Special Plan Commission
Crest Hill, IL
April 24, 2025
7:00 PM
Council Chambers
20600 City Center Boulevard, Crest Hill, IL 60403

Agenda

Call to Order:

Pledge of Allegiance

Roll Call

Minutes:

1. Approve the Minutes from the Plan Commission Meeting Held on March 13, 2025.

2. Approve the Minutes from the Plan Commission Meeting Held on March 27, 2025.

New Business:

3. Public Hearing and Consideration of Case Number SU-25-2-4-1 - Request of Hendrickson USA LLC seeking approval for a Special Use Permit and Variation(s) 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.

Other Business:

4. Presentation, discussion, and approval regarding proposed amendments to the Plan Commission Bylaws.

Public Comment:

Adjournment:

The Agenda for each regular meeting and special meeting (except a meeting held in the event of a bona fide emergency, rescheduled regular meeting, or any reconvened meeting) shall be posted at the City Hall and at the location where the meeting is to be held at least forty-eight (48) hours in advance of the holding of the meeting. The City Council shall also post on its website the agenda for any regular or special meetings. The City Council may modify its agenda for any regular or special meetings. The City Council may modify its agenda before or at the meeting for which public notice is given, provided that, in no event may the City Council act upon any matters which are not posted on the agenda at least forty-eight (48) hours in advance of the time for the holding of the meeting.

MINUTES OF THE
CREST HILL PLAN COMMISSION

The March 13, 2025, Plan Commission meeting was called to order by Chairman Bill Thomas, at 7:00 p.m. in the Council Chambers of the City Center, 20600 City Center Boulevard, Crest Hill, Will County, Illinois.

The Pledge of Allegiance was recited in unison.

Roll call indicated the following present: Chairman Bill Thomas, Commissioner Ken Carroll, Commissioner Angelo Deserio, Commissioner Jeff Peterson, Commissioner Marty Flynn, Commissioner John Stanton, Commissioner Cheryl Slabozeski.

Also present were: Interim City Administrator Tony Graff, Police Chief Ed Clark, Economic & Community Development Director Patrick Ainsworth, Community Development Consultant Ron Mentzer, City Engineer Ron Wiedeman, Building Commissioner Don Seeman, City Attorney Mike Stiff, Administrative Clerk Samantha Tilley.

Absent were: None.

APPROVAL OF MINUTES: Chairman Thomas asked for a motion to approve the minutes from the regular meeting held on September 12, 2024, for Commission approval.

(#1) Motion by Commissioner Peterson seconded by Commissioner Slabozeski, to approve the minutes from the regular meeting held on September 12, 2024.
On roll call, the vote was:
AYES: Commissioners Peterson, Slabozeski, Deserio, Carroll, Flynn, Chairman Thomas.
NAYES: None.
ABSTAIN: Commissioner Stanton.
ABSENT: None.
There being six (6) affirmative votes, the MOTION CARRIED.

PUBLIC HEARING: Chairman Bill Thomas presented case number PUD-25-1-3-1, of Lockport Township Fire Protection District seeking Approval of Various Zoning Ordinance Text Amendments, Special Use Permits, Preliminary and Final Planned Unit Development (PUD) Plans, and Miscellaneous PUD Exceptions, in M-1 Limited Manufacturing District zoned, site located along the south side of Division Street west of Broadway Street and east of Weber Road in Crest Hill, Illinois.

Chairman Thomas asked if the paperwork is in order. The necessary paperwork was in order.

Chairman Thomas asked for a Motion to Open the Public Hearing on Case Number PUD-25-1-3-1.

(#2) Motion by Commissioner Carroll seconded by Commissioner Deserio, to open a public hearing on case number PUD-25-1-3-1.
On roll call, the vote was:
AYES: Commissioners Carroll, Deserio, Flynn, Peterson, Stanton, Slabozeski, Chairman Thomas.
NAYES: None.
ABSENT: None.
There being seven (7) affirmative votes, the MOTION CARRIED.

The Public Hearing was opened at 7:04 p.m.

Chairman Thomas asked the Community and Economic Development Consultant Ron Mentzer to present the specifics on this case.

Consultant Ron Mentzer commented that he is currently the City's Community and Economic Development Consultant and prior to the city hiring Patrick Ainsworth as the full-time Community and Economic Development Director he had served as the city's Interim Community and Economic Development Director for over a year and over that time period he has been involved in the City's ongoing discussions with the Lockport Township Fire Protection District about the proposed new training and maintenance facility.

In 2023, the Fire District contacted the city to set up the first meeting with the staff to let the city know they were working on this project, provide a high-level conceptual overview of the scope of the project, and find out what the city's approval process for the project would be.

In January of 2024, the Fire District appeared before the Council to present an update on the preliminary scope, design, and timing of this project.

In August of 2024, the Fire District submitted their formal application materials for the various special zoning approvals that would be required for the project including a request for a Planned Unit Development (PUD) Special Use Permit.

In September of 2024, the Fire District, consultants, and partners appeared before the City Council at a Work Session meeting to present the conceptual PUD plans, they had prepared up to that point.

In early January of 2025, the Fire District submitted the preliminary and final design documents and application materials.

The purpose of this meeting is to conduct an official public hearing for the various special zoning approvals that would be required for the construction and operation of the proposed new maintenance and training facility. The process of the public hearing was then explained.

It was stated that the Plan Commission is an appointed body, which is appointed by the Mayor with the consent of the City Council, which then makes recommendations to the City Council on special zoning approval requests.

Consultant Mentzer gave a brief overview of the key special approvals that have been requested by the Fire District. It is important to note that the city staff performed a comprehensive review if the detailed application materials for this this project and prepared a detailed staff report that was distributed to the Plan Commission and made available to the public on the city's website that staff report provides more detail on each one of these requests.

The first set of requests involves a series of zoning ordinance text amendments that relate to the proposed outdoor firing range component of this project. The first text amendment involves amending the city's zoning ordinance text to add a detailed definition for this type of firing range.

The second text amendment would add the newly defined governmental training firing range use as a possible special use in the M-1 Zoning District. From a zoning perspective, all land uses are either considered prohibited, special uses, or permitted uses. Permitted uses are allowed without going through any type of public hearing process. Uses classified as a special use require the applicant to go through the City's formal public hearing process.

The third text amendment would add a specific parking requirements for this type of use.

The fourth text amendment would exempt governmental training firing ranges from the existing Noise performance standards contained in the City's Zoning Ordinance.

The next set of special zoning approvals that have been requested involve special use permits. The Fire District has requested special use permits for the preliminary and final PUD design plans for the project, the operation of an institutional use in the form of the public safety facility, and for the operation of an outdoor governmental training firing range on the subject site.

This project is being processed as a Planned Unit Development (PUD) with requests for a series of PUD exceptions for detailed components of the projects that do not match up and comply with the letter of all the city's regulations and ordinances, which include:

- Allow one of the facades of the building to have a reduced amount of masonry materials.
- Allow increased accessory structure height for the training tower classroom/building.
- Allow the main burn tower building and the adjacent outdoor classroom facility to be constructed with shipping containers.
- Allow to increase the maximum width of the only driveway they have proposed for this project on Division Street.
- Allow a parking lot islands that would allow them to be paved and striped instead of landscaped.
- Allow a large, designated loading zone.
- Allow the bottom edge of the wall sign on the west building façade of the main facility to be located six feet above grade.

Chairman Thomas asked Chief O'Connor of the Lockport Township Fire District to approach the podium to be sworn-in and present the case. Chief O'Connor was sworn in.

Chief O'Connor introduced himself and thanked all for giving them the opportunity to present their project. He introduced Jason Estes, and Jennifer Villena, who are the project architects from FGM Architects Inc. (FGMA). He also introduced Deputy Chief Ron Huff from the Lockport Police Department who will discuss the details and the training opportunities of the public safety range. Also, with them tonight is Nathan Sevener, the Principal Consultant from Soundscape Engineering who will present the findings of the outdoor sound study.

Chief O'Connor gave a detailed PowerPoint presentation on the proposed new training and maintenance facility project.

He explained how the facility will improve the Fire District operations and reduce the response times for local police and fire agencies, the importance of realistic training and how it enhances emergency response efforts and ultimately improves public safety.

Chief O'Connor commented that as the Fire Chief his primary responsibility is to ensure the Fire District is properly staffed, trained, and equipped to handle emergencies across a forty-six square mile jurisdiction serving 85,000 residents and that the Fire District's first responders return home safely to their families.

Over time, the hazards first responders deal with have changed and become more dangerous and complicated. This continues to require more coordination and collaboration among the emergency response teams that respond to local emergencies and calls for public safety response. The new training facility will enhance how the various specialized first responders provide service, which will in turn help improve the quality of life for the residents and create a safer community. This requires extensive ongoing training to make all first responder personnel prepared, efficient, and safe, which is why a dedicated training facility is essential.

This state-of-the-art facility will provide Police and Fire personnel with advanced and realistic opportunities that exceed the continuously increasing mandated training requirements.

The proposed project site is located on a portion of the former Stateville property the Fire District received from the State of Illinois for the specific purpose of creating a new training facility that would serve as the hub of inner agency coordination and support critical public safety training and operation functions in a unified setting. This project will also include space for emergency vehicle maintenance.

The purpose of this facility is to improve response time for training, standardized training across the district, enhanced hands-on realistic training and this facility will consolidate all resources in one central location. The more realistic the training is the more proficient the fire fighters become, and increased proficiency leads to safer operations.

This facility would also offer a cost-effective solution to satisfy regional first responder training needs. Currently, they must rent out of district training facilities which takes the companies out of

service. Additionally, members pay to take classes at other fire facilities because they do not have the resources to provide those classes internally.

Jason Este from the architectural firm the Fire District has retained to design this project, FGMA approached the podium and was sworn in. Jason commented that the site is just under thirteen acres in area and includes a proposed 23,100 square feet training and maintenance building that would contain three classrooms that are fifty seats each, a breakout area, a kitchenette, EMS and training offices, and restrooms.

He also commented that the facility will also provide a centralized location to store reserved equipment where fire companies can come and drop off a vehicle for repair or maintenance and then be able to swap vehicles quickly which would bring the company back into full-service capabilities.

Jason then explained the design and benefits associated with the proposed training tower, which is a critical component of the training facility. The four-story training tower will provide realistic fire suppression, search and rescue emergency response, and live fire training with burn rooms. These would have live training scenarios where they would have the police there as well. The training tower classroom is a place to get out of the weather, discuss training and regroup if needed.

A brief video was played to help further illustrate the design and explain the benefits of the training tower.

There will also be an auto extrication pad where they will take practice vehicles and put them into situations for extrication training, as well as learning on the modern technology like electric vehicles.

There will be a storm water detention / training pond that will pull dual purposes of water rescue, including dive operations, boat rescue operations, ice rescue and drafting and pumping drills.

On site, there will be a Fire, EMS, and Police Memorial overlooking the pond by the boat ramp centrally located.

Chief O'Connor explained that when the Fire District acquired this site from the State of Illinois with the support of several State Legislators. The goal was to establish a dedicated training site to meet all their operational needs. As part of the initial plan, a small firing range was included for the arson investigators, who like Police Officers must complete mandatory annual qualifications. Recognizing the challenge, that all local first responders face regarding securing range time at the existing Department of Corrections and State Police District 5 firing range facilities, they identified this project as a potential solution to that issue. After discussions with the Lockport Police Department, it was learned that they face similar challenges and while they had secured funding, they lacked a suitable location to build a firing range. Since Lockport Police have the funding and expertise, and Lockport Fire District had the land, the idea emerged to combine funding and resources and expand the project from a fire training facility to a public safety training facility that will serve the fire and police agencies in Lockport Township including the City of Crest Hill Police

Department, the Village of Romeoville Police Department and Lewis University Police Officers at no charge.

Deputy Chief Ron Huff from the Lockport Police Department, approached the podium and was sworn in. Deputy Chief Huff introduced himself and stated that he has spent the last twenty years as a firearms instructor and a Range Master with the Police Department.

He stated that this is a unique opportunity to bring all the agencies together to a single training ground that provides limitless opportunities. Currently, the mandates for police training in the State of Illinois are forever increasing. As of now they have eighteen classes that must be attended in addition to basic training, firearm qualifications and other ancillary training.

Only public safety agencies within the Lockport Township Fire Protection District will be allowed to use the range, which is five agencies, and they will be under the supervision of the Range Master from the Lockport Police Department, who will also write the guidelines for the use and operations. The Range Master will not be on the grounds for every shoot and the other agencies that will use this range will be required to provide their own Range Master to oversee their shoots and ensure their staff operate within the guidelines agreed upon by Lockport Police Department, the LTFPD, and the City of Crest Hill. The range will not be open to the public. The range will be owned by the Lockport Township Fire Protection District but designed, built, and operated by the Lockport Police Department.

The proposed times of the range is no earlier than 7:00 a.m. and no later than 10:00 p.m. on Monday through Friday, on Saturdays and Sundays the hours will be 8:00 a.m. through 4:00 p.m. This will not be every day. Lockport Police Department shoots approximately fifteen times a year, Crest Hill Police Department is similar, and Lewis University and Park District Police would be lower, and the Romeville Police Department will only use the range for their rifle training since they have their own indoor firing range for handgun training. Most of the training will take place between March and October. They are proposing to be able to do night shootings once per week, but this does not mean that it will happen once per week. Some agencies only do night shooting four times a year.

They are proposing a 100-yard shooting range, which is 110 feet wide in an east to west direction and 375 feet long in a north to south direction. There is an extra seventy-five feet space behind the firing line for officers to reload ammunition, and store equipment.

There will be a 20x60 concrete pad on the north end of the firing range, where a canopy structure will be installed to protect first responders training at the range from weather. Between the east end of the canopy structure concrete pad, there will be a ten-foot pass-through for vehicles needing access to the range. There will also be spotlights on light poles inside the firing range for the nighttime shooting. These lights will be pointed downward facing the south towards the ground and will only be in use when training is taking place at the range. They will not be on all the time, and they are not meant to be security lights.

There will be 24-foot-high berms around three sides of the range for safety and sound suppression purposes. The current standard is an 18-foot back stop berm for a hundred-yard firing range and

their proposal is to increase that by 33% to a 24-foot berm to provide as much sound mitigation as possible. On the north end of the range, there will be a 21-foot-high sound barrier wall which is located behind the shooters to reflect the noise from the gunshots away from the homes to the north.

Jason Estes approached the podium again and gave a brief explanation of the sound barrier wall. He stated that it will be twenty feet tall, and it is perforated fiberglass panel that is meant to be exterior with a structural steel frame and is similar to sound panels on the side of a highway or airport that you would see.

Nathan Sevener, a consultant form Soundscape Engineering, approached the podium and was sworn in. He commented that they were asked to assess the sound mitigation that was being proposed for the project. They modeled the sound impacts that would be generated by two different types of firearms at the proposed range, an AR-15 and a handgun. He explained the key conclusions that were contained in the March 11, 2025, Noise Transition Assessment study his firm prepared. He stated that the study showed that the various sound mitigation improvements incorporated into the design for the proposed firing range would reduce the sound impact of the range on surrounding properties from two decibels for the properties located furthest away from the proposed range to twelve decibels at the nearest residential properties to the northeast. Due to the logarithmic nature of the decibel level measuring scale, a 10-decibel reduction in sound levels would roughly result in the sound being perceived half as loud to the human ear.

Chief O'Connor recognized and thanked those who stepped up and supported the project, which were State Legislator Natalie Manley, State Senator Meg Loughran-Cappel, Will County EMA Director Allison Anderson, Crest Hill Police Chief Ed Clark, Lockport Police Chief Rich Harang, Lewis University Police Chief Mike Zegaldo and Police Chief Brant Hromadka of Romeoville. He then thanked FGMA for their hard work on this project and thanked his Board of Trustees for their support.

He also thanked the city staff of Crest Hill. He then stated this is an important initiative that will help the community better. He also thanked everyone that came out in support for tonight's meeting.

Chairman Thomas asked the commissioners if anyone had a comment or question.

Commissioner Peterson commented that everyone has done a very good job, and he then asked how many officers would be training at the same time and was told as little as seven to a maximum of fifteen at one time.

Commissioner Stanton commented that this project is very well planned and a very thorough presentation.

Commissioner Carroll asked what the forty-six decibels is equivalent to? Nathan with Soundscape Engineering commented that two people talking to each other would be approximately sixty decibels on average where the voices go up and down as you talk.

Commissioner Carroll then asked if there would be a fence for security around the training facility. Chief O'Connor commented that no vehicles will be stored outdoors, and it is a secure building. Commissioner Carroll then commented that he is concerned with the retention pond being there with a boat ramp and asked if they see this being a problem. Chief O'Connor commented that it would be no different than any other water retention pond in any subdivision and this would not be open to the public.

Commissioner Slabozeski commented that it was a very impressive and detailed presentation. She then asked what the additional cost would be to have an indoor firing range? It was then commented that it would be an additional eight million dollars plus to get a long gun indoor range which would be a substantial upcharge. Commissioner Slabozeski then commented that the land has already been gifted so that is a cost savings right there and this would be something to look at.

Commissioner Deserio thanked them for the detailed proposal that was nice to read and had great information.

Chairman Thomas then asked any city staff if they would like to ask a question or make a comment. There were none.

Chairman Thomas had all who were making a public comment stand and be sworn in.

Shawn Hillman, a resident on Borio Drive, commented that he is a proud resident of over twenty years. He grew up in Sycamore Illinois and that is where his father-in-law served the community as a fireman for thirty years before retiring as assistant chief which gives him some insight to this. He then commented that he is glad to be a member of the community that cares for their residents and stated that we have potential in Crest Hill. He then commented that the property adjacent to the proposed training facility would be great to give the residents closer access to facilities such as future healthcare but asked will the sounds of gunshots help us realize our potential. He then commented that he cannot imagine an organization coming to survey the wonderful city and available space and hear gunshots and think this is where they want to set up their organization.

He then commented that he read all the material about the sound barrier proposed but down the road is an existing shooting range for the Illinois State Police that has a berm, and he still hears the gun shots at his home.

He also commented that he is excited to see development towards the training and support of the people who serve our community and are important improvements to be made to serve those who serve the residents, but he believes putting a gun range next to homes and perspective businesses is not a good idea. He then stated that he respectfully asks and challenges the leadership of this community if there is anywhere else, they can consider putting a gun range. He then asked the Commission to please reconsider phase four of this project.

Chief O'Connor commented that they listened to the concerns of the community, especially the Borio area, and have changed a lot in how they designed the gun range. They talked to a lot of experts regarding how sound travels and what they learned they modified how they built the gun range. He then commented that once sound goes up, it does not come down. They also changed

where the range would be on that property and the direction of the gunfire to make sure it does not point towards a residential area.

Jamie Malloy, a resident, commented that she shoots a handgun and when she shoots her handgun, she wears protective ear coverings and she has shot a rifle outside, never indoors but she commented that an AR-15 has got to sound like a canon and that is the part she is worried about for the citizens of Crest Hill.

Todd Randich, a second-generation Lockport Township Fire Fighter. He commented that his father served the community for 42 years and he served the community for 28 years. Currently, he is the president of the Board of Trustees for Lockport Township Fire District. He then commented that when he started there were three people at their station and Crest Hill Police Department had two people on the street and they taught them how to tie to the hydrant, since they did not have the people, and the officers taught them how to deal with a difficult subject when on a call. They worked together and had each other's backs, and they will continue to. He then stated that this is a significant investment for their training for everyone, all agencies and training together to be one. This will make the community the safest.

Claudia Gazal, a resident, and a ward two alderwoman, approached the podium and stated that she was there on behalf of the residents. She commented that a board member from the Arbor Glen Community asked her to represent the residents at this meeting. She read a letter from Julianne Pierce regarding the gun range stating it will lower our value of the homes, terrorize animals, upset veterans because no one will want to move near the range because of the noise of gun shots. She does want the firemen and police to be trained and work in harmony but would like to see the gun range indoors or removed.

Claudia also commented that the commission is an advisory board, and the Council will override the approval by the Plan Commission with a 2/3 majority vote and reminded the board they only make recommendations, but she is standing in front of the commission as a representative for her ward 2 residents. She also asked the commission to think about their vote and stated that they are not against the facility, and they think it is beautiful and brings many good things to the city. She also commented that she knows what it takes to be family of an officer since her son is an officer and he was hurt because he was a new officer and needed to train and learn more. She then asked why they are mixing these police and fire together. She then stated that another problem is if it comes to the Council, and they vote it down because of the firing range, the entire facility would be voted down.

Claudia also asked the attorney if they did not separate the gun range from the facility and if it is voted down by the Council will the entire facility be gone. Attorney Stiff commented that it would not necessarily be gone because they are asking for a text amendment to allow for the gun range component and the City Council could act on that request separately from the other requests for the overall project.

Claudia than asked a question for another residents, if any of the existing fireman or police officers from Lockport live close to a fire range? She then commented that Crest Hill has been fighting for the two hundred acres off Weber Road, and she is concerned that developers will not build homes

next to a fire range. She then commented that any decisions we make now affect the future of our residents.

She then thanked the only commissioner for asking if the gun range could be indoors.

Claudia then stated that there are two representatives on the commission from Carillon Lakes Community and stated that they would come to meetings because of the noise from the trucks backing up but she commented that when they purchased their homes they knew there was commercial warehouses by Carillon Lakes Community but when the residents purchased their home they were not informed that they would be building a gun range.

Claudia then asked the commissioners of the Plan Commission Board to think about the future for the residents. She also commented that she is not against the facility nor are the residents, but they are against the gun range.

John Batusich, a resident, commented that he hears the gun fire and so does everybody in Crest Hill, Lockport, and Joliet area hear. He then commented that these agencies are going to continue to shoot, and they will continue to hear gun fire that will be louder compared to what the gun range will be. It is a state-of-the-art outdoor facility at a reasonable cost with a partnership with another taxing body and putting our resources together to help each other out to be cost effective.

John then commented that the gun ranges at Stateville and District 5 have been around since the 1960s and then asked Claudia when she built her house because three-gun ranges were there when the subdivision was built and sold those homes. He then said that if development came in now, they would hear gun fire as it is now, but they will not hear the gun firing from this facility, and it would not be until 11:00 p.m. He then commented that to stop this project because of the gun fire versus the benefits that this facility will provide does not outweigh.

He commented that over thirty years ago he arrived first on a call and had to pick an officer up off the street who passed away and he does not want that to happen again because of the sound of gun fire stopping the best training for the fire and police departments in this area.

Patricia Burnett approached the podium and was sworn in. She commented that she lives in Lockport by the high school. She commented that she had called for an ambulance twice in the last few years and when they arrived the Police Department and the Fire Department were there working together. She then commented that she can hear the gunshots where she lives, and they used to bother her but now it gives her great feeling of goodness because she knows they are training. She also stated that two years ago at the Canal Days of 2023 her husband and her were sitting on the curb watching the parade go by and she looked up and seen snipers on the downtown buildings, but those snipers were there to protect the people, so another Highland Park incident did not happen in their neighborhood. With that said, she stated that she wants those snipers very well trained. She then commented that we used to not have to worry about our children having a shooter in the school but currently they must train for it when that happens.

Chairman Thomas asked for a Motion to Close the Public Hearing on Case Number PUD-25-1-3-1.

(#3) Motion by Commissioner Peterson seconded by Commissioner Carroll, to close the public hearing on case number PUD-25-1-3-1.
On roll call, the vote was:
AYES: Commissioners Peterson, Carroll, Deserio, Slabozeski, Flynn, Stanton, Chairman Thomas.
NAYES: None.
ABSENT: None.
There being seven (7) affirmative votes, the MOTION CARRIED.

The Public Hearing was closed at 8:45 p.m.

Commissioner Slabozeski commented that she has a conflict. She stated that her conflict is that we have two parties disagreeing with one another and she believes in compromise so everyone can live in harmony with one another and stated that there must be a solution to this problem where everyone is happy, and we just have to find that solution.

Chairman Thomas asked for a motion to recommend to the City Council approval of the requested waiver of the various Preliminary/Final PUD Application Submission Requirements as outlined in the March 13, 2025, Plan Commission Staff Report for this case.

(#4) Motion by Commissioner Peterson seconded by Commissioner Flynn, to recommend to the City Council approval of the requested waiver of the various Preliminary/Final PUD Application Submission Requirements as outlined in the March 13, 2025, Plan Commission Staff Report for this case.
On roll call, the vote was:
AYES: Commissioners Peterson, Flynn, Stanton, Carroll, Slabozeski, Deserio, Chairman Thomas.
NAYES: None.
ABSENT: None.
There being seven (7) affirmative votes, the MOTION CARRIED.

Chairman Thomas and Attorney Stiff commented that the entire staff report, the addendum, and the sound study is all online for everyone to read in detail.

Consultant Ron Mentzer commented that if you are interested in locating those documents it is under the Agenda and Minutes section of the City's website and if you are having problems locating those documents, please contact the Clerk's Office or the Community Development Department at the city.

Chairman Thomas asked for a motion to recommend to the City Council approval of the requested Zoning Ordinance text amendments as outlined in the March 13, 2025, Plan Commission Staff Report for this case.

(#5) Motion by Commissioner Deserio seconded by Commissioner Carroll, to recommend to the City Council approval of the requested Zoning Ordinance text amendments as outlined in the March 13, 2025, Plan Commission Staff Report for this case.
On roll call, the vote was:
AYES: Commissioners Deserio, Carroll, Stanton, Peterson, Flynn, Slabozeski, Chairman Thomas.
NAYES: None.
ABSENT: None.
There being seven (7) affirmative votes, the MOTION CARRIED.

Chairman Thomas asked for a motion to recommend to the City Council for conditional approval of the various requested Special Use Permits and Planned Unit Development Exceptions as outlined in the March 13, 2025, Plan Commission Staff Report and the March 13, 2025, Staff Report Addendum for this case and with the additional condition that the location of the proposed firing range sound attenuation wall be adjusted as outlined in the March 11, 2025, Noise Transition Assessment prepared by Soundscape Engineering.

(#6) Motion by Commissioner Peterson seconded by Commissioner Stanton, to recommend conditional approval of the various requested Special Use Permits and Planned Unit Development Exceptions as outlined in the March 13, 2025, Plan Commission Staff Report and the March 13, 2025, Staff Report Addendum for this case and with the additional condition that the location of the proposed firing range sound attenuation wall be adjusted as outlined in the March 11, 2025, Noise Transition Assessment prepared by Soundscape Engineering.
On roll call, the vote was:
AYES: Commissioners Peterson, Stanton, Carroll, Deserio, Flynn, Chairman Thomas.
NAYES: Commissioner Slabozeski.
ABSENT: None.
There being six (6) affirmative votes, the MOTION CARRIED.

Chairman Thomas informed the petitioner that the Plan Commission is a recommendation body only. The City Council will hear about the case and have an official vote.

Chairman Thomas then commented that whenever he thinks about needing a First Responder to come to his house, he hopes that they have been well trained and prepared, and this facility will make sure they are the best prepared and trained First Responders in our community.

OTHER BUSINESS: There was no other business.

PUBLIC COMMENTS: There were no public comments.

Commissioner Carroll commented that he would not be here if it were not for the Lockport Township Fire Department. He commented that he had an asthmatic attack and had to call 911 and within four minutes the fire department arrived and had him bagged and on his way to the hospital,

where he spent 24 hours on a ventilator in Intensive Care Unit. He then thanked the Lockport Township Fire Department and stated he would not be here today if it was not for them.

There being no further business before the Commission a motion for adjournment was in order.

(#7) Motion by Commissioner Flynn, seconded by Commissioner Carroll, to adjourn the March 13, 2025, Plan Commission meeting.
On roll call, the vote was:
AYES: Commissioners Flynn, Carroll, Slabozeski, Deserio, Peterson, Stanton, Chairman Thomas.
NAYES: None.
ABSENT: None.
There being seven (7) affirmative votes, the MOTION CARRIED.

The meeting was adjourned at 8:53p.m.

As approved this_____day of_____, 2025.
As presented_____
As amended_____

_____
BILL THOMAS, COMMISSION CHAIRMAN

MINUTES OF THE
CREST HILL PLAN COMMISSION

The March 27, 2025, Special Plan Commission meeting was called to order by Chairman Bill Thomas, at 7:00 p.m. in the Council Chambers of the City Center, 20600 City Center Boulevard, Crest Hill, Will County, Illinois.

The Pledge of Allegiance was recited in unison.

Roll call indicated the following present: Chairman Bill Thomas, Commissioner Ken Carroll, Commissioner Angelo Deserio, Commissioner Jeff Peterson, Commissioner Marty Flynn, Commissioner John Stanton.

Also present were: Community Development Consultant Ron Mentzer, City Attorney Mike Stiff, Administrative Clerk Samantha Tilley.

Absent were: Commissioner Cheryl Slabozeski, Community & Economic Development Director Patrick Ainsworth.

APPROVAL OF MINUTES: There were no minutes needing approval.

PUBLIC HEARING: Chairman Bill Thomas presented case number SU-25-1-3-1, of A&D Storage seeking Approval of a Revised B-3 Special Use for a Self-Service Storage Facility, located at the Southwest Corner of Renwick Road & Borio Drive in Crest Hill, Illinois.

Chairman Thomas asked if the paperwork is in order. The necessary paperwork was in order.

Chairman Thomas asked for a Motion to Open the Public Hearing on Case Number SU-25-1-3-1.

(#1) Motion by Commissioner Carroll seconded by Commissioner Peterson, to open a public hearing on case number SU-25-1-3-1.
On roll call, the vote was:
AYES: Commissioners Carroll, Peterson, Flynn, Stanton, Deserio, Chairman Thomas.
NAYES: None.
ABSENT: Commissioner Slabozeski.
There being six (6) affirmative votes, the MOTION CARRIED.

The Public Hearing was opened at 7:02 p.m.

Chairman Thomas asked the Community and Economic Development Consultant Ron Mentzer to present the specifics on this case.

Consultant Ron Mentzer commented that this project was approved in the summer of 2023 and the current property owner and entity that originally received the special approval is marketing the

property and project and there is a new developer experienced in operating these new types of facilities and they are interested in purchasing the facility. The new developer has identified that the original approved plans and specifications for this project stated that the entire drive aisle system for the self-storage facility would need to be constructed out of concrete pavement and the new developer would like to construct the drive aisle system out of asphalt pavement, which is more cost effective and consistent with what you see in these types of facilities.

Since the original approved plans and specifications had a condition stating it must be concrete pavement, there will need to be an amendment to allow the change of the pavement material, and the City Zoning Ordinance does not have provisions to allow that change to be approved by staff. Since this cannot be approved by staff, there was a need to come back to the public hearing process and have a new special use permit approved to accommodate that change on the pavement.

The applicant understands that there are original conditions of approval that were imposed in 2023 and there are a series of conditions that the staff is recommending that are attached to any recommendation to approve the revised special use permit.

Chairman Thomas asked the representative of A&D Storage to approach the podium. Steve Gulden, the consultant for A&D Storage, approached the podium and was sworn in.

Mr. Gulden commented that the only change requested was to switch from concrete to asphalt, and everything else will remain the same. They will change the landscape island and put that back in and meet all conditions that are in the staff report. This will be a first-class facility.

Chairman Thomas asked the commissioners if anyone had a comment or question.

Commissioner Stanton asked if there was lighting for this facility? Mr. Gulden commented that there will be appropriate lighting, and they already have a condition for a photometric plan, which would outline the spread of the lighting throughout the facility, and they will meet the requirements of the Crest Hill ordinance.

Commissioner Stanton then asked how tall the trees will be? Mr. Gulden commented that the Crest Hill requirement is a minimum requirement of six feet at the time of planting and that will be followed.

Commissioner Stanton also asked if there is a warranty on the fence being installed. Mr. Gulden commented that it will be vinyl fencing and they will last longer and have less maintenance and would come with a warranty of some sort. Community Development Consultant Ron Mentzer commented that the fencing details are on the landscape plan. It was then commented that the fence requirement is six feet tall, but the applicant agreed to eight feet tall.

Mr. Gulden thanked everyone for having the special meeting since they are under some time constraints and stated that they really appreciate that and all the hard work pushing this forward.

Chairman Thomas asked if anyone would like to make a public comment.

Tom Dewall, a resident, approached the podium and was sworn in. He then asked if the drainage would be looked into since they are going from concrete to asphalt regarding the two ponds? Mr. Gulden came back to the podium and commented that the impervious surface is impervious surface if it is asphalt or concrete, so the drainage coefficients will not change. Consultant Ron Mentzer commented from a engineering design standard concrete and asphalt are considered impervious and the city engineer has confirmed that the existing detention facility adjacent to this site is sized properly to accommodate the storm water run off from this site and the final engineering design will have to show that they are collecting all the storm water from the site making sure it is collected and directed in that existing detention pond and not flowing into off-site properties.

Mr. Dewall then asked how bright or how many lumens each light is with the lighting system. Mr. Gulden commented that they will have to meet the Crest Hill ordinance. Mr. Dewall then asked if there is an ordinance that states the number of lumens that are required? Consultant Ron Mentzer commented that there are limitations on the amount of light that can be spilling over on adjacent properties that are zoned residential, and they will have to comply with that. Mr. Dewall then commented that he is more concerned about the ends not having enough lighting and wants to make sure it is lit up properly.

There were no more questions or comments.

Chairman Thomas asked for a Motion to Close the Public Hearing on Case Number SU-25-1-3-1.

(#2) Motion by Commissioner Peterson seconded by Commissioner Flynn, to close the public hearing on case number SU-25-1-3-1.
On roll call, the vote was:
AYES: Commissioners Peterson, Flynn, Stanton, Carroll, Deserio, Chairman Thomas.
NAYES: None.
ABSENT: Commissioner Slabozeski.
There being six (6) affirmative votes, the MOTION CARRIED.

The Public Hearing was closed at 7:16 p.m.

Chairman Thomas commented that this property is currently zoned B-3, as a business service district, which means equipment rental store, 24/7 convenient store, a laundry mat, health fitness club, animal hospital, or packaged liquor store could go into that neighborhood and this storage facility seems like the most wonderful thing you can do to keep the neighborhood looking good as it does.

Chairman Thomas asked for a motion to grant the request of A&D Storage for approval of a revised B-3 Special Use for a new self-storage facility located at the southwest corner of Renwick Road and Borio Drive, based on the previously discussed twelve (12) conditions that will be attached to the minutes.

(#3) Motion by Commissioner Deserio seconded by Commissioner Carroll, to recommend to the City Council approval of A&D Storage for approval of a revised B-3 Special Use for a new self-

storage facility located at the southwest corner of Renwick Road and Borio Drive, based on the previously discussed twelve (12) conditions below:

1. That the drawings submitted for the building permit shall be in substantial compliance with the drawings approved by the City Council and identified below, unless otherwise noted in the remaining conditions:
   - Site Plan, Sheet SP1 prepared by Advantage Consulting Engineers last dated 2/17/2025.
   - Final Landscape Plan, Sheets 0-2, prepared by Gary R. Weber Associates Inc. with a last revision date of 2/20/2025.
   - Preliminary Building Elevations, Sheet A-2, prepared by Schmidt Design and last dated 2/19/2025.
   - Masonry Exhibit from Ledgestone/Preliminary Site Plan, Sheet SP1, prepared by Advantage Consulting containing updated notations with buildings A through H
   - Auto turn Exhibit, Sheet V1 prepared by Advantage Consulting Engineers and dated 6/7/2023.
2. A landscape island shall be added to the western edge of the parking row and the Site Plan prepared by Advantage Consulting Engineers and the Landscape Plan prepared by Gary R. Weber Associates Inc. shall be updated at the time of building permit submittal to comply with this condition.
3. The Crest Hill Police Department shall receive, review, and approve a security plan from the Applicant as part of the building permit process.
4. The hours of business operations shall be from 7:00 AM to 9:00 PM every day and the access keycode system will be timed out from 9:00 PM to 7:00 AM to prevent entry.
5. The Applicant or future buyer shall supply an executed contract for trash refuse service for the subject property at time of building permit. On-call trash refuse service will be acceptable compared to scheduled service.
6. A Photometric Plan shall be provided in time of submitting a building permit to ensure compliance with applicable codes and regulations.
7. All required final design drawings and related supporting project information be submitted for final engineering review and approval in conjunction with the formal building permit application submitted for this project.
8. All new shade trees, ornamental trees, and evergreen trees associated with this project shall be planted with a minimum height of six feet and a minimum of 2.5” caliber at time of planting.
9. A Final Signage Plan shall be submitted at the time of building permit application to ensure compliance with all applicable codes and regulations.
10. A separate Plat of Easement for the existing subdivision entrance sign for the neighborhood to the south shall be submitted to the Community Development Department for review and approval. A copy of the recorded Plat of Easement shall be submitted to the Clerk’s Office

as part of the record for this Special Use Ordinance. This Plat of Easement shall be recorded prior to issuing a Final Certificate of Occupancy.

11. A private sidewalk connection to the public walkway within the Borio Drive public right-of-way should be provided in this project. This improvement shall be shown in the drawings submitted as part of the formal building permit application.
12. All conditions made with this Ordinance shall be transferred to any new property owner.

On roll call, the vote was:
AYES: Commissioners Deserio, Carroll, Stanton, Flynn, Peterson, Chairman Thomas.
NAYES: None.
ABSENT: Commissioner Slabozeski.
There being six (6) affirmative votes, the MOTION CARRIED.

Chairman Thomas informed the petitioner that the Plan Commission is a recommendation body only. The City Council will hear about the case and have an official vote.

Chairman Thomas reminded the Council that there is no meeting on April 10, 2025, but there will be a special meeting on April 24, 2025, and at that time they will be approving the Plan Commission By-Laws.

OTHER BUSINESS: There was no other business.

PUBLIC COMMENTS: There were no public comments.

There being no further business before the Commission, a motion for adjournment was in order.

(#4) Motion by Commissioner Peterson seconded by Commissioner Deserio, to adjourn the March 27, 2025, Plan Commission meeting.
On roll call, the vote was:
AYES: Commissioners Peterson, Deserio, Carroll, Stanton, Flynn, Chairman Thomas.
NAYES: None.
ABSENT: None.
There being six (6) affirmative votes, the MOTION CARRIED.

The meeting was adjourned at 7:21 p.m.

As approved this_____day of_____, 2025.
As presented_____
As amended_____

_____
BILL THOMAS, COMMISSION CHAIRMAN

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

Application for Development

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

Project Name: Hendrickson USA - Solar PV

Owner: Hendrickson USA LLC
Street address: 501 Caton Farm Rd
City, St., Zip: Crest Hill, IL 60441
Phone: 815-272-2482
Email: cbatsch@hendrickson-intl.com

Correspondence To: Grace Rasmussen, Verde Solutions LLC
Street address: 2211 N Elston Ave Suite 208
City, St., Zip: Chicago, IL 60614
Phone: 312-268-2025
Email: grasmussen@verdesolutions.com

Property Address:
Street address: 501 Caton Farm Rd
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

[X] 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: 312-268-2025

Company: Verde Solutions LLC Email: grasmussen@verdesolutions.com

[ ] 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

Go Green Get Ahead

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:
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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

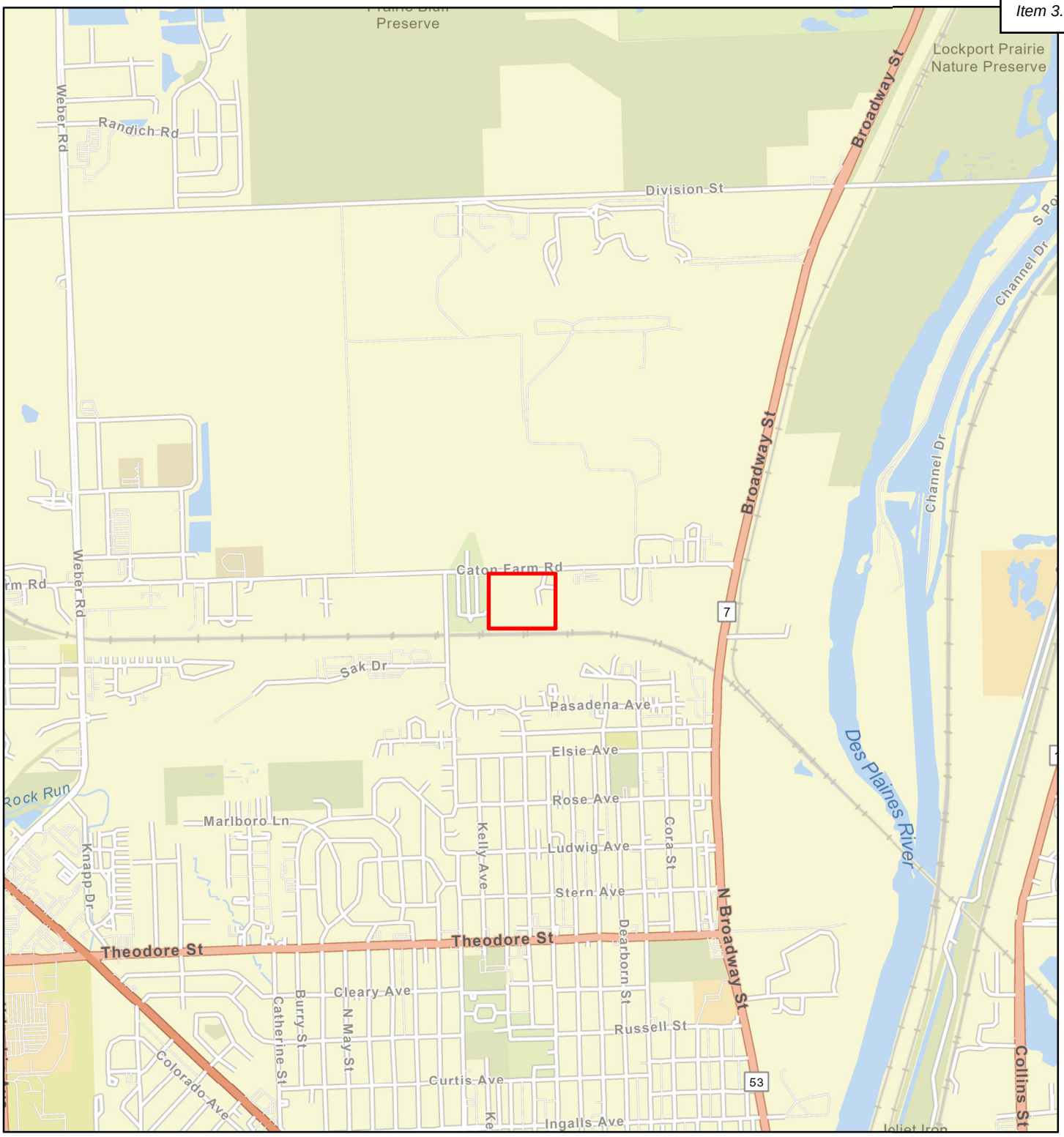
The solar panels have a width of 12.97 feet, and each row of panels will be installed with a 19.17 foot space between them, meeting the requirement that the open space must be wider than the solar panels. The panels will be at a 30-degree angle, so runoff will sheet flow onto the ground. The slope of 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

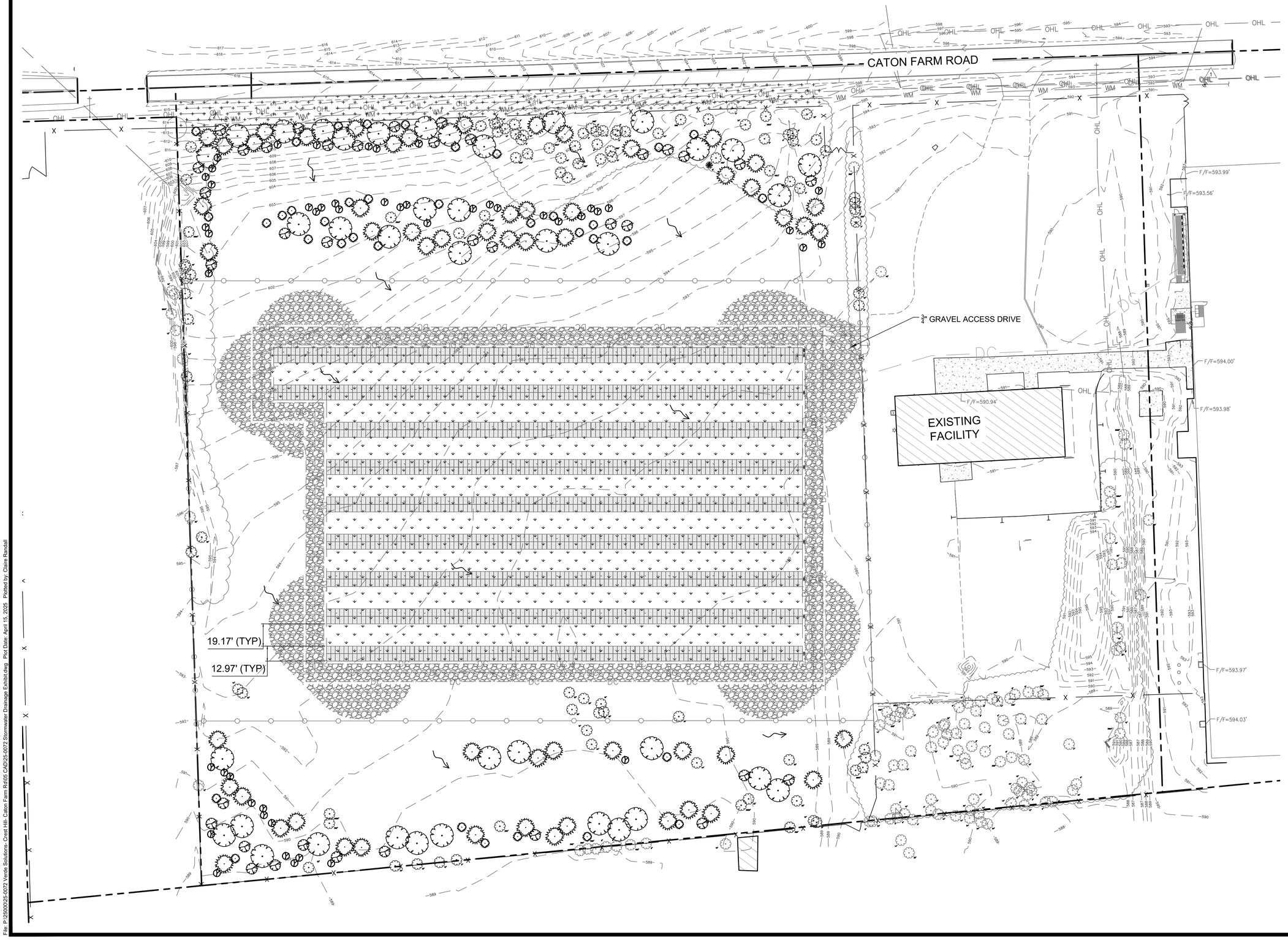
Project Number: 25-0072

Date: 3/13/2025

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

Exhibit Title:
Location Map

Exhibit:
36



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 F… UT

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

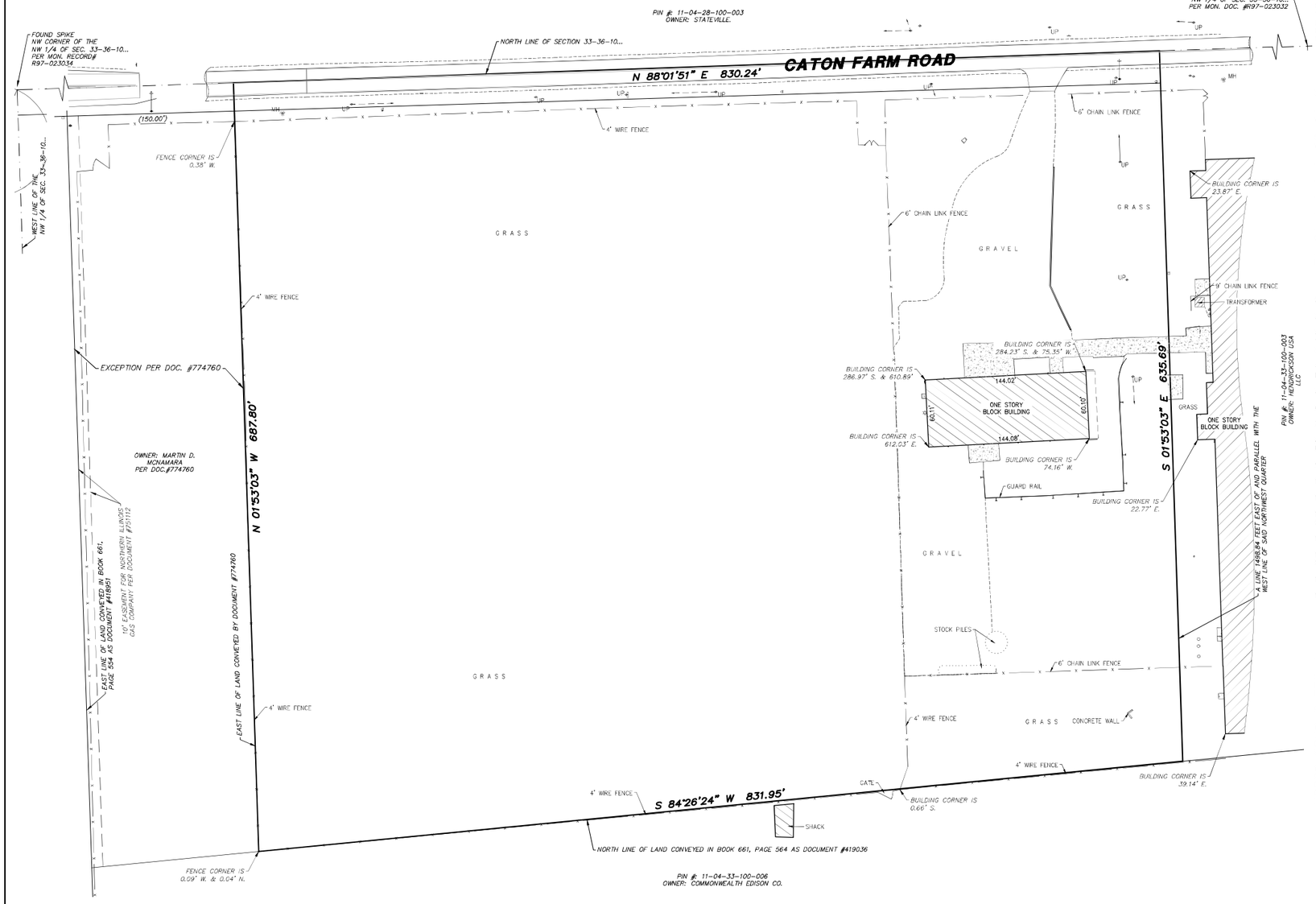
The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 3/13/2025 at 9:32 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by 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 ide… FIRM panel number, and FIRM effective date. Map in… unmapped and unmodernized areas cannot be used 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,flow) (tel,water,gas)	GAS METER	GAS LINE	
	ELECTRIC METER	U.G. TELCO LINE	
	PEDESTAL(telcoelec,cable)	U.G. ELECTRIC LINE	

N

SCALE: 1" = 50'

00 25 50 100

BAR SCALE

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

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Engineering with Precision, Pace and Passion.
2875 Prairie Avenue | Hoffman Estates, IL 60192
T: 224.293.6333 | F: 224.293.6444
www.wtgroup.com | IL 184.007570-0015

HENDRICKSON USA
501 CATON FARM ROAD
CREST HILL, ILLINOIS

ISSUE

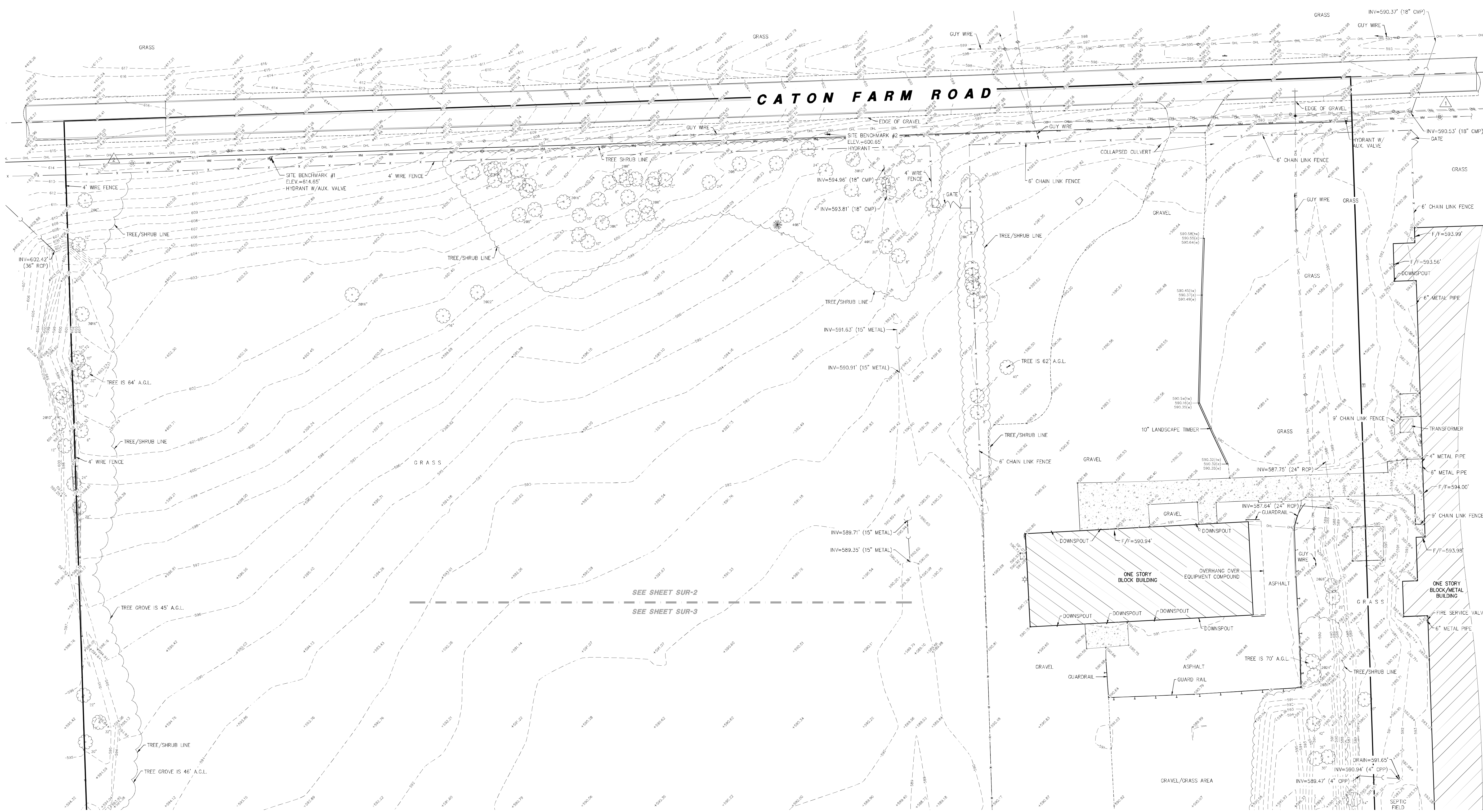
TO	DATE
CLIENT	12/19/24
CLIENT	1/17/25
CLIENT	2/7/25

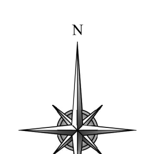
CHECK:FIM
DRAWN:REM
JOB: S2400104

SHEET 40

ALTA/NSPS
LAND TITLE SURVEY

ALTA / NSPS
LAND TITLE SURVEY





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.

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
SPOT GRADE (TOP OF (CURB,WALL, ETC.) / BOTTOM OF (GROUND, GUTTER,ETC.))	GUTTER FRAME MANHOLE	EDGE GRAVEL/STONE
CONCRETE	VALVE VAULT	FENCE LINE
	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
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UTILITY MARKINGS	GAS METER	GAS LINE
(cable,elec,fiber)	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)

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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.

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LAND TITLE SURVEY

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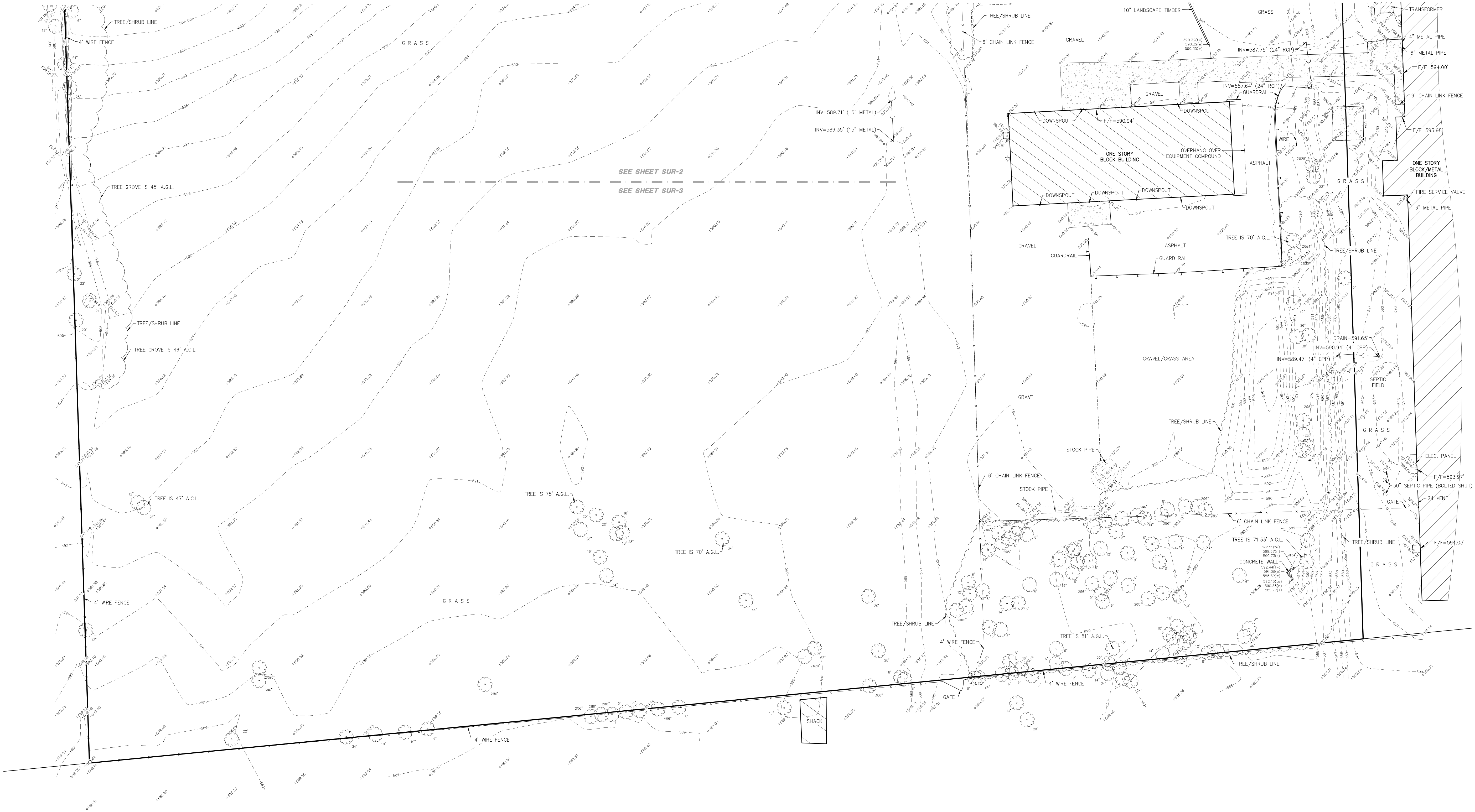
LAND TITLE SURVEY



LEGEND		
PROPERTY LINE	UTILITY POLE	SOIL BORING
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(XXX') RECORD DATA	BEEHIVE GRATE MANHOLE	773 CONTOUR LINE
XXX.XX TOP OF (CURB,WALL, ETC.) SPOT GRADE XXX.XX BOTTOM OF (GROUND, GUTTER,ETC.)	GUTTER FRAME MANHOLE	EDGE GRAVEL/STONE
CONCRETE	VALVE VAULT	FENCE LINE
EVERGREEN/DECIDUOUS WITH SIZE IN INCHES (12" 12")	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	WS WATER SERVICE LINE
SHRUB/SHRUB LINE	TRAFFIC SIGNAL	WM WATER MAIN
M MONITOR WELL	MAST ARM SIGNAL	OHL OVERHEAD LINE
G GAS VALVE	HANDHOLE (electric\traffic)	FO FIBER OPTIC LINE
C E F UTILITY MARKINGS (cable,elec,fiber)	GM GAS METER	G GAS LINE
	EM ELECTRIC METER	UGT U.G. TELCO LINE
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48" CONCRETE STRUCTURE
609.73' AT TOP OF 12" DIP E/W

SCALE: 1" = 30'

00 15 30 60

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CLIENT	2/7/25

CHECK:FIM
DRAWN:REM
JOB: S2400104

SUR
SHEET
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 / NAIL SET
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	
FENCE	VALVE AND VAULT	SPOT ELEVATION	ASPHALT
GUARDRAIL	WATER VALVE	RIGHT-OF-WAY MONUMENT	CONCRETE
EDGE OF WATER	B BOX	DISC	GRAVEL
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

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

PREPARED FOR:
NARVICK BROTHERS

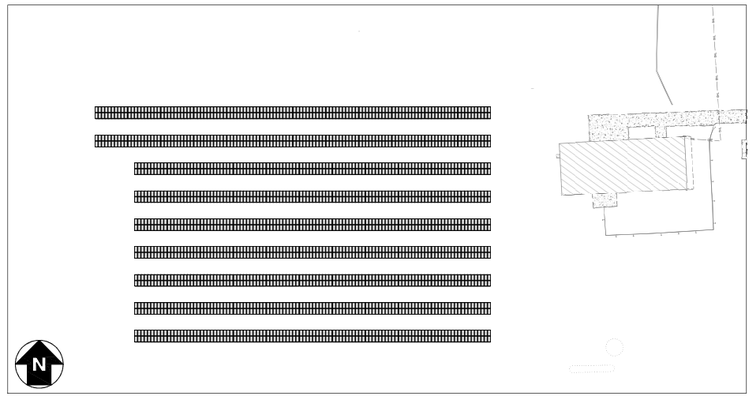
X:\Projects 13000-13999\13227-M\SURVEY\13227SUR-01.dgn Default User=jschroeder

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

LEGEND:

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

DRAWING TITLE	DRAWING #
TITLE SHEET	G001

REVISION DESCRIPTION	DATE	BY	CHK
90% DESIGN REV1	03/28/2025	LP	LP
90% DESIGN	02/26/2025	LP	LP
30% CONCEPTUAL DESIGN	01/13/2025	LP	LP

ENGINEER: PUREPOWER ENGINEERING, 111 RIVER STREET, HOBOKEN, NJ 07030, WWW.PUREPOWER.COM, PROJECT MANAGER: 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

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

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

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

Item 3.

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

ENGINEER: PUREPOWER ENGINEERING
111 RIVER STREET, HOBOKEN, NJ
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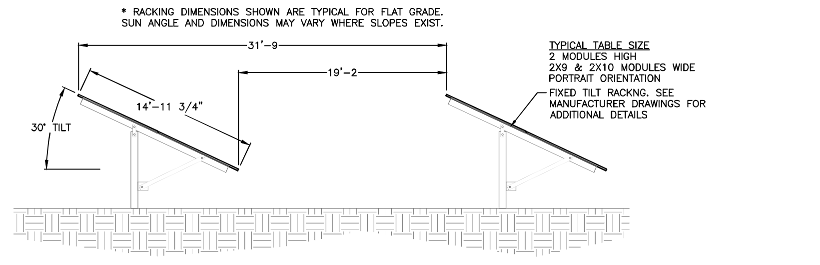
PAGE SIZE: 36" x 24"
PROJECT #: 11015.01

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

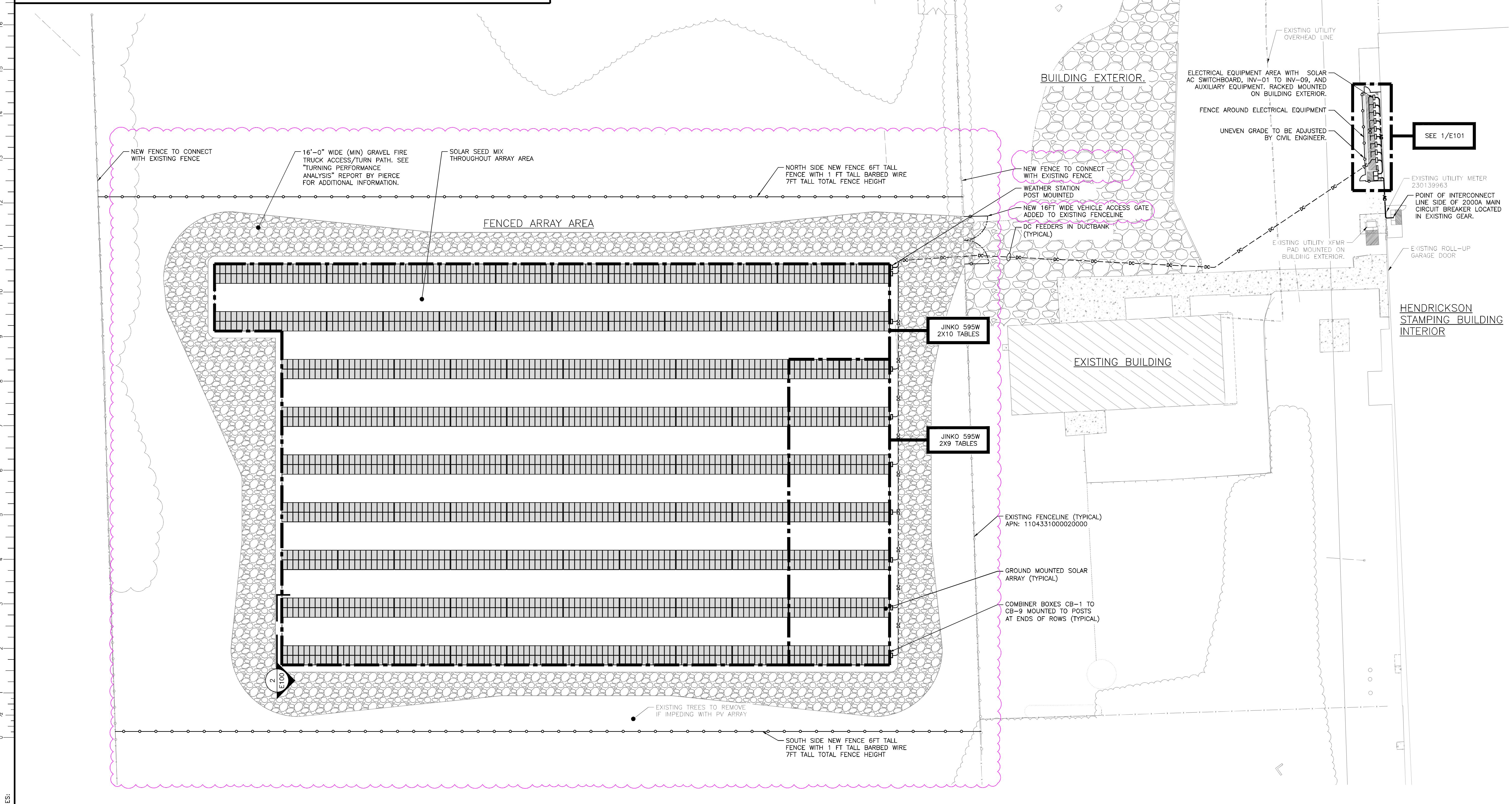
DRAWING TITLE: ELECTRICAL NOTES & SYMBOLS LIST

DRAWING NO: E001

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



2 DCE RACKING DETAIL
SCALE: NONE



1 OVERALL ELECTRICAL PLAN
SCALE: 1" = 30'

RULER IN INCHES:

DATE	REVISION DESCRIPTION	DRWG	CHK
03/28/2025	90% DESIGN REV1	G	LP
02/26/2025	90% DESIGN	G	LP
01/13/2025	30% CONCEPTUAL DESIGN	G	LP

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PAGE SIZE 36" x 24"
PROJECT # 11015.01

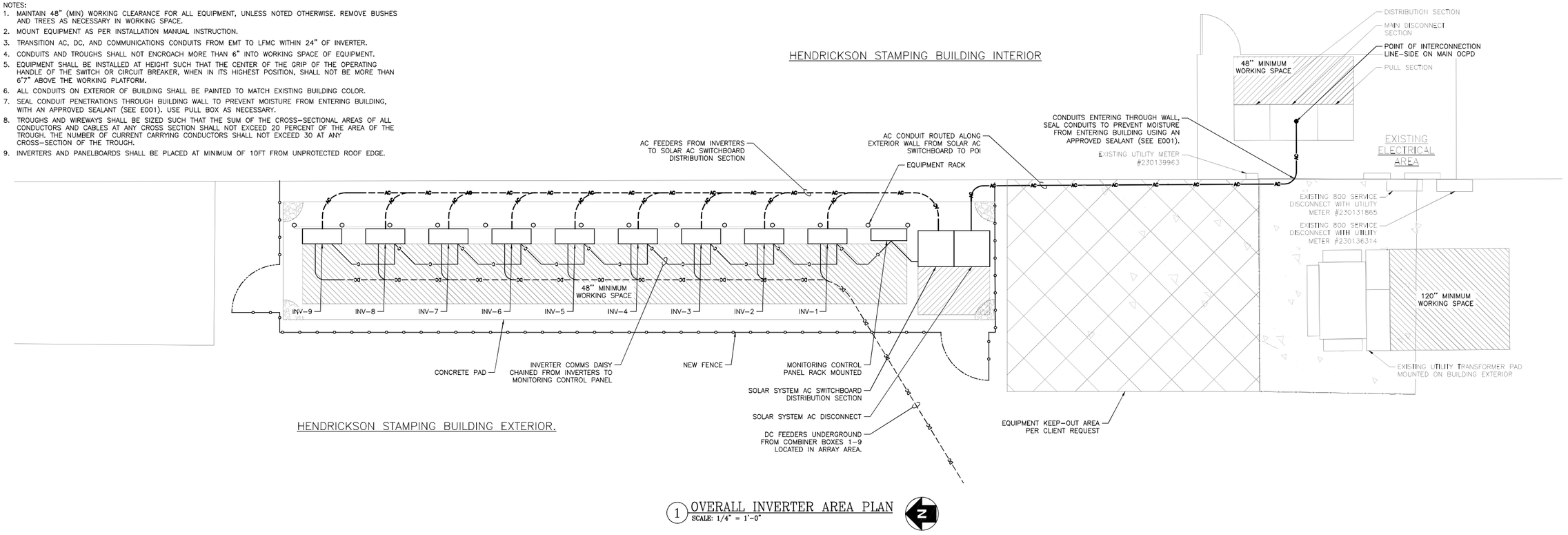
PROJECT
SOLAR GROUND MOUNT SYSTEM AT
HENDRICKSON USA
501 CATON FARM ROAD
LOCKPORT, IL 60441

DRAWING TITLE
OVERALL ELECTRICAL PLAN

DRAWING # E100

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.

HENDRICKSON STAMPING BUILDING INTERIOR

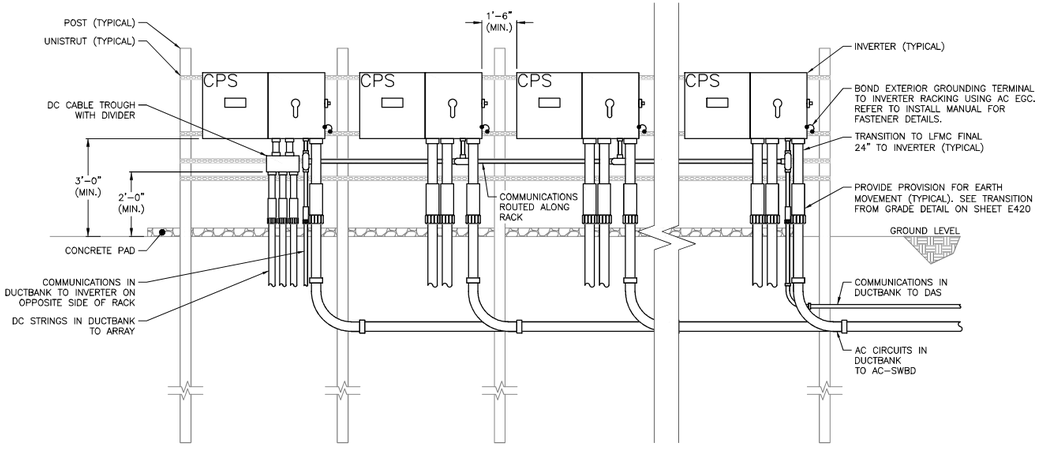


HENDRICKSON STAMPING BUILDING EXTERIOR.

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.

NO	REVISION DESCRIPTION	DATE	DRN	CHK
3	90% DESIGN REV1	03/28/2025	LS	LP
2	90% DESIGN	02/26/2025	LS	LP
1	30% CONCEPTUAL DESIGN	01/13/2025	LS	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
AC ELECTRICAL PLAN

DRAWING NO. E101

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

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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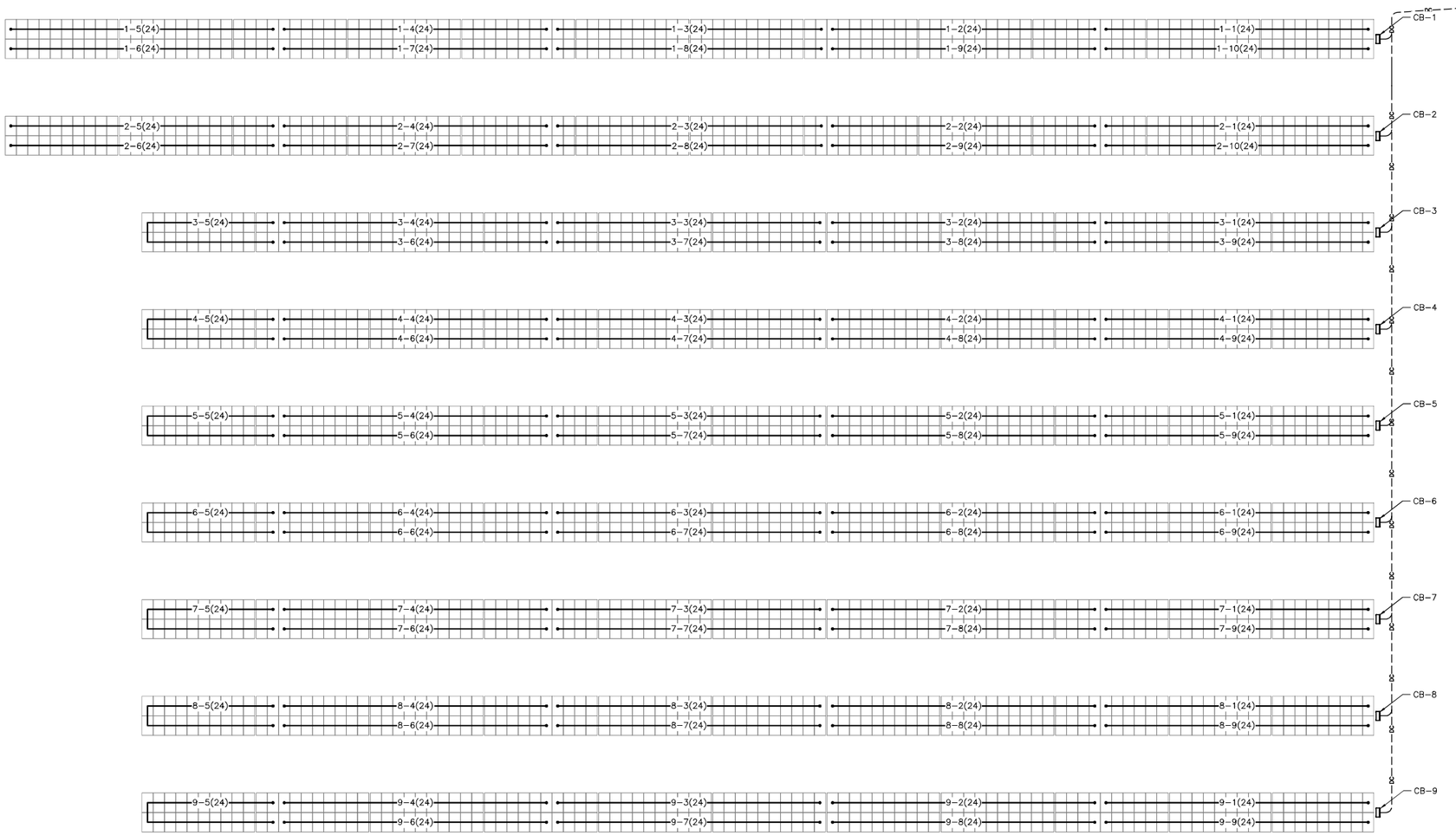
8–8	24
8–9	24
9–1	24
9–2	24
9–3	24
9–4	24
9–5	24
9–6	24
9–7	24
9–8	24
9–9	24
TOTAL	1992

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 #

CB–2

ULER IN INCHES:

Item 3.

REVISION DESCRIPTION	DATE	BY	CHK
90% DESIGN REV1	03/28/2025	LS	LP
90% DESIGN	02/26/2025	LS	LP
30% CONCEPTUAL DESIGN	01/13/2025	LS	LP

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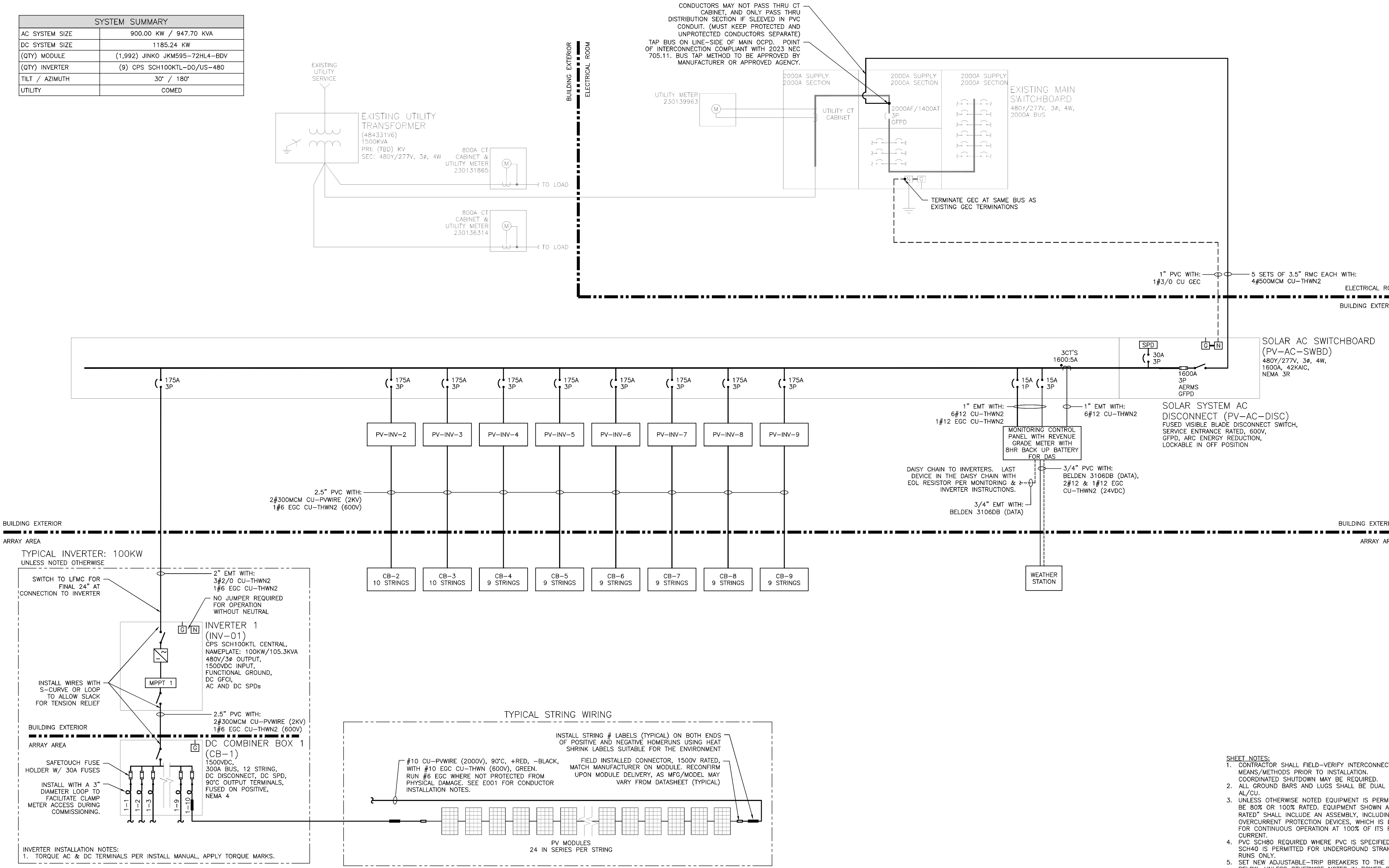
PROJECT
SOLAR GROUND MOUNT SYSTEM AT
HENDRICKSON USA
501 CATON FARM ROAD
LOCKPORT, IL 60441

DRAWING TITLE
DC ELECTRICAL PLAN

DRAWING #
E200

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
03/28/2025	90% DESIGN REV1
02/26/2025	90% DESIGN
01/13/2025	30% CONCEPTUAL DESIGN

ENGINEER: PUREPOWER ENGINEERING
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DEVELOPER: VERDE SOLUTIONS
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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

E500

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

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

Item 3.

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.

RULER IN INCHES:

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

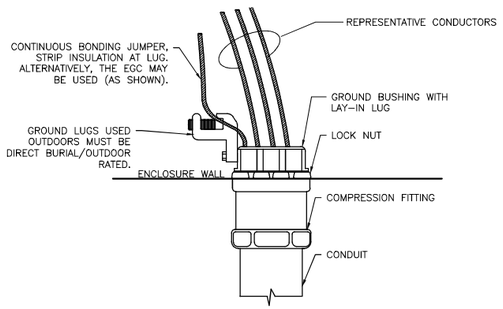
PAGE SIZE 36" x 24"
PROJECT # 11015.01

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

DRAWING TITLE
SCHEDULES & CALCULATIONS

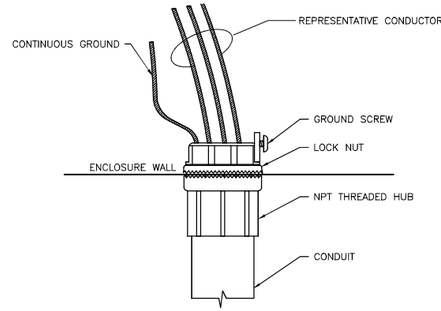
E510

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)

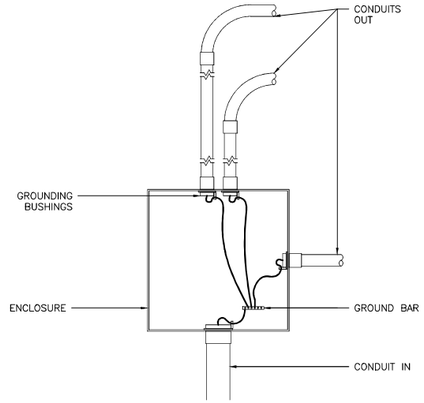


1 CONDUIT BUSHING GROUNDING
SCALE: NONE

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)

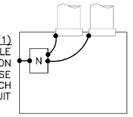


2 MYERS HUB GROUNDING
SCALE: NONE

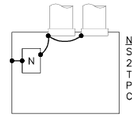


3 PULL BOX/TROUGH GROUNDING
SCALE: NONE

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

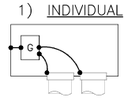
A) FOR CONCENTRIC KNOCKOUTS, USE BONDING JUMPERS AS FOLLOWS:

TABLE 250.122

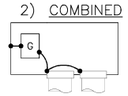
OVERCURRENT DEVICE CIRCUIT NOT EXCEEDING (AMPERES)	SIZE (AWG OR KCMIL)	
	COPPER	ALUMINUM
15	14	12
20	12	10
60	10	8
100	8	6
200	6	4
300	4	2
400	3	1
500	2	1/0
600	1	2/0
800	1/0	3/0
1000	2/0	4/0
1200	3/0	250
1600	4/0	350
2000	250	400
2500	350	600
3000	400	600
4000	500	750

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

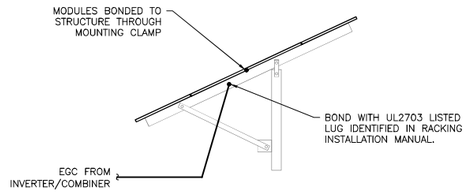


B) FOR NON-CONCENTRIC KNOCKOUTS, THE FOLLOWING METHODS SHALL BE PERMITTED (PER NEC 250.97)

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

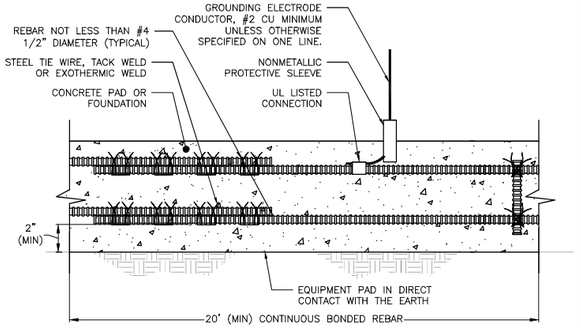
NOTES:
1. EACH COMBINER (OR STRING INVERTER) SHALL HAVE AN EGC RUNNING TO ANY ROW WITH STRINGS CONNECTED TO THAT COMBINER/INVERTER.
2. PV MODULES AND RAILS GROUNDED PER NEC 690.43, REFER TO INSTALLATION MANUAL FOR DETAILS.
3. WHERE RACKING TABLES WITHIN A ROW ARE NOT CONTINUOUS, TABLES SHALL BE BONDED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



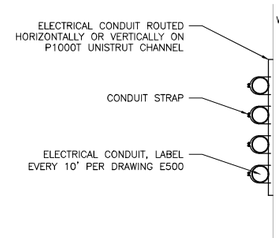
DCE GROUND MOUNT

6 ARRAY GROUNDING – FIXED TILT
SCALE: NONE

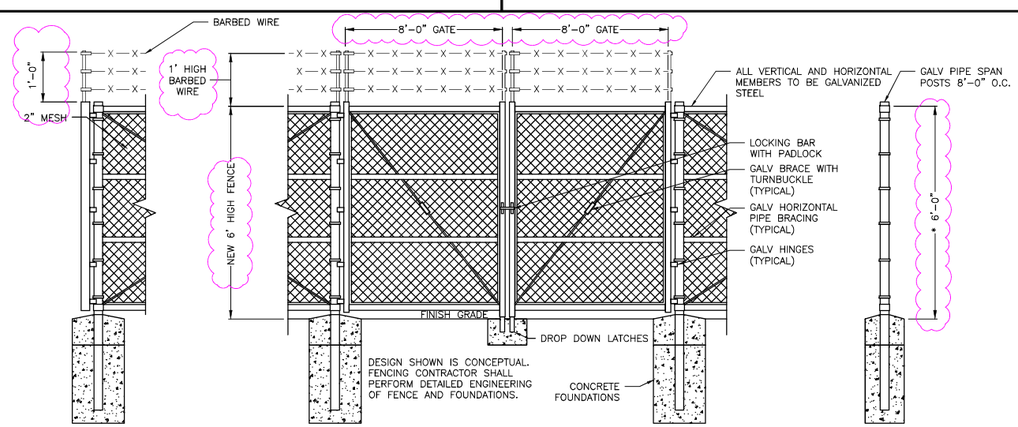
NOTE:
SHORTER LENGTHS OF REBAR CAN BE CONNECTED TOGETHER TO FORM AN ELECTRODE OF AT LEAST 20' BY STEEL TIE WIRES, EXOTHERMIC WELDING, OR WELDING.



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	CHK
3	90% DESIGN REV1	03/28/2025	LP
2	90% DESIGN	02/26/2025	LP
1	30% CONCEPTUAL DESIGN	01/13/2025	LP

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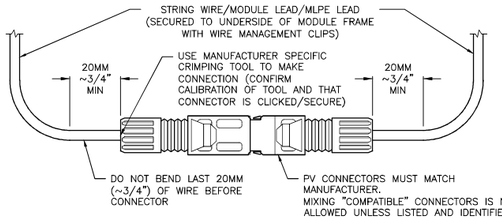
PAGE SIZE 36" x 24"
PROJECT # 11015.01

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

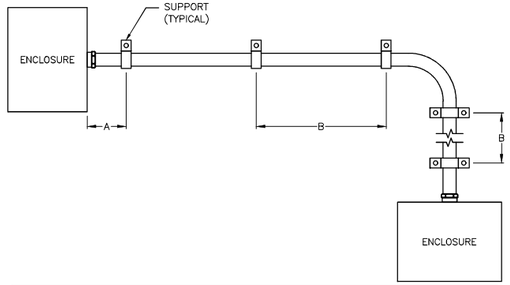
DRAWING TITLE
GROUNDING DETAILS

DRAWING NO.
E410

RULER IN INCHES:

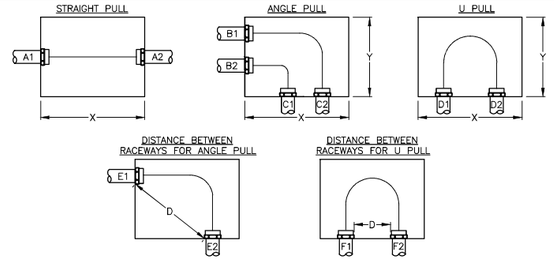


1 MODULE CONNECTORS
SCALE: NONE



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

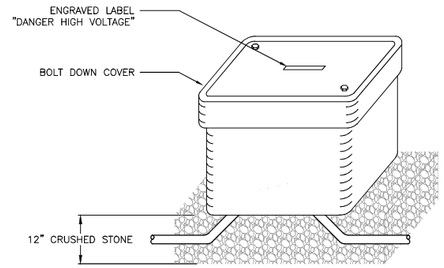


NEC 314.28(A)(1)–(3) PULL BOX SIZING (UP TO 1000V)			
BOX TYPE	LENGTH (X)	HEIGHT (Y)	DISTANCE (D)
STRAIGHT PULL	8 X LARGEST OF A1 & A2	AS NEEDED	N/A
ANGLE PULL	6 X (LARGEST OF B1 & B2) + SUM OF OTHER CONDUIT ENTERING THE SAME WALL	6 X (LARGEST OF C1 & C2) + SUM OF OTHER CONDUIT ENTERING THE SAME WALL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

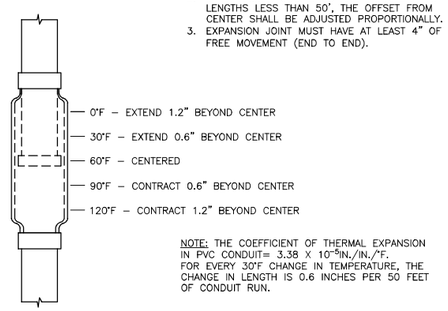
3 PULL BOX & JUNCTION BOX SIZING
SCALE: NONE

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

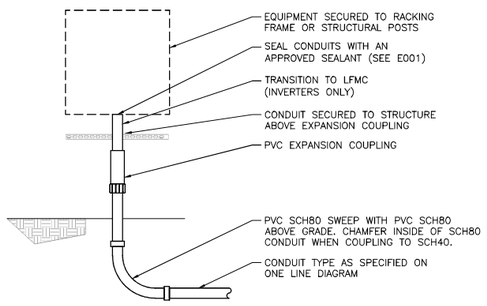
NOTES:
1. INSTALL EXPANSION COUPLING EVERY 50' OF STRAIGHT CONDUIT RUN.
2. IF EXPANSION COUPLINGS ARE INSTALLED AT LENGTHS LESS THAN 50', THE OFFSET FROM CENTER SHALL BE ADJUSTED PROPORTIONALLY.
3. EXPANSION JOINT MUST HAVE AT LEAST 4" OF FREE MOVEMENT (END TO END).



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

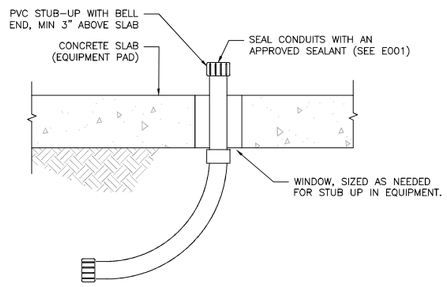
5 EXPANSION COUPLING
SCALE: NONE



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.

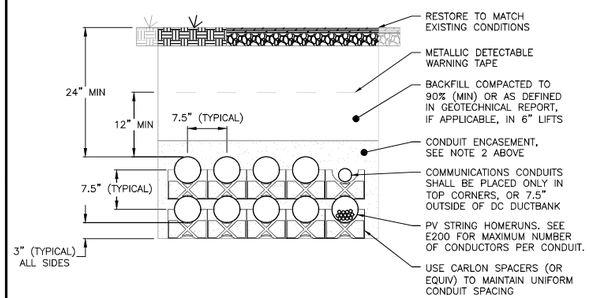
6 TRANSITION FROM GRADE
SCALE: NONE

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.



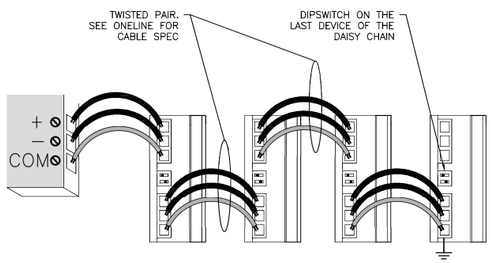
7 EQUIPMENT PAD STUB-UP
SCALE: NONE

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

REVISION DESCRIPTION	DATE	BY	CHK
90% DESIGN REV1	03/28/2025	LP	LP
90% DESIGN	02/26/2025	LP	LP
30% CONCEPTUAL DESIGN	01/13/2025	LP	LP

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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
ELECTRICAL DETAILS

DRAWING NO.
E420

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

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

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"

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

1"

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.

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"

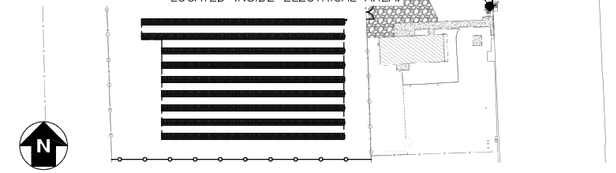
CAUTION:

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

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

Item 3.

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
LABELS & SIGNAGE

DRAWING NO.
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

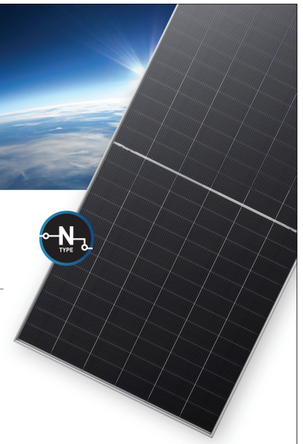
Technical Data

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

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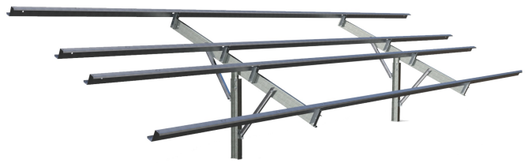
Elevating the Future of Solar

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

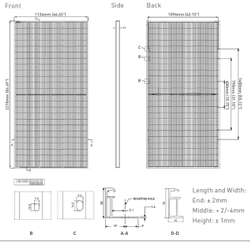
TECHNICAL SPECIFICATIONS

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

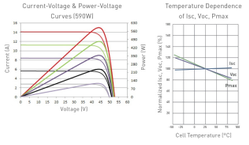
ETL LISTED US
UL 2703

* 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 & TEPERATURE 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) & 2600Pa (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)	647Wp	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

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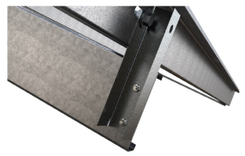
LONG SPAN

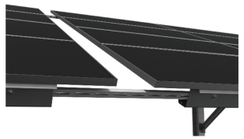
Most advanced table based racking solution with the DCE Long Span Racking System.

- 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**

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

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ENGINEER

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

DEVELOPER

verde SOLUTIONS

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 NO. E000

RULER IN INCHES:

CPS

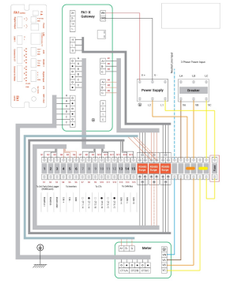
FlexOM Meter

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

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

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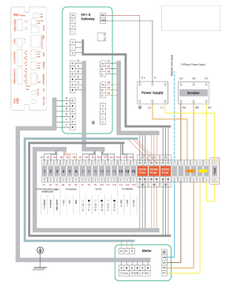

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Chint Power Systems America
1380 Presidential Drive, Suite 100, Richardson, TX 75081
Tel: 855-584-7168 Mail: AmericaSales@chintpower.com Web: www.chintpowersystems.com

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

NO	REVISION DESCRIPTION	DATE	CHK
3	90% DESIGN REV1	03/28/2025	LP
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ENGINEER

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2211 N ELSTON AVE
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WWW.VERDESOLUTIONS.COM

DEVELOPER

PAGE SIZE 36" x 24"

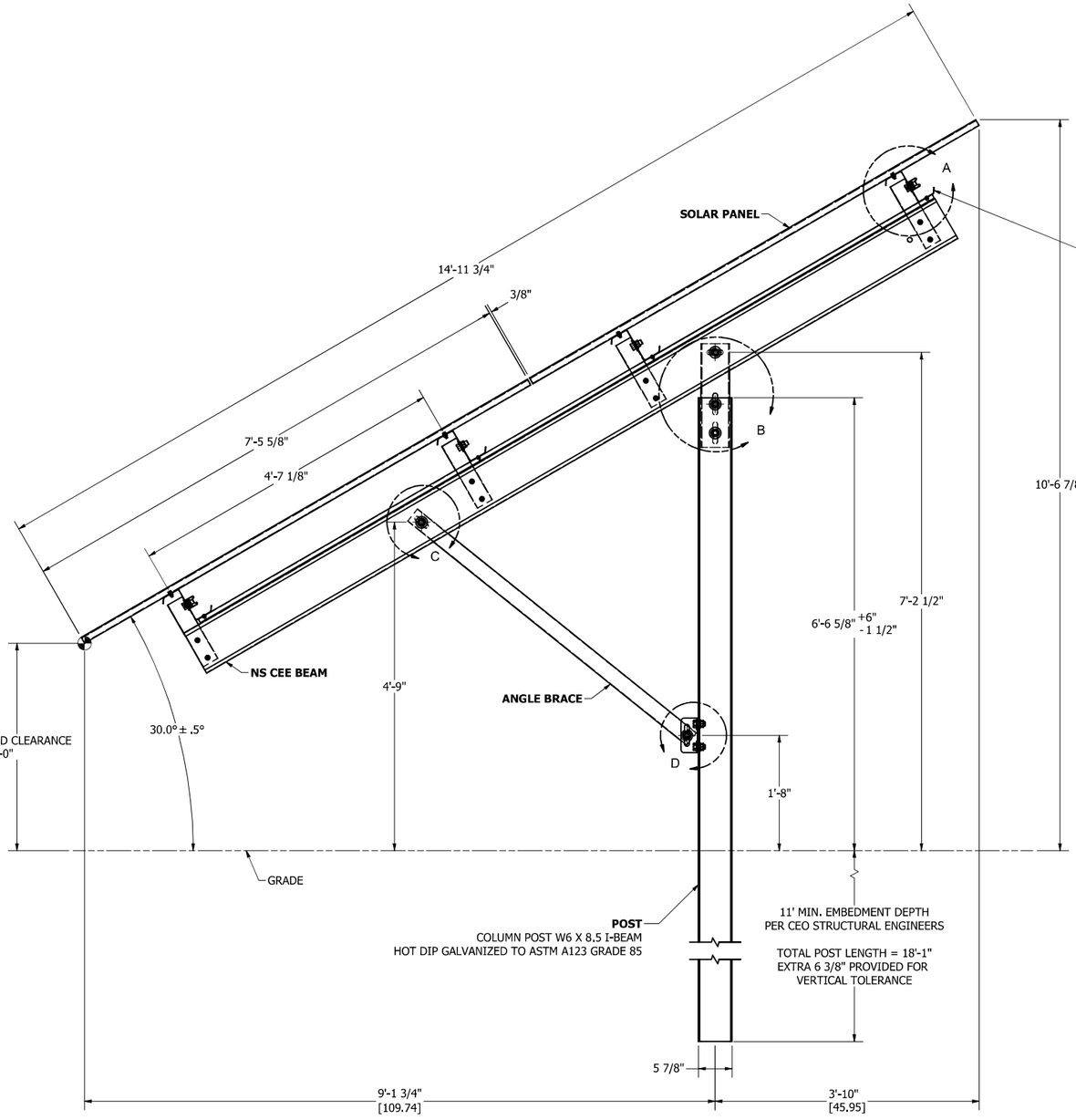
PROJECT # 11015.01

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

DRAWING TITLE
EQUIPMENT DATA SHEETS

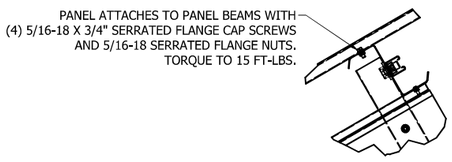
DR E001

APPENDIX- A
STRUCTURAL DETAIL DRAWING
NOT FOR CONSTRUCTION

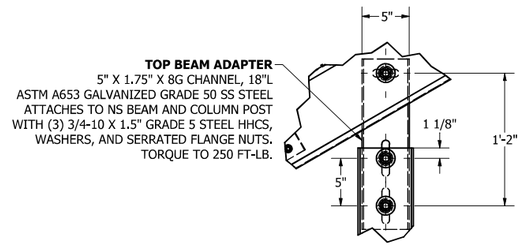


SIDE VIEW
VIEW1
SCALE 1 : 12

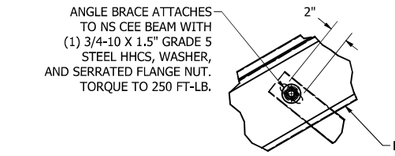
ALL PANEL MOUNTING HARDWARE CALLED OUT BELOW WILL BE PROVIDED BY DCE SOLAR. ANY CUSTOMIZED PANEL MOUNTING HARDWARE PROVIDED BY OTHERS MAY VOID DCE SOLAR'S UL2703 CERTIFICATION.



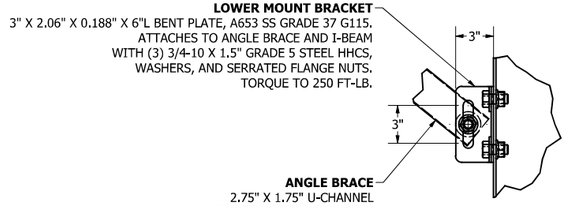
DETAIL A
SCALE 1 / 8



DETAIL B
SCALE 1 / 8



DETAIL C
SCALE 1 / 8



DETAIL D
SCALE 1 / 6

PROJECT INFORMATION

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

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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

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.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

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Cornelius, NC, 28031
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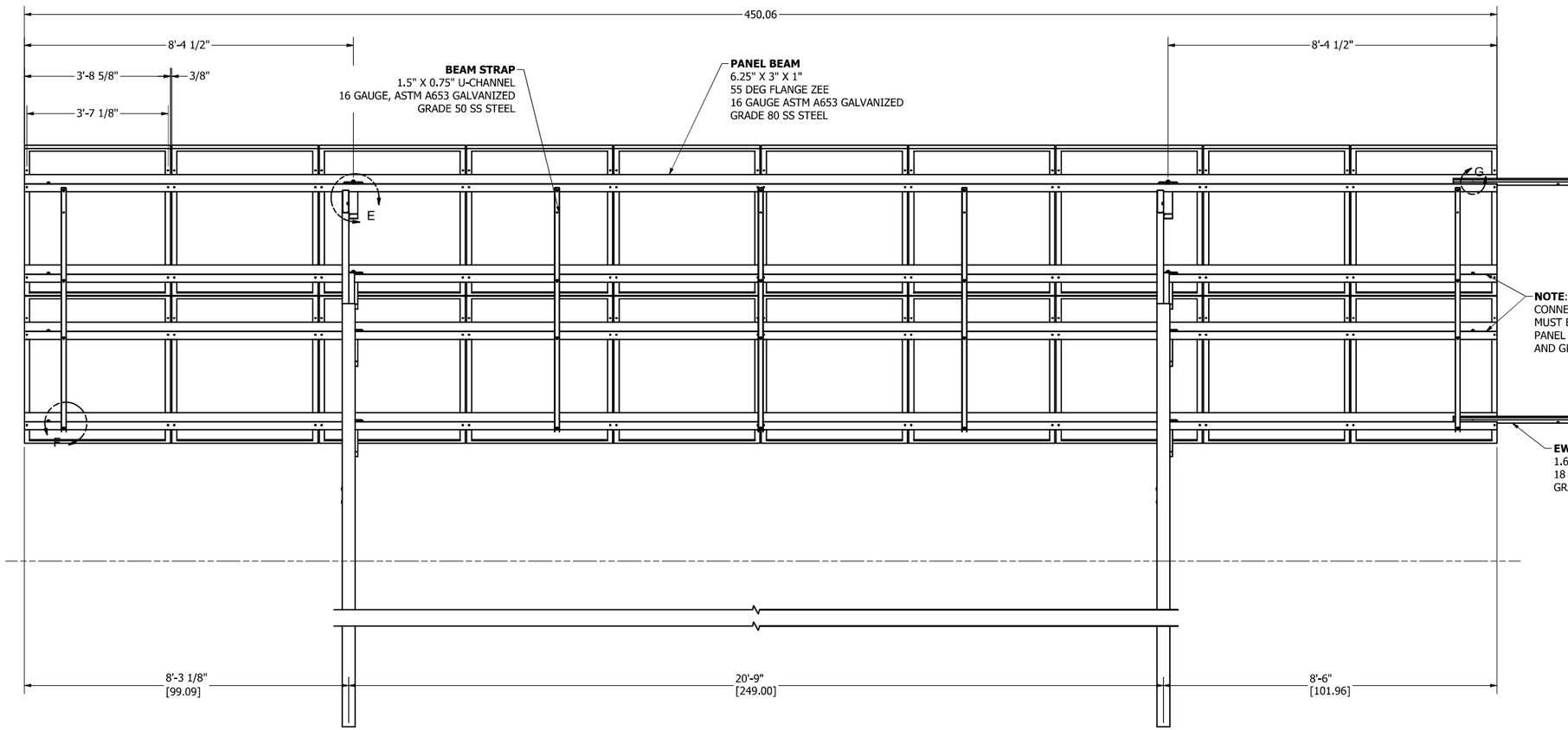
Phone:1-704-659-7474

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

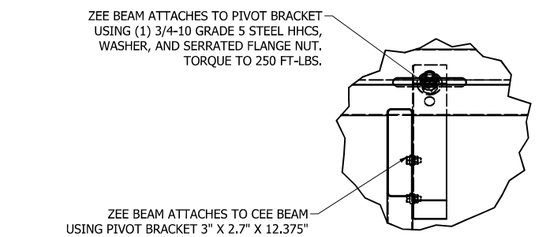
STRUCTURAL DETAIL DRAWING - REAR

NOT FOR CONSTRUCTION

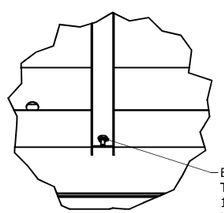


REAR VIEW

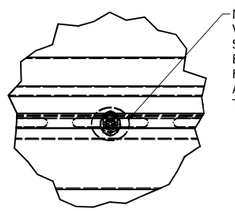
VIEW3
SCALE 1 /20



DETAIL E
SCALE 1 / 6



DETAIL F
SCALE 1 / 5



DETAIL G
SCALE 1 / 3

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PROJECT INFORMATION

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

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-Iw = 1
-Exposure = C
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-Plate - A36 Steel, Hot Dip Galvanized
-Connectors - Stainless Steel unless otherwise noted.

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Engineer of Record

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SURFACE FINISH = 63 (US)

Material:
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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:

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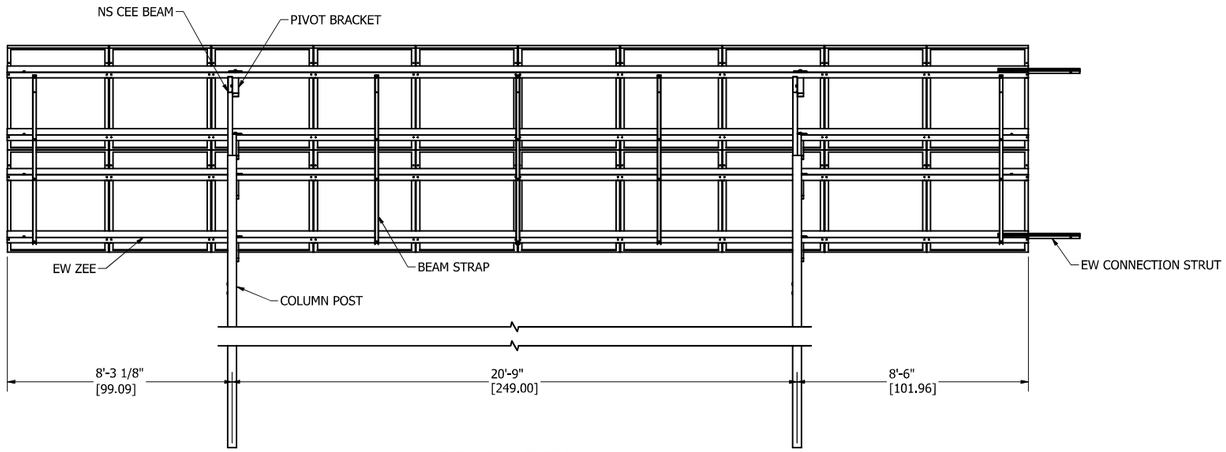
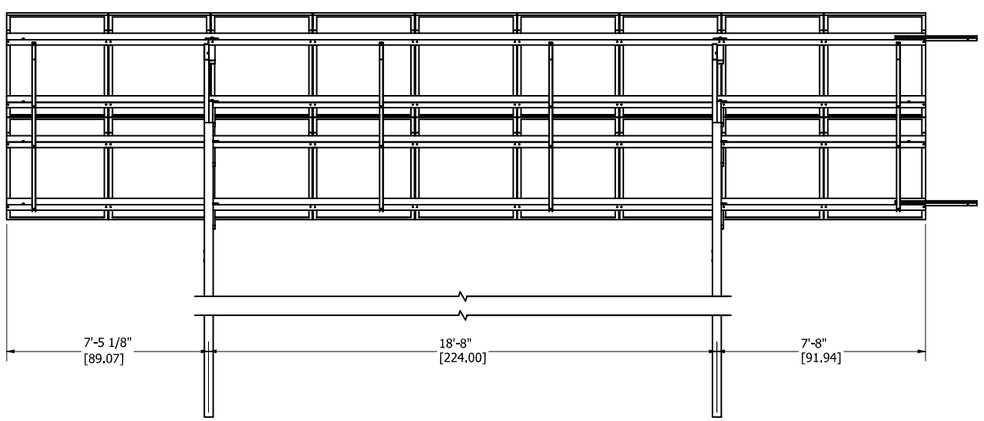


REAR VIEW

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

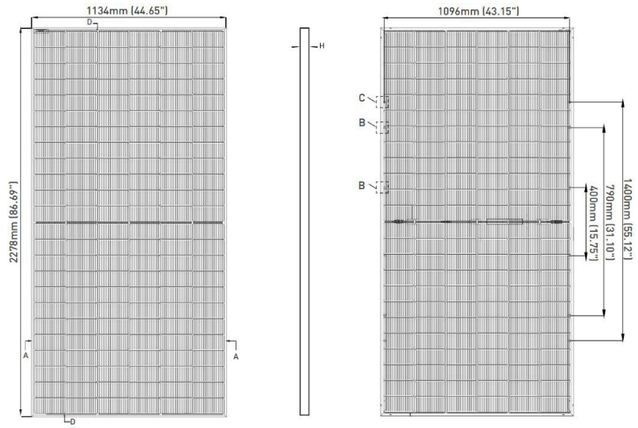
*ADJUSTED UPLIFT IS ASSUMED AS 70% OF THE DOWNWARD LOAD. IT'S RECOMMENDED TO USE THIS LOAD FOR PULL TEST IN CASE PUSH TEST CANNOT BE PERFORMED.
1: USE ADJUSTED UPLIFT IF NO REFUSAL IS ENCOUNTERED.
2: USE UPLIFT FORCE IN CASE OF REFUSAL.
3: FOR UPLIFT AND LATERAL FORCES USE SAFETY FACTOR OF 1.5 AND 2, 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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Project: HENDRICKSON USA
Drawn: CPATTERSON
Date: 3/6/2025
Scale:
Sheet: 3 of 5

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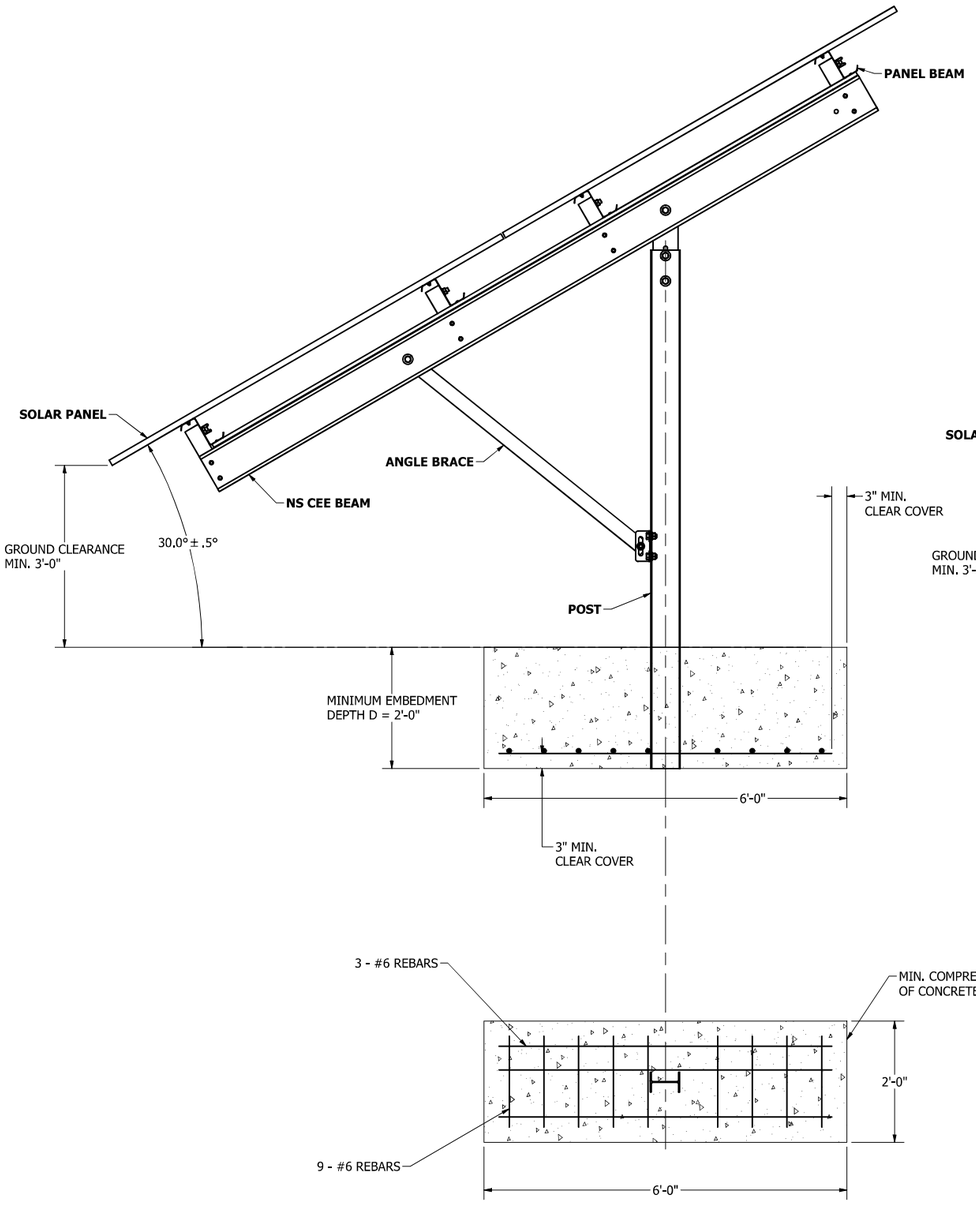
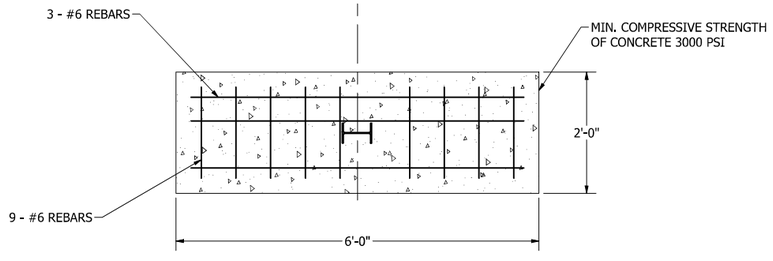
Format: D
Part Number: **6438**
Rev:

STRUCTURAL DETAIL DRAWING - ALTERNATE FOUNDATIONS

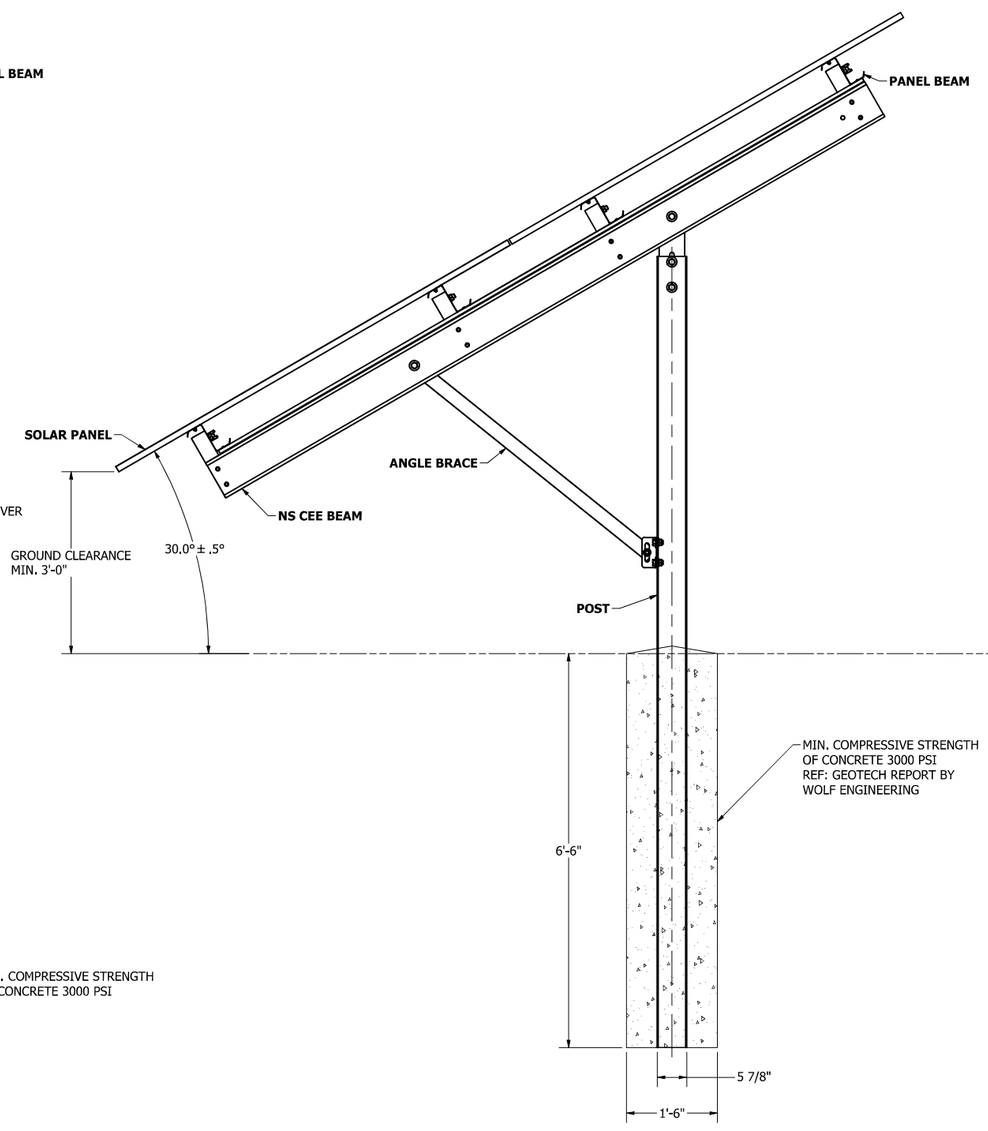
NOT FOR CONSTRUCTION





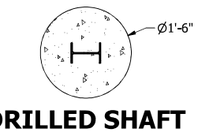
ALTERNATE PILE SECTION FOR USE WHEN REFUSAL CONDITION ENCOUNTERED AT EMBEDMENT DEPTHS LESS THAN 6'-6"

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

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Description:	**CT-LS-DB, JINKO JKM595-72HL4-BDV, 2x10, 30 DEG, HENDRICKSON USA, FRESH COAST SOLAR**
Project:	HENDRICKSON USA
Drawn:	CPATTERSON
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Sheet:	4 of 5

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www.dcesolar.com
Phone:1-704-659-7474

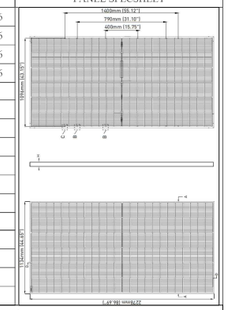
Format:	Part Number	Rev:
D	**6438**	

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 SPECSHEET

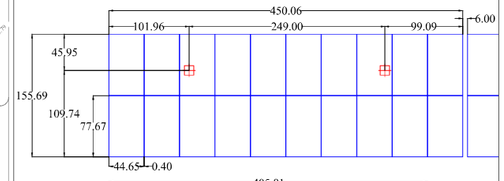


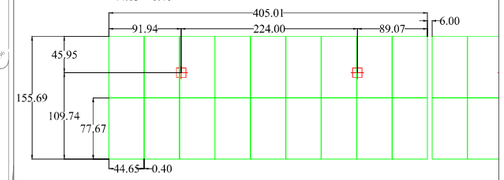
PANEL SPECIFICATION	
MODEL	JINKO JKM595-72HL4-BDV
LENGTH (mm)	2278
WIDTH (mm)	1134
WEIGHT (lb)	68.3
PANEL WATTAGE (W)	595
PROJECT PANEL COUNT	1,992

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

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

CAD BLOCK





GENERAL NOTES

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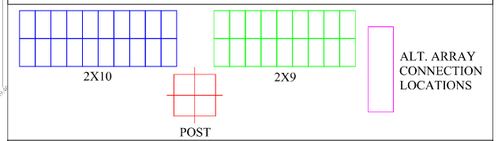
3. CUSTOMER PROVIDED SITE LAYOUTS WERE USED TO GENERATE THE LAYOUT AS SHOWN.

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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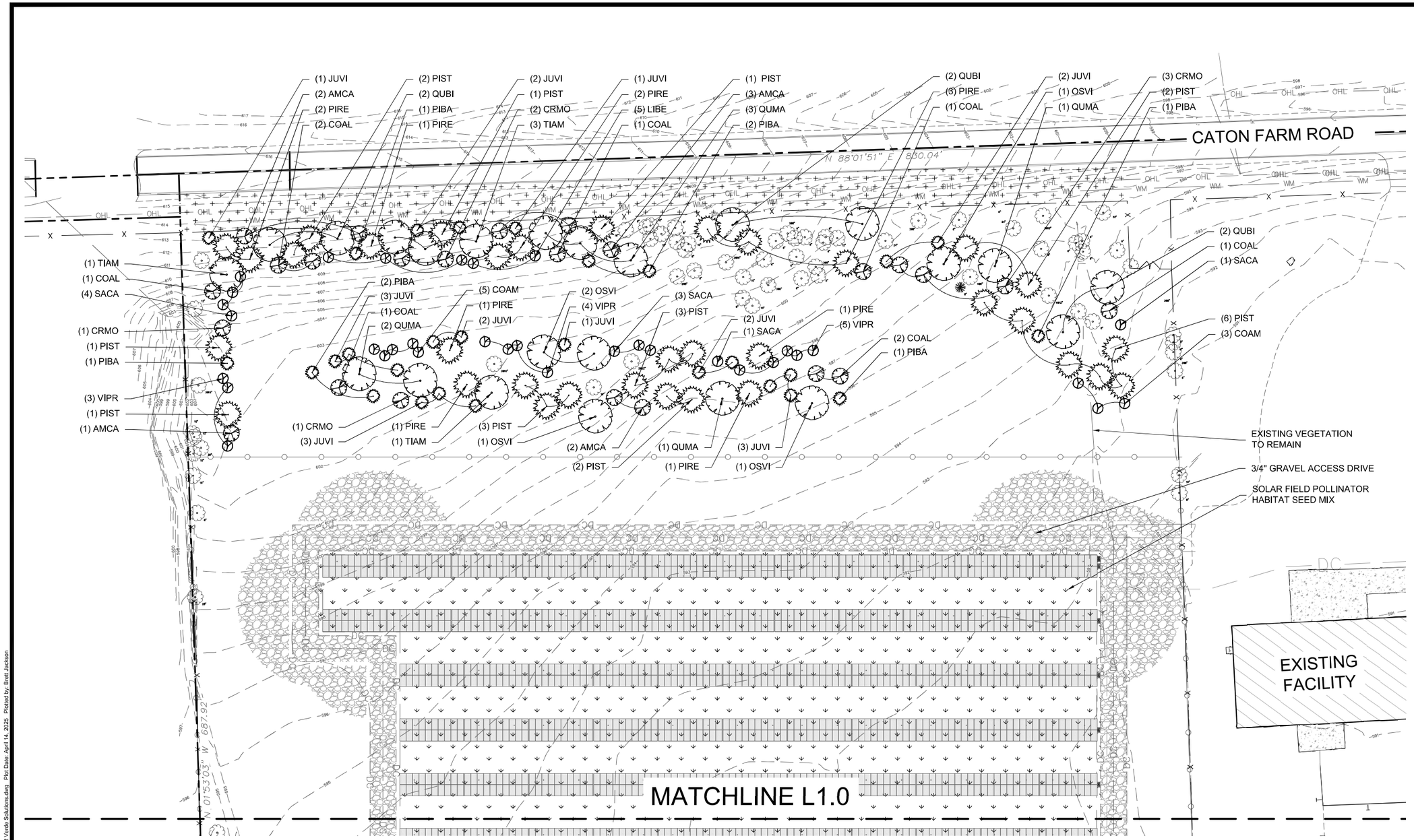
Format: D

SHEET: 5 OF 5



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Scale: 1" = 30'

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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
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Fax (847) 740-2888
Chicago@Heyassoc.com

Professional Design Firm
License No. 184-002429

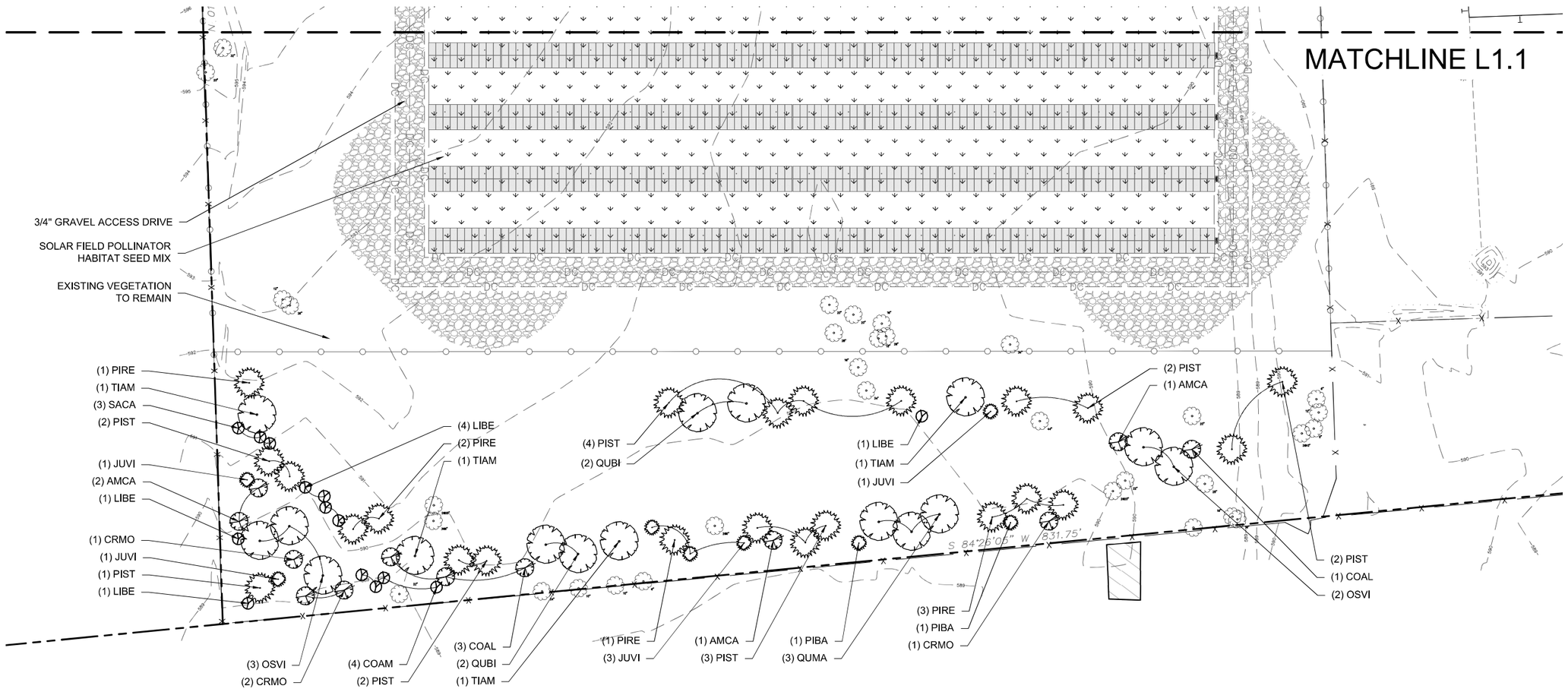
Verde Solutions

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



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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

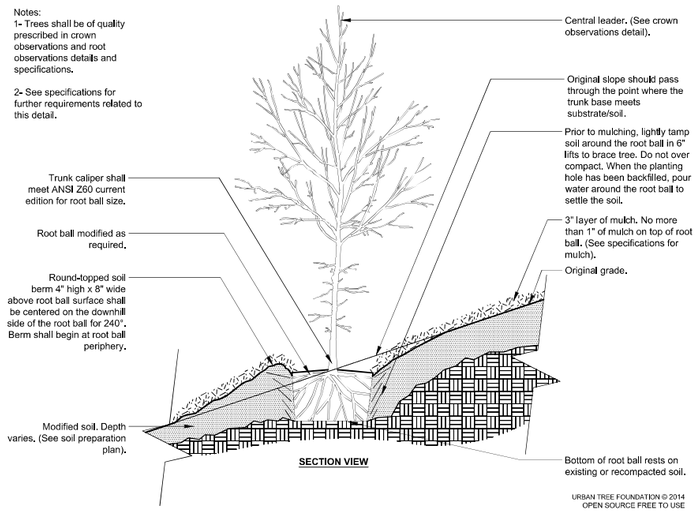
AREA
226,939 sf existing / 725 = 313 plantings
313 plantings x 10 sf groundcover = 3,130 sf

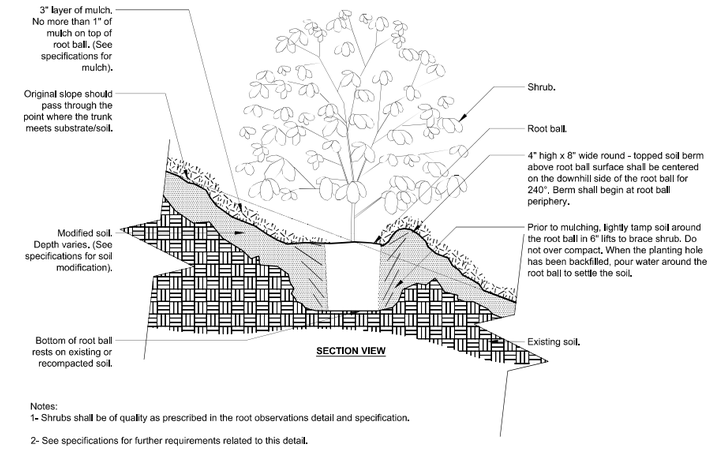
EXISTING
97 trees
313 - 97 = 216

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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For Review

BY-LAWS OF THE CITY OF CREST HILL PLAN COMMISSION

I. PLAN COMMISSION

The Plan Commission shall consist of seven (7) members appointed by the Mayor of the City and confirmed by the City Council. The term of office shall be three (3) years and may be renewed for another term by mutual consent of the Mayor and member, subject to confirmation by the City Council. Vacancies shall be filled in the same manner. Members may be removed by the Mayor for cause after written charges have been filed and after a public hearing has been held, if demanded by the member so charged.

II. OFFICERS & REGULAR MEETINGS

A. Plan Commission Officers shall be elected annually at the Commission's May meeting. If the May Plan Commission meeting is canceled for lack of agenda items, then the annual election of Plan Commission Officers shall be conducted at the first meeting thereafter.

B. The Plan Commission shall meet on the second (2^{nd}) Thursday of each month in the City Council Chambers, 20600 City Center Boulevard, Crest Hill, Illinois 60403, unless otherwise specified by the presiding Officer.

C. Adjourned annual meetings or adjourned monthly meetings of the Commission may be held at such time and place as may be fixed in the resolution of adjournment or notice of special meeting. If no other place is fixed in the resolution, the meeting shall be held in the City Council Chambers, 20600 City Center Boulevard, Crest Hill, Illinois 60403.

D. All regular meetings shall be held at 7:00 p.m.

III. SPECIAL MEETINGS

A. Special meetings of the Commission may be called by the Chairperson and held at any time or place fixed in the Notice and Agenda, which shall be published as required by the Illinois Open Meetings Act.

B. The Chairperson shall call a special meeting of the Commission at the written request of any one (1) or more members of the Commission, and if the Chairperson shall fail to comply with such request, said members so requesting shall call such meeting and shall sign the notice.

C. Adjourned special meetings of the Commission may be held at such time and place as may be fixed in the resolution of adjournment. If no other place is fixed in the resolution, the meeting shall be held in the City Council Chambers, 20600 City Center Boulevard, Crest Hill, Illinois 60403.

IV. NOTICE OF MEETINGS

A. All Meeting Notices and Agendas shall be published consistent with the requirements of the Illinois Open Meetings Act. All Plan Commission Notices, Agendas and Commissioner Packets shall be delivered to the Plan Commission Members by regular or email, as requested by the Member.

B. A Notice and Agenda for a Special Meeting as directed by the Chairperson or other presiding officer shall name the time and place of the Special Meeting and all business to be transacted and shall be sent to each member of the Commission by regular mail or email, as requested by the Member, at least seven (7) days in advance of the Special Meeting to allow sufficient time to enable a Member to attend.

V. MEETING ATTENDANCE. Plan Commission members shall be allowed two (2) paid absences from scheduled meetings during the calendar year. Any absence from a scheduled meeting after two absences during a calendar year will not be compensated. If a member is absent from five (5) or more scheduled meetings in a single calendar year, a recommendation may be made to the Mayor by the Plan Commission for that member's dismissal. Such a recommendation must be signed by four (4) Commission members.

VI. QUORUM

A. Four (4) members of this Commission shall be necessary to constitute a quorum for the transaction of any business. Each member of the Commission is entitled to one vote.

B. The affirmative vote of four (4) members present constituting the quorum shall be required for the exercise of powers of functions conferred or imposed upon the Commission, but less than a quorum of members may meet and adjourn from time to time until a quorum is present.

VII. OFFICERS

All Officers shall be members of the Commission and consist of a Chairperson, a Vice-Chairperson, and a Secretary. The executive secretary shall not be a member of the Commission.

A. Chairperson

1. The Chairperson shall preside over all meetings of the Commission.

2. The Chairperson shall have general charge of the business of the Commission.

3. The Chairperson shall, in conjunction with the secretary when authorized by the Commission, execute in its name all contracts and other obligations.

4. The Chairperson shall appoint all committees.

5. The Chairperson shall have general supervision of the conduct of affairs of the Commission and of the employees thereof.

6. The Chairperson shall perform such other duties as are usually exercised by the Chairperson of a Commission or the President or Chief Executive Officer of a corporation.

B. Vice-Chairperson

1. The position of Vice-Chairperson is hereby established.

2. The Vice-Chairperson shall perform the duties of the Chairperson during the absence or disability of the Chairperson.

C. Secretary

1. The position of Secretary is hereby established.

2. The Secretary shall attend all regular and special meetings and shall be responsible for overseeing the taking and keeping of minutes of the Commission and signing plats, as necessary.

3. The Secretary shall oversee the publishing of all notices of regular and special meetings.

D. Executive Secretary

The executive secretary shall be a staff member of the City who is tasked with the responsibility of preliminary review of all applications coming before the Plan Commission, preparing and publishing Notices of Public Hearing, creating and maintaining agendas of the Commission, providing agenda packets and other materials to the Commission Members, coordinating and communicating with applicants, attending all Plan Commission meetings, creating and maintaining Minutes of all Plan Commission meetings and, under the direction of the Chairperson, keeping all books, papers, and records of the Plan Commission. However, the executive secretary shall not be responsible for the signing of any plats that have been approved by the Commission.

VIII. COMMITTEES

A. Standing Committees may be appointed as needed by the Chairperson.

B. Each Committee shall consist of two (2) or more members to be appointed By the Chairperson.

The Chairperson shall have the authority whenever it may be advisable to appoint as advisory member of any Committee of the Commission, other citizens with talent, information or experience with the issues being addressed by the Committee to which they may be appointed.

C. The Chairperson of the Commission shall appoint one member of each committee and a Chairperson thereof, and the Committee shall meet at such time and place as directed by the Chairperson of said committee.

D. The members of a Committee shall serve for one year or until their successors are appointed, and any vacancy on the Committee shall be filled by the Chairperson of the Commission.

E. Whenever necessary, the Chairperson of the Commission shall appoint such Special Committee for such purposes as he or she sees fit, or as may be authorized by the Commission.

F. All reports of Committees upon which action by the Commission is contemplated shall be submitted in writing to the Commission and signed by the Chairperson of the Committee.

IX. ELECTIONS AND APPOINTMENTS

A. The Chairperson of the Commission shall be elected by the Commission Members and shall serve for one year or until a successor is elected.

B. The Vice-Chairperson shall be elected by the Commission and shall serve for one year or until a successor is elected.

C. The Secretary shall be elected by the Commission and shall serve for one year or until a successor is elected.

D. Any vacancy in the office of the Chairperson, Vice-Chairperson, or Secretary of the Commission may be filled at any Regular or Special Meeting after such vacancy.

E. The Chairperson of the Commission shall appoint any Committees and the Chairperson of each no later than the next Regular Meeting after the meeting at which Officers are elected.

F. In the event that the Chairperson, Vice-Chairperson, or Secretary of the Commission should be absent or unable for any reason to attend to the duties of their office, the members of the Commission may at any Regular Meeting or at any Special Meeting called for that purpose, appoint a Chairperson Pro Temp, as the case may be, who shall attend to all the duties of such officer until such officer shall return or be able to attend to his or her duties.

X. ORDER OF BUSINESS

A. Call to Order
B. Pledge to The Flag
C. Roll Call (for attendance)
D. Approval of Prior Meeting Minutes
E. New Business
F. Other Business
G. Public Comment
H. Adjournment

XI. AMENDMENT OF BY-LAWS AND RULES OF PROCEDURE

These By-Laws and any Plan Commission Rules, Procedures, or Policies may be amended at any Regular or Special Meeting when submitted in writing (in advance) to the Commission Members and approved by a majority of the Commission.

XII. RULES OF ORDER

All proceedings before the City of Crest Hill Plan Commission shall be governed by Robert's Rules of Order wherever possible.

April 24, 2025
Chairman Plan Commission

April 24, 2025
Secretary Plan Commission

April 24, 2025
Director Community & Economic Development

Ref. City of Crest Hill Ordinance **No. 2005** Approved December 2, 2024