City Council Agenda Memo

Crest Hill, IL

Meeting Date:	May 5, 2025
Submitter:	Patrick Ainsworth, AICP Community and Economic Development Director
Department:	Community & Economic Development
Agenda Item:	Discussion of Special Use and Variation Application for 501 Caton Farm Road

Summary:

Verde Engineering, on behalf of Hendrickson USA, LLC (the Applicant) appeared before the Plan Commission (PCZBA) on April 24, 2025, requesting a Special Use Permit and Variations for the construction and operation of a solar array for the property located at 501 Caton Farm Road.

The project encompasses a 4.8-acre portion of the Applicant's western parcel (PIN 11-04-33-100-002-0000) to construct a solar array and an emergency vehicle only access road to assist emergency vehicles gaining access to this solar array if an emergency related event occurs. The power generated from the solar array will help generate electricity for the Hendrickson USA facility on the eastern parcel (PIN 11-04-33-100-003-0000). After the Applicant presented the case to the PCZBA at the April 24, 2025, Special Plan Commission Meeting, the PCZBA made a favorable recommendation on the new Special Use Permit and Variation requests.

The recommendation from the Plan Commission included the following 10 (ten) conditions:

1. That the drawings submitted for a building permit shall be in substantial compliance with the drawings approved by City Council and identified below, unless otherwise noted in the remaining conditions:
    - Solar Ground Mount System Plans Engineered by PurePower Engineering last dated 3/28/2025
    - Stormwater Management Permit Details Prepared by Hey and Associates Inc. Last Dated April 15, 2025
    - Structural Detail Drawings Created by DCE Solar Sheets 1 through 5 Last Dated 3/6/2025
    - Landscape Plans Created by Hey and Associates Inc. Last Dated 3/31/2025

2. The gravel driveway and loading area in the front of the accessory building on the property with the Permanent Index Number of 11-04-33-100-002-0000 shall receive a permit to transition this surface material to an approved surface material to be in compliance with Zoning Ordinance Section 11.6-1 and follow applicable construction standards. This specific area includes the driveway entrance from Caton Farm Road leading to the accessory building as well as to the gates of the solar array area. This permit shall be issued before May 19, 2026.

3. The emergency access road containing the 3/4" limestone surface material shall be improved with a base material and construction method approved by the City Engineer. All details of the materials and construction methods shall be submitted with the building permit application for the solar array.

4. The thickness of stone for the temporary construction access road should be at least two inches thick.

5. Prior to permit issuance for the solar array the structural calculations report provided with through submittal will need to be signed and stamped by a Licensed Structural Engineer.

6. A Fire Truck Turning Performance Analysis shall be provided for review and approval as part of the building permit application submittal for the solar array.

7. If any new outdoor lighting is being proposed with this project, then a Photometric Plan shall be provided at time of submitting a building permit application to ensure compliance with applicable codes and regulations.

8. All required final design drawings and related supporting project information shall be submitted for final engineering review and approval in conjunction with the formal building permit application submitted for the solar array.

9. All new shade trees, ornamental trees, and evergreen trees proposed on north of the solar array shall be planted with a minimum height of six feet and a minimum of 2.5" caliber at time of planting.

10. All conditions made with this Ordinance shall be transferred to any new property owner.

Recommended Council Action: Community Development staff recommends that the City Council allow the subject Ordinance go on the May 19, 2025 Regular Meeting Agenda for final consideration.

Attachments:

- Attachment A - Special Use and Variance Application
- Attachment B - April 24, 2025 Special Plan Commission Meeting Transcript
- Attachment C - Special Use Ordinance (with associated Exhibits)

Attachment A

Application for Development

For Office Use Only: **Case Number:**

Project Name: Hendrickson USA - Solar PV

Owner: Hendrickson USA LLC

Street address: [redacted]

City, St., Zip: [redacted]

Phone: [redacted]

Email: [redacted]

Correspondence To: Grace Rasmussen, Verde Solutions LLC

Street address: [redacted]

City, St., Zip: [redacted]

Phone: [redacted]

Email: [redacted]

Property Address:

Street address: [redacted]

City, St., Zip: Crest Hill, IL 60441

PIN: 11-04-33-10-002

Property Information:

Lot Width: 830.038 ft

Lot Depth: 629.428

Total Area: 549350.8329 sq ft (12.61 acres)

*Submit an electronic version of the legal description only in a Word document to: buildingdepartment@cityofcresthill.com

Existing Zoning: M2

Existing Land Use: General Manufacturing District

Requested Zoning: M2

Proposed Land Use: General Manufacturing District

Adjoining Properties Zoning and Uses:

North of Property: 11-04-28-100-003 Stateville

South of Property: 11-04-33-100-006 Commonwealth Edison Co

East of Property: 11-04-33-10-003 Hendrickson USA LLC

West of Property: 11-04-33-100-001 Roman Catholic Diocese

Purpose Statement (intended use and approval sought):

Install 1.18 MW of fixed tilt ground mounted solar contained within a fence.
Total area with fence is approximately 4.7 acres. The solar array is set back approximately 180 feet from Caton Farm Road.

Development Request: Please check all that apply and describe:

[ ] Rezoning:_____

[X] Special Use: Ground Mounted Solar PV

[ ] Variance:_____

[ ] Planned Unit Development:_____

[ ] Annexation:_____

[ ] Plat:_____

[ ] Other:_____

Contact Information – If not yet known, please indicate as TBD. Check those parties in which copies of all correspondences should be forwarded.

[ ] Civil Engineer:_____ Phone:_____

Company:_____ Email:_____

[X] Contractor: Grace Rasmussen Phone: [redacted]

Company: Verde Solutions LLC Email: [redacted]

[ ] Architect:_____ Phone:_____

Company:_____ Email:_____

[ ] Builder:_____ Phone:_____

Company:_____ Email:_____

I agree to be present (in person or by counsel) when the Plan Commission and City Council hear this development request.

Grace Rasmussen 3/10/2025

Signature of the Applicant Date

If you (the applicant) are not the owner of record, please provide the owner's signature.

03/14/25

Signature of the Owner Date

Attachment B

CREST HILL PLAN COMMISSION

APRIL 24, 2025

REPORT OF PROCEEDINGS had in the above-entitled matter, at 20600 City Center Boulevard, Crest Hill, Illinois, commencing at 7:00 o'clock p.m. on the 24th day of April, 2025.

BEFORE:

Bill Thomas, Chairman
John Stanton, Commissioner
Marty Flynn, Commissioner
Angelo DeSerio, Commissioner
Jeff Peterson, Commissioner
Ken Carroll, Commissioner
Cheryl Slabozeski, Commissioner
Patrick Answorth, Community/Economic Development Director
Samantha Tilley, Executive Secretary
Mike Stiff, City Attorney

PRESENT:

Chris Batsch, Hendrickson USA LLC
Grace Rasmussen, Verde Solutions

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CHAIRMAN THOMAS: Okay. Welcome. I would like to call the April 24th, 2025 Special Plan Commission Meeting to order at 7:00 p.m.

If you're able, please rise for the Pledge of Allegiance.

(Pledge of Allegiance.)

CHAIRMAN THOMAS: Thank you. May we have the roll call, please?

SAMANTHA TILLEY: Bill Thomas?

CHAIRMAN THOMAS: Here.

SAMANTHA TILLEY: Ken Carroll?

COMMISSIONER CARROLL: Here.

SAMANTHA TILLEY: Cheryl Slabozeski?

COMMISSIONER SLABOZESKI: Here.

SAMANTHA TILLEY: Angelo DeSerio?

COMMISSIONER DESERIO: Here.

SAMANTHA TILLEY: Jeff Peterson?

COMMISSIONER PETERSON: Here.

SAMANTHA TILLEY: Marty Flynn?

COMMISSIONER FLYNN: Here.

SAMANTHA TILLEY: John Stanton?

COMMISSIONER STANTON: Here.

CHAIRMAN THOMAS: Okay. Thank you.

First order of business is to approve the

minutes from our previous two meetings. Can I have a motion, please, to approve the minutes from the Plan Commission meeting held on March 13th, 2025?

COMMISSIONER DESERIO: So moved.

CHAIRMAN THOMAS: Motion by Angelo DeSerio and --

COMMISSIONER PETERSON: Second.

CHAIRMAN THOMAS: -- Commissioner Peterson.

A roll call, please.

SAMANTHA TILLEY: Angelo DeSerio?

COMMISSIONER DESERIO: Yes.

SAMANTHA TILLEY: Jeff Peterson?

COMMISSIONER PETERSON: Yes.

SAMANTHA TILLEY: Marty Flynn?

COMMISSIONER FLYNN: Yes.

SAMANTHA TILLEY: John Stanton?

COMMISSIONER STANTON: Yes.

SAMANTHA TILLEY: Ken Carroll?

COMMISSIONER CARROLL: Yes.

SAMANTHA TILLEY: Cheryl Slabozeski?

COMMISSIONER SLABOZESKI: Yes.

SAMANTHA TILLEY: And Bill Thomas?

CHAIRMAN THOMAS: Yes.

SAMANTHA TILLEY: Motion carried.

CHAIRMAN THOMAS: And now can I have a motion to approve the minutes from the Plan Commission Meeting held on March 27, 2025? Was that a special?

SAMANTHA TILLEY: Yes.

CHAIRMAN THOMAS: Better put special on the title there. Special Plan Commission Meeting.

COMMISSIONER CARROLL: So moved.

CHAIRMAN THOMAS: Motion by Commissioner Carroll.

COMMISSIONER PETERSON: Second.

CHAIRMAN THOMAS: Second by Commissioner Peterson.

Roll call, please.

SAMANTHA TILLEY: Ken Carroll?

COMMISSIONER CARROLL: Yes.

SAMANTHA TILLEY: Jeff Peterson?

COMMISSIONER PETERSON: Yes.

COMMISSIONER FLYNN: Yes.

SAMANTHA TILLEY: Marty Flynn?

COMMISSIONER FLYNN: Yes.

SAMANTHA TILLEY: John Stanton?

COMMISSIONER STANTON: Yes.

SAMANTHA TILLEY: Cheryl Slabozeski?

COMMISSIONER SLABOZESKI: Abstain.

SAMANTHA TILLEY: Angelo DeSerio?

COMMISSIONER DESERIO: Yes.

SAMANTHA TILLEY: And Bill Thomas?

CHAIRMAN THOMAS: Yes.

SAMANTHA TILLEY: Motion carried.

CHAIRMAN THOMAS: Okay. Next item is new business. We have one case on the agenda for tonight, a public hearing and consideration of Case SU-25-2-4-1, a request of Hendrickson USA LLC seeking approval for a special use permit and variations for a new solar array, which is classified as a utility facility under the Crest Hill Zoning Ordinance on a 4.8-acre area of land in an M-2 general manufacturing district located at 501 Caton Farm Road in Crest Hill, Illinois.

Samantha, is all the paperwork in order?

SAMANTHA TILLEY: The necessary paperwork is in order.

CHAIRMAN THOMAS: Okay. Thank you.

Then I would like to have a motion to open the public hearing for Case SU-25-2-4-1.

Motion, please.

COMMISSIONER DESERIO: So moved.

CHAIRMAN THOMAS: Motion by Commissioner DeSerio.

COMMISSIONER SLABOZESKI: Second.

CHAIRMAN THOMAS: Second by Commissioner Slabozeski.

Roll call, please.

SAMANTHA TILLEY: Angelo DeSerio?

COMMISSIONER DESERIO: Yes.

SAMANTHA TILLEY: Cheryl Slabozeski?

COMMISSIONER SLABOZESKI: Yes.

SAMANTHA TILLEY: Ken Carroll?

COMMISSIONER CARROLL: Yes.

SAMANTHA TILLEY: John Stanton?

COMMISSIONER STANTON: Yes.

SAMANTHA TILLEY: Jeff Peterson?

COMMISSIONER PETERSON: Yes.

SAMANTHA TILLEY: Marty Flynn?

COMMISSIONER FLYNN: Yes.

SAMANTHA TILLEY: And Bill Thomas?

CHAIRMAN THOMAS: Yes.

SAMANTHA TILLEY: Motion carried.

CHAIRMAN THOMAS: Public hearing is

opened at 7:03 p.m.

Again, this hearing is to discuss case SU-25-2-4-1. So I would now like to ask our Community and Economic Development Director Pat Answorth to present the specifics of the case.

MR. ANSWORTH: Thank you, Chairman.

Can you hear me okay? Okay. I'll be actually brief.

The petitioner has prepared a very thorough presentation, but, as presented tonight, there's one special use and one variation from the zoning ordinance and a deviation from the City code for the driveway.

The subject property actually consists of two pins, there's the manufacturing facility on the eastern pin, which the subject -- the applicant has been at that subject site for nearly 50 years. They have committed to investing in this property and including alternative energy, hence the solar array on the western site, and part of their grant -- part of their application mentioned that the -- part of a grant from the state of Illinois, so this will actually help power their -- all their facilities for their

annual needs. It's approximately 1. -- I think -- 8 megawatts of power. So hence that size creates a unique size of this project. Our community and economic development consultant, Ron Mentzer, was working with them before my tenure and determined it was a special use. As part of that special use process we looked at the entire site and were kind of working with them on their driveway on the eastern pin, it exceeds 30 feet, so if they ever go to repave that property, tonight's applications kind of protect that driveway, they can just go straight to permit, and hence that's the, again, deviation being requested.

The other variation is we were working closely with the Lockport Fire Protection District. This is, again, a unique circumstance. We do not have a solar array of this size, so, from a life-saving perspective, even though this is an unmanned area, our Fire Protection District thought it would be necessary to gain access to this property, but because this area is just north of a wet -- of a floodplain area and they're not required to do any storm water detention, we worked with them carefully to craft a design of

this road that you'll see in the site plan later tonight of limestone -- it's a three quarter stone lined with limestone material. Our City engineer was closely working with their engineering firm and the Fire Protection District to create that. Our City code requires driveways, drive aisles, parking areas to be paved. Storage areas for heavy equipment can be gravel. So this an emergency vehicle only access road. It's tucked 180 feet back from Caton Farm Road. It's tucked behind a landscaped area, and then it will be further protected by additional landscaping that you'll see on the landscape plans.

So the variation is for the material itself, but because this is a locked facility, fenced facility and just for the Lockport Fire Protection District, and perhaps some maintenance down the road, Staff is supportive of the unique circumstance to grant that variation.

As you can see on pages 3, there's a (inaudible) regulation analysis for the zoning ordinance. I'm not going to go through all of it, but they're in compliance except for the gravel material -- the limestone material, and then in

compliance with the comprehensive plan there was an analysis on page 4, and then, finally, with Staff support, there is ten conditions that I don't want to read, but if you need me to, I can, just to make sure that we help this development maintain a high level of standards and design. And I'm happy to answer any questions if you so have any.

CHAIRMAN THOMAS: Any questions for Pat at this time?

Okay. Thank you, Pat.

Okay. So I guess we're going to start off with Chris from Hendrickson --

CHRIS BATSCH: Yes.

CHAIRMAN THOMAS: -- USA LLC.

Are you going to sit there or...

CHRIS BATSCH: That would be preferred.

CHAIRMAN THOMAS: That's fine. If you could just stand enough to raise your right hand.

CHRIS BATSCH: Okay.

CHAIRMAN THOMAS: In fact, why don't you both stand? I'll swear you both in and then we won't have to go through that again.

(Chris Batsch and Grace Rasmussen duly sworn.)

CHAIRMAN THOMAS: Okay. Thank you.

Take it away, Chris.

CHRIS BATSCH: All right.

Good evening, everybody, and thank you for hosting this event, for scheduling the kind of special meeting for us to get together and talk about this.

My name is Chris Batsch. I'm the general manager at Hendrickson Bumper, almost right across the road from you guys here in Crest Hill. I have been with Hendrickson for about 15 years. I have been at the bumper division here in Crest Hill for almost three years. I did want to start off just with a brief overview of Hendrickson, and I know most in the room probably aren't very familiar with what Hendrickson does, and a little bit of background, and then I'll turn it over to Grace from Verde Solutions who is the solar installer to give a little bit more detail.

Just to kind of give a quick overview. Hendrickson is a corporate company. We have been around for about 100 years. We have always been focused on the truck industry. We

actually started off at the beginning manufacturing trucks for the trucking industry, and then eventually we evolved into focusing more on part -- part or sub-system supply to the heavy truck industry. Our main focus is suspension, axles, trailer axles, leaf springs, blast (inaudible) components, and probably, to my team in the room, most importantly the bumpers, which is what's made right down the road.

A little quick overview of the company. So the company is family owned. We are privately held. So it -- we do keep most of our information pretty close to our vests, so if there are questions regarding the company, we'll try to answer it as best as we can. We are owned by the Boler company, which is a family-owned company. They're structured -- or headquartered up in Schaumburg, Illinois. Globally we have about 6,000 employees, about 30-plus locations worldwide. Most of the locations that we have within our facilities are there to provide in-country manufacturing and supply to our

customers. So if you look at what Hendrickson USA mainly does, we export more than we import from that perspective. We have six brands across all of our divisions. Several of these brands actually supply components within Hendrickson. So I realize that it's a little bit of a complicated structure for the company, but just want to give a little background regarding the whole company as a whole.

Jumping into our division that's at the Crest Hill facility. We are the Hendrickson bumper division. So we have about 150,000 square feet, and that's divided over two facilities. We have Crest Hill and a facility in Dayton, Ohio. The Dayton, Ohio facility is primarily just a distribution center, so parts go in and out of that facility, there's not any manufacturing. All of the manufacturing that we do is here at the Crest Hill facility. We currently run -- excuse me. Here in Crest Hill we currently run a two shift operation. We have about 90 people on staff between those two shifts. Majority of our staff is on the

first shift.

I think Patrick kind of alluded to that Hendrickson has been a part of the community for a very long time, close to 50 years. The Hendrickson company acquired that facility back in 1977, so we have been embedded into Crest Hill since 1977. We have all the functional support functions within that facility. We do not rely on our corporate divisions for most of our day-to-day activities, so we do have operations, engineering, quality, marketing, all of those aspects that are under one roof. We are a Tier 1 supplier to most of the OEMs, and I'll jump into a little bit more detail to shed a little bit more light on kind of what kind of products that we do and what our specialty is. We do make about 100,000 bumpers a year. If you're familiar with the Class A industry or the heavy truck industry it's anywhere from 250- to 300,000 trucks that are made a year just to put that in perspective.

The core values at our facility. No. 1 priority is safety, No. 2 is quality, and then

innovation. When we look at the competitive market of the bumper field, we are leading the way in innovation, and the next step for us is from a sustainability aspect, which is why we're here today.

We do hold several certifications within this facility. IATF, which is a quality process control standard that we do hold, that is the highest level for our industry. ISO 14001, that is an environmental standard that we are certified to. VPP Star certification. This is an OSHA funded program or an OSHA provided program. We are the only manufacturer within North America that is -- that has been awarded this certification. This certification is for companies that go above and beyond the minimum standards for safety, and we -- we -- sorry, for safety and proactive things that we do towards the safety of the employees. The last one that we have is Great Places to Work certified. This is another one that we just recently got. This involves the culture of -- and the voice of the employees. So we currently are the only

company within Crest Hill that has that certification. And I forgot to add, for the VPP OSHA, we are also the only company in Crest Hill that has obtained that certification.

I won't go through all the details of what we do. The equipment that we have on site, there's a lot of equipment, a lot of big equipment that we have behind those walls at our facility, most of it for stamping and forming operations of bumpers. The big takeaway of what we have here, every single one of these pieces of equipment requires a massive amount of electricity. These are energy hogs. There's -- even though we are investing in bringing them up to the latest technology, they still require a lot of energy to take big pieces of metal and form them into the shape of bumpers for our customers.

Just to give a you little -- I guess a snapshot of what we do. All of these products that you see on the screen are just a little bit of a sample of what we manufacture out of that facility. We do anything from school

buses to garbage trucks to cement trucks to on the highway. We -- pretty much if it's a metal bumper that's out there on the road, most likely we manufactured it here at that facility. We do a variety of finishes. Most of these are customer spec driven, but we -- we do a lot of bumpers that go through the facility.

The main reason what prompted this project was driven by the customers. Hendrickson has a lot of internal sustainability goals, but our customers are even more demanding than what we initially started off with our sustainability goals. In the last five years several customers have taken the requirement that the companies have to have advancement in sustainability and targets towards carbon neutral to be able to be awarded new business. So this is something that we made a commitment to our customers that we would -- we would go after and pursue.

As I mentioned, a lot of our equipment is electric driven; the presses, the robots, the laser cutters, all of that is -- is utilizing

electricity. So our biggest opportunity for the next step towards carbon neutrality is electricity. So that's the main reason why we wanted to go after the solar.

So back in 2002 -- or, sorry, 2022 we created this five-year major investment plan that we presented to the board of directors. A lot of this involves new equipment, but it also aligns with the sustainability goals of the customers. All of this with the intent of maintaining our position here in Crest Hill and growing our business here across the industry. So, as a result of what we put together, including our commitment to our customers that we were going to install a solar, we're currently facing about a 50 percent growth for that facility. If you go back and you look at the history of the facility, the facility has not seen that level of growth ever since we started that business. So we are in -- on the brink of a very massive growth plan that we are going through and executing. All of this is a result of all the investment that we put forward, the

sustainability aspects, and the customers and in alliance with our customers' goals.

Just a little bit about some of the recent investments that were included in this five year plan.

High tonnage deep draw presses. For those of you -- I definitely welcome anybody to come by and stop in for a tour. The equipment that we have are just massive pieces of machine. Most of the press beds that we have can fit a full size car inside the press beds. So the full size equipment is 20, 30 feet tall, a couple hundred thousand pounds, so we're talking about very big equipment that uses a lot of electricity. We completed the building expansion, some of you may or may not be aware of that, on the backside of the building that we were able to increase our capacity. We added in a fiber high speed laser that was recently commissioned. We have another deep draw press that's currently being installed within the next couple months, a robotic buffing cell, and the last piece of this equation for what we're working on right

now is the solar field.

So the result of all of these is not only increasing our capabilities, but it's also increasing our sustainability. We're trying to maintain our leader -- our leader position within the bumper industry and this is only going to further separate us from our competition and drive more business towards our facility.

I wanted to talk a little bit about the selection process here with Verde just to kind of give you guys a little bit of reassurance that we did do our due diligence, that this wasn't something that we picked out of the back of the Yellow Pages, we actually went through a fairly -- fairly thorough vetting process.

We started off with four major solar installers that do commercial solar installation here within the Chicagoland. We established several requirements; engineering and installation to be a one-stop shop. Surprisingly, as we learned, that's pretty rare within the solar industry. There's not

many companies that do these together. Most of them outsource one or the other. We wanted one person to be able to call if there's a problem with the engineering, the installation, the service, the warranty, everything all in one spot. We wanted somebody local that was within 100 miles that could be on site as needed. We also wanted to demonstrate local performance. I think Grace will touch on a few of those in her presentation that she'll share with you. We went out to some of these locations, spoke to the installation team, some of these are cities that develop some of these that Grace will talk through. We also needed help with the incentives. If you're not in the solar industry, it's a little daunting to go through all of the -- the different -- the building permits, the incentives, all the requirements to be able to meet those. And also subject matter knowledge. Not just with the solar, but also all the other aspects that come along with it. For example, Patrick referenced the fire code and what is the requirements for

those. We wanted people with those expertise.

When we got through all of the RFQs, we found that Verde was the only company that checked all those boxes, and they were -- and they were very well reputable in all of them, so that's why we decided to select Verde.

So as we pulled together the business case, we presented to our board of directors. As we have progressed this, it has been almost eight months since we presented the solar field to the Board of Directors and received their approval. We have been trying to make sure that we meet the timing that we committed to on the Board of Directors. A lot of this is tied to very tight timing on the solar incentives, whether it's state, federal, there's a wide range. I think also a utility one. A lot of these have pretty strict timelines, and as time progresses these are not linear events, they are flip events for the amount of funding that changes at certain time periods.

So really what we wanted to stress to this -- to this group here is the balance of

everything that we tied together with the investment cost, the timing, the incentives, the payback, all of that was factored into this, so we definitely appreciate you guys taking this time to meet with us under this circumstance.

So, in summary, before I turn it over to Grace, Hendrickson is dedicated to advancing our manufacturing technology and sustainability. We know that this will be the next step to put us completely at the leader board for our industry, for where we're looking to go long term. We're also dedicated to investing into Crest Hill. The amount of money that has been dumped into this facility is probably equivalent in the -- within the last three or four years is equivalent to the last 15 years prior. So the -- the Boler family, the Hendrickson company is dedicated to adding jobs here within Crest Hill, making major investments and advancing our technology.

The last thing, just as we advance this technology and sustainability, we have full

confidence this is only going to further grow our business and bring more jobs to the community.

So, with that, any questions for me regarding Hendrickson before Grace kind of steps in?

CHAIRMAN THOMAS: I'm just kind of curious, with all this talk going around these days about tariffs and you relying on export business so much, how does any of that affect your business?

MR. BATSCH: At the corporate level it definitely does. That's more of an impact. Our division, the bumper division, 98 percent of ours is picked up by U.S. based customers. So we are not faced with the tariffs as much, which definitely puts us in a greater position versus our competitors that are outsourcing a lot of these, whether it's the paint or the chrome process or things like that that are being outsourced across the borders.

So, from our standpoint, we are very well positioned from the tariff aspect because all of our processes are here in the U.S., and then all

of our customers are also here in the U.S., they're U.S. based customers. So, great question, but we think the impact is going to be very minimal to us. If anything, it's going to be favorable to Hendrickson.

CHAIRMAN THOMAS: Okay. Thank you.

COMMISSIONER SLABOZESKI: I'm just curious what the cost savings would be by using solar panels.

CHRIS BATSCH: Being that -- I don't think I can share that number.

COMMISSIONER SLABOZESKI: Okay.

CHRIS BATSCH: Being a privately held company with the amount of -- the amount of electricity that we're going to be saving, yeah, unfortunately I can't share that.

COMMISSIONER SLABOZESKI: Okay.

CHAIRMAN THOMAS: Okay. Grace?

COMMISSIONER STANTON: I have a couple questions.

It's a fantastic project and I'm excited that we're having a solar panel farm. Reading through this report on page 30 regarding system removal, not that you have any plans on removing

it, but technology has been moving over time, especially renewable energy --

MR. BATSCH: Sure.

COMMISSIONER STANTON: However, atomic energy is still in development --

MR. BATSCH: Absolutely.

COMMISSIONER STANTON: And they can claim that that is more energy efficient than the renewable energy that is put out there, but my concern with this regarding the system removal, it says "during the system removal Verde will remove all tangible property relating to the solar system. The land will be restored to it's original condition with the exception of buried conduit."

Well, I don't like buried conduit. I'm sure there's a lot of conduits underneath --

CHRIS BATSCH: Sure.

COMMISSIONER STANTON: -- and I'm sure using at least one inch piping or more, and that's not good. It needs to be included to be removed.

CHRIS BATSCH: Sure. Yeah.

COMMISSIONER STANTON: For future development in case if someone wants to do

excavation or do some development, you know, after it's being removed. Not that you have any plans to, but it should be removed.

CHRIS BATSCH: Understood. I think that's acceptable to include in. From our perspective, the solar disposal technology continues to evolve almost on the daily basis on what type of recyclability, that's why I think it was difficult for us to really put together a plan of what that would look like from a removal, a disposal and the recyclability. We don't know where this is going to -- what kind of technology is going to be out there from the solar and, to your point, maybe it's atomic that might be able to evolve into a different -- a different use case for that land.

From our side, I know Hendrickson, based off of everything that we do, we typically go after what is the most sustainable or environmentally friendly option, and that is everly changing from a day-to-day perspective. I know Grace will touch on this a little bit, you know, we will be working with Grace during the terms of the warranty period and probably even

beyond that. So who knows what kind of technology that Verde will have access to in 30 years, if we even need to replace it at that time.

MS. RASMUSSEN: Yeah, just to add, the solar panels are warrantyed for 30 years, so I guess we'll have to see what happens in 30 years and what Hendrickson wants to do. The solar panels will continue to produce long after that, it's just outside of the warranty, but, yeah, I guess that's one bridge we'll cross when we get there, but we will note the conduit removal.

COMMISSIONER STANTON: Okay. Okay. And my next concern is the impervious gravel system. There's -- people say that it's -- gravel while it's -- what have you, is not impervious -- or it is impervious, it's not pervious. Only because over time gravel, stone, and what have you, settle and it collects dirt, et cetera. So you would have more and more runoff -- water runoff over a period of time. Maybe you should investigate a pervious draining system. I'm sure there's many of them out there. I'm not too comfortable with the gravel because you -- you do have equipment driving on there. I would imagine the fire trucks

and what have you, if it's not compacted enough, how is that going to support the trucks?

CHRIS BATSCH: Sure.

COMMISSIONER STANTON: Okay. And in any event that they have to go and take the -- you know, take out the fire, I'm not quite sure if the gravel -- three quarter inch gravel system works unless you -- you have a system in path that it's going to work for 30 or more years.

PATRICK ANSWORTH: I'm going to chime in if that's okay.

So our City engineer was in on the same meeting with Grace and her team as well as the Fire Protection District. There is an underlayment that will be approved. There's a condition in here that will be approved as part of the construction of this, and our City engineer advised during this time to make sure that it's compacted, but not too compacted to become impervious to then require detention. If detention was -- if impervious surfaces were going to be mandated here, that would have triggered detention requirements and made -- or not make this project financially feasible.

So you have our City engineer, with a lot of experience, with the Fire Protection District, with the Verde team designing this project as the best alternative and the best scenario for the presentation.

CHRIS BATSCH: Yeah. From our side we're definitely open to that. The reason why that proposal does include that is, as Patrick stated, was recommended from the --

PATRICK ANSWORTH: City engineer.

CHRIS BATSCH: -- one of the City engineers.

From our side we also acknowledge that we will need to maintain that road, so it's not put it down once and let it go. This is one that we will have to repeatedly, whether it's regrade, we may have to resurface the gravel as well as the three quarter inch loosely compacted that was specified. So there will be maintenance required. From our side I think that will be something that we would work with the fire marshall to understand that there is a point of degradation or any type of concern from being able to support the weight of the truck. Ultimately we hope the road never

gets used.

COMMISSIONER STANTON: Okay. Well, I have to believe that there are a pervious system, like there's pavers where grass grows through it and it supports the vehicles and what have you, and you will need to cut lawn, anyway, around the solar panels, so I would think it would be a less of a maintenance. Yeah, it might be a little more cost up front, but not as expensive as a pavement like concrete or asphalt or what have you to eliminate the detention pond and to minimize the water runoff, but I think there is a better system, maybe it needs a little more investigation, what's appropriate. Yes, the cost is a factor in this, but I would like to see if you can look into another alternative to a gravel road.

CHRIS BATSCH: I think we would be more than happy to investigate anything that's recommended by the City. I think the City engineers probably have much more experience from that aspect than we do. If you need a bumper we can help you, but we're not very good at designing gravel roads, but we were -- we would be more than

happy to entertain or quote anything that we looked at.

One thing to keep in mind, we are talking about a rather extensive amount of property that we would have to put this down. I think the total size is over four acres. I think it was 30, 33,000 -- how many feet all the way around?

UNIDENTIFIED SPEAKER: 40-something thousand.

CHRIS BATSCH: 40 thousand square feet.

COMMISSIONER STANTON: That's quite a bit.

CHRIS BATSCH: So it's a massive amount. And, as Grace will point out, the other thing that we have to consider is also turnaround points for the fire trucks. So it's not just a ten-foot wide, the fire truck has to be able to swing the entire ladder around it, which made about 20 percent more road surface that would be required out there.

So, from our perspective, we would definitely entertain and quote anything that was recommended as alternatives to that.

COMMISSIONER STANTON: I'm sure you guys

have a solution for it and looking forward to, you know, to make it work. Just my request to take a little more -- you know, scrutinize it a little more --

CHRIS BATSCH: Sure.

COMMISSIONER STANTON: -- so it doesn't become a thorn in your gut --

CHRIS BATSCH: Absolutely.

COMMISSIONER STANTON: -- as issues come up later on, so...

CHRIS BATSCH: Thank you.

CHAIRMAN THOMAS: Anybody else?

Okay. Grace.

MS. RASMUSSEN: Okay. Thank you.

So this is a little bit more about Verde Solutions. We were founded in 2012. We're based out of Chicago downtown. Really we have done over 2,000 energy projects in 48 states. We have in-house NABCEP certified, that's a solar certification, and OSHA certification as well, and then the biggest selling point for us is that we do turn-key project delivery. So as soon as our clients sign the contract, we handle it all the way until the system is turned on, and then we

also provide post solar support once it is energized. And, as Chris mentioned to you, our install team is in-house, which, like he said, is rare in Chicago.

Here are some examples of similarly completed projects. So we did one for Thelen Sand and Gravel out in Lakemoor, this was at a gravel pit. We did one for Minooka Waste Water Treatment Plant butting up against the residential neighborhood there, and then we also had some landscaping and fencing required you can see here. And then we also completed the College of Lake County up in Grayslake. This was a 13 roof system in addition to a megawatt ground mount system.

Here is the plat of survey for Hendrickson. As Patrick noted, here is the -- here is one pin where the main facility is located and then the other pin where the solar field will be located.

Here is the current site. This picture was taken October 10th, 2024 from our satellite software. There are some trees here that have since been cleared, and then if you

remember this reference Point A, we have some pictures here, so looking west from the gate you can see it's an open field, and then looking north to Caton Farm Road there's already a screening of trees on the road.

So our wetland study partner identified a wetland south of the pin where our solar is proposed, and so they actually performed the wetland study on Tuesday, and so we're just awaiting the results. The reason we had to wait was just seasonal reasons. And then we do have a note that the solar array location is contingent on the final wetland study results. So we will move the array as needed based on the results.

Here is the proposed design. The blue is the solar panels, and so we have about -- just under 2,000 modules proposed, expected to produce 1.5 million kilowatt hours each year. And then, like Chris said, offsetting 100 percent of Hendrickson's electricity usage. So here is an example of what the solar would look like installed.

Here is the overall electrical plan.

Some things to note is there will be a fence connecting the west fence line and the east fence line, and then the gravel access path that we discussed has the turnaround points around the perimeter of the array, and then there's also a south fence line boundary.

This is zoomed in a little bit more.

Here is a racking elevation. So the panels are tilted at 30 degrees to the south, and there's about 19 feet in between each row, and there are two modules stacked on each row.

Here is an elevation of the typical fence details. So the access gate will be 16 feet wide based on the Lockport Fire Protection District advice, and then the general fence will be six feet tall with one foot of barbed wire.

Here is a drainage plan. I have highlighted the drainage area and the average ground slope is 2.15 percent under the solar array.

Here is a clip of the landscaping proposed. So we have about 216 new plants as required by the ordinance, and so you can see

a lot of them are focused towards the north further screening the array from Caton Farm Road. And then a handful of plants and shrubs -- trees and shrubs on the south portion of the facility. And then underneath the array will be a solar pollinator friendly mix -- seed mix.

Here is an elevation of the trees and shrubs. Here is a list of the 216 new plantings, so we have 97 -- or, sorry, we have 168 new trees proposed and 48 shrubs.

Here is a list of the solar field pollinator habitat seed mix and then the salt tolerant road side mix (inaudible) mix.

And here are some images of all of the plants and shrubs -- and trees are on the next slide -- that are proposed.

And then the gravel access path. Here is a cut sheet -- or an elevation view of the three quarter inch limestone gravel loosely compacted with a subgrade fabric. Here is a snip showing we did measure and take into account the truck turnaround radius and then just a general plan of the gravel access path

as well.

Any questions? I have kind of flipped through everything really quickly. We can go back and zoom in and --

CHAIRMAN THOMAS: So did you say you're going to keep all of the existing trees there along Caton Farm Road?

MS. RASMUSSEN: Yep. And then we have to add 216 based on the developed area.

CHAIRMAN THOMAS: And are you getting all those trees locally from one of our wonderful Crest Hill nurseries?

MS. RASMUSSEN: We definitely can, yeah.

CHRIS BATSCH: Absolutely.

CHAIRMAN THOMAS: I was surprised when I drove by there how -- what -- already what a tree barrier that exists. There are a lot of trees along Caton Farm Road, so...

CHRIS BATSCH: Yeah. Yeah.

CHAIRMAN THOMAS: And your access road that you have been talking about actually now comes off of your property, not off of Caton Farm Road, correct?

CHRIS BATSCH: That is correct.

MS. RASMUSSEN: The access to the solar field, yes.

CHAIRMAN THOMAS: Yeah. Okay.

CHRIS BATSCH: If you look at the slope coming off of Caton Farm Road it's rather steep. That would require a substantial amount of buildup to be able to get access.

CHAIRMAN THOMAS: And it would open up a window also, which --

CHRIS BATSCH: Yes. That is correct.

CHAIRMAN THOMAS: It's out of sight.

No, it looks very well thought out.

Okay. Anybody have any questions -- any more questions?

COMMISSIONER CARROLL: I just have one. What is underneath the panel? Is that going to be gravel or grass?

MS. RASMUSSEN: It's going to be grass and that pollinator friendly seed mix.

COMMISSIONER CARROLL: Okay.

CHAIRMAN THOMAS: Okay. What do we think?

Does Staff have any more questions before we --

PATRICK ANSWORTH: Just to go back on the access road. Again, this is the best compromise based on the cost, the regular requirements, there's not only our ordinance, but Will County that was conferred against with our City engineer who worked very closely with the Verde engineering team and, again, Staff makes a positive recommendation based on the conditions provided and the designs that you have seen tonight.

CHAIRMAN THOMAS: Mm-hmm. Yeah. I take a lot of confidence that our engineer and the Lockport Township Fire Department has reviewed that in detail, the -- to Commissioner Stanton's concerns about the material being used, that they felt pretty good to start off with that the way it is and, to your point, let's hope they never have to use it. It's not like it's going to be a high traffic area, but if they have to, we certainly don't want them to get stuck and not be able to get to where they need to go around there. So I think we have to kind of trust their judgment to that.

CHRIS BATSCH: Yeah. We did host the fire marshall there on site, so we walked the

grounds, took a look at everything, where the turning points would be, roughly where the solar field will lay out. We'll continue that relationship with him as we finish it and as well as annual inspections to get out there. We understand this is new for them, it's new for us, it's new for the City, so the more that we can communicate and open the door for coming out there to do it, whether they want to do training access, whatever, they'll have full access to that.

CHAIRMAN THOMAS: Okay. Are we good? Any more questions? And looking around the audience, unless my wife wants to say something, I don't see anybody else here that is not part of Hendrickson, so I just have to ask: Is there anyone in the audience that wants to come forward and make a comment or a question on this particular case? And I see none.

So if there are no more questions as part of the public hearing, I think I would like to ask for a motion to close the public hearing.

COMMISSIONER PETERSON: I'll make that motion.

CHAIRMAN THOMAS: Motion by Commissioner

Peterson.

COMMISSIONER FLYNN: I'll second it.

CHAIRMAN THOMAS: Second by Commissioner Flynn.

Roll call, please.

SAMANTHA TILLEY: Jeff Peterson?

COMMISSIONER PETERSON: Yes.

SAMANTHA TILLEY: Marty Flynn?

COMMISSIONER FLYNN: Yes.

SAMANTHA TILLEY: John Stanton?

COMMISSIONER STANTON: Yes.

SAMANTHA TILLEY: Ken Carroll?

COMMISSIONER CARROLL: Yes.

SAMANTHA TILLEY: Cheryl Slabozeski?

COMMISSIONER SLABOZESKI: Yes.

SAMANTHA TILLEY: Angelo DeSerio?

COMMISSIONER DESERIO: Yes.

SAMANTHA TILLEY: And Bill Thomas?

CHAIRMAN THOMAS: Yes.

SAMANTHA TILLEY: Motion carried.

CHAIRMAN THOMAS: The public hearing is closed at 7:47.

So I guess it's up to us now if we have any comments amongst ourselves that we need to go

back and consider. We certainly noted Commissioner Stanton's concern with the removal, and, I don't know, do we need to have any mention of that in anything right now going forward 30-plus years? If we take that out, do we have to have a note that we would like to make sure the conduit is included in the removal?

PATRICK ANSWORTH: So, I mean, the ordinance is -- the special use lays with the land, and obviously we hold this on. I don't know if I have a time clicker -- time clock for going up to 30 years, but if any new development happens on there, proper excavation takes place to remove anything on site that would impede on the health, safety, and welfare of a new structure. So I completely empathize with Commissioner Stanton's approach. A condition can be added 30 years from now during the decommissioning of this to remove the conduit and, you know, Staff 30 years from now will have to review that ordinance prior to any demo permit, but when excavators are out on site, they'll note items found on field and make adjustments to fully removing it if any development were to happen there in the future.

CHAIRMAN THOMAS: You're right. I think our ordinance system would pick that up in 30 years as far as the condition of that land if it's going to be removed and everything on it put back to the way it is now, and I don't know that we need to mention that now. I think it will just stay part of our removal process for something like this, but -- and I think in 30 years we're going to learn a lot more about removal of solar panels than we know now. I don't think there's many places removing it.

MS. RASMUSSEN: No.

CHAIRMAN THOMAS: They're putting it in, and I think -- I trust that we'll all learn a lot about the removal process when that comes up.

Okay. Can I call for the motion? Can I call for a motion to approve the request from Hendrickson USA LLC for granting of a special use permit and variations for a new solar array on a 4.8-acre area of land in the M-2 general manufacturing district located at 501 Caton Farm Road Crest Hill, Illinois?

Now we have mentioned the ten conditions. You're aware of these ten conditions --

MR. BATSCH: Yes.
CHAIRMAN THOMAS: -- and have seen them and agree to all of them?
CHRIS BATSCH: Yes.
CHAIRMAN THOMAS: Okay. So is there a motion to approve?
MIKE STIFF: And the motion to approve would be the variance as outlined in the Staff report.
CHAIRMAN THOMAS: Yes. Correct. Thank you.
COMMISSIONER PETERSON: I'll make that motion.
CHAIRMAN THOMAS: You'll make that motion, Commissioner Peterson.
COMMISSIONER SLABOZESKI: Second.
CHAIRMAN THOMAS: Commissioner Slabozeski second.
Roll call, please.
SAMANTHA TILLEY: Jeff Peterson?
COMMISSIONER PETERSON: Yes.
SAMANTHA TILLEY: Cheryl Slabozeski?
COMMISSIONER SLABOZESKI: Yes.
SAMANTHA TILLEY: Angelo DeSerio?

COMMISSIONER DESERIO: Yes.

SAMANTHA TILLEY: Ken Carroll?

COMMISSIONER CARROLL: Yes.

SAMANTHA TILLEY: John Stanton?

COMMISSIONER STANTON: Yes.

SAMANTHA TILLEY: Marty Flynn?

COMMISSIONER FLYNN: Yes.

SAMANTHA TILLEY: And Bill Thomas?

CHAIRMAN THOMAS: Yes.

SAMANTHA TILLEY: Motion carried.

CHAIRMAN THOMAS: Motion passed 7 to 0.

PATRICK ANSWORTH: That item will be on the May 12th special -- or not special use -- sorry, the regular session -- work session for City Council -- it has been a long day -- so we will -- Staff will be in communication with your team on that.

CHAIRMAN THOMAS: Okay. So let me finish up. Thank you.

First of all, I want to thank and congratulate Hendrickson USA LLC for being a City of Crest Hill business for almost 50 years. On behalf of the Plan Commission we thank you for being a loyal business to the City of Crest Hill,

and we certainly want your business to thrive and continue to move forward with the future of technology, especially as it relates to renewable energy. We thank you very much for that.

So I will say that the Plan Commission has approved the request from Hendrickson USA LLC for your special use permit for your variations and for the new solar array on the 4.8-acre farm land -- solar farm land of the M-2 general manufacturing district located at 501 Caton Farm Road with the ten conditions discussed earlier, and those conditions will be attached to our minutes of this meeting, and we will forward our recommendation to the City Council. The Plan Commission is only a recommending body, and it sounds like the City Council will hear your case at their work succession on May 12th, so I encourage, and I'm sure you will be there to reiterate the terrific presentations that you both made. And, again, I thank you for being a part of Crest Hill and we look forward to this exciting new venture.

CHRIS BATSCH: Thank you very much.

UNIDENTIFIED SPEAKER: Thank you.

CHAIRMAN THOMAS: Thank you.

So we have other business to do. If you want to stick around, you're welcome to, but you can also feel free to get up and leave without disturbing us, that would be fine. We look forward to seeing you on May 12th.

CHRIS BATSCH: Thank you.

CHAIRMAN THOMAS: Thank you very much.

So we have other business on our agenda. The first one being the presentation, discussion, and approval regarding the proposed amendments to the Plan Commission Bylaws.

And, Mike, is there something you want to just make some comments on or...

MIKE STIFF: Not really. I mean, this has already been -- the only change that was made was there was a -- City Council clarified the ordinance with respect to compensation and the number of absences, so we just incorporated the new ordinance by reference into this, and then I think we added a signature line for Patrick since he is new as the actual director of community and economic development, and then, obviously, the dates changed, but, other than that, I think this

is what you discussed and vetted and everybody was okay with back in October, we just haven't had a meeting since then to approve it.

CHAIRMAN THOMAS: Yeah, it has taken us this long to get together to be able to approve it.

So assuming everybody has had a chance to read it and is in agreement with everything we said there, I would like to have a motion to approve these bylaws and the changes as presented.

COMMISSIONER CARROLL: So moved.

COMMISSIONER PETERSON: Second.

CHAIRMAN THOMAS: Motion by Commissioner Carroll. Second by Commissioner Peterson.

Any more discussion on it? Good to go?

So roll call, please, Samantha.

SAMANTHA TILLEY: Ken Carroll?

COMMISSIONER CARROLL: Yes.

SAMANTHA TILLEY: Jeff Peterson?

COMMISSIONER PETERSON: Yes.

SAMANTHA TILLEY: Marty Flynn?

COMMISSIONER FLYNN: Yes.

SAMANTHA TILLEY: John Stanton?

COMMISSIONER STANTON: Yes.

SAMANTHA TILLEY: Cheryl Slabozeski?
COMMISSIONER SLABOZESKI: Yes.
SAMANTHA TILLEY: Angelo DeSerio?
COMMISSIONER DESERIO: Yes.
SAMANTHA TILLEY: Bill Thomas?
CHAIRMAN THOMAS: Yes.
SAMANTHA TILLEY: Motion carried.
CHAIRMAN THOMAS: Okay. Is there any other business?
Commissioner DeSerio, any other business you would like to present to the Plan Commission?
COMMISSIONER DESERIO: Yes, there is, Mr. Chairman.
To Chairman William Thomas, Chairman of the Crest Hill Plan Commission, as of tonight at the close of business tonight I am submitting my resignation as a commissioner to the Planning Commission. It's with a humble heart that I do this. I have been on this Planning Commission since, I believe, 2020, if not before that. I appreciate the knowledge I have received. I did submit a letter to you and Samantha and Christine Vershay. This is not a resignation because of any ill will, it is a resignation because I was

elected as Alderman of Ward 1 and I cannot serve on both positions.

CHAIRMAN THOMAS: You know, normally I would say, wow, we're really sorry to see you go, but in this particular case we are very excited to see you the now become a member of the Plan Commission, and you have been a definite asset to the Plan Commission. You have served as secretary for the last four of your five years and we wish you nothing -- nothing but the best as you go forward, so thank you.

MIKE STIFF: I actually thought you were going to ask Commissioner Peterson if you could take your chair over there for tonight's meeting, but...

CHAIRMAN THOMAS: Yeah. So we have -- May, according to our new bylaws, the month of May is when we reelect chairman, vice chairman and secretary, so I think when we have our May meeting on the agenda we will put election -- election of officers should already be going to be on there.

MIKE STIFF: Patrick has just indicated that we currently have no May agenda items, so it will have to be June, unless you want to meet just

to reorganize.

PATRICK ANSWORTH: I guarantee you we will have at least one agenda for June.

CHAIRMAN THOMAS: So we weren't able to pull that meeting to a special meeting later in the month?

PATRICK ANSWORTH: Staffing times and --

CHAIRMAN THOMAS: Okay. Well, that's fine. We'll put it on the June agenda. If we don't have a meeting we don't need a secretary until then, so...

Okay. Well, that takes care of the other business and I don't see anybody out there to make public comments, so with no public comment required can we have a motion for adjournment? And I have actually already penciled in that Commissioner DeSerio is going to make the motion for adjournment this meeting, his last meeting.

COMMISSIONER DESERIO: So moved.

CHAIRMAN THOMAS: So I need a second.

COMMISSIONER FLYNN: I'll second.

CHAIRMAN THOMAS: Was that Marty?

COMMISSIONER FLYNN: Yes.

CHAIRMAN THOMAS: All right.

Commissioner Flynn for the second.

And can we have a roll call, please?

SAMANTHA TILLEY: Angelo DeSerio?

COMMISSIONER DESERIO: Yes.

SAMANTHA TILLEY: Marty Flynn?

COMMISSIONER FLYNN: Yes.

SAMANTHA TILLEY: John Stanton?

COMMISSIONER STANTON: Yes.

SAMANTHA TILLEY: Jeff Peterson?

COMMISSIONER PETERSON: Yes.

SAMANTHA TILLEY: Ken Carroll?

COMMISSIONER CARROLL: Yes.

SAMANTHA TILLEY: Cheryl Slabozeski?

COMMISSIONER SLABOZESKI: Yes.

SAMANTHA TILLEY: Bill Thomas?

CHAIRMAN THOMAS: Yes.

SAMANTHA TILLEY: Motion carried.

CHAIRMAN THOMAS: So meeting adjourned at 7:58 -- 7:59.

(The meeting was adjourned at 7:59 p.m. on April 24th, 2025.)

STATE OF ILLINOIS)
) SS:
COUNTY OF WILL)

Hailey Schoot, CSR, RPR, being first duly sworn, on oath says that she is a court reporter doing business in the State of Illinois; and that she reported in shorthand the proceedings of said meeting and that the foregoing is a true and correct transcript of her shorthand notes so taken as aforesaid, and contains the proceedings given at said meeting.

Hailey Schoot

Hailey Schoot, CSR, RPR
Illinois CSR License
084-004897

ORDINANCE NO. _____

AN ORDINANCE GRANTING A SPECIAL USE PERMIT FOR A "UTILITY FACILITY" (SOLAR ARRAY) AND A VARIATION OF SECTION 11.6-1 OF THE CREST HILL ZONING CODE WITH RESPECT TO THE CONSTRUCTION OF THE EMERGENCY ACCESS ROAD ON PIN 11-04-33-100-002-0000, AND A VARIATION FROM CITY CODE SECTION 15.04.040(I)(8) TO ALLOW A DRIVEWAY WIDTH OF 45 FEET ON PIN 11-04-33-100-003-0000 SUBJECT TO CONDITIONS (APPLICATION OF HENDRICKSON USA, LLC)

WHEREAS, the City Council of the City of Crest Hill has the authority to adopt ordinances and to promulgate rules and regulations that pertain to its government and affairs and protect the public health, safety, and welfare of its citizens; and

WHEREAS, the Applicant, Hendrickson USA, LLC ("Hendrickson") is the owner of certain property located within the corporate boundaries of the City, consisting of two PIN numbers (11-04-33-100-003-0000 and 11-04-33-100-002-0000) that is commonly known as 501 Caton Farm Road in the City of Crest Hill, Illinois ("Subject Property"); and

WHEREAS, the Subject Property is presently zoned M-2 (General Manufacturing District) and is legally described on Exhibit A attached hereto and fully incorporated herein; and

WHEREAS, on or about March 31, 2025, Hendrickson, through its representative, Verde Solutions submitted an Application for Development ("Application") to the City seeking, *inter alia*, the following zoning relief:

1. Approval of a Special Use Permit for a Utility Facility (Ground Mounted Solar Array) on Hendrickson's property bearing PIN 11-04-33-100-003-0000, which is currently a partially vacant lot which is also used for Manufacturing; and

2. A Variation from Section 11.6-1 (Parking and Loading Surfaces) of the Crest Hill Zoning Ordinance to allow the emergency access road which circles the proposed ground mounted solar array to be constructed of an engineered gravel surface consisting of a subgrade fabric and 3/4" stone sized limestone material rather than asphalt or concrete.

3. A Variation from Section 15.04.040(I)(8) of the Crest Hill Building Code Standards to allow a driveway entrance on PIN 11-04-33-100-003-0000 to exceed the 30' maximum width by 15' for a total allowable width of 45'.

WHEREAS, following the submission of the application and evaluation by City Staff, it was determined that the existing driveway entrance to the Subject Property's eastern portion of the property bearing PIN 11-04-33-100-002-0000 from Caton Farm Road is not paved and consists of gravel, thereby making it non-conforming to the current Zoning Ordinance; and

WHEREAS, City Staff has recommended that the subject driveway located on the eastern portion of the property bearing PIN 11-04-33-100-002-0000 be brought into conformance by paving it subject to the City's construction standards and Section 11.6-1 of the Zoning Ordinance, and the Plan Commission concurred in the recommendation and made the driveway conformance a condition of the granting of the Special Use Permit and Variations; and

WHEREAS, Hendrickson has agreed to all the recommended conditions as outlined in the April 17, 2025 Staff Memorandum; and

WHEREAS, on April 24, 2025, the City of Crest Hill Plan Commission conducted a public hearing on the Application, due notice having been published and provided for the same, and at that time, the Plan Commission unanimously recommended conditional approval of the Application, as stated in the Plan Commission's written Findings and Decision, a copy of which is attached hereto as Exhibit B and fully incorporated herein; and

WHEREAS, the City Council has reviewed and concurred with the Plan Commission's Findings and Decision and hereby determines and declares that it is necessary, expedient, and in the best interests of the City and its citizens to approve Hendrickson's Application, subject to conditions and as set out in this Ordinance.

NOW THEREFORE, BE IT ORDAINED BY THE CITY COUNCIL OF THE CITY OF CREST HILL, WILL COUNTY, ILLINOIS, PURSUANT TO ITS STATUTORY AUTHORITY, AS FOLLOWS:

SECTION 1: The City Council hereby finds that all the recitals contained in the preamble to this Ordinance are true, correct, and complete and are hereby incorporated by reference hereto and made a part hereof.

SECTION 2: The City Council hereby approves the Application of Hendrickson and grants to Hendrickson the following:

1. A Special Use Permit to construct on and utilize the property bearing PINs 11-04-33-100-002-0000 and 11-04-33-100-003-0000 as, inter alia, a Utility Facility (Ground Mounted Solar Array) in substantial conformance with the March 31, 2025 Verde Solutions Special Use Permit Request subject to all conditions contained in the April 17, 2025 Crest Hill Staff Memorandum, attached hereto as Exhibit C and incorporated herein.

2. A Variation from Section 11.6-1 (Parking and Loading Surfaces) of the Crest Hill Zoning Ordinance to allow the emergency access road which circles the proposed ground mounted solar array to be constructed of an engineered gravel surface consisting of a subgrade fabric and 3/4" stone sized limestone material rather than asphalt or concrete in accordance with the March 31, 2025 Verde Solutions Special Use Permit Request and Exhibit C.

3. A Variation from Section 15.04.040(I)(8) of the Crest Hill Building Code Standards to allow the existing driveway entrance on PIN 11-04-33-100-003-0000 to be maintained which exceeds the 30' maximum width by 15' for a total allowable width of 45'.

SECTION 3: In the event that any provision or provisions, portion or portions, or clause or clauses of this Ordinance shall be declared to be invalid or unenforceable by a Court of competent jurisdiction, such adjudication shall in no way affect or impair the validity or enforceability of any of the remaining provisions, portions, or clauses of this Ordinance that may be given effect without such invalid or unenforceable provision or provisions, portion or portions, or clause or clauses.

SECTION 4: That all ordinances, resolutions, motions, or parts thereof, conflicting with any of the provisions of this Ordinance, are hereby repealed to the extent of the conflict.

SECTION 5: That the City Clerk is hereby directed to publish this Ordinance in pamphlet form.

SECTION 6: This Ordinance shall be in full force and effect from and after the later occurring of (i) its passage, approval and publication in pamphlet form as provided by law and (ii) execution of the "Unconditional Agreement and Consent" attached hereto as Exhibit D and fully incorporated herein. In the event that Exhibit D is not duly executed within sixty (60) days following the adoption of this Ordinance, this Ordinance shall thereafter be null and void and of no further legal effect and shall be deemed to have been automatically repealed and rescinded without any further action by the City Council or notice or hearing due to Hendrickson.

[*Intentionally Blank*]

PASSED THIS 19TH DAY OF MAY, 2025.

	Aye	Nay	Absent	Abstain
Alderman Scott Dyke	_____	_____	_____	_____
Alderman Angelo DiSerio	_____	_____	_____	_____
Alderwoman Claudia Gazal	_____	_____	_____	_____
Alderman Darrell Jefferson	_____	_____	_____	_____
Alderperson Tina Oberlin	_____	_____	_____	_____
Alderman Mark Cipiti	_____	_____	_____	_____
Alderman Nate Albert	_____	_____	_____	_____
Alderman Joe Kubal	_____	_____	_____	_____
Mayor Raymond R. Soliman	_____	_____	_____	_____

_____
Christine Vershay-Hall, City Clerk

APPROVED THIS 19TH DAY OF MAY, 2025.

_____
Raymond R. Soliman, Mayor

ATTEST:

_____
Christine Vershay-Hall, City Clerk

Exhibit A

Legal Description

LEGAL DESCRIPTION
PARCEL I:
A TRACT OF LAND IN THE NORTHWEST QUARTER OF SECTION S5, IN TOWNSHIP 36 NORTH, RANGE IO, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS BEGINNING AT THE NORTHEAST CORNER OF THE TRACT OF LAND CONVEYED TO LAVELLA BUILDING CORPORATION BY QUIT -CLAIM DEED RECORDED IN THE RECORDER'S OFFICE OF WILL COUNTY, ILLINOIS, AS DOCUMENT 75L202, WHICH NORTHEAST CORNER IS ALSO THE NORTHEAST CORNER OF THE WEST 14,98.84 FEET OF SAID NORTHWEST QUARTER AND RUNNING THENCE EAST ALONG THE NORTH LINE OF SAID NORTHWEST QUARTER A DISTANCE OF 859.3I FEET TO THE NORTHWEST CORNER OF THE TRACT OF LAND CONVEYED TO JOHN F. ZELLER BY QUIT-CLAIM DEED RECORDED IN SAID RECORDER'S OFFICE AS DOCUMENT 909129, WHICH NORTHWEST CORNER IS ALSO THE NORTHWEST CORNER OF THE EAST 282.7I FEET OF SAID NORTHWEST QUARTER, THENCE SOUTH ALONG THE WEST LINE OF SAID EAST 282 71 FEET AND THE WEST LINE OF SAID TRACT CONVEYED BY DOCUMENT 909129 A DISTANCE OF 577.61 FEET TO THE SOUTHWEST CORNER OF THE LAST ABOVE MENTIONED TRACT; THENCE WESTWARDLY A DISTANCE OF 156.08 FEET TO A POINT ON THE NORTHERLY LINE Of THE TRACT OF LAND CONVEYED TO THE PUBLIC SERVICE COMPANY OF NORTHERN ILLINOIS BY QUIT-CLAIM DEED RECORDED IN SAID RECORDER'S OFFICE AS DOCUMENT LI936, WHICH POINT IS LI8 I9 FEET WEST FROM THE EAST LINE OF SAID NORTHWEST QUARTER MEASURED PERPENDICULARLY THERETO; THENCE WESTWARDLY ALONG SAID NORTHERLY LINE OF SAID TRACT CONVEYED BY SAID DOCUMENT 419056 A DISTANCE OF 725.I5 FEET TO THE SOUTHEAST CORNER OF SAID TRACT OF LAND CONVEYED BY DOCUMENT 754202, WHICH SOUTHEAST CORNER IS ON THE EAST LINE OF SAID WEST 1498.84 FEET AND THENCE NORTH ALONG THE EAST LINE OF SAID TRACT CONVEYED BY DOCUMENT 754202 AND ALONG SAID EAST LINE OF THE WEST 1L98.84 FEET A DISTANCE OF 635.69 FEET TO THE PLACE OF BEGINNING, IN WLLL COUNTY, ILLINOIS.

PARCEL II:
THAT PART OF THE NORTHWEST QUARTER OF SECTION 33, IN TOWNSHIP 36 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: BOUNDED ON THE NORTH BY THE NORTH LINE OF SAID SECTION 33, ON THE SOUTH BY THE NORTHERLY LINE AND ON SAID LINE EXTENDED WESTERLY OF LAND CONVEYED BY FLORENCE O. WINSHIP AND B.W. WINSHIP, ET AI, TO THE PUBLIC SERVICE COMPANY OF NORTHERN ILLINOIS BY WARRANTY DEED DATED APRIL 14, 1928 AND RECORDED JUNE 7, 1928 IN BOOK 661, PAGE 564, AS DOCUMENT 419036, ON THE WEST BY LAND CONVEYED BY FLORENCE O. WINSHIP, ET AI, TO THE CATHOLIC BISHOP OF CHICAGO BY WARRANTY DEED DATED FEBRUARY 10,

1928 AND RECORDED JUNE 5, 1928 IN BOOK 661, PAGE 554, AS DOCUMENT 418951, AND ON THE EAST LINE BY A LINE 1498.84 FEET EAST OF AND PARALLEL WITH THE WEST LINE OF SAID NORTHWEST QUARTER AND EXCEPT THAT PROPERTY CONVEYED BY LAVELIA BUILDING CORPORATION TO MARTIN D. MCNAMARA, TRUSTEE, BY DEED RECORDED MAY31, 1955AS DOCUMENT 774760, IN WILL COUNTY, ILLINOIS.

Commonly known as: 501 Caton Farm Road in the City of Crest Hill, Illinois

Bearing the current PINs: 11-04-33-100-002-0000 and 11-04-33-100-003-0000

Exhibit B

Plan Commission Findings and Decision

April 24, 2025

BEFORE THE PLAN COMMISSION
OF THE CITY OF CREST HILL, ILLINOIS

IN RE:	)	
	)	
The application of Hendrickson USA, LLC	)	
For a Special Use Permit and Variations to	)	
the City of Crest Hill Zoning Code and	)	No. SU-25-2-4-1
Code of Ordinances	)	
	)	

FINDINGS AND DECISION OF THE PLAN COMMISSION AS TO CASE NO. SU-25-2-4-1 THE APPLICATION OF HENDRICKSON USA, LLC FOR A SPECIAL USE PERMIT FOR A UTILITY FACILITY (GROUND MOUNTED SOLAR ARRAY) AND VARIATIONS TO SECTION 11.6-1 OF THE CREST HILL ZONING ORDINANCE AND SECTION 15.04.040(I)(8) OF THE CITY OF CREST HILL BUILDING CODE ON PROPERTY LOCATED AT 501 CATON FARM ROAD

THIS APPLICATION, coming before the City of Crest Hill Plan Commission for decision, and the Plan Commission having heard the evidence in support and opposition to the application at a regularly scheduled meeting held on April 24, 2025, and being fully advised in the premises, THE COMMISSION DOES MAKE THE FOLLOWING FINDINGS:

A. That the applicant, Hendrickson USA, LLC is the owner of certain property located on two PIN numbers at 501 Caton Farm Road in the City of Crest Hill and as legally described in Exhibit "A" hereto, which parcels are zoned M-2 General Manufacturing.

B. That the application seeks the following:

An M-2 special use permit for construction and operation of a Utility Facility (Ground Mounted Solar Array) which will supply 100% of its electrical and power needs on the property described in the application, approximately 4.8 acres on the west side of its property and part of PIN: 11-04-33-100-002-0000 (the "Property"), as legally described in Exhibit "A".

1. A Variation from Section 11.6-1 (Parking and Loading Surfaces) of the Crest Hill Zoning Ordinance to allow the emergency access road which circles the proposed ground mounted solar array to be constructed of an engineered gravel surface consisting of a subgrade fabric and 3/4" stone sized limestone material rather than asphalt or concrete.
2. A Variation from Section 15.04.040(I)(8) of the Crest Hill Building Code Standards to allow a driveway entrance on PIN 11-04-33-100-003-0000 to exceed the 30' maximum width by 15' for a total allowable width of 45'.

C. That the Property is currently zoned M-2;

D. That the proposed use is not allowed on the Property as currently zoned;

E. That the Property described in the application is currently zoned as General Manufacturing District, with M-1 and M-2 zoning adjacent thereto;

F. That the application for the Special Use Permit and Variations was properly submitted to the City and notice of the application and the Public Hearing were properly published;

G. That no interested parties filed their appearances herein;

H. That the public hearing was opened and called to order on April 24, 2025, and the Applicant presented evidence and arguments in support of its application on that date, and members of the public were allowed to make comment and examine the Applicant's witnesses. The public hearing was duly transcribed by a certified shorthand reporter of the State of Illinois;

I. That the rules adopted by the Plan Commission for the conduct of Public Hearings by the Plan Commission were duly followed and observed;

K. That the proposed special use for the Utility Facility (Ground Mounted Solar Array) red under section 12.7 of the zoning code, meets the standards for the granting of the special use under section 12.7-6 as the proposed development meets all of the criteria set forth in subsections 12.7-6(1), (2), (3), (4), (5) and (6) for the reasons set forth on the record in the Plan Commission meeting held on April 24, 2025 as well as those recommendations and comments contained in the City of Crest Hill staff report dated April 17, 2025, and subject to the conditions set forth therein;

L. That the requested Variation from Section 11.6-1 (Parking and Loading Surfaces) are for the reasons set forth on the record in the April 24, 2025 Plan Commission Meeting and in the City of Crest Hill staff report dated April 17, 2025, and subject to the conditions set forth therein, is also determined to be acceptable and meet the standards for Variations as established by Section 12.6-2 of the zoning ordinance;

M. That the requested Variation from Section 15.04.040(I)(8) of the Crest Hill Building Code Standards is also determined to be conditionally accepted for the reasons set forth on the record in the April 24, 2025 Plan Commission meeting and in the City of Crest Hill staff report dated April 17, 2025.

THEREFORE, it is the decision of the Plan Commission of the City of Crest Hill, Illinois, based upon the evidence heard by same and arguments and suggestions heard at the public hearing, and having duly considered the mandates and standards as set forth in the City of Crest Hill Illinois Code of Ordinances and Zoning Ordinance for the granting of special uses and Variations, as follows:

1. That the application of Hendrickson USA, LLC for an M-2 Special Use Permit for the construction and operation of a Utility Facility (Ground Mounted Solar Array) on 4.8 acres of currently vacant land on PIN: 11-04-33-100-002-0000 (the "Property"), as legally described in Exhibit "A", in an M-2 zoning district was conditionally recommended to be approved and is supported by the evidence adduced during the April 24, 2025 public hearing and as outlined in the April 17, 2025 City of Crest Hill staff report;

2. That the application of Hendrickson USA, LLC for a Variation from Section 11.6-1 (Parking and Loading Surfaces) of the Crest Hill Zoning Ordinance to allow the emergency access road which circles the proposed ground mounted solar array to be constructed of an engineered gravel surface consisting of a subgrade fabric and 3/4" stone sized limestone material rather than asphalt or concrete on 4.8 acres of currently vacant land on PIN: 11-04-33-100-002-0000 (the "Property"), as legally described in Exhibit "A", in an M-2 zoning district was conditionally recommended to be approved and is supported by the evidence adduced during the April 24, 2025 public hearing and as outlined in the April 17, 2025 City of Crest Hill staff report;

3. That the application of Hendrickson USA, LLC for a Variation from Section 15.04.040(I)(8) of the Crest Hill Building Code Standards to allow a driveway entrance on PIN 11-04-33-100-003-0000 to exceed the 30' maximum width by 15' for a total allowable width of 45' as legally described in Exhibit "A", in an M-2 zoning district was conditionally recommended to be approved and is supported by the evidence adduced during the April 24, 2025 public hearing and as outlined in the April 17, 2025 City of Crest Hill staff report.

4. These conditional approvals are subject to all conditions enumerated in the April 17, 2025 City of Crest Hill staff report which is attached hereto and made part of this Findings and Decision document.

5. It is therefore the recommendation of the City of Crest Hill Plan Commission that the application for the Special Use Permit and Variations as outlined herein be conditionally approved by the City Council.

[Left Intentionally Blank]

Adopted by the Plan Commission of the City of Crest Hill, Illinois, this 24th Day of April, 2025 upon the following voice vote:

	Aye	Nay	Absent	Abstain
Commissioner Cheryl Slabozeski	X			
Commissioner John Stanton	X			
Commissioner Ken Carroll	X			
Commissioner Marty Flynn	X			
Commissioner Bill Thomas	X			
Commissioner Jeff Thomas	X			
Commissioner Angelo Deserio	X			

Approved:

_____

Bill Thomas, Chairperson

Attest:

_____

Christine Vershay-Hall, City Clerk

"Exhibit A"

LEGAL DESCRIPTION

PERMANENT INDEX NOS: 11-04-33-100-002-0000 AND 11-04-33-100-003-0000

LEGAL DESCRIPTION

PARCEL I:
A TRACT OF LAND IN THE NORTHWEST QUARTER OF SECTION S5, IN TOWNSHIP 36 NORTH, RANGE IO, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS BEGINNING AT THE NORTHEAST CORNER OF THE TRACT OF LAND CONVEYED TO LAVELLA BUILDING CORPORATION BY QUIT -CLAIM DEED RECORDED IN THE RECORDER'S OFFICE OF WILL COUNTY, ILLINOIS, AS DOCUMENT 75L202, WHICH NORTHEAST CORNER IS ALSO THE NORTHEAST CORNER OF THE WEST 14,98.84 FEET OF SAID NORTHWEST QUARTER AND RUNNING THENCE EAST ALONG THE NORTH LINE OF SAID NORTHWEST QUARTER A DISTANCE OF 859.3I FEET TO THE NORTHWEST CORNER OF THE TRACT OF LAND CONVEYED TO JOHN F. ZELLER BY QUIT-CLAIM DEED RECORDED IN SAID RECORDER'S OFFICE AS DOCUMENT 909129, WHICH NORTHWEST CORNER IS ALSO THE NORTHWEST CORNER OF THE EAST 282.7I FEET OF SAID NORTHWEST QUARTER, THENCE SOUTH ALONG THE WEST LINE OF SAID EAST 282 71 FEET AND THE WEST LINE OF SAID TRACT CONVEYED BY DOCUMENT 909129 A DISTANCE OF 577.61 FEET TO THE SOUTHWEST CORNER OF THE LAST ABOVE MENTIONED TRACT; THENCE WESTWARDLY A DISTANCE OF 156.08 FEET TO A POINT ON THE NORTHERLY LINE Of THE TRACT OF LAND CONVEYED TO THE PUBLIC SERVICE COMPANY OF NORTHERN ILLINOIS BY QUIT-CLAIM DEED RECORDED IN SAID RECORDER'S OFFICE AS DOCUMENT LI936, WHICH POINT IS LI8 I9 FEET WEST FROM THE EAST LINE OF SAID NORTHWEST QUARTER MEASURED PERPENDICULARLY THERETO; THENCE WESTWARDLY ALONG SAID NORTHERLY LINE OF SAID TRACT CONVEYED BY SAID DOCUMENT 419056 A DISTANCE OF 725.I5 FEET TO THE SOUTHEAST CORNER OF SAID TRACT OF LAND CONVEYED BY DOCUMENT 754202, WHICH SOUTHEAST CORNER IS ON THE EAST LINE OF SAID WEST 1498.84 FEET AND THENCE NORTH ALONG THE EAST LINE OF SAID TRACT CONVEYED BY DOCUMENT 754202 AND ALONG SAID EAST LINE OF THE WEST 1L98.84 FEET A DISTANCE OF 635.69 FEET TO THE PLACE OF BEGINNING, IN WLLL COUNTY, ILLINOIS.

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1928 AND RECORDED JUNE 5, 1928 IN BOOK 661, PAGE 554, AS DOCUMENT 418951, AND ON THE EAST LINE BY A LINE 1498.84 FEET EAST OF AND PARALLEL WITH THE WEST LINE OF SAID NORTHWEST QUARTER AND EXCEPT THAT PROPERTY CONVEYED BY LAVELIA BUILDING CORPORATION TO MARTIN D. MCNAMARA, TRUSTEE, BY DEED RECORDED MAY31, 1955AS DOCUMENT 774760, IN WILL COUNTY, ILLINOIS.

Commonly known as: 501 Caton Farm Road in the City of Crest Hill, Illinois

Exhibit C

April 17, 2025 City of Crest Hill Staff Memorandum and Application Drawings

EXHIBIT C

To: Plan Commission/ZBA

From: Patrick Ainsworth, AICP, Community and Economic Development Director
Ronald Mentzer, Community & Economic Development Consultant

Date: April 17, 2025

Re: Consideration of Case Number SU-25-2-4-1 - Request of Hendrickson USA LLC seeking approval for a Special Use Permit and Variations for a New Solar Array which is Classified as a Utility Facility under the Crest Hill Zoning Ordinance on a 4.8-acre area of land in a M-2 General Manufacturing District located at 501 Caton Farm Road in Crest Hill, Illinois

Project Details

Project	Utility Facility (Solar Array)
Request	Special Use for Utility Facility
	Variation for Surface Material
	Deviation from Curb Cut Width
Location	501 Caton Farm Road

Site Details

Building Sizes	N/A
Site Area	24.6 Acres

Land Use and Zoning Summary

	Land Use	Comp Plan	Zoning
Subject Parcel	Vacant & Manufacturing	Manufacturing	M-2
North	Stateville	Stateville	M-1
South	ComEd	Manufacturing	M-2
East	Manufacturing	Manufacturing	M-2
West	Cemetery	Community Facilities	M-1

PROJECT SUMMARY

Verde Solutions, on behalf of Hendrickson USA LLC (the "Applicant"), has submitted an application package for the City's potential approval of a Special Use Permit with Variations for the construction and operation of a 4.8-acre solar array to assist with powering the approximately 100,000 SF, Hendrickson Manufacturing Facility (see Attachment A for the Application). The Applicant has selected the vacant land to the west of their manufacturing facility to improve with the proposed solar array and an emergency vehicle only access road. The Applicant is proposing to limit land disruption and pave as little of the existing lot which presents a Variation request to improve the emergency vehicle access road with an engineered gravel material. There are two parcels within the entire property that are both owned by the Applicant. Since the solar array is improved on the vacant lot to the west and will power the existing manufacturing facility, both PINs are included in the Application (PIN 11-04-33-100-002-

0000 and 11-04-33-100-003-0000). The Applicant has operated at the current location for almost 50 years and are planning to update parts of their property over the next couple of years starting with the solar array.

Project Background
In August 2024, the Applicant met with the Community Development staff to obtain preliminary feedback on the preliminary concept and see what the process was to move forward on this project. Community Development staff realized the project scope and determined that a Special Use was required size under the classification of Utility Facility. The Crest Hill Zoning Code defines the land use of Utility Facility below:

UTILITY FACILITY: A service and its related facilities which ostensibly provides for the benefit of the general utility services including, but not limited to: water, sanitary sewer, storm sewers, electrical, telephone, natural gas, radio, television, radar, Wi-Fi, and related utilities

The collective power generated from the solar panels will total approximately 1.185 megawatts which, is stated in the Application, can supply all of the annual power needed for the Hendrickson USA facility. Given the size of this project, the Lockport Fire Protection District was consulted on the access for this project and requested an access road in order to serve the property in the event of a fire or other emergency. A design solution was reached which will allow for an access road to be improved around the solar array for emergency vehicles only and will be improved with a subgrade fabric and ¾" stone size limestone gravel surface which was reviewed by the City Engineer. Improving the access road with asphalt or concrete would trigger stormwater detention requirements and thus would not make this project feasible for the Applicant. This access road will be within the fenced area and the access road *cannot* be accessed through Caton Farm (the only access is through their private property). I will be used for emergency vehicles only.

There are several additional steps that are being taken to assist with the design and placement of this project which includes maintaining an approximately 180 foot setback from Caton Farm Road, over 200 new live plantings will be added to the perimeter of this project to enhance the property's landscaped area, the entire solar array will be fenced off so no unauthorized personnel can access this area and the entrance into the solar array will be locked. The Lockport Fire Protection District will have access to the fenced off area in the event of an emergency.

If the Special Use and the Variation/Deviation requests are approved, the Applicant plans to start the permit process and construction of the solar array this year.

Planning, Zoning, and City Code Analysis

Zoning Ordinance and Crest Hil City Code Regulations – The following subsections assess the submittals in relation to the Zoning Ordinance and the Crest Hill City Code. There are several components of the project to review in comparison to this document, hence there are multiple attributes of this project that are detailed below.

Off Street Parking – There are no parking requirements for a Utility Service given the notion that the solar array is an accessory use of providing renewable electricity to the primary manufacturing facility of the Applicant on the parcel to the east (PIN 11-04-33-100-003-0000). This is essentially an un-manned facility which will have a monitoring system and will require minimal maintenance during the lifespan of the solar array.

Zoning Regulations for M-2 General Manufacturing District Related to the Solar Array Only

Minimum Lot Area	1 Acre Required	24.6 Acres Provided
Accessory Structure Height	15 Foot Max Allowed Height	10.57 Feet Proposed
Front Yard Setback	30 Feet Required	Approx. 180 Feet Proposed
Interior Side Yard Setback	20 Feet Required	Approx. 77 Feet Proposed (West)
Interior Side Yard Setback	20 Feet Required	Approx. 297 Feet Proposed (East)
Rear Yard Setback	20 Feet Required	Approx. 142 Feet Proposed
Lot Coverage	85% Max Allowed	20.5% Presented
Access Road Surface Material	Dust free hard surface such as asphalt or concrete	**¾" Stone Size Limestone Material***

*Variance being requested for the emergency access road surface material.

As shown in the table above, all bulk regulations are in compliance between the proposed project and the Crest Hill Zoning Ordinance. Note, the solar array may have to move slightly based on final engineering review when comparing stormwater drainage patterns. Any slight adjustment will still conform to all setbacks and the maximum location adjustment will be no more than 10 feet. Also, the surface material of the access road is the requested Variance.

Fencing Regulations – Section 8.3-9.1.b of the Zoning Ordinance allows for fencing up to eight feet in height for non-residential zoned properties. The Applicant is proposing a six-foot-tall chain link fence with the addition of a one-foot barbed wire atop of the chain-link fence for a total height of seven feet. There are no restrictions on adding barbed wire to fencing in non-residential zoning districts. As such, the proposed fencing is in compliance with the Zoning Ordinance.

Emergency Access Road Paving Material With Solar Array Project Area – As mentioned above, the Applicant is requesting a variance for Zoning Ordinance Code Section 11.6-1 as all parking, drive and loading areas needs to be improved with asphalt, concrete or similar materials. In addition to this being an access road for emergency vehicles only, there is a known flood zone south of the subject property. The property with the flood zone is owned by ComEd.

Reducing the amount of impervious surface on this site will assist with drainage efforts for the area to the south. Additionally, according to the Will County Stormwater Ordinance, solar panels are exempt from site runoff storage requirements provided certain criteria are met (See the Stormwater Report in Attachment B for reference). According to the Stormwater Report all criteria for this proposed solar array have been met. Therefore, maintaining an access road with a subgrade fabric and a ¾" stone size limestone gravel material, in addition to the lack of impervious surfaces from the solar array, will cumulatively assist with drainage and reduce the need for additional stormwater detention facilities.

Existing Driveways and Loading Area– Since the Plat of Survey shows the driveway entrance from Caton Farm Road leading to the accessory building improved with a gravel surface, staff has worked with the Applicant to transition this surface from a gravel material to a dust free hard surface which will bring this portion of the property into conformity with the Zoning Ordinance. This particular improvement is less than 25,000 square feet which will not require stormwater detention requirements. A condition has been added to the staff recommendation regarding this matter.

Additionally, the driveway entrance on the eastern lot with the PIN of 11-04-33-100-003-0000 measures approximately 45 feet at the property line. Per City Code Section 15.04.040(I)(8), the maximum driveway width allowed is 30'. As such, another deviation/variation is being requested to

allow for a 45-foot-wide driveway. The Applicant plans to resurface all parking lot and drive aisle areas in the near future so it is prudent to request this City Code deviation now to assist the Applicant with these future improvements.

Live Planting Requirement Section – City Code Section 15.04.040(I)(2)(b)(2) states that 1 approved planting per 725 square feet of improved land area is required which results in a minimum of 313 plantings required for this site. The proposed landscape plan shows that 313 plantings will be provided with 99 live plantings and trees are already improved on site, and 216 live plantings are being added to the improved area. The number of live plantings complies with this code section.

Comprehensive Plan – The 2014 Crest Hill Comprehensive Plan is a land use guide to ensure logical and orderly growth of the community. With this notion, this document was reviewed in comparison to this project to ensure that this guide is being followed. That analysis is discussed below in more detail.

The City's 2014 Comprehensive Plan assigns this property as Light Industrial on the Future Land Use Map. Light Industrial is further defined within this document stating, "Industrial uses include activities related to the manufacturing, fabrication, storage, and assembly of a variety of goods and materials. Industrial uses in Crest Hill vary greatly in terms of external impacts and relationship to surrounding development. In some cases, large industrial areas are separated by major streets or open spaces".

Since the property is already improved with a manufacturing use and the Applicant is preparing to add a solar array to help power this facility, the proposed improvement is in-line with the Crest Hill Comprehensive Plan.

Additionally, under the Development Improvement Considerations section (pages 50-51), the following item was also stated about enhancements made to the industrial properties, "New infrastructure should be designed to provide flexibility for future expansions and retrofits, especially in Crest Hill's potential industrial growth areas. This will allow the City to evolve its systems to respond to emerging technologies and services in an effort to remain competitive for long-term economic development."

This recommendation establishes the notion of modernizing facilities with emerging utility technology that can assist our business community with new energy sources and provide an economic benefit which results in a more competitive advantage. The proposed solar array will generate enough power to fulfill all of Hendrickson USA's operations thereby allowing this local employer to maintain operations with a cost-effective alternative power source.

STAFF RECOMMENDATION

Staff recommends that the Plan Commission approve of the requested Special Use and the Variances. Should the Plan Commission recommend approval to the City Council, then the following conditions shall be considered as part of the recommendation:

Conditions of Approval:

1. That the drawings submitted for a building permit shall be in substantial compliance with the drawings approved by City Council and identified below, unless otherwise noted in the remaining conditions:
   - Solar Ground Mount System Plans Engineered by PurePower Engineering last dated 3/28/2025

- Stormwater Management Permit Details Prepared by Hey and Associates Inc. Last Dated April 15, 2025
- Structural Detail Drawings Created by DCE Solar Sheets 1 through 5 Last Dated 3/6/2025
- Landscape Plans Created by Hey and Associates Inc. Last Dated 3/31/2025

2. The gravel driveway and loading area in the front of the accessory building on the property with the Permanent Index Number of 11-04-33-100-002-0000 shall receive a permit to transition this surface material to an approved surface material to be in compliance with Zoning Ordinance Section 11.6-1 and follow applicable construction standards. This specific area includes the driveway entrance from Caton Farm Road leading to the accessory building as well as to the gates of the solar array area. This permit shall be issued before May 19, 2026.

3. The emergency access road containing the 3/4" limestone surface material shall be improved with a base material and construction method approved by the City Engineer. All details of the materials and construction methods shall be submitted with the building permit application for the solar array.

4. The thickness of stone for the temporary construction access road should be at least two inches thick.

5. Prior to permit issuance for the solar array the structural calculations report provided with through submittal will need to be signed and stamped by a Licensed Structural Engineer.

6. A Fire Truck Turning Performance Analysis shall be provided for review and approval as part of the building permit application submittal for the solar array.

7. If any new outdoor lighting is being proposed with this project, then a Photometric Plan shall be provided at time of submitting a building permit application to ensure compliance with applicable codes and regulations.

8. All required final design drawings and related supporting project information shall be submitted for final engineering review and approval in conjunction with the formal building permit application submitted for the solar array.

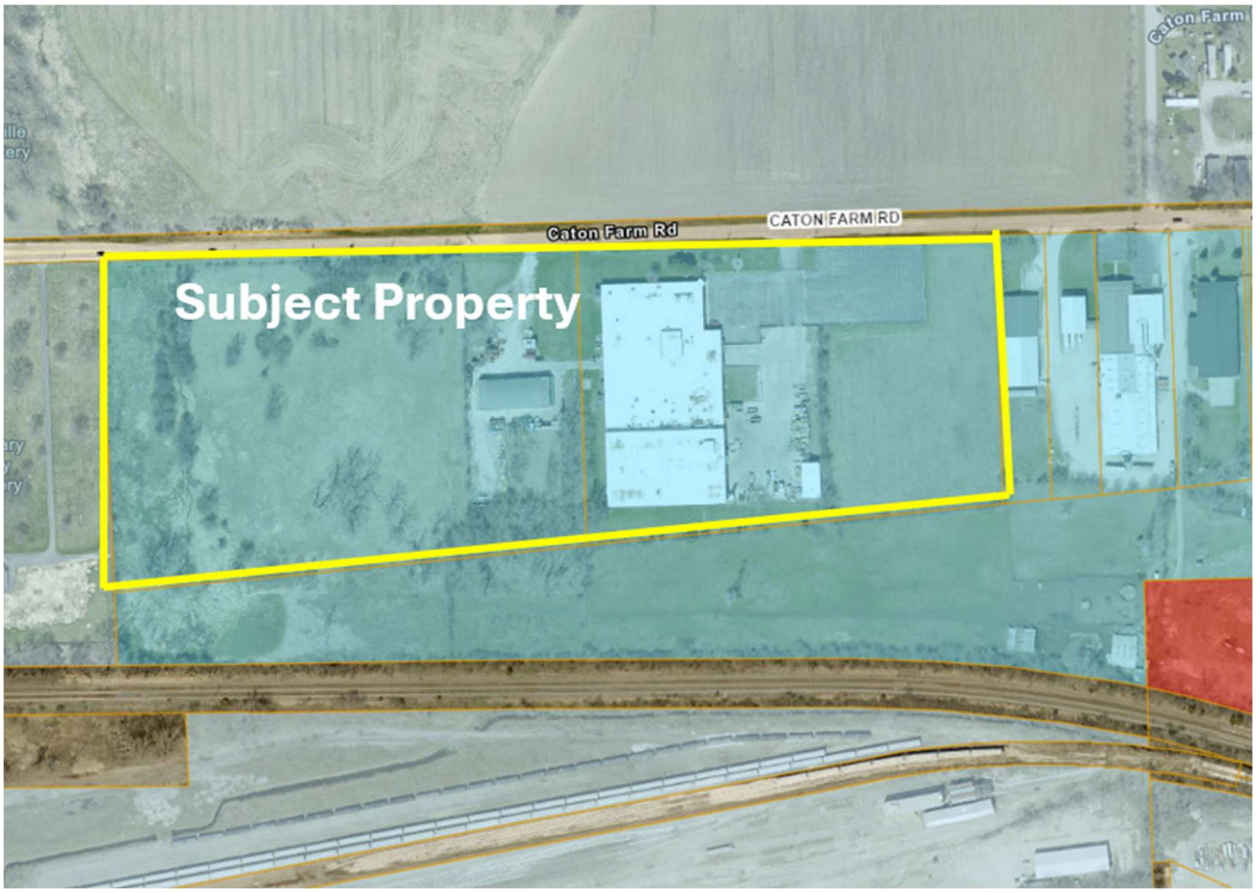
9. All new shade trees, ornamental trees, and evergreen trees proposed on north of the solar array shall be planted with a minimum height of six feet and a minimum of 2.5" caliber at time of planting.

10. All conditions made with this Ordinance shall be transferred to any new property owner.

Attachments:

Attachment A – Plan Commission Application
Attachment B – Application Submittals and Drawings

EXHIBIT A – AERIAL PHOTO OF SUBJECT PROPERTY LOCATION WITH ZONING OVERLAY



Attachment A

Application for Development

For Office Use Only: **Case Number:**

Project Name: Hendrickson USA - Solar PV

Owner: Hendrickson USA LLC

Correspondence To: Grace Rasmussen, Verde Solutions LLC

Street address: [redacted]

Street address: [redacted]

City, St., Zip: [redacted]

City, St., Zip: [redacted]

Phone: [redacted]

Phone: [redacted]

Email: [redacted]

Email: [redacted]

Property Address:

Street address: [redacted]

City, St., Zip: Crest Hill, IL 60441

PIN: 11-04-33-10-002

Property Information:

Lot Width: 830.038 ft

Lot Depth: 629.428

Total Area: 549350.8329 sq ft (12.61 acres)

*Submit an electronic version of the legal description only in a Word document to: buildingdepartment@cityofcresthill.com

Existing Zoning: M2

Existing Land Use: General Manufacturing District

Requested Zoning: M2

Proposed Land Use: General Manufacturing District

Adjoining Properties Zoning and Uses:

North of Property: 11-04-28-100-003 Stateville

South of Property: 11-04-33-100-006 Commonwealth Edison Co

East of Property: 11-04-33-10-003 Hendrickson USA LLC

West of Property: 11-04-33-100-001 Roman Catholic Diocese

Purpose Statement (intended use and approval sought):

Install 1.18 MW of fixed tilt ground mounted solar contained within a fence.
Total area with fence is approximately 4.7 acres. The solar array is set back approximately 180 feet from Caton Farm Road.

Development Request: Please check all that apply and describe:

[ ] Rezoning:_____

[X] Special Use: Ground Mounted Solar PV

[ ] Variance:_____

[ ] Planned Unit Development:_____

[ ] Annexation:_____

[ ] Plat:_____

[ ] Other:_____

Contact Information – If not yet known, please indicate as TBD. Check those parties in which copies of all correspondences should be forwarded.

[ ] Civil Engineer:_____ Phone:_____

Company:_____ Email:_____

[X] Contractor: Grace Rasmussen Phone: [redacted]

Company: Verde Solutions LLC Email: [redacted]

[ ] Architect:_____ Phone:_____

Company:_____ Email:_____

[ ] Builder:_____ Phone:_____

Company:_____ Email:_____

I agree to be present (in person or by counsel) when the Plan Commission and City Council hear this development request.

Grace Rasmussen 3/10/2025

Signature of the Applicant Date

If you (the applicant) are not the owner of record, please provide the owner's signature.

03/14/25

Signature of the Owner Date

Attachment B

March 31, 2025

Special Use Permit Request for
Ground Mounted Solar PV at
501 Caton Farm Road
Crest Hill, IL 60441

To Whom It May Concern,

Verde Solutions is partnering with Hendrickson USA to develop a 4.8-acre ground mounted solar PV system at their facility located at 501 Caton Farm Road. The 12-acre field is owned by Hendrickson. Verde Solutions has over 10 years of experience in the solar industry, specializing in Illinois with our office located in Chicago.

Nearmap Imagery Taken October 10, 2024

Design and Intent

The system consists of (1,992) solar modules, equating to 1.185 MW DC capacity, and is intended to offset approximately 100% of Hendrickson's annual electric consumption. The panels are fixed at a 30-degree tilt to the south and arranged into nine rows. The array is enclosed with a fence and is setback approximately 180 feet south of Caton Farm Road. The solar system interconnects to Hendrickson's electrical infrastructure to supply their electrical needs behind the utility meter. The project received ComEd's interconnection and net metering approval

March 7, 2025. All proposed solar equipment complies with the 2020 National Electric Code and City of Crest Hill ordinances. The inverters and utility AC disconnect are to be fenced in and located near their existing utility transformer on the west side of the main building.

Site Improvements

The proposed developed area of 4.8 acres will comply with the City's Building Ordinance Chapter 15. The landscaping plan includes (216) new trees and shrubs. Much of the proposed landscaping will screen the array from Caton Farm Road. The ground under the array will be covered with a native seed mix and include an erosion control blanket. The stormwater report describes how the ground mounted solar will affect the current drainage plan. It was determined that site runoff storage is not required for this project.

The fence is 6 feet tall chain link style with 1 foot of barbed wire. There is a 16-foot-wide vehicle access gate located at the northeast corner of the array.

Upon discussion with the City and Lockport Fire Protection District (LFPD), a gravel access path will be provided around the perimeter of the array within the fence to be used for emergency access. The gravel will be ¾" limestone loosely compacted. A variance is requested to accommodate this, as the path will be used for emergencies. Adequate turn clearance is provided per the Pierce Turning Performance Analysis provided by LFPD.

Operations and Maintenance

Once the solar system is installed, there is very little maintenance required. The solar system is fully static and rarely requires hands-on troubleshooting after energization. We offer maintenance packages custom to the client but a small percentage of our clients choose to do so. We recommend it is not necessary in the first five years of operation because adequate IL rainfall and the tilt of the modules naturally minimize dust and debris accumulation.

Maintenance and operations are primarily supported by the remote monitoring system, which alerts us and the client of any potential system faults. Most of these faults occur during system testing and commissioning, so our installers are still on site to address them. If a fault arises after we leave the site, we will first detect it remotely and work to resolve it. Should the issue require on-site attention, we will send 1-2 team members to troubleshoot. It usually takes a few hours to half a day.

The equipment has long warranties: Modules - 30 year performance, inverters - 20 year extended, and racking - 20 years.

If the client opts for our standard Verde Maintenance & Operations plan, we will perform a site visit once a year for one day, typically involving a visual inspection and documentation (1-2 people). If the plan is not selected, the system will remain hands-off.

Decommissioning Plan

While a decommissioning plan is not included in the active and current EPC contract with Hendrickson, we will offer to do so at the client's request when the time comes. As an industry standard, the expected useful life of the solar system is 30 years. The solar panels are warrantied against a 0.5% production degradation each year. By year

30, the solar panels will be producing 85% of their original output. The solar system will continue to produce long after that, and it would be up to the client to decide to leave the system as is, upgrade to newer technology, or explore system removal.

During system removal, Verde would remove all of the tangible property relating to the solar system. The land would be restored to its original condition with the exception of buried conduits.

Verde Solutions would use Com2 Recycling Solutions for the Removal and Decommissioning of the dated solar panels. Com2 Recycling Solutions is an R2 Certified recycling company located in Chicagoland which complies with all rules and regulations relative to the recycling of solar panels and inverters. The Certificate of Recycling (COR) would be issued once fully recycled.

About Verde Solutions

Verde Solutions, founded in 2012 by Christopher Gersch, is a leader in energy efficiency and sustainability solutions. With over 2,600 completed projects across 48 states, we bring proven expertise in energy reduction and generation solutions for commercial, industrial, educational, and municipal projects. We have consistently demonstrated growth and leadership, earning recognition on the INC 5000 list multiple times and inclusion in Solar Power World's top commercial solar contractors in 2024. Our extensive experience with educational institutions and municipalities ensures that we are well-equipped to deliver a successful project. Notable similar projects that we have completed include a 777kW-DC ground mount for the Minooka Wastewater Treatment plant, a 1.2 MW ground mount at a gravel pit in Lakemoor, a combo rooftop and ground mount for a commercial client in St. Charles, and a 2MW rooftop and ground mount for the College of Lake County.

Further Discussion

The City identified a wetland on the neighboring parcel to the south (ComEd, 11-04-33-100-006-0000). The wetland firm is unable to complete a full delineation until ground conditions are favorable in May. Due to the IL Shines solar incentive block closing on June 1, 2025, which requires Special Use Permit approval, it was mutually agreed with the City that, following the wetland delineation results, the solar array will be adjusted if necessary to avoid negatively impacting the current drainage to the wetland. However, given the wetland is not in close proximity to the array, Verde does not anticipate the array moving much, if at all. The official wetland delineation will be promptly shared with the City and the impact to the array will be identified. The IL Shines solar incentive is lucrative and essential to the progress of this project.

Given our vast experience with solar ground mounts and Greater Chicagoland municipalities, we consider the landscaping and fire protection requirements to be above and beyond what other municipalities have required for parcels without neighboring residential zones. However, we fully understand that this project is subject to Crest Hill's approval and are eager to coordinate a successful solar system with the City.

We thank you for your consideration of this project and look forward to continuing discussions.

Regards,

Grace Rasmussen, Verde Solutions
Project Engineer
grasmussen@verdesolutions.com
312-268-2025

Site Plan Documents included in submission:

1. *ALTA Survey*
2. *Electrical Construction Set – Site Plan, Equipment Elevations, Single Line Diagram, NEC Labels*
3. *Racking Construction Set*
4. *Racking Structural Calculations*
5. *Landscaping Plan*
6. *Stormwater Report*

Hey and Associates, Inc.

Solar Ground Mount System at Hendrickson USA

Crest Hill, Will County, Illinois
Stormwater Management Permit

Hey Project No. 25-0072

Prepared For:
Verde Solutions

Prepared by:
Hey and Associates, Inc.
Engineering, Ecology and Landscape Architecture

Main Office:
26575 W. Commerce Dr., Ste 601
Volo, Illinois 60073
847-740-0888 (phone)
847-740-2888 (fax)

Additional Offices:
Chicago, IL
8755 W. Higgins Rd., Ste 835
Chicago, Illinois 60631
773-693-9200 (phone)
773-693-9202 (fax)

Illinois Professional Design Firm 184.002429 / Wisconsin Architectural and Engineering License # 2340-11
Staff licensed to practice in Illinois, Wisconsin, Indiana, Michigan and Oregon
IDOT and WisDOT Prequalified

April 15, 2025

Table of Contents

Exhibits

Appendices

INTRODUCTION

Hey and Associates, Inc. (Hey) was retained by Verde Solutions to prepare permit documentation as part of the Solar Ground Mount System at Hendrickson USA project (Project). The site is located in the City of Crest Hill, Will County, Illinois. The project is further located in Section 33 of Township 36 North, Range 10 East in Lockport Township. See Exhibit 1 for an overall project location map.

The project includes the installation of solar panels on a grass field to provide energy for the manufacturing facility on site. Some existing trees will be removed to avoid interference with the solar panel performance. The area under the solar panels will be seeded with a pollinator habitat seed mix, and a variety trees and shrubs will be planted as well.

SITE RUNOFF AND SITE RUNOFF STORAGE

The site generally drains towards the southeast. After leaving the site boundaries, the drainage pattern continues towards the southwest into a swale along the north of the railroad. The swale then joins with a channel that flows towards the east and eventually empties into the Des Plaines River. This drainage pattern will be maintained in the proposed conditions. The drainage plan for the site is included as Exhibit 2.

According to section 55.020.C.3 of the Will County Code of Ordinances, solar farm developments are exempt from site runoff storage provided the following criteria are met:

a) Groundcover vegetation is maintained in good condition
b) The total proposed impervious area is less than 25,000 square feet
c) The open space between the panels are equal or greater than the panel width
d) The runoff will sheet flow through the site with a slope of less than 5 percent

These criteria are met, as described in the sections below, and therefore site runoff storage is not required for this project. Additionally, the following sections illustrate compliance with sections 15.20.030 and 15.20.070 from the Crest Hill Code of Ordinances.

Groundcover Vegetation

The entire area under the proposed solar panels will be seeded with a native seed mix. The seed mix and location is described in the landscaping plan sheets, which are included in Appendix A. The proposed groundcover vegetation will be maintained in good condition by the owner.

Impervious Areas

No impervious area is proposed on the site. An access road constructed of loosely compacted 3/4" gravel is proposed around the solar panels. However, loosely compacted gravel is not considered impervious by the City of Crest Hill and so is not counted as proposed impervious area.

Solar Panel Spacing and Sheet Flow

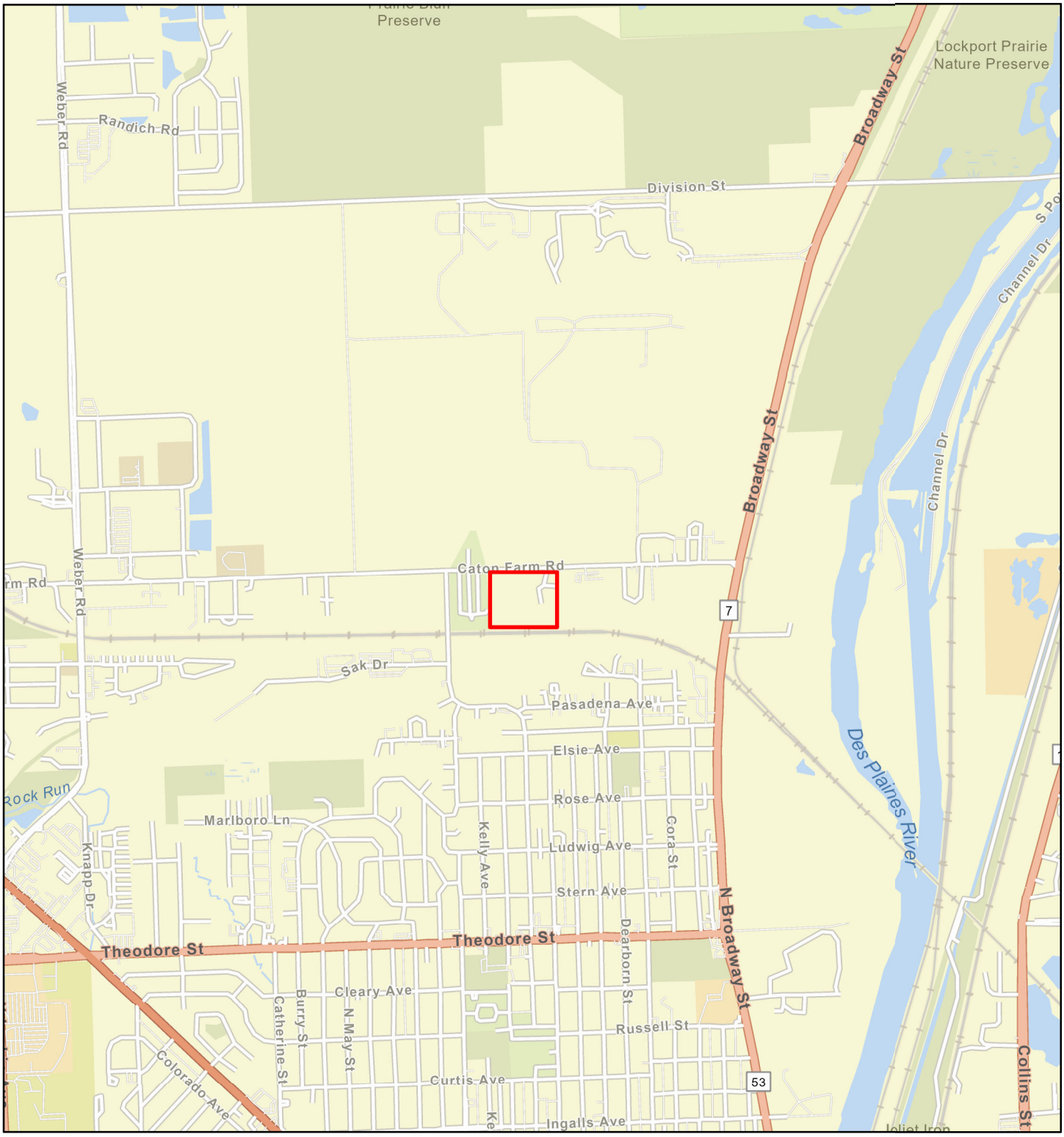
The solar panels have a width of 12.97 feet, and each row of panels will be installed with a 19.17 foot space between them, meeting the requirement that the open space must be wider than the solar panels. The panels will be at a 30-degree angle, so runoff will sheet flow onto the ground. The slope of the ground underneath the panels varies, with the northwestern area containing a generally steeper slope that becomes more gradual at the southeast corner. The average ground slope is approximately 2.15% underneath the panels, which is within the ordinance guidelines.

Sediment and Erosion Control

The seeding mix proposed for the solar panel area will be installed with erosion control blanket to protect against erosion and promote seed establishment and growth. Additionally, a total of 216 trees and shrubs are to be planted on site in accordance with section 15.04.040 of the Crest Hill Ordinance. These plantings will provide further permanent erosion control on site.

Special Management Areas

There is no floodway or floodplain on site, as shown in Exhibit 3. There are also no wetlands on site.



Scale: 1 inch = 2000 feet

0 2,000 Feet

Orientation:

Legend:

Project Site

Project Name:
Solar Ground Mount at Hendrickson USA

Prepared for:
Verde Solutions

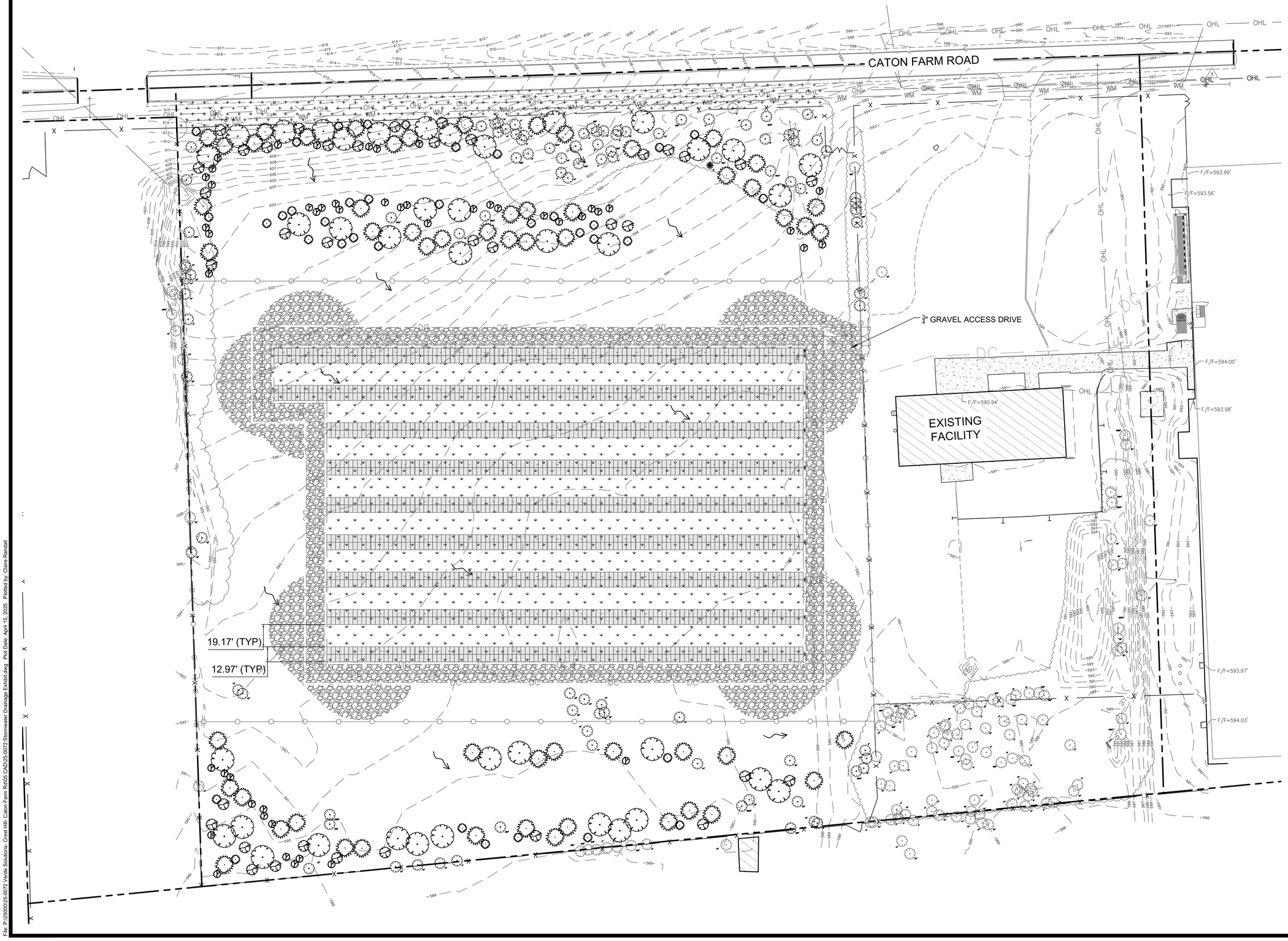
Project Number: 25-0072

Date: 3/13/2025

Hey and Associates, Inc.
Engineering, Ecology and Landscape Architecture

Exhibit Title:
Location Map

Exhibit:
1



0 40 80

Scale: 1" = 40'

N

LEGEND

Overland Flow Direction

No.	Revision/Issue	Date

Hey and Associates, Inc.
Engineering, Ecology and Landscape Architecture
26575 West Commerce Drive, Suite 601
Volo, Illinois 60073
Office (847) 740-0888
Fax (847) 740-2888
Volo@Heyassoc.com

Professional Design Firm
License No. 184-002429

Solar Ground Mount System at Hendrickson USA

Crest Hill, IL

Drainage Plan

PROJECT NO: 25-0072		SHEET NO:
DESIGNED BY	CER	EX2
DRAWN BY	CER	
CHECKED BY	AMC	
APPROVED BY	AMC	PAGE NO:
ISSUE DATE	04/15/2025	1 OF 1

Permit

File: P:\25\00\25-0072 Verde Solutions- Crest Hill- Caton Farm Rd\05 CAD\25-0072 Stormwater Drainage Exhibit.dwg Plot Date: April 15, 2025 Plotted by: Claire Randall

Exhibit 3 - FEMA FIRMETTE

National Flood Hazard Layer FIRMette

FEMA

88°6'14"W 41°34'11"N

0 250 500 1,000 1,500 2,000 Feet

1:6,000

88°5'37"W 41°33'44"N

Basemap Imagery Source: USGS National Map 2023

Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS
- Without Base Flood Elevation (BFE) *Zone A, V, A99*
- With BFE or Depth *Zone AE, AO, AH, VE, AR*
- Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD
- 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
- Future Conditions 1% Annual Chance Flood Hazard *Zone X*
- Area with Reduced Flood Risk due to Levee. See Notes. *Zone X*
- Area with Flood Risk due to Levee *Zone D*

OTHER AREAS
- NO SCREEN Area of Minimal Flood Hazard *Zone X*
- Effective LOMRs
- Area of Undetermined Flood Hazard *Zone D*

GENERAL STRUCTURES
- Channel, Culvert, or Storm Sewer
- Levee, Dike, or Floodwall

OTHER FEATURES
- 20.2 / 17.5 Cross Sections with 1% Annual Chance / Water Surface Elevation
- Coastal Transect
- Base Flood Elevation Line (BFE)
- Limit of Study
- Jurisdiction Boundary
- Coastal Transect Baseline
- Profile Baseline
- Hydrographic Feature

MAP PANELS
- Digital Data Available
- No Digital Data Available
- Unmapped

N

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

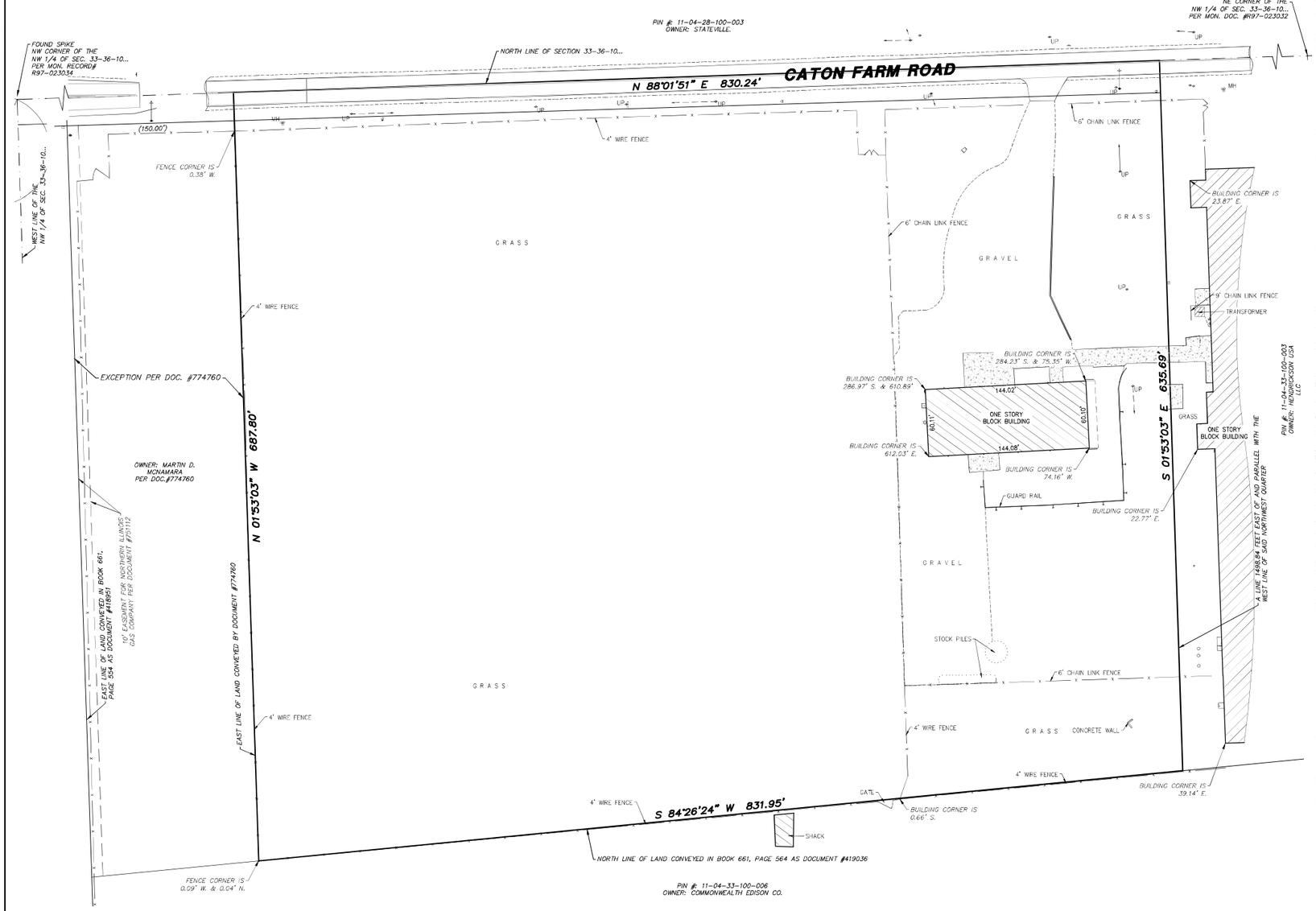
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/13/2025 at 9:32 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

Appendix A

Plan Set

ALTA / NSPS
LAND TITLE SURVEY



THAT PART OF THE NORTHWEST QUARTER OF SECTION 33, IN TOWNSHIP 36 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: BOUNDED ON THE NORTH BY THE NORTH LINE OF SAID SECTION 33, ON THE SOUTH BY THE NORTHERLY LINE AND ON SAID LINE EXTENDED WESTERLY OF LAND CONVEYED BY FLORENCE O. WINSHIP AND B.W. WINSHIP, ET AL TO THE PUBLIC SERVICE COMPANY OF NORTHERN ILLINOIS BY WARRANTY DEED DATED APRIL 14, 1928 AND RECORDED JUNE 7, 1928 IN BOOK 661, PAGE 564, AS DOCUMENT 419036, ON THE WEST BY LAND CONVEYED BY FLORENCE O. WINSHIP, ET AL TO THE CATHOLIC BISHOP OF CHICAGO BY WARRANTY DEED DATED FEBRUARY 10, 1928 AND RECORDED JUNE 5, 1928 IN BOOK 661, PAGE 554, AS DOCUMENT 418951, AND ON THE EAST LINE BY A LINE 1498.84 FEET EAST OF AND PARALLEL WITH THE WEST LINE OF SAID NORTHWEST QUARTER AND EXCEPT THAT PROPERTY CONVEYED BY LAVELIA BUILDING CORPORATION TO MARTIN D. MCNAMARA, TRUSTEE, BY DEED RECORDED MAY31, 1955AS DOCUMENT 774760, IN WILL COUNTY, ILLINOIS.

SURVEY NOTES:

– SITE BENCHMARK #1 – SE FLANGE BOLT ON HYDRANT ON THE SOUTH SIDE OF CATON FARM ROAD, 592' WEST OF ENTRANCE AS SHOWN ON SHEET SUR–2. ELEVATION–614.65' (NAVD88).

SITE BENCHMARK #2 – SE FLANGE BOLT ON HYDRANT ON THE SOUTH SIDE OF CATON FARM ROAD, 600.65' WEST OF ENTRANCE AS SHOWN ON SHEET SUR–2. ELEVATION–600.65' (NAVD88)

– PERMANENT INDEX NUMBER (P.I.N. #):11–04–33–100–003 & 11–04–33–100–002

– FIELD WORK COMPLETED ON 12/4/2024.

– SURVEY PREPARED FOR: VERDE SOLUTIONS, LLC.

– THE SURVEYOR FOUND NO EVIDENCE OF FLAGGED WETLANDS ON THE SURVEYED PROPERTY

– THE LOCATION OF UNDERGROUND UTILITIES WAS DETERMINED BY FIELD OBSERVATION AND VISIBLE MARKINGS ONLY.

– ANY DISCREPANCIES FOUND WITHIN THIS DOCUMENT NEED TO BE REPORTED TO THE SURVEYOR AS SOON AS POSSIBLE.

ALTA TABLE A NOTES:

2. SITE ADDRESS – 501 CATON FARM ROAD, CREST HILL, ILLINOIS.

3 ACCORDING TO OUR INTERPOLATION OF THE FLOOD INSURANCE RATE MAP THIS SITE IS LISTED AS BEING IN A ZONE "X", DESCRIBED AS "AREAS OF MINIMAL FLOOD HAZARD" PER F.E.M.A. PANEL NO.17197C0153G DATED FEBRUARY 15TH, 2019

4. LAND AREA
PARENT PARCEL: 549,406 SQ. FT (12.61 ACRES)

5. PER CLIENT REQUEST, ONLY PORTIONS OF THIS PROPERTY TO BE SHOWN WITH ELEVATIONS & CONTOURS.

6 A & B. PROPERTY IS ZONED COMMERCIAL.

7 A & B1. BUILDING TIES & DIMENSIONS SHOWN ARE MEASURED FROM THE OUTSIDE FACE OF THE BUILDING.

8. ALL SUBSTANTIAL FEATURES OBSERVED DURING THE FIELDWORK ARE PLOTTED HEREON, INCLUDING ANY ABOVE–GROUND UTILITIES.

9. THERE ARE NO PARKING STALLS ON PROPERTY.

11. THE LOCATION OF UNDERGROUND UTILITIES WAS DETERMINED BY FIELD OBSERVATION, VISIBLE MARKINGS ONLY.

13. NAMES OF ADJOINING OWNERS SHOWN ON SURVEY

14. THE NEAREST INTERSECTING STREET IN RELATION TO THE SURVEYED PROPERTY IS OAKLAND AVENUE, WHICH LIES APPROX. 579 FEET WEST OF THE NORTHWEST CORNER OF THE SURVEYED PROPERTY

16. THERE WAS NO EVIDENCE OF RECENT EARTH MOVING WORK.

17. THE SURVEYOR HAS NO KNOWLEDGE OF PROPOSED CHANGES IN STREET RIGHT OF WAY LINES OR RECENT STREET OR SIDEWALK CONSTRUCTION.

18. THE SURVEYOR HAS NO KNOWLEDGE OF ANY PLOTTABLE OFFSITE EASEMENTS.

19. CERTIFICATE OF INSURANCE IS AVAILABLE UPON REQUEST

TITLE NOTES:

SURVEY WAS PREPARED WITH THE AID OF A TITLE COMMITMENT PREPARED BY FIDELITY NATIONAL TITLE INSURANCE COMPANY, WTC FILE NUMBER VER–2025WL–97690, HAVING AN EFFECTIVE DATE OF JANUARY 28, 2025.

SCHEDULE B EXCEPTIONS

11 – EASEMENT DATED JUNE 2, 1954 AND RECORDED JUNE 8, 1954 AS DOCUMENT NO. 751112 MADE BY A E PATTON AND MABEL MARGARET PATTON TO NORTHERN ILLINOIS GAS COMPANY RECORDED IN THE WILL COUNTY RECORDERS OFFICE.
SHOWN ON SURVEY. DOES NOT AFFECT PROPERTY.

12 – EASEMENT DATED JULY 26, 1954 AND RECORDED DECEMBER 11, 1961 AS DOCUMENT NO. 945505 MADE BY A E PATTON AND MABEL MARGARET PATTON TO COMMON WEALTH EDISON COMPANY AND ILLINOIS BELL TELEPHONE COMPANY RECORDED IN THE WILL COUNTY RECORDERS OFFICE.
EASEMENT FALLS IN RIGHT OF WAY.

SEE SHEETS SUR-2 & SUR-3 FOR TOPOGRAPHIC FEATURES

LEGEND

PROPERTY LINE	UTILITY POLE	SOIL BORING	
CENTER LINE	TYPICAL SIGN	TELCO/ELEC MANHOLE	
EASEMENT LINE	MAILBOX	HANDRAIL	
BUILDING SETBACK	CLOSED MANHOLE	GUARDRAIL	
SECTION LINE	OPEN GRATE MANHOLE	GUY WIRE ANCHOR	
(XXX') RECORD DATA	BEEHIVE GRATE MANHOLE	CONTOUR LINE	
XX.XX TOP OF CURB(WALL ETC) / XXX.XX SPOT GRADE	GUTTER FRAME MANHOLE	EDGE GRAVEL/STONE	
BOTTOM OF CURB(WALL GUTTER,ETC)	VALVE VAULT	FENCE LINE	
CONCRETE	FIRE HYDRANT	FLARED END SECTION	
	B-BOX / SERVICE VALVE	STORM SEWER	
EVERGREEN/DECIDUOUS WITH SIZE IN INCHES	POST LIGHT/GROUND LIGHT	SANITARY SEWER	
	AREA LIGHT/LIGHT POLE	COMBO SEWER	
	STREET LIGHT	WATER SERVICE LINE	
SHRUB/SHRUB LINE	TRAFFIC SIGNAL	WATER MAIN	
MONITOR WELL	MAST ARM SIGNAL	OVERHEAD LINE	
GAS VALVE	HANDHOLE (electric\traffic)	FIBER OPTIC LINE	
UTILITY MARKINGS (cable,elec,fiber) (tel,water,gas)	GAS METER	GAS LINE	
	ELECTRIC METER	U.G. TELCO LINE	
	PEDESTAL(telcoelec,cable)	U.G. ELECTRIC LINE	

BASIS OF BEARINGS IS TRUE NORTH BASED ON ILLINOIS STATE PLANE COORDINATE SYSTEM, ILLINOIS EAST 1201 ZONE.

LIST OF POSSIBLE ENCROACHMENTS

TO THE SURVEYOR'S KNOWLEDGE, BASED ON FIELD EVIDENCE AND PROVIDED DOCUMENTATION, THERE ARE NO ENCROACHMENTS ONTO ADJOINING PROPERTY, STREETS OR ALLEYS OR ANY EASEMENTS BURDENING THE LEASE AREA BY ANY BUILDINGS, STRUCTURES, OR OTHER IMPROVEMENTS;

EXCEPT: NONE.

THERE ARE ALSO NO ENCROACHMENTS ONTO THE LEASE AREA OR EASEMENTS BENEFITING THE SURVEYED PROPERTY BY BUILDINGS, STRUCTURES, OR OTHER IMPROVEMENTS SITUATED ON ADJOINING PROPERTIES.

STATE OF ILLINOIS)
) SS
COUNTY OF COOK)

TO: XXXXXX
XXXXXX
XXXXXX

THIS IS TO CERTIFY THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED WERE MADE IN ACCORDANCE WITH THE 2021 MINIMUM STANDARD DETAIL REQUIREMENTS FOR ALTA/NSPS LAND TITLE SURVEYS, JOINTLY ESTABLISHED AND ADOPTED BY ALTA AND NSPS, AND INCLUDES ITEMS 3, 6A, 7A, 8, 9, 11A, 13, 14, AND 16 OF TABLE "A" THEREOF. THE FIELD WORK WAS COMPLETED ON 12/4/2024.

GIVEN UNDER MY HAND AND SEAL THIS _____ DAY OF _____, A.D. _____.
AT HOFFMAN ESTATES, ILLINOIS.

PRELIMINARY 2/7/2025

FRANJO I. MATICIC – PLS #035–003556 EXPIRES 11/30/2026
ILLINOIS PROFESSIONAL DESIGN FIRM LICENSE NO. 184.007570–0015

AQUATIC \ CIVIL \ MECHANICAL \ ELECTRICAL \ PLUMBING \ TELECOMMUNICATION \ STRUCTURAL \ ACCESSIBILITY CONSULTING \ DESIGN & PROGRAM MANAGEMENT \ LAND SURVEY

WT GROUP
Engineering with Precision, Pace and Passion.
2675 Pratum Avenue | Hoffman Estates, IL 60192
T: 224.293.6333 | F: 224.293.6444
Illinois Design Firm #: 184.007570-0015 Expires 04.30.2027

WT Group
Engineering • Design • Consulting

HENDRICKSON USA
501 CATON FARM ROAD
CREST HILL, ILLINOIS

ISSUE

TO	DATE
CLIENT	12/19/24
CLIENT	1/17/25
CLIENT	2/7/25

CHECK:FIM
DRAWN:REM
JOB: S2400104

SUR-1
SHEET 1 OF 3
ALTA/NSPS
LAND TITLE SURVEY

ALTA / NSPS
LAND TITLE SURVEY

LEGEND

PROPERTY LINE	UTILITY POLE	SOIL BORING
CENTER LINE	TYPICAL SIGN	TELCO/ELEC MANHOLE
EASEMENT LINE	MAILBOX	HANDRAIL
BUILDING SETBACK	CLOSED MANHOLE	GUARDRAIL
SECTION LINE	OPEN GRATE MANHOLE	GUY WIRE ANCHOR
(XXX') RECORD DATA	BEEHIVE GRATE MANHOLE	CONTOUR LINE
SPOT GRADE (XXX.XX TOP OF (CURB,WALL, ETC.); XXX.XX BOTTOM OF (GROUND, GUTTER,ETC.))	GUTTER FRAME MANHOLE	EDGE GRAVEL/STONE
CONCRETE	VALVE VAULT	FENCE LINE
EVERGREEN/DECIDUOUS WITH SIZE IN INCHES	FIRE HYDRANT	FLARED END SECTION
	B-BOX / SERVICE VALVE	STORM SEWER
	POST LIGHT\GROUND LIGHT	SANITARY SEWER
	AREA LIGHT\LIGHT POLE	COMBO SEWER
	STREET LIGHT	WATER SERVICE LINE
SHRUB/SHRUB LINE	TRAFFIC SIGNAL	WATER MAIN
MONITOR WELL	MAST ARM SIGNAL	OVERHEAD LINE
GAS VALVE	HANDHOLE (electric\traffic)	FIBER OPTIC LINE
UTILITY MARKINGS (cable,elec,fiber)	GAS METER	GAS LINE
	ELECTRIC METER	U.G. TELCO LINE
(tel,water,gas)	PEDESTAL(telco,elec,cable)	U.G. ELECTRIC LINE

1. RIM=691.15' (WATER)
48" CONCRETE STRUCTURE
586.87' AT TOP OF 12" DIP E/W

2. RIM=614.54' (WATER)
48" CONCRETE STRUCTURE
609.73' AT TOP OF 12" DIP E/W

N

SCALE: 1" = 30'

00 15 30 60
BAR SCALE

BASIS OF BEARINGS IS TRUE NORTH BASED ON ILLINOIS STATE PLANE COORDINATE SYSTEM, ILLINOIS EAST 1201 ZONE.

SURVEY NOTES:

1. SITE BENCHMARK #1 – SE FLANGE BOLT ON HYDRANT ON THE SOUTH SIDE OF CATON FARM ROAD, 592' WEST OF ENTRANCE AS SHOWN ON SHEET SUR–2. ELEVATION–614.65' (NAVD88).

SITE BENCHMARK #2 – SE FLANGE BOLT ON HYDRANT ON THE SOUTH SIDE OF CATON FARM ROAD, 600.65' WEST OF ENTRANCE AS SHOWN ON SHEET SUR–2. ELEVATION–600.65' (NAVD88)

2. THE LOCATION OF UNDERGROUND UTILITIES WAS DETERMINED BY FIELD OBSERVATION AND VISIBLE MARKINGS ONLY.

3. FIELD WORK COMPLETED ON 12/4/2024.

4. SURVEY PREPARED FOR: VERDE SOLUTIONS, LLC

5. BASIS OF BEARINGS IS TRUE NORTH BASED ON ILLINOIS STATE PLANE COORDINATE SYSTEM, ILLINOIS EAST 1201 ZONE.

6. ANY DISCREPANCIES FOUND WITHIN THIS DOCUMENT NEED TO BE REPORTED TO THE SURVEYOR AS SOON AS POSSIBLE.

AQUATIC \ CIVIL \ MECHANICAL \ ELECTRICAL \ PLUMBING \ TELECOMMUNICATION \ STRUCTURAL \ ACCESSIBILITY CONSULTING \ DESIGN & PROGRAM MANAGEMENT \ LAND SURVEY

WT GROUP
Engineering with Precision, Pace and Passion.
2675 Pratum Avenue | Hoffman Estates, IL 60192
T: 224.293.6333 | F: 224.293.6444
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IL. License No: 184.007570-0015 Expires: 04.30.2027

WT Group
Engineering • Design • Consulting

HENDRICKSON USA
501 CATON FARM ROAD
CREST HILL, ILLINOIS

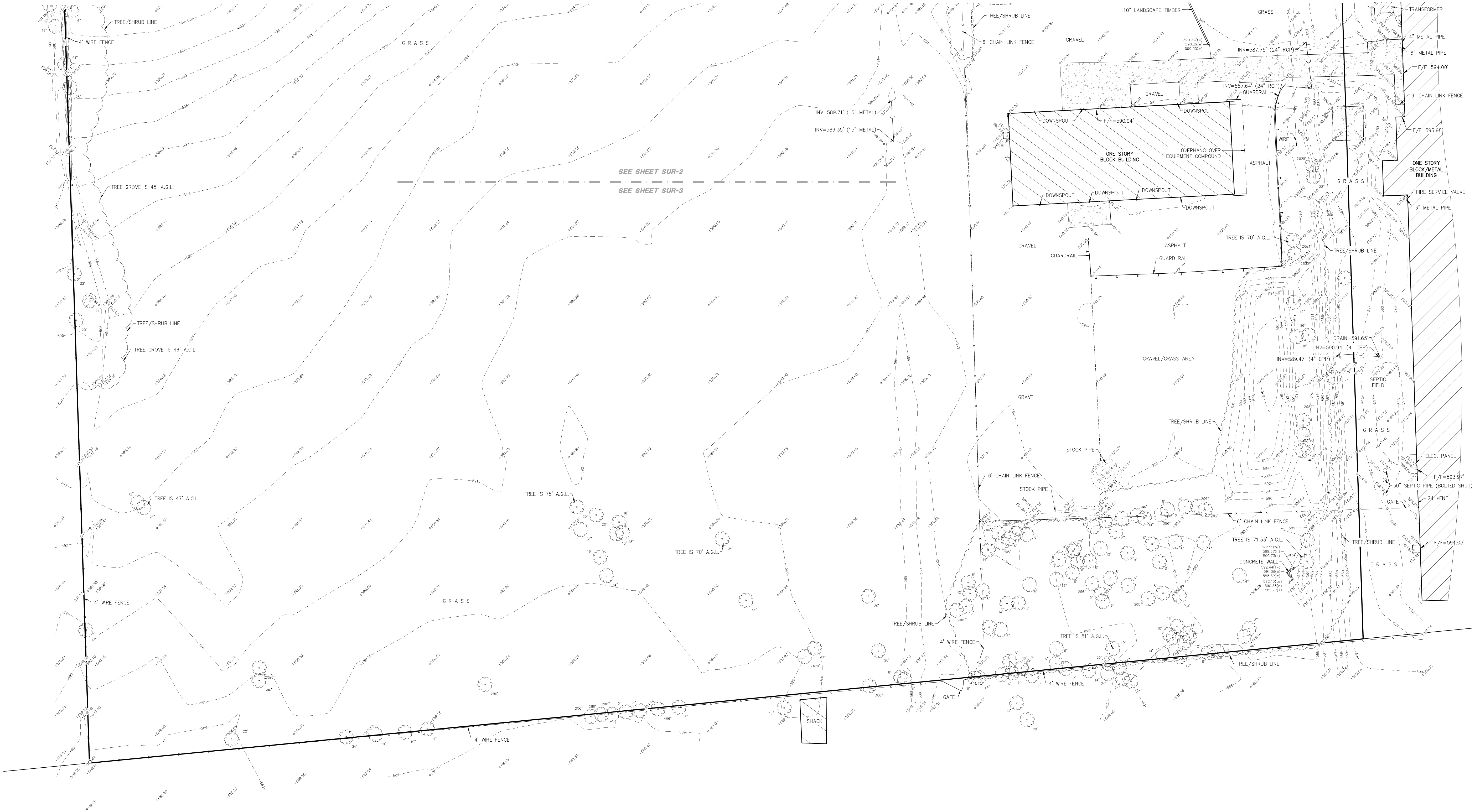
ISSUE

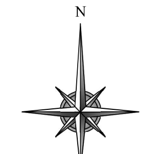
TO	DATE
CLIENT	12/19/24
CLIENT	1/17/25
CLIENT	2/7/25

CHECK:FIM
DRAWN:REM
JOB: S2400104

SUR-2
SHEET 2 OF 3
ALTA/NSPS
LAND TITLE SURVEY

ALTA / NSPS
LAND TITLE SURVEY





SCALE: 1" = 30'

0 15 30 60

BAR SCALE

BASIS OF BEARINGS IS TRUE NORTH BASED ON ILLINOIS STATE PLANE COORDINATE SYSTEM, ILLINOIS EAST 1201 ZONE.

(1) RIM=691.15' (WATER)
48" CONCRETE STRUCTURE
586.87' AT TOP OF 12" DIP E/W

(2) RIM=614.54' (WATER)
48" CONCRETE STRUCTURE
609.73' AT TOP OF 12" DIP E/W

LEGEND

PROPERTY LINE	UTILITY POLE	SOIL BORING
CENTER LINE	TYPICAL SIGN	TELCO/ELEC MANHOLE
EASEMENT LINE	MAILBOX	HANDRAIL
BUILDING SETBACK	CLOSED MANHOLE	GUARDRAIL
SECTION LINE	OPEN GRATE MANHOLE	GUY WIRE ANCHOR
(XXX') RECORD DATA	BEEHIVE GRATE MANHOLE	CONTOUR LINE
XXX.XX TOP OF (CURB,WALL, ETC.) SPOT GRADE XXX.XX BOTTOM OF (GROUND, GUTTER,ETC.)	GUTTER FRAME MANHOLE	EDGE GRAVEL/STONE
	VALVE VAULT	FENCE LINE
CONCRETE	FIRE HYDRANT	FLARED END SECTION
	B-BOX / SERVICE VALVE	STORM SEWER
EVERGREEN/DECIDUOUS WITH SIZE IN INCHES	POST LIGHT\GROUND LIGHT	SANITARY SEWER
	AREA LIGHT\LIGHT POLE	COMBO SEWER
	STREET LIGHT	WATER SERVICE LINE
SHRUB/SHRUB LINE	TRAFFIC SIGNAL	WATER MAIN
MONITOR WELL	MAST ARM SIGNAL	OVERHEAD LINE
GAS VALVE	HANDHOLE (electric\traffic)	FIBER OPTIC LINE
UTILITY MARKINGS (cable,elec,fiber)	GAS METER	GAS LINE
	ELECTRIC METER	U.G. TELCO LINE
(tel,water,gas)	PEDESTAL(telco,elec,cable)	U.G. ELECTRIC LINE

SURVEY NOTES:

1. SITE BENCHMARK #1 – SE FLANGE BOLT ON HYDRANT ON THE SOUTH SIDE OF CATON FARM ROAD, 592' WEST OF ENTRANCE AS SHOWN ON SHEET SUR–2. ELEVATION–614.65' (NAVD88).

SITE BENCHMARK #2 – SE FLANGE BOLT ON HYDRANT ON THE SOUTH SIDE OF CATON FARM ROAD, 600.65' WEST OF ENTRANCE AS SHOWN ON SHEET SUR–2. ELEVATION–600.65' (NAVD88)

2. THE LOCATION OF UNDERGROUND UTILITIES WAS DETERMINED BY FIELD OBSERVATION AND VISIBLE MARKINGS ONLY.

3. FIELD WORK COMPLETED ON 12/4/2024.

4. SURVEY PREPARED FOR: VERDE SOLUTIONS, LLC

5. BASIS OF BEARINGS IS TRUE NORTH BASED ON ILLINOIS STATE PLANE COORDINATE SYSTEM, ILLINOIS EAST 1201 ZONE.

6. ANY DISCREPANCIES FOUND WITHIN THIS DOCUMENT NEED TO BE REPORTED TO THE SURVEYOR AS SOON AS POSSIBLE.

AQUATIC \ CIVIL \ MECHANICAL \ ELECTRICAL \ PLUMBING \ TELECOMMUNICATION \ STRUCTURAL \ ACCESSIBILITY CONSULTING \ DESIGN & PROGRAM MANAGEMENT \ LAND SURVEY

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501 CATON FARM ROAD
CREST HILL, ILLINOIS

ISSUE

TO	DATE
CLIENT	12/19/24
CLIENT	1/17/25
CLIENT	2/7/25

CHECK:FIM
DRAWN:REM
JOB: S2400104

SUR-3

SHEET 3 OF 3

ALTA/NSPS
LAND TITLE SURVEY

PLAT OF SURVEY

SPACECO UAV AERIAL IMAGE
DATE OF FLIGHT: 03/19/2024

N

SCALE 1" = 80'
0 80 160

PROPERTY DESCRIPTION:

PARCEL I:
A TRACT OF LAND IN THE NORTHWEST QUARTER OF SECTION 33, IN TOWNSHIP 36 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS BEGINNING AT THE NORTHEAST CORNER OF THE TRACT OF LAND CONVEYED TO LAVELLA BUILDING CORPORATION BY QUIT-CLAIM DEED RECORDED IN THE RECORDER'S OFFICE OF WILL COUNTY, ILLINOIS, AS DOCUMENT 754202, WHICH NORTHEAST CORNER IS ALSO THE NORTHEAST CORNER OF THE WEST 1498.84 FEET OF SAID NORTHWEST QUARTER AND RUNNING THENCE EAST ALONG THE NORTH LINE OF SAID NORTHWEST QUARTER A DISTANCE OF 859.31 FEET TO THE NORTHWEST CORNER OF THE TRACT OF LAND CONVEYED TO JOHN F. ZELLER BY QUIT-CLAIM DEED RECORDED IN SAID RECORDER'S OFFICE AS DOCUMENT 909129, WHICH NORTHWEST CORNER IS ALSO THE NORTHWEST CORNER OF THE EAST 282.71 FEET OF SAID NORTHWEST QUARTER, THENCE SOUTH ALONG THE WEST LINE OF SAID EAST 282.71 FEET AND THE WEST LINE OF SAID TRACT CONVEYED BY DOCUMENT 909129 A DISTANCE OF 577.61 FEET TO THE SOUTHWEST CORNER OF THE LAST ABOVE MENTIONED TRACT; THENCE WESTWARDLY A DISTANCE OF 136.08 FEET TO A POINT ON THE NORTHERLY LINE OF THE TRACT OF LAND CONVEYED TO THE PUBLIC SERVICE COMPANY OF NORTHERN ILLINOIS BY QUIT-CLAIM DEED RECORDED IN SAID RECORDER'S OFFICE AS DOCUMENT 419036, WHICH POINT IS 418.19 FEET WEST FROM THE EAST LINE OF SAID NORTHWEST QUARTER MEASURED PERPENDICULARLY THERETO; THENCE WESTWARDLY ALONG SAID NORTHERLY LINE OF SAID TRACT CONVEYED BY SAID DOCUMENT 419036 A DISTANCE OF 725.15 FEET TO THE SOUTHEAST CORNER OF SAID TRACT OF LAND CONVEYED BY DOCUMENT 754202, WHICH SOUTHEAST CONVEYER IS ON THE EAST LINE OF SAID WEST 1498.84 FEET AND THENCE NORTH ALONG THE EAST LINE OF SAID TRACT CONVEYED BY DOCUMENT 754202 AND ALONG SAID EAST LINE OF THE WEST 1498.84 FEET A DISTANCE OF 635.69 FEET TO THE PLACE OF BEGINNING, IN WILL COUNTY, ILLINOIS.

PARCEL II:
THAT PART OF THE NORTHWEST QUARTER OF SECTION 33, IN TOWNSHIP 36 NORTH, RANGE 10, EAST OF THE THIRD PRINCIPAL MERIDIAN, DESCRIBED AS FOLLOWS: BOUNDED ON THE NORTH BY THE NORTH LINE OF SAID SECTION 33, ON THE SOUTH BY THE NORTHERLY LINE AND ON SAID LINE EXTENDED WESTERLY OF LAND CONVEYED BY FLORENCE O. WINSHIP AND B. W. WINSHIP, ET AT., TO THE PUBLIC SERVICE COMPANY OF NORTHERN ILLINOIS BY WARRANTY DEED DATED APRIL 14, 1928 AND RECORDED JUNE 7, 1928 IN BOOK 661, PAGE 564, AS DOCUMENT 419036, ON THE WEST BY LAND CONVEYED BY FLORENCE O. WINSHIP, ET AL., TO THE CATHOLIC BISHOP OF CHICAGO BY WARRANTY DEED DATED FEBRUARY 10, 1928 AND RECORDED JUNE 5, 1928 IN BOOK 661, PAGE 554, AS DOCUMENT 418951, AND ON THE EAST LINE BY A LINE 1498.84 FEET EAST OF AND PARALLEL WITH THE WEST LINE OF SAID NORTHWEST QUARTER AND EXCEPT THAT PROPERTY CONVEYED BY LAVELLA BUILDING CORPORATION TO MARTIN D. MCNAMARA, TRUSTEE, BY DEED RECORDED MAY 31, 1955 AS DOCUMENT 774760, IN WILL COUNTY, ILLINOIS.

NOTES:

THIS SURVEY WAS PREPARED WITHOUT THE BENEFIT OF A TITLE COMMITMENT. IT IS POSSIBLE THAT ADDITIONAL EASEMENTS, RESTRICTIONS OR OTHER ENCUMBRANCES EXIST OVER THE PROPERTY THAT HAVE NOT BEEN SHOWN HEREON.

BEARINGS SHOWN HEREON ARE BASED ON NAD83 ILLINOIS STATE PLANE COORDINATE SYSTEM, EAST ZONE (2011 ADJUSTMENT) AND NAVD88 (GEOID 12B) UTILIZING GNSS EQUIPMENT AND TOPNETLIVE RTK NETWORK.

LAST DATE OF FIELD WORK: APRIL 1, 2024

PROPERTY SURVEYED: 1,072,114 SQ. FT. OR 24.612 ACRES MORE OF LESS.

ADDRESS:
501 CATON FARM RD
CREST HILL, ILLINOIS 60403

P.I.N:
11-04-33-100-002-0000 (PARCEL 2)
11-04-33-100-003-0000 (PARCEL 1)

LEGEND

STORM SEWER	SANITARY MANHOLE	HAND HOLE	CUT CROSS
SANITARY SEWER	STORM MANHOLE	STREET LIGHT	PK / MAG NAIL
COMBINED SEWER	CATCH BASIN	UTILITY POLE	RAILROAD SPIKE
WATER MAIN	INLET	TRAFFIC SIGNAL	SOIL BORING
GAS MAIN	FLARED END SECTION	TRAFFIC SIGNAL BOX	
UNDERGROUND TELEPHONE LINE	ELECTRIC MANHOLE	SPRINKLER HEAD	TREE WITH SIZE
UNDERGROUND ELECTRIC LINE	TELEPHONE MANHOLE	BOLLARD	
UNDERGROUND CATV LINE	TELEPHONE UPRIGHT	MAILBOX	FIR TREE WITH SIZE
OVERHEAD WIRE(S) ON UTILITY POLES	ELECTRIC UPRIGHT	SIGN	
FIBER OPTIC LINE	CABLE TV UPRIGHT	UNIDENTIFIED MANHOLE	BUSH
RAILROAD	FIRE HYDRANT	CONTOUR	ASPHALT
FENCE	VALVE AND VAULT	SPOT ELEVATION	CONCRETE
GUARDRAIL	WATER VALVE	RIGHT-OF-WAY MONUMENT	GRAVEL
EDGE OF WATER	B BOX	DISC	
WETLAND LIMITS	AUXILIARY VALVE	IRON / STEEL ROD	
	WELL	IRON PIPE	
	GAS VALVE		

ECX = EDGE OF CONCRETE CORNER
BDX = BUILDING CORNER
(M) = MEASURED DIMENSION
(R) = RECORD DIMENSION

STATE OF ILLINOIS)
) SS
COUNTY OF GRUNDY)

WE, SPACECO, INC., AN ILLINOIS PROFESSIONAL DESIGN FIRM, NUMBER 184-001157, DO HEREBY DECLARE THAT THIS MAP OR PLAT AND THE SURVEY ON WHICH IT IS BASED IS A TRUE AND CORRECT REPRESENTATION OF SAID SURVEY.

ALL DIMENSIONS ARE IN FEET AND DECIMAL PARTS THEREOF.

NO DISTANCES OR ANGLES SHOWN HEREON MAY BE ASSUMED BY SCALING.

THIS PROFESSIONAL SERVICE CONFORMS TO THE CURRENT ILLINOIS MINIMUM STANDARDS OF PRACTICE APPLICABLE TO BOUNDARY SURVEYS.

GIVEN UNDER OUR HAND AND SEAL THIS 2ND DAY OF APRIL, 2024 IN MORRIS, ILLINOIS.

KEVIN W. DONOVAN, I.P.L.S. No. 035-3781
LICENSE EXPIRES: 11-30-2024
KDONOVAN@SPACECOINC.COM

(VALID ONLY IF EMBOSSED SEAL AFFIXED)

COMPARE ALL DIMENSIONS BEFORE BUILDING AND REPORT ANY DISCREPANCIES AT ONCE. REFER TO DEED OR TITLE POLICY FOR BUILDING LINES AND EASEMENTS.

KEVIN W. DONOVAN 3781 PROFESSIONAL LAND SURVEYOR STATE OF ILLINOIS MORRIS, ILLINOIS

PREPARED FOR:
NARVICK BROTHERS

REVISIONS:

SPACECO INC.
CONSULTING ENGINEERS
SITE DEVELOPMENT ENGINEERS
LAND SURVEYORS
224 ½ N. Liberty Street,
Morris, Illinois 60450
Phone: (815) 941-0260 Fax: (815) 941-0263

DATE: 04/02/2024
JOB NO: 13227
FILENAME: 13227SUR-01
SHEET 1 OF 1

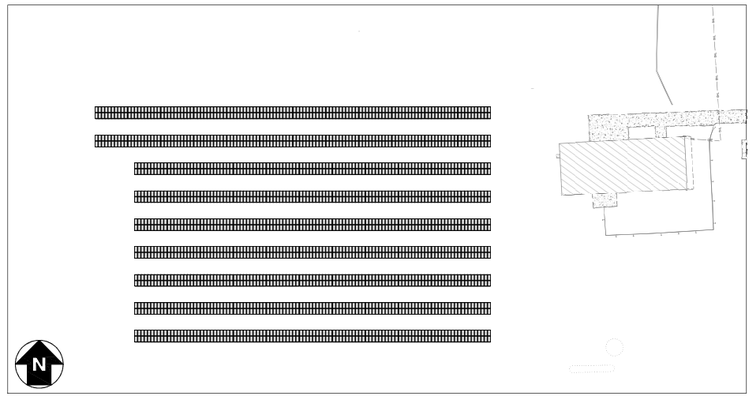
X:\Projects 13000-13999\13227-M\SURVEY\13227SUR-01.dgn Default User=jschroeder

SOLAR GROUND MOUNT SYSTEM AT

HENDRICKSON USA

501 CATON FARM RD, LOCKPORT, IL 60441

LOCATION MAP
SCALE: 1" = 1000'-0"



SYSTEM PLAN
SCALE: 1" = 80'-0"

TOTAL SYSTEM SUMMARY:

TOTAL DC SYSTEM SIZE:	1,185.24 kWDC
TOTAL AC SYSTEM SIZE:	900.00/947.700 kWAC/KVA
MODULE MANUFACTURER:	JINKO SOLAR
(QTY) MODULE TYPE 1:	(1,992) JKM595N-72HL4-BDV
MODULE TILT:	30°
MODULE AZIMUTH:	180°
INVERTER MANUFACTURER:	CHINT POWER SYSTEMS
(QTY) INVERTER TYPE 1:	(9) CPS SCH100KTL DO/US-480

NOTES SPECIFIC TO ILLINOIS

ADOPTED NEC VERSION: 2008 (SET DESIGNED TO NEC 2023)
ADOPTED IBC VERSION: 2021

SCOPE OF WORK SUMMARY

GROUND MOUNT PV ARRAY:
- INSTALL SOLAR MODULES AND RACKING SYSTEM ON GROUND LEVEL.
- INSTALL INVERTERS AND ELECTRICAL DISTRIBUTION EQUIPMENT.
- INTERCONNECT AT EXISTING ELECTRICAL DISTRIBUTION EQUIPMENT.

DEVELOPER:

verde SOLUTIONS

2211 N ELSTON AVE
SUITE 208
CHICAGO, IL 60614

ENGINEERED BY:

PUREPOWER ENGINEERING

111 RIVER STREET, SUITE 1110
HOBOKEN, NEW JERSEY 07030

DRAWING INDEX

		30% DESIGN	90% DESIGN	90% DESIGN REV1		
GENERAL						
G001	TITLE SHEET	●	●	●		
ELECTRICAL						
E001	ELECTRICAL NOTES & SYMBOLS LIST		●	●		
E100	OVERALL ELECTRICAL PLAN	●	●	●		
E101	AC ELECTRICAL PLAN		●	○		
E200	DC ELECTRICAL PLAN		●	○		
E300	ONE LINE DIAGRAM	●	●	○		
E310	SCHEDULES & CALCULATIONS		●	○		
E410	GROUNDING DETAILS		●	●		
E420	ELECTRICAL DETAILS		●	○		
E500	LABELS & SIGNAGE		●	○		
E600	EQUIPMENT DATA SHEETS		●	○		
E601	EQUIPMENT DATA SHEETS		●	○		

01/13/2025
02/26/2025
03/31/2025

LEGEND:

UPDATED DRAWING ISSUED	●
UNCHANGED, PREVIOUSLY ISSUED DRAWING STILL CURRENT	○
DRAWING REMOVED FROM SET	×

DATE	REVISION DESCRIPTION	PM	ENG	CHK
03/28/2025	90% DESIGN REV1	TL	DG	LP
02/26/2025	90% DESIGN	TL	DG	LP
01/13/2025	30% CONCEPTUAL DESIGN	TL	DG	LP

ENGINEER
PUREPOWER ENGINEERING
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWER.COM
TRAVIS LENBERG
IL LICENSE No. 062.076098

DEVELOPER
VERDE SOLUTIONS
2211 N ELSTON AVE
SUITE 208
CHICAGO, IL 60614
WWW.VERDESOLUTIONS.COM

PAGE SIZE 36" x 24"
PROJECT # 11015.01

PROJECT
SOLAR GROUND MOUNT SYSTEM AT
HENDRICKSON USA
501 CATON FARM ROAD
LOCKPORT, IL 60441

DRAWING TITLE
TITLE SHEET

DRAWING #
G001

PLOT DATE: 3/31/2025 1:01 PM

RULER IN INCHES: 0 ½ 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

PLOT DATE: 3/31/2025 1:01 PM

ELECTRICAL NOTES

1. GENERAL
 1.A. ALL WORK AND MATERIALS SHALL BE IN FULL ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND ALL EQUIPMENT SHALL BE LISTED BY A NATIONALLY RECOGNIZED TESTING LABORATORY (NRTL) TO APPLICABLE UL STANDARDS. THE CONTRACTOR SHALL PROCURE ALL NECESSARY CERTIFICATIONS FOR ALL WORK INSTALLED, PAY ALL FEES AND CHARGES CONNECTED THEREWITH AND DELIVER ALL CERTIFICATES AND INSPECTION APPROVALS TO THE OWNER THROUGH THE ENGINEER, BEFORE WORK WILL BE FINALLY ACCEPTED.
 1.B. ALL INVERTERS SHALL BE IEEE 1547 COMPLIANT AND SHALL BE INSPECTED BY LOCAL UTILITY BEFORE COMMISSIONING, TESTING AND OPERATION OF THE SYSTEM.
 1.C. UNLESS OTHERWISE NOTED, NEW EQUIPMENT SHALL HAVE AN INTERRUPT RATING (kAIC) OR SHORT CIRCUIT CURRENT RATING (SCCR) GREATER THAN OR EQUAL TO THE EXISTING EQUIPMENT.

2. MANNER OF INSTALLATION
 2.A. ALL WORK SHALL BE INSTALLED IN A FIRST CLASS, NEAT AND WORKMANLIKE MANNER BY MECHANICS SKILLED IN THE TRADE INVOLVED. ALL DETAILS OF THE INSTALLATION SHALL BE MECHANICALLY AND ELECTRICALLY CORRECT.
 2.B. TORQUE AND MARK ALL RACKING AND MECHANICAL LUGS.

3. CONDUCTORS AND CONDUCTOR INSTALLATION
 3.A. WHERE POSSIBLE, ALUMINUM CABLE TERMINATIONS SHALL BE MADE WITH COMPRESSION LUGS OR MECHANICAL LUGS WITH COMPRESSION PIN ADAPTORS. REQUEST CLIENT APPROVAL FOR ALTERNATIVES.
 3.B. IF ALUMINUM MULTICONDUCTOR CABLE IS USED, THHN/THWN-2 INSULATION IS ACCEPTABLE. FOR SINGLE ALUMINUM CONDUCTORS, XHHW-2 SHALL BE USED.
 3.C. ANTI-OXIDANT COMPOUND SHALL BE USED WITH ALL ALUMINUM LUGS. CLEAN OXIDATION FROM WIRE STRANDS WITH STEEL WIRE BRUSH PRIOR TO APPLICATION OF COMPOUND.
 3.D. PV SYSTEM CONDUCTORS SHALL BE MARKED AND IDENTIFIED PER NEC 690.31(B).
 3.E. INSTALL WIRE AND CABLE IN ACCORDANCE WITH THE NEC AND AS HEREINAFTER SPECIFIED. USE THE NATIONAL ELECTRICAL CONTRACTORS ASSOCIATION'S 'STANDARD OF INSTALLATION', THE MANUFACTURER'S WRITTEN INSTRUCTIONS, UNLESS SUPERSEDED BY THESE SPECIFICATIONS. IN ALL CASES THE INSTALLATION SHALL BE IN ACCORDANCE WITH RECOGNIZED INDUSTRY PRACTICES.
 3.F. THE USE OF WIRE SPLICES AT ANY POINT IN THE INSTALLATION IS STRICTLY PROHIBITED
 3.G. THE USE OF WIRE LUBE IS REQUIRED FOR ALL WIRE PULLS THROUGH CONDUIT RUNS OF 20' OR LONGER, OR WITH BENDS IN 180° OR MORE. WIRE LUBE IS REQUIRED EVEN WHEN USING SELF LUBRICATING CABLES SUCH AS SOUTHWIRE 'SIMPULL'.
 3.H. STRING WIRING & HOMERUNS SHALL BE SECURED TO UNDERSIDE OF THE RACKING & MODULES USING SUNBUNDLERS OR EQUIVALENT APPROVED BY EEOR. TRANSITION TO EMT OUTSIDE OF ARRAY. NEGATIVE HOMERUN SHALL BE RUN PARALLEL TO POSITIVE HOMERUN.
 3.I. EACH DC STRING WIRING CONDUIT SHALL HAVE AN EGC.
 3.J. ALL PV SOURCE CIRCUITS WHICH WOULD BE EXPOSED TO PHYSICAL DAMAGE SHALL BE PROTECTED IN CONDUIT OR CABLE TRAY.
 3.K. ALL PV SOURCE CIRCUITS WITH DIRECT EXPOSURE TO SUNLIGHT SHALL BE PROTECTED THROUGH THE USE OF CONDUIT, PROTECTIVE WRAP, SPLIT LOOM, OR EQUIVALENT, WHICH ARE DURABLE FOR THE ENVIRONMENT AND RATED FOR THE APPLICATION.
 3.L. ALL PLUG AND SOCKET CONNECTORS MATED TOGETHER SHALL BE OF THE SAME TYPE AND OF THE SAME MANUFACTURER. "COMPATIBLE" CONNECTORS SHALL NOT BE ACCEPTED (IEC 62446-1).
 3.M. ALL FIELD-MADE PLUG & SOCKET CONNECTORS SHALL BE INSTALLED USING MANUFACTURER APPROVED TOOLS AND METHODS, AND CABLE GLANDS SHALL BE TIGHTENED TO MANUFACTURER'S SPECIFIED TORQUE VALUE.
 3.N. ALL CONDUCTORS AND CABLES RATED OVER 1000V SHALL NOT BE BENT AT RADIUS LESS THAN 12X THEIR DIAMETER, OR AS SPECIFIED BY DATASHEET.
 3.O. CABLE TIES INSTALLED OUTDOORS SHALL BE TYPE 2, 2S, 21, OR 21S. IN ADDITION TO THESE ALLOWED TYPES, ONLY TIES THAT ARE UV RESISTANT AND HAVE A 25-YEAR SERVICE LIFE SHALL BE USED OUTDOORS. NO UNLISTED OR UNLABELED TIES LACKING MARKINGS SHALL BE USED. CABLE TIES OR SUPPORTS OF STAINLESS 316 SHALL BE CONSIDERED TO HAVE A 25-YEAR SERVICE LIFE.

4. PHASE RELATIONSHIP
 4.A. CONNECT FEEDERS TO MAINTAIN PHASE RELATIONSHIP THROUGH SYSTEM. PHASE LEGS OF FEEDERS SHALL MATCH BUS OR CABLE ARRANGEMENTS IN EQUIPMENT TO WHICH THE FEEDERS ARE CONNECTED. COLOR CODING SHALL BE AS FOLLOWS:

 208/120 VAC
 A PHASE: BLACK, B PHASE: RED, C PHASE: BLUE

 277/480 VAC OR 346/600 VAC
 A PHASE: BROWN, B PHASE: ORANGE, C PHASE: YELLOW

 MEDIUM VOLTAGE AC (GREATER THAN 800 VAC)
 A PHASE: BLACK, B PHASE: RED, C PHASE: BLUE

 1500 VDC, 1000 VDC, OR 600 VDC
 UNGROUNDED POSITIVE CONDUCTOR: RED
 UNGROUNDED NEGATIVE CONDUCTOR: BLACK

 AC AND DC SYSTEMS:
 GROUNDED CONDUCTOR: WHITE
 GROUND: GREEN

 4.B. GROUNDED CONDUCTORS (NEUTRAL) AND EQUIPMENT GROUNDING CONDUCTORS SMALLER THAN #4 MUST HAVE COLOR CODED INSULATION. WHERE COLOR CODED CABLE IS NOT USED, TAPE CONDUCTOR WITH OVERLAPPED COLORED TAPE FOR A MINIMUM OF 6" IN ACCESSIBLE LOCATIONS. COLOR CODING MUST BE USED CONSISTENTLY FOR THE ENTIRE PROJECT.

5. CONDUITS AND RACEWAYS
 5.A. PROVIDE RACEWAYS MINIMUM SIZE 3/4".
 5.B. CONDUITS SHALL BE EMT WHERE NOT SUBJECT TO PHYSICAL DAMAGE. CONDUITS SHALL BE IMC OR RMC WHERE SUBJECT TO PHYSICAL DAMAGE. PVC CONDUITS ONLY PERMITTED IN BELOW GRADE DUCT BANKS.
 5.C. DRAWINGS SHOW RACEWAY LOCATIONS DIAGRAMMATICALLY. CONTRACTOR SHALL ADJUST ROUTING TO SUIT FIELD LOCATIONS. ANY CHANGES TO PROPOSED ROUTING SHALL BE SUBMITTED TO ENGINEER FOR REVIEW AND APPROVAL.
 5.D. FURNISH AND INSTALL ALL FITTINGS AND SPECIAL DEVICES NECESSARY FOR THE PROPER INSTALLATION, CONNECTION AND OPERATION OF THE SYSTEM. CONDUIT ELBOWS SHALL BE OF THE SAME MAKE, QUALITY AND FINISH AS THE CONDUIT USED.
 5.E. A PROTECTIVE COATING OF ASPHALT COMPOUND, PLASTIC SHEATH, OR OTHER EQUIVALENT PROTECTION SHALL BE APPLIED TO ANY GALVANIZED STEEL CONDUITS DIRECTLY BURIED IN EARTH.
 5.F. EMT CONDUIT OUTDOORS SHALL USE COMPRESSION RAINTIGHT CONNECTORS, FACTORY STAMPED RAINTIGHT WITH COMPONENTS PROPERLY INSTALLED.
 5.G. PROVIDE EXPANSION FITTINGS WITH BONDING JUMPERS FOR EVERY 100' OF STRAIGHT METAL CONDUIT RUN.
 5.H. CONDUIT EXPANSION AND DEFLECTION FITTINGS WITH BONDING JUMPERS SHALL BE USED WHENEVER CROSSING BUILDING EXPANSION AND SEISMIC SEPARATION JOINTS.
 5.I. LEAVE WIRE SUFFICIENTLY LONG TO PERMIT MAKING FINAL CONNECTIONS. ALL EMPTY CONDUITS OVER 10' IN LENGTH SHALL BE PROVIDED WITH SYNTHETIC FIBER ROPE PULL WIRE.
 5.J. PATCH AND REPAIR ALL SURFACES DAMAGED BY TRENCHING TO MATCH THE PREVIOUSLY EXISTING CONDITIONS.
 5.K. TRENCHING SHALL BE DONE SUCH THAT THE DISTANCE FROM ANY STRUCTURAL PILE TO THE NEAREST EDGE OF THE TRENCH IS AT LEAST EQUIVALENT TO THE DEPTH OF THE PILE. CONFIRM MINIMUM DISTANCE TO TRENCH WITH STRUCTURAL/RACKING EOR PRIOR TO DIGGING.
 5.L. ALL PENETRATIONS SHALL BE SEALED TO MAINTAIN THE EXISTING FIRE RATING.
 5.M. ALL CONDUITS ENTERING ENCLOSURES SHALL BE FITTED WITH PROTECTIVE BUSHINGS, INCLUDING CONDUIT WITH CONDUCTOR SIZES SMALLER THAN #4 AWG. METALLIC CONDUIT/BUSHINGS SHALL BE BONDED PER NEC.
 5.N. ALL CONDUIT ENTERING ENCLOSURES SHALL BE SEALED WITH AN APPROVED SEALANT (POLYWATER AFT).

6. ELECTRICAL ENCLOSURES
 6.A. ALL OUTDOOR ENCLOSURES (PANELBOARDS, DISCONNECT SWITCHES, JUNCTION BOXES, COMBINER BOXES, ETC.) SHALL BE NEMA 3R, 4, OR 4X. ALL WALL OR RACK MOUNTED OUTDOOR ENCLOSURES SHALL HAVE A MINIMUM 2'-0" CLEARANCE ABOVE GRADE, AND A MINIMUM 1/4" CLEARANCE FROM WALL. INDOOR ENCLOSURES SHALL BE NEMA 1.
 6.B. PANELBOARD DOORS SHALL BE QUARTER TURN LATCHES OR EXTERNAL HANDLE WITH INTERNAL LATCHES, NO SETS OF EXTERNAL SCREW DOWN CLAMPS.
 6.C. NO PENETRATIONS OR CABLE ENTRIES IN THE TOP OF OUTDOOR ENCLOSURES. ENTER OUTDOOR ENCLOSURES FROM THE BOTTOM (PREFERRED) OR SIDE.
 6.D. RIGID CONDUIT TERMINATING IN OUTDOOR ENCLOSURES SHALL USE MYERS-TYPE HUBS WITH GROUND SCREWS (BOTTOM OR SIDE ENTRY).
 6.E. EMT CONDUIT TERMINATING IN OUTDOOR ENCLOSURES SHALL USE RAINTIGHT FITTINGS (BOTTOM OR SIDE ENTRY).
 6.F. ALL ELECTRICAL EQUIPMENT SHALL BE LISTED OR LABELED BY A RECOGNIZED TESTING AGENCY.
 6.G. ARC FLASH HAZARD WARNING LABELS SHALL BE PROVIDED AND MOUNTED ON EVERY NEW ENCLOSURE CONTAINING SERVICEABLE COMPONENTS SUCH AS CONDUCTOR TERMINATIONS, DISCONNECTS, OR OCPDS. THIS INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING COMPONENTS: COMBINER BOX, TERMINAL BOX, INVERTER, AC AND DC SWITCH, TRANSFORMER, AND SWITCHGEAR.
 6.H. HAND HOLES, PULL BOXES, OR CONDUIT BODIES SHALL BE INSTALLED (WHETHER OR NOT SHOWN ON DRAWINGS) WHEN THE RACEWAY HAS MORE THAN 360° OF BENDS, OR AS NECESSARY TO NOT EXCEED MANUFACTURER'S MAXIMUM CABLE PULLING TENSION.
 6.I. SWITCHBOARDS AND SWITCHGEARS SHALL BE PROVIDED WITH TEMPORARY INTERNAL HEATERS DURING LONG TERM STORAGE WHILE NOT ENERGIZED AS REQUIRED BY THE MANUFACTURER. ALL OTHER EQUIPMENT SHALL BE STORED IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS.
 6.J. ALL ELECTRICAL EQUIPMENT CONTAINING A CIRCUIT BREAKER OR FUSE SHALL BE INSTALLED IN COMPLIANCE WITH NEC ARTICLE 240.24.
 6.K. CONTRACTOR SHALL FIELD VERIFY DESIGN COMPLIES WITH NEC 312.8 PRIOR TO INSTALLATION.
 6.L. ALL NEW ELECTRICAL EQUIPMENT INSTALLED INDOORS REQUIRES GFCI OUTLET TO BE INSTALLED WITHIN 25' OF NEW EQUIPMENT.

7. GROUNDING
 7.A. THE CONTRACTOR SHALL FURNISH AND INSTALL GROUNDING NECESSARY IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.

8. TESTS
 8.A. ALL TESTS SHALL BE PERFORMED BY TRAINED TECHNICIANS CERTIFIED TO DO THE PROCEDURES.
 8.B. FINAL TESTS AND INSPECTIONS SHALL BE HELD IN THE PRESENCE OF THE OWNER'S REPRESENTATIVES AND TO THEIR SATISFACTION.
 8.C. ALL APPLICABLE TESTS SHALL BE PERFORMED IN ACCORDANCE WITH NETA/ANSI ATS-2021 STANDARDS AND PRACTICES.
 8.D. ALL APPLICABLE TESTS SHALL BE PERFORMED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
 8.E. ALL TESTS SHALL BE PERFORMED PRIOR TO ENERGIZATION.
 8.F. TESTING IS LIMITED TO NEW EQUIPMENT RELATED TO THIS PROJECT.
 8.G. IV CURVE TRACES OF STRINGS SHALL BE GENERATED USING THE SOLMETRIC PV ANALYZER (OR EQUIVALENT DEVICE) AND SUBMITTED TO THE OWNER FOR APPROVAL. IF MLPE IS USED, MODULE TRACES ARE PERMITTED TO BE GENERATED THROUGH THE INVERTER PORTAL. TESTING TO BE PERFORMED DURING APPROVED WEATHER CONDITIONS.
 8.H. OPEN-CIRCUIT VOLTAGE (Voc) MEASUREMENTS SHALL BE PERFORMED ON ALL DC STRING CIRCUITS DURING APPROVED WEATHER CONDITIONS.
 8.I. ALL PV CONNECTORS MATED TOGETHER SHALL BE CONFIRMED TO BE OF THE SAME MAKE/MODEL.
 8.J. INSULATION TESTS SHALL BE PERFORMED ON ALL STRING AND FEEDER DC CIRCUIT CABLES.
 8.K. INSULATION TESTS SHALL BE PERFORMED ON ALL SERVICE AND FEEDER AC CIRCUIT CABLES.
 8.L. GROUND FAULT PROTECTION SYSTEMS SHALL BE FUNCTIONALLY TESTED IN ACCORDANCE WITH MANUFACTURER INSTRUCTIONS (NEC 230.95(C)).
 8.M. RELAY PROTECTION SYSTEM FUNCTIONAL TESTS SHALL BE IN ACCORDANCE WITH THE SETTINGS PROVIDED AND WITHIN THE OPERATIONAL INTENT OF THIS PROJECT NOTED IN EOR DRAWING. TESTING SHALL ENSURE RELAY READS VALUES ACCURATELY AND ALL LOGIC FACILITATES THE NECESSARY OPERATIONAL BEHAVIOR.
 8.N. ACCEPTANCE TESTING SHALL BE PERFORMED ON ALL COMBINER BOXES, PANELBOARDS SWITCHBOARDS AND SWITCHGEAR.

GENERAL NOTES

1. THE GENERAL NOTES APPLY TO ALL DRAWINGS UNDER THE CONTRACT. REFER TO INDIVIDUAL DRAWINGS FOR ADDITIONAL NOTES.
2. DRAWINGS ARE DIAGRAMS AND INDICATE GENERAL ARRANGEMENT OF SYSTEMS AND WORK. FOLLOW DRAWINGS IN LAYING OUT OF WORK AND CHECK DRAWINGS OF OTHER TRADES TO VERIFY SPACE CONDITIONS. MAINTAIN HEADROOM, SPACE CONDITIONS, AND REQUIRED CLEARANCES.
3. PV SYSTEM CONTRACTOR SHALL COORDINATE ALL THE WORK WITH THE ENGINEER, THE CONSTRUCTION MANAGER AND ALL OTHER CONTRACTORS TO INSURE THAT THE PV SYSTEM IS INSTALLED AS SPECIFIED IN THESE DRAWINGS.
4. PERSONAL PROTECTIVE EQUIPMENT (PPE) SHALL BE PROVIDED AS REQUIRED IN ACCORDANCE WITH NFPA 70E AND OSHA REQUIREMENTS.
5. ALL STRUCTURAL AND MISCELLANEOUS EXTERIOR STEEL, INCLUDING STRUT CHANNEL (SUCH AS UNISTRUT OR KINDORF) SHALL BE CORROSION RESISTANT, HOT DIP GALVANIZED OR GALVANNEALED WITH A COATED FINISH MINIMUM.

LEGEND – GENERAL

SYMBOL	DESCRIPTION
———	LIGHT LINE INDICATES EXISTING OR BEYOND THE SCOPE OF PROJECT
———	DARK LINE INDICATES NEW OR WITHIN THE SCOPE OF PROJECT
– – – – –	DASHED LINE INDICATES EQUIPMENT AT A DIFFERENT ELEVATION
EXISTING TEXT	LIGHT TEXT INDICATES EXISTING OR BEYOND THE SCOPE OF PROJECT
NEW TEXT	DARK TEXT INDICATES NEW OR WITHIN THE SCOPE OF PROJECT

LEGEND – CIRCUITS

SYMBOL	DESCRIPTION
—xx———xx—	ABOVE-GROUND CABLE
—xx— – – —xx—	UNDER-GROUND CABLE

NOTE: XX REPRESENTS CIRCUIT TYPE BELOW

ABBREVIATION	DESCRIPTION
DC	DIRECT CURRENT
AC	ALTERNATING CURRENT
MV	MEDIUM VOLTAGE
C	COMMUNICATIONS
GND	GROUND
CAB	CAB MESSENGER
MES	MESSENGER WIRE
FO	FIBER OPTIC

LEGEND – PLAN SYMBOLS

SYMBOL	DESCRIPTION
	RACEWAY TURNING UP OR TOWARDS OBSERVER
	RACEWAY TURNING DOWN OR AWAY FROM OBSERVER
J OR J	JUNCTION BOX
	GROUND FAULT CIRCUIT INTERRUPTER DUPLEX RECEPTACLE, RATED: 125-VOLTS AC, 20A
	GROUND ROD
	GROUND ROD W/ TEST WELL
	SLOPE DIRECTION INDICATOR

LEGEND – ONE LINE DIAGRAM & WIRING DIAGRAM SYMBOLS

SYMBOL	DESCRIPTION
	CIRCUIT BREAKER, FRAME SIZE AND TRIP SETTING AS NOTED
	DISCONNECT SWITCH
	INVERTER
	BUSS CONNECTION POINT
	CROSSING POINT (NO CONNECTION)
	NORMALLY CLOSED – NORMALLY OPEN CONTACTS
	TRANSFORMER CONTROL/POWER, SIZE AND RATING AS NOTED
	CURRENT TRANSFORMER
	POTENTIAL TRANSFORMER
	FUSE, SIZE/RATING AS NOTED
	FUSED DISCONNECT SWITCH
	EARTH GROUND
	BATTERY
K	KEYED INTERLOCK (KIRK KEY OR EQ.)
ST CL	SHUNT TRIP COIL; MOTORIZED CLOSE
	SURGE ARRESTOR
M	METER
N	NEUTRAL BUS
G	GROUND BAR

ABBREVIATIONS

ABBREVIATION	DESCRIPTION
A	AMPERES
AERMS	ARC ENERGY REDUCING MAINTENANCE SYSTEM
AF	AMPERE FRAME
A.F.F.	ABOVE FINISH FLOOR
A.F.G.	ABOVE FINISH GRADE
AFDI	ARC FAULT DETECTION & INTERRUPTER
AIC	AMPS INTERRUPTING CAPACITY
AL	ALUMINUM
AT	AMPERE TRIP
ATS	AUTOMATIC TRANSFER SWITCH
AWG	AMERICAN WIRE GAUGE
BKR	CIRCUIT BREAKER
C	CONDUIT
CB	COMBINER BOX
CKT	CIRCUIT
CL	CLOSE
COU	CONDITIONS OF USE
CP	CONTROL PANEL
CT	CURRENT TRANSFORMER
CU	COPPER
DAS	DATA ACQUISITION SYSTEM
DB	DIRECT BURIAL
DISC	DISCONNECT
EGC	EQUIPMENT GROUNDING CONDUCTOR
ELEC	ELECTRIC, ELECTRICAL
EMERG	EMERGENCY
EMT	ELECTRIC METALLIC TUBING
EQUIP	EQUIPMENT
EV	ELECTRIC VEHICLE
EVCS	ELECTRIC VEHICLE CHARGING STATION
G, GND	GROUND
GEC	GROUNDING ELECTRODE CONDUCTOR
GFCI	GROUND-FAULT CIRCUIT INTERRUPTER
GFPE	GROUND-FAULT PROTECTION OF EQUIPMENT
HID	HIGH-INTENSITY DISCHARGE (LIGHTING)
HZ	HERTZ
IMC	INTERMEDIATE METAL CONDUIT
kAIC	1000 AMPS INTERRUPT CAPACITY
kCMIL	1000 CIRCULAR MILS
kVA	KILO-VOLT AMPERE
kW	KILOWATT
LA	LIGHTNING & SURGE ARRESTOR
LED	LIGHT-EMITTING DIODE
LSIG	LONG, SHORT, INSTANTANEOUS, & GROUND-FAULT
LTG	LIGHTING
MCM	1000 CIRCULAR MILS
MFG	MANUFACTURER
MLO	MAIN LUGS ONLY
MLPE	MODULE LEVEL POWER ELECTRONICS
MPPT	MAXIMUM POWER POINT TRACKING
NEMA	NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
NTS	NOT TO SCALE
OH	OVERHEAD
OV	OVER VOLTAGE
P	POLE
PF	POWER FACTOR
PLC	PROGRAMMABLE LOGIC CONTROLLER
POA	PLANE OF ARRAY
POI	POINT OF INTERCONNECTION
PRI	PRIMARY
PT	POTENTIAL TRANSFORMER
PVC	POLYVINYL CHLORIDE
PWR	POWER
RAC	RIGID ALUMINUM CONDUIT
RCPT	RECEPTACLE
RGS	RIGID GALVANIZED STEEL CONDUIT
RMC	RIGID METAL CONDUIT
SA	SURGE ARRESTOR
SEC	SECONDARY
SPD	SURGE PROTECTION DEVICE
SSBJ	SUPPLY SIDE BONDING JUMPER
ST	SHUNT TRIP
STP	SHIELDED TWISTED PAIR
SW	SWITCH
TBD	TO BE DETERMINED
TP	TWISTED PAIR
TYP	TYPICAL
UG	UNDERGROUND
UON	UNLESS OTHERWISE NOTED
UV	UNDER VOLTAGE OR ULTRAVIOLET
V	VOLT
VA	VOLT-AMPERE
W	WATT
WR	WEATHER RESISTANT
XFMR	TRANSFORMER
ø	DIAMETER OR PHASE

	PM	ENG	CHK
REVISION DESCRIPTION			
90% DESIGN REV1	TL	DG	LP
90% DESIGN	TL	DG	LP
30% CONCEPTUAL DESIGN	TL	DG	LP
DATE			
03/28/2025			
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PAGE SIZE 36" x 24"

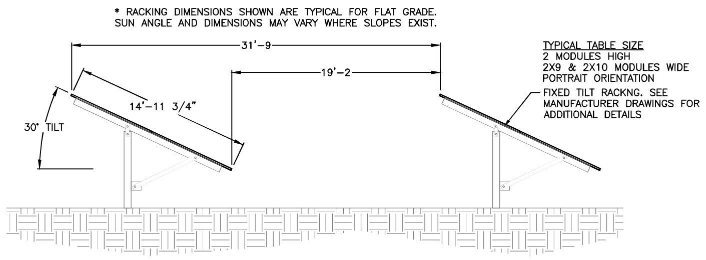
PROJECT # 11015.01

PROJECT
SOLAR GROUND MOUNT SYSTEM AT
HENDRICKSON USA
501 CATON FARM ROAD
LOCKPORT, IL 60441

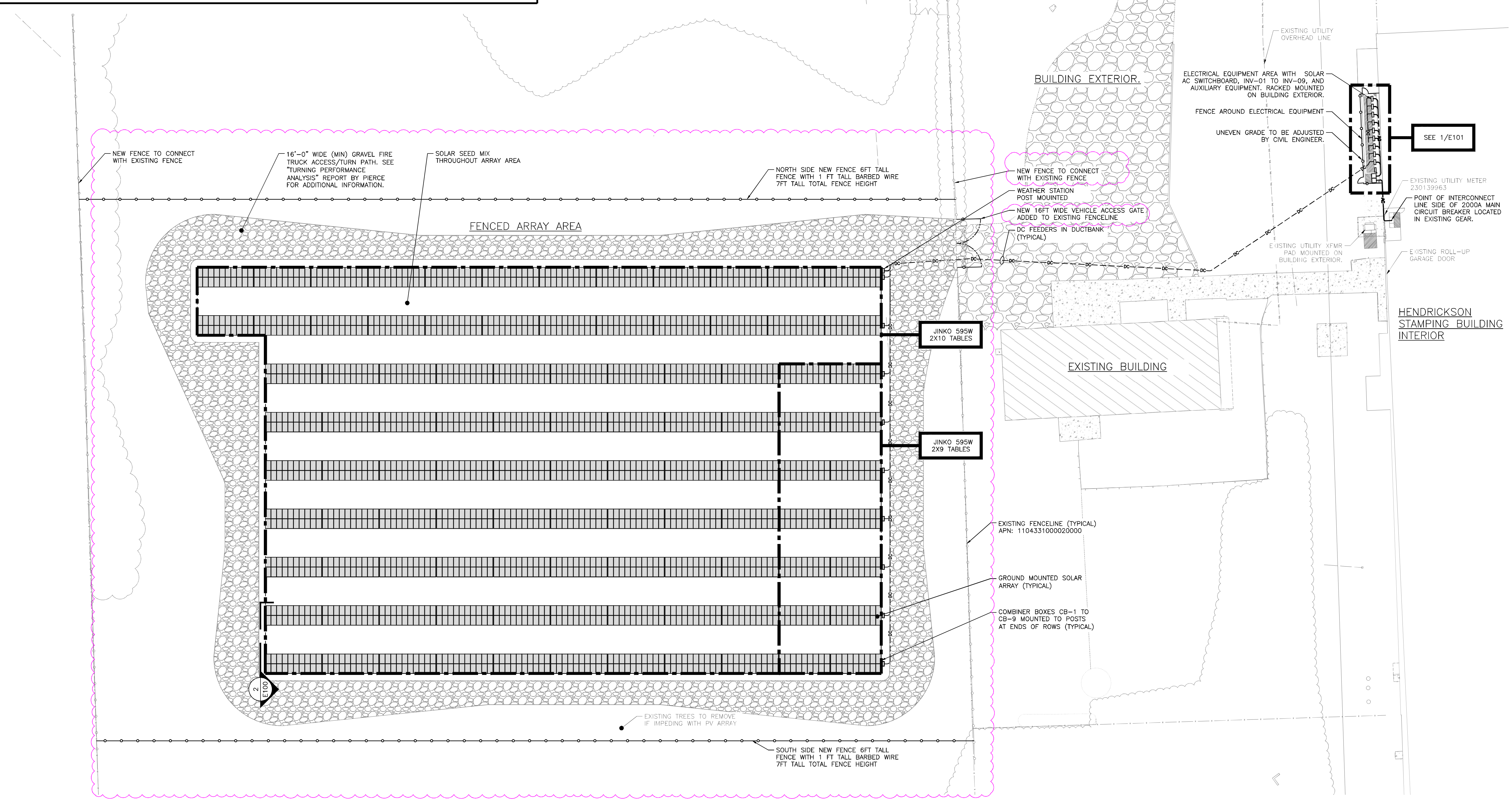
DRAWING TITLE
ELECTRICAL NOTES & SYMBOLS LIST

DRAWING #
E001

RULER IN INCHES: 0 ½ 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18


* RACKING DIMENSIONS SHOWN ARE TYPICAL FOR FLAT GRADE. SUN ANGLE AND DIMENSIONS MAY VARY WHERE SLOPES EXIST.
31'-9"
19'-2"
14'-11 3/4"
30° TILT
TYPICAL TABLE SIZE
2 MODULES HIGH
2X9 & 2X10 MODULES WIDE
PORTRAIT ORIENTATION
FIXED TILT RACKNG. SEE MANUFACTURER DRAWINGS FOR ADDITIONAL DETAILS

2 DCE RACKING DETAIL
SCALE: NONE


BUILDING EXTERIOR
EXISTING UTILITY OVERHEAD LINE
ELECTRICAL EQUIPMENT AREA WITH SOLAR AC SWITCHBOARD, INV-01 TO INV-09, AND AUXILIARY EQUIPMENT, RACKED MOUNTED ON BUILDING EXTERIOR.
FENCE AROUND ELECTRICAL EQUIPMENT
UNEVEN GRADE TO BE ADJUSTED BY CIVIL ENGINEER.
SEE 1/E101
NEW FENCE TO CONNECT WITH EXISTING FENCE
16'-0" WIDE (MIN) GRAVEL FIRE TRUCK ACCESS/TURN PATH. SEE "TURNING PERFORMANCE ANALYSIS" REPORT BY PIERCE FOR ADDITIONAL INFORMATION.
SOLAR SEED MIX THROUGHOUT ARRAY AREA
NORTH SIDE NEW FENCE 6FT TALL FENCE WITH 1 FT TALL BARBED WIRE 7FT TALL TOTAL FENCE HEIGHT
NEW FENCE TO CONNECT WITH EXISTING FENCE
WEATHER STATION POST MOUNTED
NEW 16FT WIDE VEHICLE ACCESS GATE ADDED TO EXISTING FENCELINE
DC FEEDERS IN DUCTBANK (TYPICAL)
EXISTING UTILITY METER 230139963
POINT OF INTERCONNECT LINE SIDE OF 2000A MAIN CIRCUIT BREAKER LOCATED IN EXISTING GEAR.
EXISTING UTILITY XFMR PAD MOUNTED ON BUILDING EXTERIOR.
EXISTING ROLL-UP GARAGE DOOR
FENCED ARRAY AREA
HENDRICKSON STAMPING BUILDING INTERIOR
JINKO 595W 2X10 TABLES
EXISTING BUILDING
JINKO 595W 2X9 TABLES
EXISTING FENCELINE (TYPICAL) APN: 1104331000020000
GROUND MOUNTED SOLAR ARRAY (TYPICAL)
COMBINER BOXES CB-1 TO CB-9 MOUNTED TO POSTS AT ENDS OF ROWS (TYPICAL)
2 E100
EXISTING TREES TO REMOVE IF IMPEDING WITH PV ARRAY
SOUTH SIDE NEW FENCE 6FT TALL FENCE WITH 1 FT TALL BARBED WIRE 7FT TALL TOTAL FENCE HEIGHT
N

1 OVERALL ELECTRICAL PLAN
SCALE: 1" = 30'

PLOT DATE: 3/31/2025 1:02 PM

RULER IN INCHES:

DATE	REVISION DESCRIPTION	PM	ENG	CHK
03/28/2025	90% DESIGN REV1	TL	DG	LP
02/26/2025	90% DESIGN	TL	DG	LP
01/13/2025	30% CONCEPTUAL DESIGN	TL	DG	LP

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PAGE SIZE 36" x 24"
PROJECT # 11015.01

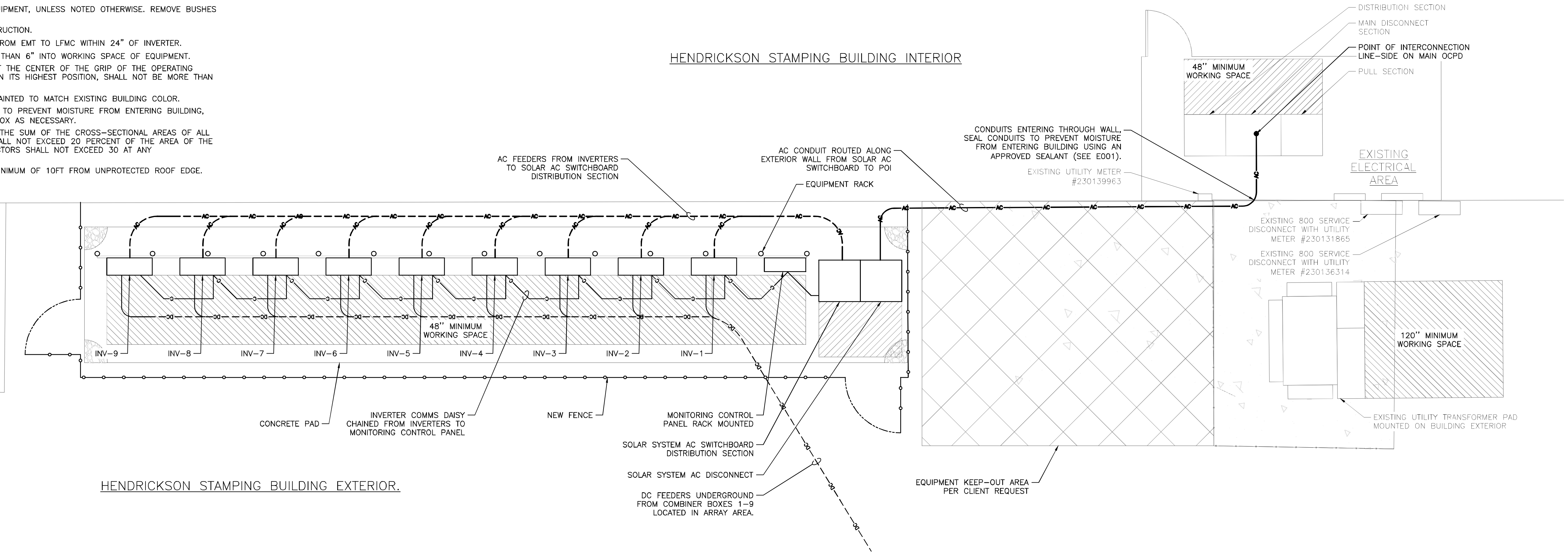
PROJECT
SOLAR GROUND MOUNT SYSTEM AT
HENDRICKSON USA
501 CATON FARM ROAD
LOCKPORT, IL 60441

DRAWING TITLE
OVERALL ELECTRICAL PLAN

DRAWING #
E100

PLOT DATE: 3/31/2025 1:02 PM

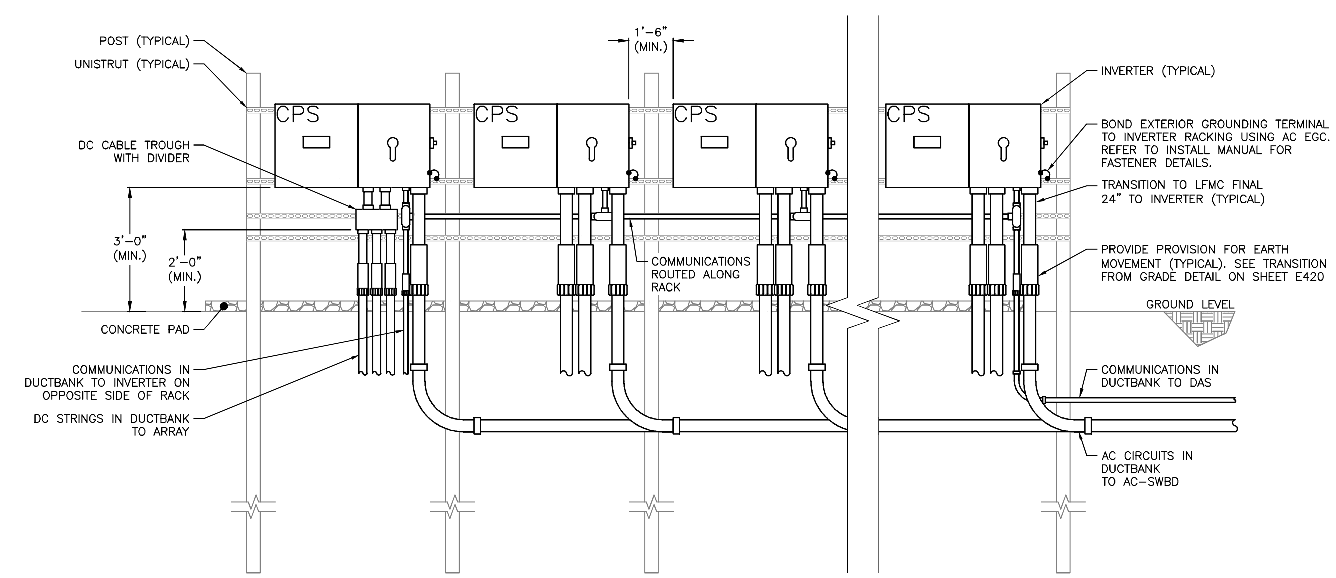
NOTES:
1. MAINTAIN 48" (MIN) WORKING CLEARANCE FOR ALL EQUIPMENT, UNLESS NOTED OTHERWISE. REMOVE BUSHES AND TREES AS NECESSARY IN WORKING SPACE.
2. MOUNT EQUIPMENT AS PER INSTALLATION MANUAL INSTRUCTION.
3. TRANSITION AC, DC, AND COMMUNICATIONS CONDUITS FROM EMT TO LFMC WITHIN 24" OF INVERTER.
4. CONDUITS AND TROUGHS SHALL NOT ENCROACH MORE THAN 6" INTO WORKING SPACE OF EQUIPMENT.
5. EQUIPMENT SHALL BE INSTALLED AT HEIGHT SUCH THAT THE CENTER OF THE GRIP OF THE OPERATING HANDLE OF THE SWITCH OR CIRCUIT BREAKER, WHEN IN ITS HIGHEST POSITION, SHALL NOT BE MORE THAN 6'7" ABOVE THE WORKING PLATFORM.
6. ALL CONDUITS ON EXTERIOR OF BUILDING SHALL BE PAINTED TO MATCH EXISTING BUILDING COLOR.
7. SEAL CONDUIT PENETRATIONS THROUGH BUILDING WALL TO PREVENT MOISTURE FROM ENTERING BUILDING, WITH AN APPROVED SEALANT (SEE E001). USE PULL BOX AS NECESSARY.
8. TROUGHS AND WIREWAYS SHALL BE SIZED SUCH THAT THE SUM OF THE CROSS-SECTIONAL AREAS OF ALL CONDUCTORS AND CABLES AT ANY CROSS SECTION SHALL NOT EXCEED 20 PERCENT OF THE AREA OF THE TROUGH. THE NUMBER OF CURRENT CARRYING CONDUCTORS SHALL NOT EXCEED 30 AT ANY CROSS-SECTION OF THE TROUGH.
9. INVERTERS AND PANELBOARDS SHALL BE PLACED AT MINIMUM OF 10FT FROM UNPROTECTED ROOF EDGE.



1 OVERALL INVERTER AREA PLAN
SCALE: 1/4" = 1'-0"

2 POI PHOTO
SCALE: NONE.

DETAIL FOR ELECTRICAL REFERENCE ONLY. SEE SEOR DRAWINGS FOR RACKING DETAILS.



3 TYPICAL INVERTER PLAN
SCALE: NONE.

DATE	REVISION DESCRIPTION	PM	ENG	CHK
03/28/2025	90% DESIGN REV1	TL	DG	LP
02/26/2025	90% DESIGN	TL	DG	LP
01/13/2025	30% CONCEPTUAL DESIGN	TL	DG	LP

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PROJECT # 11015.01

PROJECT
SOLAR GROUND MOUNT SYSTEM AT
HENDRICKSON USA
501 CATON FARM ROAD
LOCKPORT, IL 60441

DRAWING TITLE
AC ELECTRICAL PLAN

DRAWING #
E101

RULER IN INCHES:

PLOT DATE: 3/31/2025 1:02 PM

STRING SUMMARY

STRING NAME	MODULES PER STRING
1–1	24
1–2	24
1–3	24
1–4	24
1–5	24
1–6	24
1–7	24
1–8	24
1–9	24
1–10	24
2–1	24
2–2	24
2–3	24
2–4	24
2–5	24
2–6	24
2–7	24
2–8	24
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9–1	24
9–2	24
9–3	24
9–4	24
9–5	24
9–6	24
9–7	24
9–8	24
9–9	24
TOTAL	1992

CONDUIT FILL TABLE (PVWIRE, 2000VDC MAX)

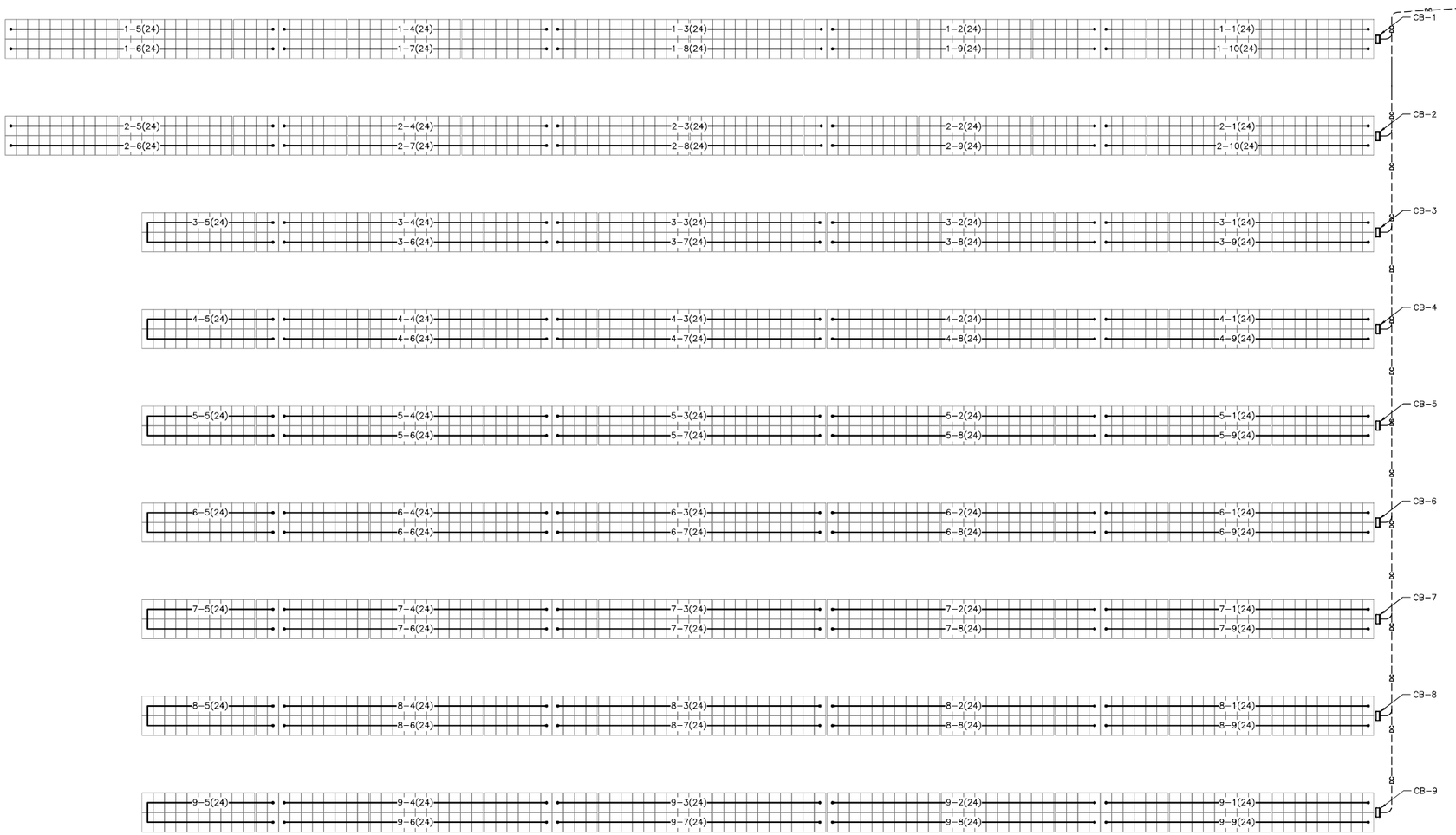
MAXIMUM NUMBER OF CU #10 PV WIRES.
(WITH ALLOWANCE FOR AN ADDITIONAL GROUND WIRE)

CONDUIT TRADE SIZE	CONDUIT LENGTH 24" OR LESS (60% FILL)	CONDUIT LENGTH OVER 24" (40% FILL – W/ CONDITIONS OF USE)
3/4"	3	2
1"	5	3
1.25"	9	6
1.5"	13	9
2"	23	9
2.5"	33	9
3"	52	9
3.5"	70	9
4"	91	9

TABLE ASSUMING: ANY CONDUIT TYPE AND CU #10 PV WIRE WITH 0.28in O.D., 1 TEMP. DERATE

PV SOURCE CIRCUIT (SIMULATED) WITH 17.15A OUTPUT, 1 IN PARALLEL, AND 25A FUSES

STRING WIRING NOTE:
STRING WIRES TO BE GROUPED BY CIRCUIT INTO SAME CONDUIT OR CABLE TRAY PER NEC 300.3(B)



IMPORTANT
CONTRACTOR MUST REDLINE DRAWINGS TO REFLECT EXACT AS–BUILT STRINGING AND RETURN TO PURE POWER.

1 DC ELECTRICAL PLAN
SCALE: 1" = 20'

STRING LABEL KEY
2–3
STRING #
INVERTER #

REVISION DESCRIPTION	DATE	PM	ENG	CHK
90% DESIGN REV1	03/28/2025	TL	DG	LP
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PAGE SIZE: 36" x 24"
PROJECT #: 11015.01

PROJECT
SOLAR GROUND MOUNT SYSTEM AT
HENDRICKSON USA
501 CATON FARM ROAD
LOCKPORT, IL 60441

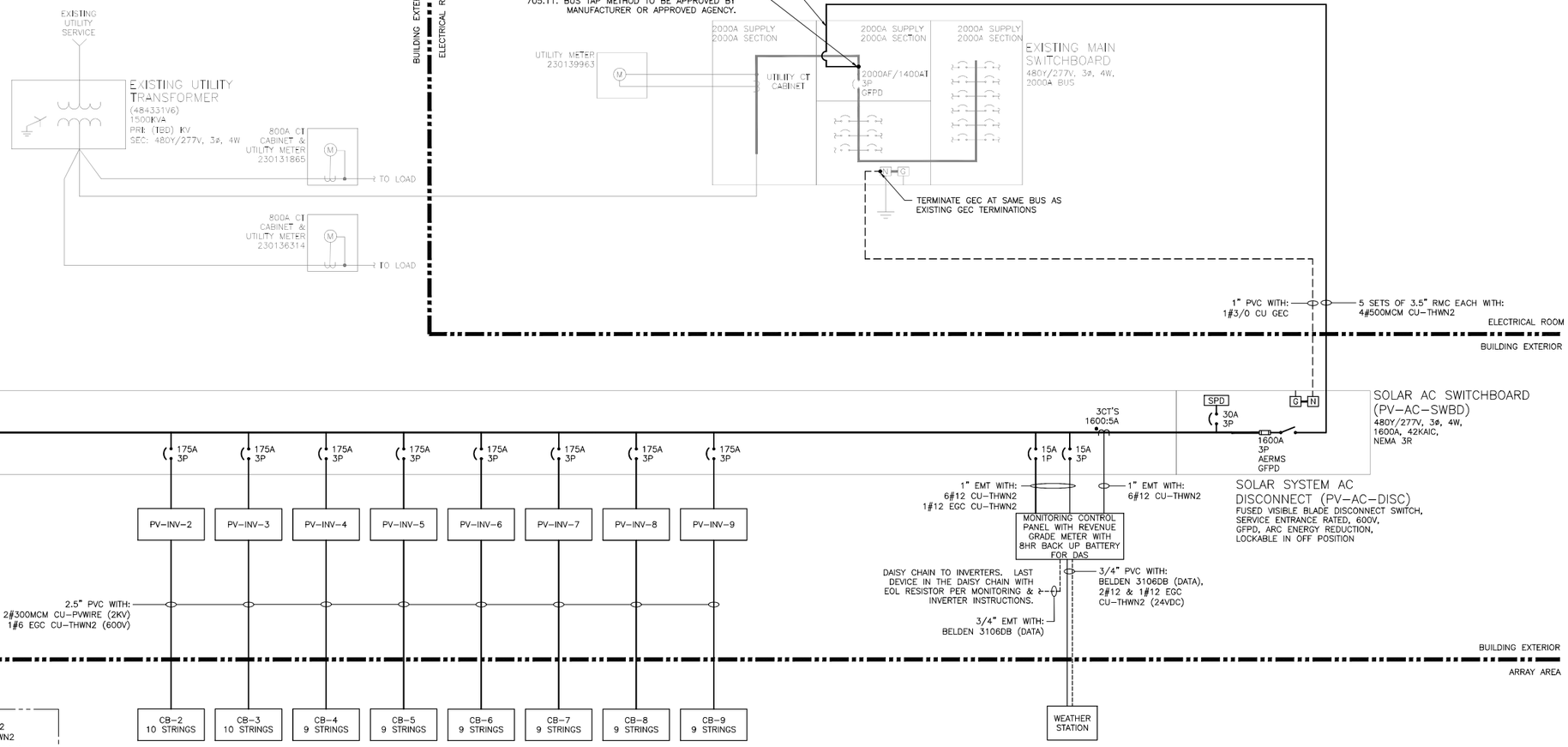
DRAWING TITLE
DC ELECTRICAL PLAN

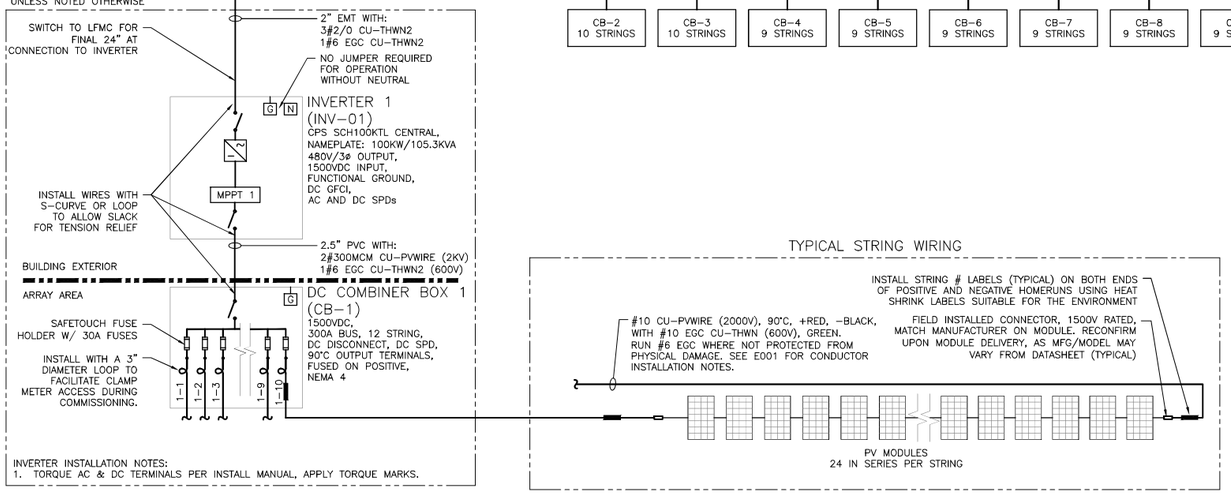
DRAWING #
E200

SCALE: 1" = 20'
CB–2

PLOT DATE: 3/31/2025 1:02 PM

SYSTEM SUMMARY	
AC SYSTEM SIZE	900.00 KW / 947.70 KVA
DC SYSTEM SIZE	1185.24 KW
(QTY) MODULE	(1,992) JINKO JKM595–72HL4–BDV
(QTY) INVERTER	(9) CPS SCH100KTL–DO/US–480
TILT / AZIMUTH	30° / 180°
UTILITY	COMED





SHEET NOTES:
1. CONTRACTOR SHALL FIELD–VERIFY INTERCONNECTION MEANS/METHODS PRIOR TO INSTALLATION. COORDINATED SHUTDOWN MAY BE REQUIRED.
2. ALL GROUND BARS AND LUGS SHALL BE DUAL RATED AL/CU.
3. UNLESS OTHERWISE NOTED EQUIPMENT IS PERMITTED TO BE 80% OR 100% RATED. EQUIPMENT SHOWN AS "100% RATED" SHALL INCLUDE AN ASSEMBLY, INCLUDING OVERCURRENT PROTECTION DEVICES, WHICH IS LISTED FOR CONTINUOUS OPERATION AT 100% OF ITS RATED CURRENT.
4. PVC SCH80 REQUIRED WHERE PVC IS SPECIFIED. PVC SCH40 IS PERMITTED FOR UNDERGROUND STRAIGHT RUNS ONLY.
5. SET NEW ADJUSTABLE–TRIP BREAKERS TO THE SETTINGS BELOW, UNLESS OTHERWISE NOTED IN POWER STUDY. "NOMINAL TRIP" REFERS TO BREAKER TRIP RATING INDICATED ON ONELINE. SETTINGS BELOW ARE NOT FOR COORDINATION PURPOSES.
   - L = 100% OF NOMINAL TRIP (EXACT) MINIMUM TIME DELAY
   - S = 125% OF NOMINAL TRIP (OR NEXT HIGHER) MINIMUM TIME DELAY
   - I = MINIMUM VALUE GREATER THAN NOMINAL TRIP
   - G = 20% OF NOMINAL TRIP (OR NEXT HIGHER) 0.5 SEC TIME DELAY

1 ONE LINE DIAGRAM
SCALE: NONE

DATE	REVISION DESCRIPTION	PM	ENG	CHK
03/28/2025	90% DESIGN REV1	TL	DG	LP
02/26/2025	90% DESIGN	TL	DG	LP
01/13/2025	30% CONCEPTUAL DESIGN	TL	DG	LP

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PUREPOWER ENGINEERING
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TRAVIS LEMBERG
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PAGE SIZE 36" x 24"
PROJECT # 11015.01

PROJECT
SOLAR GROUND MOUNT SYSTEM AT
HENDRICKSON USA
501 CATON FARM ROAD
LOCKPORT, IL 60441

DRAWING TITLE
ONE LINE DIAGRAM

DRAWING #
E300

RULER IN INCHES:

PLOT DATE: 3/31/2025 1:02 PM

AC CIRCUIT CALCULATIONS

EQUIPMENT SUPPLIED	FED FROM	VOLTAGE	FULL LOAD AMPS (FLA)	FLA x 1.25	OCPD SIZE [A]	CONDUIT TYPE	CONDUIT SIZE	CONDUCTORS PER PHASE	PHASE CONDUCTOR SIZE	NEUTRAL CONDUCTOR SIZE	GROUND CONDUCTOR SIZE	75° AMPACITY	90° AMPACITY	90° AMPACITY WITH C.O.U.	CABLE TRAY AMPACITY WITH C.O.U	C.O.U DERATE AMBIENT TEMP	C.O.U. DERATE CONDUIT FILL	FEEDER LENGTH (ONE-WAY) [FT]	SEGMENT VOLTAGE DROP AT FLA	TOTAL VOLTAGE DROP AT FLA
SOLAR SYSTEM AC DISCONNECT SWITCH	POINT OF INTERCONNECTION	480	1140.3	1425	1600	RMC	3.5"	5	CU 500MCM	CU 500MCM	CU #3/0 GEC	1900	2150	2150	N/A	1.00	1.00	75	0.18%	0.18%
SOLAR AC SWITCHBOARD	SOLAR SYSTEM AC DISCONNECT SWITCH	480	1140.3	1425	1600	BUS	N/A	N/A	1600A BUS	1600A BUS	BUS	1600	1600	1600	N/A	1.00	1.00	10	0.00%	0.18%
INVERTER 1	SOLAR AC SWITCHBOARD	480	126.7	158	175	PVC	2"	1	CU #2/0	NONE	CU #6	175	195	195	N/A	1.00	1.00	15	0.07%	0.25%
INVERTER 2	SOLAR AC SWITCHBOARD	480	126.7	158	175	PVC	2"	1	CU #2/0	NONE	CU #6	175	195	195	N/A	1.00	1.00	20	0.09%	0.27%
INVERTER 3	SOLAR AC SWITCHBOARD	480	126.7	158	175	PVC	2"	1	CU #2/0	NONE	CU #6	175	195	195	N/A	1.00	1.00	25	0.11%	0.29%
INVERTER 4	SOLAR AC SWITCHBOARD	480	126.7	158	175	PVC	2"	1	CU #2/0	NONE	CU #6	175	195	195	N/A	1.00	1.00	30	0.14%	0.32%
INVERTER 5	SOLAR AC SWITCHBOARD	480	126.7	158	175	PVC	2"	1	CU #2/0	NONE	CU #6	175	195	195	N/A	1.00	1.00	35	0.16%	0.34%
INVERTER 6	SOLAR AC SWITCHBOARD	480	126.7	158	175	PVC	2"	1	CU #2/0	NONE	CU #6	175	195	195	N/A	1.00	1.00	40	0.18%	0.36%
INVERTER 7	SOLAR AC SWITCHBOARD	480	126.7	158	175	PVC	2"	1	CU #2/0	NONE	CU #6	175	195	195	N/A	1.00	1.00	45	0.21%	0.38%
INVERTER 8	SOLAR AC SWITCHBOARD	480	126.7	158	175	PVC	2"	1	CU #2/0	NONE	CU #6	175	195	195	N/A	1.00	1.00	50	0.23%	0.41%
INVERTER 9	SOLAR AC SWITCHBOARD	480	126.7	158	175	PVC	2"	1	CU #2/0	NONE	CU #6	175	195	195	N/A	1.00	1.00	55	0.25%	0.43%

AVERAGE AC VOLTAGE DROP FROM POI TO INVERTERS: 0.34%

PV DC FEEDER CALCULATIONS

COMBINER BOX	CABLE MANAGEMENT	QTY OF STRINGS	OPERATING VOLTAGE Vmp [V]	STRING MAXIMUM CURRENT (SAM SIMULATED Imax) [A]	FEEDER MAX CURRENT (Imax) [A]	FEEDER CONTINUOUS CURRENT (Imax x 1.25) [A]	OCPD SIZE [A]	CONDUIT TYPE	CONDUIT SIZE	CONDUCTORS PER POLE	CONDUCTOR SIZE	GROUND SIZE	75° AMPACITY	90° AMPACITY	90° AMPACITY WITH C.O.U. ADJUSTMENT	CABLE TRAY AMPACITY WITH C.O.U.	C.O.U DERATE FOR AMBIENT TEMPERATURE	C.O.U. DERATE FOR NUMBER OF CURRENT CARRYING CONDUCTORS	STRING OPERATING CURRENT (STRING Imp) [A]	FEEDER OPERATING CURRENT [A]	FEEDER LENGTH (ONE WAY) [FT]	FEEDER VOLTAGE DROP
CB-1	CONDUIT	10	1063	17.15	172	214	225	PVC	2.5"	1	AL 300MCM	CU #4	230	260	260	N/A	1	1	13.43	134	360	0.6%
CB-2	CONDUIT	10	1063	17.15	172	214	225	PVC	2.5"	1	AL 300MCM	CU #4	230	260	260	N/A	1	1	13.43	134	368	0.7%
CB-3	CONDUIT	9	1063	17.15	154	193	225	PVC	2.5"	1	AL 300MCM	CU #6	230	260	260	N/A	1	1	13.43	121	405	0.7%
CB-4	CONDUIT	9	1063	17.15	154	193	225	PVC	2.5"	1	AL 300MCM	CU #6	230	260	260	N/A	1	1	13.43	121	442	0.7%
CB-5	CONDUIT	9	1063	17.15	154	193	225	PVC	2.5"	1	AL 300MCM	CU #6	230	260	260	N/A	1	1	13.43	121	480	0.8%
CB-6	CONDUIT	9	1063	17.15	154	193	225	PVC	2.5"	1	AL 300MCM	CU #6	230	260	260	N/A	1	1	13.43	121	519	0.8%
CB-7	CONDUIT	9	1063	17.15	154	193	225	PVC	2.5"	1	AL 300MCM	CU #6	230	260	260	N/A	1	1	13.43	121	555	0.9%
CB-8	CONDUIT	9	1063	17.15	154	193	225	PVC	2.5"	1	AL 300MCM	CU #6	230	260	260	N/A	1	1	13.43	121	595	1.0%
CB-9	CONDUIT	9	1063	17.15	154	193	225	PVC	2.5"	1	AL 300MCM	CU #6	230	260	260	N/A	1	1	13.43	121	629	1.0%

AVERAGE DC VOLTAGE DROP FROM COMBINER BOXES TO INVERTERS: 0.92%

SAM SIMULATED VALUES	
MAXIMUM CURRENT [A]	17.15
MAXIMUM VOLTAGE [V]	1408.76

THE STRING MAX CURRENT IS CALCULATED BY SYSTEM ADVISOR MODEL SIMULATION PROGRAM PROVIDED BY THE NATIONAL RENEWABLE ENERGY LABORATORY, REFERENCE SAND 2004-3535, PHOTOVOLTAIC ARRAY PERFORMANCE MODEL, AS ALLOWABLE BY NEC 690.8(A)(1)(2), THE CALCULATED CURRENT IS 97.1% OF THE VALUE USING 690.8(A)(1)(1).

MODULE SPECIFICATIONS	
MAKE/MODEL	JKM595N-72HL4-BDV
POWER [W]	595
ISC [A]	14.13
IMP [A]	13.43
VOC [V]	53.10
VMP [V]	44.31
β VOC [%/degC]	-0.250%
SITE CLIMATE CRITERIA (WEATHER STATION NAME)	
ASHRAE HIGH [°C]	29.9
ASHRAE LOW [°C]	-23.5
ELEVATION (m)	201
STRING SPECIFICATIONS AT STC	
MODULES/STRING	24
POWER [W]	14280
STRING ISC [A]	14.13
STRING IMP [A]	13.43
STRING VMP [V]	1063.44

INVERTERS 1-9	
STRING WIRE GAUGE	10AWG-CU
DC IMPEDANCE [OHM/KFT]	1.2900
OPERATING VOLTAGE [VDC]	1063
OPERATING CURRENT [AMP]	17.2

INVERTERS 1-5		
STRING NUMBER	TOTAL STRING DISTANCE [FT]	STRING VOLTAGE DROP
1-1	55	0.23%
1-2	145	0.61%
1-3	235	0.98%
1-4	325	1.36%
1-5	415	1.73%
1-6	415	1.73%
1-7	325	1.36%
1-8	235	0.98%
1-9	145	0.61%
1-10	55	0.23%
2-1	50	0.21%
2-2	145	0.61%
2-3	235	0.98%
2-4	325	1.36%
2-5	415	1.73%
2-6	415	1.73%
2-7	325	1.36%
2-8	235	0.98%
2-9	145	0.61%
2-10	55	0.23%
3-1	55	0.23%
3-2	145	0.61%
3-3	235	0.98%
3-4	325	1.36%
3-5	395	1.65%
3-6	325	1.36%
3-7	235	0.98%
3-8	145	0.61%
3-9	55	0.23%
4-1	55	0.23%
4-2	145	0.61%
4-3	235	0.98%
4-4	325	1.36%
4-5	395	1.65%
4-6	325	1.36%
4-7	235	0.98%
4-8	145	0.61%
4-9	55	0.23%
5-1	55	0.23%
5-2	145	0.61%
5-3	235	0.98%
5-4	325	1.36%
5-5	395	1.65%
5-6	325	1.36%
5-7	235	0.98%
5-8	145	0.61%
5-9	55	0.23%

INVERTERS 6-9		
STRING NUMBER	TOTAL STRING DISTANCE [FT]	STRING VOLTAGE DROP
6-1	55	0.23%
6-2	145	0.61%
6-3	235	0.98%
6-4	325	1.36%
6-5	395	1.65%
6-6	325	1.36%
6-7	235	0.98%
6-8	145	0.61%
6-9	55	0.23%
7-1	55	0.23%
7-2	145	0.61%
7-3	235	0.98%
7-4	325	1.36%
7-5	395	1.65%
7-6	325	1.36%
7-7	235	0.98%
7-8	145	0.61%
7-9	55	0.23%
8-1	55	0.23%
8-2	145	0.61%
8-3	235	0.98%
8-4	325	1.36%
8-5	395	1.65%
8-6	325	1.36%
8-7	235	0.98%
8-8	145	0.61%
8-9	55	0.23%
9-1	50	0.21%
9-2	145	0.61%
9-3	235	0.98%
9-4	325	1.36%
9-5	395	1.65%
9-6	325	1.36%
9-7	235	0.98%
9-8	145	0.61%
9-9	50	0.21%
AVERAGE VOLTAGE DROP		0.91%

SHEET NOTES:
1. DISTANCES ARE ONE-WAY ESTIMATES GENERATED FOR ENGINEER'S CALCULATIONS, CONTRACTOR IS RESPONSIBLE FOR OWN MEASUREMENTS AND TAKEOFFS.

DATE	REVISION DESCRIPTION	PM	ENG	CHK
03/28/2025	90% DESIGN REV1	TL	DG	LP
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PAGE SIZE: 36" x 24"
PROJECT #: 11015.01

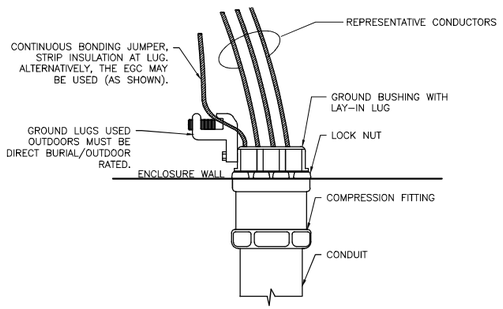
PROJECT
SOLAR GROUND MOUNT SYSTEM AT
HENDRICKSON USA
501 CATON FARM ROAD
LOCKPORT, IL 60441

DRAWING TITLE
SCHEDULES & CALCULATIONS

DRAWING #
E310

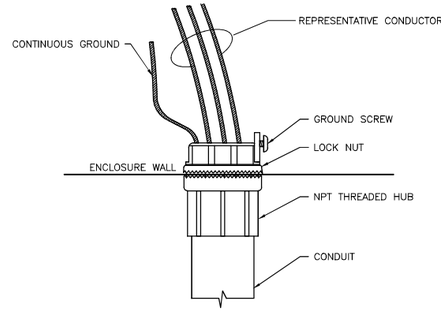
RULER IN INCHES: 0 ½ 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

NOTES:
1. FITTING SHALL BE LISTED TO UL 517B
2. FITTING SHALL BE LISTED TO UL 517B & UL 467 FOR LINE-SIDE CONNECTIONS PER NEC 250.92(B)

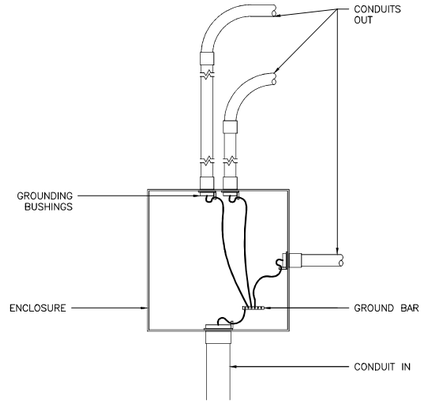


1 CONDUIT BUSHING GROUNDING
SCALE: NONE

NOTES:
1. HUB SHALL BE LISTED TO UL 517B
2. HUB SHALL BE LISTED TO UL 517B & UL 467 FOR LINE-SIDE CONNECTIONS PER NEC 250.92(B)

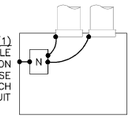


2 MYERS HUB GROUNDING
SCALE: NONE

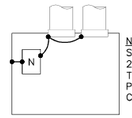


3 PULL BOX/TROUGH GROUNDING
SCALE: NONE

NEC 250.102(C)(1)
SSBJ IS SIZED PER TABLE 250.102(C)(1) BASED ON THE SIZE OF PHASE CONDUCTORS IN EACH INDIVIDUAL CONDUIT



INDIVIDUAL



COMBINED

NEC 250.102(C)(2)
SSBJ IS SIZED PER TABLE 250.102(C)(1) BASED ON THE COMBINED AREA OF PARALLEL PHASE CONDUCTORS

TABLE 250.102(C)(1)

SIZE OF LARGEST UNGROUNDED CONDUCTOR OR EQUIVALENT AREA FOR PARALLEL CONDUCTORS (AWG/KCMIL)		SIZE OF GROUNDED CONDUCTOR OR BONDING JUMPER (AWG/KCMIL)	
COPPER	ALUMINUM OR COPPER-CLAD ALUMINUM	COPPER	ALUMINUM OR COPPER-CLAD ALUMINUM
2 OR SMALLER	1/0 OR SMALLER	8	6
1 OR 1/0	2/0 OR 3/0	6	4
2 OR 2/0	4/0 OR 250	4	2
OVER 3/0 THROUGH 350	OVER 250 THROUGH 500	2	1/0
OVER 350 THROUGH 600	OVER 500 THROUGH 900	1/0	3/0
OVER 600 THROUGH 1100	OVER 900 THROUGH 1750	2/0	4/0
OVER 1100	OVER 1750	REFER TO NOTES IN NEC TABLE 250.102(C)(1)	

4 SUPPLY SIDE BONDING JUMPERS (SSBJ)
SCALE: NONE

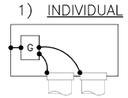
A) FOR CONCENTRIC KNOCKOUTS, USE BONDING JUMPERS AS FOLLOWS:

TABLE 250.122

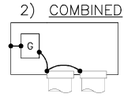
OVERCURRENT DEVICE CIRCUIT NOT EXCEEDING (AMPERES)	SIZE (AWG OR KCMIL)	
	COPPER	ALUMINUM
15	14	12
20	12	10
60	10	8
100	8	6
200	6	4
300	4	2
400	3	1
500	2	1/0
600	1	2/0
800	1/0	3/0
1000	2/0	4/0
1200	3/0	250
1600	4/0	350
2000	250	400
2500	350	600
3000	400	600
4000	500	750

FOR PARALLEL FEEDERS – NEC 250.102(D)
EQUIPMENT BONDING JUMPER IS SIZED PER TABLE 250.122, REGARDLESS IF COMBINED OR INDIVIDUAL BONDING JUMPERS ARE USED

1) INDIVIDUAL



2) COMBINED

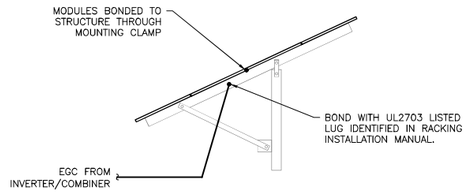


B) FOR NON-CONCENTRIC KNOCKOUTS, THE FOLLOWING METHODS SHALL BE PERMITTED (PER NEC 250.97)

1) THREADLESS COUPLINGS AND CONNECTORS FOR CABLES WITH METAL SHEATHS
2) TWO LOCKNUTS, ON RIGID METAL CONDUIT OR INTERMEDIATE METAL CONDUIT, ONE INSIDE AND ONE OUTSIDE OF BOXES AND CABINETS
3) FITTINGS WITH SHOULDERS THAT SEAT FIRMLY AGAINST THE BOX OR CABINET, SUCH AS ELECTRICAL METALLIC TUBING CONNECTORS, FLEXIBLE METAL CONDUIT CONNECTORS, AND CABLE CONNECTORS, WITH ON LOCKNUT ON THE INSIDE OF BOXES AND CABINETS
4) LISTED FITTINGS (SUCH AS MYERS HUB)

5 LOAD SIDE EQUIPMENT BONDING JUMPER
SCALE: NONE

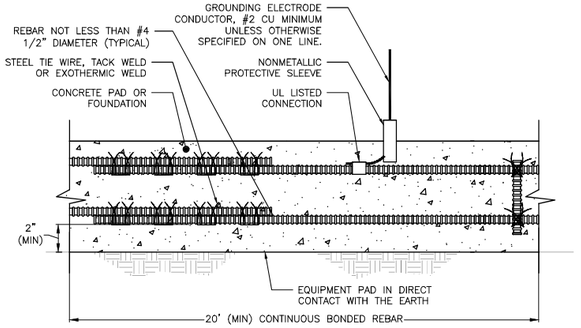
NOTES:
1. EACH COMBINER (OR STRING INVERTER) SHALL HAVE AN EGC RUNNING TO ANY ROW WITH STRINGS CONNECTED TO THAT COMBINER/INVERTER.
2. PV MODULES AND RAILS GROUNDED PER NEC 690.43, REFER TO INSTALLATION MANUAL FOR DETAILS.
3. WHERE RACKING TABLES WITHIN A ROW ARE NOT CONTINUOUS, TABLES SHALL BE BONDED TOGETHER WITH #6 CU BONDING JUMPERS OR AS PRESCRIBED IN RACKING MANUAL



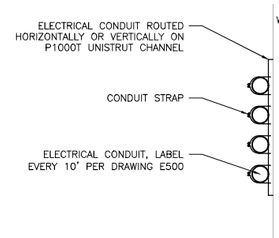
DCE GROUND MOUNT

6 ARRAY GROUNDING – FIXED TILT
SCALE: NONE

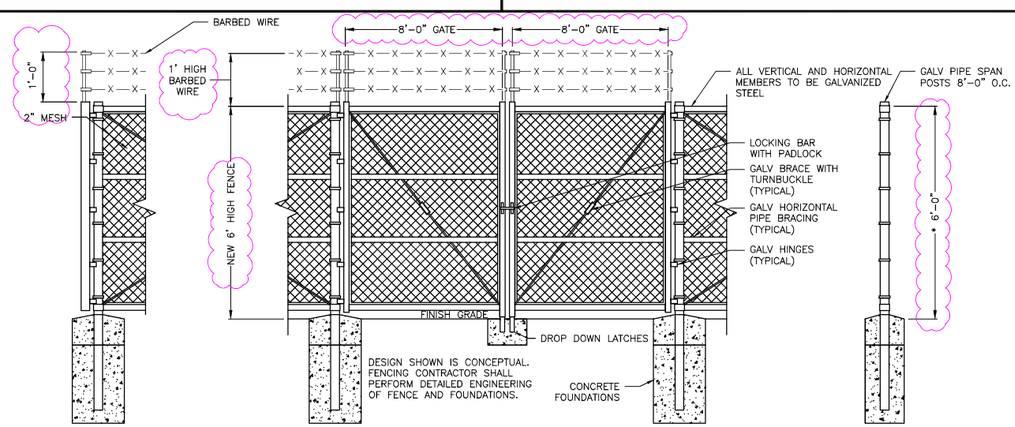
NOTE:
SHORTER LENGTHS OF REBAR CAN BE CONNECTED TOGETHER TO FORM AN ELECTRODE OF AT LEAST 20' BY STEEL TIE WIRES, EXOTHERMIC WELDING, OR WELDING.



7 EQUIPMENT PAD GROUNDING – UFER
SCALE: NONE



8 CONDUIT WALL ANCHORING
SCALE: NONE



PLEASE REFER TO THE SEOR FOR FENCE FOUNDATION PLAN

9 TYPICAL FENCE
SCALE: 3/8" = 1'-0"

NO.	REVISION DESCRIPTION	DATE	PM	ENG	CHK
3	90% DESIGN REV1	03/28/2025	TL	DG	LP
2	90% DESIGN	02/26/2025	TL	DG	LP
1	30% CONCEPTUAL DESIGN	01/13/2025	TL	DG	LP

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PAGE SIZE: 36" x 24"
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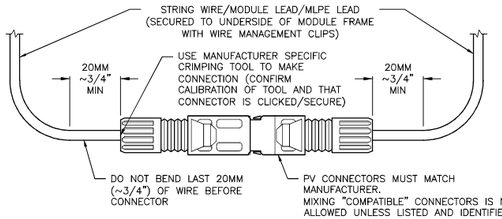
PROJECT
SOLAR GROUND MOUNT SYSTEM AT
HENDRICKSON USA
501 CATON FARM ROAD
LOCKPORT, IL 60441

DRAWING TITLE
GROUNDING DETAILS

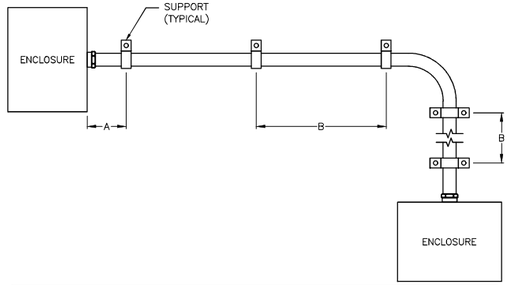
DRAWING #
E410

RULER IN INCHES: 0 ½ 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

PLOT DATE: 3/31/2025 1:02 PM

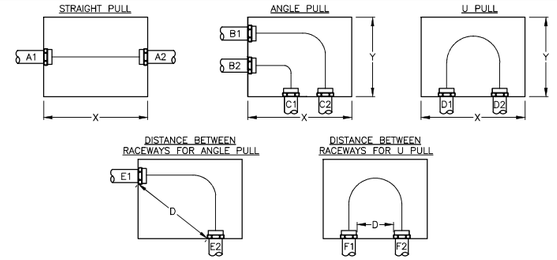


1 MODULE CONNECTORS
SCALE: NONE



MAXIMUM CONDUIT HARDWARE SPACING			
CONDUIT TYPE	ENCLOSURE TO SUPPORT (A)	SUPPORT TO SUPPORT (B)	NEC ARTICLE
ELECTRICAL METALLIC TUBING (EMT)	3'	10'	358
INTERMEDIATE METAL CONDUIT (IMC)	3'	10'	342
RIGID METAL CONDUIT (RMC)	3'	10'	344
LIQUIDTIGHT FLEXIBLE METAL CONDUIT (LFMC)	1'	4.5'	350
PVC (SCH40 & 80) [0.5" - 1"]	3'	3'	352
PVC (SCH40 & 80) [1.25" - 2"]	3'	5'	352
PVC (SCH40 & 80) [2.5" - 3"]	3'	6'	352
PVC (SCH40 & 80) [3.5" - 5"]	3'	7'	352
PVC (SCH40 & 80) [6"]	3'	8'	352

2 CONDUIT SUPPORT SPACING
SCALE: NONE

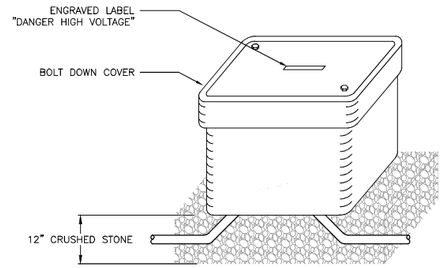


NEC 314.28(A)(1)–(3) PULL BOX SIZING (UP TO 1000V)			
BOX TYPE	LENGTH (X)	HEIGHT (Y)	DISTANCE (D)
STRAIGHT PULL	8 X LARGEST OF A1 & A2	AS NEEDED	N/A
ANGLE PULL	6 X (LARGEST OF B1 & B2) + SUM OF OTHER CONDUIT ENTERING THE SAME WALL	6 X (LARGEST OF C1 & C2) + SUM OF OTHER CONDUIT ENTERING THE SAME WALL	6 X LARGEST OF E1 & E2
U PULL	AS NEEDED	6 X (LARGEST OF D1 & D2) + SUM OF OTHER CONDUIT ENTERING THE SAME WALL	6 X LARGEST OF F1 & F2

NOTES:
1. REFER TO NEC 314.28 FOR ADDITIONAL REQUIREMENTS.
2. ENSURE CONDUCTOR BEND RADIUS MINIMUMS ARE MET. REFER TO NEC 312.6 FOR ADDITIONAL REQUIREMENTS.

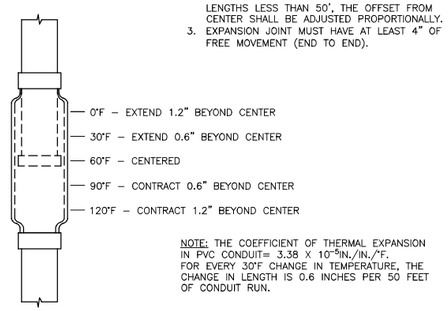
3 PULL BOX & JUNCTION BOX SIZING
SCALE: NONE

NOTES:
1. BOX SHALL BE RATED T8 FOR USE IN GRASSY AREAS NOT SUBJECT TO VEHICULAR TRAFFIC, OR RATED T22 FOR USE IN SIDEWALKS OR PARKING LOTS SUBJECT TO OCCASIONAL NON-DELIBERATE HEAVY VEHICULAR TRAFFIC. BOXES TO BE USED IN ROADWAYS OR AREAS FREQUENTLY SUBJECT HEAVY VEHICULAR TRAFFIC SHALL BE SUBMITTED TO EEOR FOR APPROVAL
2. CONDUITS SHALL ENTER FROM BOTTOM AT 45° ANGLE. MINIMUM BURIAL DEPTHS OF CONDUITS IS 24" BELOW FINISHED GRADE.
3. CONDUIT KNOCKOUTS SHALL BE DRILLED OR PUNCHED ON SITE, QUANTITIES AND SIZES TO MATCH TRENCH PLAN AND COMBINER SCHEDULE.
4. USE APPROPRIATE SEALING METHODS FOR CONDUITS ENTERING THE HANDHOLE TO ENSURE A WATERTIGHT AND SECURE INSTALLATION.
5. FOLLOW BENDING RADIUS REQUIREMENTS PER CONDUCTOR MANUFACTURER'S SPECIFICATIONS.
6. SPLICES ARE PROHIBITED
7. BOX SHALL BE SIZED PER DETAIL "PULL BOX & JUNCTION BOX SIZING"



4 HANDHOLE
SCALE: NONE

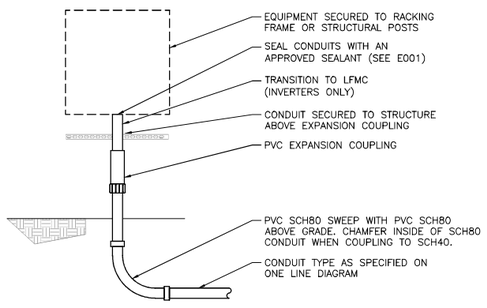
NOTES:
1. INSTALL EXPANSION COUPLING EVERY 50' OF STRAIGHT CONDUIT RUN.
2. IF EXPANSION COUPLINGS ARE INSTALLED AT LENGTHS LESS THAN 50', THE OFFSET FROM CENTER SHALL BE ADJUSTED PROPORTIONALLY.
3. EXPANSION JOINT MUST HAVE AT LEAST 4" OF FREE MOVEMENT (END TO END).



NOTE: THE COEFFICIENT OF THERMAL EXPANSION IN PVC CONDUIT= 3.38 X 10^{-5}IN./IN./°F. FOR EVERY 30°F CHANGE IN TEMPERATURE, THE CHANGE IN LENGTH IS 0.6 INCHES PER 50 FEET OF CONDUIT RUN.

PVC

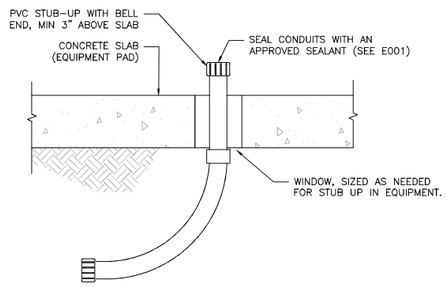
5 EXPANSION COUPLING
SCALE: NONE



NOTES:
1. EXPANSION FITTINGS SHALL BE PROVIDED FOR ALL CONDUITS EXITING FROM GRADE THAT TERMINATE ON FIXED EQUIPMENT. CONDUITS THAT TERMINATE AT WEATHER HEADS DO NOT REQUIRE PROVISION FOR EARTH MOVEMENT.
2. PVC SWEEPS SHALL ONLY BE USED AT END WHERE WIRE REEL IS LOCATED. RMC SWEEPS SHALL BE USED AT END WHERE THE PULLING MACHINE IS LOCATED.

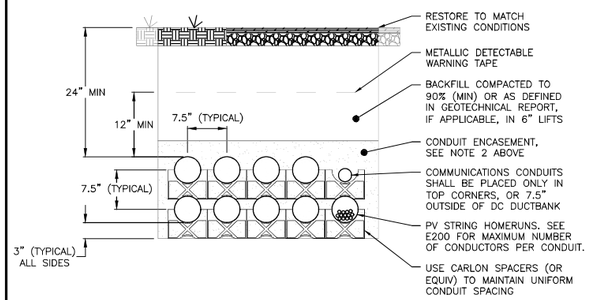
6 TRANSITION FROM GRADE
SCALE: NONE

NOTES:
1. INITIALLY INSTALL COUPLING CAP TO PREVENT DAMAGE TO STUB-UP UNTIL GEAR IS SET.
2. INSTALL ROUNDED FITTING BEFORE PULLING CABLES TO AVOID DAMAGE TO CABLES.



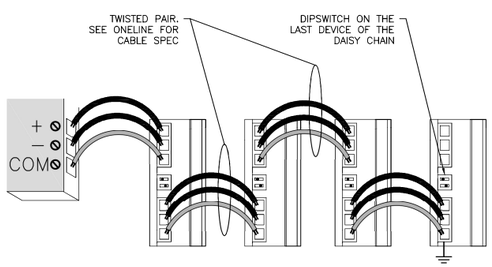
7 EQUIPMENT PAD STUB-UP
SCALE: NONE

NOTES:
1. ALL UNDERGROUND CONDUIT SHALL BE PVC AND TRANSITION TO RMC FOR ELBOW. RMC ELBOW DOES NOT NEED TO BE BONDED IF THE ENTIRE ELBOW IS >= 18" DEEP (NEC 250.86 EXCEPTION 3)
2. UNDER ROADS AND PARKING AREAS ENCASEMENT SHALL BE 2500 PSI CONCRETE. UNDER GRASSY AREAS NOT SUBJECT TO VEHICULAR TRAFFIC ENCASEMENT SHALL BE EITHER SAND, NATIVE BACKFILL CONTAINING NO ROCKS LARGER THAN 3/4" AND FREE FROM SHARP ANGULAR SUBSTANCES, OR SOIL ON SITE AS CONFIRMED ACCEPTABLE BY SITE SUPERVISOR.
3. CALL BEFORE YOU DIG, DIAL 811 TO BE CONNECTED TO THE LOCAL ON-CALL CENTER. YOU MUST CALL AT LEAST 48 HOURS BEFORE EXCAVATING.
4. IF DUCTBANK SLOPES SUCH THAT ANY PART OF THE DUCTBANK IS ABOVE STUB UP ELEVATION, INCLUDE HAND HOLE WITH GRAVEL BASE TO ALLOW DRAINAGE AT LOWEST ELEVATION.
5. DUCTBANK SIZE SHOWN IS THE MAXIMUM ALLOWABLE SIZE WITHOUT THERMAL ANALYSIS.



8 TYPICAL DC DUCTBANK & COMMS
SCALE: NONE

MONITORING NOTES:
1. REFER TO MONITORING SYSTEM INSTALLATION MANUAL FOR DETAILS ON TERMINAL BLOCKS, CABLE TERMINATIONS, AND SYSTEM CONFIGURATION.
2. WIRELESS TRANSCEIVERS MUST HAVE LINE-OF-SIGHT BETWEEN EACH OTHER.
3. PYRANOMETER MUST BE INSTALLED IN UNSHADED LOCATION.



9 MODBUS COMMUNICATIONS
SCALE: NONE

RULER IN INCHES: 0 ½ 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

NO	REVISION DESCRIPTION	DATE	PM	ENG	CHK
3	90% DESIGN REV1	03/28/2025	TL	DG	LP
2	90% DESIGN	02/26/2025	TL	DG	LP
1	30% CONCEPTUAL DESIGN	01/13/2025	TL	DG	LP

ENGINEER
PUREPOWER ENGINEERING
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWER.COM
TRAVIS LEMBERG
IL LICENSE No. 062.076098

DEVELOPER
VERDE SOLUTIONS
2211 N ELSTON AVE
SUITE 208
CHICAGO, IL 60614
WWW.VERDESOLUTIONS.COM

PAGE SIZE 36" x 24"
PROJECT # 11015.01

PROJECT
SOLAR GROUND MOUNT SYSTEM AT
HENDRICKSON USA
501 CATON FARM ROAD
LOCKPORT, IL 60441

DRAWING TITLE
ELECTRICAL DETAILS

DRAWING #
E420

PLOT DATE: 3/31/2025 1:02 PM

GENERAL NOTES FOR LABELS:
1. LABEL SCALE 1:2 UNLESS NOTED
2. LETTERING ON SIGNS SHALL BE CAPITAL LETTERS
3. CLEARLY LABEL ALL CIRCUIT BREAKERS IN SUBPANEL(S) / PANELBOARD(S) / SWITCHBOARD(S). THE LABEL SHALL INDICATE THE NAME OF THE DEVICE IT SERVES. USE LABEL FORMAT 5.
4. ALL LABELS SHALL BE OUTDOOR RATED.

FORMAT	TYPE	BACKGROUND COLOR	TEXT COLOR	TEXT HEIGHT
FORMAT 1	ENGRAVED MELAMINE	RED	WHITE	TITLES (3/8") ALL OTHER TEXT (5/32")
FORMAT 2	ENGRAVED MELAMINE	WHITE	BLACK	TITLES (3/8") ALL OTHER TEXT (5/32")
FORMAT 3	REFLECTIVE UV RATED	RED	WHITE	AT LEAST (3/8")
FORMAT 4	ENGRAVED MELAMINE	RED	WHITE	TITLES (5/32") ALL OTHER TEXT (3/32")
FORMAT 5	VINYL FILM	WHITE	BLACK	(3/8")
FORMAT 6	ENGRAVED MELAMINE	ORANGE	BLACK	TITLES (3/8") ALL OTHER TEXT (5/32")

PER 2023 NEC 690.31(B)(2): PV SYSTEM CIRCUIT CONDUCTORS SHALL BE IDENTIFIED AT ALL ACCESSIBLE POINTS OF TERMINATION, CONNECTION, AND SPLICES.

1. STRING HOMERUNS AT ARRAY
2. DC INPUT TERMINALS OF COMBINER BOX
3. DC OUTPUT TERMINALS OF COMBINER BOX
4. DC INPUT TERMINALS OF INVERTER
5. AC OUTPUT TERMINALS OF INVERTER
6. AC INPUT & OUTPUT TERMINALS OF EACH SUCCESSIVE DEVICE (WHERE APPLICABLE)

CIRCUIT BREAKER AND SWITCH LABELS:
UNLESS LABELED OTHERWISE, ALL CIRCUIT BREAKERS AND SWITCHES SHALL BE LABELED WITH THE NAME OF THE EQUIPMENT IT IS SUPPLYING.

1 NOTES AND FORMATS

14"

DANGER
HIGH VOLTAGE KEEP OUT

10"

INSTALL LABEL ON:
- EVERY 75' OF FENCELINE

FORMAT: SCALE 1:4

4"

PV SYSTEM INSTALLER INFORMATION
INSTALLATION COMPANY: INSTALLER NAME
EMERGENCY PHONE#: (XXX) XXX-XXXX

2"

INSTALL LABEL ON:
- PV MAIN DISCONNECT

FORMAT: WHITE TEXT ON BLUE BACKGROUND
CODES: NFPA1 11.12.2.1.5
NOTES: FILL WITH SITE O&M PROVIDER'S CONTACT INFORMATION. CONFIRM INFO WITH PROJECT OWNER.

4 1/2"

DANGER
HIGH VOLTAGE KEEP AWAY

1 1/2"

INSTALL LABEL ON:
- ALL CABLE TRAYS CONTAINING CONDUCTORS OPERATING OVER 600 VOLTS.

FORMAT: 3
CODES: NEC 392.18(H).
NOTES: LABELS SHALL BE PERMANENTLY AFFIXED AND SPACED NO GREATER THAN 10 FEET APART.

6 1/2"

WARNING: PHOTOVOLTAIC POWER SOURCE

1"

INSTALL LABEL ON:
- ALL DC EXPOSED RACEWAYS, CABLE TRAYS, PULL BOXES, AND JUNCTION BOXES.

FORMAT: 3
CODES: NEC 690.31(D)(2), NFPA 11.12.2.1.3
NOTES: HELLERMANNTYTON #: 596-00206 OR EQUAL, LABELS SHALL BE PERMANENTLY AND SPACED NO GREATER THAN 10 FEET APART.

4"

WARNING
ARC FLASH AND SHOCK HAZARD
Appropriate PPE and Tools Required when working on this equipment.

2"

INSTALL LABEL ON:
- ALL EQUIPMENT NOT OTHERWISE LABELED IN POWER STUDY

FORMAT: 1:1 SCALE
NOTES: OUTDOOR RATED STICKER.

2 GENERAL SIGNAGE

10"

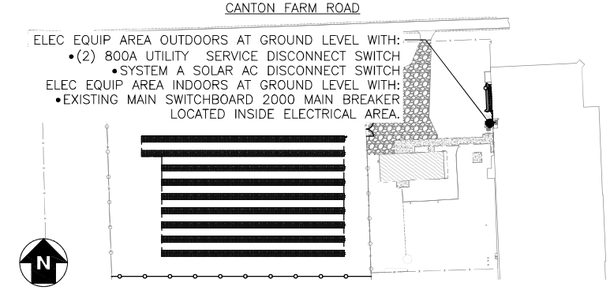
CAUTION:

MULTIPLE POWER SOURCES ARE CONNECTED TO THIS BUILDING WITH DISCONNECTS AS SHOWN:

CANTON FARM ROAD

ELEC EQUIP AREA OUTDOORS AT GROUND LEVEL WITH:
- (2) 800A UTILITY SERVICE DISCONNECT SWITCH
- SYSTEM A SOLAR AC DISCONNECT SWITCH

ELEC EQUIP AREA INDOORS AT GROUND LEVEL WITH:
- EXISTING MAIN SWITCHBOARD 2000 MAIN BREAKER LOCATED INSIDE ELECTRICAL AREA.



6"

INSTALL PLACARD ON ALL LISTED EQUIPMENT:
- PV SYSTEM MAIN DISCONNECT
- UTILITY SERVICE DISCONNECTS

FORMAT: ENGRAVED MELAMINE, WHITE TEXT ON YELLOW BACKGROUND, TITLE MIN. 1/2", DESCRIPTION 5/16", ALL OTHER TEXT 1/8"
CODES: NEC 705.10 & 690.56(B)

3 DIRECTORY LABEL

SWITCHBOARD(S)

5"

SOLAR AC
SWITCHBOARD
WARNING: SUPPLIED BY UTILITY & PV SOURCES.
OPERATING CURRENT: **1140.3A**
OPERATING VOLTAGE: **480V**
DO NOT CONNECT NON-SOLAR LOADS TO THIS PANEL

3 1/4"

INSTALL LABEL ON:
- NAMED EQUIPMENT

FORMAT: 2

COMBINER(S)

6"

COMBINER BOX X
WARNING: ELECTRIC SHOCK HAZARD
DC DISCONNECT
MAXIMUM VOLTAGE: **1063V**

2 1/4"

INSTALL LABEL ON:
- COMBINERS CB 1-CB 9

FORMAT: 2
CODES: NEC 690.7(D)

DISCONNECT(S)/ BREAKER(S)

6"

SOLAR SYSTEM
DISCONNECT SWITCH
WARNING: PHOTOVOLTAIC POWER SOURCE.
OPERATING CURRENT: **1140.3A**
NOMINAL VOLTAGE: **480V**

3"

INSTALL LABEL ON:
- NAMED EQUIPMENT

FORMAT: 2
CODES: NEC 690.54 & 705.10, NFPA 11.12.2.1.1

INVERTER(S)

8"

INVERTER X
DC DISCONNECT
MAXIMUM VOLTAGE: **1500V**
AC DISCONNECT
MAXIMUM AC OPERATING CURRENT: **126.7A**
NOMINAL AC OPERATING VOLTAGE: **480V**

3 1/4"

INSTALL LABEL ON:
- INVERTERS 1-9

FORMAT: 2
CODES: NEC 690.7(D), NFPA 11.12.2.1.1

MONITORING/AUXILIARY

6"

MONITORING PANEL

3/4"

INSTALL LABEL ON:
- NAMED EQUIPMENT

FORMAT: 2

6"

WEATHER STATION

3/4"

INSTALL LABEL ON:
- NAMED EQUIPMENT

FORMAT: 2

4 EQUIPMENT LABELS

RULER IN INCHES:

	DATE	REVISION DESCRIPTION	PM	ENG	CHK
	03/28/2025	90% DESIGN REV1	TL	DG	LP
	02/26/2025	90% DESIGN	TL	DG	LP
	01/13/2025	30% CONCEPTUAL DESIGN	TL	DG	LP

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DEVELOPER
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2211 N. ELSTON AVE
SUITE 208
CHICAGO, IL 60614
WWW.VERDESOLUTIONS.COM

PAGE SIZE: 36" x 24"
PROJECT #: 11015.01

PROJECT
SOLAR GROUND MOUNT SYSTEM AT
HENDRICKSON USA
501 CATON FARM ROAD
LOCKPORT, IL 60441

DRAWING TITLE
LABELS & SIGNAGE

DRAWING #
E500

CPS

Datasheet

100 kW, 1500 Vdc/480 Vac String Inverters for North America

CPS SCH100KTL-DO/US-480

The 100 kW high power CPS three-phase string inverters are designed for ground-mount applications with 480 Vac service voltage. The units are high performance, advanced, and reliable inverters designed specifically for the North American environment and grid. High efficiencies, wide operating voltages, broad temperature ranges, and a NEMA Type 4X enclosure enable this inverter platform to operate at high performance across many applications. The CPS 100 kW products ship with the Distributed or Centralized Wire Box, each fully integrated and separable with AC and DC disconnect switches. The Enhanced DC Wire Box includes touch-safe fusing for up to 20 strings. The CPS FlexOM solution enables communication, controls and remote product upgrades.

Key Features

- NFPA 70 and NEC compliant
- Touch-safe DC fuse holders adds convenience and safety
- CPS FlexOM Gateway enables remote firmware upgrades
- Integrated AC and DC disconnect switches
- 1 MPPT with 20 fused inputs for maximum flexibility
- Copper- and aluminum-compatible AC connections
- NEMA Type 4X outdoor rated, tough tested enclosure
- Advanced Smart-Grid features (CA Rule 21 certified)
- kVA headroom yields 100 kW @ 0.95 PF
- Generous DC/AC inverter load ratios
- Separable wire box design for fast service
- Enhanced DC wire boxes available

Distributed

Centralized

Standard Wire Boxes

Distributed

Centralized

Enhanced DC Wire Boxes

Chint Power Systems America
1380 Presidential Drive, Suite 100, Richardson, TX 75081
Tel: 855-584-7168 Mail: AmericaSales@chintpower.com Web: www.chintpowersystems.com

CPS

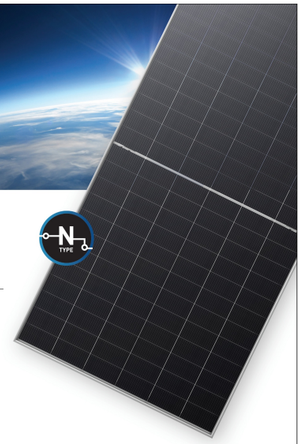
Technical Data

Model Name	CPS SCH100KTL-DO/US-480
DC Input	
Max. DC input voltage	1500 Vdc
Operating DC input voltage range	750-1450 Vdc
Startup DC input voltage / power	900 Vdc / 200 W
Number of MPP trackers	1
MPPT voltage range @ PF = 0.99[1]	760-1300 Vdc
Max. PV input current (Isc × 1.25)	275 A
Number of DC inputs	Distributed Wire Box: 20 PV source circuits, positive and negative fused Centralized Wire Box: 1 input circuit, 1-2 terminations per pole, non-fused
DC disconnection type	Load-rated DC switch
DC surge protection	Type II MOV (with indicator/remote signaling)
AC Output	
Rated AC output power	100 kW
Max. AC output power[2]	100 kVA (105.3 kVA @ PF > 0.95)
Rated output voltage	480 Vac
Output voltage range[3]	423-528 Vac
Grid connection type[4]	3-Phase / PE / N (neutral optional)
Max. AC output current @ 480 Vac	120.3 A / 126.7 A
Rated output frequency	60 Hz
Output frequency range[3]	57-63 Hz
Power factor	> 0.99 (±0.8 adjustable)
Current THD @ rated load	< 3%
Max. fault current contribution (1 cycle RMS)	41.47 A
Max. OCPD rating	200 A
AC disconnection type	Load-rated AC switch
AC surge protection	Type II MOV (with indicator/remote signaling)
System and Performance	
Topology	Transformerless
Max. efficiency	98.9%
CEC efficiency	98.0%
Standby / night consumption	< 4 W
Environment	
Enclosure protection degree	NEMA Type 4X
Cooling method	Variable speed cooling fans
Operating temperature range	-22°F to 140°F / -30°C to 60°C
Non-operating temperature range[5]	-40°F to 158°F (-40°C to 70°C)
Operating humidity	0-100%
Operating altitude	8202 ft / 2500 m (no derating)
Audible noise	< 65 dBA @ 1 m and 77°F (25°C)
Display and Communication	
User interface and display	LED indicators, Wi-Fi and app
Inverter monitoring	Modbus RS485
Site-level monitoring	CPS FlexOM Gateway (1 per 32 inverters)
Modbus data mapping	SunSpec / CPS
Remote diagnostics / firmware upgrade functions	Standard / (with FlexOM Gateway)
Mechanical	
Dimensions (W × H × D)	Distributed Wire Box: 45.28 × 24.25 × 9.84 in (1150 × 616 × 250 mm) Centralized Wire Box: 39.37 × 24.25 × 9.84 in (1000 × 616 × 250 mm)
Weight	Inverter: 121 lbs (55 kg) Distributed Wire Box: 55 lbs (25 kg) Centralized Wire Box: 33 lbs (15 kg)
Mounting / installation angle	15-90 degrees from horizontal (vertical or angled)
AC termination	M10 stud type terminal (3Ø) (wire range: 1/0 AWG-500 kcmil CU/AL; lugs not supplied) Screw clamp terminal block (N) (#12-1/0 AWG CU/AL)
DC termination	Distributed Wire Box: Screw clamp fuse holder (wire range: #12-#6 AWG CU) Centralized Wire Box: Busbar, M10 bolts (wire range: #1 AWG-500 kcmil CU/AL [1 termination per pole], #1 AWG-300 kcmil CU/AL [2 terminations per pole]; lugs not supplied)
Fused string inputs	Standard/Distributed Wire Boxes: 25 A fuses provided (fuse values up to 30 A acceptable) Enhanced DC Wire Boxes: 20 A fuses provided (fuse values up to 30 A acceptable)
Safety	
Certifications and standards	UL 1741-SA/SB Ed. 3, CSA-C22.2 NO.107.1-01, IEEE 1547-2018, FCC PART15
Selectable grid standard	IEEE 1547a-2014, IEEE 1547-2018*, CA Rule 21, ISO-NE
Smart-grid features	Volt-RideThru, Freq-RideThru, Ramp-Rate, Specified-PF, Volt-VAR, Freq-Watt, Vol-Watt
Warranty	
Standard[6]	5 years
Extended terms	10, 15, and 20 years

1) See user manual for information regarding MPPT voltage range when operating at non-unity PF.
2) 100 kW-480 V active power derating begins at 107.8°F (42°C) when PF = ±0.9 and MPPT ≥ Vmin; at 113°F (45°C) when PF= 1 and MPPT ≥ Vmin.
3) The "output voltage range" and "output frequency range" may differ according to the specific grid standard.
4) Delta configurations must not be corner-grounded.
5) See user manual for further requirements regarding non-operating conditions.
6) Firmware version 1.2.0 or later required.

EAGLE MODULES

THE MOST DEPENDABLE SOLAR PRODUCT



EAGLE® G6B

580–600 WATT • N-TYPE BIFACIAL

Positive power tolerance of 0~+3%

- NYSE-listed since 2010, Bloomberg Tier 1 manufacturer
- Top performance in the strictest 3rd party labs
- Automated manufacturing utilizing artificial intelligence
- Vertically integrated, tight controls on quality
- Premium solar factories in USA and Vietnam

KEY FEATURES

N-Type Technology
N-type cells offer Jinko's in-house TOPCon technology with better performance and improved reliability.

Multi Busbar Half Cell Technology
Better light trapping and current collection to improve module power output and reliability.

Bifacial Power Gain
N-Type architecture increases bifaciality for higher backside bonus and better lifetime yield.

Low Temperature Coefficient
Best in class temperature coefficient for highest lifetime energy yield in all climates.

Industrial Grade Construction
Fire Type 29 with optimized dual-glass construction and aluminum frame for highest mechanical load resistance.

Shade Tolerant
Twin array design allows continued performance even with shading by trees or debris.

Protected Against All Environments
Certified to withstand humidity, heat, rain, marine environments, wind, hailstorms, and packed snow.

Warranty
12-year product and 30-year linear power warranty.

- ISO9001:2015 Quality Standards
- ISO14001:2015 Environmental Standards
- IEC61215, IEC61730 certified products
- ISO45001: 2018 Occupational Health & Safety Standards
- UL61730 certified products

BUILDING YOUR TRUST IN SOLAR. WWW.JINKOSOLAR.US

JinkoSolar

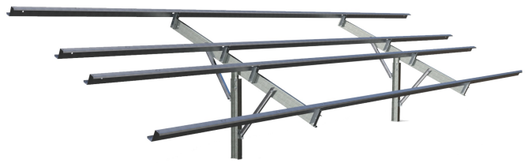
Elevating the Future of Solar

DCE SOLAR

LONG SPAN

Structural Components

All above ground members are constructed from G115 galvanized steel with ground penetrating components from G235 or better.



Technical Benefits

- Minimal hardware
- Designed to custom fit the panel
- Fewer foundations per panel

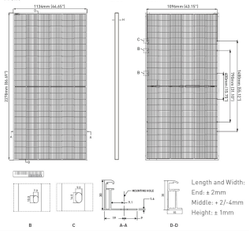
TECHNICAL SPECIFICATIONS

Wind Load	90 - 150 MPH *
Snow Load	0 - 70 PSF *
Leading Module Height	18" - 60" MAX
Tilt Angle	5° - 35°
Module Suitability	All Major Brands *
Panel Orientation	Portrait (2H x 12W) *
Warranty	20 years

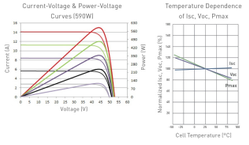
ETL LISTED US
UL 2703

* Higher wind, snow conditions, and panel frame profiles, are feasible but site specific and are subject to approval by DCE Engineering.

ENGINEERING DRAWINGS



ELECTRICAL PERFORMANCE & TEMPERATURE DEPENDENCE



MECHANICAL CHARACTERISTICS

No. of Half Cells	144 (2 x 72)
Dimensions	2278 x 1134 x 30mm (89.69 x 44.65 x 1.18in)
Weight	31kg (68.34lbs)
Front Glass	2.0mm, Anti-Reflection Coating
Back Glass	2.0mm, Heat Strengthened Glass
Frame	Anodized Aluminum Alloy
Junction Box	IP68 Rated
Output Cables	12 AWG, 1400mm (55.12in)
Fire Type	Type 29
Pressure Rating	5400Pa (Snow) & 2400Pa (Wind)
Hailstone Test	45mm Hailstone at 30.7m/s

TEMPERATURE CHARACTERISTICS

Temperature Coefficients of Pmax	-0.29%/°C
Temperature Coefficients of Voc	-0.25%/°C
Temperature Coefficients of Isc	0.045%/°C
Nominal Operating Cell Temperature (NOCT)	45±2°C
Bifacial Factor	80±5%

MAXIMUM RATINGS

Operating Temperature (°C)	-40°C~+85°C
Maximum System Voltage	1500VDC
Maximum Series Fuse Rating	30A

PACKAGING CONFIGURATION

(Two pallets = One stack)
36pcs/pallets, 72pcs/stack, 576pcs/40 HQ Container

BIFACIAL OUTPUT-REARSIDE POWER GAIN

5%	Maximum Power (Pmax)	609Wp	614Wp	620Wp	625Wp	630Wp
	Module Efficiency (%)	23.57%	23.78%	23.98%	24.18%	24.39%
15%	Maximum Power (Pmax)	667Wp	672Wp	679Wp	684Wp	690Wp
	Module Efficiency (%)	25.82%	26.05%	26.27%	26.49%	26.71%
25%	Maximum Power (Pmax)	725Wp	731Wp	738Wp	744Wp	750Wp
	Module Efficiency (%)	28.06%	28.31%	28.55%	28.79%	29.03%

WARRANTY

12-year product and 30-year linear power warranty

1st year degradation not to exceed 1%, each subsequent year not to exceed 0.4%, minimum power at year 30 is 87.4% or greater.

ELECTRICAL CHARACTERISTICS

Module Type	JKM580N-72HL4-BDV		JKM585N-72HL4-BDV		JKM590N-72HL4-BDV		JKM595N-72HL4-BDV		JKM600N-72HL4-BDV	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax)	580Wp	437Wp	585Wp	441Wp	590Wp	445Wp	595Wp	448Wp	600Wp	452Wp
Maximum Power Voltage (Vmp)	43.88V	40.89V	44.02V	41.05V	44.17V	41.21V	44.31V	41.34V	44.45V	41.52V
Maximum Power Current (Imp)	13.22A	10.69A	13.29A	10.74A	13.36A	10.79A	13.43A	10.84A	13.50A	10.89A
Open-circuit Voltage (Voc)	52.50V	49.87V	52.70V	50.06V	52.90V	50.25V	53.10V	50.44V	53.30V	50.63V
Short-circuit Current (Isc)	13.95A	11.26A	14.01A	11.31A	14.07A	11.36A	14.13A	11.41A	14.19A	11.45A
Module Efficiency STC (%)	22.45%		22.65%		22.84%		23.03%		23.23%	

*STC: ☀ Irradiance 1000W/m² ; Cell Temperature 25°C ; AM = 1.5
NOCT: ☀ Irradiance 800W/m² ; Ambient Temperature 20°C ; AM = 1.5 ; Wind Speed 1m/s

*Power measurement tolerance: ±3%

The company reserves the final right for explanation on any of the information presented hereby. JKM580-600N-72HL4-BDV-F30H-F2-US

BUILDING YOUR TRUST IN SOLAR. WWW.JINKOSOLAR.US

JinkoSolar

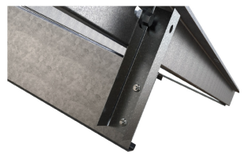
LONG SPAN

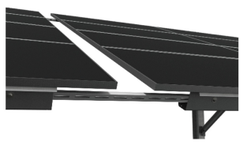
Most advanced table based racking solution with the DCE Long Span Racking System.

- Newly designed Long-Span pivot bracket allows for superior purlin adjustability
- Integrated wire management & direct panel frame mounting & bonding
- Driven Beam, ballast, or screw foundations accommodating all soil & site conditions
- Structurally independent tables to diminish terrain challenges

HIGHER YIELD PER FOUNDATION Purlins spanning up to twelve panels in portrait orientation result in fewer foundations throughout the entire installation. More panels on each table with fewer posts installed reduce labor & material cost; compounding value per watt generated.

PIVOT ADAPTER The uniquely designed pivot adapter elevates each one-point purlin connection to drastically improve every table's adaptability to challenging topography. The fully grounded rows can adjust to changes up to 20% grade.





FOUNDATION FLEXIBILITY Ideal for maximizing your investment for virtually any condition – Driven beam, ground screw, and ballasted foundation variants available to minimize installation challenges or environmental demands – distinguishing Long Span brand versatility.

INTEGRATED BONDING Each continuous row is bonded using serrated hardware, therefore only one ground is needed per row. No additional costly grounding components needed such as WEEBS and star washers, lowering material and installation costs. This reduces labor time, hardware, and cost for additional bonding components. (Certified to UL 2703)

INTEGRATED WIRE MANAGEMENT The underside flange on panel beams give versatility for wire support, decreasing the need for additional wire management components and labor. Pre-punched weep holes help with moisture drainage. Integrated wire management and support are included as part of our base offer.

DCE Solar delivers industry-leading racking products with unbeatable customer service. All Long Span solutions have been designed to minimize grading, lower foundation costs, and facilitate greater energy performance.

DCE Solar is a market leader in industrial grade solar mounting and consulting. DCE designs, engineers, and manufactures the leading product line in the C&I and utility market. DCE continues to set the gold standard with innovative solutions created and perfected by a trademarked, world-class engineering and support team.

DCE SOLAR

Elevating the Future of Solar | Made in America

DCE Solar
19410 Jetton Road Suite 220 Cornelius, NC 28031 USA
704-659-7474 | info@dcesolar.com | www.dcesolar.com

REVISION DESCRIPTION	DATE	PM	ENG	CHK
90% DESIGN REV1	03/28/2025	TL	DG	LP
90% DESIGN	02/26/2025	TL	DG	LP
30% CONCEPTUAL DESIGN	01/13/2025	TL	DG	LP

PUREPOWER ENGINEERING
111 RIVER STREET, HOBOKEN, NJ
WWW.PUREPOWERENGINEERING.COM
TRAVIS LEMBERG
IL LICENSE No. 062.076098
ENGINEER

VERDE SOLUTIONS
2211 N ELSTON AVE
SUITE 208
CHICAGO, IL 60614
WWW.VERDESOLUTIONS.COM
DEVELOPER

PAGE SIZE 36" x 24"

PROJECT # 11015.01

PROJECT
SOLAR GROUND MOUNT SYSTEM AT
HENDRICKSON USA
501 CATON FARM ROAD
LOCKPORT, IL 60441

DRAWING TITLE
EQUIPMENT DATA SHEETS

DRAWING # E600

RULER IN INCHES: 0 1/2 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

CPS

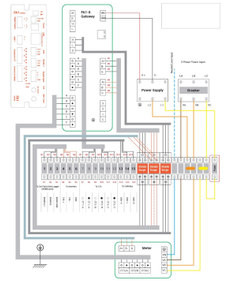
FlexOM Meter

Datasheet

The CPS FlexOM Meter offers a revenue-grade metering solution for CPS 25, 36, 50, 60, 100, and 125 kW inverters. The FlexOM meter solution includes a FlexOM Gateway and revenue-grade meter integrated into a NEMA 4 enclosure. FlexOM Portal Bundles are offered by CPS with web portal data access to features such as data charting, monitoring alerts, kiosk view, and more!

Key Features

- Low-cost, complete hardware and software package
- Includes revenue-grade site-level meter (CTs not supplied, and must have output voltage of 0.333Vac at full scale)
- Full access to inverter data (15+ parameters per inverter)
- 1- to 20-minute interval data (download up to 5 years of site data)
- 5 years of monitoring included (extensions available)
- Automated site commissioning report
- Up to 32 devices per Flex Gateway (no additional fees for each inverter connection)
- Site activation with "CPS Connect Pro" app (iOS and Android)
- Inverter on/off, remote arc-fault reset, PF and active power curtailment controls capability
- Remote CT reversal capability



Chint Power Systems America
1380 Presidential Drive, Suite 100, Richardson, TX 75081
Tel: 855-584-7168 Mail: AmericaSales@chintpower.com Web: www.chintpowersystems.com

CPS

FlexOM Meter

Datasheet

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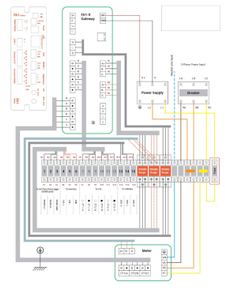

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Chint Power Systems America
1380 Presidential Drive, Suite 100, Richardson, TX 75081
Tel: 855-584-7168 Mail: AmericaSales@chintpower.com Web: www.chintpowersystems.com

PLOT DATE: 3/31/2025 1:02 PM

RULER IN INCHES: 0 ½ 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18

DATE	REVISION DESCRIPTION	PM	ENG	CHK
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PAGE SIZE 36" x 24"

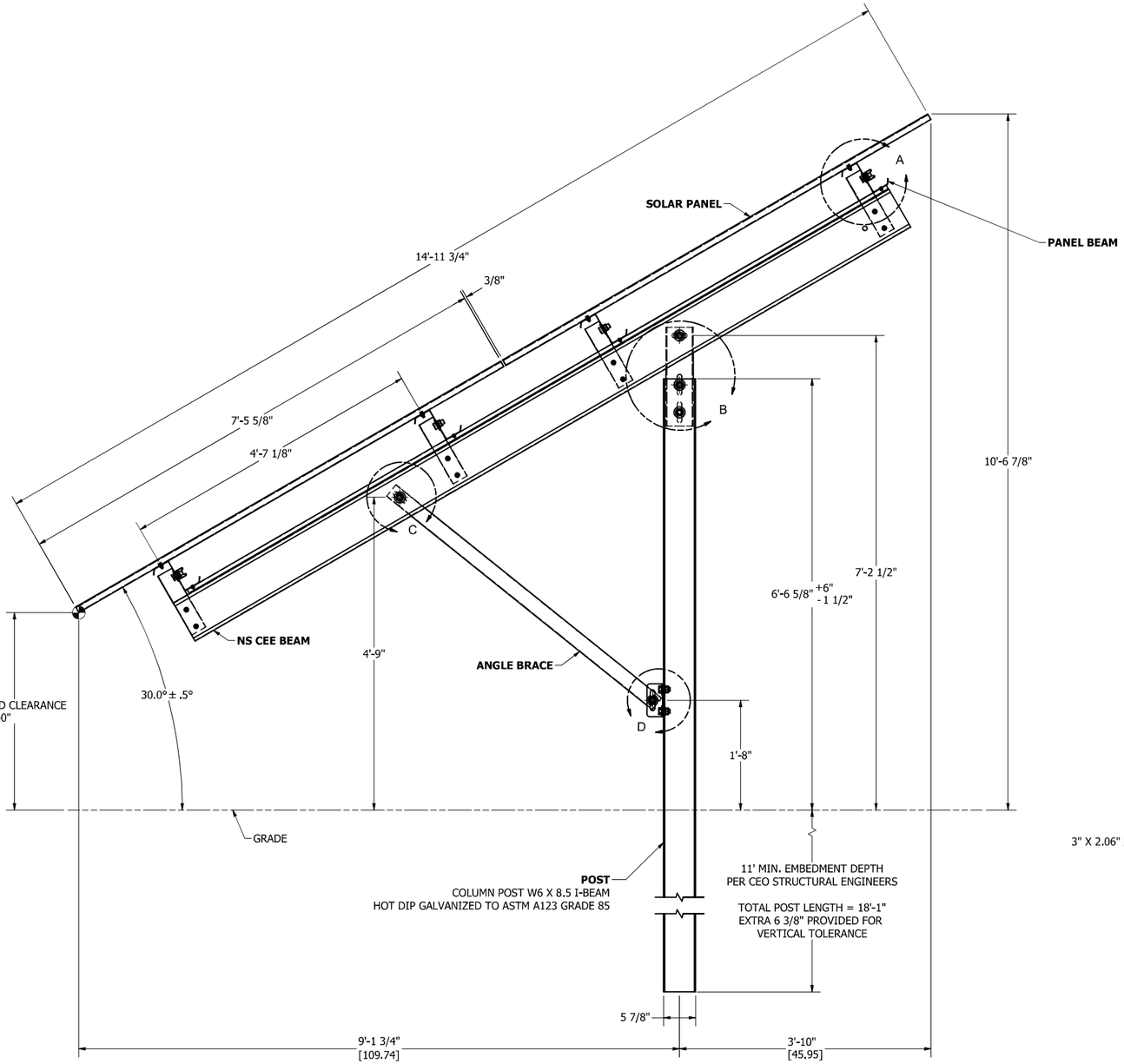
PROJECT # 11015.01

PROJECT
SOLAR GROUND MOUNT SYSTEM AT
HENDRICKSON USA
501 CATON FARM ROAD
LOCKPORT, IL 60441

DRAWING TITLE
EQUIPMENT DATA SHEETS

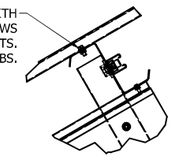
DRAWING #
E601

APPENDIX- A
STRUCTURAL DETAIL DRAWING
NOT FOR CONSTRUCTION

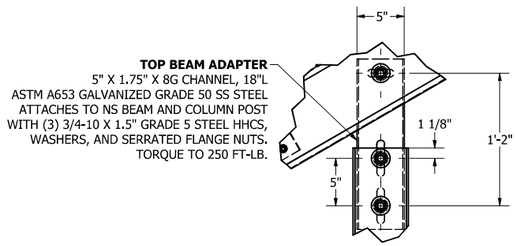


SIDE VIEW
VIEW1
SCALE 1 : 12

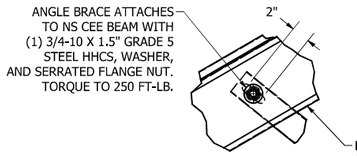
ALL PANEL MOUNTING HARDWARE CALLED OUT BELOW WILL BE PROVIDED BY DCE SOLAR. ANY CUSTOMIZED PANEL MOUNTING HARDWARE PROVIDED BY OTHERS MAY VOID DCE SOLAR'S UL2703 CERTIFICATION.



DETAIL A
SCALE 1 / 8



DETAIL B
SCALE 1 / 8



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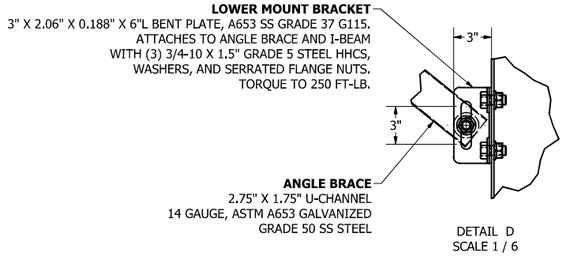
SCALE 1 / 8



DETAIL D
SCALE 1 / 6

PROJECT INFORMATION
INSTALLATION ADDRESS:
501 Caton Farm Rd, Lockport, IL 60441

Structural General Notes

1. The contractor will be solely responsible for all construction means, methods, techniques, sequences and procedures and shall at all times take reasonable precautions for the safety of its employees on the project, and shall comply with all applicable provisions of federal, state, and municipal safety laws and building construction codes.

2. If existing conditions make it necessary to revise structural details, consult DCE Solar before proceeding with any change.

3. These drawings and notes are for this specific project and no other use is authorized.

4. Structure designed in accordance with the International Building Code, 2021 Edition, ASCE 7-16, AISC 360-16 (14th Edition), and AISI S100-16: ASD
Snow Loads:
-Ground Snow Load pg = 25 psf
-Importance Factor Is = 0.8
-Exposure Factor Ce = 0.9
-Slope Snow Load ps = 11.00 psf

Wind Loads:
MRI Factor = 1.00
-Basic Wind Speed V = 100 mph
-Iw = 1
-Exposure = C
-Wind Design performed in accordance with the requirements of ASCE - Wind Tunnel Procedure. Refer to Wind Tunnel Report by UWO BLWT Laboratory dated 12/11/14.

Seismic Loads:
-SS = 0.137g, S1 = 0.069g
-Site Class = D
-SDS = 0.150g, SD1 = 0.110g
-Seismic Design Category = A
-Ordinary Steel Cantilever Column System

5. Material strengths:
-Hot-rolled structural steel ASTM A992 GR50.
-Cold Formed Steel Sections comply w/ASTM A1003, structural grade, galvanized to Grade as noted.
-Formed Steel Brackets - ASTM A653 Galvanized Grade 50 SS
-I-Beams - A992, 50 ksi, Hot Dip Galvanized to ASTM 123 Grade 85
-Plate - A36 Steel, Hot Dip Galvanized
-Connectors - Stainless Steel unless otherwise noted.

6. Members and connections have been designed for worst-case loading associated with exterior zones of the array per the wind tunnel report.

7. Foundation embedment depths are to be calculated and sealed by an IL State Licensed Geotechnical engineer.

8. For the purposes of this project, all arrays are classified as Exterior Arrays.

9. Scope of work by Structural Engineer includes member design, connection design, and determination of design base reactions only. Layout of PV arrays such that they do not conflict with existing site obstructions, determination of site-specific foundation and geotechnical parameters, and all other work not specifically noted is by others.

Engineer of Record

REVISION HISTORY			
REV	DESCRIPTION	DESIGNER	DATE
0	STRUCTURAL DETAIL DRAWING	CPATTERSON	2/4/2025
1	REVISED POST EMBEDMENT DEPTH AND ALTERNATE FOUNDATION DESIGN	CPATTERSON	2/24/2025
2	REVISED GML ON PAGE 5	CPATTERSON	3/6/2025
3	REVISED GML ON PAGE 5	CPATTERSON	3/25/2025

DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
TOLERANCES ARE AS FOLLOWS:
.X = ± 0.100" (2.54mm)
.XX = ± 0.030" (0.76mm)
.XXX = ± 0.010" (0.25mm)
ANGLE = ± 5°
MIN. BREAK = 0.012" (0.3mm)
SURFACE FINISH = 63 (US)

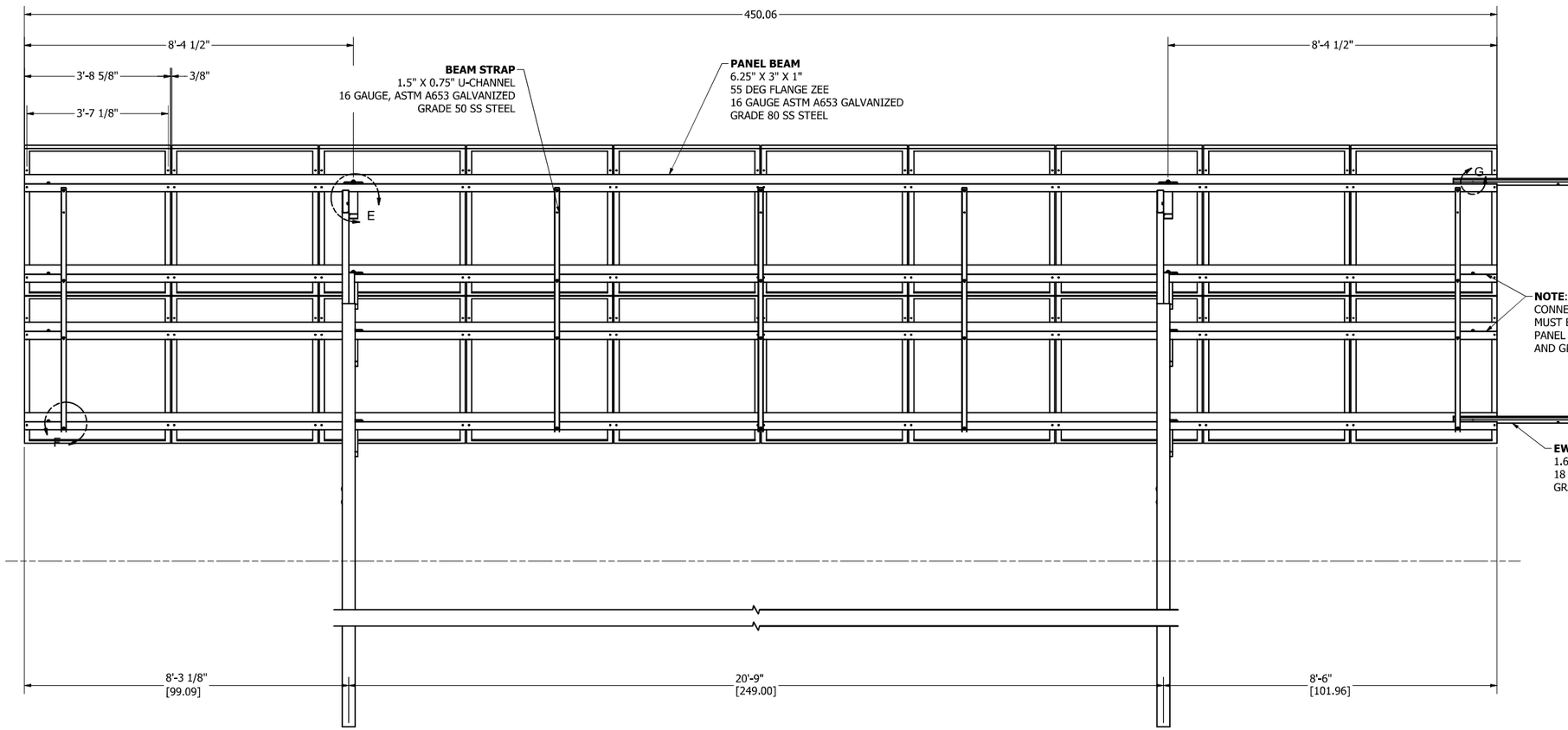
Material:
Weight: 2267.715 lbmass
Description: **CT-LS-DB, JINKO JKM595-72HL4-BDV, 2x10, 30 DEG, HENDRICKSON USA, FRESH COAST SOLAR**
Project: HENDRICKSON USA
Drawn: CPATTERSON
Date: 3/6/2025
Scale:
Sheet: 1 of 5

DCE SOLAR
Elevating the Future for Solar | Made in America
19410 Jetton Rd, Ste 220
Cornelius, NC, 28031
www.dcesolar.com
Phone:1-704-659-7474

Format: D
Part Number: **6438**
Rev: 3

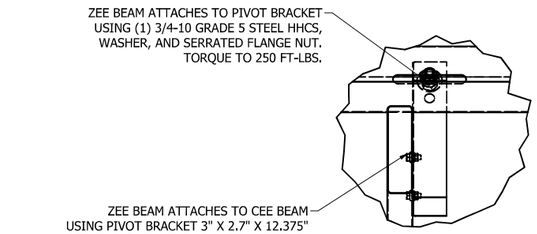
STRUCTURAL DETAIL DRAWING - REAR

NOT FOR CONSTRUCTION

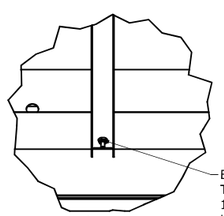


REAR VIEW

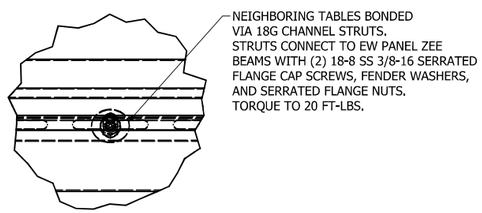
VIEW3
SCALE 1 /20



DETAIL E
SCALE 1 / 6



DETAIL F
SCALE 1 / 5



DETAIL G
SCALE 1 / 3

PROJECT INFORMATION

INSTALLATION ADDRESS:
501 Caton Farm Rd, Lockport, IL 60441

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-Importance Factor Is = 0.8
-Exposure Factor Ce = 0.9
-Slope Snow Load ps = 11.00 psf

Wind Loads:
MRI Factor = 1.00
-Basic Wind Speed V = 100 mph
-Iw = 1
-Exposure = C
-Wind Design performed in accordance with the requirements of ASCE - Wind Tunnel Procedure. Refer to Wind Tunnel Report by UWO BLWT Laboratory dated 12/11/14.

Seismic Loads:
-SS = 0.137g, S1 = 0.069g
-Site Class = D
-SDS = 0.150g, SD1 = 0.110g
-Seismic Design Category = A
-Ordinary Steel Cantilever Column System

5. Material strengths:
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-Cold Formed Steel Sections comply w/ASTM A1003, structural grade, galvanized to Grade as noted.
-Formed Steel Brackets - ASTM A653 Galvanized Grade 50 SS
-I-Beams - A992, 50 ksi, Hot Dip Galvanized to ASTM 123 Grade 85
-Plate - A36 Steel, Hot Dip Galvanized
-Connectors - Stainless Steel unless otherwise noted.

6. Members and connections have been designed for worst-case loading associated with exterior zones of the array per the wind tunnel report.

7. Foundation embedment depths are to be calculated and sealed by an IL State Licensed Geotechnical engineer.

8. For the purposes of this project, all arrays are classified as Exterior Arrays.

9. Scope of work by Structural Engineer includes member design, connection design, and determination of design base reactions only. Layout of PV arrays such that they do not conflict with existing site obstructions, determination of site-specific foundation and geotechnical parameters, and all other work not specifically noted is by others.

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MIN. BREAK = 0.012" (0.3mm)
SURFACE FINISH = 63 (US)

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Weight: 2267.715 lbmass
Description: **CT-LS-DB, JINKO JKM595-72HL4-BDV, 2x10, 30 DEG, HENDRICKSON USA, FRESH COAST SOLAR**
Project: HENDRICKSON USA
Drawn: CPATTERSON
Date: 3/6/2025
Scale:
Sheet: 2 of 5

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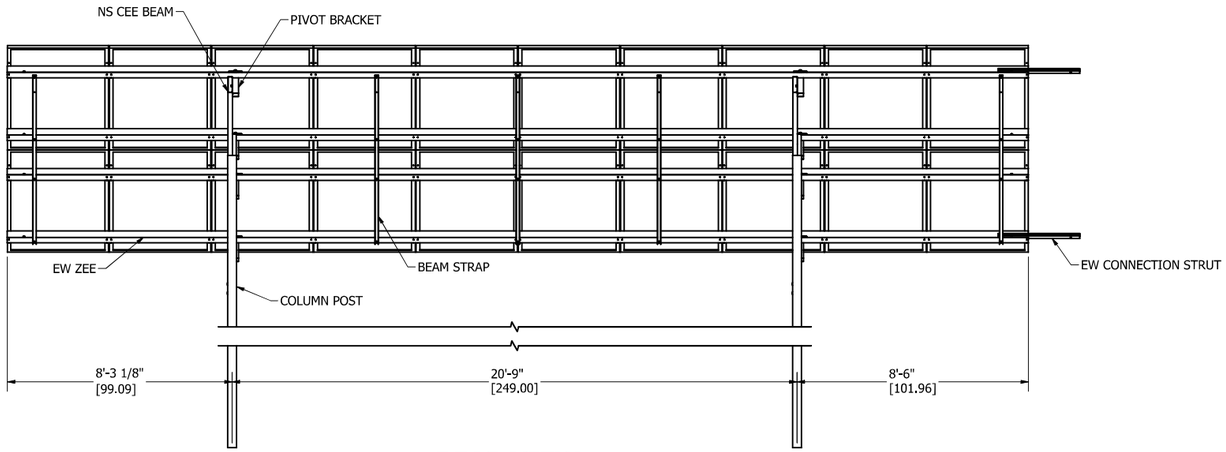
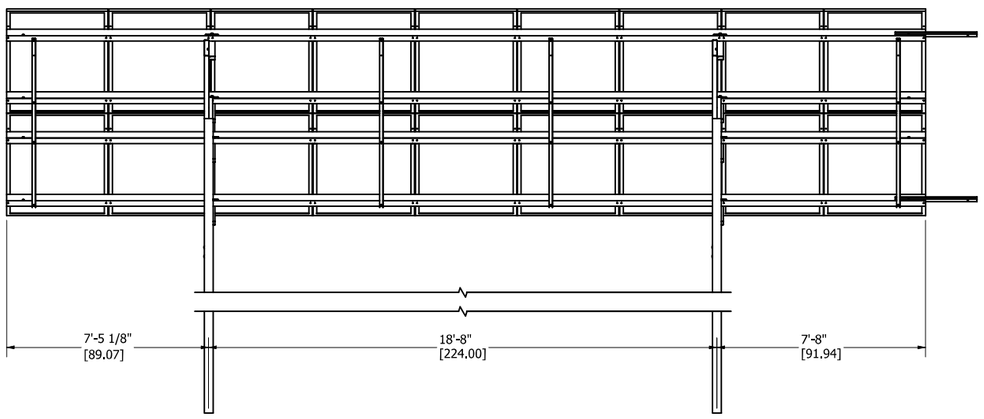
Format: D
Part Number: 6438
Rev: 3

NOT FOR CONSTRUCTION



REAR VIEW

2X10 ARRAY
VIEW13
SCALE 0.03 : 1



REAR VIEW

2X9 ARRAY
VIEW20
SCALE 0.03 : 1

PANEL SPECIFICATION	
NAME	DESCRIPTION
MANUFACTURER	JINKO SOLAR
MODEL	JKM595-72HL4-BDV
LENGTH (mm)	2278
WIDTH (mm)	1134
THICKNESS (mm)	30

MATERIAL DESCRIPTION			
MEMBER	SHAPE	MATERIAL	GAGE
PANEL BEAM	6.25Z3X1X55DEG	A653 SS Gr80	16GA
NS CEE BEAM	8CS2X0.625	A653 SS Gr80	14GA
KICKER BRACE	2.75CU1.75	A653 SS Gr50	14GA
BEAM BRACE	1.5CU0.75	A653 SS Gr50	16GA
POST	W6x8.5	A992	-

PULL TEST LOADS	
LOAD TYPE	UNFACTORED LOAD (LB)
UPLIFT	550
ADJUSTED UPLIFT*	3050
COMPRESSIVE LOAD	4350
LATERAL LOAD	750

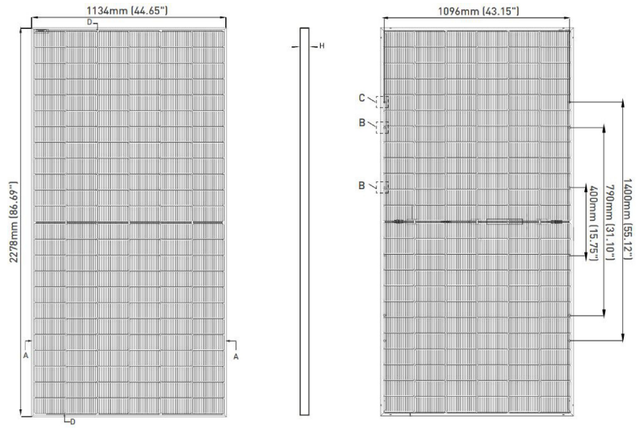
NOTES

*ADJUSTED UPLIFT IS ASSUMED AS 70% OF THE DOWNWARD LOAD. IT'S RECOMMENDED TO USE THIS LOAD FOR PULL TEST IN CASE PUSH TEST CANNOT BE PERFORMED.
1: USE ADJUSTED UPLIFT IF NO REFUSAL IS ENCOUNTERED.
2: USE UPLIFT FORCE IN CASE OF REFUSAL.
3: FOR UPLIFT AND LATERAL FORCES USE SAFETY FACTOR OF 1.5 AND 2, RESPECTIVELY.

ALTERNATE FOUNDATION DESIGN	
NAME	DESCRIPTION
POST TYPE	W6x8.5
MIN. EMBEDMENT DEPTH (FT) IN CASE OF REFUSAL	6'-6"
ALTERNATE FOUNDATION DESIGN - A DRILLED SHAFT DESIGN	6'-6" MIN. DEPTH, 1'-6" DIAMETER SEE PAGE 4 FOR DETAILS
ALTERNATE FOUNDATION DESIGN - B SPREAD FOOTING DESIGN	7' LONG X 2' WIDE X 2' THICK SEE PAGE 4 FOR DETAILS

IN-FIELD PILE REMEDIATION

ANY IN-FIELD REMEDIATION REQUIRING THE CUTTING OR DRILLING OF GALVANIZED MATERIAL SHOULD FOLLOW ONE OF THESE TWO GUIDELINES TO COAT AND TREAT METALS THAT ARE EXPOSED TO GALVANIZATION DAMAGE:
1. USE PAINTS CONTAINING ZINC DUST (IN ACCORDANCE WITH "ASTM A 780-01" SECTION A2)
2. USE ZINC SPRAY (IN ACCORDANCE WITH "ASTM A 780-01" SECTION A3) ONE OF THE ABOVE GUIDELINES MUST BE FOLLOWED TO MAINTAIN THE DCE WARRANTY REQUIREMENTS.



PROJECT INFORMATION

INSTALLATION ADDRESS:
501 Caton Farm Rd, Lockport, IL 60441

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-Iw = 1
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-Cold Formed Steel Sections comply w/ASTM A1003, structural grade, galvanized to Grade as noted.
-Formed Steel Brackets - ASTM A653 Galvanized Grade 50 SS
-I-Beams - A992, 50 ksi, Hot Dip Galvanized to ASTM 123 Grade 85
-Plate - A36 Steel, Hot Dip Galvanized
-Connectors - Stainless Steel unless otherwise noted.

6. Members and connections have been designed for worst-case loading associated with exterior zones of the array per the wind tunnel report.

7. Foundation embedment depths are to be calculated and sealed by an IL State Licensed Geotechnical engineer.

8. For the purposes of this project, all arrays are classified as Exterior Arrays.

9. Scope of work by Structural Engineer includes member design, connection design, and determination of design base reactions only. Layout of PV arrays such that they do not conflict with existing site obstructions, determination of site-specific foundation and geotechnical parameters, and all other work not specifically noted is by others.

Engineer of Record

DIMENSIONS ARE IN INCHES UNLESS OTHERWISE NOTED
TOLERANCES ARE AS FOLLOWS:
.X = ± 0.100" (2.54mm)
.XX = ± 0.030" (0.76mm)
.XXX = ± 0.010" (0.25mm)
ANGLE = ± 5°
MIN. BREAK = 0.012" (0.3mm)
SURFACE FINISH = 63 (US)

Material:
Weight: 2267.715 lbmass
Description: **CT-LS-DB, JINKO JKM595-72HL4-BDV, 2x10, 30 DEG, HENDRICKSON USA, FRESH COAST SOLAR**
Project: HENDRICKSON USA
Drawn: CPATTERSON
Date: 3/6/2025
Scale:
Sheet: 3 of 5

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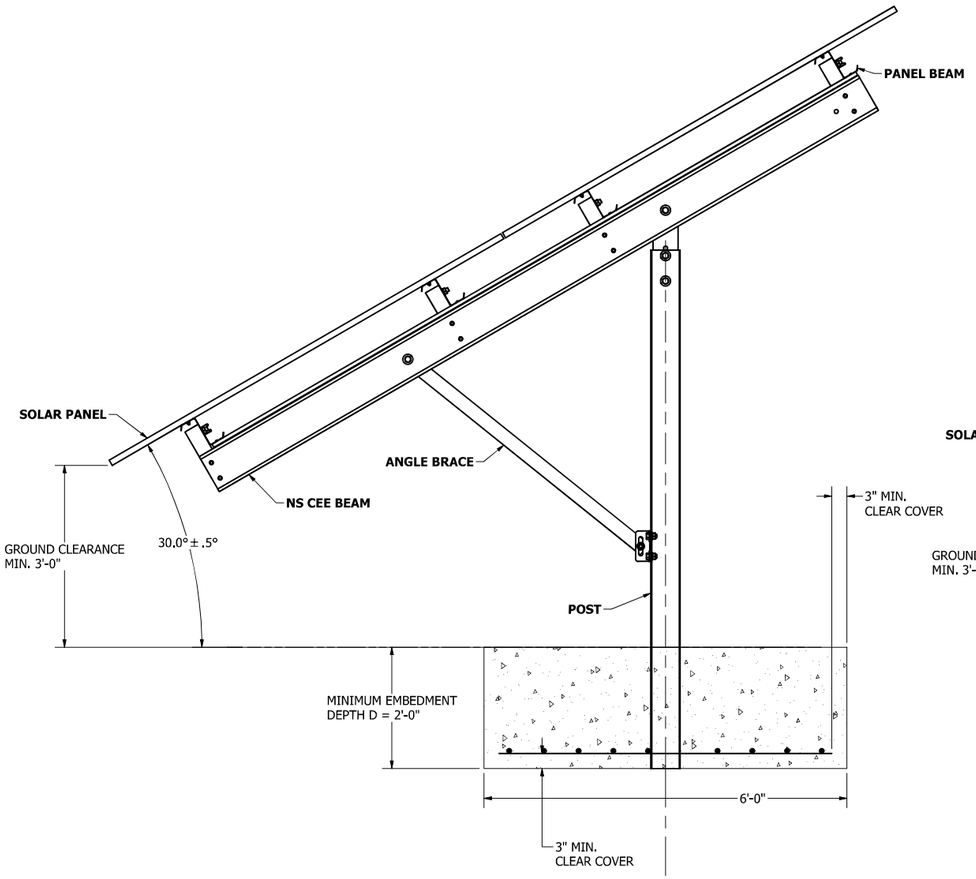
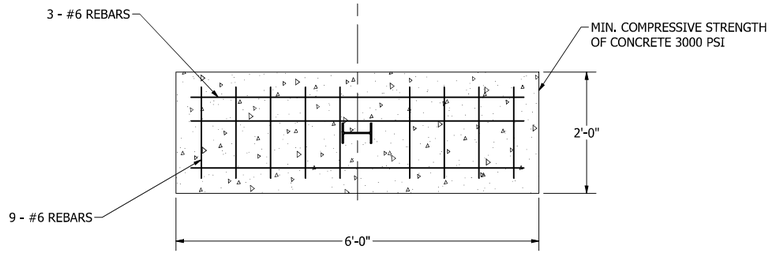
Phone:1-704-659-7474

Format: D
Part Number: **6438**
Rev: 3

STRUCTURAL DETAIL DRAWING - ALTERNATE FOUNDATIONS

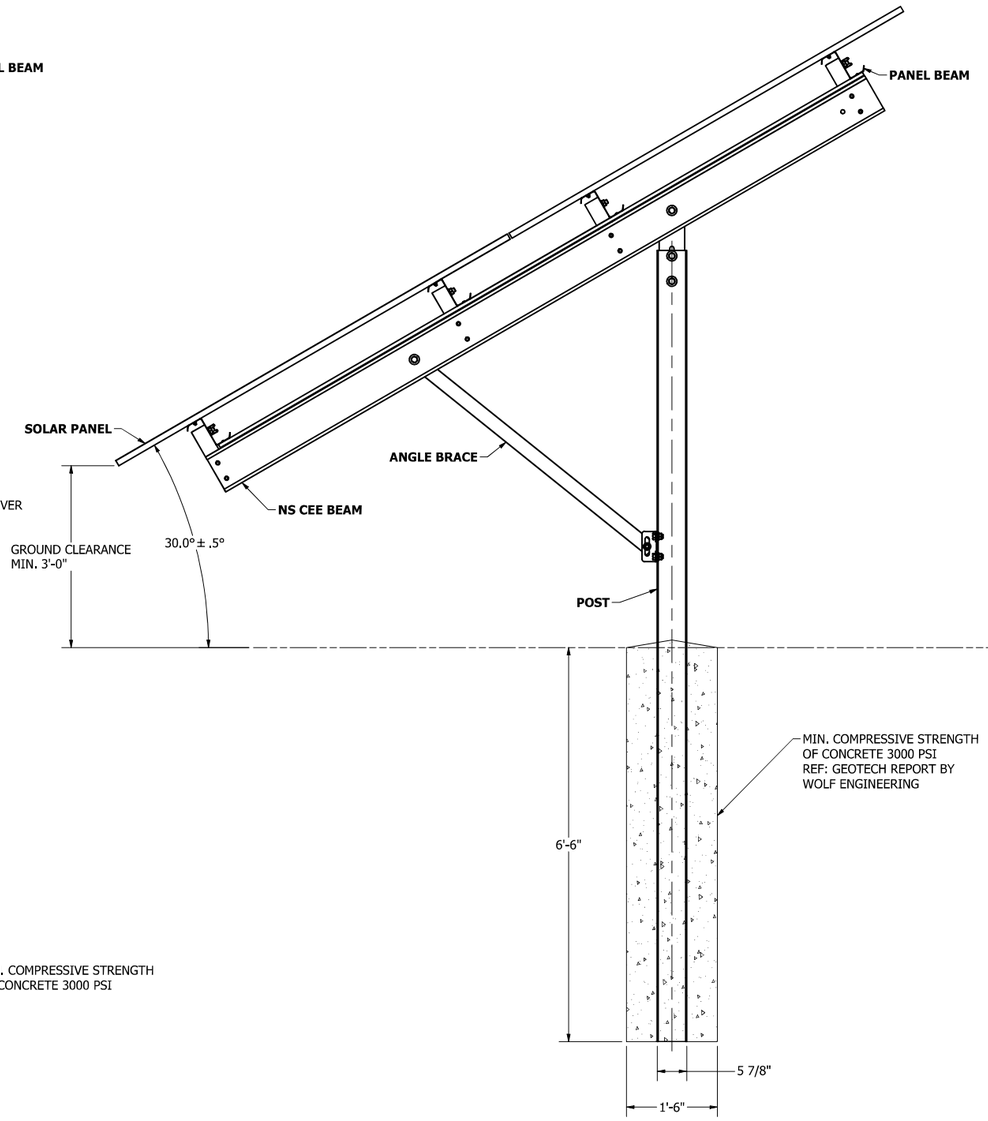
NOT FOR CONSTRUCTION





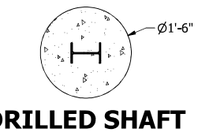
ALTERNATE PILE SECTION FOR USE WHEN REFUSAL CONDITION ENCOUNTERED AT EMBEDMENT DEPTHS LESS THAN 6'-6"

SPREAD FOOTING
SCALE 1 / 15



DRILLED SHAFT

SCALE 1 / 15



DRILLED SHAFT TOP VIEW

SCALE 1 / 15

PROJECT INFORMATION
INSTALLATION ADDRESS:
501 Caton Farm Rd, Lockport, IL 60441
Structural General Notes

1. The contractor will be solely responsible for all construction means, methods, techniques, sequences and procedures and shall at all times take reasonable precautions for the safety of its employees on the project, and shall comply with all applicable provisions of federal, state, and municipal safety laws and building construction codes.

2. If existing conditions make it necessary to revise structural details, consult DCE Solar before proceeding with any change.

3. These drawings and notes are for this specific project and no other use is authorized.

4. Structure designed in accordance with the International Building Code, 2021 Edition, ASCE 7-16, AISC 360-16 (14th Edition), and AISI S100-16: ASD
Snow Loads:
-Ground Snow Load pg = 25 psf
-Importance Factor Is = 0.8
-Exposure Factor Ce = 0.9
-Slope Snow Load ps = 11.00 psf

Wind Loads:
MRI Factor = 1.00
-Basic Wind Speed V = 100 mph
-Iw = 1
-Exposure = C
-Wind Design performed in accordance with the requirements of ASCE - Wind Tunnel Procedure. Refer to Wind Tunnel Report by UWO BLWT Laboratory dated 12/11/14.

Seismic Loads:
-SS = 0.137g, S1 = 0.069g
-Site Class = D
-SDS = 0.150g, SD1 = 0.110g
-Seismic Design Category = A
-Ordinary Steel Cantilever Column System

5. Material strengths:
-Hot-rolled structural steel ASTM A992 GR50.
-Cold Formed Steel Sections comply w/ASTM A1003, structural grade, galvanized to Grade as noted.
-Formed Steel Brackets - ASTM A653 Galvanized Grade 50 SS
-I-Beams - A992, 50 ksi, Hot Dip Galvanized to ASTM 123 Grade 85
-Plate - A36 Steel, Hot Dip Galvanized
-Connectors - Stainless Steel unless otherwise noted.

6. Members and connections have been designed for worst-case loading associated with exterior zones of the array per the wind tunnel report.

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8. For the purposes of this project, all arrays are classified as Exterior Arrays.

9. Scope of work by Structural Engineer includes member design, connection design, and determination of design base reactions only. Layout of PV arrays such that they do not conflict with existing site obstructions, determination of site-specific foundation and geotechnical parameters, and all other work not specifically noted is by others.

Engineer of Record

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.XX = ± 0.030" (0.76mm)
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ANGLE = ± 5°
MIN. BREAK = 0.012" (0.3mm)

SURFACE FINISH = 63 (US)

Material:	
Weight:	2267.715 lbmass
Description:	**CT-LS-DB, JINKO JKM595-72HL4-BDV, 2x10, 30 DEG, HENDRICKSON USA, FRESH COAST SOLAR**
Project:	HENDRICKSON USA
Drawn:	CPATTERSON
Date:	3/6/2025
Scale:	
Sheet:	4 of 5

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D	**6438**	3

Contour ™

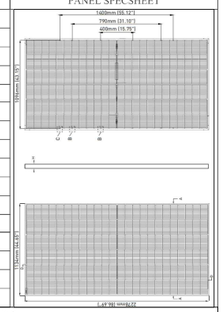
PROJECT INFORMATION	
PROJECT NAME	HENDRICKSON USA
INSTALLATION ADDRESS	501 CATON FARM RD, LOCKPORT, IL 60441
CLIENT	FRESH COAST SOLAR

SITE SPECIFICATION		
WIND SPEED (MPH)	100	ASCE 7-16
SNOW LOAD (PSF)	25	ASCE 7-16
EXPOSURE CATEGORY	C	ASCE 7-16
RISK CATEGORY	I	ASCE 7-16

PANEL SPECIFICATION	
MODEL	JINKO JKM595-72HL4-BDV
LENGTH (mm)	2278
WIDTH (mm)	1134
WEIGHT (lb)	68.3
PANEL WATTAGE (W)	595
PROJECT PANEL COUNT	1,992

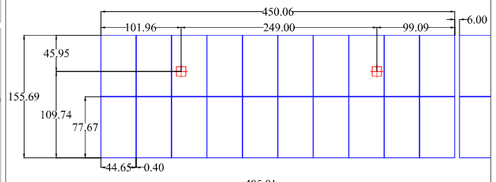
SYSTEM INFORMATION	
ARRAY CONFIGURATION	2X10, 2X9
SYSTEM SIZE (W)	1,185,240
ARRAY TILT (°)	30
GROUND CLEARANCE (in)	36

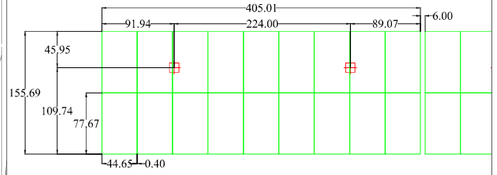
PANEL SPECSHEET



ARRAY DETAILS	
ITEM	QUANTITY
2X10 TABLE	87
2X9 TABLE	14
POSTS	202
ALTERNATE ARRAY CONNECTIONS	27

CAD BLOCK





GENERAL NOTES

1. **PROPRIETARY AND CONFIDENTIAL**

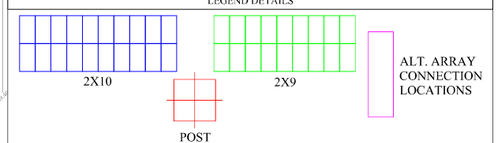
THIS DRAWING AND ALL INFORMATION THERE IN IS THE PROPERTY OF DCE SOLAR AND IS CONFIDENTIAL AND MUST NOT BE MADE PUBLIC OR COPIED UNLESS AUTHORIZED BY DCE SOLAR AND IS SUBJECT TO RETURN UPON REQUEST.

2. THE CONTRACTOR WILL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND SHALL AT ALL TIMES TAKE REASONABLE PRECAUTIONS FOR THE SAFETY OF ITS EMPLOYEES ON THE PROJECT, AND SHALL COMPLY WITH ALL APPPLICABLE PROVISIONS OF FEDERAL, STATE, AND MUNICIPAL SAFETY LAWS AND BUILDING CONSTRUCTIONS CODES.

3. CUSTOMER PROVIDED SITE LAYOUTS WERE USED TO GENERATE THE LAYOUT AS SHOWN.

4. ANY CHANGES TO THE LAYOUT SHOWN THAT MAY CAUSE ERRORS DURING INSTALLATION ARE NOT THE RESPONSIBILITY OF DCE SOLAR.

LEGEND DETAILS



REVISION NOTES

REV	DESCRIPTION	PREPARED BY	DATE
0	GROUND MOUNT LAYOUT	CPATTERSON	2/4/2025
1	REVISED EMBEDMENT DEPTH AND ALTERNATE FOUNDATION DESIGNS	CPATTERSON	2/24/2025
2	REVISED LAYOUT	CPATTERSON	3/6/2025
3	REVISED LAYOUT	CPATTERSON	3/25/2025
4			

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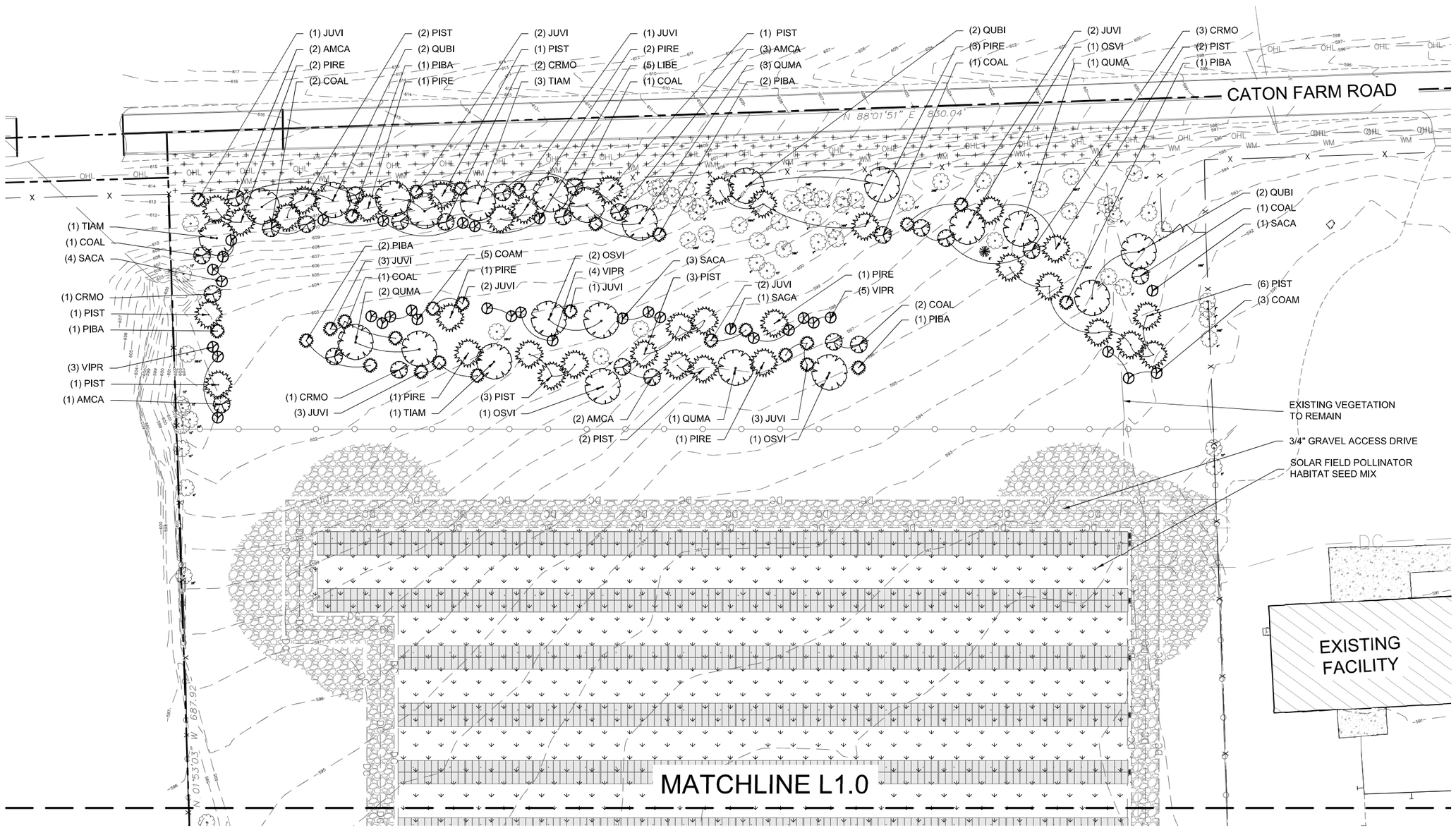
SHEET: 5 OF 5



0 30 60

Scale: 1" = 30'

N

LEGEND

Solar Field Pollinator Habitat
Seed Mix: Seed and Blanket

IDOT 2A Seed Mix: Seed and Blanket

Existing Tree

Deciduous Tree

Ornamental Tree

Coniferous Tree

Deciduous Shrub

No.	Revision/Issue	Date

Hey and Associates, Inc.
Engineering, Ecology and Landscape Architecture
8755 W. Higgins Road, Suite 835
Chicago, Illinois 60631
Office (773) 693-9200
Fax (847) 740-2888
Chicago@Heyassoc.com

Professional Design Firm
License No. 184-002429

Verde Solutions

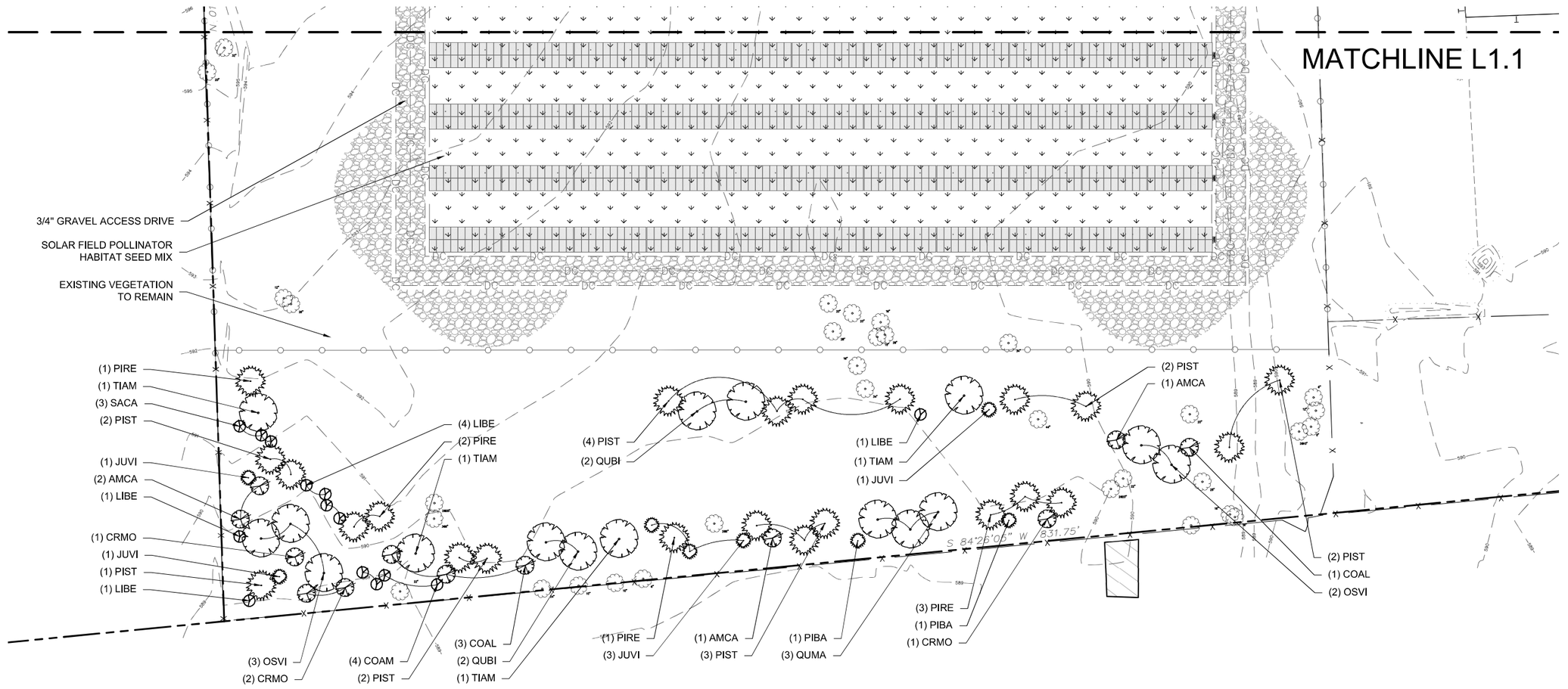
Crest Hill

Landscape Plan

PROJECT NO: 25-0072		SHEET NO:
DESIGNED BY	BMJ	L1.0
DRAWN BY	BMJ	
CHECKED BY	RJA	
APPROVED BY	TP	PAGE NO:
ISSUE DATE	3/31/25	1 OF 3

For Review

File: P:\25\00\25-0072 Verde Solutions- Crest Hill, Caton Farm Rd\05 CAD\25-0072 Verde Solutions.dwg Plot Date: April 14, 2025 Plotted by: Brett Jackson



0 30 60

Scale: 1" = 30'

N

LEGEND

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IDOT 2A Seed Mix: Seed and Blanket

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Verde Solutions

Crest Hill

Landscape Plan

PROJECT NO:	25-0072	SHEET NO:
DESIGNED BY	BMJ	L1.1
DRAWN BY	BMJ	
CHECKED BY	RJA	
APPROVED BY	TP	PAGE NO:
ISSUE DATE	3/31/25	2 OF 3

For Review

File: P:\25\0025-0072 Verde Solutions- Crest Hill, Caton Farm Rd\05 CAD\25-0072 Verde Solutions.dwg Plot Date: April 14, 2025 Plotted by: Brett Jackson

PLANT SCHEDULE

Quantity	Code	Size	Botanical Name	Common Name
DECIDUOUS TREES				
10	OSVI	2.5" CAL	Ostrya virginiana	American Hophornbeam
10	TIAM	2.5" CAL	Tilia americana	American Basswood
10	QUBI	2.5" CAL	Quercus bicolor	Swamp White Oak
10	QUMA	2.5" CAL	Quercus macrocarpa	Bur Oak
CONIFEROUS TREES				
26	JUVI	6 HT	Juniperus virginiana	Eastern Red Cedar
10	PIBA	6 HT	Pinus banksiana	Jack Pine
20	PIRE	6 HT	Pinus resinosa	Red Pine
36	PIST	6 HT	Pinus strobus	Eastern White Pine
ORNAMENTAL TREES				
12	AMCA	6 HT	Amelanchier canadensis	Shadblow Serviceberry
12	COAL	6 HT	Cornus alternifolia	Pagoda Dogwood
12	CRMO	6 HT	Crataegus mollis	Downy Hawthorn
DECIDUOUS SHRUBS				
12	COAM	#5 CONT	Cornus amomum	Silky Dogwood
12	LIBE	#5 CONT	Lindera benzoin	Northern Spicebush
12	SACA	#5 CONT	Sambucus canadensis	American Elderberry
12	VIPR	#5 CONT	Viburnum prunifolium	Blackhaw Viburnum

Solar Field Pollinator Habitat Seed Mix

Source: Stantec

Apply at 41.25 PLS pounds per acre
Mature height of species selected = under 3'

Forbs			
Scientific Name	**Common Name**		**Total Ozs.**
Allium cernuum	Nodding Onion		6.0
Aquilegia canadensis	Wild Columbine		1.0
Asclepias syriaca	Common Milkweed		4.0
Chamaecrista fasciculata	Partridge Pea		12.0
Coreopsis lanceolata	Sand Coreopsis		10.0
Dalea purpurea	Purple Praire Clover		6.0
Liatris pychnostachya	Prairie Blazing Star		2.0
Lupinus perennis var. occidentalis	Wild Lupine		2.0
Monarda punctata	Horse Mint / Spotted Bermagot		1.5
Penstemon hirsutus	Hairy Beard Tongue		1.5
Solidago nemoralis	Old-Field Goldenrod		1.0
Symphyotrichum pilosum	Hairy Aster		1.0
Verbena stricta	Hoary Vervain		2.0
Zizia aurea	Golden Alexander		2.0
	TOTAL		52.0
Grasses			
Bouteloua curtipendula	Side-Oats Grama		24.0
Carex bicknellii	Copper-Shouldered Oval Sedge		3.5
Koeleria macrantha	June Grass		1.5
Schizachyrium scoparium	Little Bluestem		64.0
Sporobolus heterolepis	Prairie Dropseed		3.0
	TOTAL		96.0
Cover Crop			
Avena sativa	*Common Oat*		512.0
	TOTAL		512.0

IDOT Class 2A (salt tolerant roadside mix)

Source: IDOT

Seeding rate: 200 lbs/acre (3,834 seeds / square foot)
Mature height of species selected = under 3'

Forbs			
Scientific Name	**Common Name**	**% Mix**	**Total Ozs.**
Festuca arundinacea	Tall Fescue	30	60.0
Festuca rubra	Red Fescue	15	30.0
Festuca trachyphylla	Hard Fescue	15	30.0
Lolium perenne	Perennial Rye	10	20.0
Puccinellia distans	Alkali Grass	30	60.0
	TOTAL		200.0

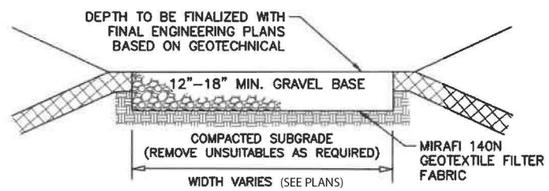
Ordinance code: 15.04.040 (2)

REQ.
1 planting (tree or shrub) per 725 sf
10 sf groundcover per planting

AREA
226,939 sf existing / 725 = 313 plantings
313 plantings x 10 sf groundcover = 3,130 sf

EXISTING
97 trees
313 - 97 = 216

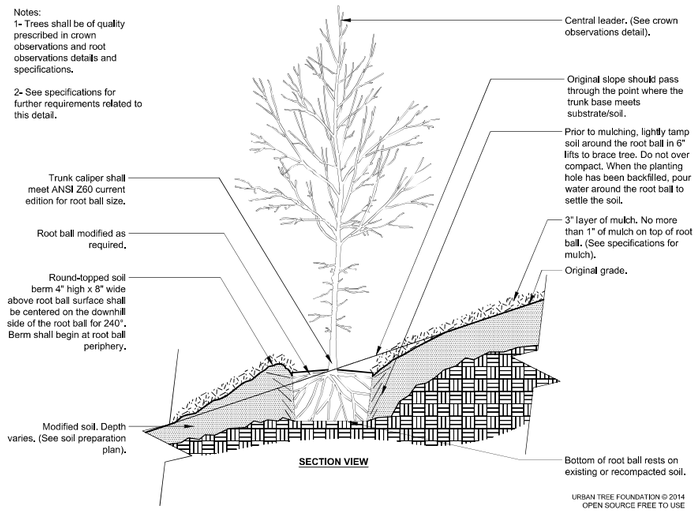
PROV.
216 (168 trees, 48 shrubs)
155,840 sf groundcover

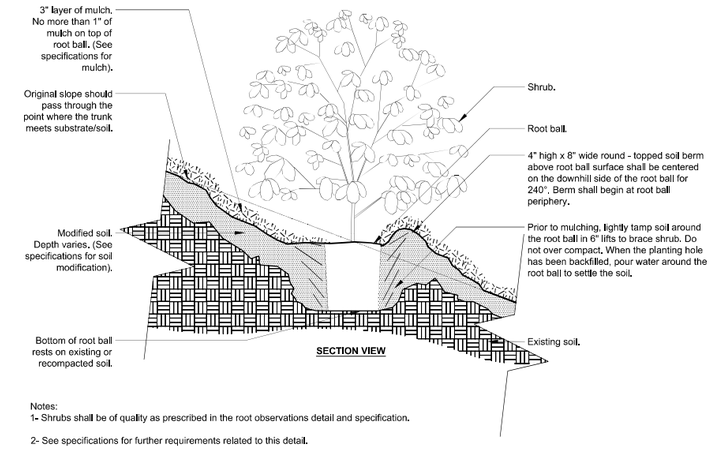


NOTES:
1. REMOVE TOPSOIL AND ALL UNSUITABLE MATERIAL AS REQUIRED AND REPLACE WITH GRAVEL.
2. ACCESS DRIVES TO SLOPE IN THE DIRECTION OF THE EXISTING GRADE AT A MINIMUM OF 2.0% DRIVEWAY SHALL BE GRADED TO ALLOW STORMWATER TO SHEET ACROSS IT AND TO PREVENT PUDDLING.
3. ROAD SECTION SHALL COMPLY WITH RECOMMENDATIONS FROM GEOTECHNICAL REPORT.
4. FILTER FABRIC SHALL MEET THE REQUIREMENTS OF MATERIAL SPECIFICATION 592 GEOTEXTILE, TABLE 1 OR 2, CLASS I, II, OR IV AND SHALL BE PLACED OVER THE CLEARED AREA PRIOR TO THE PLACING OF ROCK.

ACCESS DRIVE/TEMPORARY LAYDOWN AREA CROSS SECTION

NOT TO SCALE





LEGEND

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Crest Hill

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APPROVED BY	TP	PAGE NO:
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For Review

File: P:\25\0025-0072 Verde Solutions- Crest Hill, Caton Farm Rd\05 CAD\25-0072 Verde Solutions.dwg Plot Date: April 14, 2025 Plotted by: Brett Jackson

Exhibit D

Unconditional Agreement and Consent

UNCONDITIONAL AGREEMENT AND CONSENT

TO: The City of Crest Hill, Illinois **("City")**:

WHEREAS, Hendrickson USA, LLC (the **"Applicant"**) is the owner of that certain real property commonly known 501Caton Farm Road, in the City of Crest Hill, Illinois and bearing the current PINs: 11-04-33-100-002-0000 and 11-04-33-100-003-0000 (**"Subject Property"**); and

WHEREAS, Ordinance No. _____, approved and passed by the Crest Hill City Council on _____, 2025, ("the **Ordinance**"), conditionally approved a Special Use Permit and Variations to allow the construction of a Utility Facility (Ground Mounted Solar Array), subject to certain enumerated and specified conditions; and

WHEREAS, Section 6 of the Ordinance provides, among other things, that the Ordinance shall not take effect, and is subject to automatic repealer and recission, unless and until the Applicant has executed, within 60 days following the passage of the Ordinance, this Unconditional Agreement and Consent to accept and abide by each and all of the terms, conditions, and limitations set forth in the Ordinance.

NOW, THEREFORE, the Applicant does hereby agree, and covenant as follows:

1. The Applicant hereby unconditionally agrees to, accept, consent to, and will abide by all terms, conditions, limitations, restrictions, and provisions of the Ordinance.

2. The Applicant acknowledges that public notices and hearings have been properly given and held with respect to the application process and passage of the Ordinance, understands and has considered the possibility of revocation of the Ordinance as a result of violation of its terms or failure to abide by the conditions set forth in the Ordinance, and agrees, covenants and warrants that it will not challenge any such revocation on the basis of any procedural infirmity or a denial of any procedural right, provided that notice of the City's intent to Repeal or Revoke the Ordinance is provided to the Applicant as required by Section _____ of the Ordinance.

3. The Applicant acknowledges and agrees that the City shall not be in any way liable for any damages or injuries that may be sustained as a result of the City's granting of the Special Use Permit and Variations, or its passage of the Ordinance, and that the City's approvals do not, and will not, in any way be deemed to insure the Applicant against damage or injury of any kind at any time.

4. The Applicant hereby agrees to release, defend, indemnify and hold harmless the City of Crest Hill, its corporate authorities, elected and appointed officials, officers, employees, agents, representatives, and attorneys from any and all claims that may, at any time, be asserted against them in connection with (a) the City's review and approval of any plans and issuance of any

permits, (b) the City's passage of the Ordinance, and (c) the maintenance and use of the Property as authorized by the Ordinance.

Hendrickson USA, LLC

_____

By: _____

Its: _____

Date: _____

SUBSCRIBED and SWORN to before me
this _____day of _____, 2025.

_____
Notary Public

My commission expires: _____