



October 11, 2022

Cynthia Schuchner
PCR US Investments Corp
1334 Brittmoore Rd Ste 2407
Houston, TX 77043

Telephone: (832) 955 1979
Email: cschuchner@pcr.energy

RE: Erosion Control Plan
Conifer Power Lone Tree
Parcel No. 1801476001
Highway 22 and Sioux Avenue SE
Lone Tree, Johnson County, Iowa
Terracon Project No. 06227115

Dear Ms. Schuchner:

Terracon is pleased to submit the enclosed Erosion Control Plan (ECP) in accordance with our proposal (Terracon Proposal No. P06227135) dated August 23, 2022. Terracon appreciates the opportunity to provide services on this important project. Please feel free to contact either of the undersigned if you have any questions or require additional information.

Sincerely,
Terracon Consultants, Inc.

Jordan M. Smith
Staff Scientist

David C. McCormick, P.E. (AR, TX, LA, NM, KS, MO, IA, FL)
Department. Manager

Enclosure: Erosion Control Plan – Lone Tree



Terracon Consultants, Inc. 2640 12th St SW Cedar Rapids, IA 52404-3440
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Environmental



Facilities



Geotechnical



Materials

Erosion Control Plan

Conifer Power Lone Tree Erosion Control Plan
Parcel No. 1801476001
Highway 22 and Sioux Avenue
Lone Tree, Johnson County, Iowa

October 11, 2022
Terracon Project No. 06227135



Prepared for:
PCR US Investments Corp
Houston, Texas

Prepared by:
Terracon Consultants, Inc.
Cedar Rapids, Iowa

terracon.com

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1.0 SITE LOCATION AND PROJECT DESCRIPTION

Terracon understands that PRC US Investments Corp (the Client) and Conifer Power are preparing preliminary plans to develop the site, located at Highway 22 and Sioux Avenue, with an approximate 10-megawatt solar facility. The location of the site is indicated on the attached Exhibits and is further described in Table 1 below.

Table 1. Site Information

Site	Parcel No.	County, State	Approximate Size (Acres)	Additional Information
Lone Tree	1801476001	Johnson, Iowa	36.40	Owner: No Gen-tie route identified by client.

2.0 SCOPE OF SERVICES

2.1 Erosion Control Plan

The Erosion Control Plan (ECP) will help to address areas that may affect erosion and sediment disposition at the site. The topography of the site will remain relatively unchanged as a result of the proposed ground-mounted solar facility. However, there is potential for impacts within the Site. The Site will include all construction areas, areas where equipment may travel, staging areas, hauling roads, areas of access, areas of erosion control measures, tree clearing areas, landscaping areas, as well as borrow and fill areas. The ECP will help to identify critical areas, limit exposed areas, limit time of exposure, control surface water, control sedimentation, and manage stormwater runoff by addressing the following:

- Initial grading, site roadwork, and trenching
- Temporary erosion and sediment controls
- Wet weather conditions
- Drain tile identification
- Permanent vegetative cover

2.1.1 Initial Grading, Site Roadwork, and Trenching

The initial earthwork at the site may include cutting, trenching, or grading activities in preparation of solar panel installation. Initial grading, roadwork and trenching activities will take place on-site prior to solar panel installation. During the initial grading, roadwork and trenching activities, erosion and sedimentation is possible due to potential removal of some vegetated areas.

Stockpile & Mining Areas

During construction activities (grading and trenching), it may be necessary to stockpile and segregate soils on a temporary basis. The stockpiles should be covered when possible, and berms should be placed at the toe of the pile to prevent erosion and sedimentation from the piles. At this time, it is unknown where the stockpiles (if any) will be located on-site.

Roadwork

During construction activities, there will be machinery on-site that will utilize access roads. Due to the potential for erosion and sedimentation resulting from vehicular traffic, traffic should be limited to designated roadways within the site when possible.

2.1.2 Temporary Erosion and Sediment Controls

To provide adequate site drainage, Terracon recommends the use of gradient treatments. These gradient treatments are used to decrease runoff velocities, trap sediments locally and increase filtration of water into the soil thus limiting erosion and supporting vegetation growth. Graded surfaces will be roughened prior to seeding to decrease runoff velocity, thereby reducing erosion and aid in establishment of vegetation. If necessary, at periodic intervals not to exceed 200 feet silt fences/hay bales or rip-rap dams shall be provided in all collection ditches until vegetation has been established. Actual spacing of silt fences/hay bales will be adjusted for the steepness of the ditch slope. Silt fences/hay bales will be maintained in order to assure minimization of silt transportation and cleaned when sediment exceeds one-half the height of the fence. Once vegetation is established, the use of silt fences/hay bales will not be required. Surface water runoff from stockpile areas will be routed through silt fences/hay bales to aid in prevention erosion.

All drainage structures will be inspected and maintained to prevent settlement, erosion, and clogging, and to ensure proper drainage of the landfill as designed. Culvert inlets and outlets will be visually inspected and cleaned as necessary to ensure proper operation of the landfill drainage system design.

A site Drainage Map has been developed to identify the drainage systems associated with the Facility (See **Exhibit 3**). The maps incorporate Facility structures, roads, and channeled drainage. The maps provide the basis for the erosion control plan measures and should be updated as needed to keep the plan current. **Exhibit 3** depicts the surface drainage patterns for the property. A thorough understanding of the area's surface drainage patterns is essential for developing an ECP. **Exhibit 4** shows that the solar farm drains to the southeast. This area will utilize silt fencing, hay bales, and rip-rap check dams to minimize sediment leaving the facility.

2.1.3 Wet Weather Conditions

It is anticipated that wet weather conditions will be encountered during the duration of the project. Should wet weather conditions be encountered, the following controls and BMPs should be in place:

- Berms at toes of stockpiled material;
- Silt fences placed in sloped areas that may be prone to erosion;
- Limit exposed soil to best extent possible;
- Use rip-rap in drainage channels if needed;
- Inspect site drainage following rain events to document erosion and/or sedimentation issues. Inspection forms can be found in **Appendix C**.

The information from the site inspections will be used to make improvements to the facility's BMPs to reduce sediment from leaving the facility.

2.1.4 Drain Tile Identification, Avoidance, and Repair

Due to the location of the proposed solar facility in an agricultural area, it is anticipated that drain-tiles will be encountered during construction activities. The drain tile system aids the site in draining properly, which helps prevent excessive surface runoff. If the drainage tile system is impacted and/or destroyed, it could limit the site's ability to properly drain, resulting in excessive runoff and potential erosion and sedimentation issues. Drain tiles will be identified (to the best extent possible) to assist in avoidance and repairs by field observations, as well as documented conversations with the landowner. The field observations and landowner communications should be documented and updated as needed.

2.1.5 Permanent Vegetative Cover

Following the completion of construction activities, the Client shall stabilize exposed areas and control runoff using structural or non-structural control measures to minimize onsite erosion and sedimentation and the resulting discharge of pollutants. Terracon recommends, at a minimum, that the following seasonal seed mixtures be placed over the vegetative cover soil:

SEASON	SEED	APPLICATION RATE
Spring (Mar. 15 - May 15)	Kentucky 31 Fescue Clover	100 lb/ac 5 lb/ac
Summer (May 15 — Aug. 15)	Kentucky 31 Fescue Clover	100 lb/ac 5 lb/ac

Sensitive Areas Analysis Report

Conifer Power Lone Tree Erosion Control Plan ■ Lone Tree, Johnson County, Iowa
October 11, 2022 ■ Terracon Project No. 06227135



Fall (Aug. 15 - Oct. 15)	Kentucky 31 Fescue Clover	60 lb/ac 15 lb/ac
Winter (Oct. 15 - Mar. 15)	Annual Ryegrass White Clover	80 lb/ac 10 lb/ac

3.0 CLOSING

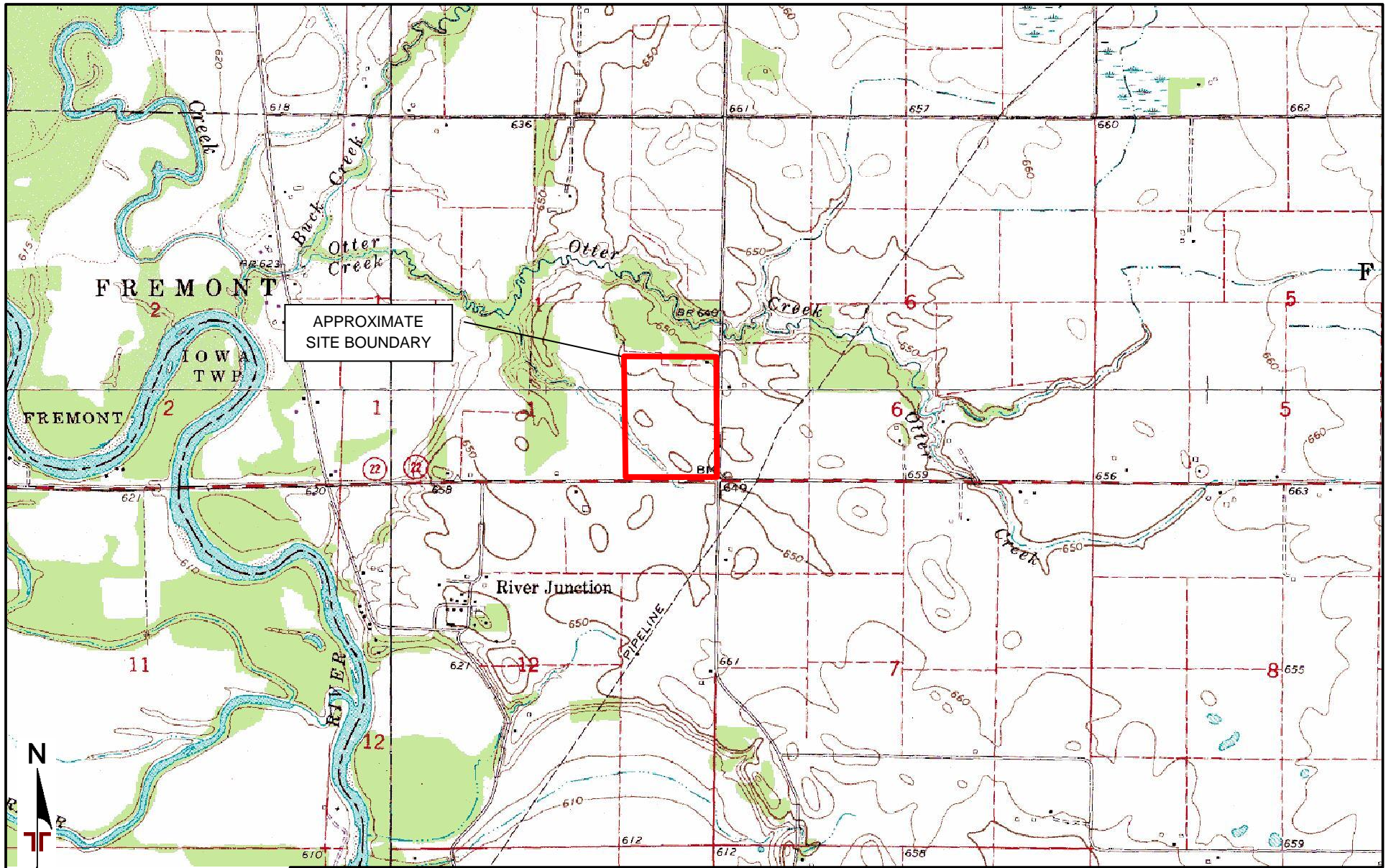
Terracon appreciates the opportunity to provide services on this project. Please feel free to contact either of the undersigned if you have any questions or require additional information.

Sincerely,
Terracon Consultants, Inc.

Jordan M. Smith
Staff Scientist

David C. McCormick, P.E. (AR, TX, LA, NM, KS, MO, IA, FL)
Department. Manager

APPENDIX A
Exhibits



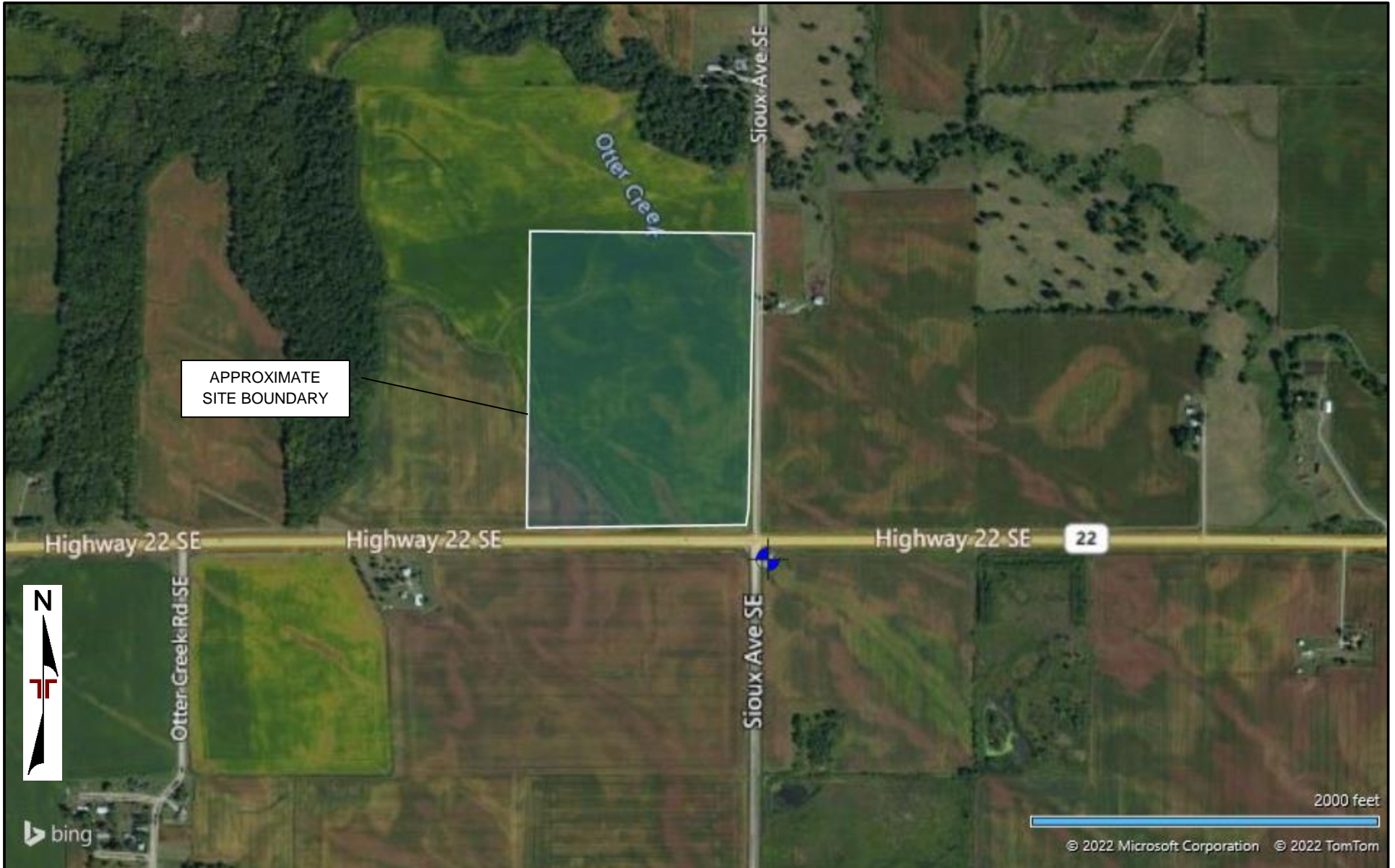
TOPOGRAPHIC MAP IMAGE COURTESY OF THE U.S. GEOLOGICAL SURVEY
 QUADRANGLES INCLUDE: HILLS, IA (1/1/1983), WEST LIBERTY SW, IA (1/1/1965), RIVERSIDE, IA (1/1/1983) and LONE TREE, IA (1/1/1969).
 DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Manager: JMS	Project No. 06227135
Drawn by: JMS	Scale: 1"=2,000'
Checked by: DM	File Name: Exhibits
Approved by: DM	Date: Sep. 2022

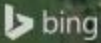
Terracon
 2640 12th St SW
 Cedar Rapids, IA 52404-3440

Topographic Map
 PCR
 Lone Tree
 Johnson County, Iowa, Parcel ID: 1801476001

Exhibit 1



APPROXIMATE
SITE BOUNDARY



2000 feet



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AERIAL PHOTOGRAPHY PROVIDED BY
MICROSOFT BING MAPS

DIAGRAM IS FOR GENERAL LOCATION ONLY,
AND IS NOT INTENDED FOR CONSTRUCTION
PURPOSES

Project Manager:	JMS
Drawn by:	JMS
Checked by:	DM
Approved by:	DM

Project No.	06227049
Scale:	AS SHOWN
File Name:	Exhibits
Date:	Sep. 2022

Terracon

2640 12th St SW
Cedar Rapids, IA 52404-3440

Site Diagram
PCR Lone Tree Johnson County, Iowa, Parcel ID: 1801476001

Exhibit
2



AERIAL PHOTOGRAPHY PROVIDED BY MICROSOFT BING MAPS

DIAGRAM IS FOR GENERAL LOCATION ONLY, AND IS NOT INTENDED FOR CONSTRUCTION PURPOSES

Project Manager: JMS
 Drawn by: JMS
 Checked by: DM
 Approved by: DM

Project No. 06227049
 Scale: AS SHOWN
 File Name: Exhibits
 Date: Sep. 2022

Terracon
 2640 12th St SW
 Cedar Rapids, IA 52404-3440

Drainage Map

PCR
 Lone Tree
 Johnson County, Iowa, Parcel ID: 1801476001

Exhibit
 3



Project Manager: JMS	Scale: NA.	 2640 12 th Street SW Cedar Rapids, Iowa 52404 PH. (319) 366-8321 FAX. (319) 366-0032	Site Plan	Exhibit
Drawn by: JMS	File Name: Exhibits		Conifer Power Erosion Control Plan	4
Checked by: DM	Date: Sep. 2022		Highway 22	
Approved by: DM			Lone, Iowa	

APPENDIX B
Inspection Forms

**INSPECTION AND MONITORING RECORDS
AND SELF-INSPECTION RECORDS**

Project Name	
---------------------	--

PART 1A: Rainfall Data

	Rain Amount (inches) Daily Rainfall Required. If no rain, indicate with a "zero"
M	
T	
W	
Th	
F	
Sat (Inspection Optional)	
Sun (Inspection Optional)	

PART 1B: Phase(s) of the Plan

Check ALL applicable box(es) that apply to completed & current phases	X
Initial installation of erosion and sediment control measures	
Clearing and grubbing of existing ground cover	
Completion of any grading that requires ground cover	
Completion of all land-disturbing activity, construction or development	
Permanent ground cover sufficient to restrain erosion has been established	

Are there any site or project conditions that limit completion of inspection?

If yes, explain conditions and areas of site that were inaccessible.

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PART 2: STORMWATER PLANS AND CONTROLS: For each question below, mark the corresponding box as Yes, No or N/A. For all items marked “No”, note in Part 3A the Reference letter and provide the Corrective Action and location of the deficiency, the original date noted, and the date it was noted as being corrected. NOTE: Reference letters may be used multiple times.

Reference	Part 2A: Stormwater Pollutant Controls	Yes	No	N/A
C	Are erosion and sediment controls that are shown on the approved plan installed and operating properly with no repairs needed?			
D	Are stormwater controls that are shown on the approved plan installed and operating properly with no repairs needed?			
E	Vehicle Tracking: Are construction entrances operating properly with no repairs needed?			
F	Soil Stabilization: Are areas of the site where construction activities have ceased been properly stabilized within the required timeframes?			
G	Are earthen stockpiles stabilized or otherwise protected from sediment loss, and located at least 50 feet away or downhill from drain inlets and surface waters?			
Reference	Part 2B: Non-Storm Water Pollutant Controls	Yes	No	N/A
H	Concrete, stucco, paint, etc. washouts: Are washouts installed, properly located, posted and operating with no repairs needed?			
I	Solid & hazardous wastes: Are trash, debris, and hazardous materials properly managed?			
J	Sanitary waste: Are portable toilets properly located and operating with no visible repairs needed?			
K	Equipment and stored fluids: Are fuels, lubricants, hydraulic fluids, etc. contained so as not to enter surface and ground waters?			

For any items listed in the section below, a full description of sedimentation is required in Part 3A. This includes, but may not be limited to: location, estimated amount of sediment that has left the site and/or entered waters, apparent causes of the sediment loss, and what corrective actions need to be taken to prevent this from recurring.

Reference	Part 2C: Sedimentation	Yes	No	N/A
L	Are sediment or other pollutants noted beyond the approved or permitted limits of disturbance?			
M	Are BMPs detected as releasing sediment or other pollutants into receiving waters?			

PART 3A: EROSION AND SEDIMENTATION CONTROL MEASURES: Measures **should** be inspected at least ONCE PER 7 CALENDAR DAYS AND WITHIN 24 HOURS OF A RAINFALL EVENT EQUAL TO OR GREATER THAN 1.0 INCH PER 24 HOUR PERIOD. *Add rows as needed.*

Erosion and Sedimentation Control Measures Inspected			Inspection Date	Describe Actions Needed <u>Corrective actions should be performed as soon as possible and before the next storm event</u>	Date Previous Action(s) Observed as Corrected
Measure ID or Location and Description	Reference(s)	Operating Properly? (Y/N)			
Report unanticipated bypasses, or non-compliance conditions that may endanger health or the environment, to the appropriate DEQ Regional Office via phone call or email within 24 hours of discovery.					

PART 3C: GROUND STABILIZATION: Must be recorded, at a minimum, after each phase. *Add rows as needed.*

Site area description and location where construction activities have temporarily or permanently ceased	Time Limit for Ground Cover (see table below)	Have stabilization measures been installed? (Y/N)	Temporary or Permanent Stabilization (T/P)	Is Ground Cover Sufficient to Restrain Erosion? (Y/N)	Original Inspection Date	Describe Actions Needed <u>Corrective actions should be performed as soon as possible and before the next storm event</u>	Date Previous Action(s) Observed as Corrected

GROUND STABILIZATION TIMEFRAMES (RECOMMENDED)		
Site Area Description	Stabilization	Timeframe Variations
Perimeter dikes, swales and slopes	7 Days	None
High Quality Water (HWQ) Zones	7 Days	None
Slopes Steeper than 3:1	7 Days	7 days for perimeter dikes, swales, slopes and HWQ zones 14 days for slopes 10 ft or less in length and not steeper than 2:1
Slopes 3:1 to 4:1	14 Days	7 days for perimeter dikes, swales, slopes and HWQ zones 7 days for slopes greater than 50 ft in length
All other areas with slopes flatter than 4:1	14 Days	7 days for perimeter dikes, swales, slopes and HWQ zones

PART 3D: NEW OR REVISED MEASURES: Erosion and sedimentation control measures omitted or installed, at a minimum since the last inspection, shall be documented here or by initialing and dating each measure or practice shown on a copy of the approved erosion and sedimentation control plan. Alterations and relocations of measures shall also be documented if they significantly deviate from the approved plan. The removal of measures should also be documented. List dimensions of measures such as Sediment Basins and Dissipator Pads. Add rows as needed. Corrective actions should be included in Part 3A.

Measure ID or Location and Description	Proposed Dimensions (ft.)	Actual Dimensions (ft.)	Significant Deviation* from Plan? (Y/N)	Date measure observed as installed, altered, relocated or removed	Installed (I) Altered (A) Relocated (R) Removed (X)

*Significant deviation means any omission, alteration or relocation of an erosion or sedimentation control measure that prevents it from performing as intended.

PART 4: Signature of Inspector

Financially Responsible Party (FRP) / Permittee				County	
INSPECTOR		Name	Employer		
Inspector Type (Mark)	<input checked="" type="checkbox"/>	Address			
FRP/Permittee	<input type="checkbox"/>				
Agent/Designee	<input type="checkbox"/>	Phone Number	Email Address		
By this signature, I certify that this report is accurate and complete to the best of my knowledge.					
Financially Responsible Party / Permittee or Agent / Designee			Date & Time of Inspection		