MSAWWA/MWEA & RMC-APWA Annual Conference

2011

A Look Back
1927-28 Water Main Job
18" Cast Iron from Lyman Creek to Town Main in Bozeman

Unloading the Pipe

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Digging the Trench

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Caulking the Joints

Air Compressor

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

The Biggest Little Pump

The Evinrude Pump

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

City Manager
FM Brown

City Engineer
LS Thorpe

Water Boy
Herbert Lay

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Cast Bend
100 ft. N. of Valve House

Curve near E. Gal.

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Shaft on Tunnel Under N.P. Tracks
The Valves

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Re-Laying Cast Iron Pipe that gave 36 years service on the original supply main.

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Bert Lay
Pouring a Lead Joint

A Piece of the
Old Wood Main

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

April 25, 1928

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Pipe Piled Near Mill

Roads Too Muddy for Hauling

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

High Water on East Gallatin River

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

April 26, 1928
The First Bucketful

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

New 18” Cast Iron Pipe Being Installed Under Old 16” Wood

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Kink in Line at Crossing of Old Wood Main

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Old Wood Main

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Through Al Grantham’s Lawn

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Crossing RR Tracks North of Mill

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Some More Railroad Crossings

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Crossing
Under Old Kalemein Main
10” - 1889

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18" Cast Iron from Lyman Creek to Town Main in Bozeman

A Straight Line

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Rasmussen & Brown

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18" Cast Iron from Lyman Creek to Town Main in Bozeman

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Bridger Creek
Too Much Water

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18" Cast Iron from Lyman Creek to Town Main in Bozeman

Tearing out Sack Dams at Bridger Creek

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Starting the steep climb

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Half Way Up
Grade = 25%

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

At the Top

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Laying Pipe Up the Hill

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

The Junction just below Reservoir

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

The East Branch
16”

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

The Tunnel’s Mouth
Under the Dam

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Looking Toward Bozeman from Reservoir

Photos Courtesy of The City of Bozeman
1927-28 Water Main Job
18” Cast Iron from Lyman Creek to Town Main in Bozeman

Lyman Creek Reservoir

Photos Courtesy of The City of Bozeman
City of Glendive Streets

Photos Courtesy of The City of Glendive
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City of Glendive Streets

Photos Courtesy of The City of Glendive
City of Glendive Streets

[Image: Black and white photo of a construction site with a large wooden structure.]

Photos Courtesy of The City of Glendive
Helena Wastewater Treatment
Then and Now

Helena Primary Treatment Plant circa 1960
Photos Courtesy of The City of Helena
Helena Wastewater Treatment
Then and Now

Forming Primary Clarifier
Helena Wastewater Treatment
Then and Now
Jim Melstad’s Car Early One Saturday Morning After A Bender.

Photos Courtesy of The City of Helena
Helena Wastewater Treatment
Then and Now

Early Construction, ca 1960

Photos Courtesy of The City of Helena
Helena Wastewater Treatment
Then and Now

Pouring Digester Walls
ca 1960s
Helena Wastewater Treatment
Then and Now

Photos Courtesy of The City of Helena
Helena Wastewater Treatment
Then and Now

Grit Chamber and Primary Clarifier - ca 1960s

Photos Courtesy of The City of Helena
Helena Wastewater Treatment
Then and Now

Helena Secondary Treatment Plant - ca 1980

Photos Courtesy of The City of Helena
Helena Wastewater Treatment
Then and Now

Pouring Secondary Clarifier Floor - ca 1980

Photos Courtesy of The City of Helena
Helena Wastewater Treatment
Then and Now

Scott Anderson
and Bill Bahr –
The Early Years

Photos Courtesy of The City of Helena
Helena Wastewater Treatment
Then and Now

Old Control Panel

Photos Courtesy of The City of Helena
Helena Wastewater Treatment
Then and Now

Helena Secondary Treatment Plant
Ca 1980

Photos Courtesy of The City of Helena
Helena Wastewater Treatment
Then and Now

Secondary Treatment
ABF Tower
During Demolition in 2000

Photos Courtesy of The City of Helena
Helena Wastewater Treatment
Then and Now

Demolition of ABF Tower, 2000
Helena Wastewater Treatment
Then and Now

Old Entrance Sign

City of Helena
Wastewater Treatment Facilities

Photos Courtesy of The City of Helena
Helena Wastewater Treatment
Then and Now

New Entrance Sign
Helena Wastewater Treatment
Then and Now

Photos Courtesy of The City of Helena
Helena Wastewater Treatment
Then and Now

Installing Second Belt Filter Press, 2000

Photos Courtesy of The City of Helena
Helena Wastewater Treatment
Then and Now

Construction of New Secondary Reactor & Other Upgrades, 2000

Photos Courtesy of The City of Helena
Helena Wastewater Treatment
Then and Now

Digester Floating Cover Removed

Photos Courtesy of The City of Helena
Helena Wastewater Treatment
Then and Now

Installing New Secondary Digester Cover

Photos Courtesy of The City of Helena
Helena Wastewater Treatment
Then and Now

Upgrade 2000

Photos Courtesy of The City of Helena
Leonard Willet as a Young Boy
Helena Water Treatment
A Historical Perspective

Chessman Wheelhouse ca 1980s

Photos Courtesy of The City of Helena
Helena Water Treatment
A Historical Perspective

Chessman Wheelhouse 2002

Photos Courtesy of The City of Helena
BED ROCK SYSTEM.

This consists of underground sources located at the Southwesterly limits of the City. The water is obtained by diversion from the re-fills channel of a stream that had once been mined for placer gold.

The conduit from this source ends in a concrete sump, is then chlorinated, and then discharged from the sump either as waste or enters the Eureka shaft to be pumped and supplement if need be, the Ten Mile or Hale system by reason of heavy draft. The supply from this source is insignificant compared with the total water used, and only at certain times can be used.
Helena Water Treatment
A Historical Perspective

Eureka
Wellhouse 1960

Photos Courtesy of The City of Helena
Helena Water Treatment
A Historical Perspective

Eureka Wellhouse 2006

Photos Courtesy of The City of Helena
Helena Water Treatment
A Historical Perspective

Hale Reservoir 1960

Photos Courtesy of The City of Helena
Helena Water Treatment
A Historical Perspective

Hale Reservoir 2000
Helena Water Treatment
A Historical Perspective

Knob Hill Reservoir Wall Pours 2002

Photos Courtesy of The City of Helena
Helena Water Treatment
A Historical Perspective

Missouri River WTP 1960

Photos Courtesy of The City of Helena
Helena Water Treatment
A Historical Perspective

Ten Mile WTP 1960

Photos Courtesy of The City of Helena
Helena Water Treatment
A Historical Perspective

Ten Mile Reservoir and Settling Basin 1960

Photos Courtesy of The City of Helena
Helena Water Treatment
A Historical Perspective

Ten Mile WTP 1993

Photos Courtesy of The City of Helena
Woolston Reservoir and Pumphouse 1960

Photos Courtesy of The City of Helena
Helena Water Treatment
A Historical Perspective

Woolston Tanks 1 and 2 2000

Photos Courtesy of The City of Helena
Installing Pipe (60s or 70s)

Testing Well at Columbia Falls

Photos Courtesy of Morrison Maierle, Inc.
Pipe in Columbia Falls
Water Testing at Livingston Permanent Well

Photos Courtesy of Morrison Maierle, Inc.
Water Testing at Livingston Permanent Well

Photos Courtesy of Morrison Maierle, Inc.
Twin Bridges Orphans Home Well
Sections of Wood Stave Water Main
Near Anaconda, MT

These were originally installed circa 1915 as mining water use with some municipal water use, as well. They were later converted to all municipal use and are still in use today.

Photos Courtesy of Stephan Bradley, HawksEyePhoto.com.
Wood Flume System
Near Silver Lake, MT (circa 1957-58)
Wood Flume System
Near Silver Lake, MT (circa 1957-58)

These were originally installed circa 1915 as mining water use with some municipal water use, as well. They are currently out of service for repairs.
Wood Flume System
Near Silver Lake, MT (circa 1957-58)

The flume system is still used fairly regularly, as can be seen by the upgraded walkways at the diversion.
Wood Flume System
Near Silver Lake, MT (circa 1957-58)
City of Kalispell

4th Avenue Water Main
1925

Photos Courtesy of the City of Kalispell
City of Kalispell

1925 McGubbin's old House in Background

Photos Courtesy of the City of Kalispell
City of Kalispell

Alvin Lang Negatives from Reservoir Area

Photos Courtesy of the City of Kalispell
City of Kalispell
Boiler Licenses

Photos Courtesy of the City of Kalispell
City of Kalispell

Buffalo Hill Golf Course First Hole

Photos Courtesy of the City of Kalispell
Looking South and East from Reservoir Section of Flathead Valley

Photos Courtesy of the City of Kalispell
Looking North and East through Bad Rock Canyon. Mt. Jackson, Elevation 10,500’ set in Glacier National Park in Distance

Photos Courtesy of the City of Kalispell
City of Kalispell
Wye Drainage
City of Kalispell
Wye Drainage
City of Kalispell
Lawrence Park

Photos Courtesy of the City of Kalispell
City of Kalispell
Lawrence Park

Main Entrance
Adjacent to Pump Station

Photos Courtesy of the City of Kalispell
City of Kalispell
Lawrence Park

Photos Courtesy of the City of Kalispell
City of Kalispell
Lawrence Park

Photos Courtesy of the City of Kalispell
City of Kalispell
New Airport

Photos Courtesy of the City of Kalispell
City of Kalispell
Noffsinger Spring

Photos Courtesy of the City of Kalispell
City of Kalispell
Noffsinger Spring

Photos Courtesy of the City of Kalispell
City of Kalispell
Noffsinger Spring

Photos Courtesy of the City of Kalispell
City of Kalispell
Noffsinger Spring from Pump Station
City of Kalispell
Noffsinger Spring Pump Station Exterior

Photos Courtesy of the City of Kalispell
City of Kalispell
Noffsinger Spring Pump Station Interior

Photos Courtesy of the City of Kalispell
City of Kalispell
Noffsinger Spring Pump Station Interior

Photos Courtesy of the City of Kalispell
City of Kalispell
Noffsinger Spring Pump Station Interior

Photos Courtesy of the City of Kalispell
City of Kalispell
Noffsinger Spring Pump Station Interior

Photos Courtesy of the City of Kalispell
City of Kalispell

Old Water Foreman

Old Time Water Meter

Photos Courtesy of the City of Kalispell
City of Kalispell
Sewer Plant South of Kalispell

Photos Courtesy of the City of Kalispell
City of Kalispell
Smoke Stack (Possibly Knophlinger)
City of Kalispell

Water Tank Possibly at Conrad Cemetery

Photos Courtesy of the City of Kalispell
City of Kalispell
Water Works
City of Kalispell
Water Works

Photos Courtesy of the City of Kalispell
City of Kalispell
Water Works
City of Kalispell
Water Works New 400 Pumps & Motor - 1912
City of Kalispell
Water Works – New Pumps
City of Kalispell
Water Works Pipe Mains Leaving Station

1 – 16” Wood Main &
1 – 12” Steel Pipe Main
City of Kalispell
Water Works Section Meter Testing Room

Photos Courtesy of the City of Kalispell
City of Kalispell

Water Works Suction Lines from Well to New Pump

Photos Courtesy of the City of Kalispell
Montana Section AWWA—1938

Photos Courtesy of the City of Bozeman
City of Missoula

East Missoula Well
1935

Photos Courtesy of Mountain Water Company
Rattlesnake
30 in. wood main
City of Missoula

Rattlesnake
30 in. wood main

Photos Courtesy of Mountain Water Company
City of Missoula

Rattlesnake
30 in. wood main

Photos Courtesy of Mountain Water Company
City of Missoula

Rattlesnake
30 in. wood main

Photos Courtesy of Mountain Water Company
City of Missoula

Rattlesnake
30 in. wood main

Photos Courtesy of Mountain Water Company
City of Missoula

Photos Courtesy of Mountain Water Company