



# Pembina Valley Water Co-op Supplemental Groundwater Supply

The Pembina Valley Water Co-op (PVWC) was incorporated in 1991 and is owned and operated by 18 Municipal governments:

Town of Altona	R. M. of Dufferin
Town of Carman	R. M. of Franklin
Town of Gretna	R. M. of Grey
Town of Morden	R. M. of Montcalm
Town of Morris	R. M. of Morris
Town of Plum Coulee	R. M. of Rhineland
Town of Emerson	R. M. of Roland
City of Winkler	R. M. of Stanley
Village of St. Claude	R. M. of Thompson

# The PVWC Mandate

To provide treated/potable water to its members

- It is governed by a board of 18 members
- Operates like a private sector company from a governance and accountability perspective
- It is a Municipal entity and as such a tax exempt corporation
- Also a non-profit corporation

# PVWC's Background

- PVWC grew out of the Pembina Valley Water Task Force (PVWTF)
- PVWTF was established in 1988
- It was to address water shortages in the region
- In this it was assisted by federal, provincial, and private sector consultants addressing water needs for a 50 year horizon (later reduced to 20 years)
- It delivered a 400 page report in Feb. of 1991
- The proposal underwent extensive CEC review in 1993-94 culminating in environmental and water rights licensing for the PVWC's existing system

# PVWC Supply & Distribution

Three water treatment plants

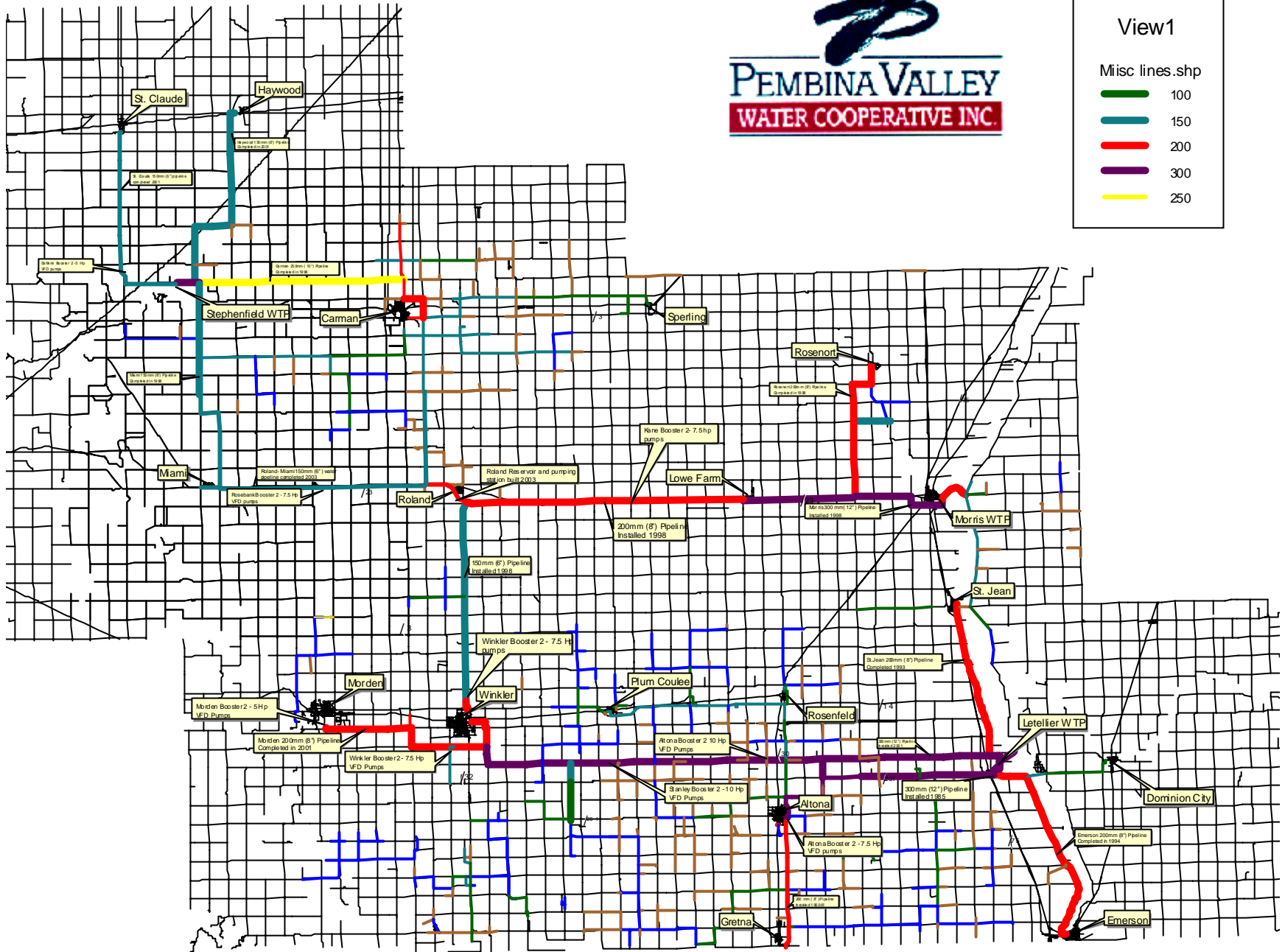
- Letellier (100 lps )
- Morris ( 35 lps )
- Stephenfield ( 25 lps )

- Service area covers 3500 square miles
- Serving a population base of 45,000+

View1

Misc lines.shp

- 100
- 150
- 200
- 300
- 250



# All the regions' existing supplies are used to their sustainable yield

- Morden uses Lake Minnewasta for 90%
- City of Winkler uses the Winkler Aquifer for 60%
- Carman withdraws 75% of its supply from the Boyne River

# The PVWC is a user-pay wholesale supply system

- There is no municipal investment
- Water pricing includes principle and interest, operations, maintenance and delivery costs
- The wholesale cost is the same for all members (\$5.40/1000 gallons in 2006)
- There are no volume discounts – there is no declining scale



# Municipal members distribute water to their customers

- The price varies from \$6.50 - \$10.00/1000 gallons
- By comparison
  - The City of Winnipeg charges \$4.46 with volume discounts
  - The City of Portage la Prairie starts at \$3.80/1000 gallons and decreases to \$1.02 for usage over 1 million gallons

# Water consumption rates

- The City of Winkler is at 268 litres per person per day (l/p/d) (“all in”)
- The Town of Altona 373 l/p/d ( Bunge uses 40% of this ). Without Bunge 240 l/p/d
- Rurally, including livestock, it ranges from 199 l/p/d to 235 l/p/d for our nine rural municipal members

## By comparison

- The City of Winnipeg is at 361 l/p/d
- The City of Portage la Prairie is at 428 l/p/d

# PVWC WATER BUDGET

Total water distributed by PVWC  
in a 12 month period (Oct 05- Sep 06)      **700,470,372** gallons

Used by Industry                      **68,733,879** gallons                      **10%**

Used by Ag Industry                      **82,005,739** gallons                      **12%**

Used by Municipalities                      **56,037,629** gallons                      **8%**

Domestic use                              **493,693,134** gallons                      **70%**

# Growth and Future Demand

- The region grew 9.8% in population from 1990 – 2000
- This growth rate is projected to continue
- The growth in water demand will reflect this
- Per capita consumption however will decline

# Water Conservation

- This is a critical component of our supply strategy
- First addressed in the Task Force report of 1991 and prepared for the public record in 1996/97
- Reviewed and reinforced in 2003 and again in 2006
- User pay pricing is an important element

We have requested environmental and water rights licensing for a well and pipeline with a capacity of 50 litres/sec.

## Rationale for Sandilands Supply

- Large and growing dependence on the Red River
- No opportunity for increased supplies from the Boyne River, Stephenfield Lake Reservoir or other local sources
- All our present sources are extremely drought sensitive
- A dam on the Red River is PVWC's only recourse in a drought emergency

# Red River Concerns

- There is no minimum flow agreement between Canada and the U.S. nor is there likely to be one
- The Boundary Waters Treaty Act provides no security
- The U.S., North Dakota, Fargo and Grand Forks in particular are very dependent on the Red River for their water supply
- They share our concern regarding drought and are taking measures

**North Dakota In-Basin Alternative**

This alternative would supplement existing water supplies and uses the Red River and other North Dakota water sources to meet future water demands. **The pipeline would capture Red River flows downstream of Grand Forks and recirculate flows back to Lake Ashtabula to meet MR&I water demands.** The alternative also would include developing new groundwater sources in southeastern North Dakota and purchasing existing irrigation water rights in the Elk Valley Aquifer. ASR systems are proposed for Fargo, Moorhead, and West Fargo. The city of Moorhead would continue to draw on Minnesota groundwater sources for some of its water demand. Additional storage reservoirs would be needed by communities in the northern end of the Red River Valley.





# Red River 1910



# Red River 1936



# Red River 1970



# Red River 1988



In 1988 the Province had to go hat in hand to the U.S., specifically North Dakota, and request additional releases from their impoundments.

A similar request today would get a frosty response given the relations between Manitoba and North Dakota as reflected in the number of water related disputes between them and demonstrated by the cases of litigation presently before the courts on both sides of the border.

- The area we serve is Manitoba's second largest industrial centre.

This growing diversified industrial base provides employment not just in the region but west, north and east of it.

With much of its economic activity being export oriented, the region brings new dollars to the province and provides a significant tax base.

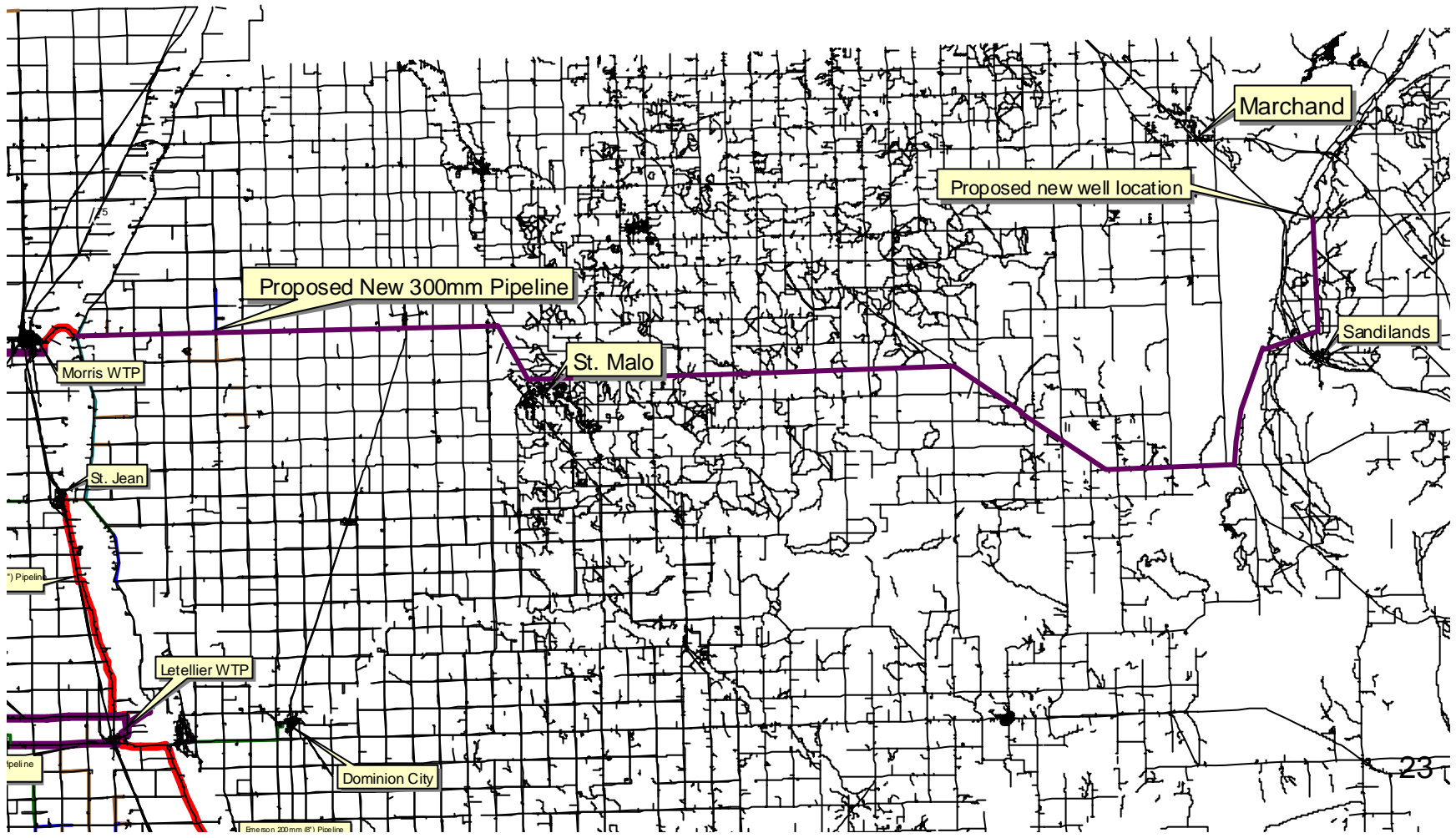
Given the important role that it plays provincially and given its growing population base, to leave it dependent on an uncertain U.S. supply of water is not prudent when this supply can be supplemented from Manitoba resources.

# PROPOSED SANDILANDS PIPELINE

**Pipeline Size**

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- █ 100
- █ 150
- █ 200
- █ 300
- █ 250



# Environmental Mitigation/ Management Practices

- 98% of the pipeline route is in disturbed right of way
- All legislation and regulations will be adhered to as it relates to wildlife, wildlife habitat and fisheries concerns
- Stream crossings and other similar areas will be completed using horizontal directional drilling to install the pipeline
- This pipeline route was chosen to avoid environmentally sensitive areas