

*Count on Us®*

*Consumers Energy*

# Liberty Business Park Mt. Morris Township, MI



## ENERGY READY OVERVIEW

January 1, 2017

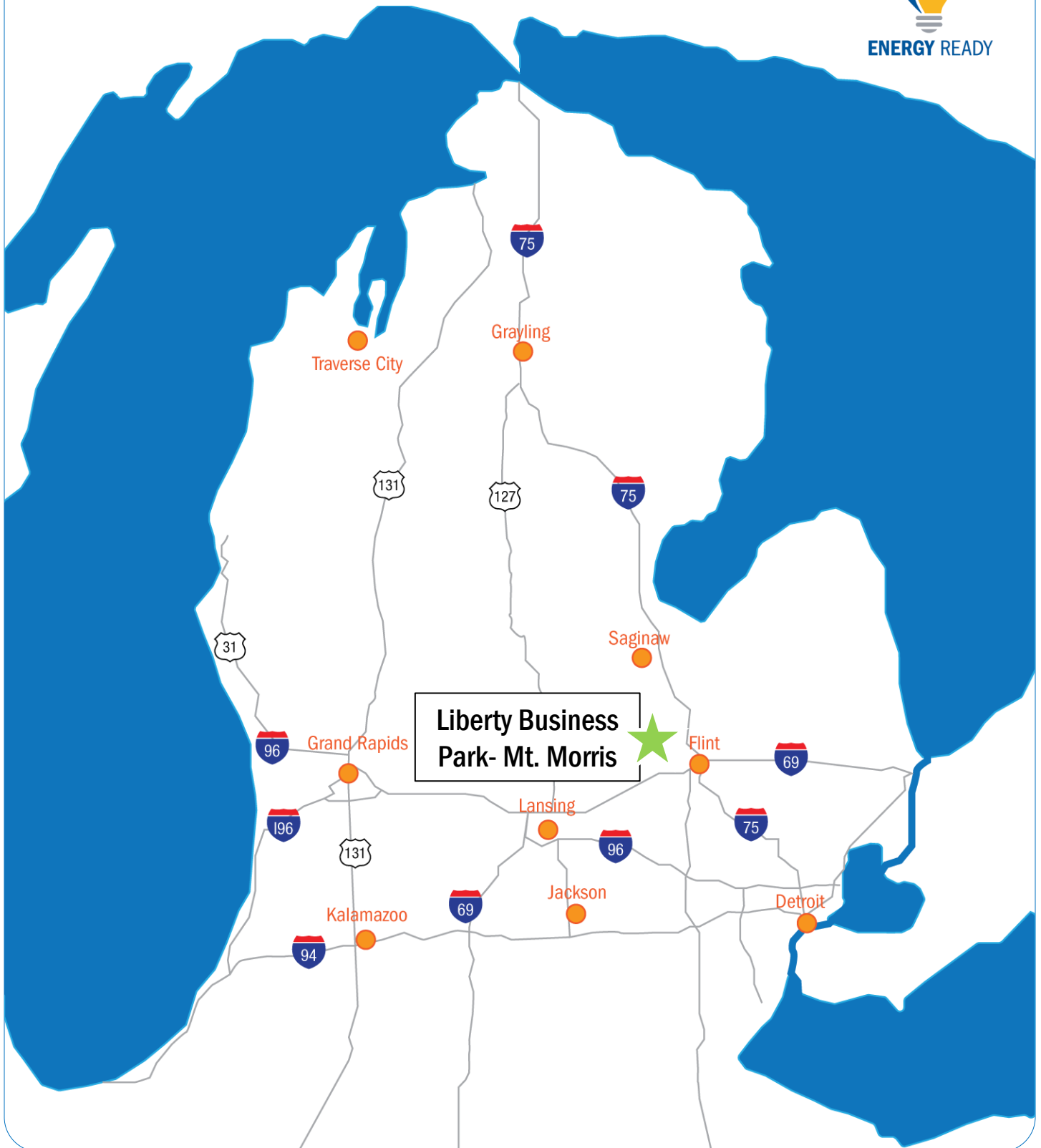
### CONTACT US

Michele Eaton, Economic Development Manager  
810-760-3497 ▪ [michele.eaton@cmsenergy.com](mailto:michele.eaton@cmsenergy.com)

Consumers Energy Business Center ▪ 800-805-0490  
[ConsumersEnergy.com/businessmatters](http://ConsumersEnergy.com/businessmatters)

# Michigan

**Consumers Energy** *Count on Us®*



At Consumers Energy, we're committed to providing information to help you make sound business decisions. We strive to meet and exceed your expectations and champion the success of your business in Michigan.

This Energy Ready profile is our assessment of this site's energy potential. You'll find details about the site's existing energy infrastructure, and estimated costs to adjust the site's features based on how your business plans to use energy. We hope you'll find it useful as you evaluate and make decisions about this site's potential for your business.

To help us deliver more precise cost estimates, we would like to learn more about how your business uses energy. Specifically:

#### **Electricity**

- Diversified peak demand in megawatts (MW)
- Estimated annual electricity use in kilowatt hours (kWh)
- Hours of operation

#### **Natural gas**

- Estimated hourly natural gas use in thousand cubic feet per hour (MCFH)
- Estimated annual natural gas use in thousand cubic feet (MCF)
- Required natural gas delivery pressure in pounds per square inch gage (psig)

I would appreciate the opportunity to learn more about your project, understand your long-term plans and find sites that meet your unique needs. Contact me directly at 810-760-3497 or [michele.eaton@cmsenergy.com](mailto:michele.eaton@cmsenergy.com).

Sincerely,



**Michele Eaton**  
Economic Development Manager



# ENERGY READY SITE OVERVIEW



## SITE ADVANTAGES

33 psig natural gas pressure and up to 250 MCFH available

Low voltage distribution available, up to 5.0 MW

High voltage distribution from 5.6 MW to 100 MW

Competitive electric and natural gas rate options

Energy efficiency and construction incentives available

High voltage electric and natural gas service reliability

Construction timelines tailored to your needs

## ECONOMIC DEVELOPMENT SERVICES

### CONSUMERS ENERGY

#### Energy Rate Estimates

We'll estimate your electric and natural gas costs and offer energy-intensive rate options with your growth plans in mind.

#### Engineering Service Estimates

We'll estimate your costs to re-engineer sites based on how your business uses energy.

#### Utility Infrastructure Mapping

Our maps show you where pipes and wires lie, and can help service providers understand how to serve your site.

#### Site-Specific Engineering Information

Our Energy Ready site inventory is backed by our strong relationships with local community agencies.

#### New Construction and Energy Efficiency Incentives

We offer rebates for energy-efficient equipment and buildings, and help you reduce or eliminate upfront energy infrastructure costs.

### CONTACT

Michele Eaton  
3201 E. Court Street  
Flint, MI 48501  
810-760-3497  
[michele.eaton@cmsenergy.com](mailto:michele.eaton@cmsenergy.com)

### FLINT & GENESEE CHAMBER OF COMMERCE

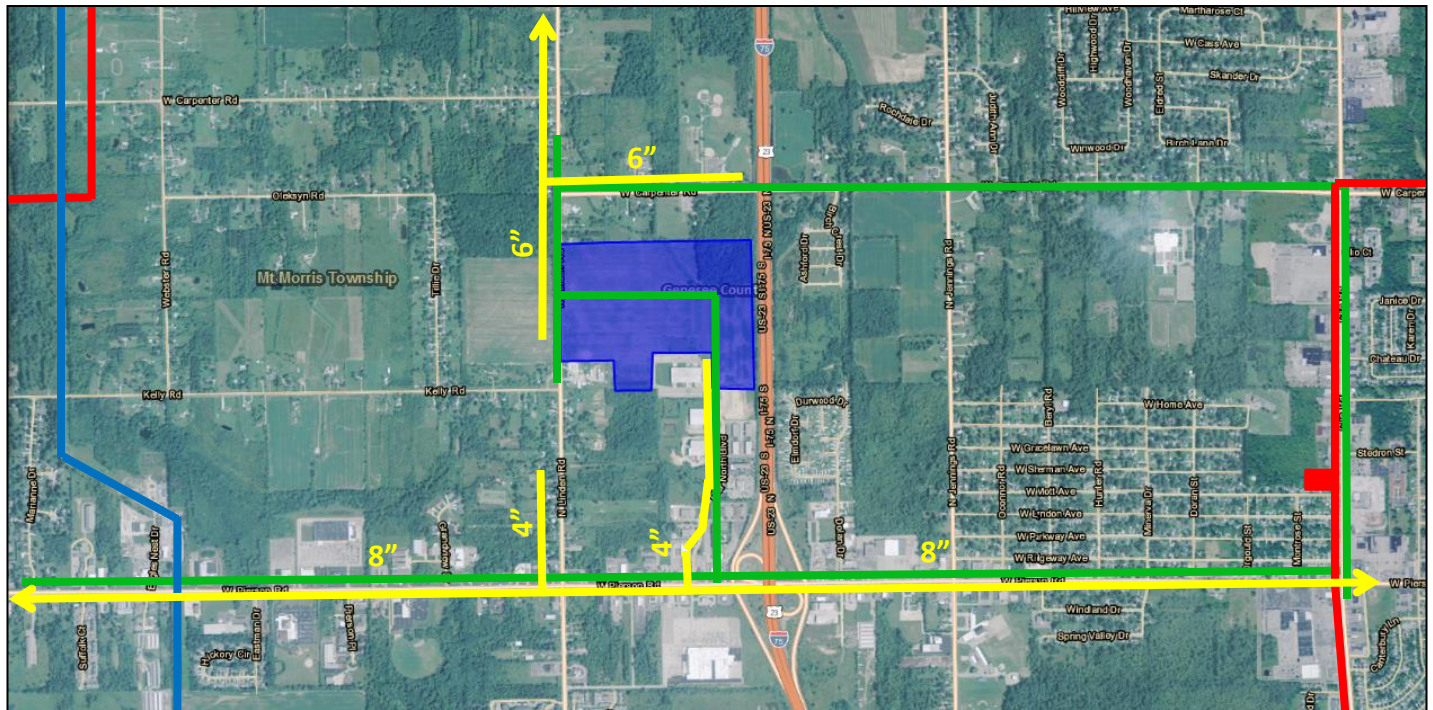
Janice Karcher  
Vice-President of Economic Development  
519 Saginaw St, Suite 200  
Flint, MI 48502  
810-600-1430  
[jkarcher@flintandgeneseecomm.org](mailto:jkarcher@flintandgeneseecomm.org)



# EXISTING FACILITIES



ENERGY READY



## LEGEND – Electric and Gas

	Proposed Site
	138/46kV Distribution Substation
	138 kV Distribution Substation
	46 kV Distribution Substation
	138 kV Lines
	46 kV Lines
	Electric Distribution Lines
	Gas Distribution Lines
	Gas Transmission Lines

All existing facility locations are approximate and not to be used for construction purposes. Always contact MISS DIG (811) before you dig.

# ELECTRIC – LOW VOLTAGE DISTRIBUTION

Ideal Load Range: Up to 5.0 MW



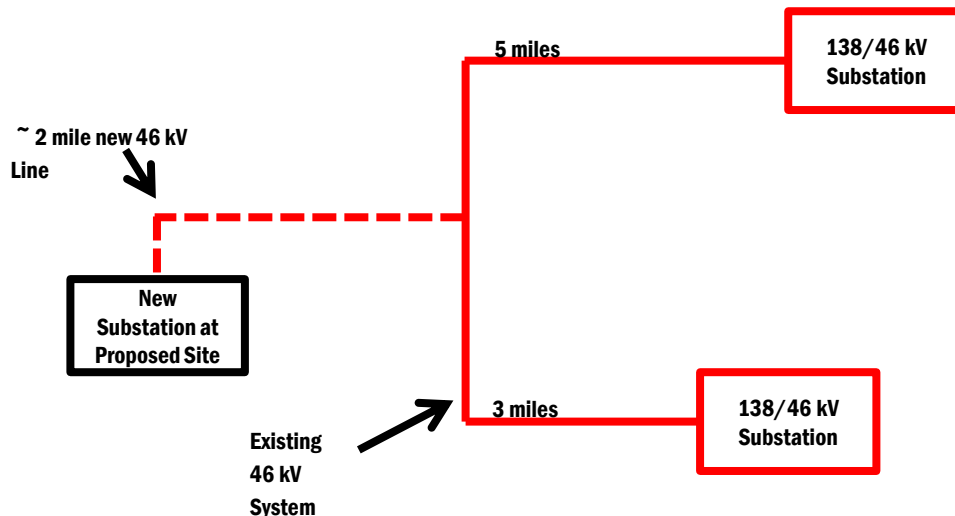
## Connection Options: Typical Options and Costs for Electric Service

Option	Estimated Lead Time <sup>3</sup>	Estimated New Right of Way Required <sup>4</sup>	Estimated Minimum Project Cost	Maximum Electric Demand	Consumers Energy Construction Incentive	Customer Contribution
Base Service – Single 8.32kV line from existing distribution system	6 months	Minimal	\$350,000	2.5 MW	\$350,000	\$0 <sup>1</sup>
Base Service – Single 8.32kV line from existing distribution system	6 - 12 months	Minimal	\$700,000	5.0 MW	\$700,000	\$0 <sup>2</sup>

1. A 1 year full service contract for 2.5 MW or more of demand at CVL3 and rate GPD will provide the construction incentive shown. Refer to Tariff C1.4. Additional base service options may be available or required at this site depending on electric demand and load characteristics.
2. A 1 year full service contract for 5.0 MW or more of demand at CVL3 and rate GPD will provide the construction incentive shown. Refer to Tariff C1.4. Additional base service options may be available or required at this site depending on electric demand and load characteristics.
3. All estimates and lead times are conceptual and could be higher. Actual costs, timing and customer contribution will be determined during development of the contract for facilities.
4. Represents new third party right of way. Consumers Energy will require that the customer provide easements for all lines and facilities located on the customer property.

# ELECTRIC – HIGH VOLTAGE (46 kV)

Ideal Load Range: 5.6 MW to 15 MW



## Connection Options: Typical Options and Costs for Electric Service if Electric Demand is at least 5.6 MW

Option	Estimated Lead Time <sup>2</sup>	Estimated New Right of Way Required <sup>5</sup>	Estimated Minimum Project Cost	Minimum Electric Demand	Practical Maximum Demand <sup>6</sup>	Consumers Energy Construction Incentive	Customer Contribution
Base Service - 46 kV Line Only (customer builds/ owns substation)	18-24 months	2 Miles	\$ 1.0 million	5.6 MW	15 MW	\$ 1.0 million <sup>1</sup>	\$ 0.0 million <sup>1</sup>
Base Service – Single 46 kV Line and Single Transformer Substation	18-24 months	2 Miles	\$ 2.4 million	5.6 MW	15 MW	\$ 2.4 million <sup>1</sup>	\$ 0.0 million <sup>1</sup>

## 46 kV Line Reliability for Base Service Options:

Predicted Momentary Interruption Rate <sup>3,4</sup>	Predicted Extended Outage Rate <sup>3,4</sup>	Predicted Reliability % <sup>4</sup>
1 every 3.6 years	1 every 6.4 years	99.996%

1. A 5 year full service contract for 5.6 MW or more of demand at CVL2 and rate GPD will provide a construction incentive sufficient to cover the cost of typical base facilities at this site. Refer to Tariff C1.4. Additional base service options may be available or required at this site depending on electric demand and load characteristics.

2. All estimates and lead times are conceptual and could be higher. Actual costs, timing and customer contribution will be determined during development of the contract for facilities.

3. Momentary Interruption is defined as an interruption or series of interruptions lasting no more than five minutes. Extended Outage is defined as an outage lasting longer than five minutes.

4. Outage rates are based upon system average outage rates for 46 kV lines only, and the predicted reliability % represents the estimated amount of time the facility is in service.

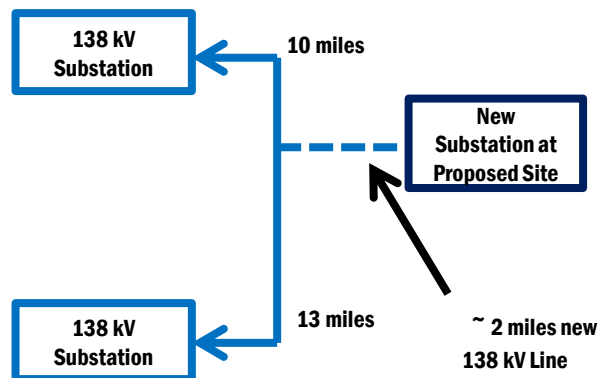
5. Represents new third party right of way. Consumers Energy will require that the customer provide easements for all lines and facilities located on the customer property.

6. This represents the maximum demand that can be practically served from the respective option with minimal system upgrades. Greater demands will be considered with additional analysis.

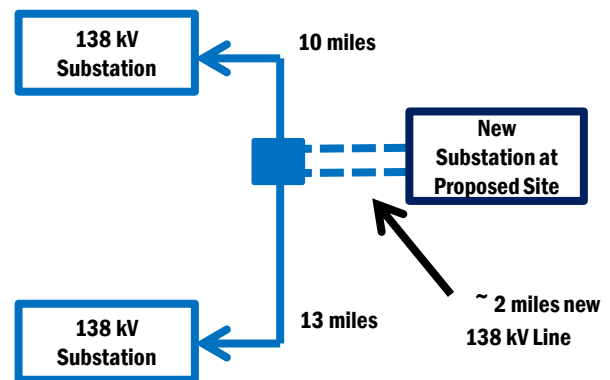


# ELECTRIC – HIGH VOLTAGE (138 kV)

Ideal Load Range: 8.5 MW to 100 MW



**138 kV BASE SERVICE CONNECTION OPTION**



**138 kV REDUNDANT SERVICE CONNECTION OPTION**

## Connection Options: Typical Options and Costs for Electric Service if Electric Demand is at least 8.5 MW

Option	Estimated Lead Time <sup>3</sup>	Estimated New Right of Way Required <sup>6</sup>	Estimated Minimum Project Cost	Minimum Electric Demand	Practical Maximum Demand <sup>7</sup>	Consumers Energy Construction Incentive	Customer Contribution
Base Service - 138 kV Line Only (customer builds/owns substation)	18-24 months	2 Miles	\$ 1.1 million	8.5 MW	100 MW	\$ 1.1 million <sup>1</sup>	\$ 0.0 million <sup>1</sup>
Base Service – Single 138 kV Line and Single Transformer Substation	18-24 months	2 Miles	\$ 3.0 million	8.5 MW	100 MW	\$ 3.0 million <sup>1</sup>	\$ 0.0 million <sup>1</sup>
Redundant Service – two 138 kV Lines and Two Transformer Substation	24 months	4 Miles	\$9.7 million	22.0MW	100 MW	\$7.8 million <sup>2</sup>	\$1.9 million <sup>2</sup>

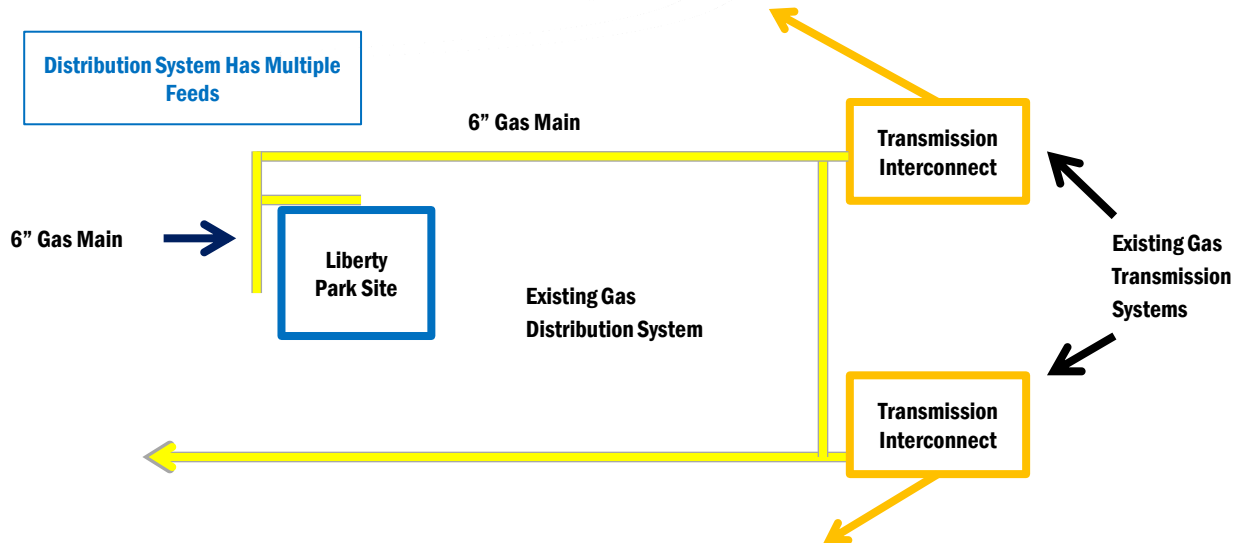
## 138 kV Line Reliability for Base Service Options:

Predicted Momentary Interruption Rate <sup>4,5</sup>	Predicted Extended Outage Rate <sup>4,5</sup>	Predicted Reliability % <sup>5</sup>
1 every 2.4 years	1 every 8.8 years	99.998%

1. A 5 year full service contract for 8.5 MW or more of demand at CVL1 and rate GPD will provide a construction incentive sufficient to cover the cost of typical base facilities at this site. Refer to Tariff C1.4. Additional base service options may be available or required at this site depending on electric demand and load characteristics.
2. A 5 year full service contract for 22.0 MW or more of demand at CVL1 and rate GPD will provide a construction incentive sufficient to cover the capital cost of base and redundant facilities at this site. Refer to Tariff C1.4. Customer contribution is required for 35 year present worth of annual ownership charges for redundant facilities. Additional redundancy options are available at this site.
3. All estimates and lead times are conceptual and could be higher. Actual costs, timing and customer contribution will be determined during development of the contract for facilities.
4. Momentary Interruption is defined as an interruption or series of interruptions lasting no more than five minutes. Extended Outage is defined as an outage lasting longer than five minutes.
5. Outage rates are based upon system average outage rates for 138 kV lines only, and the predicted reliability % represents the estimated amount of time the facility is in service.
6. Represents new third party right of way. Consumers Energy will require that the customer provide easements for all lines and facilities located on the customer property.
7. This represents the maximum demand that can be practically served from the respective option with minimal system upgrades. Greater demands will be considered with additional analysis.



# NATURAL GAS



## Gas Service Options: Typical Options and Costs<sup>2</sup> for Gas Service

	Load Profile - Thousands of Cubic Feet per Hour (MCFH)					
	10	50	100	250	500	1000
Scope of Work to Meet Load Profile <sup>3</sup>	Install service and meter	Install service and meter	Install service and meter	Install 1 mile of 8" gas main, service and meter	Loads of this size are not ideal for this site – Please contact us for details on how we may be able to serve this load	
Lead Time	6 weeks	6 weeks	6 weeks	9 months		
Consumers Energy Construction Incentive (\$)	50,000	150,000	175,000	850,000		
Customer Contribution <sup>1</sup> (\$)	10,000	10,000	10,000	10,000		
Maximum Pressure Available (psig)	44	40	32	33		
Annual Consumption Estimate (MCF/Year)	6,700	75,000	150,000	375,000		

## Redundancy and Reliability:

Consumers Energy's natural gas system is highly reliable and the probability of interruption is very low. The only real threat of interruption would be a damage by someone excavating near the line. The gas distribution system in this area is fed from two separate transmission interconnects, allowing flexibility in the natural gas flow should a significant unplanned event occur. We have not initiated any gas curtailment or Operational Flow Orders within the past 20 years.

1. Customer Contribution is calculated based upon gas rate tariffs as governed by the Michigan Public Service Commission. This calculation accounts for twenty years of revenue credit at the stated consumption levels above, and uses that to offset the initial construction costs and the cost of ownership over the same twenty year period. Consumption here is estimated at the hourly flow rate indicated for 1500 hours/year.
2. All estimates are conceptual. Actual costs, timing and customer contribution will be negotiated with the customer as part of developing a contract for facilities. Customer responsible for fuel line and meter pad costs.
3. Given that this is a large site, there may be some gas main installation needed, dependent upon customer's desired gas meter location.

*Count on Us<sup>®</sup>*

*Consumers Energy*

**Developed by  
Consumers Energy,  
in collaboration with:**



MICHIGAN ECONOMIC  
DEVELOPMENT CORPORATION



**ENERGY READY**

