

June 5, 2024

0 Dietrich Road Solar Project

Construction Period Road Use Discussion

Below is an analysis of construction traffic including truck and equipment deliveries, as well as personal vehicles for on-site workers. It includes the types of trucks, the number of truck trips, and number of personal vehicle trips. At the end of the truck section is a discussion of maximum truck loading. And finally, there is a peak hour trip calculation at the end of the report.

Quantities

- 13,200 modules
- Terratrack TT2 (Single Axis Tracker)
- 20 Inverters
- 2 Transformers
- 1 Switchgear
- 1 DAS
- 5,988 lineal feet of fencing
- 4,159 lineal feet of electrical trench

General Scope of Work:

1. Install stabilized construction entrance
2. Excavate electrical trenches/equipment pads/install conduits
3. Install racking piles
4. Construct racking
5. Install solar modules
6. Install fencing
7. Install electrical equipment

Truck Deliveries

Based on a typical solar project that our EPC partners have constructed over the past 5 years we have developed a schedule of truck deliveries for this 5 MW (AC) solar energy generating facility. We have worked with a select number of sub-contractors for all our projects and have reached out to many of them to confirm our truck quantities.

Typical Truck Generation Quantities per Scope of Work

	One-way truck trips	Total Trips
1. Construct stabilized construction entrance		
a. Bulldozer on flat bed	1	2
b. Excavator on flat bed	1	2
c. 720 cubic yards of gravel		
i. 55 tri-axles (20 cy/truck)	36	72
d. Bulldozer and Excavator to stay on site for trench excavation/fill		
2. Excavate electrical trenches and equipment pads/install conduits		
a. Use 1.a and 1.b above		
b. Back hoe delivered on low bed	1	2
i. 453 cubic yards of sand		
ii. 23 Tri-axles (20 cy /truck)	23	46
c. Concrete truck (1)	1	2
3. Install racking piles		
a. 57' tractor trailers with screws/posts/cablings/purlins		
i. 24 trucks	24	48
b. One pile driver (pickup truck trailer)	1	2
4. Construct racking		
a. No delivery trucks needed for installation.		
5. Install solar modules/inverters		
a. 57' tractor trailers with modules		
i. (max 620 modules per truck)		
ii. 22 trucks	22	44
b. 57' tractor trailer with inverters		
i. 2 trucks	2	4

6. Install fencing		
a. Flatbed(s) with fencing mesh and fence posts		
i. 4 flatbed(s)	4	8
7. Install electrical equipment		
a. Box trucks with electrical equipment		
i. Transformers (2 trucks)	2	4
ii. Switchgear (1 truck)	1	2
iii. DAS (1 truck)	1	2
8. Miscellaneous trucks		
a. Electrical supply trucks (box trucks)		
b. 8 (2 per week for 4 weeks)	8	16

All truck deliveries will be loaded at 20,000 lbs./axle or less per Illinois Department of Transportation guidelines.

DRAFT

Personal Vehicles

Workers will be arriving to the site each weekday using personal vehicles. For similar projects of this scale, approximately 20 personal vehicles may be on site at a time. These vehicles will arrive each day in the morning and leave in the afternoon. The total number of vehicles on site will fluctuate depending on the phase of the project.

Electrical Site Work			Civil Site Work		
Maximum Daily Trips					
Vehicle Use	PCE	Trips	Vehicle Use	PCE	Trips
20 Pers. Veh. Enter	1	20	5 Pers. Veh. Enter	1	5
3 Truck Deliveries	2	6	4 Truck Trips	2	8
20 Pers. Veh. Exit	1	20	5 Pers. Veh. Exit	1	5
TOTAL		46	TOTAL		18
Maximum Hourly Trips					
Vehicle Use	PCE	Trips	Vehicle Use	PCE	Trips
20 Pers. Veh.	1	20	5 Pers. Veh.	1	5
2 Truck Trips	2	4	3 Truck Trips	2	6
TOTAL		24	TOTAL		11

This small number of peak hour trips (24) would not be expected to have a major impact on the operational level of Old Stage Road.

Permanent Road Use Discussion

The facility will operate as an unmanned operation following permission to operate, as its operation and energy production will be monitored remotely. There will only be personnel on site for routine maintenance checks or to take care of operational issues. Similar sites that are in operation require 4-5 visits per year (8-10 vehicle trips/year). Operation and Maintenance personnel travel to the site in conventional pickup trucks, and it would be highly unlikely that more than one visit in a single day would be required.

The peak hour trips expected for permanent road use would be a maximum of 2 trips.

DRAFT V3

June 5, 2024

0 Dietrich Road Solar Project

Construction Period Road Use Discussion

Below is an analysis of construction traffic including truck and equipment deliveries, as well as personal vehicles for on-site workers. It includes the types of trucks, the number of truck trips, and number of personal vehicle trips. At the end of the truck section is a discussion of maximum truck loading. And finally, there is a peak hour trip calculation at the end of the report.

Quantities

- 13,200 modules
- Terratrack TT2 (Single Axis Tracker)
- 20 Inverters
- 2 Transformers
- 1 Switchgear
- 1 DAS
- 5,988 lineal feet of fencing
- 4,159 lineal feet of electrical trench

General Scope of Work:

1. Install stabilized construction entrance
2. Excavate electrical trenches/equipment pads/install conduits
3. Install racking piles
4. Construct racking
5. Install solar modules
6. Install fencing
7. Install electrical equipment

Truck Deliveries

Based on a typical solar project that our EPC partners have constructed over the past 5 years we have developed a schedule of truck deliveries for this 5 MW (AC) solar energy generating facility. We have worked with a select number of sub-contractors for all our projects and have reached out to many of them to confirm our truck quantities.

Typical Truck Generation Quantities per Scope of Work

	One-way truck trips	Total Trips
1. Construct stabilized construction entrance		
a. Bulldozer on flat bed	1	2
b. Excavator on flat bed	1	2
c. 720 cubic yards of gravel		
i. 55 tri-axles (20 cy/truck)	36	72
d. Bulldozer and Excavator to stay on site for trench excavation/fill		
2. Excavate electrical trenches and equipment pads/install conduits		
a. Use 1.a and 1.b above		
b. Back hoe delivered on low bed	1	2
i. 453 cubic yards of sand		
ii. 23 Tri-axles (20 cy /truck)	23	46
c. Concrete truck (1)	1	2
3. Install racking piles		
a. 57' tractor trailers with screws/posts/cablings/purlins		
i. 24 trucks	24	48
b. One pile driver (pickup truck trailer)	1	2
4. Construct racking		
a. No delivery trucks needed for installation.		
5. Install solar modules/inverters		
a. 57' tractor trailers with modules		
i. (max 620 modules per truck)		
ii. 22 trucks	22	44
b. 57' tractor trailer with inverters		
i. 2 trucks	2	4

6. Install fencing		
a. Flatbed(s) with fencing mesh and fence posts		
i. 4 flatbed(s)	4	8
7. Install electrical equipment		
a. Box trucks with electrical equipment		
i. Transformers (2 trucks)	2	4
ii. Switchgear (1 truck)	1	2
iii. DAS (1 truck)	1	2
8. Miscellaneous trucks		
a. Electrical supply trucks (box trucks)		
b. 8 (2 per week for 4 weeks)	8	16

All truck deliveries will be loaded at 20,000 lbs./axle or less per Illinois Department of Transportation guidelines.

Personal Vehicles

Workers will be arriving to the site each weekday using personal vehicles. For similar projects of this scale, approximately 20 personal vehicles may be on site at a time. These vehicles will arrive each day in the morning and leave in the afternoon. The total number of vehicles on site will fluctuate depending on the phase of the project.

Electrical Site Work			Civil Site Work		
Maximum Daily Trips					
Vehicle Use	PCE	Trips	Vehicle Use	PCE	Trips
20 Pers. Veh. Enter	1	20	5 Pers. Veh. Enter	1	5
3 Truck Deliveries	2	6	4 Truck Trips	2	8
20 Pers. Veh. Exit	1	20	5 Pers. Veh. Exit	1	5
TOTAL		46	TOTAL		18
Maximum Hourly Trips					
Vehicle Use	PCE	Trips	Vehicle Use	PCE	Trips
20 Pers. Veh.	1	20	5 Pers. Veh.	1	5
2 Truck Trips	2	4	3 Truck Trips	2	6
TOTAL		24	TOTAL		11

This small number of peak hour trips (24) would not be expected to have a major impact on the operational level of Old Stage Road.

Permanent Road Use Discussion

The facility will operate as an unmanned operation following permission to operate, as its operation and energy production will be monitored remotely. There will only be personnel on site for routine maintenance checks or to take care of operational issues. Similar sites that are in operation require 4-5 visits per year (8-10 vehicle trips/year). Operation and Maintenance personnel travel to the site in conventional pickup trucks, and it would be highly unlikely that more than one visit in a single day would be required.

The peak hour trips expected for permanent road use would be a maximum of 2 trips.