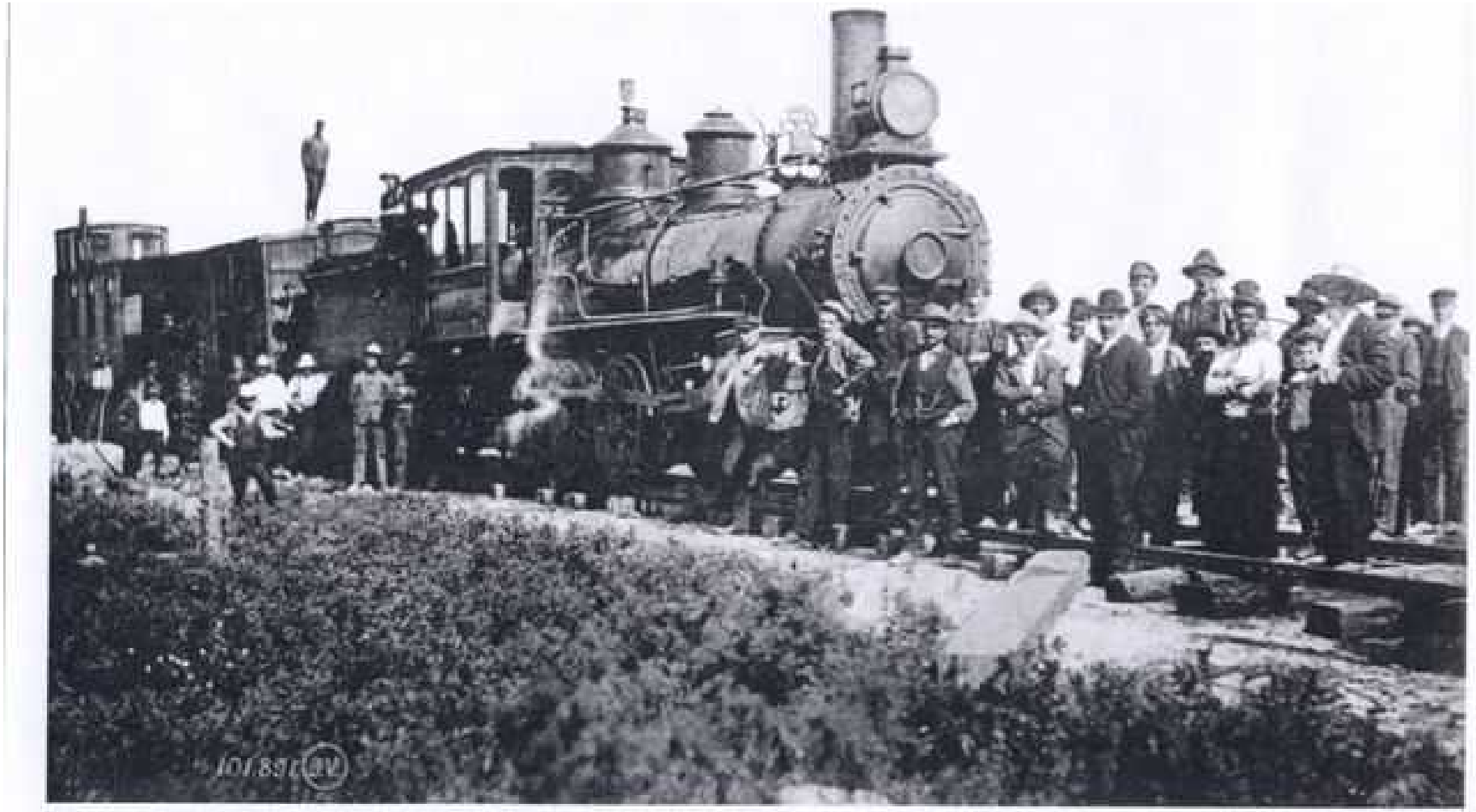
Starting from as far back as 1868 there has been talk of the Railway in Shelburne. However it wasn't until the early 1900's that anyone saw anything happening in the town. The first regular run of the train through Shelburne on January 9, 1907 would put an end to 38 years of anticipation. The line, which ran from Halifax through to Yarmouth, was named the Halifax and South Western Railway (H & SW). This line was a standard guage line that was not built for speed or comfort. The ride from Halifax to Yarmouth would take 11 hours and would not prove to be the smoothest ride ever. "Hellish Slow and Wobbly" was the appropriate tag given to the rail line. The name, Halifax and South Western Railway, was the name the line would carry until the 1950's although it had been taken over by the Canadian National Railway (CNR) in 1919. This line was used for the transportation of passengers, mail, fish, boats and various other items. The last mail run was in 1967 and the last passenger run was in 1969. In 1984 the ties and rails were taken up. The station was demolished in January 1985. After the abandonment of the rail line, the "tracks" were used as an unofficial "walking trail" by locals.

The idea of developing the abandoned rail line in the Town, for recreational purposes, had been considered since as early as 1991. In April of 1997 the Shelburne County Trails Association was formed. Discussion began within the Town of Shelburne Parks and Recreation Commission to develop the abandoned line into a linear park. On May 20, 1998 a meeting was held between the Shelburne County Trails Association, Department of Natural Resources and the Town of Shelburne Parks and Recreation Commission. At that meeting it was decided that the Parks and Recreation Department would develop the 2.4 km section of the abandoned rail line from King Street to Roseway River as a linear park. The Shelburne County Trails Association is developing the section of the rail line which runs from Roseway River to Birchtown. The Town of Shelburne Parks and Recreation Commission and the Shelburne County Trails Association are coordinating their efforts in the trail development and support each other's ventures.

As you come to the end of the section of trail that was developed by the Parks and Recreation Department you can continue on, along the section of trail that is being developed by the Shelburne County Trails Association, towards Islands Park.

Construction

The First Train in Shelburne



Schedules

HALIFAX AND YARMOUTH—CONNECTIONS WITH BOSTON AND DIRECT NEW YORK SERVICE

READ DOWN | TABLE 4 | READ UP

EXPLANATION OF SIGNS. (See also under Tables 1 and 3).

APRIL 29, 1945

CANADIAN NATIONAL RAILWAYS

IN CONNECTION WITH GRAND TRUNK RAILWAY SYSTEM

APRIL 29, 1945

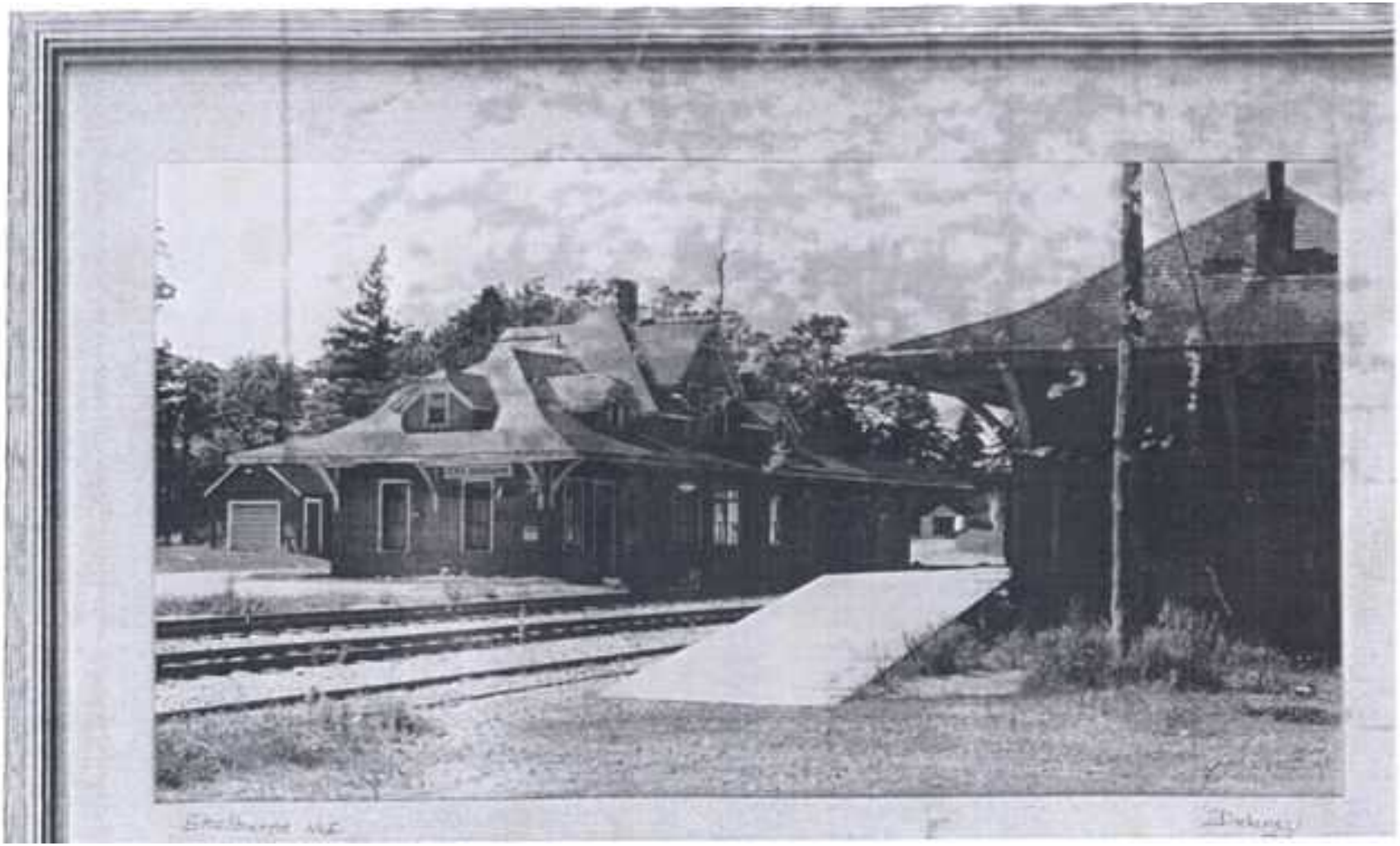
CANADIAN NATIONAL RAILWAYS

IN CONNECTION WITH GRAND TRUNK RAILWAY SYSTEM

24,000 mile Steel Highway – SERVES ALL CANADA

The Station - architecture


The Shelburne Station N.S.



C.N. Station at Shelburne: How much longer? (Photo by Comeau)


CATERPILLAR

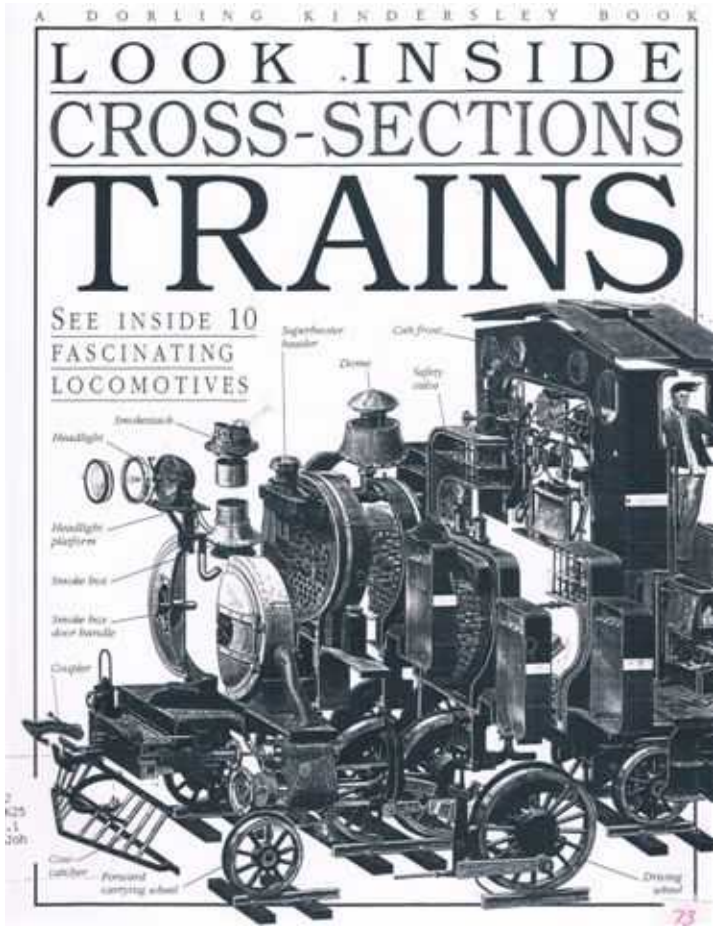
The last train

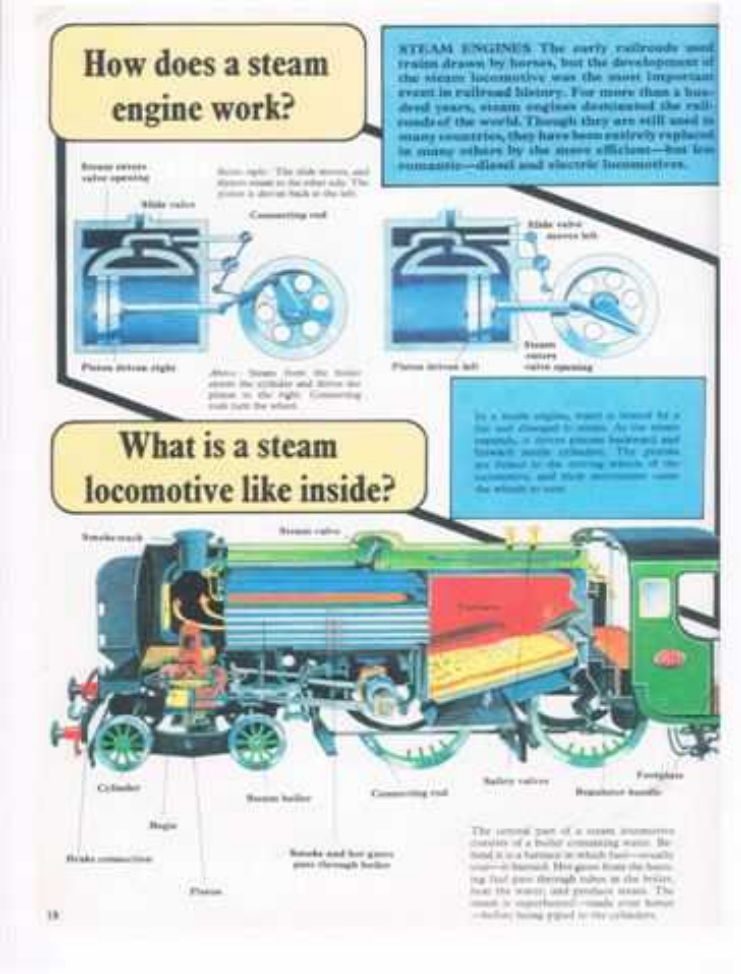
Water Tank - Black's Brook

Feb 19, 1999

Science and Technology

How Trains work

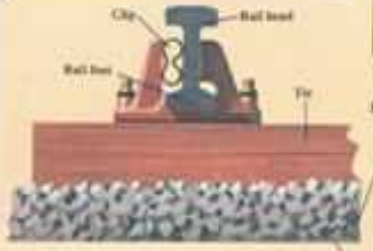




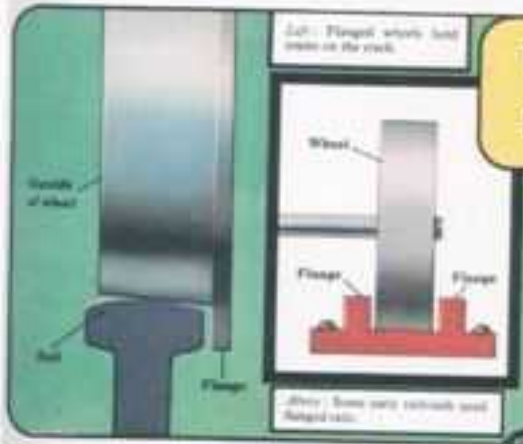
How is train track laid?

THE PERMANENT WAY Keeping the train track in good order is essential to the safe running of the trains. Track maintenance is expensive, and the railroads are always seeking ways of reducing maintenance costs without affecting safety. Much of the construction work is now done by machines, and is no longer the back-breaking task it once was. And the use of long welded rails results in less maintenance at the rail joints, and a smoother ride.

How is the track held down?



Why does a train stay on the track?



Is there a standard track width?

Track gauges (widths) vary in different parts of the world. The most common standard gauge is 4 ft 8½ inches (1.429 meters). It is used in North America, Australia, Japan, most of Europe, and many other places. Some countries, including Australia and Japan, use more than one gauge.

Where two systems meet, the track must have two gauges.

How do switches work?

GLOSSARY

Air brakes
A system that uses compressed air to push the brake shoes onto the wheels.

Axle
A round metal bar that joins a pair of wheels together.

Ballast
Small pebbles that make up the base of a railroad track.

Blast pipe
The pipe in a steam locomotive that takes exhaust steam up the smokestack.

Boiler
The metal drum in a steam locomotive where water is turned into steam.

Bogie truck
The wheeled carriage fitted beneath the end of a locomotive or car.

Cab
The engineer's compartment – where the controls are located.

Car
A vehicle in which passengers travel. Passenger cars, or coaches, carry people. Freight cars carry all kinds of things from place to place.

Carrying wheel
A locomotive's guiding, load-bearing wheel.

Coal pusher
A steam-operated device in the tender for pushing coal forward to a point where it can be shoveled directly into the firebox.

Cog wheel
A toothed wheel or pinion that connects with the rack laid between the rails of a rack-and-pinion mountain railroad.

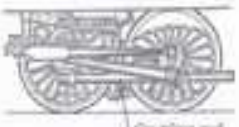
Collector shoe
The metal block that collects electric current from the live rail in third-rail electrified tracks.

Connecting rod
A metal rod that links the pistons to the driving wheels of a locomotive.

Coupling
A device for connecting cars to an engine and each other.

Cowcatcher
A metal grid fitted to the front of a locomotive to nudge animals off the track (technically called the pilot).

Coupling rods
The metal rod that links one wheel of a pair to the other, so that they turn in unison.



Crankshaft
A metal arm that transfers the movement of a piston to the wheels, making them turn.

Crosshead
A device that keeps the piston rods in line as they move in and out of the cylinder.

Cylinder
The metal tube into which steam or gas is pushed to make the pistons go backward and forward.

Dead-man's handle
A device for cutting off power and applying brakes in the event of the engineer becoming ill during a trip.

Diesel engine
An engine, fueled by diesel oil, used in some trains either to power the engine directly or to drive the electric motors that power the engine.

Dome
The part on top of the boiler barrel of a steam locomotive where dry steam is collected and where the steam regulator valve is set.

Driving wheels
The main wheel of a locomotive turned by the movement of the connecting rod.

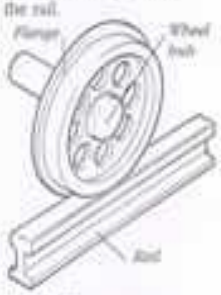
Electro-diesel engine
An engine that can run on both electrified and non-electrified tracks.

Exhaust
The unwanted fumes that come from the boiler.

Firebox
The metal box situated behind the boiler of a steam locomotive in which the fire burns.

Fire stoker
The person who keeps the fire fueled in a steam locomotive.

Flange
The extended rim of a wheel that keeps it on the rail.



Footplate
The part of a steam locomotive on which the engineer and stoker stand.

Frame
The foundation or chassis on which a steam locomotive is built.

Freight
The goods or cargo carried on a train.

Gauge
The distance between the two rails of a railroad track.

Gradient
The slope of a railroad track.

Guard
The official in charge of an English train.

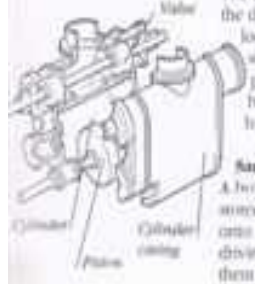
Hand brake
The means of applying brake blocks to the wheels without power assistance.

Locomotive
An engine that makes its own power to enable it to move. Locomotives used to be powered by steam, but since the 1930s, electricity and diesel power have taken over because they are cheaper and more efficient.

Live rail
An electrical conductor for transmitting electricity to a locomotive on third-rail electrified tracks.

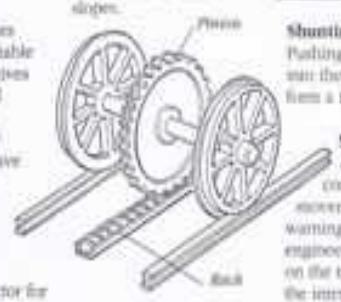
Pantograph
A wire frame on top of an electric train that picks up electricity from cables suspended above the track.

Piston
A metal plug powered by steam that slides forward and backward inside a cylinder.



Piston rod
The rod that connects the piston to the crosshead.

Rack and pinion
The toothed track (rack) and toothed wheel (pinion) that pull trains up and down steep mountains and other slopes.



Rail
The strip of steel on which a train's wheels run.

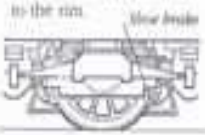
Rail bed
The layer of material spread over the formation on which the ties and track are laid. Also called ballast bed.

Rolling stock
Cars, coaches, and other railroad vehicles.

Safety valve
The apparatus inside the dome of a steam locomotive from which steam is released if pressure inside the boiler becomes too high.

Sandbox
A box in which sand is stored to be fed by pipes onto the rail ahead of the driving wheels to stop them from slipping.

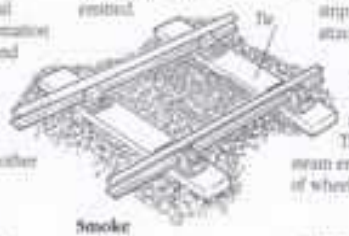
Shoe brake
A device that stops a turning wheel by pressing a block of wood or metal to the rim.



Shunting
Pushing cars and coaches into the correct order to form a train.

Signals
A means of controlling the movement of trains by warning or advising the engineer if there are trains on the track ahead, or of the intention to divert a train to another track.

Smokestack
The metal tube from which steam and smoke is emitted.



Smoke box
The compartment in a steam locomotive where steam and smoke collect before being sent up the smokestack.

Spark arrester
A device in the smokestack to prevent sparks from being thrown into the air.

Superheating
Increasing the temperature and volume of steam in a steam locomotive after it has left the boiler barrel by applying extra heat.

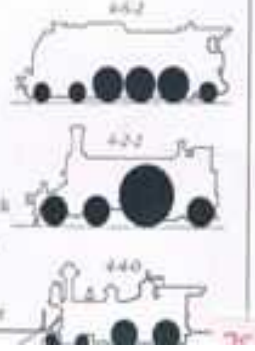
Suspension
The springed system between the wheels and frame that absorbs shock caused by running over uneven tracks.

Tank engine
An engine that carried its own water and fuel on its chassis rather than in a separate tender. Tank engines were usually used for short runs with lightweight trains.

Tender
A car, attached to a steam locomotive, that carries the locomotive's water and fuel, either wood or coal.

Tie
The wooden or concrete strip to which rails are attached.

Wheel code (Whyte notation)
The classification of steam engines by number of wheels.



Water Tank Construction

Enclosed water tank

In areas where prolonged extreme cold freezes water tanks solid, the Canadian Pacific has erected standard tanks fully enclosed in octagonal structures

By W. Gibson Kennedy

THE snow-familiar red water towers not only served to replenish tender tanks, but also provided a landmark high in the mountains, or broke the monotony of endless fields of grain meeting bald prairie sky; and on a hot summer day its refreshingly cool shade attracted little boys waiting to watch the train come to town. More than one hapless fireboy was drenched when the sudden rush of water from within forced the heavy spout from under his feet, and many a tender deck was washed clean when a sticky valve failed to close quickly.

Only occasionally during a long dry spell would a 28 order inform engineers that a certain tank was dry. Except on these rare occasions, a crew caught short could run and run for the nearest tank and be assured of a plentiful supply of water.

In the mountains a gravity supply from a nearby creek kept the tank full, while an inner level gauged a pump maintained the float indicator ball at the top of the stand.

This particular type of structure, housing a standard water tank, was common in northern regions. It had a heater inside which provided sufficient warmth to keep the water from freezing during the winter months.

I built the model from original plans, of which there were several minor variations, although the main dimensions for a given size tank were uniform. Such details as window and door locations appear to have been changed to suit conditions, and the spout or sway pipe frame was attached to the tank with brackets of different sizes, since the distance between track and tank varied. On the prairies, it was common to see tanks with wildly built roofs. Often a tank was located at a junction of two tracks, with a sway pipe serving each, and at course some housed 20,000 and others 40,000 gal. tanks.

Tank housing

Construction of the housing is relatively simple. Start with the side walls, referring to the plan of the tank for the dimensions.

First cut eight sides from ¼" thick scribed sheetwood, with ¼" spaced scribing. As this wood comes in sheets only 3" wide, each side must be built up of two pieces fastened to backing strips which also serve to provide strength and prevent warping. Fig. 1 shows the procedure. Be sure to cut these strips about ¼" shorter than the finished sides. Note that these strips must be tapered along the outer edge to provide a tight fit at each corner.

After the walls are made up, cut out the door opening and five window openings, taking sizes and locations from the plan. Note that there is a window at ground level on the side opposite the door. You might glass the windows to suit yourself — there were many variations in prototype.

Trim may be applied after the housing is assembled.

Next, make up the top frame, using ⅛" x ½" stripwood, forming an octagon. It would be wise to lay out the shape on paper, and Fig. 1 shows how this may be done. If you draw a square with 20 ½ sides, each face of the octagon will measure 12 ½.

Only one frame is required, and after this has been made the housing may be assembled. Start with one side and work around, checking each piece as it is applied to be sure it is square and perpendicular. The assembly will be sufficiently rigid without further bracing, and the bottom of the housing will be as steady as the top.

Next, refer to Fig. 2 and make up the door. Windows for the door and walls are cut from acetate or other suitable material, each a little larger than the opening it is to fit. The acetate can be made from stripwood, or, as on my model, cut from strips of gummed paper, prepainted the color of the tank. The gum is sufficient to hold the acetate to the window material.

Windows and door may now be fastened behind their respective openings. Secure them with strips of wood covering the overlapping edges.

The trim, cut from either stripwood or card stock, may be applied now, using dimensions on the plan, to complete the tank housing.

Tank roof

The roof is next, and Fig. 1 will give you an idea of how it is done. Here we need another octagonal frame, somewhat smaller than the one made for the housing. This measurement is not too critical, but mine was made with opposite sides 2⅞" apart. Here again, you can draw the octagon on paper, as you did for the tank housing frame.

Fig. 1 shows how this is cross-braced, mainly to support the center post for the roof.

A common sight on Canadian railroads, the enclosed water tank had a heater inside to keep the water from freezing during winter months.

Cut a post of ¾" sq. stripwood, rounding out the top so that the rafters will close to the edge. The height of this post will vary with individual work, as I suggest you do some figuring of your own. From the plan you will see that the actual roof height from the center is 7-11". When determining the length of the center post, allow for the thickness of the roof sheets (which are built up of shingles and the sheetwood base); also allow for the size of the rafters you use.

After you have assembled the roof frame, check heights to be sure the slope is correct. Fit the frame to the top of the tank and center it, checking all overhanging sides carefully; and mark, on the top of the housing frame, the locations of the strips shown in *Fig. 1*, on the inner edges of the roof frame. Remove the roof and cement the strips in place, fitting the roof before they dry and adjusting if necessary.

Mark your roof frame on the underside so the roof will be placed in the same position each time. Even the most carefully constructed job will nearly always vary slightly. You are not working with a square, but with a shape that is difficult to form accurately, making variations even more likely.

Now the roof can be finished. *Fig. 1* shows the usual method of making shingles. It is somewhat time-consuming, but provides a very good imitation, and is worth the effort.

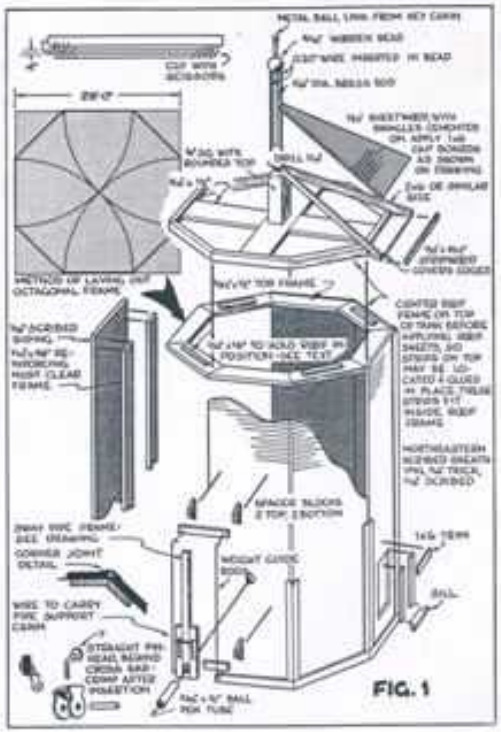
Make up one large sheet of the shingles, and afterwards cut pie-shaped pieces, being careful you do not cut them the wrong way, or upside down. First cut sub-roof sheets from ⅛" sheetwood, fitting each one to the roof rafters, and marking it so that it will be replaced in the same location. Cut shingle sheets and glue to the wood sheets. Fasten each to the roof framing.

Now drill a ⅛" hole in the center of the upright roof post, and at the quoin side and rear side of this hole, drill small holes to take the guide rods for the float indicator ball. The guide rods are of .020" wire.

Cut a suitable length of ⅛" brass rod and insert into the hole. Now drill a round wood or plastic bead, obtainable on a cheap dinnerware necklace, to slip onto the rod, and also two adjacent small holes to slip onto the guide rods. Attach the ball and adjust to any height you wish, then cap the rod with a small round metal ball link from a key chain. Square up the assembly, then cut and apply a circular cap to the top of the roof. Saw out and fit the roof caps covering the joints running down the roof sections, as shown on the plan.

Cut a square manhole cover for the roof and drill a hole for the smoke pipe, which is formed from a piece of dowel. The plan shows the size and location of both these parts.

Refer to *Fig. 2* and box in the eaves with ⅛" sheetwood and ⅛" x ½" strip-



wood to complete the construction of the tank roof.

Sway pipe assembly

Construct the sway pipe frame from measurements taken from the plan. The frame will be attached to the tank after the whole assembly is finished. There are variations in the size and shape of the blocks, and even in the frame, but the plan gives the standard form.

After the frame is constructed, carefully drill a hole for the supply pipe, noting that it slopes downward from the tank. Make this pipe from a piece of ball-point pen tubing, square the front end, and insert it into the frame. If it doesn't fit tightly, it will be necessary to cement it in place.

Cut weight rods and shape one end of each to fit over the crossbars of the frame. Cut weights from small tubing, soldering a hook to each to attach the chains, as shown in the plan, and slip onto the rods. Finish shaping the rods and fasten to the frame.

Next, cut and shape pulleys as in Fig. 3 and attach to the frame.

Now we come to the task of constructing the spout, or sway pipe, so called because of the manner in which it is suspended, allowing it to be swung sideways when necessary. This pipe is not difficult, but will require a little patience. Its shape either makes or breaks your work so far, so take your time.

The pipe is formed from 3/16" brass tinned after cutting to give the appearance of galvanized iron. Take dimensions from the plan. Fig. 3 will help you to form the pipe. A tapered tube is difficult enough to make, but one with ends which are not square is even more of a problem, and the trial and error method is not suitable. Fig. 3 shows the parts laid out flat. Although the pipe is very small, it will be advisable to approximate these shapes. Fig. 3 is not accurate, nor to scale. Lay out your own, taking dimensions from the drawing.

FIG. 2

After the pieces are cut, roll each one carefully so that the edges butt together on the bottom. Since they were tinned before rolling, they may be soaked together with your iron. Any trimming of the ends may be done, carefully, with a small file.

Now flow solder into the small end of the main pipe section and the first elbow, working quickly as you do not loosen the previous joints. If they do not line up correctly, heat and part them, then resolder. Any solder which may run on to the outer surfaces of the assembly can be filed away, but it may be necessary to re-tin the outer surface if you file down to the brass.

Apply the other fittings as shown in Fig. 3 until the spout is complete.

Now bold the pipe in place against the frame, in the position in which it will be lowered to supply water to a tender, and measure the length of chain required for the counterbalance. Apply the chain to the spout and attach the ends to the weights.

Cut and apply the suspension chains to the large end of the pipe and to the bracket, as shown in Figs. 1 and 3 and on the plan.

The sway pipe and frame assembly may now be attached to the tank housing.

Carefully find the location in the housing for the water supply pipe and drill a hole at the required angle to accommodate the pipe. If you get a snug fit, you will find that by simply pressing the supply pipe into the hole, the entire frame assembly will be firmly fixed to the tank housing.

The valve on this type of tank is controlled by a rope run through a hole in the top of the structure under the eaves. This rope is often tied to the spout so that it is easily reached by the fireman, but the plans call for the rope to be suspended freely down the face of the housing. The fireman was required to hook this with his tank hook in the same manner he had to hook the spout and pull it down. Use a piece of thread, with knots tied about every 18", from the bottom up a few feet. Varnish the thread to stiffen it, and glue to the top of the tank, under the eaves.

Build a suitable base to conform to the surrounding terrain and place the tank at the proper elevation and distance from the rails, as shown in the plan.

I painted my tank the standard CPR red, a medium boxcar red, as walls, door, windows, pipe frame and indicator ball rods, with a dark, almost reddish-brown, boxcar red for the trim. The chain, weights, weight rods and spout I left unpainted. The shingles should be stained a medium streaked grey. The float indicator ball may be painted either white or yellow.

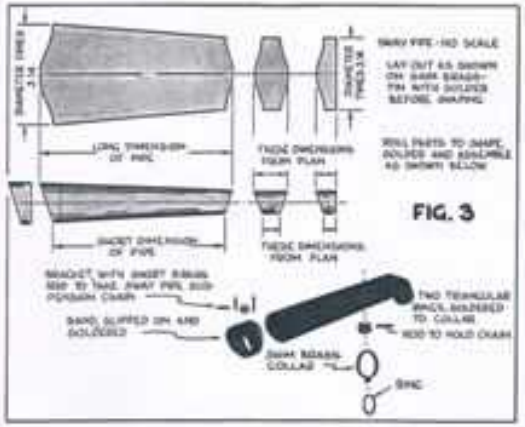


FIG. 3

Spout, or sway pipe, is suspended so it can be swung sideways if necessary. The rope that controls the valve is tied to the spout. This is the standard frame, but there were variations.

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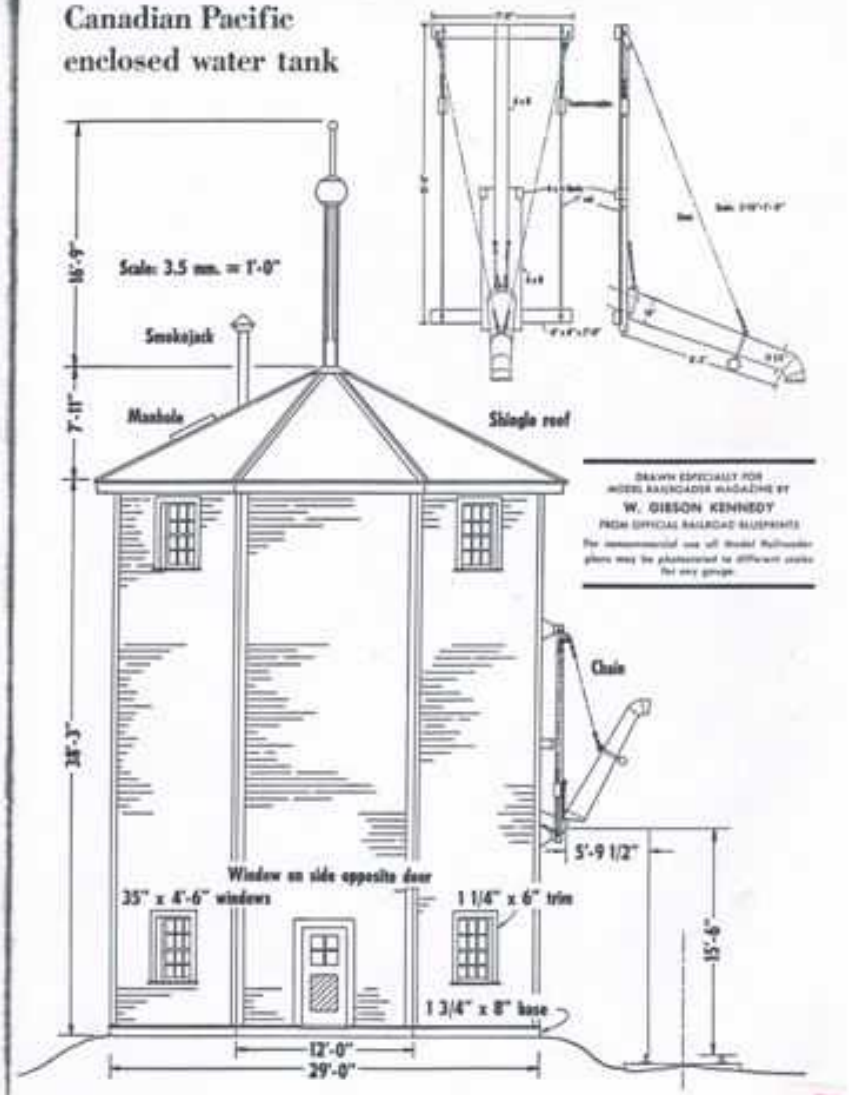
Canadian Pacific enclosed water tank



DRAWN ESPECIALLY FOR MODEL RAILROADER MAGAZINE BY
W. GIBSON KENNEDY
FROM OFFICIAL RAILROAD BLUEPRINTS

For commercial use all model Railroader plans may be photostated to different scales for any gauge.

ENCLOSED WATER TANK

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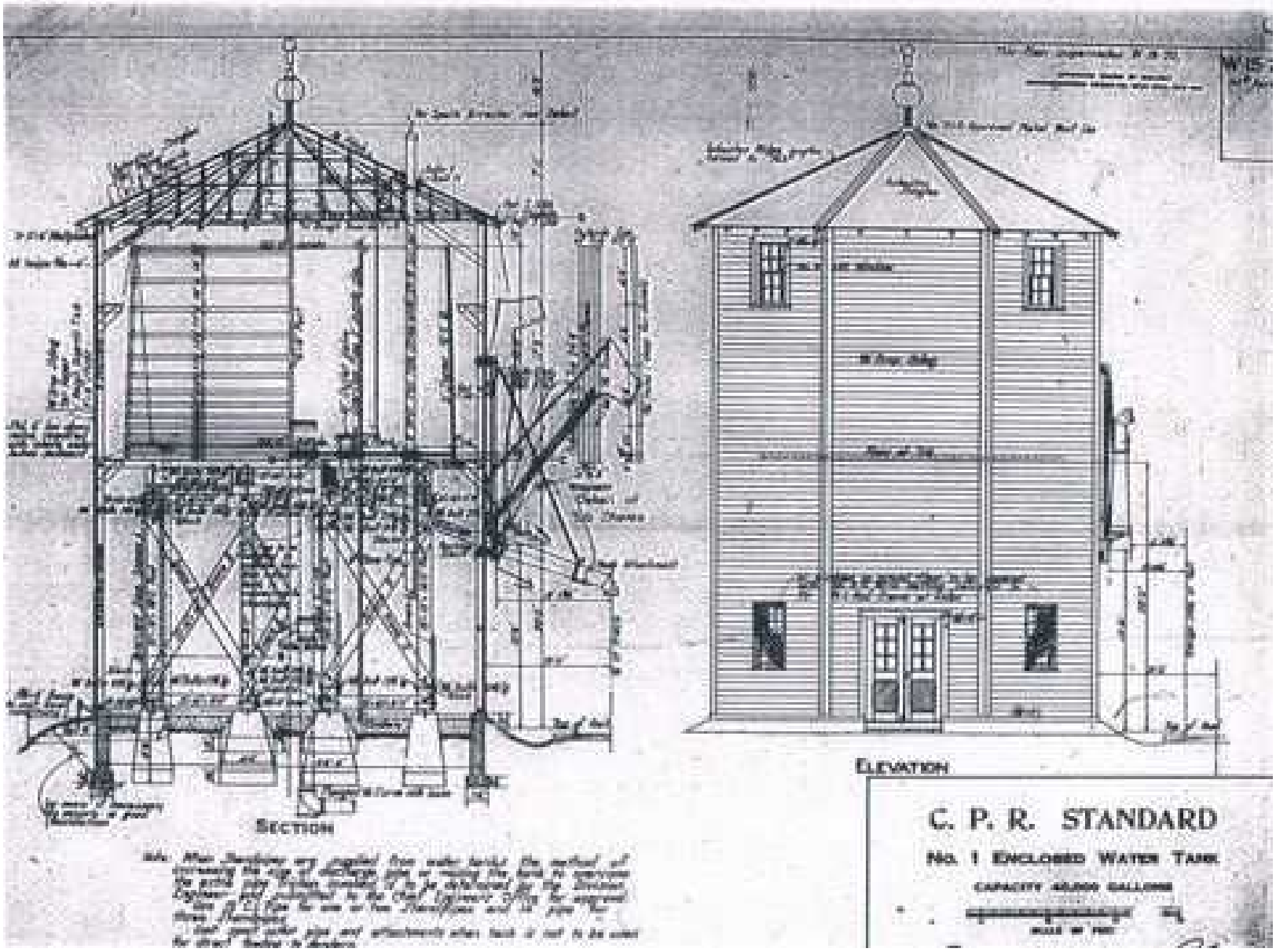
SECTION
ELEVATION
C. P. R. STANDARD
No. 1 ENCLOSED WATER TANK
CAPACITY 40,000 GALLONS

Water Pumps

Ram Pump

From All About Pumps

Ram Pump

Ram Pumps only have two moving parts, making them virtually maintenance-free.

Water enters the lower of two chambers through a pipe from an elevated water source. This pipe must be relatively long and thick so that significant force (inertia) is developed as the water moves down it to the chamber.

As water rushes in it starts the pump. The chamber fills and the ESCAPE VALVE (on the left here) shuts. The DELIVERY VALVE to the AIR DOME opens.

The momentum of the rushing water pushes some water into the air dome and compresses the air that

partially fills that chamber. When the pressure is great enough it opposes the force of the incoming water and the second valve drops shut.

After the delivery valve shuts, air pressure pushes water up the outlet pipe. In the first chamber, all valves are closed and no water can move, so the escape valve drops open and the cycle begins to repeat, about once a second.

This is an ideal pump when a plentiful water source is available. Roughly 3/4's of the water that passes through the system exits via the escape valve.

This is a still representation and possibly also a low-resolution image of a fully animated pump.

Related Material Outside this Web Site:

Donald Burger, collector of Hydraulic Water Rams.
Mr. Burger's site contains additional links to other sites with more information about these marvelous pumps.

The Ram Company.
Manufacturers of several non-electric pumping solutions.

Grove Enterprises, Inc.
Distributors for Atlas Publications, who have published a book by Don. R. Wilson called All About Hydraulic Ram Pumps -- How and Where They Work (ISBN 0-9631526-2-9). It describes how to design, build, and install a simple, efficient hydraulic ram pump.

Rife Hydraulic Engine Mfg. Co., Inc. is the manufacturer of the DAVEY ram pump shown above. They have been manufacturing "water pumps and related products" since 1884 and have a wide variety of sizes and models to choose from.
They are located at:
Line & Grove Sts.
P. O. Box 95
Nanticoke PA 18634
(717) 740-1100
fax: (717) 740-1101
Contact: Shellene Bruno, email: rife@epix.net

Pump Glossary
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