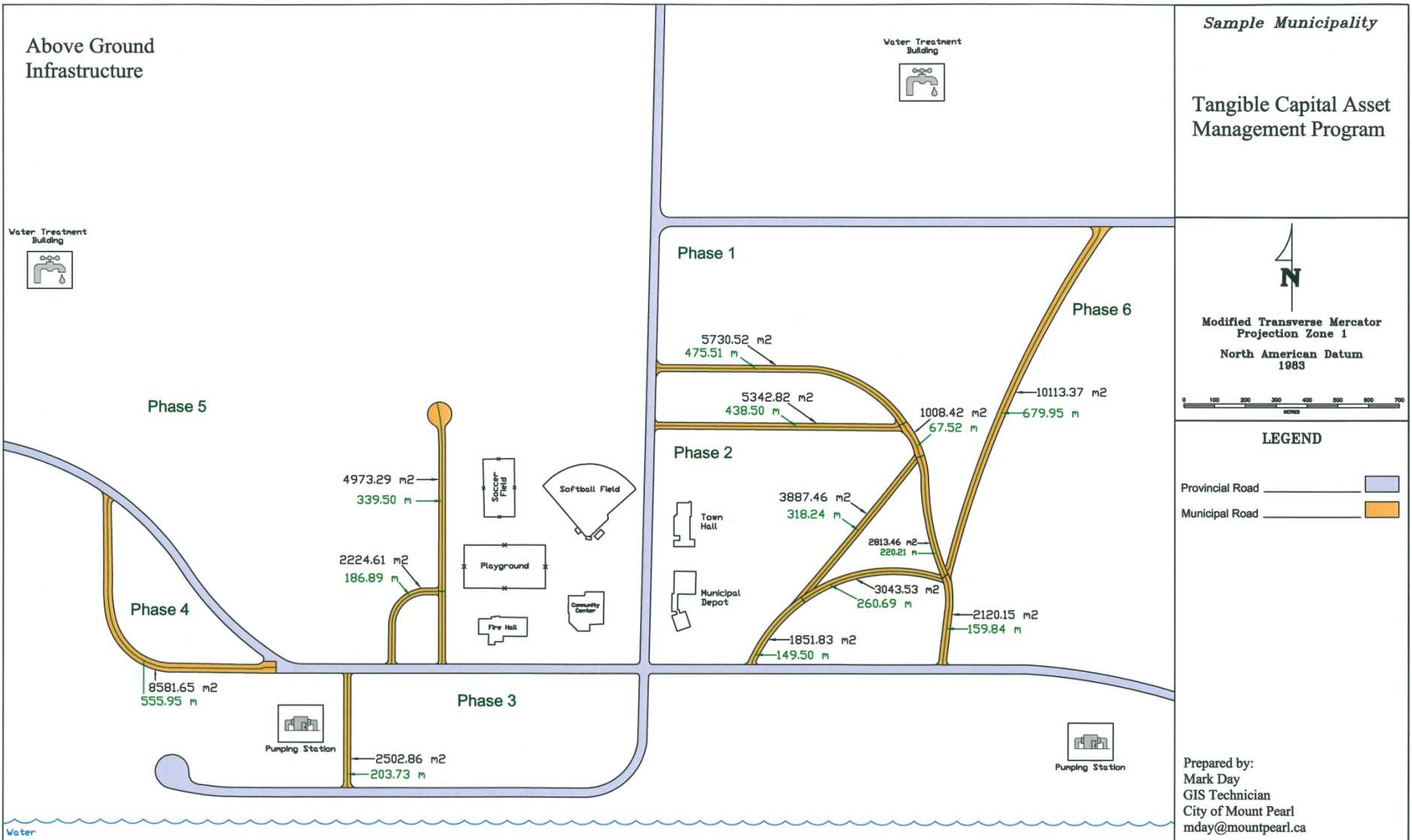




Discounted Replacement Cost, Valuation, & Amortization

Above Ground
Infrastructure



Sample Municipality

Tangible Capital Asset
Management Program



Modified Transverse Mercator
Projection Zone 1
North American Datum
1983



LEGEND

- Provincial Road (Blue line)
- Municipal Road (Orange line)

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Street Valuation

STEP 1: Determine Cost

- Road Area: 4,973.29 m²
- 2007 Asphalt cost per m² as provided by Municipal Affairs (engineering division): \$37 / m²
- **2007 Replacement Cost for Street:**

$$4,973.29 \text{ m}^2 \times \$37 / \text{m}^2 = \$184,012$$

Street Valuation

STEP 2: Use Discount Rate

- Street resurfaced during 1994
- Use CPI table to discount 2007 replacement cost back to an estimated 1994 construction cost:
 - 2007 (base year) = **100.00%**
 - 1994 = **76.86%**

Street Valuation

STEP 2, continued

Calculation is:

2007 Replacement Cost x CPI Discounting Factor

$$\mathbf{\$184,012 \times 76.86\% = \$141,432}$$

Street Valuation

STEP 3: Amortize

- The estimated construction cost now has to be amortized up to **December 31, 2007**:
- Remember: road resurfaced in 1994, so it is **13 years old**.

- Check the *Reference Manual*: estimated **useful life** of residential roads is **20 years**.

Street Valuation

STEP 3, continued:

- First, calculate the *annual amortization*:

Estimated Construction Cost / Estimated Useful Life

$$\text{\$141,432} / \text{20 years} = \text{\$7,072/year}$$

Street Valuation

STEP 3, continued:

- Then calculate the *accumulated amortization* to December 31, 2007:

Annual Amortization x Years in Use

$$\text{\$7,072 / year} \times 13 \text{ years} = \text{\$91,936}$$

Street Valuation

STEP 3, continued:

- Finally, calculate the *Net Book Value* at December 31, 2007:

Estimated Cost - Accumulated Amortization

$$\$141,432 - \$91,936 = \$49,496$$

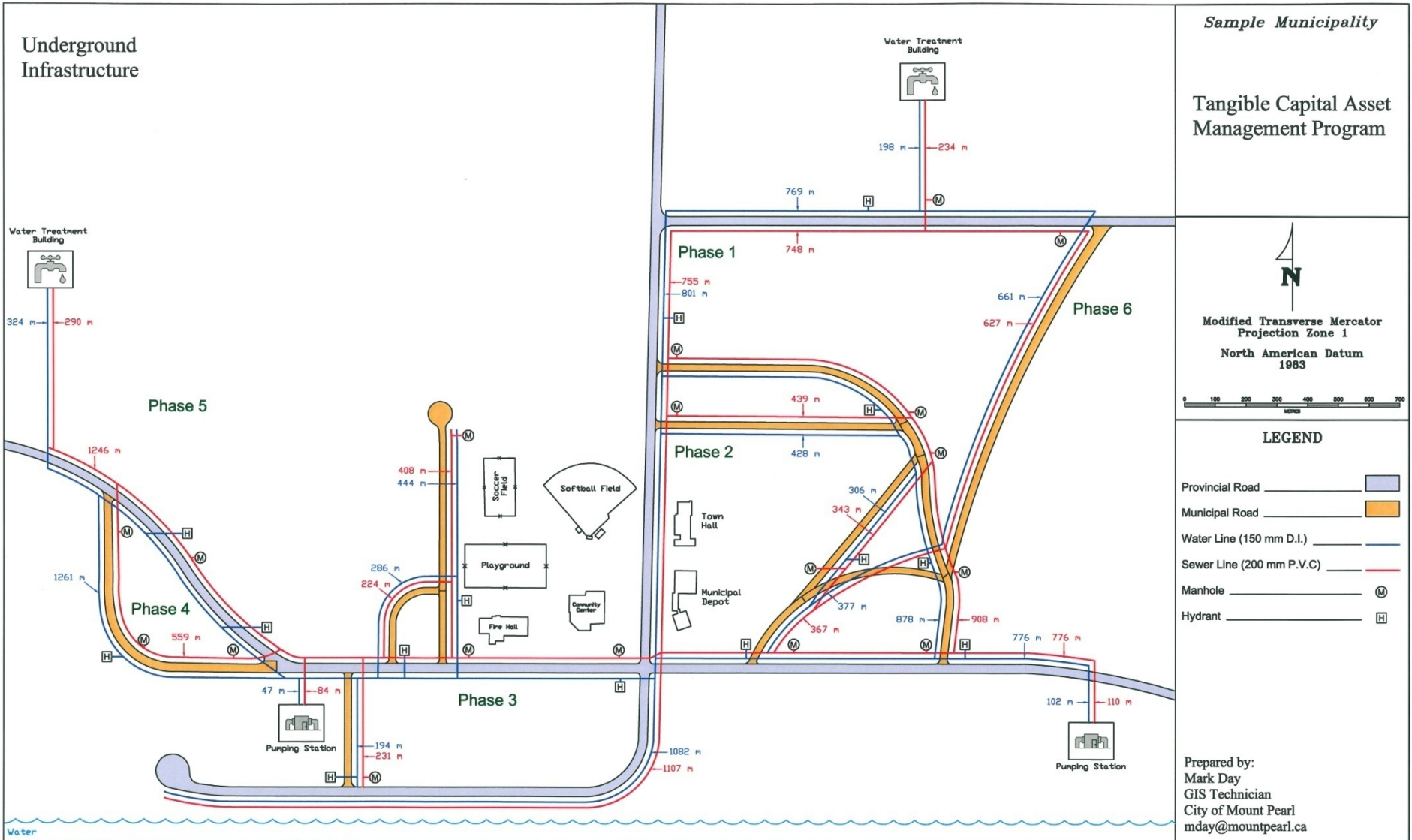
Street Valuation

■ Financial Statement Presentation

	Cost	Accumulated Amortization	Net Book Value
Asphalt	\$141,432	\$91,936	\$49,496

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Underground Infrastructure



Sample Municipality

Tangible Capital Asset Management Program



Modified Transverse Mercator
Projection Zone 1
North American Datum
1983



LEGEND

- Provincial Road
- Municipal Road
- Water Line (150 mm D.I.)
- Sewer Line (200 mm P.V.C.)
- Manhole
- Hydrant

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Water Network Valuation

STEP 1: Determine Cost

- Length of Water Network on street: 444 m
- Type of pipe: 150 mm Ductile Iron Pipe
- 2007 replacement cost for 150 mm Ductile Iron Pipe per linear m (*as provided by Municipal Affairs, Engineering Division*): \$222 / m

2007 Replacement Cost for Street:

$$444 \text{ m} \times \$222 / \text{m} = \$98,568$$

Water Network Valuation

STEP 2: Use Discount Rate

- Infrastructure installed during 1994
- Use CPI table to discount 2007 replacement cost back to an estimated 1994 construction cost:
 - 2007 (base year) = **100.00%**
 - 1994 = **76.86%**

Water Network Valuation

STEP 2, continued

Calculation is:

2007 Replacement Cost x **CPI Discounting Factor**

$$\mathbf{\$98,568 \times 76.86\% = \$75,759}$$

Water Network Valuation

STEP 3: Amortize

- The estimated construction cost now has to be amortized up to **December 31, 2007**:
- Remember: installed in 1994, so it is **13 years old**.

- Check the *Reference Manual*: estimated **useful life** of 150 mm Ductile Iron Pipe is **30 years**.

Water Network Valuation

STEP 3, continued:

- First, calculate the *annual amortization*:

Estimated Construction Cost / Estimated Useful Life

$$\text{\$75,759} / 30 \text{ years} = \text{\$2,525/year}$$

Water Network Valuation

STEP 3, continued:

- Then calculate the *accumulated amortization* to December 31, 2007:

Annual Amortization x Years in Use

$$\text{\$2,525 / year} \times 13 \text{ years} = \text{\$32,825}$$

Water Network Valuation

STEP 3, continued:

- Finally, calculate the *Net Book Value* at December 31, 2007:

Estimated Cost - Accumulated Amortization

$$\$75,759 - \$32,825 = \$42,934$$

Water Network Valuation

■ Financial Statement Presentation

	Cost	Accumulated Amortization	Net Book Value
Water Network	\$75,759	\$32,825	\$42,934

Area 2 Ward 2

