



# Town of Montague **Turnpike Energy Park**

The Cecil Group Team

The Cecil Group  
BioEngineering  
Cambridge Economic Research

May 26, 2012

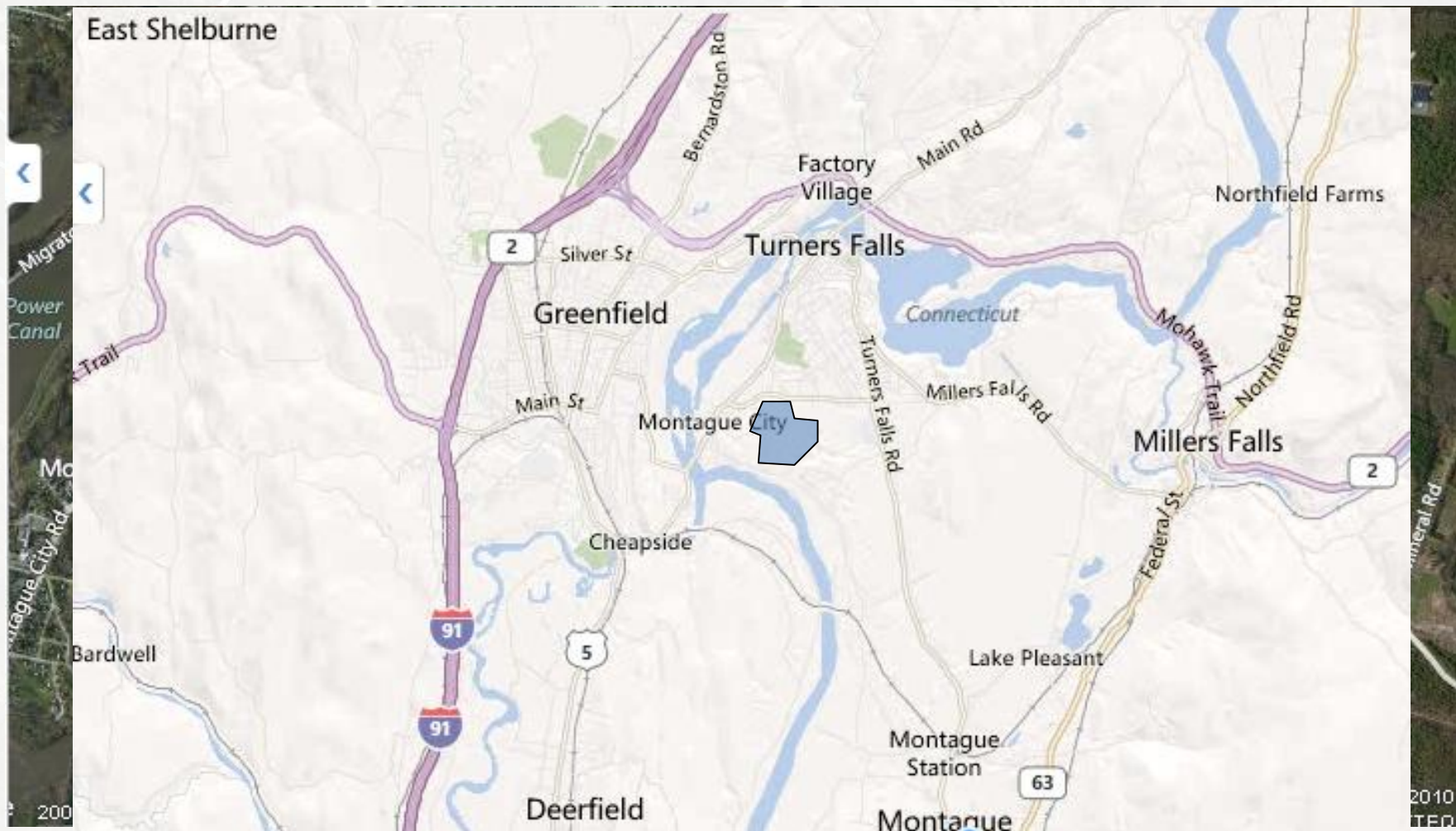
# Presentation Agenda

- Findings
- Recommendations
- Cost Factors
- Implementation Steps
- Ideas, Questions and Comments





# Existing Conditions: Context



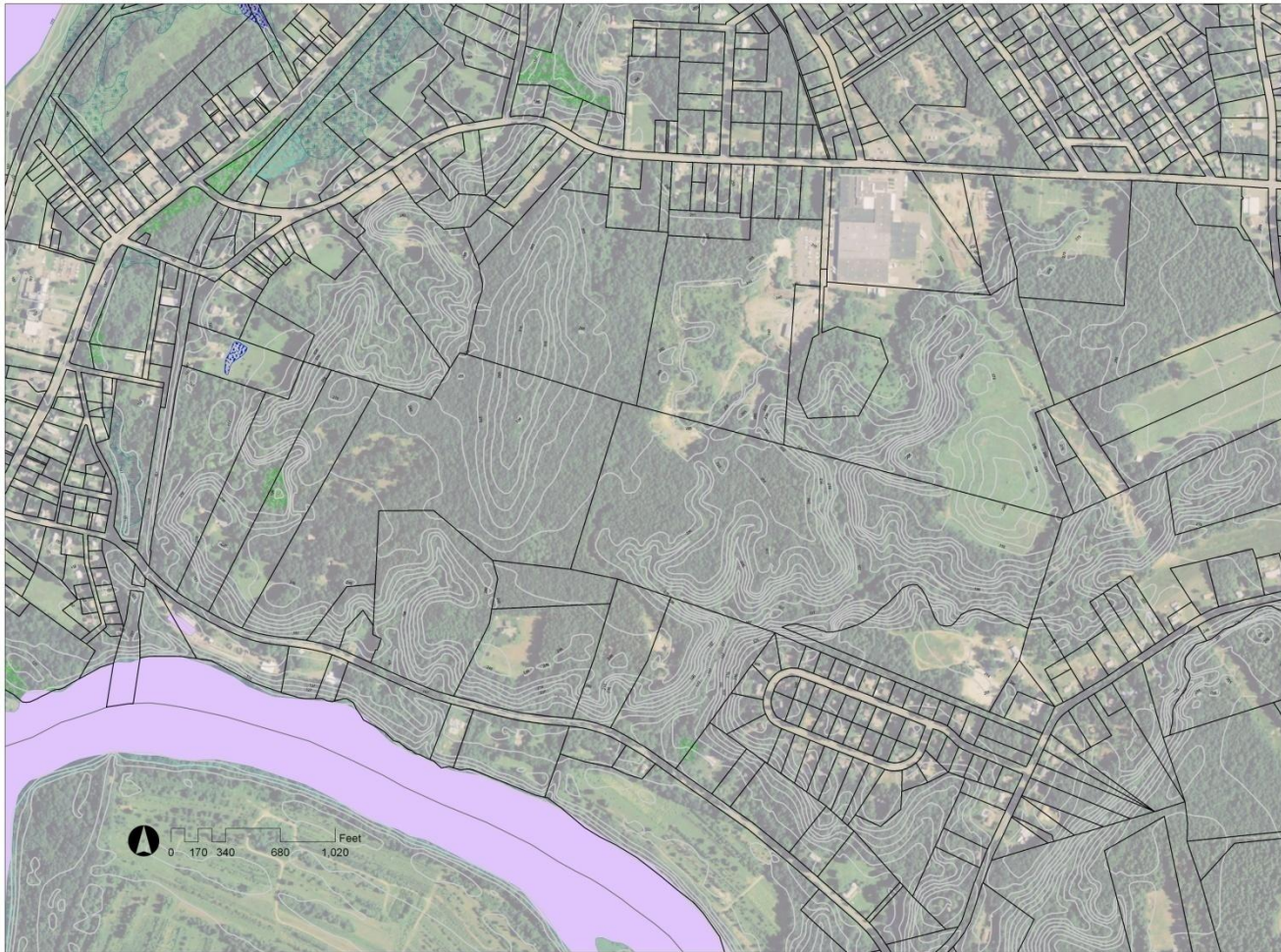
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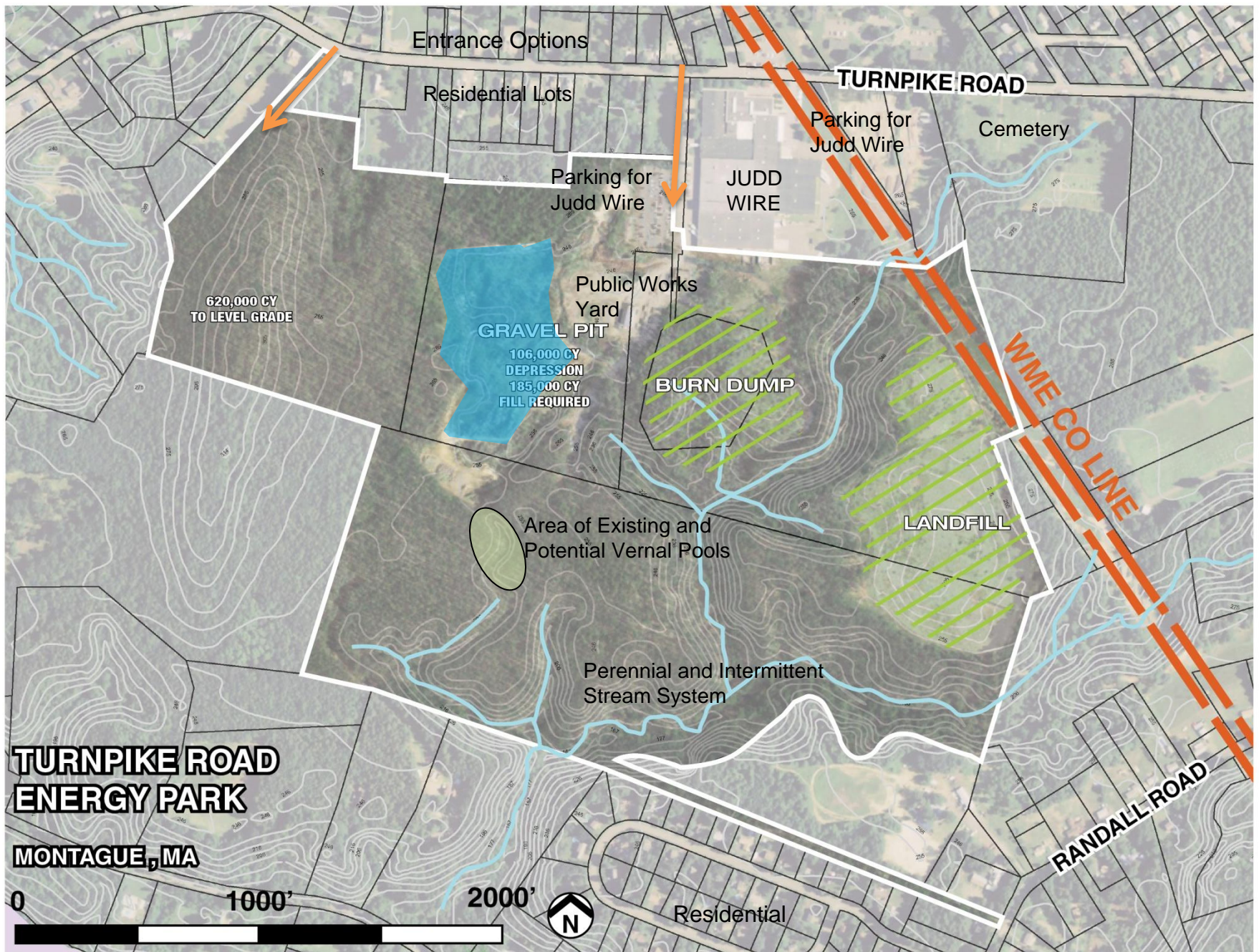
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# Existing Conditions: Lots and Parcels









# Market Research: Economics and Demographics

- Montague has lost 700 salaried jobs since 2000
- The town has gained 200 new jobs from self-employment
- Slight population loss of -4%
- Median age has increased from 30 in 2000 to 44 in 2009
- Unemployment is 8.6%
- Median income is \$60,880



# Market Research:

## Manufacturing is Critical to Montague

- Manufacturing provides 1000 jobs here
  - This is 50% of Montague's employment base
  - Statewide manufacturing is 7%
- Franklin County lost 2200 manufacturing jobs since 2001 (-34%)
- Manufacturing pays 15% of property taxes here, while occupying 0.2 sq. miles of the land area



# Market Research: Clusters and Competitiveness

- More than half of the jobs in Airport Industrial Park are in Metals Fabrication and Food Processing
- Largest firms in Airport Industrial Park relocated from other towns in Franklin County
- Montague has the lowest land prices of all the region's parks, but the highest tax rate





# Market Research: Demand Exceeds Supply

- Orange, Deerfield, and Whately Industrial parks are full
- The other 3 parks have only 50 acres left
  - 3-4 more years of supply
- Energy Industrial Park provides more than 90 acres of industrial sites
  - This could create >500 jobs



# Existing Industrial Parks

*Deerfield & Whately Industrial Parks – Franklin County, MA*



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## Interstate 91 Industrial Park – Greenfield, MA

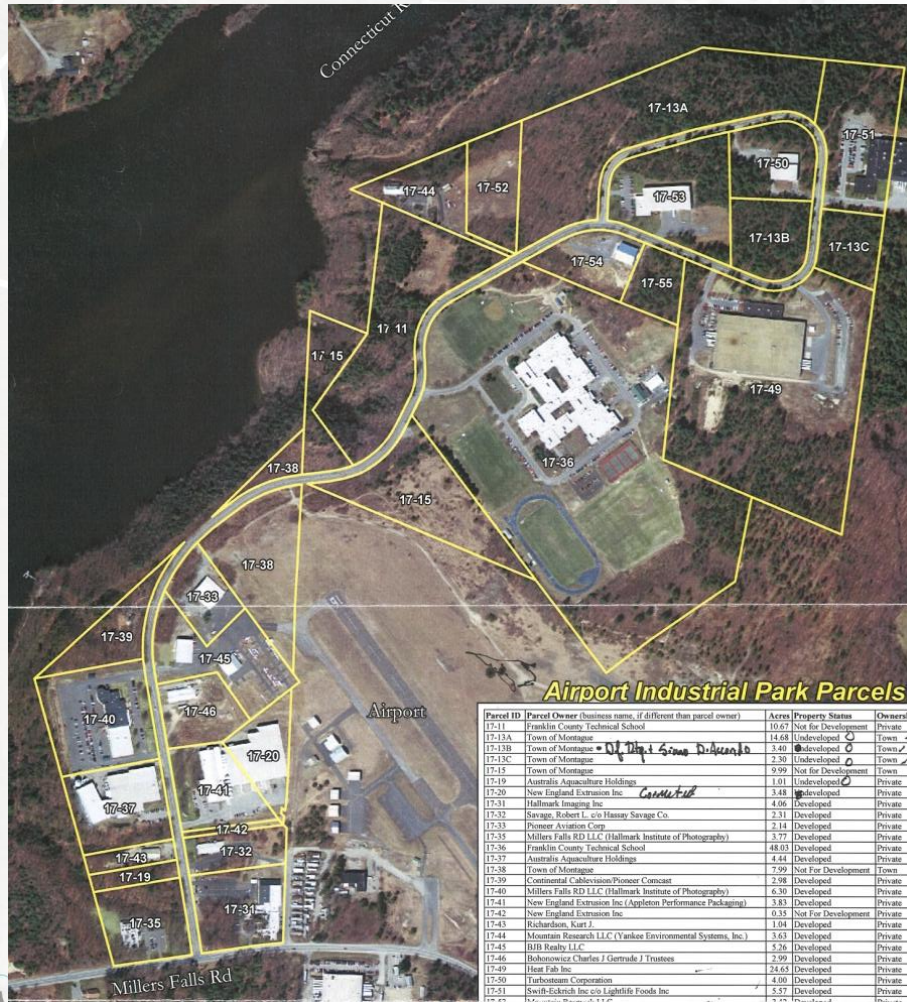


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# Existing Industrial Parks

## Airport Industrial Park – Montague, MA



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# Case Studies of Green/Eco/Energy Industrial Parks

- Kalundborg, Denmark
- Londonderry Eco-Industrial Park, NH
- New Bedford Energy & Business Park, MA
- Jackson Co. Green Industrial Park, NC
- Cape Charles Sustainable Tech Park, VA



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# Case Studies: Lessons Learned

- True industrial symbiosis – unplanned
  - Wastes, energy sources, byproduct exchange
- Exchanges must motivated by cost-savings
  - Transportation, energy, and waste disposal cost savings
- “Green branding” could accelerate absorption of industrial sites

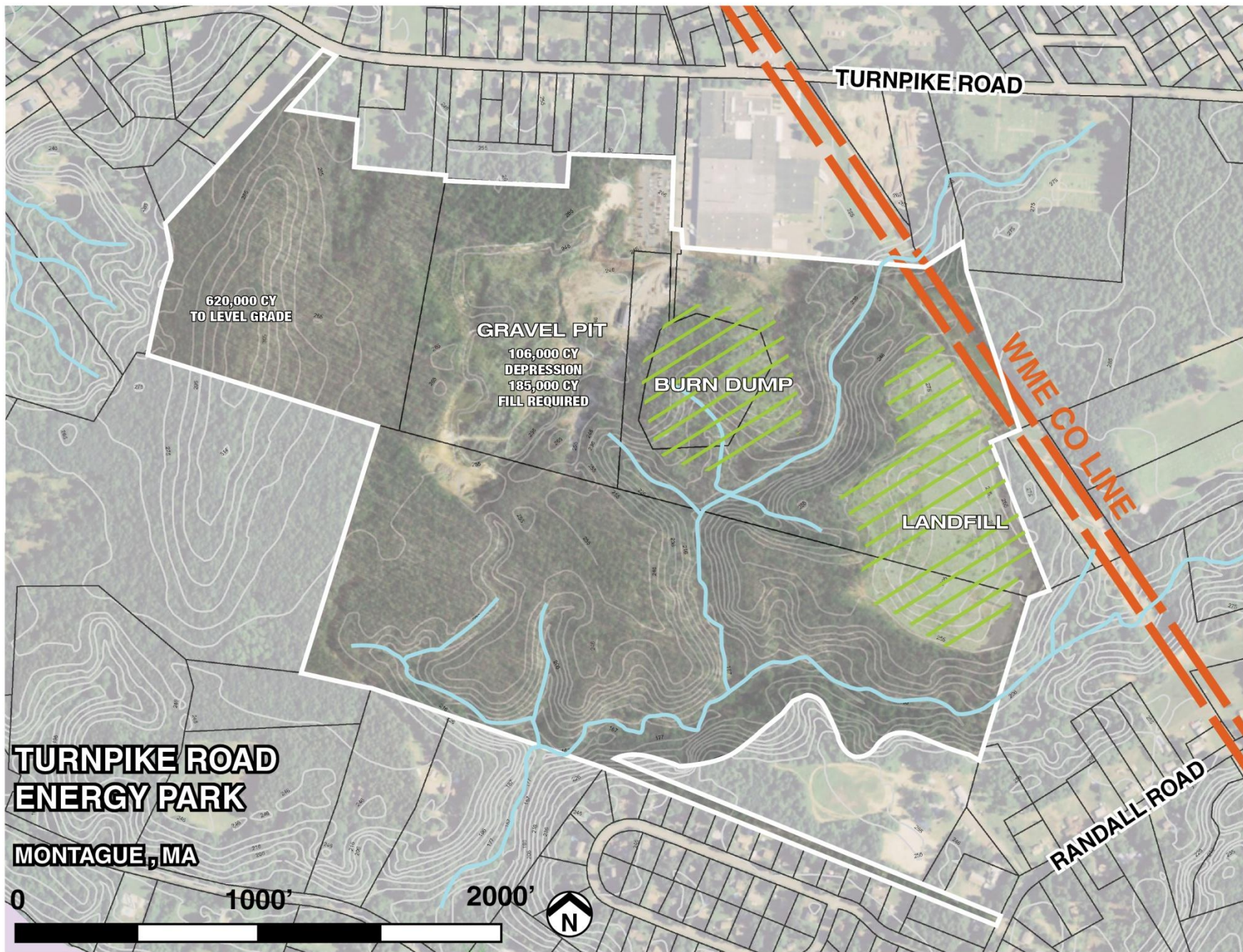


# Case Studies: Lessons Learned

- Business incubators require operating subsidies
- A highly specialized or restrictive park in a rural location will not work
- Failed energy parks can become successful as conventional industrial parks









# Recommended Energy Industrial Park



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# Energy Industrial Park Concept

- 93 acres of subdivided land for industrial development
- About 21 lots fronting on a new subdivision road of about 4400 feet in length, with several out parcels for conservation and public works
- A large area of conservation land, preserved for perpetuity
- Land for expansion of Judd Wire



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# Energy Industrial Park Concept

- Separation of the burn dump and landfill on different parcels for closure and management
- Closure of the burn dump as a paved parking area for adjacent uses
- Use of the landfill for leaf composting



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# Energy Industrial Park Concept

- New water and wastewater utility lines
- Site design standards for reducing the impact of development
- An opportunity to construct an alternative energy generating facility



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# Energy Industrial Park Concept

- The subdivision construction is potentially fundable through federal economic development grants.
- However, construction could be phased to match costs and income from sale of properties.



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# Energy Industrial Park Concept: DPW

- A separate review and analysis of town DPW facilities was completed for this study as follows





# Current DPW Facilities



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# Current DPW Facilities



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# Current DPW Facilities



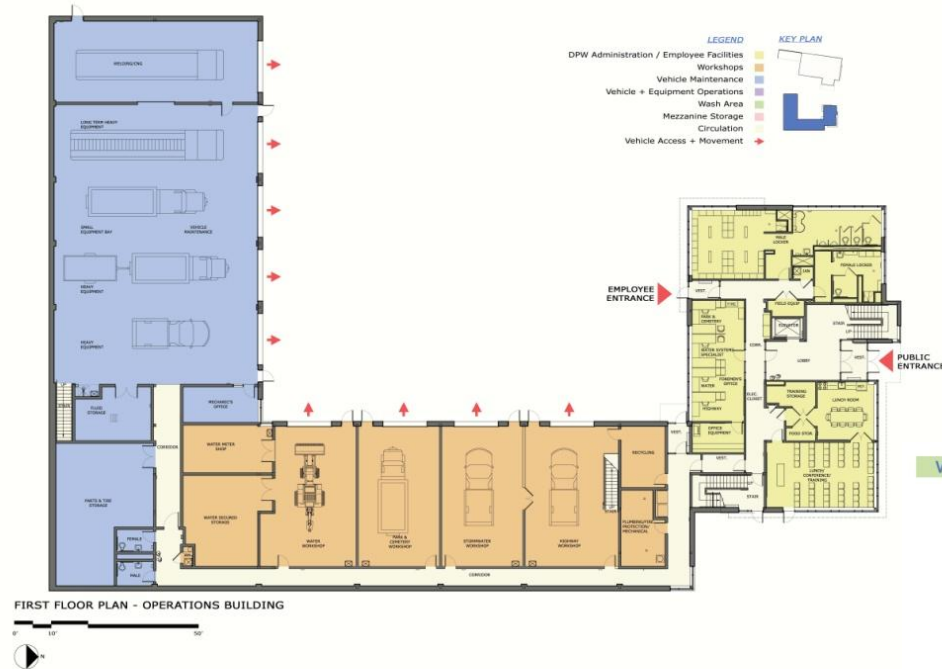
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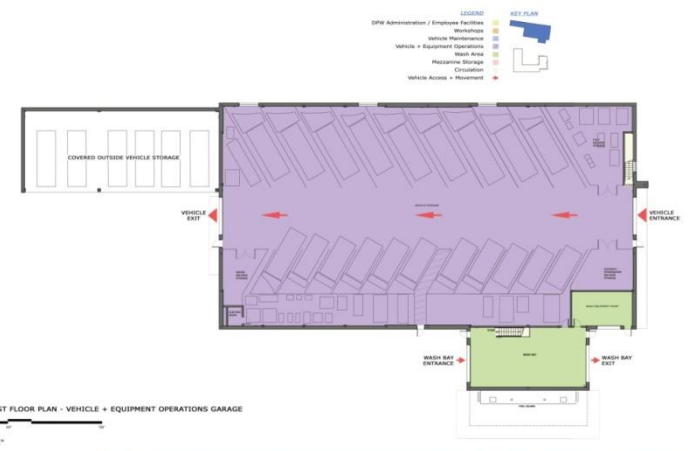
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# Other Recent DPW Facilities Projects

## WESTON DEPARTMENT OF PUBLIC WORKS



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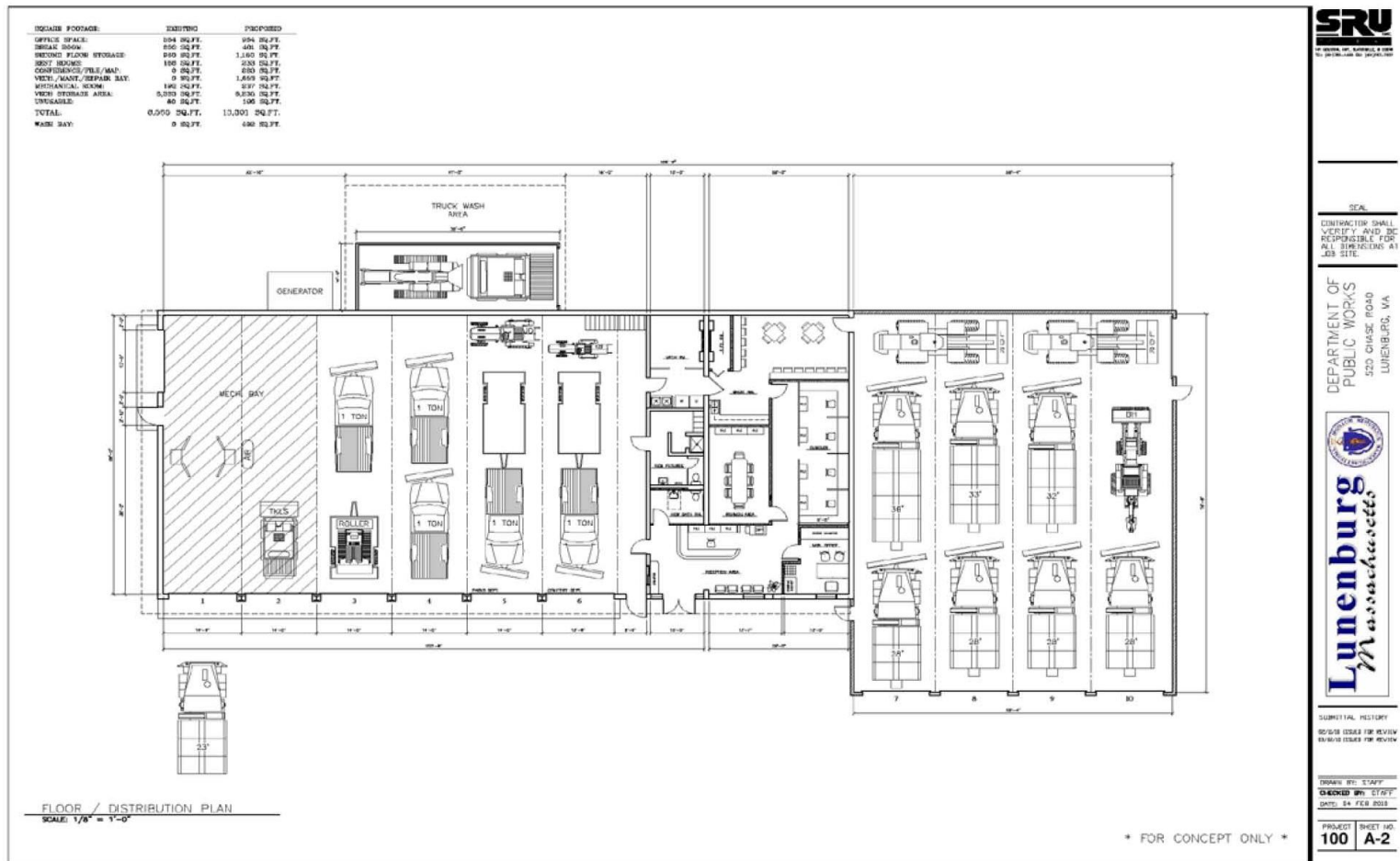


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# Other Recent DPW Facilities Projects



# Montague DPW Facilities Program

Element	Size [SF]	Comments
Vehicle Storage	18,400	One-way drive-through building concept – key equipment only
Administrative Offices and Support	6,300	Includes mechanic's bays and staff support
Salt Shed	2,000	Sand and salt storage and loading
Bulk Storage	4,000	Transfer station and dog pound
Parking	12,000	30 surface lot parking spaces
Uncovered Storage	30,000	No buildings; for equipment, materials, and other vehicles





# DPW Facilities Concept

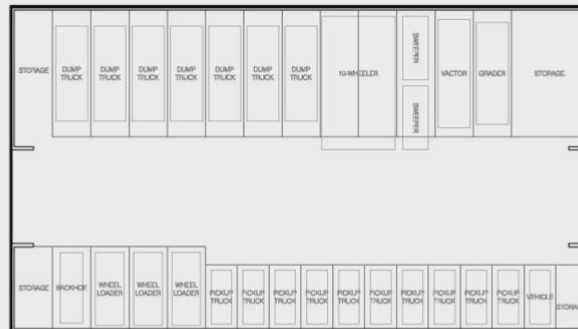
## VEHICLE STORAGE

18,400 SF

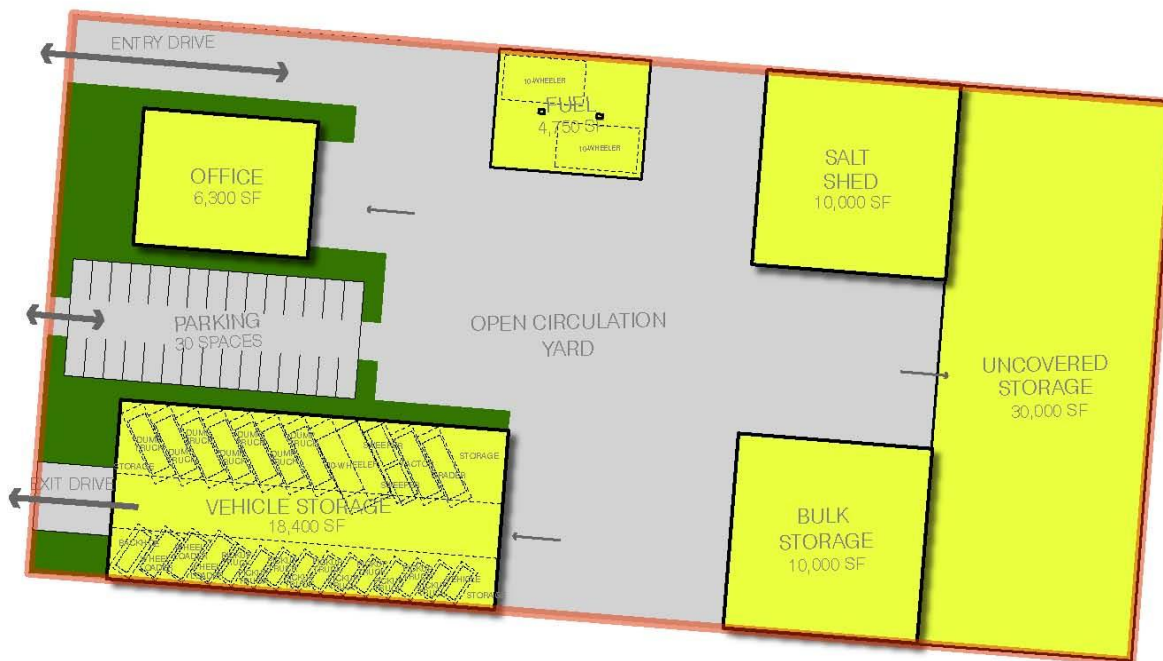


## VEHICLE STORAGE

18,600 SF



# DPW Facilities Concept



Approx. 3.70 Acres

TOWN OF MONTAGUE  
DPW FACILITY SITE OPTION DIAGRAM



# Cost Factors for Facility Elements: New Construction

Program Element	Unit Costs
Administrative office and support	\$329/SF
Vehicle/Equipment Garage – climate controlled	\$259/SF
Vehicle/Equipment Storage – non-climate controlled	\$159/SF
Vehicle/Equipment Shed	\$60/SF
Site Work	\$6-8/SF



# DPW Facilities Program

## Combined Facilities: 30% of Key Vehicles in Climate-Controlled Garage

<u>Element</u>	<u>Building SF</u>	<u>Cost/SF</u>	<u>Cost</u>
Administration/Support	6,375	\$ 329	\$2,097,375
Garage, Climate Controlled	5,500	\$ 259	\$1,424,500
Unheated Garage Storage	12,836	\$ 60	\$770,160
<b>Total Facility</b>	<b>24,711</b>		<b>\$4,292,035</b>
Site Improvements	80,000	\$7	\$560,000
Design, permits, legal			\$485,000
Remaining Facilities Allowance			\$500,000
10% Contingency			\$530,000
<b>Total Project Cost</b>			<b>\$6,367,035</b>



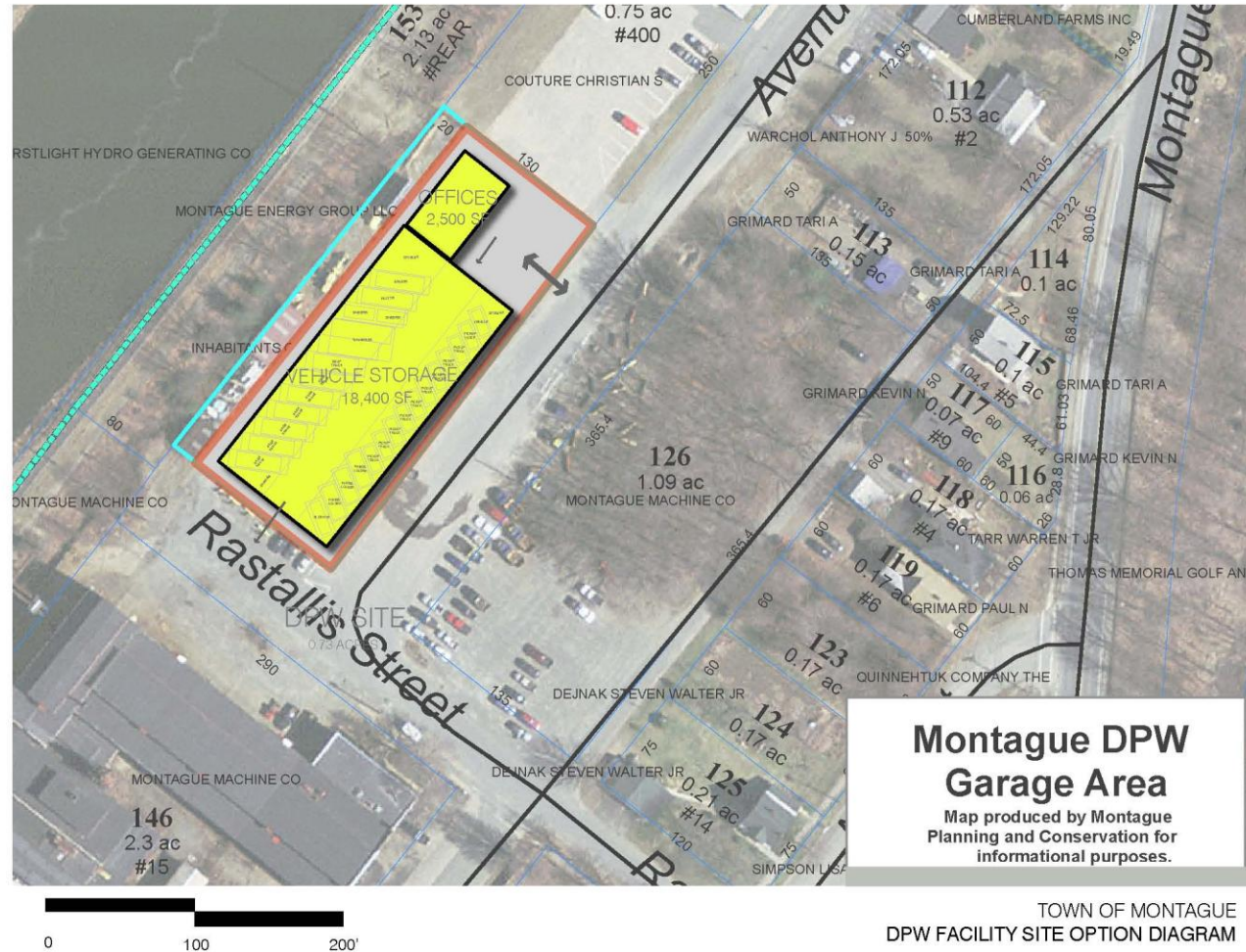
# DPW Facilities Siting



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# DPW Facilities Siting



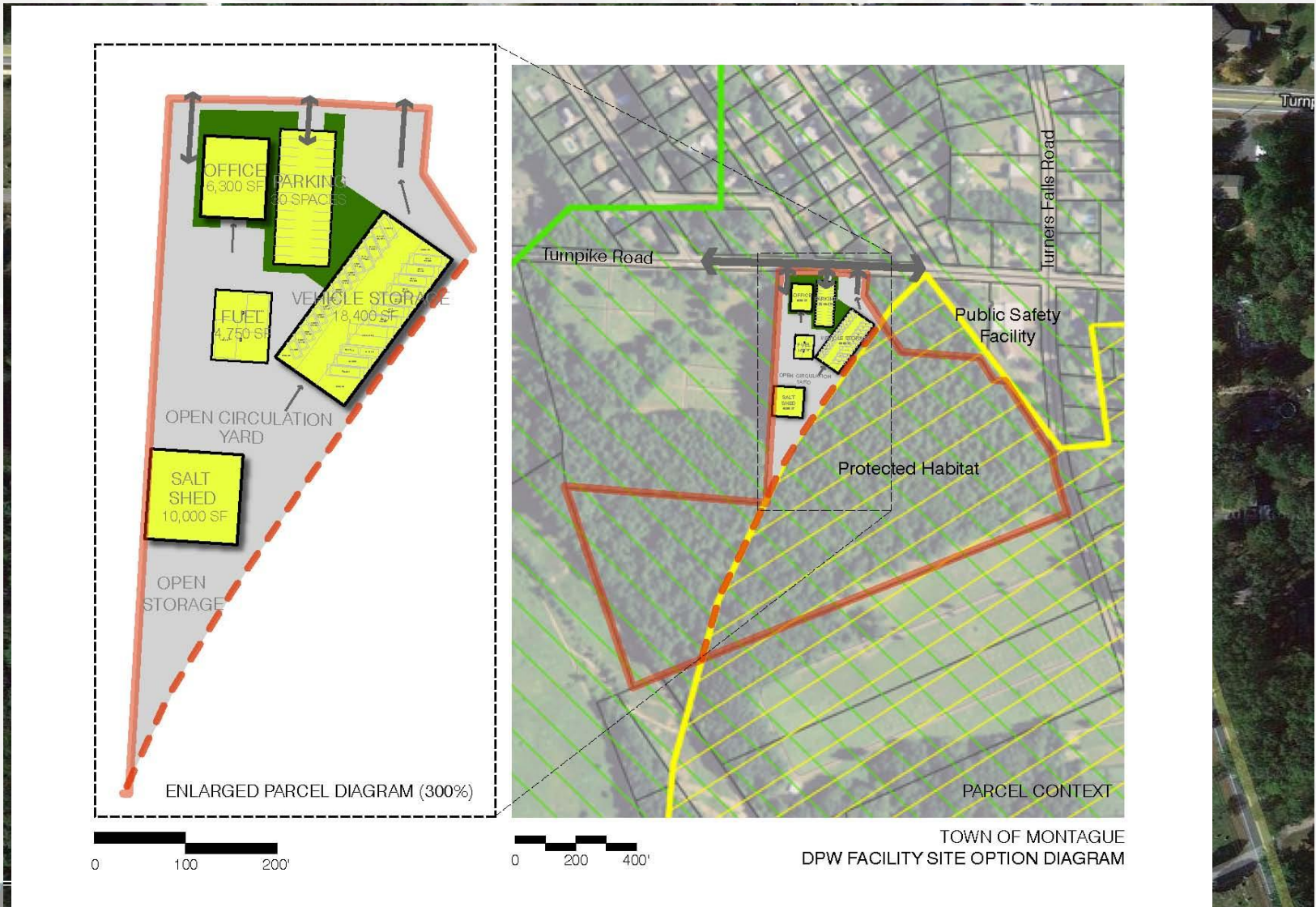
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# DPW Facilities Siting



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# Energy Industrial Park Concept: DPW

- Minor upgrades of existing DPW garage on Avenue A for cold storage of equipment
- Relocating leaf composting to the landfill parcel
- Moving the main facilities to the site adjacent to the new Public Safety complex on Turnpike Road



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# Proposed Siting

Element	Location
Admin, Office and Support	Turnpike Road
Vehicle Storage, climate controlled	Turnpike Road
Vehicle Storage, unheated	Avenue A
Salt Shed	Turnpike Road
Bulk Storage	Energy Park
Parking	Turnpike Road
Operations and fueling	Turnpike Road
Uncovered Storage	Energy Park
Site buffers	As needed



# Energy Industrial Park: Cost Factors

## Phase I

Element	Unit Cost	Units	Total Cost	Cost per Acre*
Subdivision Road Phase 1	\$225/LF	2,728LF	\$613,800	\$9,161
Earthmoving Phase 1: Filling Borrow Pit	\$3/CY	185,000CY	\$555,000	\$8,284
12" Waterline	\$90/LF	800LF	\$72,000	\$1,075
Close Burn Dump**	NA	NA	\$520,000	\$7,761
<b>Total Phase I</b>			<b>\$1,760,800</b>	<b>\$26,281</b>

*Previous industrial park sales have been about \$20-25,000/acre*

\* For 85 acres of sellable land

\*\* With pavement cap for replacement parking – Tighe & Bond



# Energy Industrial Park: Cost Factors

## Phase I and Phase II Combined

Element	Unit Cost	Units	Total Cost	Cost per Acre*
Phase I Subdivision Total	NA	NA	\$1,760,800	\$26,281
Subdivision Road Phase II	\$225/LF	1,654	\$372,150	\$5,554
Earthmoving Premium for Phase II Road Construction	\$3/CY	44,107CY	\$132,321	\$1,975
<b>Total Phase II</b>			<b>\$2,265,271</b>	<b>\$33,810</b>



# Energy Industrial Park: Cost Factors

## Addition of DPW Facility Costs

Element	Unit Cost	Units	Total Cost	Cost per Acre*
Total Phase I and II			\$2,265,271	\$33,810
Build New DPW Facility	NA	NA	\$5,500,000	\$82,090
<b>Total</b>			<b>\$7,765,271</b>	<b>\$115,900</b>

*Not considered feasible for direct cost support*





# Energy Industrial Park: Value/Year

Absorption rate in acres per year*	Jobs per acre	Added jobs per year	Assessment per acre	Added taxes per year**
3.1	7.3	23	\$284,187	\$21,055

**At Build-out: >500 jobs and \$573,600 taxes/year \*\*\***  
**Time to Build-out = 27 years**

\* Based on historic absorption rates

\*\* Based on tax mil rate of 23.90

\*\*\* Net Present Value = \$4.2M



# Conclusions: Subdivision

- An industrial subdivision is feasible and provides benefits to Judd Wire as well as future industrial tenants
- Standard and premium costs for construction can be absorbed into lot sales
- Recommended phasing can be modified based on available funds for construction
- Potential job creation is >500 jobs
- Cumulative tax revenue increase of up to \$573,600/year





# Conclusions: DPW

- Public works waste disposal/ transfer functions should remain with closed landfills
- New public works facilities could be dispersed with administrative and main functions located adjacent to Public Safety facility
- Location will allow sharing of facilities and maintenance – e.g. fuel dispensing and waste disposal
- All DPW facilities could also be located in the subdivision, but would use sellable land



# Implementation: Phase 1

- Apply for grants/financial support from agencies such as MassDevelopment and EDA
- Complete a ground-truth survey
- Prepare the preliminary subdivision
- Design initial burn dump closure plans
- Initiate state permitting – MEPA and DEP





# Implementation: Phase 2

- Prepare DPW facilities relocation plan
- Complete permitting for Burn Dump closure and DPW facilities
- Work on terms for permits
- Prepare final subdivision plan



# Implementation: Phase 3

- Finalize permits
- Secure construction funding
- Prepare construction documents
- Finalize marketing, sales, review procedures, and covenants





# Implementation: Phase 4 and 5

- Bid and Build
- Refurbish DPW Garage on A Street
- Market and Sell Subdivision



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The site plan illustrates a 100-acre vineyard and winery development, divided into Phase 1 and Phase 2. The plan includes the following details:

- Phase 1:**
  - Lot 1:** 1.12 acre (2.10 acres)
  - Lot 2:** 1.12 acre (2.10 acres)
  - Lot 3:** 1.12 acre (2.10 acres)
  - Lot 4:** 1.12 acre (2.10 acres)
  - Lot 5:** 1.12 acre (2.10 acres)
  - Lot 6:** 1.12 acre (2.10 acres)
  - Lot 7:** 1.12 acre (2.10 acres)
  - Lot 8:** 1.12 acre (2.10 acres)
  - Lot 9:** 1.12 acre (2.10 acres)
  - Lot 10:** 1.12 acre (2.10 acres)
  - Lot 11:** 1.12 acre (2.10 acres)
  - Lot 12:** 1.12 acre (2.10 acres)
  - Lot 13:** 1.12 acre (2.10 acres)
  - Lot 14:** 1.12 acre (2.10 acres)
  - Lot 15:** 1.12 acre (2.10 acres)
  - Lot 16:** 1.12 acre (2.10 acres)
  - Lot 17:** 1.12 acre (2.10 acres)
  - Lot 18:** 1.12 acre (2.10 acres)
  - Lot 19:** 1.12 acre (2.10 acres)
  - Lot 20:** 1.12 acre (2.10 acres)
  - Lot 21:** 1.12 acre (2.10 acres)
- Phase 2:**
  - Lot 1:** 1.12 acre (2.10 acres)
  - Lot 2:** 1.12 acre (2.10 acres)
  - Lot 3:** 1.12 acre (2.10 acres)
  - Lot 4:** 1.12 acre (2.10 acres)
  - Lot 5:** 1.12 acre (2.10 acres)
  - Lot 6:** 1.12 acre (2.10 acres)
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  - Lot 17:** 1.12 acre (2.10 acres)
  - Lot 18:** 1.12 acre (2.10 acres)
  - Lot 19:** 1.12 acre (2.10 acres)
  - Lot 20:** 1.12 acre (2.10 acres)
  - Lot 21:** 1.12 acre (2.10 acres)
- Other Features:**
  - Illustrative Vineyard Layout:** A central area designated for vineyard development.
  - Dog Pond:** A small pond located near the center of the site.
  - Stream:** A water feature running through the eastern portion of the site.
  - 200' Buffer:** A designated buffer zone along the stream and other boundaries.
  - Access Road:** A road providing access to the vineyard and winery facilities.
  - Runnyme Road:** The northern boundary of the site.
  - Parcel Boundary:** The western boundary of the site.
  - Winery Facility:** A large building located near the center of the site.
  - Leaf Composting:** A designated area for leaf composting.
  - Cap Landfill:** A designated area for cap landfill.