

Silverthorn Renewables

# Welcome

Thank you for coming,  
we look forward to  
visiting with you.

Your questions and  
comments are important  
to us.



Silverthorn  
Renewables

# Pattern Energy

Pattern Energy is a leading private renewable energy company with operating and development footprints in the United States, Canada, and Japan.

Headquartered in the United States, our global operational portfolio includes more than 30 utility-scale renewable energy facilities.

Founded in 2009 and led by a management team responsible for building more than 5 GW of renewable energy projects worldwide, our business is guided by a commitment to safety, serving our customers, protecting the environment, strengthening communities and creating value for our stakeholders.

# Talen Energy

Talen Energy is one of the largest competitive power generation and infrastructure companies in North America. Talen owns and/or controls approximately 13,000 megawatts of generating capacity in wholesale U.S. power markets, principally in the Mid-Atlantic, Texas and Montana.

Talen is developing a large-scale portfolio of renewable energy, battery storage and digital infrastructure assets across its footprint. Our goal is to lead the energy transition through our Force For Good platform, which will create opportunities for our people and communities as we decarbonize our fleet.

# Our Core Commitments

## Safety and Health



We are committed to the safety and health of the public, our employees, and everyone who works with us.

## Community and Culture



We believe acting as a good neighbor benefits both the areas where we have a presence and our company's long-term success.

## Environment



We consider ourselves a steward of the environment. We will work to exceed industry standards for mitigating environmental impact as we produce clean, renewable energy for our customers.

# Silverthorn Renewables

We believe in building opportunity through long-term local partnerships that benefit communities. Silverthorn Renewables will provide cost-effective wind energy, jobs, and economic benefits that will last generations.

Silverthorn Wind is being designed as a 600 MW facility. It will provide safe, affordable, renewable electricity equal to the needs of nearly 500,000 Americans.



## Community Benefits

### Landowner Payments

Landowner payments generate revenue to the families who host the project.

### Community Revenue

- » Provides added tax revenue to local communities.
- » Supports the economy through a Community Benefits Program that will contribute to local initiatives and community-based organizations.

### Economic Investment

Represents a projected investment of roughly \$1B.

## Job Creation

**450–600**

### Construction Jobs

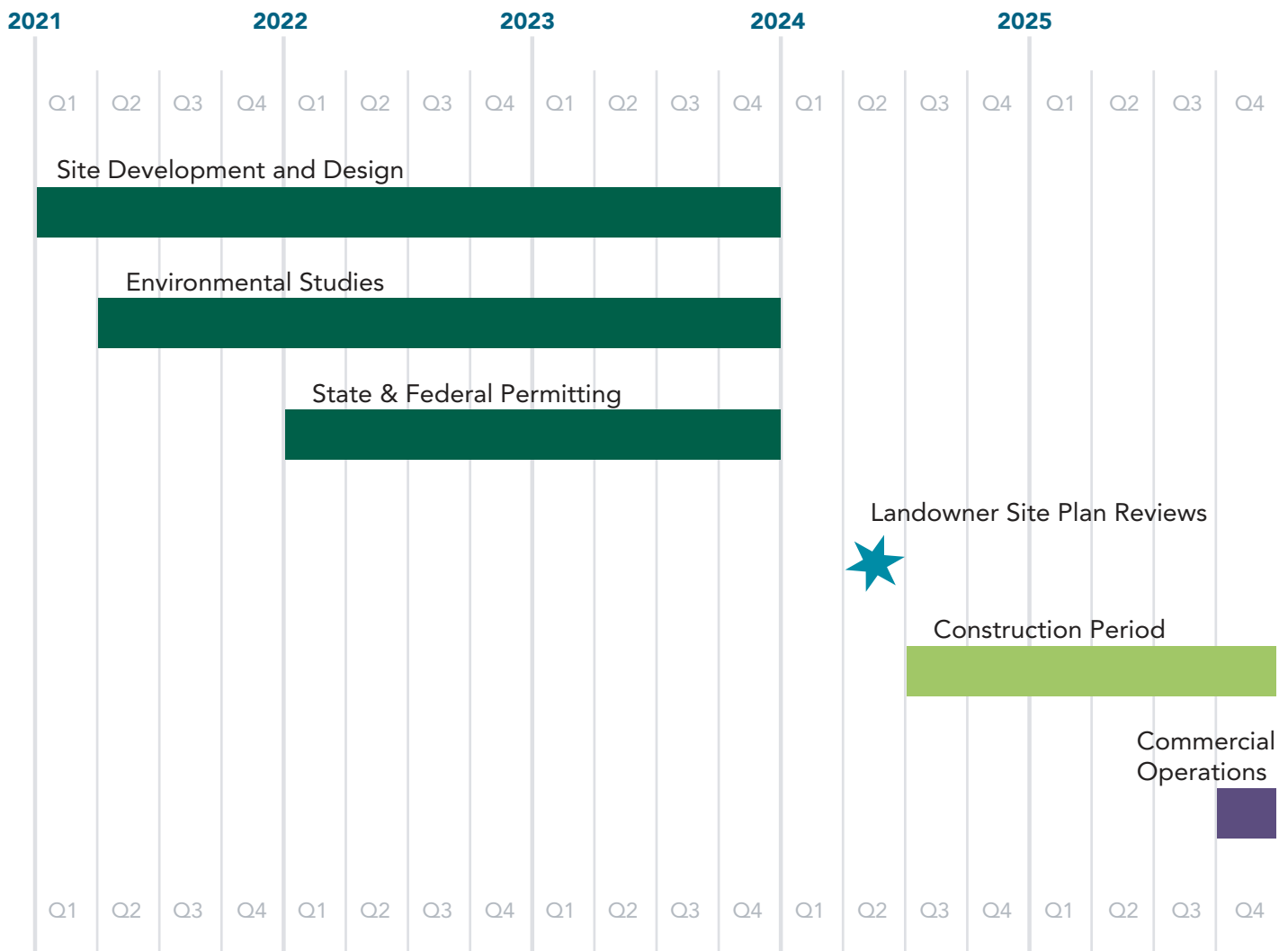
— including heavy equipment operators, electricians, laborers, and others.

**12–20**

### Full-Time Local Jobs

— to operate and maintain the wind facility.

# Development Process



Indicative Schedule - final schedule to be determined as project progresses

# Site Selection & Design

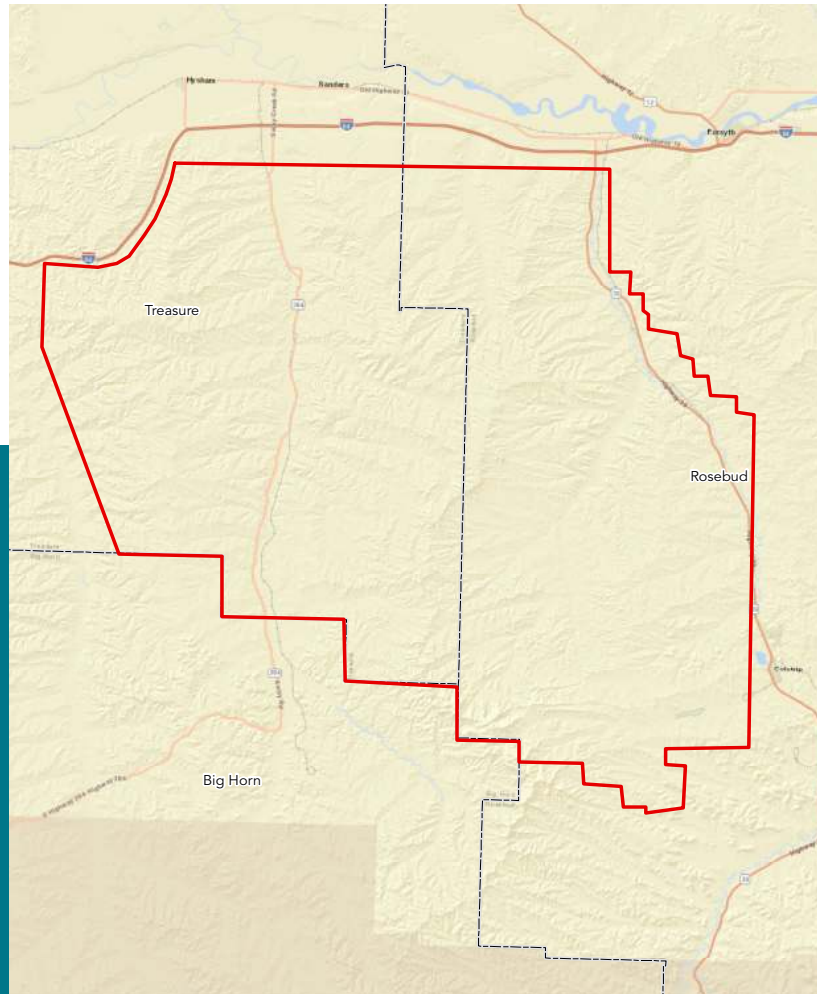
To choose the best sites for a wind project, we consider a range of factors. We use these criteria to select sites, and then begin to refine facility designs.

## Project Criteria

- » Access to grid
- » Competitive wind speed
- » Favorable market
- » Regional need

## General Site Characteristics

- » Contiguous land with access to existing transmission infrastructure
- » Minimal slope for turbine pads
- » Avoids high flood-risk areas
- » Minimal tree clearing required
- » Avoidable wetland and water features
- » Avoids impacts to critical wildlife habitat



# Environmental & Permitting



## Permitting

### Local

- » Road use crossing & driveway permits
- » Consultation with Town & County officials

### State

- » Construction stormwater permit
- » Consultations with Montana Fish, Wildlife and Parks to discuss ways to reduce potential impacts to wildlife
- » Haul permits, drive way permits, crossing permits

## Surveys & Field Work

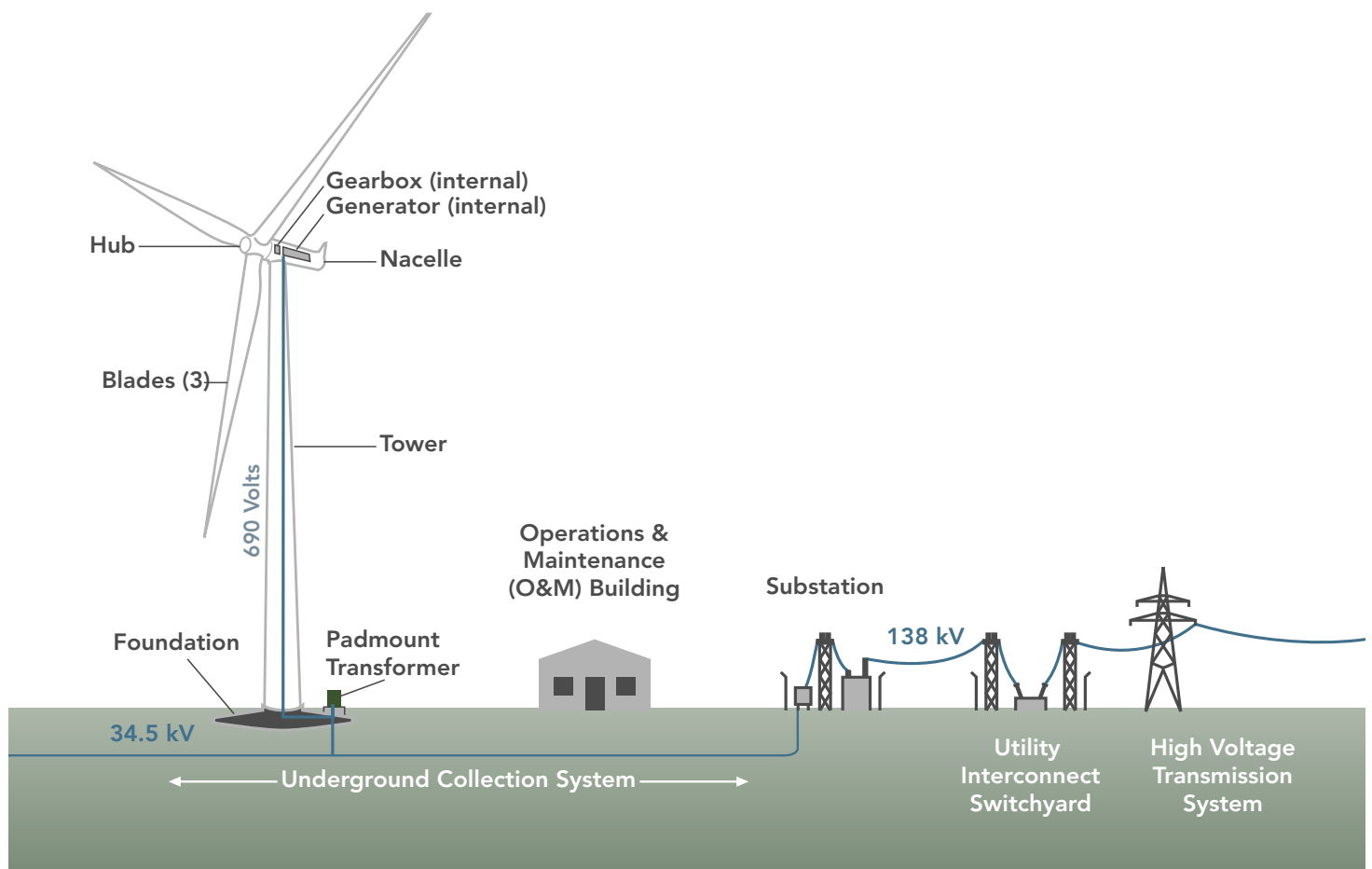
- » Avian and bat use surveys
- » Nesting bird surveys
- » Species of concern habitat assessments
- » Wetland delineation
- » Cultural resource assessment

### Federal

- » Consultations with U.S. Fish & Wildlife Service to discuss ways to reduce potential impacts to wildlife
- » Permitting for potential impacts to wetlands and waterways
- » Permitting turbine locations with the Federal Aviation Administration
- » Coordination with the Department of Defense Army Corps of Engineers

# Wind Energy Generation

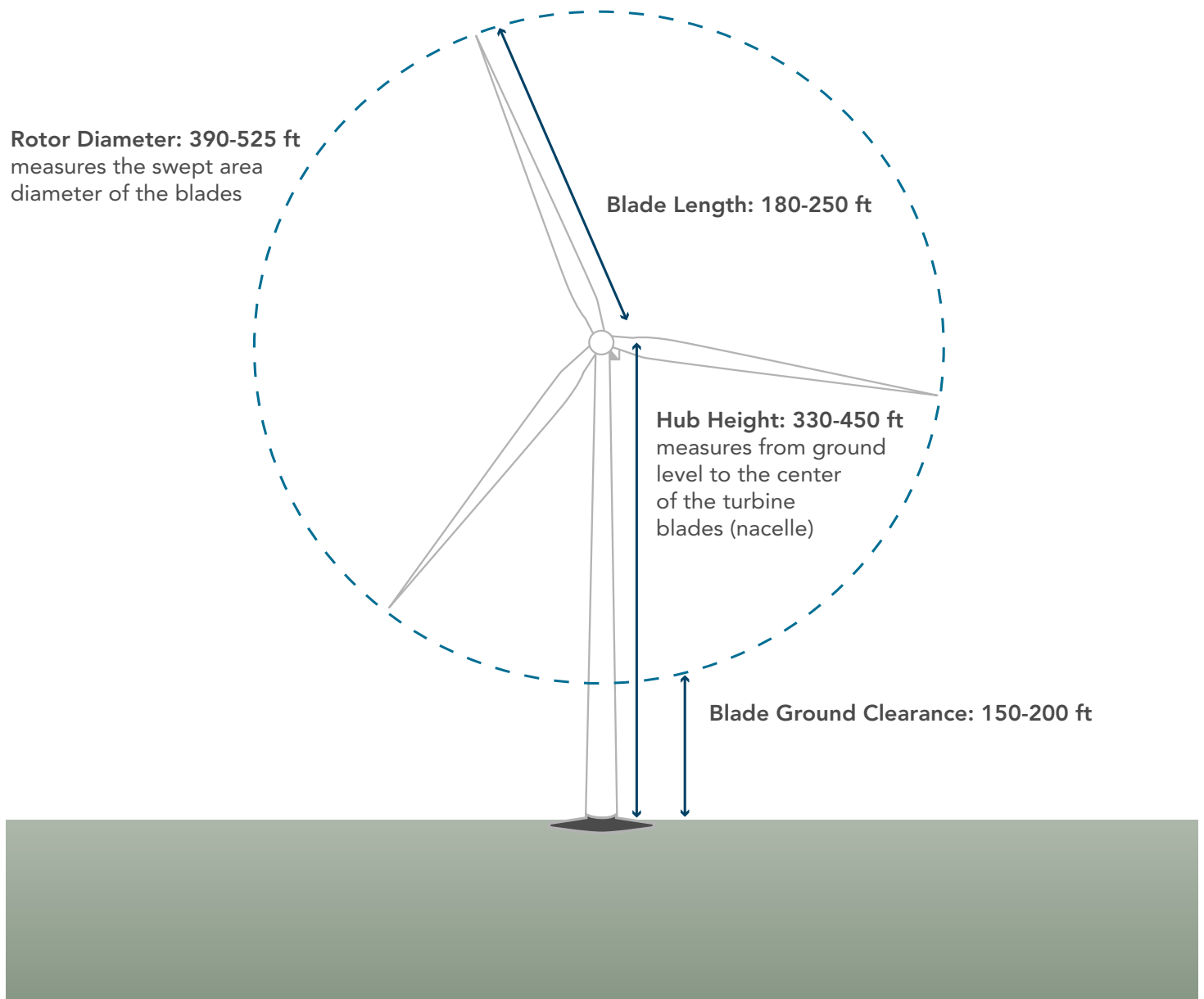
Wind can be harnessed to transform kinetic energy into electrical energy. Wind turbines do this with blades mounted on towers, which are turned by the wind, causing them to turn a shaft that is attached to a generator. This creates an electrical current that is carried by cables to the electric grid that delivers it to your home.





# Typical Technology

Modern turbine sizes range from 3 MW to 6 MW



# Construction



## Foundations

Foundations, consisting of rebar and concrete, support the turbines. The most common design is a spread foot foundation that is about 60–70 feet wide and 8 feet deep. After construction only the turbine tower shows above surface level, which is approximately 15 feet wide.



## Turbine

Turbine towers arrive in three to four tubular pieces that are installed individually with a crane. The nacelle (a cover that houses the generating components) sits atop the tower. Three blades are connected to a hub, which is raised by a crane and affixed to the nacelle.



## Collection System

A network of cables collect the electricity generated from each turbine. Configurations vary, but typically the cable is buried 36–48" below grade. Cable size ranges between 750 to 1500 MCM, depending on the position of the turbine within an electrical circuit.



## Access Roads

Roads to each turbine allow access for construction, operations, and maintenance. Access roads are typically 16–20 feet wide.

\* Photos represent construction for a wind project with 85-meter (279 feet) tall turbines. Dimensions and design specifications vary based on the turbine model and geotechnical analysis and soil conditions.

# Construction



## Substations

A substation is built to collect the energy generated by the turbines and used to step up the voltage to connect to transmission lines.



## Meteorological Towers

Meteorological towers are used to verify wind characteristics.



## Transmission Lines

Transmission lines connect power to the grid. The length of the lines and structure types vary depending on the facility location and distance to the utility transmission system.



## Operation & Maintenance Building

O&M buildings are the central command centers for wind facilities. The building houses offices and space for turbine maintenance.

\* Photos represent construction for a wind project with 85-meter (279 feet) tall turbines. Dimensions and design specifications vary based on the turbine model and geotechnical analysis and soil conditions.

# Operations

We are dedicated to building long-term partnerships in the communities where we have a presence. We participate in local events and fund community organizations through donations and sponsorships.

Our facilities employ facility managers and technicians to oversee site activities. We use a variety of local vendors and contractors who provide maintenance services for communications, the operations and maintenance building, access roads, the substation, and our truck fleet.

Ongoing maintenance plans include items such as:

- » Vegetation management
- » Electrical checks
- » Visual and mechanical inspections
- » Corrective maintenance (as required)



Facilities are monitored from an Operations and Control Center 24/7, 365 days per year. We receive immediate notification for any type of fault, and a technician can be dispatched immediately to assess any situation. All maintenance staff enter the property in company-marked trucks and carry badges for identification.

# Local Business Opportunities

We strive to find ways to expand benefits for the communities where we operate.

To submit your business information, please visit our website at [SilverthornRenewables.com](http://SilverthornRenewables.com)

We are committed to using qualified local and regional vendors and contractors when possible. These efforts will create more jobs and help the community derive additional economic benefits from the project.

## Construction

- » Road building and turbine site grading
- » Substation and Switchyard grading
- » Foundation excavation and backfill
- » Road maintenance and asphalt paving
- » Concrete supplier
- » Aggregate supplier
- » Electricians
- » O&M Facilities
- » Foundations and site concrete
- » Building Construction (framing, carpentry, drywall, flooring, plumbing, electricians, communications, masonry, HVAC, etc.)
- » Landscaping
- » Security, fencing, water, power, sanitation facilities, etc.

## Maintenance

- » Communications maintenance
- » HVAC contractor
- » Hardware supplier
- » Waste control and removal
- » Solid waste disposal
- » Weed control and abatement
- » O&M building maintenance
- » Road maintenance
- » Electrical Supply
- » Truck fleet leasing and maintenance
- » Crane services and rentals
- » Janitorial services

# Land Stewardship Commitment

## 1. Site Manager.

Prior to the construction of any Wind Facilities on the Property, Developer will provide Owner with the name and contact information for a site manager for the Project. On-site manager and project manager will use reasonable, good faith efforts to communicate keep Owner apprised of when Developer, its contractors, agents, and employees will be on the Property.

## 2. Access and Roads.

Developer will use reasonable efforts to confine development activities on the Property to the access and/or crane routes shown in the site plan provided to Owner and to the areas where development activities are occurring. Developer will use reasonable efforts to use roads existing on the Property. Developer will also regularly maintain existing roads during the construction period at a set frequency.

## 3. Road Construction.

Developer will require that all of Developer's vehicles on the Property be confined to road, crane paths, and collection routes, whether currently existing or installed by Developer. Within one hundred eighty (180) days of the date Developer completes construction of the Project, all roads constructed or existing roads that are widened by Developer will be reduced to a width of no greater than twenty feet (20') wide and those portions of such roads in excess of twenty feet (20') wide will be repaired, to the extent reasonably practicable to the elevation and contour as existed on the effective date of the Lease, and if pastureland, reseeded.

## 4. Gates and Fences.

Developer will make fence cuts, braces, and repairs that will be permanent and remain functional for the remaining life of the fence of which they are part (any such cuts will be reinforced with bracer posts on each side of the cut, and the opening will be repaired to at least the same quality as the existing fence). Under Section 4.11 of the Wind Lease, during construction of the Wind Facilities, Developer will leave any gates, open or shut, as the gates were found in order to maintain Owner's livestock and Property management. Under Section 4.13 of the Wind Lease, Developer will install a double lock system on all gates installed or in use by the Project: one unique lock for Developer and one unique lock for Owner. Under Section 4.11 of the Wind Lease, Developer will post personnel to act as spotters to prevent escape of livestock from pastures or enclosures when needed.

## 5. Cattle Guards.

Under Section 4.11 of the Wind Lease, Developer will, at its expense, install any different gates or cattle guards reasonably required to facilitate Developer's operations on the Property, together with any additional measures reasonably required for the control of Owner's livestock. Developer will maintain all existing and new cattle guards during the construction process to ensure working order.

## 6. Construction Plan.

### (a) Construction; Siting.

Under Section 4.14 of the Wind Lease, at least ninety (90) days prior to commencement of construction, Developer will provide to Owner the plans of the layout and proposed location of the Wind Turbines, other Wind Power Facilities, Developer Roads and other significant structures or improvements upon the Property, as well as an overview of the anticipated construction schedule. Owner will have an opportunity to provide feedback, which Developer will consider in good faith.

### (b) Restricted Areas.

Under Section 4.15 of the Wind Lease, Owner will have an opportunity to identify restricted areas on the Property in which construction by developer may be limited or prohibited.

# Land Stewardship Commitment

## 7. Damage to Owner's Property.

### (a) Crop Damage.

Developer will take commercially reasonable efforts to minimize crop damage, and Developer will compensate Owner for crop loss or destruction on the Property due to Developer's activities in accordance with Section 3.5.1 to Exhibit C of the Wind Lease.

### (b) Compensation for Livestock.

Developer will be respectful of grazing animals on the Land and will avoid, to the extent reasonably practicable, any contact with any livestock on the Property. Developer agrees to pay the fair market value for any such animal that, as a direct result of Developer's operations or equipment, dies or suffers any injury which renders the animal essentially worthless or substantially reduces its fair market value. In addition, under Section 4.11 of the Wind Lease, Developer will be responsible for reimbursing Owner for any loss of livestock and for any time spent by Owner gathering livestock that strayed as a result of Developer leaving a gate open.

### (c) Fire Damage.

Developer will employ prudent precautions to prevent fires, including avoiding the build-up of plant material under vehicles, and will be responsible for all fire damage caused by Developer. In the event a grass fire is started by Developer, Owner will be promptly notified, as well as emergency personnel, if necessary. For fire damage caused by Developer, Developer agrees to pay Owner a reasonable fee for damage to or loss of (i) existing crops and/or pasture land (as outlined in Section 3.5.1 of Exhibit C to the Wind Lease), (ii) fences, and (iii) trees and other foliage.

### (d) Watering Systems Damage.

Developer will use commercially reasonable efforts to avoid damaging any livestock watering pipelines, tile lines or irrigation systems (collectively, the "Watering Systems") on the Property. Owner has the right to have Developer repair or replace any Watering Systems on the Property that are damaged during construction or operation of the Wind Facilities, provided that Owner promptly notifies Developer of the damage.

## 8. Speed Limits.

Developer will strictly observe the following speed limits on the Property: 25 miles per hour during daylight and 20 miles per hour after dark.

## 9. Surface Restoration.

Upon completion of construction on the Property, Developer will remove all construction materials and debris from the Property. If the surface of the Property adjacent to such Wind Power Facilities was excavated or otherwise disturbed during such construction, such areas will be restored by Developer to substantially the same condition that existed prior to such construction that is suitable for productive agricultural operations. Pursuant to Section 7.3 of the Wind Lease Developer will permanently restore the surface of the Property within one year from the termination of the Wind Lease.

## 10. Hunting.

Hunting is allowed on the Property in accordance with Section 1.9 of the Wind Lease. Under Section 1.9, Developer may (with 30 days' advance written notice) request a temporary cessation of hunting on certain portions of the Property. In that case, Developer will reimburse Owner for resulting loss of hunting revenue, in accordance with Section 3.6 of Exhibit C to the Wind Lease.

# Become Part of Silverthorn Wind

- » Connecting with landowners and discussing land lease details is an important stage for us to learn about a community.
- » Experienced land agents with knowledge of Montana are employed as direct contractors of the project.
- » A standard form of lease option is used so that each participating landowner can know they are getting the same fair payment as their neighbor.
- » Exclusive to Montana are the stewardship provisions, keeping in mind the special concerns of all Montanans.
- » Land agents and the project team are easily accessible and available for landowner questions and concerns. Please schedule an appointment to discuss specifics to your property.



# Stay in Touch

## Project Information

[www.SilverthornRenewables.com](http://www.SilverthornRenewables.com)

## Community Outreach

[outreach@silverthornrenewables.com](mailto:outreach@silverthornrenewables.com)

406.206.7546

We value your input and your questions.  
Please be in touch with the project team  
at any time.