



## LINEAGE CARPORTS ADDITION JSP24-18

### **JSP24-18 Lineage Carports Addition**

Consideration at the request of Madison Energy Holdings LLC for Preliminary Site Plan approval. The subject property 46500 Humboldt Drive is located north of Twelve Mile Road and west of West Park Drive on a 14.27 acre parcel within the I-2 General Industrial Zoning District. The applicant is proposing to construct two structurally attached solar collectors to two new carports on their existing parking lot on the north side of the existing building

#### Required Action

Approve/Deny the Preliminary Site Plan.

REVIEW	RESULT	DATE	COMMENTS
Planning	Approval recommended	10-10-2024	<b>ZBA variance for the carports which exceed the allowable height and width (12 ft maximum height permitted, ~17 ft average height proposed; 40 feet maximum width permitted, 52.5 feet proposed)</b>
Engineering	Approval Recommended	10-10-2024	Items to be addressed at Electronic Stamping Set
Landscape	Approval Recommended	10-3-2024	<b>Landscape waivers for 4 parking bays that have 17 contiguous spaces without a landscaped island with canopy trees; and, for the lack of 13 interior parking lot island trees</b>
Traffic	Approval Recommended	10-9-2024	Items to be addressed at Electronic Stamping Set
Façade	Approval Recommended	10-9-2024	
Fire	Approval Recommended	10-1-2024	

## **MOTION SHEET**

### **Approval – Preliminary Site Plan**

In the matter of Lineage Carports Addition, JSP24-18, motion to approve the Preliminary Site Plan based on and subject to the following:

- a. Landscape waiver for 4 parking bays that have 17 contiguous spaces without a landscaped island with canopy trees – *supported by staff*
- b. Landscape waiver for the lack of 13 interior parking lot island trees – *supported for 12 trees in islands to be occupied by the solar panels, not for the tree to be transplanted from the southeast corner island.*
- c. ZBA variance for the proposed width of the two carports exceeding the maximum width permitted (40 feet maximum permitted, 52.5 feet proposed). This additional width is proposed because the carports will cover not only the parking spaces, but also an existing sidewalk that runs along the front of the parking spaces – *supported by staff*
- d. ZBA variance for the carports which exceed the allowable height (12 ft maximum permitted, ~17 ft average height proposed). This is due to the design of the carport structures, and the extra width needed to cover not only the parking spaces, but also the existing sidewalk that runs along the front of the parking spaces – *supported by staff.*
- e. The findings of compliance with Ordinance standards in the staff and consultant review letters and the conditions and the items listed in those letters being addressed on the revised Final Site Plan.

This motion is made because the plan is otherwise in compliance with Article 3, Article 4, and Article 5 of the Zoning Ordinance and all other applicable provisions of the Ordinance.

– OR –

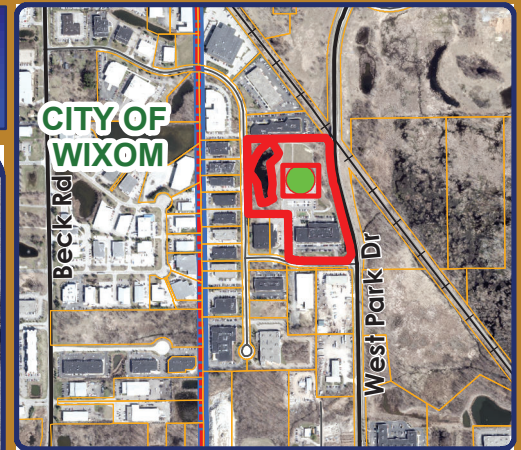
### **Denial – Preliminary Site Plan**

In the matter of Lineage Carports Addition, JSP24-18, motion to deny the Preliminary Site Plan *(because the use is not in compliance with Article 3, Article 4, and Article 5 of the Zoning Ordinance and all other applicable provisions of the Ordinance.)*

MAPS  
Location  
Zoning  
Future Land Use  
Natural Features

# JSP24-18 Linage Carports Addition

## LOCATION



Subject Area



### City of Novi

Dept. of Community Development  
City Hall / Civic Center  
45175 W Ten Mile Rd  
Novi, MI 48375  
cityofnovi.org

Map Author: Dan Commer  
Date: 11/6/24  
Project: JSP24-18 Linage Carports Addition  
Version #: 1

0 90 180 360 540

1 inch = 417 feet

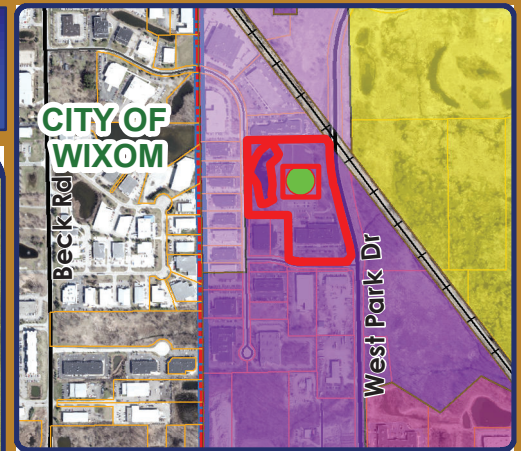
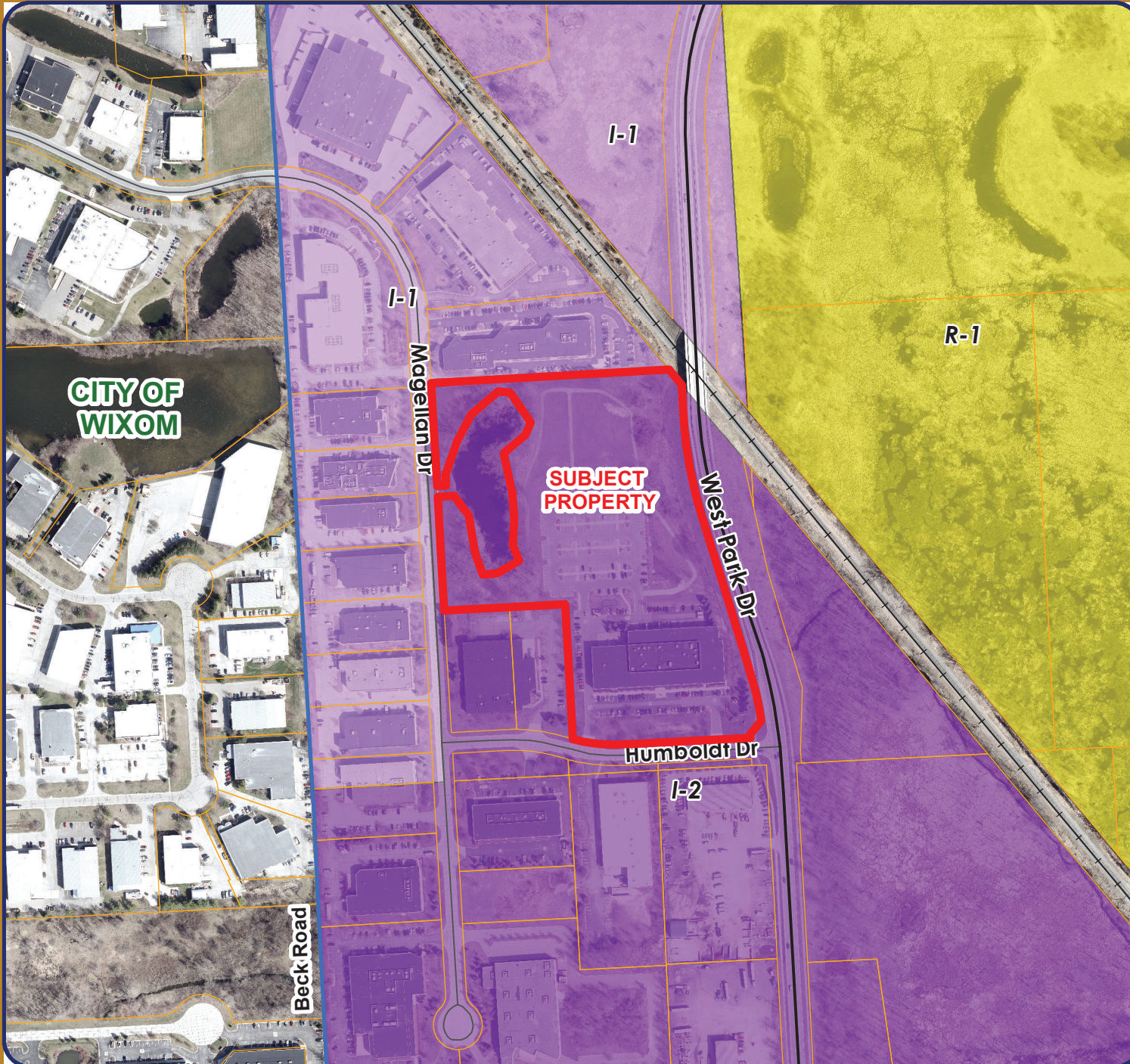


#### MAP INTERPRETATION NOTICE




Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

# JSP24-18 Linage Carports Addition

## ZONING



### Legend

-  R-1: One-Family Residential District
-  I-1: Light Industrial District
-  I-2: General Industrial District
-  Subject Area



### City of Novi

Dept. of Community Development  
 City Hall / Civic Center  
 45175 W Ten Mile Rd  
 Novi, MI 48375  
[cityofnovi.org](http://cityofnovi.org)

Map Author: Dan Commer  
 Date: 11/6/24  
 Project: JSP24-18 Linage Carports Addition  
 Version #: 1

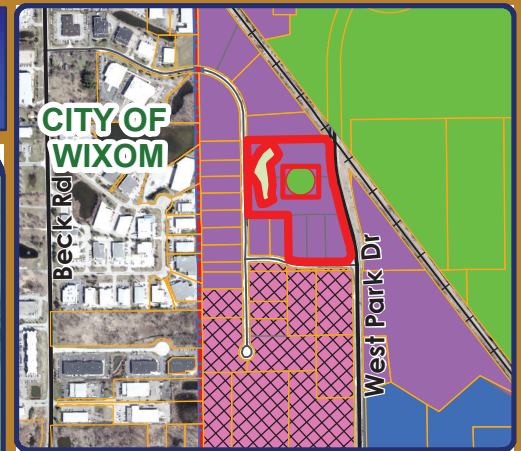
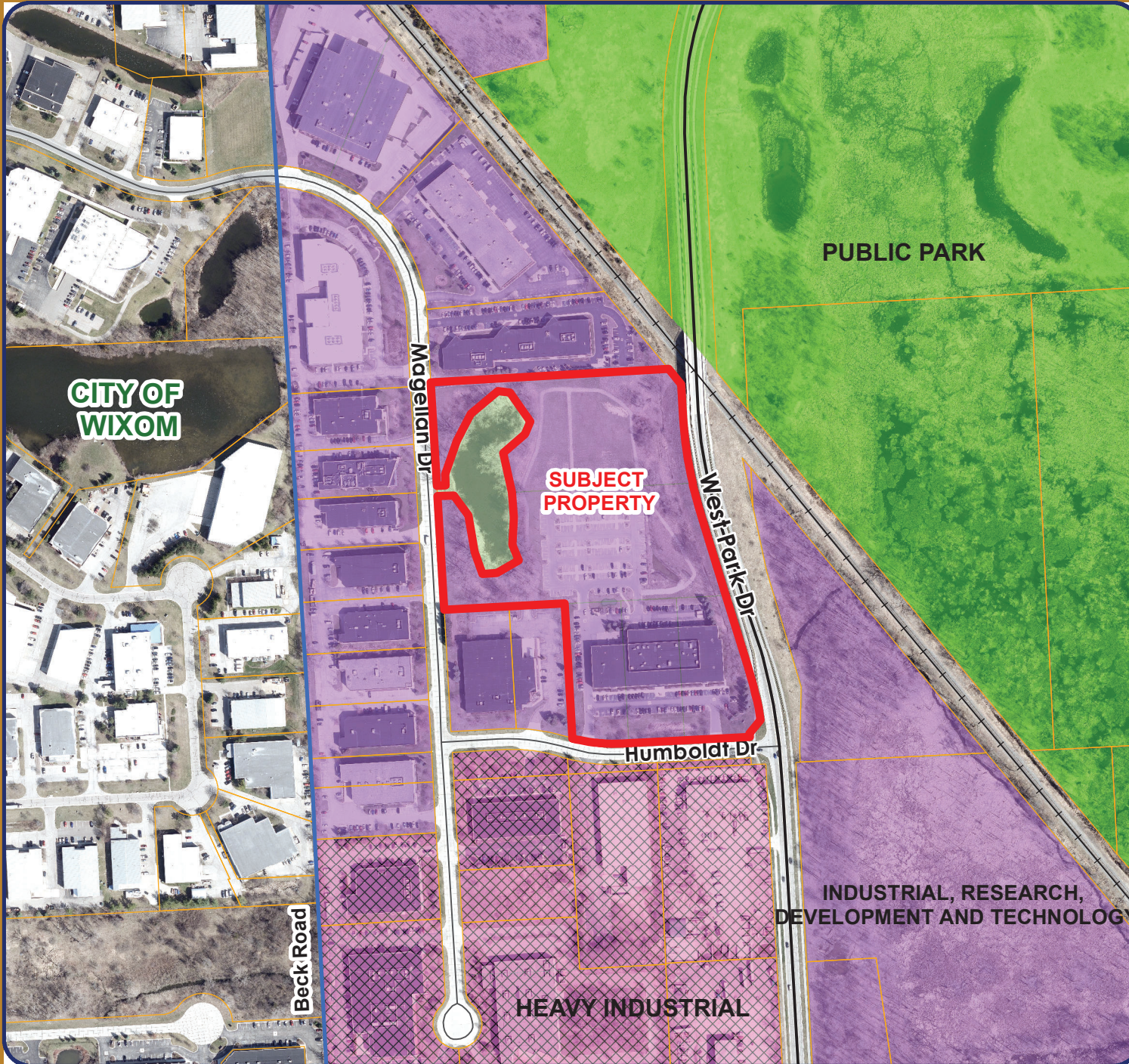


#### MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

# JSP24-18 Linage Carports Addition

FUTURE LAND USE



### Legend

-  Industrial, Research, Development and Technology
-  Heavy Industrial
-  Public Park
-  Private Park
-  Subject Area



## City of Novi

Dept. of Community Development  
City Hall / Civic Center  
45175 W Ten Mile Rd  
Novi, MI 48375  
cityofnovi.org

Map Author: Dan Commer  
Date: 11/6/24  
Project: JSP24-18 Linage Carports Addition  
Version #: 1

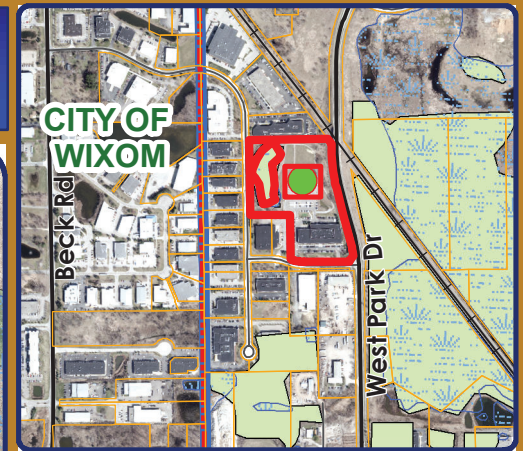


### MAP INTERPRETATION NOTICE




Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

# JSP24-18 Linage Carports Addition

## NATURAL FEATURES



### Legend

-  Wetlands
-  Woodlands
-  Subject Area



### City of Novi

Dept. of Community Development  
 City Hall / Civic Center  
 45175 W Ten Mile Rd  
 Novi, MI 48375  
[cityofnovi.org](http://cityofnovi.org)

Map Author: Dan Commer  
 Date: 11/6/24  
 Project: JSP24-18 Linage Carports Addition  
 Version #: 1



#### MAP INTERPRETATION NOTICE

Map information depicted is not intended to replace or substitute for any official or primary source. This map was intended to meet National Map Accuracy Standards and use the most recent, accurate sources available to the people of the City of Novi. Boundary measurements and area calculations are approximate and should not be construed as survey measurements performed by a licensed Michigan Surveyor as defined in Michigan Public Act 132 of 1970 as amended. Please contact the City GIS Manager to confirm source and accuracy information related to this map.

**SITE PLAN**



CONSTRUCTION PLANS

# LINEAGE CAR PORTS ADDITION

46500 HUMBOLDT DRIVE  
CITY OF NOVI, OAKLAND COUNTY, MICHIGAN

PERMIT / APPROVAL SUMMARY		
DATE SUBMITTED	DATE APPROVED	PERMIT / APPROVAL
9/10/2024		PRELIMINARY SITE PLAN APPROVAL
9/10/2024		FINAL SITE PLAN APPROVAL
9/10/2024		SESC PERMIT

**WAIVER AND VARIANCE LIST**

1) A WAIVER IS REQUESTED FROM SECTION 5.3.12 OF NOVI ZONING ORDINANCE TO ALLOW SOME OF THE EXISTING INTERIOR LANDSCAPE TREES TO BE REMOVED FOR THE CONSTRUCTION OF SOLAR CANOPIES. REPLACEMENT TREES WILL BE PLACED AROUND THE PERIMETER OF THE PARKING AREA



**DESIGN TEAM**

<b>APPLICANT</b>	<b>CIVIL ENGINEER</b>
MADISON ENERGY INVESTMENTS 8100 BOONE BLVD, SUITE 310 VIENNA, VA 22182 CONTACT: NICK PERGE PHONE: 614-425-0315 EMAIL: NPERGE@MADISONEI.COM	PEA GROUP 58105 VAN DYKE RD. WASHINGTON TWP., MI 48094 CONTACT: BECKY KLEIN, PE, LEED AP BD+C PHONE: 844.813.2949 EMAIL: BKLEIN@PEAGROUP.COM
	<b>LANDSCAPE ARCHITECT</b>
	PEA GROUP 7627 NEMCO WAY, STE. 115 BRIGHTON, MI 48116 CONTACT: JANET EVANS, PLA PHONE: 844.813.2949 EMAIL: JEVANS@PEAGROUP.COM

INDEX OF DRAWINGS	
NUMBER	TITLE
	COVER SHEET
C-1.0	OVERALL EXISTING CONDITIONS PLAN
C-1.1	EXISTING CONDITIONS AND DEMOLITION PLAN
C-2.0	OVERALL SITE PLAN
C-2.1	DIMENSION AND PAVING PLAN - 1
C-2.2	DIMENSION AND PAVING PLAN - 2
C-3.1	GRADING AND SESC PLAN - 1
C-3.2	GRADING AND SESC PLAN - 2
C-4.0	UTILITY PLAN
C-5.0	NOTES AND DETAILS
L-1.0	LANDSCAPE PLAN
L-2.1	LANDSCAPE SPECIFICATIONS
L-2.2	LANDSCAPE SPECIFICATIONS
	COLOR RENDERINGS (4 PAGES)
	<u>PRELIMINARY ELECTRICAL PLANS</u>
PV100	SITE PLAN
PV101	ARRAY LAYOUT
PV102	ARRAY LAYOUT
PV103	DIMENSION PLAN
PV104	LIGHTING PLAN
EV100	EV CHARGERS (NORTH)
EV101	EV CHARGERS (SOUTH)
PV200	ONE LINE DIAGRAMS
PV201	THREE LINE DIAGRAMS
PV300	SPEC SHEETS
PV301	SPEC SHEETS
PV302	SPEC SHEETS
	<u>PHOTOMETRIC SITE PLANS</u>
1 OF 2	PHOTOMETRIC LAYOUT
2 OF 2	PHOTOMETRIC LAYOUT
	<u>CARPORT CANOPY STRUCTURAL PLANS</u>
S0.1	STRUCTURAL NOTES
S0.2	TESTING AND INSPECTION NOTES
S0.3	ABBREVIATIONS AND SYMBOLS
S1.0	CANOPY FOUNDATION PLAN
S1.1	CANOPY FRAMING PLAN
S2.1	TYPICAL CANOPY SECTION
S3.1	DETAILS
REVISIONS	
DESCRIPTION	DATE
PRELIMINARY AND FINAL SITE PLAN SUBMITTAL	9/12/2024

























**GENERAL LANDSCAPING REQUIREMENTS**

**1.0 GENERAL**  
**1.1 SUMMARY**

1.1.1 Includes But Not Limited To  
 1. General procedures and requirements for Site Work.

2.0 PRODUCTS - Not Used

**3.1 PREPARATION**  
**3.1.1 Protection**

1. Spillage:
  - A. Avoid spillage by covering and securing loads when hauling on or adjacent to public streets or highways.
  - B. Remove spillage and sweep, wash, or otherwise clean project, streets, and highways.
2. Erosion Control:
  - A. Take precautions necessary to prevent erosion and transportation of soil downstream, to adjacent properties, and into on-site or off-site drainage systems.
  - B. Develop, install, and maintain an erosion control plan if required by law.
  - C. Repair and correct damage caused by erosion.

**END OF SECTION**  
**3.2 Existing Plants And Features:**

- A. Do not damage tops, trunks, and roots of existing trees and shrubs on site which are intended to remain.
- B. Do not use heavy equipment within branch spread. Interfering branches may be removed only with permission of Landscape Architect.
- C. Do not damage other plants and features which are to remain.

3.1.2 If specified precautions are not taken or corrections and repairs made promptly, Owner may take such steps as may be deemed necessary and deduct costs of such from monies due to Contractor. Such action or lack of action on Owner's part does not relieve Contractor from responsibility for proper protection of the work.

**LANDSCAPING PREPARATION**

**1.0 GENERAL**  
**1.1 SUMMARY**

1.1.1 Includes But Not Limited To  
 1. General landscaping work requirements.

1.2 QUALITY ASSURANCE

1.2.1 Comply with all applicable local, state and federal requirements, regarding materials, methods of work, and disposal of excess and waste materials.

1.2.2 Obtain and pay for all required inspections, permits, and fees.

1.2.3 Provide notices required by governmental authorities.

**1.3 PROTECT CONDITIONS**

1.3.1 Locate and identify existing underground and overhead services and utilities within contract limit work area. (Call Miss Dig 1-800-482-7171 in Michigan).

1.3.2 Provide adequate means to protect utilities and services designated to remain.

1.3.3 Repair utilities damaged during site work operations at Subcontractor's expense.

1.3.4 When unearthed or incorrectly located underground piping or other utilities and services are encountered during site work operations, notify the appropriate utility company immediately to obtain procedure directions. Cooperate with the applicable utility company in maintaining active services in operation.

1.3.5 Locate, protect, and maintain benchmarks, monuments, control points and project engineering reference points. Re-establish disturbed or destroyed items at Subcontractor's expense.

1.3.6 Perform landscape work operations and the removal of debris and materials to assure minimum interference with streets, walks, and other adjacent facilities.

1.3.7 Obtain governing authority written permission when required to close or obstruct streets, walks and adjacent facilities. Provide alternate routes around closed or obstructed traffic ways when required by governing authorities.

1.3.8 Protect and maintain street lights, utility poles and services, traffic signal control boxes, curb boxes, valves and other services, except items designated for removal.

1.3.9 The General Contractor will occupy the premises and adjacent facilities during the entire period of construction. Perform landscape work operations to minimize conflicts and to facilitate General Contractor's use of the premises and conduct of his normal operations.

1.3.10 Perform landscape preparation work before commencing landscape construction.

1.3.11 Provide necessary barricades, coverings and protection to prevent damage to existing improvements indicated to remain.

1.3.12 Protect existing trees scheduled to remain against injury or damage including cutting, breaking or skinning of roots, trunks or branches, smothering by stockpiled construction materials, excavated materials or vehicular traffic within branch spread.

**2.0 PRODUCTS**  
**2.1 MATERIALS/EQUIPMENT**

2.1.1 As selected by the General Contractor, except as indicated.

- A. Wood fencing - Snow fencing 4' height.
- B. Posts - Steel fence post.
- C. Herbicide for lawn restoration - "Round-up" by Monsanto.

**3.0 EXECUTION**  
**3.1 EXISTING UTILITIES**

3.1.1 Call "Miss Dig" 811 before construction begins. Information on the drawings related to existing utility lines and services is from the best sources presently available. All such information is furnished only for information and is not guaranteed. Excavate test pits as required to determine exact locations of existing utilities.

**3.2 CLEANING**

3.2.1 Locate and identify existing trees and improvements indicated to remain.

3.2.2 Fencing/soil erosion fence is to be installed.

3.2.3 Any equipment that impacts with the soil in the areas of existing trees is not allowed.

3.2.4 Protect trees scheduled to remain with 4" high snow fence per notes.

3.2.5 No vehicular traffic is permitted beneath drip line at any time. All lawn areas are to be worked by hand.

3.2.6 Clear and grub areas within contract limits as required for site access and execution of the work.

3.2.7 Remove trees, plants, undergrowth, other vegetation and debris, except items indicated to remain.

3.2.8 Treat planting and lawn areas as required with herbicide per manufacturer recommendations to kill existing vegetation prior to planting, seeding and sodding.

3.2.9 Remove stumps and roots to a clear depth of 36" below subgrade.

3.2.10 Remove stumps and roots to their full depth within 50' of underground structures, utility lines, footings, and power lines.

**3.3 DISPOSAL OF WASTE MATERIALS**

3.3.1 Stockpile, haul from site and legally dispose of waste materials and debris. Accumulation is not permitted.

3.3.2 Maintain disposal routes, clear, clean and free of debris.

3.3.3 On site burning of combustible debris materials is not permitted.

3.3.4 Upon completion of landscape preparation work, clean areas within contract limits, remove tools and equipment. Site to be clear, clean and free of materials and debris and suitable for site work operations.

3.3.5 Materials, items and equipment not scheduled for reinstallation or salvaged for the General Contractor are the property of the Landscape Architect. Remove cleared material from the site on the work progresses. Storage and sale of Landscape Contractor salvaged items on site is not permitted.

**END OF SECTION**  
**FINISH GRADING AND TOPSOIL PLACEMENT**

**1.0 GENERAL**  
**1.1 SUMMARY**

1.1.1 Includes But Not Limited To  
 1. Perform finish grading and topsoil placement required to prepare site for installation of landscaping as described in Contract Documents.

**1.2 SUBMITTALS**  
**1.2.1 Quality Assurance**

1.2.1.1 Submit test on imported topsoil and on site stockpiled topsoil by independent licensed testing laboratory prior to use. Imported topsoil shall meet minimum specified requirements and be approved by the Landscape Architect prior to use.

1.2.1.2 Provide and pay for testing and inspection during topsoil operations. Laboratory, inspection agencies, and Soil Engineer shall be acceptable to the Landscape Architect.

1.2.1.3 Submit report stating location of source of imported topsoil and account of receipt use.

1.2.1.4 Test for pH factor, mechanical analysis, and percentage of organic content.

1.2.1.5 Submit test reports to General Contractor.

1.2.1.6 Sub-Contractor, or testing agency to make recommendations on type of quantity of additives required to establish satisfactory pH factor. Apply of nutrients to bring nutrients to satisfactory level for planting.

**1.3 QUALITY ASSURANCE**

1.3.1 Participate in pre-installation meeting with Landscape Architect.

**1.4 PROTECT CONDITIONS**

1.4.1 Also see Landscape Preparation Section.

1.4.2 Protect existing trees, plants, lawns, and other features designated to remain as part of the landscaping work.

1.4.3 Promptly repair damage to adjacent facilities caused by topsoil operations. Cost of repair at Subcontractor's expense.

1.4.4 Promptly notify the General Contractor and Landscape Architect of unexpected subsurface conditions.

**2.0 PRODUCTS**  
**2.1 MATERIALS**

2.1.1 Topsoil: supplied and stockpiled topsoil proposed for use must meet the testing criteria results specified in the Topsoil must conform to adjustments and recommendations from the soil test and by the Landscape Architect.

2.1.2 Existing topsoil: existing topsoil from on-site stockpile shall be utilized. All processing, cleaning, and preparation of this stored topsoil to render it acceptable for use is the responsibility of the Subcontractor.

2.1.3 Provide additional topsoil as required to complete the job. Topsoil must meet testing criteria results specified.

2.1.4 All processing, cleaning, and preparation of this supplied topsoil to render it acceptable for use is the responsibility of the Subcontractor.

2.1.5 Supplied and stockpiled topsoil, shall be fertile, friable, dark in color and representative of local productive soil. Capable of sustaining vigorous plant growth and free of clay lumps, silt, sand, noxious weeds or other foreign matter such as stones of 1" in any dimension, rocks, sticks, and other extraneous material not frozen or muddy. PH of soil ranging between 5.0 and 7.5.

2.1.6 Soil shall not contain more than 2 percent of particles measuring over 2.0 mm in largest size.

2.1.7 Prepared topsoil shall be used in planting materials as specified in Trees, Plants, and Ground Cover; all beds prepared as specified.

**3.0 EXECUTION**  
**3.1 EXAMINATION**

3.1.1 Do not commence work of this Section until grading tolerances specified are met.

**3.2 PREPARATION**

3.2.2 Prior to grading, dig out weeds from planting areas by their roots and remove from site. Before placing top soil in landscape areas, remove rocks larger than 1 inch in any dimension and foreign matter such as building rubble, wire, cans, sticks, concrete, etc.

3.2.3 Prior to placing topsoil, remove any imported base material present in planting areas to return subgrade or other material acceptable to the Landscape Architect.

**3.3 PERFORMANCE**  
**3.3.1 Site Tolerances**

1. Total Topsoil Depth -
  - A. Lawn And Groundcover Planting Areas - 3 inches minimum compacted.
  - B. Shrub Planting Areas - 12 inches minimum throughout entire shrub bed area.
2. Elevation of topsoil relative to walks or curbs -
  - A. Seeded Lawn Areas - 1/4 inch below
  - B. Sodded Lawn Areas - 1 1/2 inches below
- C. Shrub And Ground Cover Areas - 3 inches below

3.3.2 For trees, shrubs, ground cover beds and plant mix for beds see Exterior Plants section.

3.3.3 Provide earth berming where indicated on Plans.

3.3.4 Berming to be free flowing in shape and design, as indicated, and to blend into existing grade gradually so that the top of slope is not readily visible. Landscape Architect or General Contractor's representative to verify final contouring before planting.

3.3.5 Regardless of chain grading elevations indicated, it is intended that grading be such that proper drainage of surface water away from buildings will occur and that no low areas are created. Subcontractor to verify final grading. Consult the General Contractor and Landscape Architect regarding variations in grade elevations before rough grading is completed.

3.3.6 Slope grade away from building for 12 feet minimum from walls at slope of 1/2 inch per ft minimum unless otherwise noted. High point of finish grade of building foundation shall be 6 inches minimum below finish floor level. Direct surface drainage in manner indicated on Drawings by grading surface to facilitate natural run-off of water. Fill low spots and ponds with top soil and grade to drain properly.

3.3.7 Grade all topsoil to remove clods, rocks, weeds, and debris.

3.3.8 Rock and shape area to bring surface to true uniform planes free from irregularities and to provide proper drainage and slopes per plans.

**3.4 CLEANING**

3.4.1 Upon completion of topsoil operations, clean areas within contract limits, remove tools, equipment, and haul off excess topsoil off-site. Site shall be clear, clean, free of debris, and suitable for site work operations.

**END OF SECTION**  
**LAWN SEEDING**

**1.0 GENERAL**  
**1.1 SUMMARY**

1.1.1 Includes But Not Limited To  
 1. Furnish and install seeded lawn as described in Contract Documents.

**1.2 SUBMITTALS**

1.2.1 Submit seed vendor's certification for required grass seed mixture, indicating percentage by weight, and percentage of purity, germination, and seed weight for each grass species.

**1.3 DELIVERY AND HANDLING**

1.3.1 Deliver seed and fertilizer materials in original unopened containers, showing weight, analysis, and name of manufacturer. Store in a manner to prevent wetting and deterioration.

**1.4 PROJECT CONDITIONS**

1.4.1 See landscape preparation section.

1.4.2 Work notification: Notify Landscape Architect of General Contractor's representative at least seven (7) working days prior to start of seeding operation.

1.4.3 Protect existing utilities, paving, and other facilities from damage caused by seeding operations.

1.4.4 Prior to seeding work only after planting and other work affecting ground surface has been completed.

1.4.5 Provide hose and lawn watering equipment as required.

1.4.6 The irrigation system will be installed prior to seeding. Locate, protect, and maintain the irrigation system during seeding operations. Repair irrigation system components damaged during seeding operations at the Subcontractor's expense.

**1.5 WARRANTY**

1.5.1 See Landscape Maintenance and Warranty Section

**2.0 PRODUCTS**  
**2.1 MATERIALS**

2.1.1 Topsoil for Seeded Areas: See Topsoil Placement and Drawings.

2.1.2 Lawn seeded areas: Fresh, clean and new crop seed mixture. Mixed by approved methods.

2.1.3 Seed mixture composed of the following varieties, mixed to the specified proportions by weight and tested to minimum percentages of purity and germination.

2.1.4 Irrigated Lawn Seed Mixture proportioned by volume as indicated below:

SEED TYPE	PROPORTION	PURITY	GERMINATION
Kentucky Bluegrass	50%	90%	90%
Penn Lawn Fescue	30%	90%	90%
Annual Ryegrass	20%	90%	90%

2.1.5 Non-irrigated Seed Mixture proportioned by volume as indicated below:

SEED TYPE	PROPORTION	PURITY	GERMINATION
Penn Lawn Fescue	60%	90%	85%
Kentucky 288 Common Bluegrass	20%	90%	90%
Pennell Perennial Ryegrass	20%	90%	90%

2.1.6 Fertilizer: granular, non burning product composed of not less than 50% organic slow acting, guaranteed analysis professional fertilizer.

2.1.7 Ground Limestone: Used if required by soil test report. Containing not less than 85% of total carbonates and ground to such fineness that 50% will pass through a 100 mesh sieve and 90% will pass through a 20# mesh sieve.

2.1.8 Straw Mulch: Used in striping process only. Clean soil or wheel straw well seasoned before using, free from stems, seed-bearing stalks, or roots of prohibited or noxious weeds.

2.1.9 Water: Free of substances harmful to seed growth. Hoses or other methods to transportation furnished by Sub Contractor.

**3.0 EXECUTION**  
**3.1 INSPECTION**

3.1.1 Landscape Architect or General Contractor's representative must approve finish surfaces, grades, topsoil quality and depth. Do not start seeding work until unsatisfactory conditions are corrected.

**3.2 PREPARATION**  
**3.2.1 SURFACE PREPARATION**

1. Seven days minimum prior to seeding, -
  - A. Treat Lawn areas if required with "Round-Up" by Monsanto, per label direction to kill existing vegetation prior to seeding.
  - B. Loosen topsoil areas to minimum depth of 4", dampen thoroughly, and cultivate to properly break up clods and lumps.
  - C. Grade area to remove clods, rocks, weeds, roots, debris, and stones over 1" in any dimension.
  - D. Grade lawn areas to smooth, free draining even surface with a loose, moderately coarse texture. Roll and rake, remove ridges, and fill depressions as required to drain.
- E. Apply limestone to supplied topsoil if required by soil test report at rate determined by the soil test, to adjust pH of topsoil to not less than 6.0 no more than 6.8. Distribute evenly by machine and incorporate thoroughly into topsoil.
- F. Apply fertilizers to indicated turf areas at a rate equal to 1 lb. of actual nitrogen 1,000 sq. ft. (43 lbs / acre).
- G. Apply fertilizers by mechanical rotary or drop type distributor, thoroughly and evenly incorporated with soil to a depth of 1" by approved topsoil required for specified topsoil depth and bring surface to specified elevation relative to walk or curb.

H. After lawn areas have been prepared, take no heavy objects over lawn except lawn rollers.

I. After preparation of lawn areas and with topsoil in semi-dry condition, roll lawn planting areas in two directions at approximately right angles with water ballast roller weighing 100 to 300 lbs according to soil type.

J. Rake or scourt and fill all irregularities that develop as required until area is true and uniform, free from lumps, depressions, and irregularities.

K. Roll the prepared areas to specified condition if eroded, settled, or otherwise disturbed after fine grading and prior to seeding.

**3.3 INSTALLATION**  
**3.3.1 SEEDING**

1. Seed laws only between April 1, and June 1, and fall seeding between August 15, and October 15, or at such other times acceptable to the Landscape Architect.

2. Seed immediately after preparation of bed. Seed indicated areas within contract limits and areas adjoining contract limits disturbed as a result of construction operations.

3. Perform seeding operations when the soil is dry and when the winds do not exceed five(5) miles per hour velocity.

4. Apply seed with a rotary or drop type distributor. Install seed evenly by sowing equal quantities in two (2) directions, at right angles to each other.

5. Seed seed at a rate of 300 lbs./acre.

6. After seeding, rake or drag surface of soil lightly to incorporate seed into top 1/8" of soil. Roll with light lawn roller.

7. Provide soil erosion planting mat where grade conditions required to stabilize the planting area.

**HYDRO-SEEDING**

1. Hydro-seeding: The application of grass seed and a wood cellulose fiber mulch matrix green shall be accomplished in one operation by use of an approved Hydro-seeder.

A. Mix seed, fertilizer, and wood cellulose fiber in required amount of water to produce a homogeneous slurry. Add wood cellulose fiber after seed. Water, seed, and fertilizer have been thoroughly mixed and apply at the rate of 200 pounds per acre dry weight.

B. For hydro-seeding, wood cellulose fiber shall be used, Silvo-Fiber Mulch by RyeHouse Company, Tacoma, WA (800-443-9179).

C. Hydrocellulose spray material on ground to form a uniform cover incorporated with grass seed.

D. Immediately following application of slurry mix, make separate application of wood cellulose mulch at the rate of 1,000 pounds, dry weight, per acre.

E. Apply cover so that rainfall or applied water will permeate to underlying soil.

**3.3.2 MULCHING**

1. Place straw mulch on seeded areas within 24-hours after seeding.

2. Place straw mulch uniformly in a continuous blanket at a rate of 2-1/2 tons per acre, or two (2) 50 lb. bales per 1,000 sq. ft. of area. A mechanical blower may be used for straw mulch application when acceptable to the Landscape Architect.

3. Crimp straw into soil by use of a "crimper". Two passes in alternate directions by RyeHouse Company, Tacoma, WA (800-443-9179). Mulch must be approved by the Landscape Architect or Owner's Representative.

**3.3.3 ESTABLISH LAWN**

1. Establish dense lawn of permanent grasses, free from lumps and depressions. Any area falling to show uniform germination to be reseeded; continue until dense lawn established.

2. Damage to seeded area resulting from erosion to be repaired by Subcontractor.

3. In event Sub Contractor does not establish dense lawn during first germination period, return to project to re-fertilize and reseed to establish dense lawn.

4. Should the seeded lawn become largely weeds after germination, Sub Contractor is responsible to kill the weeds and reseed the proposed lawn area to produce a dense turf, as specified.

**3.4 CLEANING**

3.4.1 Perform cleaning during installation of the work and upon completion of the work to the approval of the Landscape Architect. Remove from site all excess materials, debris, and equipment. Repair damage resulting from seeding operations.

**3.5 MAINTENANCE**  
**3.5.1 See Landscape Maintenance and Warranty Section.**

**3.6 ACCEPTANCE**  
**3.6.1 See Landscape Maintenance and Warranty Section.**

**END OF SECTION**  
**LAWN SODDING**

**1.0 GENERAL**  
**1.1 SUMMARY**

1.1.1 Includes But Not Limited To  
 1. Furnish and install sodded lawn as described in Contract Documents.

**2.0 QUALITY ASSURANCE**

2.0.1 Sod: Comply with American Sod Producers Association (ASPA) classes of sod materials.

**3.0 SUBMITTALS**

3.0.1 Submit sod growers certification of grass species. Identify source location.

3.0.2 Submit manufacturer's certification of fertilizer.

**4.0 DELIVERY, STORAGE, AND HANDLING**

4.0.1 Cut, deliver, and install sod within 24 hour period.

4.0.2 Do not harvest or transport sod when moisture content may adversely affect sod survival.

4.0.3 Protect sod from sun, wind, and dehydration prior to installation. Do not tear, stretch, or drop sod during handling and installation.

1.5.6 Provide hose and lawn watering equipment as required.

1.5.7 The irrigation system will be installed prior to sodding. Locate, protect, and maintain the irrigation system during sodding operations. Repair irrigation system components damaged during sodding operations at the Subcontractor's expense.

**1.6 WARRANTY**  
**1.6.1 See Landscape Maintenance and Warranty Section.**

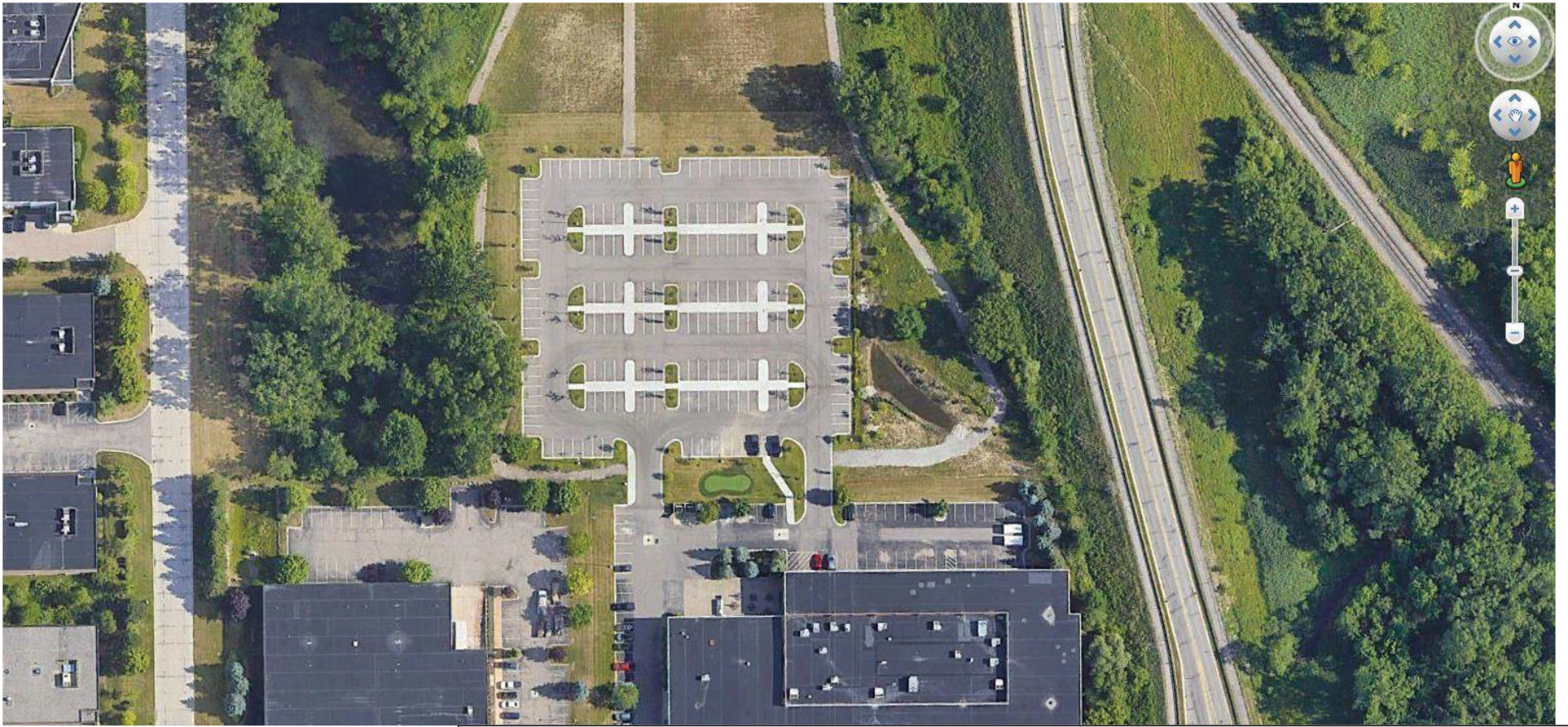
**2.0 PRODUCTS**  
**2.1 MATERIALS**

2.1.1 Sod: An "approved" nursery grown blend of improved Kentucky Bluegrass varieties.

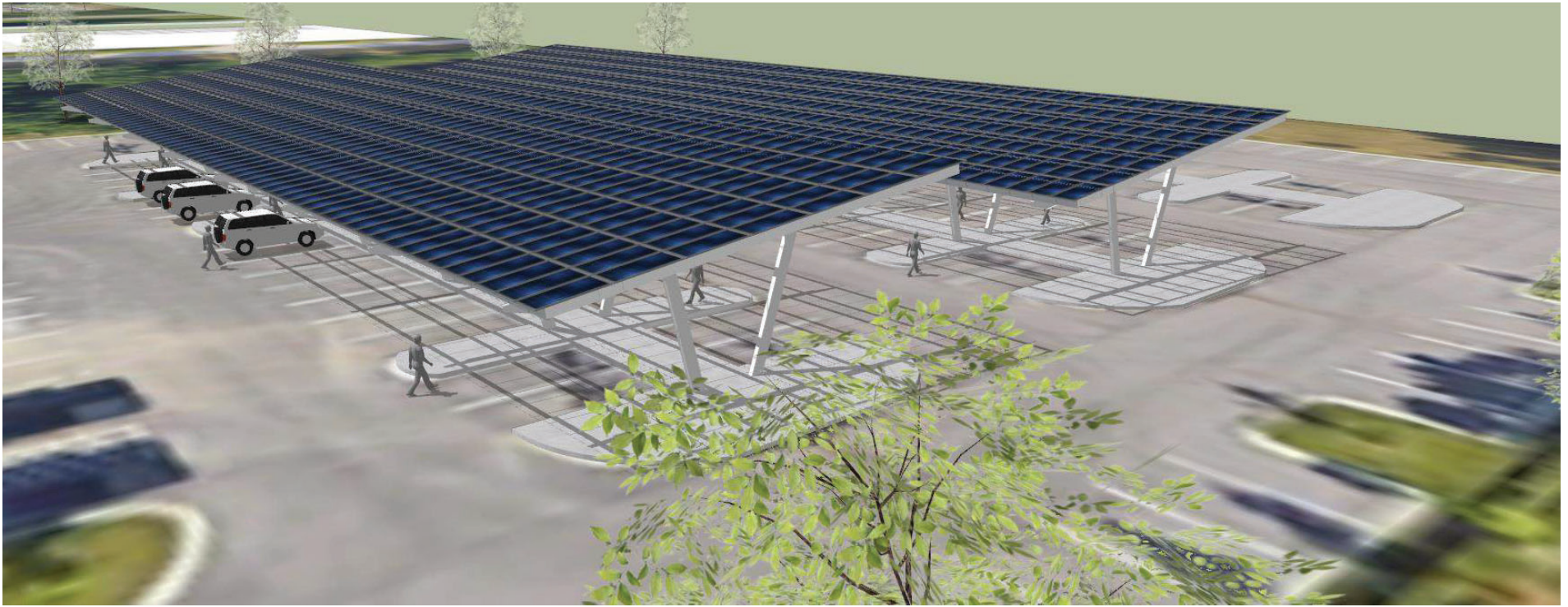
2.1.2 Sod containing Common Bermuda-grass, Quackgrass, Johnsongrass, Poinc, Ivy, Nutgrass, Vinelace, Annual Ryegrass, Barrenwort, Blue Crab, Ground Ivy, Perennial Sorrel, or Bromusgrasses weeds will not be acceptable.

2.1.3 Provide well rooted, healthy sod, free of diseases, nematodes and soil borne insects. Provide sod uniform in color, leaf texture, density, and free of weeds, undesirable grasses, stones, roots, thatch, and extraneous material; stable and capable of growth and development when planted.

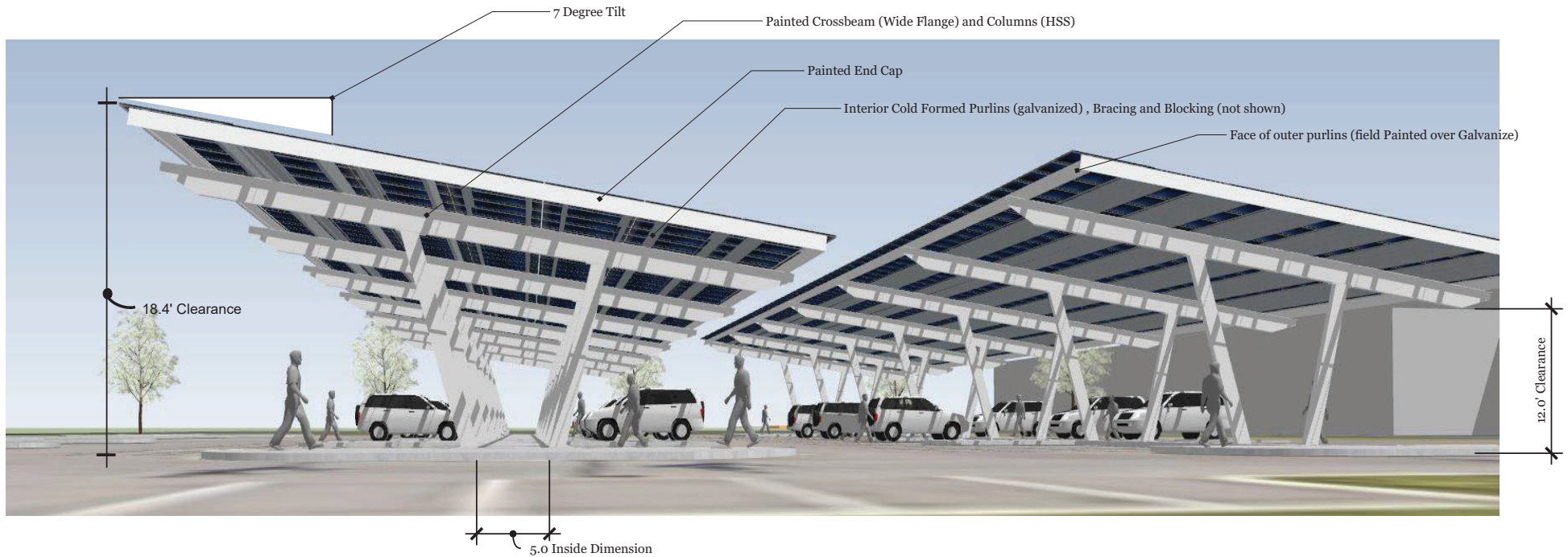












# LINEAGE CORPORATE HQ

## 405.0 kWDC, 300.0 kWAC SOLAR ARRAY SOLAR PV CANOPY SYSTEM

5130 RIVER VALLEY ROAD  
MILFORD, OH 45150  
PHONE: (513) 965-7300  
FAX: (513) 965-7353  
www.melinkecorp.com  
solarteam@melinkecorp.com



PROJECT:  
LINEAGE CORPORATE HQ  
46500 HILMBOULT DR.  
NOVI, MI 48377

REVISIONS:

DATE	ISSUANCE
08/19/2023	SITE LAYOUT
10/27/2023	30% ELECTRICAL
01/25/2024	30% ELECTRICAL v2
08/28/2024	30% ELECTRICAL v3



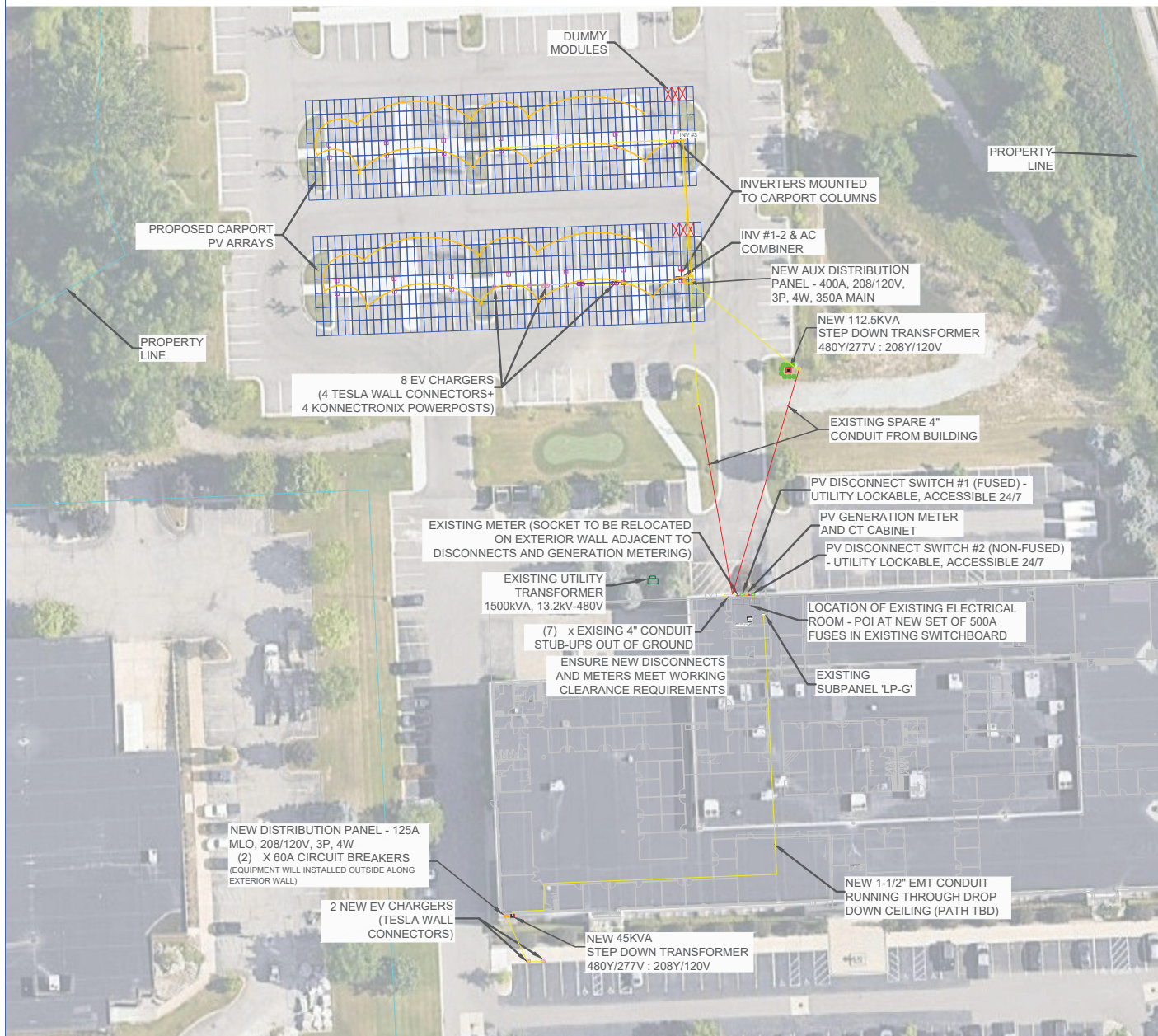
SEALED ON 08/28/2024  
MI - Lic# 6201026485  
H2DC PLLC MIKE@H2DC.COM  
ELECTRICAL ONLY

DRAWN BY: JE  
CHECKED BY: NY

DWG TITLE:  
Site Plan

SHEET:

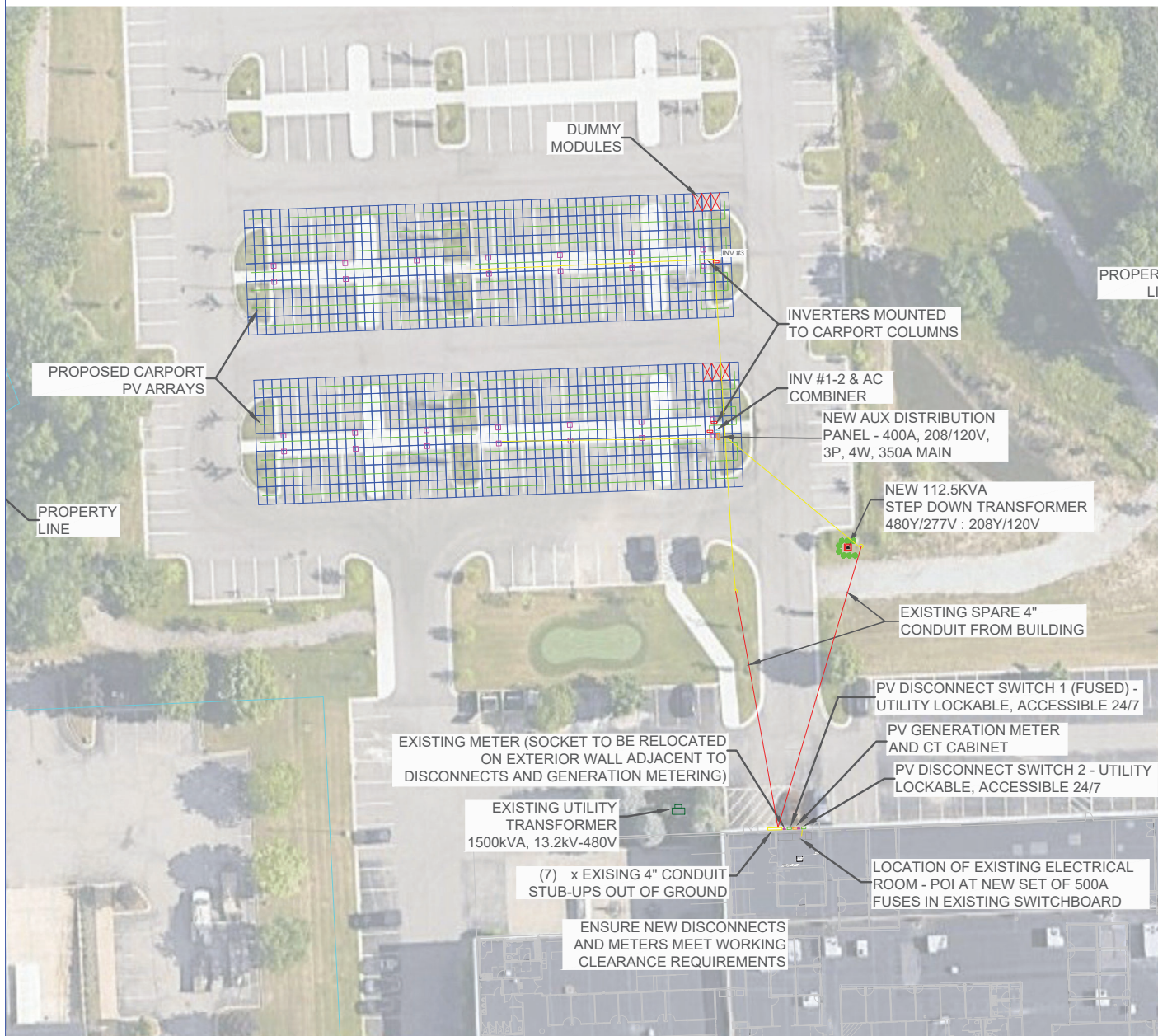
PV100



1 SITE PLAN  
PV100 SCALE: 1" = 25' - 0"

SYSTEM INFORMATION	
TILT ANGLE	7°
DC SYSTEM SIZE	405.0 kWdc
AC SYSTEM SIZE	300.0 kWac
DC/AC RATIO	1.35
SYSTEM AZIMUTH	178°
MODULE POWER CLASS	540W
ACTIVE MODULES	750
INACTIVE MODULES	6
TOTAL MODULE QUANTITY	756
STRING SIZE	25
INVERTER MANUFACTURER	CHINT POWER SYSTEMS
INVERTER AC OUTPUT	100 kW
INVERTER QUANTITY	3
DC SYSTEM VOLTAGE	1000 V
INVERTER AC VOLTAGE	480 V
RACKING CONFIGURATION	DOUBLE CANTILEVER

LEGEND	
	CONDUIT
	SOLAR MODULE
	25 MODULE STRING
	CPS 100 kW INVERTER
	AC COMBINER
	NEW FENCE LINE
	FUSED DISCONNECT SWITCH
	PARCEL BOUNDARY
	UTILITY METER
	EV CHARGERS
	CANOPY FOUNDATION
	EV CHARGING TRANSFORMER
	EV CHARGING DIST. PANEL
	NEW LIGHTING (UNDER CANOPY)
	LIGHTING DAISY CHAIN CIRCUIT
	EXISTING EXTERIOR LIGHT



PROPOSED CARPORT PV ARRAYS

DUMMY MODULES

INVERTERS MOUNTED TO CARPORT COLUMNS

INV #1-2 & AC COMBINER

NEW AUX DISTRIBUTION PANEL - 400A, 208/120V, 3P, 4W, 350A MAIN

NEW 112.5KVA STEP DOWN TRANSFORMER 480Y/277V : 208Y/120V

EXISTING SPARE 4" CONDUIT FROM BUILDING

PV DISCONNECT SWITCH 1 (FUSED) - UTILITY LOCKABLE, ACCESSIBLE 24/7

PV GENERATION METER AND CT CABINET

PV DISCONNECT SWITCH 2 - UTILITY LOCKABLE, ACCESSIBLE 24/7

EXISTING METER (SOCKET TO BE RELOCATED ON EXTERIOR WALL ADJACENT TO DISCONNECTS AND GENERATION METERING)

EXISTING UTILITY TRANSFORMER 1500kVA, 13.2kV-480V

(7) x EXISING 4" CONDUIT STUB-UPS OUT OF GROUND

ENSURE NEW DISCONNECTS AND METERS MEET WORKING CLEARANCE REQUIREMENTS

LOCATION OF EXISTING ELECTRICAL ROOM - POI AT NEW SET OF 500A FUSES IN EXISTING SWITCHBOARD



1 ARRAY LAYOUT  
PV101 SCALE: 1" = 20' - 0"

# LINEAGE CORPORATE HQ

## 405.0 kWDC, 300.0 kWAC SOLAR ARRAY SOLAR PV CANOPY SYSTEM

5130 RIVER VALLEY ROAD  
MILFORD, OH 45150  
PHONE: (513) 965-7300  
FAX: (513) 965-7363  
www.melinkcorp.com  
solarteam@melinkcorp.com



PROJECT:  
LINEAGE CORPORATE HQ  
446500 HUMBOLDT DR.  
NOVI, MI 48377

SYSTEM INFORMATION	
TILT ANGLE	7°
DC SYSTEM SIZE	405.0 kWdc
AC SYSTEM SIZE	300.0 kWac
DC/AC RATIO	1.35
SYSTEM AZIMUTH	178°
MODULE POWER CLASS	540W
ACTIVE MODULES	750
INACTIVE MODULES	6
TOTAL MODULE QUANTITY	756
STRING SIZE	25
INVERTER MANUFACTURER	CHINT POWER SYSTEMS
INVERTER AC OUTPUT	100 kW
INVERTER QUANTITY	3
DC SYSTEM VOLTAGE	1000 V
INVERTER AC VOLTAGE	480 V
RACKING CONFIGURATION	DOUBLE CANTILEVER

REVISIONS:

DATE	ISSUANCE
08/19/2023	SITE LAYOUT
10/27/2023	30% ELECTRICAL
01/25/2024	30% ELECTRICAL v2
08/28/2024	30% ELECTRICAL v3



SEALED ON 08/28/2024  
MI - LIC# 6201026485  
H2DC PLLC MIKE@H2DC.COM  
ELECTRICAL ONLY

DRAWN BY: JE  
CHECKED BY: NY

DWG TITLE:  
Array Layout

SHEET:

PV101

LEGEND	
	CONDUIT
	SOLAR MODULE
	25 MODULE STRING
	CPS 100 kW INVERTER
	AC COMBINER
	NEW FENCE LINE
	FUSED DISCONNECT SWITCH
	PARCEL BOUNDARY
	UTILITY METER

REVISIONS:

DATE	ISSUANCE
08/19/2023	SITE LAYOUT
10/27/2023	30% ELECTRICAL
01/25/2024	30% ELECTRICAL v2
08/28/2024	30% ELECTRICAL v3



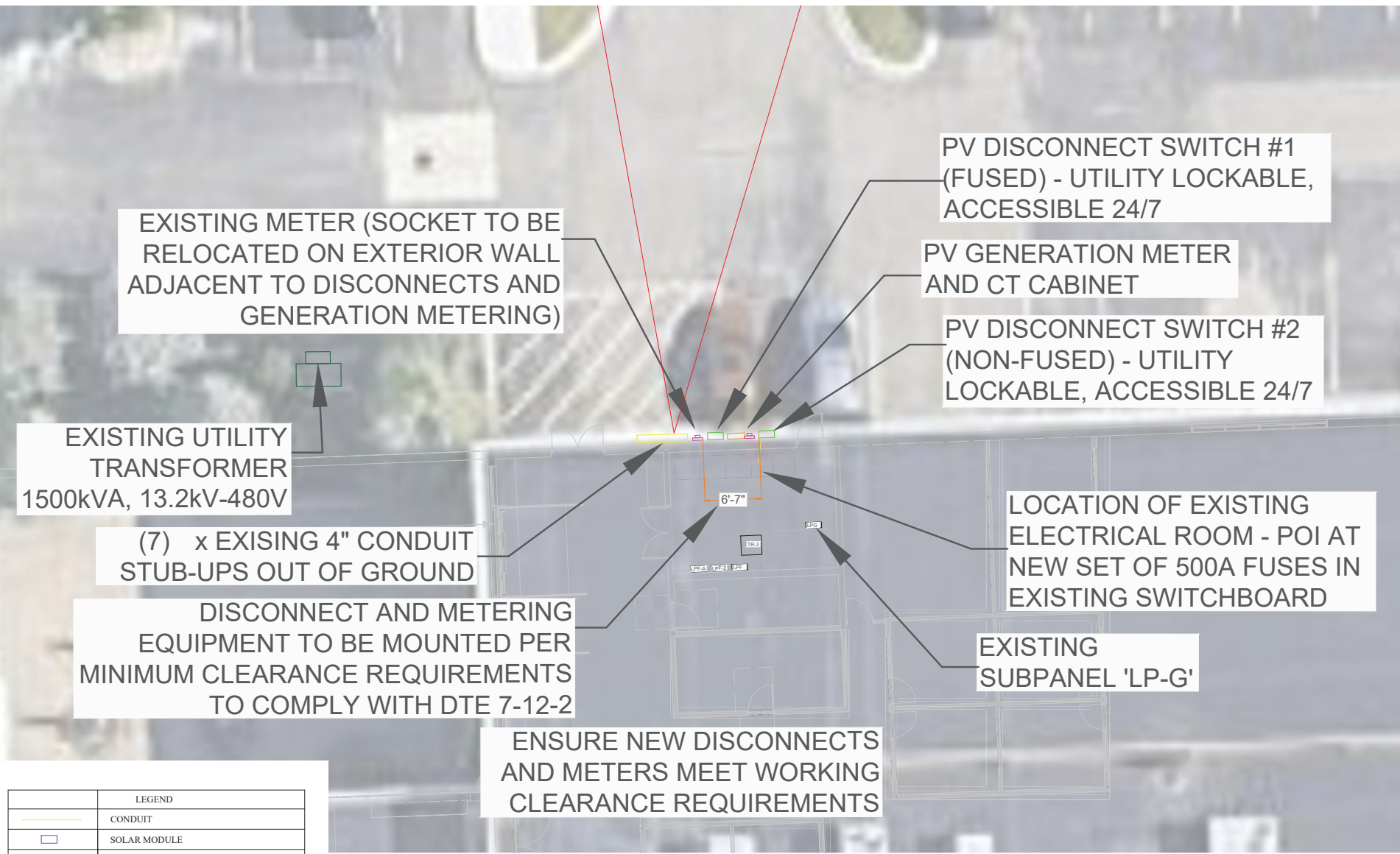
SEALED ON 08/28/2024  
MI - LIC# 6201056485  
H2DC PLLC MIKE@H2DC.COM  
ELECTRICAL ONLY

DRAWN BY: JE  
CHECKED BY: NY

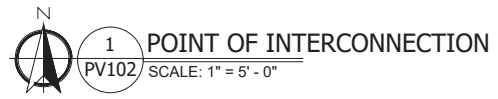
DWG TITLE:  
Array Layout

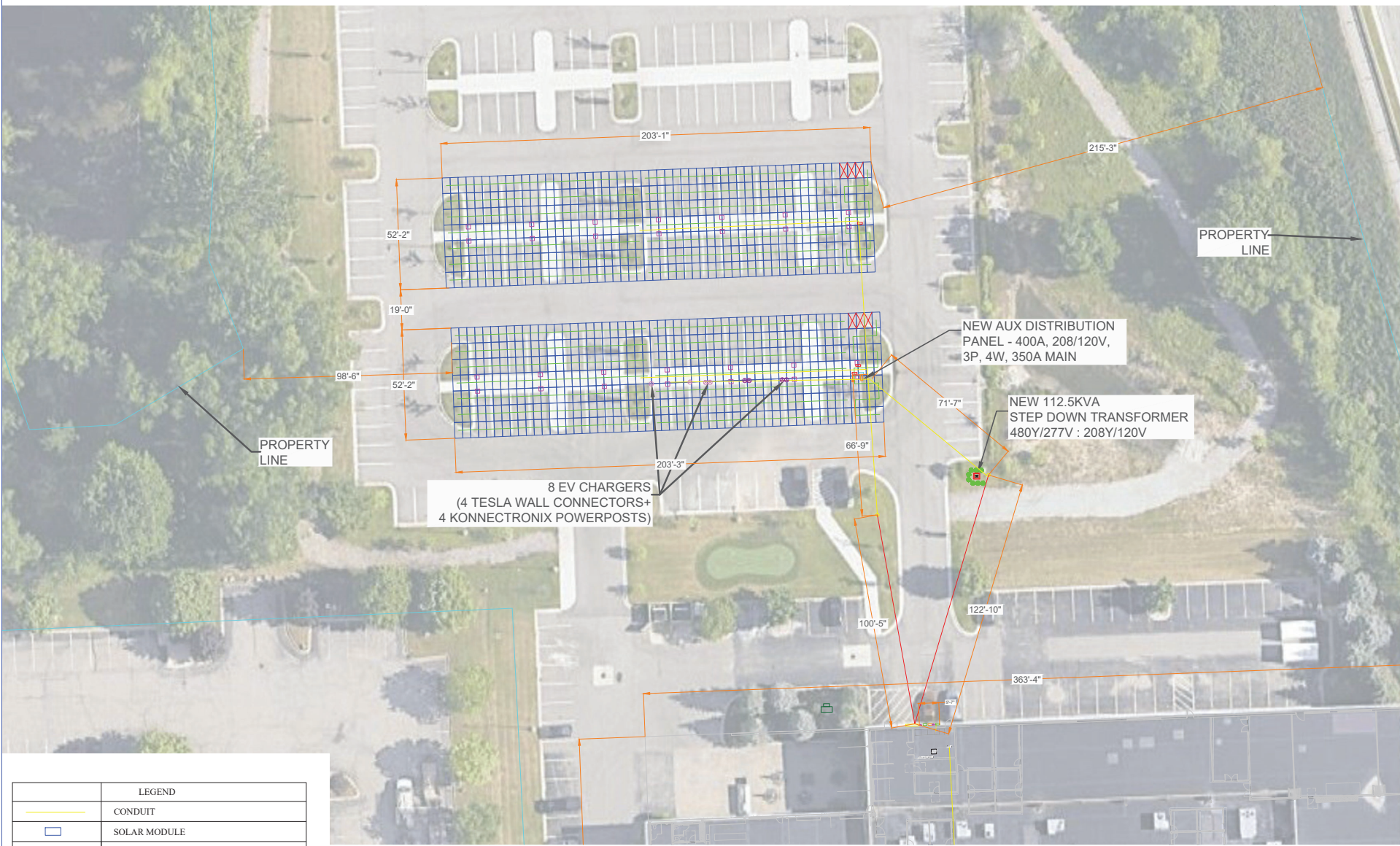
SHEET:

PV102



LEGEND	
	CONDUIT
	SOLAR MODULE
	25 MODULE STRING
	CPS 100 kW INVERTER
	AC COMBINER
	NEW FENCE LINE
	FUSED DISCONNECT SWITCH
	PARCEL BOUNDARY
	UTILITY METER





LEGEND	
	CONDUIT
	SOLAR MODULE
	25 MODULE STRING
	CPS 100 kW INVERTER
	AC COMBINER
	NEW FENCE LINE
	FUSED DISCONNECT SWITCH
	PARCEL BOUNDARY
	UTILITY METER

1
**DIMENSION PLAN**  
 PV103 / SCALE: 1" = 5' - 0"

5130 RIVER VALLEY ROAD  
 MILFORD, OH 45150  
 PHONE: (513) 965-7300  
 FAX: (513) 965-7353  
 www.melinkcorp.com  
 solarteam@melinkcorp.com



PROJECT:  
 LINBACF CORPORATE HQ  
 44500 HUMBOLDT DR.  
 NOVI, MI 48377

REVISIONS:	
DATE	ISSUANCE
08/19/2023	SITE LAYOUT
10/27/2023	30% ELECTRICAL
01/25/2024	30% ELECTRICAL v2
08/28/2024	30% ELECTRICAL v3



SEALED ON 08/28/2024  
 MI - LIC# 6201056485  
 H2DC PLLC MIKE@H2DC.COM  
 ELECTRICAL ONLY

DRAWN BY: JE  
 CHECKED BY: NY

DWG TITLE:  
 Dimension Plan

SHEET:  
 PV103

REVISIONS:

DATE	ISSUANCE
08/19/2023	SITE LAYOUT
10/27/2023	30% ELECTRICAL
01/25/2024	30% ELECTRICAL v2
08/28/2024	30% ELECTRICAL v3

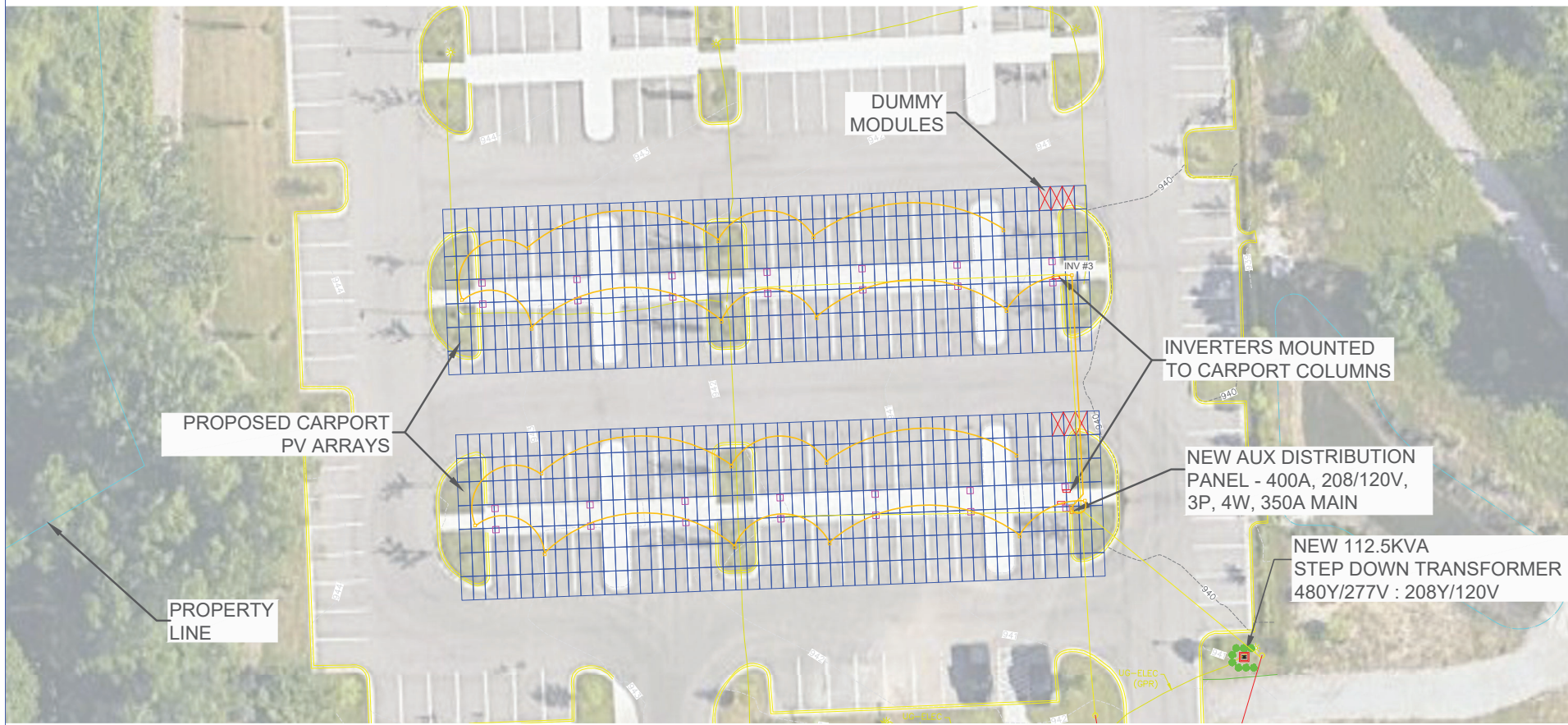


SEALED ON 08/28/2024  
MI - LIC# 6201056485  
H2DC PLLC MIKE@H2DC.COM  
ELECTRICAL ONLY

DRAWN BY: JE  
CHECKED BY: NY

DWG TITLE:  
Lighting Plan

SHEET:  
PV104

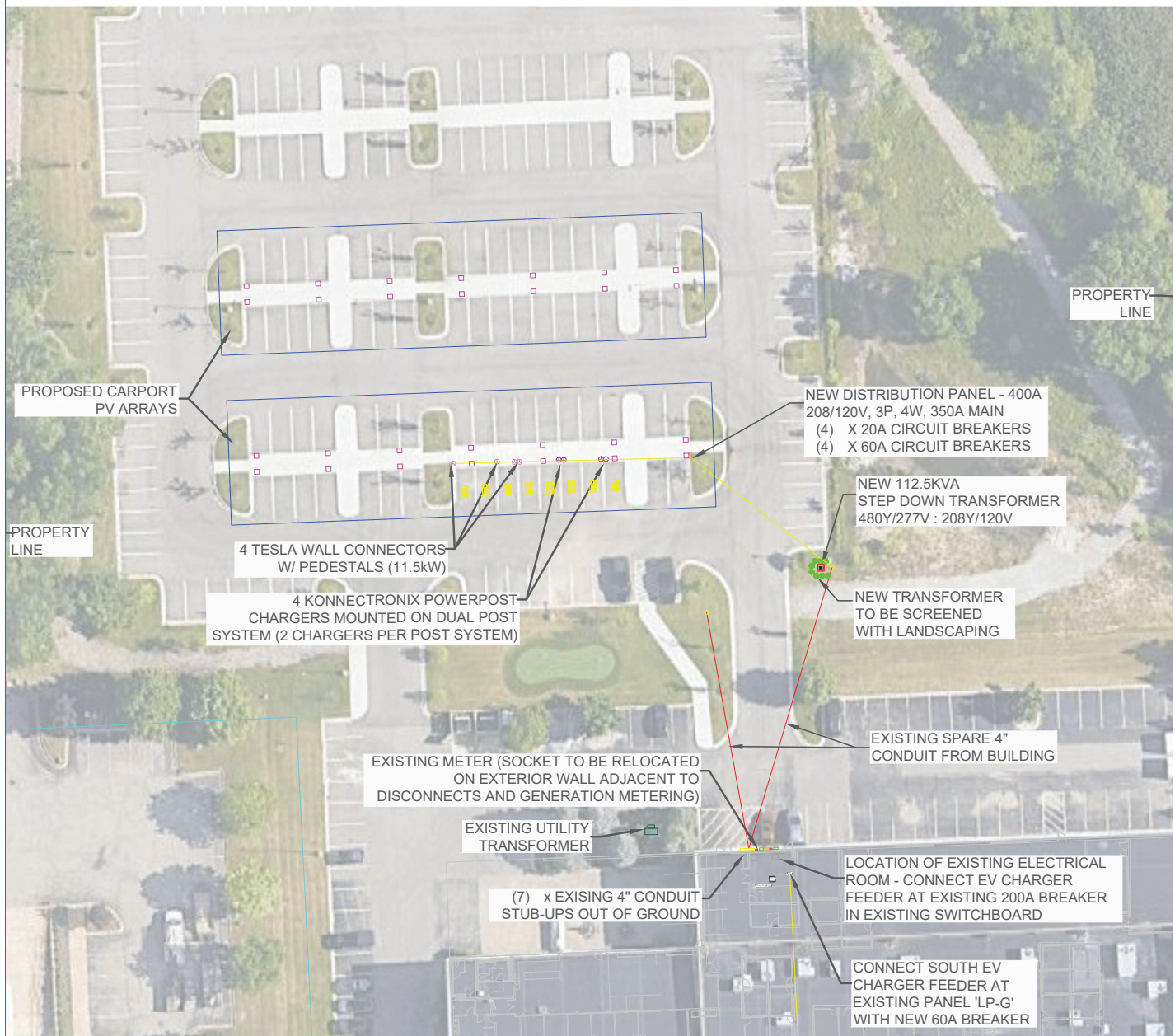


1 LIGHTING PLAN  
PV104 SCALE: 1" = 15' - 0"

NOTES

- LIGHTING FIXTURES: EXO SGC-LSCS-F-40W-4K7 (CANOPY SLING SERIES)
- (10) LIGHTING FIXTURES PER DAISY CHAIN
- LIGHTING CIRCUIT CONSISTS OF (1) #8 AWG + (1) NEUTRAL #8 AWG W/ #10 AWG GROUND
- LIGHTING FIXTURE TO BE MOUNTED ON UNDERSIDE OF E/W RUNNING PURLIN

LEGEND	
	CONDUIT
	SOLAR MODULE
	CPS 100 kW INVERTER
	AC COMBINER
	FUSED DISCONNECT SWITCH
	PARCEL BOUNDARY
	UTILITY METER
	CANOPY FOUNDATION
	AUX TRANSFORMER
	AUX DIST. PANEL
	NEW LIGHTING (UNDER CANOPY)
	LIGHTING DAISY CHAIN CIRCUIT
	EXISTING EXTERIOR LIGHT



1 SITE PLAN - EV CHARGERS (NORTH)  
 EV100 SCALE: 1" = 20' - 0"

# LINEAGE CORPORATE HQ

## EV CHARGERS NORTH (UNDER SOLAR PV CANOPY)

5130 RIVER VALLEY ROAD  
 MILFORD, OH 45150  
 PHONE: (513) 965-7300  
 FAX: (513) 965-7353  
 www.melinkcorp.com  
 solarteam@melinkcorp.com



PROJECT:  
 LINEAGE CORPORATE HQ  
 46500 HUMBOLT DR.  
 NOVI, MI 48377

- KEYED NOTES
- ALL EV CHARGERS OPERATE IN ONE DIRECTION (ELECTRICITY TO CARS)

REVISIONS:

DATE	ISSUANCE
08/19/2023	SITE LAYOUT
10/27/2023	30% ELECTRICAL
01/25/2024	30% ELECTRICAL v2
08/28/2024	30% ELECTRICAL v3

LEGEND	
	CONDUIT
	SOLAR MODULE
	25 MODULE STRING
	CPS 100 kW INVERTER
	AC COMBINER
	NEW FENCE LINE
	FUSED DISCONNECT SWITCH
	PARCEL BOUNDARY
	UTILITY METER
	EV CHARGERS
	CANOPY FOUNDATION
	EV CHARGING TRANSFORMER
	EV CHARGING DIST. PANEL



SEALED ON 08/28/2024  
 MI - LIC# 6201056485  
 H2DC PLLC MIKE@H2DC.COM  
 ELECTRICAL ONLY

DRAWN BY: JE  
 CHECKED BY: NY

DWG TITLE:  
 Site Plan - EV Chargers  
 (North)

SHEET:

EV100

LEGEND	
	CONDUIT
	SOLAR MODULE
	25 MODULE STRING
	CPS 100 kW INVERTER
	AC COMBINER
	NEW FENCE LINE
	FUSED DISCONNECT SWITCH
	PARCEL BOUNDARY
	UTILITY METER
	EV CHARGERS
	CANOPY FOUNDATION
	EV CHARGING TRANSFORMER
	EV CHARGING DIST. PANEL

EXISTING POWER COIL  
MOUNTED ON DUAL POSTS  
(2 PER POST SYSTEM)

TO BE SCREEN  
WITH LANDSCA

# LINEAGE CORPORATE HQ

## EV CHARGERS - SOUTH

5130 RIVER VALLEY ROAD  
MILFORD, OH 45150  
PHONE: (513) 965-7300  
FAX: (513) 965-7353  
www.melinkcorp.com  
solarteam@melinkcorp.com

EXISTING METER (SOCKET TO BE RELOCATED  
ON EXTERIOR WALL ADJACENT TO  
DISCONNECTS AND GENERATION METERING)

EXISTING SPARE 4"  
CONDUIT FROM BUILDING

EXISTING UTILITY  
TRANSFORMER

(7) x EXISING 4" CONDUIT  
STUB-UPS OUT OF GROUND

LOCATION OF EXISTING ELECTRICAL  
ROOM - CONNECT EV CHARGER  
FEEDER AT EXISTING 200A BREAKER  
IN EXISTING SWITCHBOARD

CONNECT SOUTH EV  
CHARGER FEEDER AT  
EXISTING PANEL 'LP-G'  
WITH NEW 60A BREAKER

NEW DISTRIBUTION PANEL - 125A  
MLO, 208/120V, 3P, 4W  
(2) X 60A CIRCUIT BREAKERS  
(EQUIPMENT WILL INSTALLED OUTSIDE ALONG  
EXTERIOR WALL)

2 NEW EV CHARGERS  
(TESLA WALL  
CONNECTORS)

NEW 45KVA  
STEP DOWN TRANSFORMER  
480Y/277V : 208Y/120V

NEW 1-1/2" EMT CONDUIT  
RUNNING THROUGH DROP  
DOWN CEILING (PATH TBD)



PROJECT:  
LINEAGE CORPORATE HQ  
44500 HILMBOULT DR.  
NOVI, MI 48377

REVISIONS:

DATE	ISSUANCE
08/19/2023	SITE LAYOUT
10/27/2023	30% ELECTRICAL
01/25/2024	30% ELECTRICAL v2
08/28/2024	30% ELECTRICAL v3



SEALED ON 08/28/2024  
MI - LIC# 6201026485  
H2DC PLLC MIKE@H2DC.COM  
ELECTRICAL ONLY

DRAWN BY: JE  
CHECKED BY: NY

DWG TITLE:  
Site Plan - EV Chargers  
(South)

SHEET:

EV101



1  
EV101

SITE PLAN - EV CHARGERS (SOUTH)

SCALE: 1" = 15' - 0"



SOLAR PV CANOPY ARRAY  
 (50) SERIES STRINGS  
 SEG-540V-PMV MODULES BONDED TO RACKING, RACKING  
 BONDED TO EQUIPMENT GROUND  
 25 MODULES/STRINGS  
 STRINGS FUSED AT 20A AT INVERTER  
 #10 AWG CU PV WIRE FOR PV SOURCE CIRCUIT CONDUCTORS  
 INSULATION RATED AT 2000VDC OR GREATER

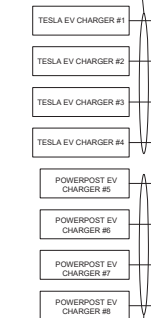
INVERTER 2  
 CHINT POWER SYSTEMS 100KTL  
 100kW / 105.3kVA STANDARD WIRE BOX  
 10 SOURCE CIRCUITS FUSED AT 20A/EACH  
 MPPT A - (10) STRINGS OF 25 MODULES

INVERTER 3  
 CHINT POWER SYSTEMS 100KTL  
 100kW / 105.3kVA STANDARD WIRE BOX  
 10 SOURCE CIRCUITS FUSED AT 20A/EACH  
 MPPT A - (10) STRINGS OF 25 MODULES

SEE ALSO ENERGY DRAWINGS  
 FOR MONITORING  
 INSTALLATION DETAILS

ALSO ENERGY  
 PRODUCTION METER  
 PM

NEW SERVICE FEEDERS  
 (4) SETS OF (2) #4 AWG AL  
 W/ #10 AWG CU EGC  
 (1) 1" PVC CONDUIT UG



NEW SERVICE FEEDERS  
 (4) SETS OF #6 AWG AL W/  
 #10 AWG CU EGC  
 (1) 1-1/4" PVC CONDUIT UG

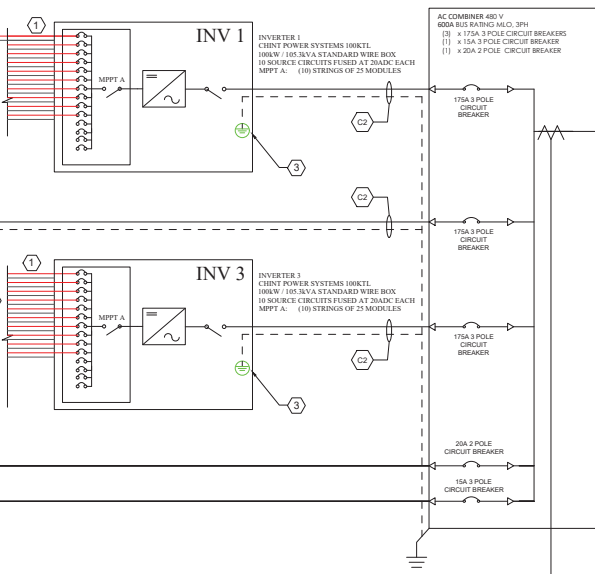
Lighting Fixture	Lumens	Voltage	Color Temp	Wattage	Current
EXO SGC-LSCS-F-40W-4K7	5665	120	4000K	40	0.333 Amps

Lighting Circuit Information						
Circuit ID	Max Circuit Length (FT)	Number of Circuits	Current (Amps)	Voltage	Conductor Size	Conductor Material
Circuit North	535	10	3.2	120V	#10 AWG	AL
Circuit South	435	10	3.2	120V	#10 AWG	AL

Cx	Wire Qty	Max Ampacity (A)	Distance (ft.)	Parallel Runs	Wire Size	Conductor Material	Insulation	Ground Size & Type	Neutral Size	Conduit Size and Type
1	2 + GND	16.21	140 (Avg.)	1	#10 AWG	CU	2kV, PV-Wire	Modules bonded with Dynabond jumpers and #6 Bare CU to Ground	N/A	*1" to 1-1/2" EMT w/ raintight fittings
2	3 + GND	126.7	100	1	#4/0 AWG	AL	600V, THWN-2	#6 AWG THWN-2 CU	N/A	(1) X 2" Schd 40 PVC w/ Sch 80 elbows (UG) (1) X 4" Schd 40 PVC w/ Sch 80 elbows (Existing stub-up per site plan)
3	4 + GND	380.1	200	2	350 kcmil	AL	600V, THWN-2	#2 AWG THWN-2 CU	#1/0 AWG THWN-2 AL	(2) X 3" EMT w/ raintight fittings (Existing stub-up per site plan)
4	4 + GND	380.1	5	2	350 kcmil	AL	600V, THWN-2	#2 AWG THWN-2 CU	#1/0 AWG THWN-2 AL	(2) X 3" EMT w/ raintight fittings
5	4 + GND	380.1	5	2	350 kcmil	AL	600V, THWN-2	#1/0 AWG THWN-2 AL	#1/0 AWG THWN-2 AL	(2) X 3" EMT w/ raintight fittings
6	4 + GND	380.1	15	2	350 kcmil	AL	600V, THWN-2	#2 AWG THWN-2 CU	#1/0 AWG THWN-2 AL	(2) X 3" EMT w/ raintight fittings
7	2 + GND	5	7	1	#12 AWG	CU	THWN-2	#12 AWG THWN-2 CU	N/A	(1) X 3/4" Sch 40 PVC
8	3 + GND	5	7	1	#12 AWG	CU	THWN-2	#12 AWG THWN-2 CU	N/A	(1) X 3/4" Sch 40 PVC

KEYED NOTES

- SEE DETAILS FOR MORE INFO ON SINGLE STRING WIRING
- SEE ONE LINE FROM ALSO ENERGY DRAWINGS FOR DETAILS ON MONITORING AND COMMUNICATION TERMINATIONS.
- CAT 6 DAISY CHAIN BETWEEN INVERTERS IN DEDICATED CONDUIT.



NEW SERVICE FEEDERS  
 (1) SET OF 250 KCMIL ALUM. W/ #6  
 AWG CU EGC & #4 AWG AL, N  
 2-1/2" PVC CONDUIT UG TO  
 EXISTING 4" STUB UP CONDUIT

SYSTEM INFORMATION

TILT ANGLE	7°
DC SYSTEM SIZE	405.0 kWdc
AC SYSTEM SIZE	300.0 kWac
DC/AC RATIO	1.35
SYSTEM AZIMUTH	178°
MODULE POWER CLASS	540W
ACTIVE MODULES	750
INACTIVE MODULES	6
TOTAL MODULE QUANTITY	756
STRING SIZE	25
INVERTER MANUFACTURER	CHINT POWER SYSTEMS
INVERTER AC OUTPUT	100 kW
INVERTER QUANTITY	3
DC SYSTEM VOLTAGE	1000 V
INVERTER AC VOLTAGE	480 V
RACKING CONFIGURATION	DOUBLE CANTILEVER

Temperature Data

ASHRAE Location	Oakland County INTL, MI
ASHRAE Extreme Minimum Temp	-21.2 °C
ASHRAE High Temp. (2%)	28.8 °C

PV ARRAY DETAILS

PV MODULES PER SOURCE CIRCUIT	25
PV SOURCE CIRCUITS PER INVERTER	10
TOTAL INVERTERS	3
TOTAL STRINGS	30
TOTAL DC WATTAGE	405,000

SEG-540-BMA-TB

Maximum Power	540 W
Open Circuit Voltage	49.5 V
Maximum Operating Voltage	41.55 V
Maximum Power Voltage (Min. Design Temp.)	55.67 V
Short Circuit Current	13.81 A
Maximum Power Current	13 A
Temperature Coefficient of Voc	-0.27 %/°C

ONE LINE  
 PV200 SCALE: N.T.S.

UTILITY WILL ISOLATE  
 LOCKOUT/TAGOUT AT THIS  
 LOCATION AFTER SYSTEM IS  
 ELECTRONICALLY SEPARATED  
 FROM DISTRIBUTED RESOURCE(S)  
 ON UTILITY SYSTEM.

CPS SCH100KTL-DO/US-480

DC Voltage (Maximum)	1500 VDC
DC Voltage (Operating Range)	750-1450 VDC
Max DC Short Circuit Current (Isc x 1.25)	275 ADC
AC Voltage (Output)	480 VAC
Continuous Output Power	100 kW
Continuous Output Current	126.7 A
Complies with UL 1741, IEEE 1547, NEC 2017	
Fully Integrating AC and DC Disconnect	

SOURCE CIRCUIT - SEG-540

String of	25 Modules
Maximum Power	13,500 W
Maximum Power Voltage	1038.75 VDC
Maximum Source Circuit Voltage (Min. Design Temp.)	1391.87 VDC
Maximum Continuous Current	17.26 ADC
Maximum Power Current	13 ADC

5130 RIVER VALLEY ROAD  
 MILFORD, OH 45150  
 PHONE: (513) 965-7300  
 FAX: (513) 965-7363  
 www.melinlinkcorp.com  
 solarteam@melinlinkcorp.com



PROJECT:  
 LANGRISH CORPORATE HQ  
 46500 HILMOUT DR.  
 NOV, MI 48377

REVISIONS:

DATE	ISSUANCE
08/19/2023	SITE LAYOUT
10/27/2023	30% ELECTRICAL
01/25/2024	30% ELECTRICAL v2
08/28/2024	30% ELECTRICAL v3



SEALED ON 08/28/2024  
 MI - LIC# 63201026485  
 HD2C PLLC MIKE@HD2C.COM  
 ELECTRICAL ONLY

DRAWN BY: JE  
 CHECKED BY: NY

DWG TITLE:  
 One Line

SHEET:

PV200



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



CPS 100kW String Inverter

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 Standard or Centralized Wire-Box, each fully integrated and compatible with AC and DC disconnect switches. The Standard Wire-Box includes touch-safe latching for up to 20 strings. The CPS FlexCM solution enables communication, controls and remote product upgrades.

Key Features

- NFWA 70 and NEC compliant
- Touch-safe DC bus holders adds convenience and safety
- CPS FlexCM 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)
- 100 kW base power yields 100 kW @ 0.95 PF
- Generous DC/AC inverter load ratios
- Separable wire-box design for fast service
- Standard 5-year warranty with extensions to 20 years



100kVLT Standard Wire-Box



100kVLT Centralized Wire-Box

© SUNT POWER SYSTEMS AMERICA 2023/10/16  
1300 Presidential Drive, Suite 100, Richardson, TX 75081  
Tel: 800-564-7746 Fax: 972-381-1000  
www.cpsinverter.com

CPS  
Technical Data

Model Name	CPS 100kWLT-D0US-480
Max. DC input voltage	1500 Vdc
Operating DC input voltage range	750-1450 Vdc
Start-up DC input voltage / power	900 Vac / 700 W
Number of MPPT trackers	1
MPPT voltage range at PF=0.9F	750-1500 Vdc
Max. PV input current (1/circuit x 20)	17 A
Number of DC inputs	Standard Wire-Box: 20 PV inputs, circuit, open, and neg. fused Centralized Wire-Box: 1 input, circuit, open, and neg. fused
DC disconnect type	Load-rated AC switch
DC surge protection	Type II MOV (with inductor/remote signaling)
AC/DC	
Rated AC output power @ PF=0.9F	100 kW
Max. AC apparent power <sup>1</sup>	100 kVA (100 kVA @ PF=0.95)
Rated output voltage	480 Vac
Output voltage range <sup>2</sup>	472-528 Vac
Grid connection type <sup>3</sup>	3 Phase / FE / X (optional optional)
Max. AC output current @ 480 Vac	110.3 A (110.3 F.A.)
Rated output frequency	60 Hz
Output frequency range <sup>4</sup>	57-61 Hz
Power factor	>0.99 (0.8 adjustable)
Current THD at rated load	<2%
Max. fault current contribution (1 cycle RMS)	41.7 A
Max. ODF rating	200 A
AC disconnect type	Load-rated AC switch
AC surge protection	Type II MOV (with inductor/remote signaling)
Efficiency/Performance	
Topology	Transformerless
Max. efficiency	98.9%
DC efficiency	98.2%
Stand-by energy consumption	<1 W
Enclosure	
Enclosure protection degree	NEMA Type 4X
Cooling method	Variable speed cooling fans
Operating temperature range	-27°F to +147°F / -2°C to +107°C (depending on site)
Non-operating temperature range <sup>5</sup>	No live operating temperature >+157°F / +70°C maximum
Operating humidity	0-100%
Operating altitude	8500 Ft (2590 m sea level)
Available size	±0.5 mm @ 1 m and 25°C
Warranty and Compliance	
User interface and display	LED indicators, WVI, & APP
Inverter monitoring	Modbus, SNMP
Site level monitoring	CPS FlexCM (per 12 inverters)
Modbus data monitoring	Standard CPS
Remote diagnostics / firmware upgrade functions	Standard / (with FlexCM Gateway)
Dimensions (W x H x D)	Standard Wire-Box: 45.2 x 24.2 x 9.84 in (1150 x 616 x 250 mm) Centralized Wire-Box: 29.7 x 24.2 x 8.84 in (750 x 616 x 225 mm)
Weight	Standard Wire-Box: 53 lbs (24 kg) Centralized Wire-Box: 33 lbs (15 kg)
Mounting / installation angle	15°-10° degrees from horizontal (vertical or angled) One-clip terminal block (IN #12 - 1/8 AWG CU/AL) One-clip terminal block (IN #12 - 1/8 AWG CU/AL) Standard Wire-Box: busbar, 800 bolts (with range) #1 AWG - 1000 kcmil CU/AL (1 termination per pole), #1 AWG - 300 kcmil CU/AL (2 terminations per pole), top not supported. 20 A fuses provided (fuse values up to 30 A acceptable)
DC termination	Centralized Wire-Box: busbar, 800 bolts (with range) #1 AWG - 1000 kcmil CU/AL (1 termination per pole), #1 AWG - 300 kcmil CU/AL (2 terminations per pole), top not supported. 20 A fuses provided (fuse values up to 30 A acceptable)
Fused string inputs	UL 1741 SA-08 (4), CA-22 (2) 10/17/41, IEEE 1547-2018, IEC PART 15 IEEE 1547-2018, IEEE 1547-2019, CA-800 (2), IEC-800 (2) VH-100 (1), VEG-100 (1), VEG-100 (1), VEG-100 (1)
Standards	UL 1741 SA-08 (4), CA-22 (2) 10/17/41, IEEE 1547-2018, IEC PART 15 IEEE 1547-2018, IEEE 1547-2019, CA-800 (2), IEC-800 (2) VH-100 (1), VEG-100 (1), VEG-100 (1), VEG-100 (1)
Warranty	5 years 10, 15, and 20 years
Standard	10, 15, and 20 years

SEG  
YUKON Series



540-555Wp 21.48%  
Maximum Power Output Max. Efficiency

Key Features:

- High module conversion efficiency
- Super multi busbar technology
- Superior load capacity
- USA based safety insurance
- Better temperature coefficient
- Low attenuation long warranty
- Higher bifaciality
- Houston, Texas based company



Warranty: 15 years (Power on product) / 25 years (Power on output energy)

Product Certification

IEC62109, IEC 61730-20, UL1703, UL1875	IEC62109, IEC 61730-20, UL1703, UL1875
IEC62109, IEC 61730-20, UL1703, UL1875	IEC62109, IEC 61730-20, UL1703, UL1875
IEC62109, IEC 61730-20, UL1703, UL1875	IEC62109, IEC 61730-20, UL1703, UL1875
IEC62109, IEC 61730-20, UL1703, UL1875	IEC62109, IEC 61730-20, UL1703, UL1875
IEC62109, IEC 61730-20, UL1703, UL1875	IEC62109, IEC 61730-20, UL1703, UL1875
IEC62109, IEC 61730-20, UL1703, UL1875	IEC62109, IEC 61730-20, UL1703, UL1875

SEG  
YUKON Series SEG-XXX-EMA-TB(144Cells)

Electrical Characteristics

Module Type	SEG-545-EMA-TB		SEG-545-EMA-TB		SEG-555-EMA-TB		SEG-555-EMA-TB	
	Power	Efficiency	Power	Efficiency	Power	Efficiency	Power	Efficiency
Maximum Power (P <sub>max</sub> )	540	21.48%	540	21.48%	555	21.65%	555	21.65%
Open Circuit Voltage (V <sub>oc</sub> )	49.0		49.0		49.0		49.0	
Short Circuit Current (I <sub>sc</sub> )	10.81		10.81		10.81		10.81	
Maximum Power Voltage (V <sub>mp</sub> )	40.50		40.50		40.50		40.50	
Maximum Power Current (I <sub>mp</sub> )	13.33		13.33		13.33		13.33	
Module Efficiency (%)	20.90		21.48		21.65		21.65	
Power Tolerance	±1%		±1%		±1%		±1%	
Maximum System Voltage	1500 VDC		1500 VDC		1500 VDC		1500 VDC	
Maximum Series Fuse Rating	30 A		30 A		30 A		30 A	

Technical Specifications

External Dimensions: 2278 x 1034 x 35 mm  
Weight: 27.0 kg  
Solar Cells: PERC Mono 182 x 99mm (66 cells)  
Front Glass: 3.2 mm AR coating tempered glass / low iron  
Frame: Anodized aluminum alloy  
Junction Box: IP65 / 3 diodes  
Connector Type: PV1-000-04  
Cable Type: 12 AWG PV Wire (UL)  
Cable Length: Parallel: 100 mm / 200 mm (1) / Latchage: 1200 mm / 1500 mm (1) / Custom length  
Mechanical Load/Foot: 5400 Pa / 113 psf  
Mechanical Load/Wind: 2400 Pa / 50 psf

Technical Drawing: I-V Curve

Packing Configuration

Container	20' GP	40' HQ
Pieces per Pallet	31	31
Pallet per Container	4	20
Pieces per Container	124	620

Temperature Characteristics

Power Temperature Coefficient	-0.35 1/C
Voc Temperature Coefficient	-0.27 1/C
Isc Temperature Coefficient	+0.05 1/C
Operating Temperature	40°-105° C
Nominal Operating Cell Temperature (NOCT)	45±2 1/C

© Copyright 2023 SEG Solar

Product specifications

Eaton 1007003CCH

Catalog Number: 1007003CCH

Eaton meter socket, Instrument rated socket, 20A, Solid top and bottom, 13-jaw, Factory wired test switch, 600 Vac, 3-phase, four-wire



General specifications

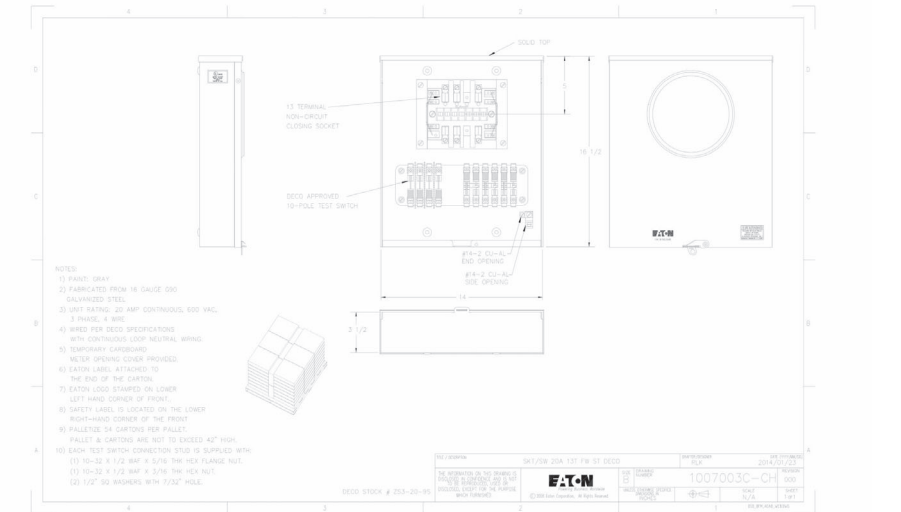
Product Name	Catalog Number
Eaton meter socket	1007003CCH
UPC	Product Length/Depth
78665220699	3.5 in
Product Height	Product Width
18.5 in	14 in
Product Weight	Warranty
22 lb	Eaton Selling Policy 25-000, one (1) year from the date of installation of the Product or eighteen (18) months from the date of shipment of the Product, whichever occurs first.

UL Listed

Default Taxonomy Attribute Label

Type	Resources
Instrument rated socket	Brochures
Ampereage Rating	Single Meter Sockets
20A	Catalogs
Fused type	Eaton's Volume 1 - Residential and Light Commercial
Solid	Drawings
Number of jaws	Dimensional Drawing - SK75W-20A 13FT FW ST DECO
13-jaw	Specifications and datasheets
Phase	Eaton Specification Sheet - 1007003CCH
Three-phase	
Utility approvals	
M: DTE (Denoel Edison)	
Number of wires	
Four-wire	
Hub type	
Solid top	
Voltage rating	
600 V	
Accessories	
Factory wired test switch	
Number of sockets	
1	

Eaton Corporation plc  
Eaton House  
30 Pembroke Road  
Dublin 4, Ireland  
Eaton.com  
Eaton is a registered trademark.  
All other trademarks are property of their respective owners.  
Eaton.com/socialmedia



NOTES:  
1) PAPER DRAWING  
2) FABRICATED FROM 1/8 GAUGE SHS GALVANIZED STEEL  
3) 3PHASE, 4 WIRE  
4) WIRED PER DECO SPECIFICATIONS WITH CONTINUOUS LOOP NEUTRAL WIRING  
5) TERMINARY CARTRIDGE METER OPENING COVER PROVIDED  
6) EATON LABEL ATTACHED TO THE END OF THE CARTON  
7) EATON LOGO STAMPED ON LOWER LEFT-HAND CORNER OF FRONT  
8) SAFETY LABEL IS LOCATED ON THE LOWER RIGHT-HAND CORNER OF THE FRONT  
9) PALLETIZED 24 CARTONS PER PALLET. PALLET & CARTONS ARE NOT TO EXCEED 42" HIGH  
10) EACH TEST SWITCH CONNECTION STUD IS SUPPLIED WITH:  
(1) 10-32 x 1/2" UNF x 5/16" THK HEX FLANGE NUT  
(1) 10-32 x 1/2" UNF x 3/16" THK HEX NUT  
(2) 1/2" SQ WASHERS WITH 7/32" HOLES

5130 RIVER VALLEY ROAD  
MILFORD, OH 45150  
PHONE: (513) 965-7300  
FAX: (513) 965-7363  
www.melinkcorp.com  
solaream@melinkcorp.com



PROJECT:  
LANSCAPE CORPORATE HQ  
46500 HILMBOULT DR.  
NOVI, MI 48377

REVISIONS:

DATE	ISSUANCE
06/19/2023	SITE LAYOUT
10/27/2023	30% ELECTRICAL
01/25/2024	30% ELECTRICAL v2
08/28/2024	30% ELECTRICAL v3



SEALED ON 08/28/2024  
M: L: LK 6201056485  
H2C PLLC MIKE@H2C.COM  
ELECTRICAL ONLY

DRAWN BY: JE  
CHECKED BY: NY

DWG TITLE:  
Spec Sheets

SHEET:  
PV300



# CONTINENTAL<sup>®</sup>

WWW.CONTINENTALELECTRICALPRODUCTS.COM

## MODEL #CT1000 DECO24 CURRENT TRANSFORMER CABINET

**RATINGS:**  
1000 AMP  
600 VAC  
42K AIC SYM

**STANDARD DIMENSION**  
24" x 48" x 10"



**LISTED**

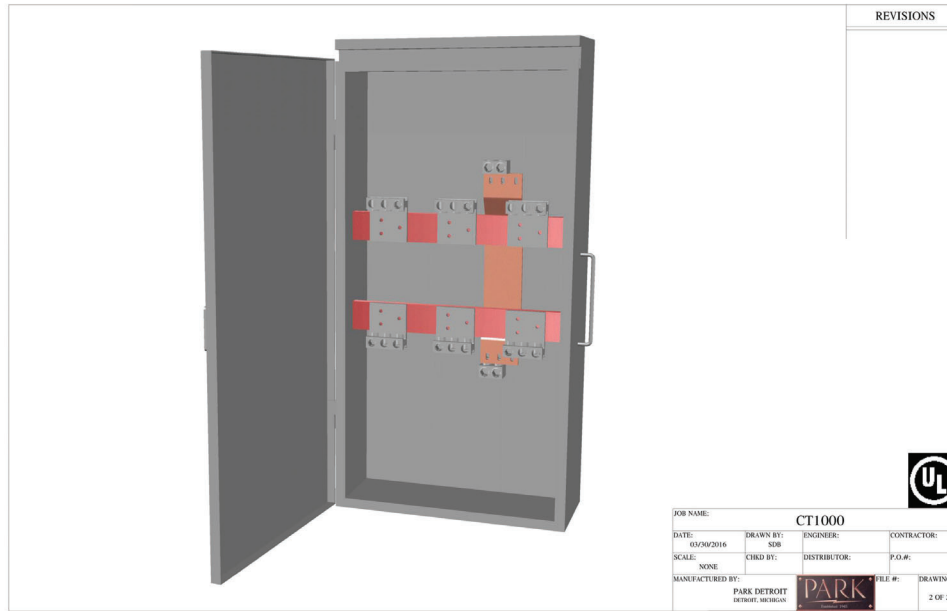
- EDITION APPROVED
- POWDER COAT FINISH
- STAINLESS STEEL HINGE
- 3R CONSTRUCTION
- LIFT-ON DOOR
- AVAILABLE WITH OUR U.L. LISTED BUS BARS
- PADLOCK & SEAL PROVISIONS
- EXPANDED 36" WIDE UNITS AVAILABLE - (SPECIFY EXPANDED LEFT OR RIGHT /SIDE GUTTER)



JANUARY 2010

CONTACT YOUR ELECTRICAL SUPPLY HOUSE FOR MORE INFORMATION ON OUR QUALITY PRODUCTS.

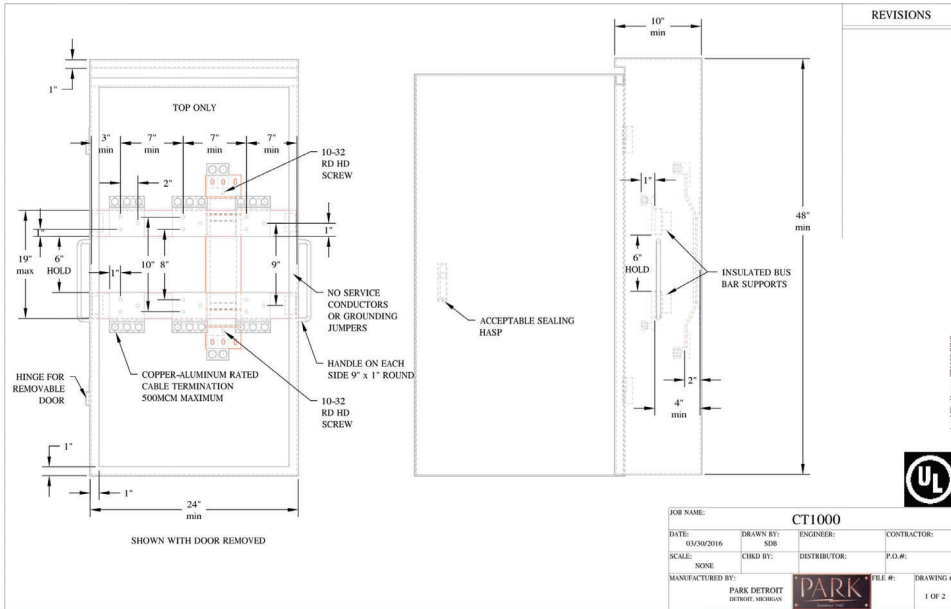
SWITCHGEAR, BUS DUCT, BUS PLUGS, ENCLOSURES, GROUND BARS, CUSTOM BUSING, AND MUCH MORE.



### REVISIONS



JOB NAME: CT1000			
DATE: 03/09/2016	DRAWN BY: SDB	ENGINEER:	CONTRACTOR:
SCALE: NONE	CHKD BY:	DISTRIBUTOR:	P.O.#:
MANUFACTURED BY: PARK DETROIT DETROIT, MICHIGAN		FILE #:	DRAWING #: 2 OF 2



5130 RIVER VALLEY ROAD  
MILFORD, OH 45150  
PHONE: (513) 965-7300  
FAX: (513) 965-7353  
www.melinkcorp.com  
solarteam@melinkcorp.com



PROJECT:  
LANBAGE CORPORATE HQ  
44500 HUMBOLDT DR.  
NOVI, MI 48377

### REVISIONS:

DATE	ISSUANCE
06/19/2023	SITE LAYOUT
10/27/2023	30% ELECTRICAL
01/25/2024	30% ELECTRICAL v2
08/28/2024	30% ELECTRICAL v3



SEALED ON 06/28/2024  
M - LIC# 6201056485  
H2DC PLLC MIKE@H2DC.COM  
ELECTRICAL ONLY

DRAWN BY: JE  
CHECKED BY: NY

DWG TITLE:  
Spec Sheets

SHEET:  
PV301

# POWERPOST® ELECTRIC VEHICLE CHARGING STATIONS

The Konnectronix unique, low current electric vehicle charging solutions are perfect for long dwell parking situations where cars are parked for more than 2 hours. Enhance your image and support your customers, employees and guests who are leading the charge in sustainability and energy reduction.

At Konnectronix we believe that electric vehicle charging should be simple: there's no need to over think or overspend. Our products are low current charging solutions which maximize the use of the equipment over the parking duration and avoid spikes in energy demand that can push a facility into higher electric rate brackets.

Ideal for facilities where cars are typically parked for three or more hours, the PowerPost® EVSE product line is designed to deliver a unique value proposition to those looking to provide electric vehicle charging to students and employees.

**UNIQUE PATENTED CORD REEL TECHNOLOGY**  
PowerPost EVSE products directly address the growing concern over slipping hazards in electric-vehicle parking areas. The patented retractable, waterproof and spark-proof cord reel is a robust solution that helps facilities meet ADA compliance.

**PRODUCT CONSTRUCTION & CUSTOMIZATION**  
The units are made of powder-coated aluminum and UV-resistant plastics to ensure the durability of these robust products. The exterior can also be customized with high-definition graphic wraps, enabling new branding opportunities for businesses.

**INSTALLATION BASICS**  
Designed for simple installation, the PowerPost EVSE is supplied as a Level 1 (120vac) low current unit or a Level 2 (208-240vac). The model utilizes a dedicated 20-amp circuit that is common in all commercial locations. Due to the low current draw, costly upgrades can often be avoided.

**LOW COST OF OWNERSHIP**  
With built-in retractable cord reel technology, cables are kept off of the ground and protected in a waterproof housing, minimizing wear and tear. Additionally, the simple, non-networked solution eliminates the costly issues that often arise with the integration of payment and tracking technologies.

**Don't over think or over pay: deliver EV charging for less than \$1 per day.\***

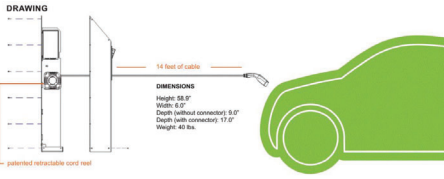
\*Based on an electricity rate of \$0.17/kWh, the cost to fuel a 20-mile commute is under \$1.



- KEY SPECIFICATIONS**
- 120vac/16 amps (Level 1) or 208-240vac/14 amps (Level 2)
  - 20A supply circuit
  - Retractable cord reel
  - waterproof and spark-proof
  - 14 feet of EVSE cable
  - UL 2504 certified for EVSE commercial use

*Did you know...*  
93% of "public access" charging stations are currently free to use. Facilities are increasingly offering recovery charges as a perk.

[philgraph quarterly report](#)



TECHNICAL SPECS	Level 1 PowerPost EVSE	Low Current Level 2 PowerPost EVSE
<b>Unit Output</b>		
Power Rating	110-120VAC/16 Amps	208-240VAC/14 Amps
Supply Circuit	20A	20A
User Interface	Simple LED Interface	
Charging Connector	SAE J1772 Compliant (excepts Tesla plug adapter)	
Encoder Materials	Fluorocarbon Aluminum and UV-Resistant Plastics	
Enclosure Rating	UL 50 and UL50E: Type 3R	
Product Decal/Wrap	Base units come standard with either L1 or L2 amp decals. Custom decal or wrap designs are available at an additional cost.	
Ambient Temperature Rating	-30°C to +50°C	
<b>Retractable Cord Reel Details</b>		
UL Dimension (Reel to Unit)	17" W x 14" x 8.7" D	
Retractable Cable	14 FT of Specially Designed EVSE Cable Optimized to Meet UL 335 Requirement	
Indoor/Outdoor Use	Submits Protection Against Heat, Shock, and Damage from External Ice Formation. Cord Reel is Capable of Temporary Submersion.	
Ambient Temperature Rating	-30°C to +50°C	
Patented Technology	The product contains patented cord reel technology: US 8,367,763 B2 as well as additional patents pending.	
<b>Safety Standards Tested</b>	UL 2504 Electric Vehicle Supply Equipment CSA C22.2 No. 250-13 Electric Vehicle Supply Equipment	
<b>Cord Reel Standards Testing</b>	UL 308 Cord Reels UL 50 Enclosures for Electrical Equipment, Non-Environmental Considerations UL 50E Enclosures for Electrical Equipment, Environmental Considerations UL 746C Polymeric Materials - Use in Electrical Equipment Evaluations CSA C22.2 No. 21 66 Cord Bells and Power Supply Cords	
Standard Charger Warranty	Standard 3 Year Warranty, including Cord Reel Component	
Standard Cord Reel Warranty	Standard 18 Month Warranty	

**ABOUT KONNECTRONIX, THE MINDS BEHIND POWERPOST EVSE**  
Konnectronix, the manufacturer of the PowerPost EVSE chargers, is a leader in cord reel technology with over 25 years of industry expertise. With more than 60 patents issued to date and a staff of highly skilled engineers, project managers, manufacturing experts and more, the Tesla team delivers the quality product you expect and the service you need for success.



## PRODUCT OVERVIEW

This manual applies to Wall Connectors identified by part number 1457768-\*\*-\*\*.

### Product Specifications

Voltage and Wiring	Nominal 200-240 V AC single-phase
Current Output Range	12 - 48 amps
Terminal Blocks	12-4 AWG (3.5 - 25 mm <sup>2</sup> ), copper only
Supported Conduit Sizing	3/4 in (21 mm) default, 1 in (27 mm) optional
Grounding Scheme	TN/TT
Frequency	50/60 Hz
Cable Length	7.3 m (24 ft)
Wall Connector Dimensions	Height: 13.6 in (345 mm) Width: 6.1 in (155 mm) Depth: 4.3 in (110 mm)
Wire Box Bracket Dimensions	Height: 9.8 in (250 mm) Width: 4.7 in (120 mm) Depth: 2.0 in (50 mm)
Weight (including wirebox)	10 lb. (4.5 kg)
Operating Temperature	-22° F to 122° F (-30° C to 50° C)
Storage Temperature	-40° F to 185° F (-40° C to 85° C)
Enclosure Rating	Type 3R
Ventilation	Not required
Means of Disconnect	External branch circuit breaker
Ground Fault Circuit Interrupter	Integrated, no additional required (CCID20)
Wi-Fi	2.4 GHz, 802.11b/g/n
Agency Approvals	cULus - E351001

Transportation and storage: Ensure that Wall Connector is within storage temperature when moving, transporting, or storing.

This device complies with part 15 of the FCC Rules. Operation is subject to the following conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.



Gen 3 Wall Connector Manual  
48A Single Phase

5130 RIVER VALLEY ROAD  
MILFORD, OH 45150  
PHONE: (513) 965-7300  
FAX: (513) 965-7363  
www.melinkecorp.com  
solarteam@melinkecorp.com



PROJECT:  
LANBAGE CORPORATE HQ  
46500 HUMBOLDT DR.  
NOVI, MI 48377

### REVISIONS:

DATE	ISSUANCE
06/19/2023	SITE LAYOUT
10/27/2023	30% ELECTRICAL
01/25/2024	30% ELECTRICAL v2
08/28/2024	30% ELECTRICAL v3



SEALED ON 08/28/2024  
MI - LIC# 6201026485  
H2C PLLC MIKE@H2C.COM  
ELECTRICAL ONLY

DRAWN BY: JE  
CHECKED BY: NY

DWG TITLE:  
Spec Sheets

SHEET:

PV302

**D-Series Size 1**

Performance Package 4000K CCT 70  
CRI Type 4 Medium

Area	Area (sq ft)	Quantity
Canopy Parking	16272	0.9
Existing Parking Lot	123.94	24
New Parking Lot	204.34	24
Boundary Line	17.71	3.11

**D-Series Size 2**

Performance Package 4000K CCT 70  
CRI Type 3 Medium

Area	Area (sq ft)	Quantity
Canopy Parking	13763	0.9
Existing Parking Lot	204.34	24
New Parking Lot	17.71	3.11
Boundary Line	138.81	3.61

**CS** **CNY LED** Canopy Lighting

Contractor Select CNY LED Canopy P0=3,500lm

**Statistics**

Description	Symbol	Avg	Max	Min	Max/Min	Avg/Min
Canopy Parking	X	2.8 fc	6.9 fc	0.9 fc	7.7:1	3.1:1
Existing Parking Lot	+	1.8 fc	5.3 fc	0.3 fc	17.7:1	6.0:1
New Parking Lot	+	1.8 fc	6.9 fc	0.5 fc	13.8:1	3.6:1
Boundary Line	+	0.0 fc	0.5 fc	0.0 fc	N/A	N/A

**Schedule**

Symbol	Level	Qty	Manufacturer	Color	Description	Area (sq ft)	LF	Height	Mounting
A	4	Lithonia	DSX1 LED P4 40K 70CRI T4M	D-Series Size 1 Area Luminaire P4 Performance Package 4000K CCT 70 CRI Type 4 Medium	16272	0.9	123.94	24'	
B	2	Lithonia	DSX1 LED P3 40K 70CRI T3M	D-Series Size 1 Area Luminaire P3 Performance Package 4000K CCT 70 CRI Type 3 Medium	13763	0.9	204.34	24'	
C	8	Lithonia	DSXW2 LED 30C 1000 40K TPTM MVOLT	DSXW2 LED WITH 3 LIGHT ENGINES, 30 LED's, 1000mA DRIVER, 4000K LED, TYPE FORWARD THROW MEDIUM OPTIC	11120	0.9	109	18'	
D	4	Lithonia	DSX1 LED P4 40K 70CRI T4M HS	D-Series Size 1 Area Luminaire P4 Performance Package 4000K CCT 70 CRI Type 4 Medium HouseSide Shield	13998	0.9	123.93	24'	
E	3	Lithonia	DSX1 LED P4 40K 70CRI T3W	D-Series Size 1 Area Luminaire P4 Performance Package 4000K CCT 70 CRI Type 5 Wide	17013	0.9	173.94	24'	
F	1	Lithonia	DSX1 LED P4 40K 70CRI T4M HS	D-Series Size 1 Area Luminaire P4 Performance Package 4000K CCT 70 CRI Type 4 Medium HouseSide Shield	13998	0.9	247.87	24'	46
G	20	Lithonia	CNY LED P0 40K MVOLT	CNY LED P0 40K MVOLT	3669	0.9	26.35	13'10" & 16'10"	

- General Note**
- SEE SCHEDULE FOR LUMINAIRE MOUNTING HEIGHT.
  - SEE LUMINAIRE SCHEDULE FOR LIGHT LOSS FACTOR.
  - CALCULATIONS ARE SHOWN IN FOOT-CANDLES AT 0' - 0"

THE ENGINEER AND/OR ARCHITECT MUST DETERMINE APPLICABILITY OF THE LAYOUT TO EXISTING / FUTURE FIELD CONDITIONS. THIS LIGHTING LAYOUT REPRESENTS ILLUMINATION LEVELS CALCULATED FROM LABORATORY DATA TAKEN UNDER CONTROLLED CONDITIONS IN ACCORDANCE WITH ILLUMINATING ENGINEERING SOCIETY APPROVED METHODS. ACTUAL PERFORMANCE OF ANY MANUFACTURER'S LUMINAIRE MAY VARY DUE TO VARIATION IN ELECTRICAL VOLTAGE, TOLERANCE IN LAMPS, AND OTHER VARIABLE FIELD CONDITIONS. MOUNTING HEIGHTS INDICATED ARE FROM GRADE AND/OR FLOOR UP.

THESE LIGHTING CALCULATIONS ARE NOT A SUBSTITUTE FOR INDEPENDENT ENGINEERING ANALYSIS OF LIGHTING SYSTEM SUITABILITY AND SAFETY. THE ENGINEER AND/OR ARCHITECT IS RESPONSIBLE TO REVIEW FOR MICHIGAN ENERGY CODE AND LIGHTING QUALITY COMPLIANCE.

UNLESS EXEMPT, PROJECT MUST COMPLY WITH LIGHTING CONTROLS REQUIREMENTS DEFINED IN ASHRAE 90.1 2013. FOR SPECIFIC INFORMATION CONTACT GBA CONTROLS GROUP AT ASG@GASSERBUSH.COM OR 734-266-6705.

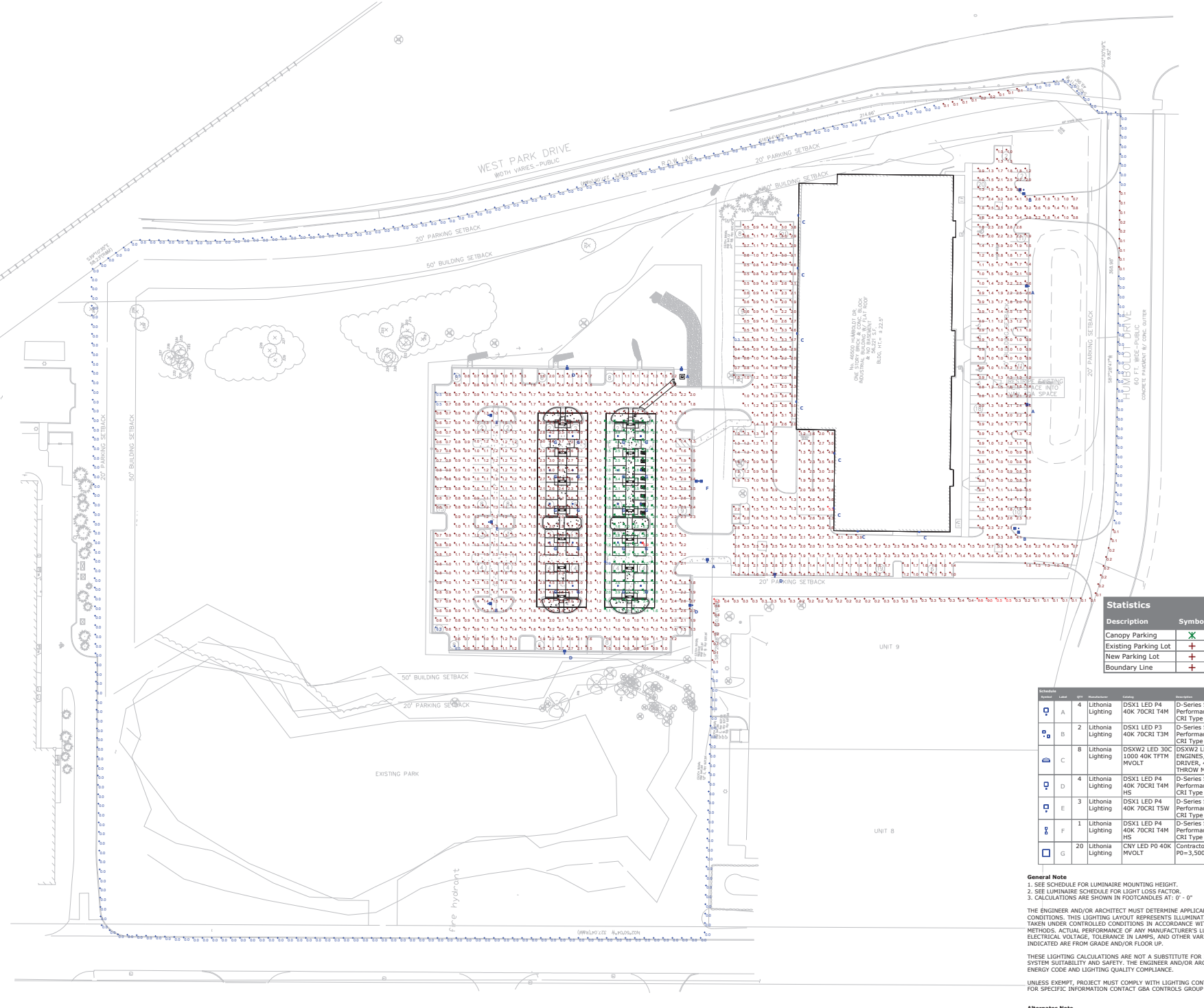
**Alternates Note**  
THE USE OF FIXTURE ALTERNATES MUST BE RESUBMITTED TO THE CITY FOR APPROVAL.

**Ordering Note**  
FOR INQUIRIES CONTACT GASSER BUSH AT QUOTES@GASSERBUSH.COM OR 734-266-6705.

**Drawing Note**  
THIS DRAWING WAS GENERATED FROM AN ELECTRONIC IMAGE FOR ESTIMATION PURPOSE ONLY. LAYOUT TO BE VERIFIED IN FIELD BY OTHERS.

**Mounting Height Note**  
MOUNTING HEIGHT IS MEASURED FROM GRADE TO FACE OF FIXTURE. POLE HEIGHT SHOULD BE CALCULATED AS THE MOUNTING HEIGHT LESS BASE HEIGHT.

46500 HUMBOLDT DRIVE - SITE  
PHOTOMETRIC LAYOUT  
GUY  
WWW.GASSERBUSH.COM



- ELECTRICAL SERVICE TO LIGHT FIXTURES SHALL BE PLACED UNDERGROUND.
- FLASHING LIGHT SHALL NOT BE PERMITTED.
- ONLY NECESSARY LIGHTING FOR SECURITY PURPOSES AND LIMITED OPERATIONS SHALL BE PERMITTED AFTER A SITES HOURS OF OPERATION.
- HOURS OF OPERATION ARE: 6AM TO 7PM, M-F

Plan View  
Scale = 1" = 30'

Designer  
Date  
Scale  
Drawing No.



**GENERAL NOTES**

1. "STRUCTURAL ENGINEER" IN THESE NOTES REFERS TO TJK GUSTAFSON RECKERS WILSON ANDREWS, LLC, THE STRUCTURAL ENGINEER OF RECORD.
2. "SPECIALTY ENGINEER" IN THESE NOTES REFERS TO AN ENGINEER LICENSED OR REGISTERED TO PRACTICE STRUCTURAL ENGINEERING IN THE STATE IN WHICH THE PROJECT IS LOCATED.
3. STRUCTURAL DRAWINGS ARE TO BE COORDINATED AND USED IN CONJUNCTION WITH THE ARCHITECTURAL, CIVIL, MECHANICAL, PLUMBING AND ELECTRICAL DRAWINGS. SEE MECHANICAL DRAWINGS FOR EQUIPMENT PADS, BASES, SUPPORTS AND DUCT PENETRATIONS.
4. TJK GUSTAFSON RECKERS WILSON ANDREWS, LLC SHALL NOT BE RESPONSIBLE FOR, NOR HAVE CONTROL OR CHARGE OF CONSTRUCTION METHODS, TECHNIQUES, SEQUENCES OR PROCEDURES FOR THE SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THIS PROJECT. OWNER SHALL NOT BE RESPONSIBLE FOR CONSTRUCTION FAILURE TO CARRY OUT HIS WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
5. TJK GUSTAFSON RECKERS WILSON ANDREWS, LLC SHALL NOT BE RESPONSIBLE FOR, NOR HAVE CONTROL OVER, THE ACTS OR OMISSIONS OF THE CONTRACTOR, SUBCONTRACTORS, ANY OF THEIR AGENTS, OR EMPLOYEES, OR ANY OTHER PERSONS PERFORMING ANY OF THE WORK, OR FOR THE FAILURE OF ANY OF THEM TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL PROVIDE AND BE RESPONSIBLE FOR ALL TEMPORARY SHORING AND BRACING REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT. ALL SHORING AND BRACING MEMBERS AND CONNECTIONS SHALL BE OF SUFFICIENT STRENGTH TO SUPPORT THE IMPOSED LOADS. TEMPORARY MEMBERS AND CONNECTIONS SHALL NOT BE REMOVED UNTIL PERMANENT MEMBERS ARE IN PLACE AND FINAL CONNECTIONS ARE MADE.
7. THE CONTRACTOR SHALL VERIFY IN FIELD ALL DIMENSIONS, ELEVATIONS AND MEMBER SIZES AS SHOWN ON THE CONTRACT DRAWINGS FOR THE EXISTING CONSTRUCTION PRIOR TO THE DETAILING OR FABRICATION OF ANY NEW STRUCTURAL ELEMENT. CONTRACTOR SHALL DOCUMENT ANY CONSTRUCTION RELATED DISCREPANCIES. CONTRACTOR SHALL FURNISH THE ABOVE INFORMATION IN THE FORM OF DETAILED SKETCHES TO THE STRUCTURAL ENGINEER FOR REVIEW AND REVISION PRIOR TO THE SCHEDULED START OF ANY DETAILING OR FABRICATION.
8. THE CONTRACTOR SHALL PROVIDE ALL MEASURES AND PRECAUTIONS NECESSARY TO PREVENT DAMAGE AND SETTLEMENT OF EXISTING OR NEW CONSTRUCTION INSIDE OR OUTSIDE THE PROJECT LIMITS DURING EXCAVATION AND FOUNDATION CONSTRUCTION. ANY DAMAGE TO NEW OR EXISTING CONSTRUCTION INSIDE OR OUTSIDE OF THE PROJECT LIMITS, CAUSED BY CONSTRUCTION OPERATIONS, IS THE RESPONSIBILITY OF THE CONTRACTOR.
9. NO FIELD MODIFICATIONS TO ANY STRUCTURAL COMPONENTS SHALL BE MADE WITHOUT PRIOR APPROVAL BY THE STRUCTURAL ENGINEER. THIS INCLUDES, BUT IS NOT LIMITED TO REVISIONS DUE TO MISLOCATION, MISFIT, OR ANY OTHER CONSTRUCTION ERRORS.
10. NO OPENING SHALL BE PLACED IN A STRUCTURAL MEMBER OTHER THAN AS INDICATED ON APPROVED SHOP DRAWINGS UNLESS THE LOCATION IS APPROVED BY THE STRUCTURAL ENGINEER.
11. PROVIDE SLEEVE LAYOUTS FOR ALL PENETRATIONS THROUGH STRUCTURAL MEMBERS (ALL TRACES ARE INCLUDED). LAYOUTS MUST BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.
12. SUPPORT ALL ROOF MEMBERS EQUIPPED OR EQUIPMENT SUSPENDED FROM FLOORS OR THE ROOF ONLY THROUGH BEAMS DESIGNATED FOR SUCH PURPOSE. IF NO SUPPORT HAS BEEN DESIGNATED, OR IF A QUESTION ARISES, NOTIFY STRUCTURAL ENGINEER PRIOR TO ERECTION OF ELEMENT.
13. ALL DETAILS, SECTIONS, AND NOTES ON THE DRAWINGS ARE INTENDED TO BE TYPICAL FOR SIMILAR SITUATIONS UNLESS OTHERWISE NOTED. FOR LOCAL DIMENSIONS NOT INDICATED ON THE STRUCTURAL DRAWINGS, SEE THE ARCHITECTURAL DRAWINGS.
14. MATERIALS AND EQUIPMENT SHALL BE STORED AND TRANSPORTED IN A MANNER SO AS NOT TO EXCEED THE ALLOWABLE FLOOR OR ROOF LOADING INDICATED IN THE "SCHEDULE OF BUILDING DESIGN LOADS" ON THE CONSTRUCTION DOCUMENTS OR THE ALLOWABLE CAPACITY OF THE CONNECTED MEMBER, WHICHEVER IS LOWER.
15. ALL MEMBERS SHOWN ON FRAMING PLANS AND OTHER COLUMN LINE/GRID LINES SHALL BE EQUALLY SPACED, UNLESS NOTED OTHERWISE.

16. REVISIONS TO THE DRAWINGS SHALL BE MADE IN ACCORDANCE WITH THE REVISION SCHEDULE.
17. THE CONTRACTOR SHALL VERIFY IN FIELD ALL DIMENSIONS, ELEVATIONS AND MEMBER SIZES AS SHOWN ON THE CONTRACT DRAWINGS FOR THE EXISTING CONSTRUCTION PRIOR TO THE DETAILING OR FABRICATION OF ANY NEW STRUCTURAL ELEMENT. CONTRACTOR SHALL DOCUMENT ANY CONSTRUCTION RELATED DISCREPANCIES. CONTRACTOR SHALL FURNISH THE ABOVE INFORMATION IN THE FORM OF DETAILED SKETCHES TO THE STRUCTURAL ENGINEER FOR REVIEW AND REVISION PRIOR TO THE SCHEDULED START OF ANY DETAILING OR FABRICATION.
18. THE CONTRACTOR SHALL PROVIDE ALL MEASURES AND PRECAUTIONS NECESSARY TO PREVENT DAMAGE AND SETTLEMENT OF EXISTING OR NEW CONSTRUCTION INSIDE OR OUTSIDE THE PROJECT LIMITS DURING EXCAVATION AND FOUNDATION CONSTRUCTION. ANY DAMAGE TO NEW OR EXISTING CONSTRUCTION INSIDE OR OUTSIDE OF THE PROJECT LIMITS, CAUSED BY CONSTRUCTION OPERATIONS, IS THE RESPONSIBILITY OF THE CONTRACTOR.
19. NO FIELD MODIFICATIONS TO ANY STRUCTURAL COMPONENTS SHALL BE MADE WITHOUT PRIOR APPROVAL BY THE STRUCTURAL ENGINEER. THIS INCLUDES, BUT IS NOT LIMITED TO REVISIONS DUE TO MISLOCATION, MISFIT, OR ANY OTHER CONSTRUCTION ERRORS.
20. NO OPENING SHALL BE PLACED IN A STRUCTURAL MEMBER OTHER THAN AS INDICATED ON APPROVED SHOP DRAWINGS UNLESS THE LOCATION IS APPROVED BY THE STRUCTURAL ENGINEER.
21. PROVIDE SLEEVE LAYOUTS FOR ALL PENETRATIONS THROUGH STRUCTURAL MEMBERS (ALL TRACES ARE INCLUDED). LAYOUTS MUST BE SUBMITTED TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO CONSTRUCTION.
22. SUPPORT ALL ROOF MEMBERS EQUIPPED OR EQUIPMENT SUSPENDED FROM FLOORS OR THE ROOF ONLY THROUGH BEAMS DESIGNATED FOR SUCH PURPOSE. IF NO SUPPORT HAS BEEN DESIGNATED, OR IF A QUESTION ARISES, NOTIFY STRUCTURAL ENGINEER PRIOR TO ERECTION OF ELEMENT.
23. ALL DETAILS, SECTIONS, AND NOTES ON THE DRAWINGS ARE INTENDED TO BE TYPICAL FOR SIMILAR SITUATIONS UNLESS OTHERWISE NOTED. FOR LOCAL DIMENSIONS NOT INDICATED ON THE STRUCTURAL DRAWINGS, SEE THE ARCHITECTURAL DRAWINGS.
24. MATERIALS AND EQUIPMENT SHALL BE STORED AND TRANSPORTED IN A MANNER SO AS NOT TO EXCEED THE ALLOWABLE FLOOR OR ROOF LOADING INDICATED IN THE "SCHEDULE OF BUILDING DESIGN LOADS" ON THE CONSTRUCTION DOCUMENTS OR THE ALLOWABLE CAPACITY OF THE CONNECTED MEMBER, WHICHEVER IS LOWER.
25. ALL MEMBERS SHOWN ON FRAMING PLANS AND OTHER COLUMN LINE/GRID LINES SHALL BE EQUALLY SPACED, UNLESS NOTED OTHERWISE.

**SHOP DRAWINGS**

1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW AND APPROVAL.
2. ALL SHOP DRAWING SUBMITTALS SHALL BE AS DESCRIBED IN THE PROJECT SPECIFICATIONS OR IN THESE NOTES IF THERE IS NO PROJECT SPECIFICATION.
3. SHOP DRAWINGS AND RELATED MATERIALS PREPARED BY SUPPLIERS AND SUBCONTRACTORS SHALL BE REVIEWED BY THE GENERAL CONTRACTOR PRIOR TO SUBMITTING TO THE ARCHITECT/STRUCTURAL ENGINEER. THE GENERAL CONTRACTOR SHALL REVIEW ALL SUBMISSIONS FOR CONFORMANCE WITH THE CONTRACT DOCUMENTS, MEANS, METHODS, TECHNIQUES, SEQUENCES AND OPERATION OF CONSTRUCTION, TECHNICAL CONTENT, COORDINATION OF TRADES, DIMENSIONAL ACCURACY, SAFETY PRECAUTIONS AND PROGRAMS INCIDENTAL THERE TO. ALL OF WHICH ARE THE SOLE RESPONSIBILITY OF THE GENERAL CONTRACTOR. THE GENERAL CONTRACTOR SHALL APPROVE AND STAMP EACH SUBMISSION BEFORE SUBMITTING TO THE ARCHITECT/STRUCTURAL ENGINEER.
4. THE STRUCTURAL DRAWINGS SHALL NOT BE USED AS THE BACKGROUND FOR THE PRODUCTION OF ANY SHOP DRAWINGS THAT ARE SUBMITTED FOR REVIEW.
5. ANY DEVIATIONS FROM THE STRUCTURAL DRAWINGS OR SPECIFICATIONS SHALL BE NOTED AND DUBBED ON THE SHOP DRAWINGS THAT ARE SUBMITTED FOR APPROVAL.
6. FOR SHOP DRAWINGS TO BE RESUBMITTED TO THE STRUCTURAL ENGINEER FOR A SUBSEQUENT REVIEW, ALL CHANGES SHALL BE NOTED AND DUBBED.
7. THE GENERAL CONTRACTOR SHALL SUBMIT TO THE STRUCTURAL ENGINEER, OWNER AND GC, LLC THE BELOW INDICATED VERIFICATION SUBMITTALS FOR REVIEW AND APPROVAL.
  - A. AS-BUILT SURVEY DRAWING OF THE CONSTRUCTED CONCRETE PERS INDICATING THE FOLLOWING:
    - i. DIMENSIONS LOCATION IN PLAN OF ALL PERS INCLUDING ANY ADJUSTMENTS MADE TO THEM RELATIVE TO THE FOUNDATION PLAN.
    - ii. ELEVATION OF THE TOP OF EACH PER AND THE SURFACE GRADE ADJACENT TO THE PER.
    - iii. COORDINATION OF ACCURATE LOCATION OF THE COLUMN BASE ANCHOR RODS INCLUDING ANY ANCHOR RODS THAT ARE PLACED OUT OF TOLERANCE.
  - B. STRUCTURAL STEEL CANOPY STRUCTURES ARE BASED ON THE USE OF THE **YUNIBOW SOLAR PANEL MODULE MANUFACTURED BY YUN**. THE GENERAL CONTRACTOR SHALL SUBMIT WRITTEN VERIFICATION OF THE USE OF THIS MODULE SYSTEM.

**STRUCTURAL SYSTEM**

1. THE GRAVITY LOADS RESISTING SYSTEM CONSISTS OF STEEL PURLINS, STEEL BEAMS, AND STEEL COLLARS ON CONCRETE FOOTINGS.
2. THE LATERAL LOAD RESISTING SYSTEM CONSISTS OF STEEL ORDINARY CANTILEVER COLUMNS ON CONCRETE FOOTINGS.

**FOUNDATIONS**

1. FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL INVESTIGATION REPORT PERFORMED BY XXX DATED XXX, 2022. CONTRACTOR SHALL FOLLOW ALL REQUIREMENTS SPECIFIED IN THE REPORT.
2. FOUNDATION DESIGN IS BASED ON THE USE OF CONTINUOUS STRIP FOOTINGS AND/OR SPREAD FOOTINGS APPLYING A MAXIMUM PRESSURE OF 1,500 POUNDS PER SQUARE FOOT TO THE SOIL.
3. ALL ENGINEERED FILL IS TO BE COMPACTED TO ACHIEVE THIS BEARING PRESSURE AS VERIFIED BY FIELD TESTING PERFORMED BY THE OWNER'S TESTING AGENCY. IF FIELD CONDITIONS DO NOT PROVIDE THIS MINIMUM VALUE, THE STRUCTURAL ENGINEER AND ARCHITECT SHOULD BE NOTIFIED IMMEDIATELY.
4. **PER THE ABOVE REFERENCED REPORT, THE LATERAL EARTH PRESSURE IS AS FOLLOWS:**
  - A. PASSIVE EARTH PRESSURE - XXX PSF/FOOT

5. SHOULD UNDESIRABLE BEARING CONDITIONS BE ENCOUNTERED DURING EXCAVATION, NOTIFY THE OWNER, STRUCTURAL ENGINEER AND GC, LLC BEFORE CONTINUING WITH CONSTRUCTION.
6. THE CONCRETE FOR EACH ISOLATED FOOTING SHALL BE PLACED IN ONE (1) CONTINUOUS POUR.
7. THE CONTRACTOR MUST PROVIDE SURFACE DRAINAGE AND PUMPS TO PROTECT ALL EXCAVATION FROM FLOODING. FLOODING OF ANY EXCAVATION AFTER APPROVAL OF THE SUBGRADE WILL BE CAUSE FOR CONCRETE RE-REPAIRATION AND RE-APPROVAL OF THE SUBGRADE.
8. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY MEASURES TO PREVENT ANY WATER FROST OR ICE FROM PENETRATING ANY FOOTING OR SLAB SUBGRADE BEFORE AND AFTER PLACING OF CONCRETE AND UNTIL SUCH SUBGRADE IS FULLY PROTECTED BY THE PERMANENT BUILDING STRUCTURE.
9. THE CONTRACTOR'S PROCEDURES AND SEQUENCING FOR FOUNDATION INSTALLATION SHALL PROVIDE SETTLEMENT OF ADJACENT CONSTRUCTION. THE CONTRACTOR SHALL HAVE SOLE RESPONSIBILITY FOR ALL REMEDIAL WORK RESULTING FROM SUCH SETTLEMENT.
10. RECORD OF ANY EXISTING BARRIERS/INTERFERENCES OTHER THAN THOSE INTERFERENCES SHOWN OR INDICATED ON THE CONSTRUCTION DOCUMENTS, ARE NOT CURRENTLY AVAILABLE DURING EXCAVATION WORK, INTERFERENCES MAY BE DISCOVERED. CONTRACTOR SHALL DOCUMENT CONSTRUCTION RELATED DIMENSIONS OF ALL INTERFERENCES. CONTRACTOR TO FURNISH THE ABOVE INFORMATION IN THE FORM OF DETAILED SKETCHES TO THE OWNER, STRUCTURAL ENGINEER AND GC, LLC FOR REVIEW.
11. REFER TO THE **TESTING AND INSPECTION SECTION** OF THESE NOTES FOR THE FOUNDATION TESTING AND INSPECTION REQUIREMENTS.

**STRUCTURAL CONCRETE**

1. CONCRETE MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE LATEST EDITION OF THE AMERICAN CONCRETE INSTITUTE PUBLICATIONS:
  - A. AC 308 - "SPECIFICATIONS FOR STRUCTURAL CONCRETE FOR BUILDINGS"
  - B. AC 309 - "RECOMMENDED PRACTICE FOR CONCRETE FLOOR AND SLAB CONSTRUCTION"
  - C. AC 304 - "RECOMMENDED PRACTICE FOR MEASURING, MIXING, TRANSPORTING AND PLACING CONCRETE"
  - D. AC 311 - "AC MANUAL OF CONCRETE INSPECTION"
  - E. AC 315 - "DETAILS AND DETAILING OF CONCRETE REINFORCEMENT"
  - F. AC 318 - "BUILDING CODES REQUIREMENTS FOR REINFORCED CONCRETE"
  - G. AC 347 - "RECOMMENDED PRACTICE FOR CONCRETE FORMWORK"
2. PROVIDE CONCRETE TO OBTAIN A MINIMUM COMPRESSIVE STRENGTH AT 28 DAYS,  $f_c = 4,000$  PSI
3. LABORATORY TEST REPORTS OR MATERIAL CERTIFICATES FOR CONCRETE MATERIALS AND MIX DESIGN TESTS, IN CONFORMANCE WITH AC 308, SHALL BE SUBMITTED FOR REVIEW. THE CONTRACTOR SHALL PROVIDE ONE SET OF TEST REPORTS OR MATERIAL CERTIFICATES FOR EACH TYPE OF CONCRETE TO BE USED. EACH SUBMITTED MIX DESIGN SHALL IDENTIFY THE APPLICATION FOR WHICH THE MIX WILL BE USED.
4. ALL CONCRETE SHALL BE NORMAL WEIGHT UNLESS NOTED OTHERWISE.
5. ALL CONCRETE ELEMENTS SUBJECT TO FREEZING AND THAWING DURING CONSTRUCTION OR OVER THE SERVICE LIFE OF THE STRUCTURE SHALL CONTAIN AN AIR ENTRAINMENT ADMIXTURE, AS SPECIFIED IN AC 311, LATEST EDITION.
6. NO CALCIUM CHLORIDE SHALL BE USED IN ANY CONCRETE.
7. THE CONTRACTOR SHALL SUBMIT CHECKED, DETAILED REINFORCEMENT SHOP DRAWINGS SHOWING THE LOCATIONS AND DETAILING OF ALL FORMULATIONS, CONNECTIONS, JOINTS, CONTROL JOINTS, ETC. PRIOR TO FABRICATION. DETAILS SHALL INCLUDE STEEL SEGS, UPS, SPACING AND PLACEMENT.
8. PROVIDE ADEQUATE BOLSTERS, H/O CHAIRS, SUPPORT BARS, ETC. TO MAINTAIN SPECIFIED CLEARANCES FROM REINFORCING BARS. PROVIDE CONTINUOUS #4 SPICER BARS IN WALLS AND SLABS TO SUPPORT DOBLS.
9. PROVIDE PLASTIC TYPED ACCESSORIES FOR REINFORCEMENT AT ALL FACES OF EXPOSED CONCRETE, INTERIOR OR EXTERIOR.
10. ALL FIELD BENDING OF REINFORCEMENT SHALL BE DONE COLD. HEATING OF BARS WILL NOT BE PERMITTED.
11. ALL STRUCTURAL CONCRETE MEMBERS (STRUCTURED SLAB, BEAMS AND GIRDERS) ARE NOT CONSTRUCTED IN ONE CONTINUOUS POUR. THE VERTICAL CONSTRUCTION JOINT BETWEEN POURS SHALL BE PLACED WITHIN THE MIDDLE PATH OF THE MEMBER SPAN AND CONTINUOUSLY WITH THE MEMBER SHALL BE SHOWN ON THE DRAWINGS. THE CONCRETE HAS AT LEAST A 28 DAY STRENGTH. SEE TYPICAL CONSTRUCTION JOINT DETAILS. ALTERNATE CONSTRUCTION JOINT LOCATIONS MUST BE REVIEWED BY THE STRUCTURAL ENGINEER. NO HORIZONTAL CONSTRUCTION JOINTS WILL BE PERMITTED IN SLABS AND BEAMS UNLESS SPECIFICALLY SHOWN ON THE DRAWINGS.
12. NO ALUMINUM OR ANY THEE SHALL BE ALLOWED IN THE CONCRETE WORK, UNLESS COATED TO PREVENT ALUMINUM CONCRETE REACTION.
13. UNLESS OTHERWISE NOTED ON THE DRAWINGS, SLEEVES FOR PERS AND CONDUITS PENETRATING GRADE BEAMS AND CONCRETE WALLS SHALL BE STEEL PIPE EMBEDDED MINIMUM 4" INTO THE BEAM. THE THICKNESS OF THE SLEEVE SHALL CONFORM TO SCHEDULE 40 BUT NEED NOT BE MORE THAN 18". ALL SLEEVES SHALL BE REVIEWED BY THE STRUCTURAL ENGINEER AND ARCHITECT PRIOR TO INSTALLATION.
14. ALL REINFORCING STEEL SHALL BE HIGH STRENGTH NEW BULET STEEL, CONFORMING TO ASTM A615 GRADE 60 UNLESS NOTED OTHERWISE.
15. ALL BAR DETAILING AND ACCESSORIES TO BE FURNISHED SHALL CONFORM TO TYPICAL DETAILS IN THE AC 308 AND 311 DETAILING MANUALS, LATEST EDITION, EXCEPT AS OTHERWISE SHOWN, NOTED, OR SPECIFIED.
16. DETAILING AND ACCESSORIES SHALL CONFORM TO THE AC 308 DETAILING MANUAL AND TO THE CRSI MANUAL OF STANDARD PRACTICE LATEST EDITION, EXCEPT AS OTHERWISE NOTED BELOW, OR ON THE DRAWINGS, OR ON THE SPECIFICATIONS.
17. ALL HOOKS SHALL BE "STANDARD" HOOKS AS PER AC 318, UNLESS NOTED OTHERWISE.
18. THE MINIMUM LENGTH OF ALL LAP SPICES NOT DIMENSIONED ON THE DRAWINGS SHALL BE AS FOLLOWS:

BAR SIZE	ft.	SLAB/BEAM	WALL	COLUMN
#3	0.000	12"	12"	12"
#4	0.000	12"	12"	12"
#5	0.000	12"	12"	12"
#6	0.000	12"	12"	12"
#7	0.000	12"	12"	12"
#8	0.000	12"	12"	12"
#9	0.000	12"	12"	12"
#10	0.000	12"	12"	12"
#11	0.000	12"	12"	12"

- A. THE ABOVE TABLE IS BASED ON THE CLEAR SPACING OF BARS BEING NOT LESS THAN 2x THE MAXIMUM BAR DIAMETER AND THE CLEAR COVER OF BARS BEING NOT LESS THAN ONE BAR DIAMETER. MULTIPLY THE LENGTH BY 1.3 FOR ALL OTHER CASES.
- B. TOP BARS ARE HORIZONTAL BARS PLACED SUCH THAT MORE THAN 12" OF CONCRETE IS CAST IN THE MEMBER BELOW THE SPICE.
- C. FOR EPOXY COATED BARS, MULTIPLY THE LENGTH SHOWN IN THE TABLE ABOVE BY 1.3.
- D. LENGTHS ARE BASED ON THE MINIMUM WEIGHT CONCRETE FOR NORMAL WEIGHT CONCRETE. MULTIPLY THE LENGTHS SHOWN IN THE TABLE ABOVE BY 1.3.
- E. WELDED BARS OF DIFFERENT SIZE SHALL BE SPICED. THE LENGTH SHALL BE THAT REQUIRED FOR THE LARGER BAR.
- F. LENGTHS SHALL BE SPECIFICALLY DIMENSIONED AT ALL LOCATIONS ON THE SHOP DRAWINGS.
- G. FOR CONCRETE STRENGTH BETWEEN LISTED VALUES, USE LENGTH OF THE NEXT LOWER CONCRETE STRENGTH LISTED VALUE.
- H. FOR CONCRETE STRENGTH EXCEEDING 6000 PSI, USE THE LENGTH FOR 6000 PSI CONCRETE STRENGTH.

**MECHANICAL COUPLERS**

20. MECHANICAL COUPLERS MAY BE USED IN SLEEVES OF LAP SPICES. MECHANICAL COUPLERS MUST BE CAPABLE OF SUSTAINING 125% OF THE BAR CAPACITY.
21. REFER TO THE **TESTING AND INSPECTION SECTION** OF THESE NOTES FOR THE CONCRETE TESTING AND INSPECTION REQUIREMENTS.

**POST INSTALLED ANCHORS**

1. WHERE EPOXY RESIN IS INDICATED ON THE PLANS OR DETAILS, USE HLH H-20 ADEHIVE IN CONCRETE AND SOLO GROUTED MASONRY UNLESS NOTED OTHERWISE. THE CONTRACTOR MAY SUBSTITUTE EPOXY SYSTEMS FOR APPROVAL, PROVIDED THEY MEET OR EXCEED THE CAPACITY OF HLH H-20 ADEHIVE.
2. DRILL, HOLE AND EPOXY MANUFACTURER'S RECOMMENDED SIZE, CLEAN HOLES WITH A CIRCULAR WIRE OR NYLON BRUSH AND BLOW OUT WITH COMPRESSED AIR.
3. WHERE MECHANICAL EXPANSION ANCHORS ARE INDICATED ON THE PLANS OR DETAILS, USE 1/2" DIA. WIRE BOLT 1 ANCHORS IN CONCRETE UNLESS NOTED OTHERWISE. THE CONTRACTOR MAY SUBMIT SUBSTITUTE EXPANSION ANCHOR SYSTEMS FOR APPROVAL, PROVIDED THEY MEET OR EXCEED THE CAPACITY OF 1/2" DIA. WIRE BOLT 1 ANCHORS. PROVIDE A FIELD SKETCH TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO MAKE ANY MODIFICATIONS.
4. REFER TO THE **TESTING AND INSPECTION SECTION** OF THESE NOTES FOR THE POST-INSTALLED ANCHOR TESTING AND INSPECTION REQUIREMENTS.

**STRUCTURAL STEEL**

1. FURNISH STRUCTURAL STEEL, IN ACCORDANCE WITH AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS AND AISC CODE OF STANDARD PRACTICE, LATEST EDITIONS.
2. STRUCTURAL STEEL MATERIAL SHALL BE AS INDICATED BELOW UNO:
 

STRUCTURAL SHAPES	SPECIFICATION
WELDED FLANGES	ASTM A572
CHANNELS	ASTM A36
ANGLE	ASTM A36
SQUARE & RECTANGULAR HSS	ASTM A500, GRADE C
PLATE	ASTM A36
PREPARED ROOF	ASTM A303
ANCHOR BOLT ASSEMBLIES	ASTM F1554, GRADE 36
ANCHOR BOLTS	ASTM A307 OR A36, GRADE 5, AS NOTED
3. ALL STRUCTURAL STEEL FRAMEWORK INCLUDED IN THESE DOCUMENTS ARE CLASSIFIED AS FULLY SUPPORTING. THE CONNECTIONS SPECIFIED HEREIN ARE BASED ON THE ASSUMPTION THAT THE STRUCTURE IS FULLY SUPPORTED IN ALL DIRECTIONS INCLUDING THE FUNCTIONS OF THE COLUMN BASE PLATES AND ANCHOR BOLTS. INSTALLATIONS CAN BE DEFECTED DURING THE ERECTION PROCESS DUE TO LACK OF INSTALLED ROOF, FLOOR, WALL AND SLAB PARTS AS WELL AS THE STEEL BRACING, CONNECTION RIGIDITIES AND OTHER SUCH STABILIZING ELEMENTS. THE GENERAL CONTRACTOR SHALL NOTIFY THE SEQUENCING AND SCHEDULING OF CONSTRUCTION ITEMS AND COORDINATE THE ACTIVITIES OF ALL TRADES INCLUDING THE STEEL FABRICATOR AND ERECTOR. THE ERECTOR SHALL SUBMIT AN ERECTION PLAN AND A TEMPORARY BRACING SCHEME TO THE CONTRACTOR AND OWNER WHICH IS FOR RECORD PURPOSES ONLY. THIS SUBMITTAL WILL NOT BE REVIEWED AND IS NOT A DESIGN FUNCTION OF THE STRUCTURAL ENGINEER.
4. THE FABRICATOR/ERECTOR SHALL SUBMIT TO THE STRUCTURAL ENGINEER AND ARCHITECT FOR REVIEW, ENGINEERED AND CHECKED DRAWINGS SHOWING FABRICATION DETAILS, FIELD ASSEMBLY DETAILS AND ERECTION DRAWINGS FOR ALL STRUCTURAL STEEL ELEMENTS.
5. ALL BEAMS AND JOISTS SHALL BE FABRICATED WITH THE NATURAL CORNER UP, PROVIDE FABRICATED CHANGES AS INDICATED ON THE DRAWINGS.
6. AFTER FABRICATION, ALL STEEL SHALL BE CLEANED OF ALL RUST, LOOSE MILL SCALE, AND OTHER FOREIGN MATERIALS.
7. WELDING SHALL BE PERFORMED WITH ER70X LOW HYDROGEN ELECTRODES. ALL WELDS SHALL BE PERFORMED BY CERTIFIED QUALIFIED WELDERS AND SHALL CONFORM TO THE AWS D1.1, "STRUCTURAL WELDING CODE - STEEL," LATEST EDITION.
8. MINIMUM FLEET WELD SIZE SHALL COMPLY WITH THE AISC SPECIFICATION REQUIREMENTS, BUT SHALL NOT BE LESS THAN 3/16" UNLESS NOTED OTHERWISE.
9. ALL BOLTS, NUTS AND WASHERS SHALL CONFORM TO THE REQUIREMENTS OF "AISC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A307 BOLTS," LATEST EDITION. ALL BOLT HOLES SHALL BE "SHORT SLOTTED," UNLESS NOTED OTHERWISE.
10. ALL STEEL BEAM AND GIRDER CONNECTIONS SHALL BE SIMPLY SHEAR CONNECTIONS UTILIZING HIGH STRENGTH BOLTS IN BEARING. TYPE CONNECTIONS WITH THRUSTS EXCLUDED FROM THE SHEAR PLANE UNLESS NOTED OTHERWISE. BOLTS ARE TO BE TIGHTENED TO THE "SNAG TIGHT" CONDITION UNLESS NOTED AS "SLIP CRITICAL," BOLTS DESIGNATED AS "SLIP CRITICAL" ARE TO BE TIGHTENED PER THE ABOVE MENTIONED BOLT SPECIFICATION.
11. BOLTED CONNECTIONS SHALL USE A MINIMUM OF 6 3/4" BOLTS UNLESS NOTED OTHERWISE.
12. THERE SHALL BE NO FIELD CUTTING OF STRUCTURAL STEEL MEMBERS FOR THE WORK OF OTHER TRADES WITHOUT THE PRIOR APPROVAL OF THE STRUCTURAL ENGINEER OF RECORD.
13. STEEL WORK SHALL SLOPE IN ACCORDANCE WITH ELEVATIONS GIVEN ON STRUCTURAL DRAWINGS.
  - A. AFTER THE STRUCTURAL STEEL COMPONENTS ARE FABRICATED, THEY SHALL BE NOT DEPDED GALVANIZED IN ACCORDANCE WITH ASTM 123, UNLESS NOTED OTHERWISE.
14. REFER TO THE **TESTING AND INSPECTION SECTION** OF THESE NOTES FOR THE STRUCTURAL STEEL TESTING AND INSPECTION REQUIREMENTS.

**COLD FORMED STEEL FRAMING (TYPICAL DESIGN)**

1. FURNISH COLD FORMED STEEL FRAMING IN ACCORDANCE WITH AMERICAN IRON AND STEEL INSTITUTE. "SPECIFICATION FOR THE DESIGN OF COLD FORMED STEEL STRUCTURAL MEMBERS," LATEST EDITION.
2. COLD FORMED STEEL FRAMING EXAMPLE MEMBER DESIGNATION IS AS SUCH:
  - A. 800354-0
  - B. 1 600 #16 DEPTH
  - C. 2 3" STUD SECTION
  - D. 20' x 20' x 1/4" FLANGE WIDTH
  - E. 54 x 54 M.L.S. 16 GAUGE
3. ALL FRAMING SHALL BE FORMED FROM SHEET STEEL, CORRESPONDING TO THE REQUIREMENTS OF ASTM A1013 STRUCTURAL GRADE TYPE IV MINIMUM ZINC COATING AND MINIMUM WELD STRENGTH OF 50 KSI, UNLESS NOTED OTHERWISE.
4. ALL FRAMING SHALL BE MINIMUM 54 M.L.S. UNLESS NOTED OTHERWISE.
5. ALL STUD SECTIONS SHALL BE PUNCHED WITH STANDARD HOLES AND WITH STIFFENED FLANGES. ALL TRAC SECTIONS SHALL BE UNPUNCHED WITH UNSTIFFENED FLANGES.
6. FASTENING OF COMPONENTS SHALL BE WITH SELF DRILLING SCREWS OR WELDING. SCREWS AND WELDING SHALL BE SUFFICIENT SIZE TO ENSURE THE STRENGTH OF THE CONNECTION. WIRE TYING OF COMPONENTS SHALL NOT BE PERMITTED. ALL WELDS SHALL BE TOUCHED-UP WITH A ZINC RICH PAINT MEETING ASTM A790.
7. ALL WELDING SHALL BE PERFORMED BY QUALIFIED WELDERS AND SHALL CONFORM TO THE AWS D1.1, "STRUCTURAL WELDING CODE - SHEET STEEL," LATEST EDITION.
8. CONNECTIONS OF ALL COLD FORMED STEEL FRAMING TO COLD FORMED STEEL FRAMING SHALL BE WITH MINIMUM OF 2 #19 SELF TAPPING SHEET METAL SCREWS WITH LOW PROFILE HEADS UNLESS NOTED OTHERWISE.
9. CONNECTIONS OF ALL COLD FORMED STEEL FRAMING TO STRUCTURAL STEEL FRAMING SHALL BE WITH MINIMUM OF (3) #14 PEP-COATED ACTUATED FASTENING PINS UNLESS NOTED OTHERWISE.
10. CONTRACTOR SHALL SUBMIT COLD FORMED STEEL FRAMING SHOP DRAWINGS TO THE STRUCTURAL ENGINEER FOR REVIEW PRIOR TO COMMENCING CONSTRUCTION. DRAWINGS SHALL SHOW LAYOUT, SPACING, SEGS, THICKNESS AND TYPES OF BRACING, CHANNELS, OPENING, FRAMING, SUPPLEMENTAL FRAMING, STRAPPING, BRACING, BRACING BRACES AND ACCESSORIES. PROVIDE ADDITIONAL INFORMATION WITH SHOP DRAWING SUBMITTALS AS INDICATED IN PROJECT SPECIFICATIONS.
11. REFER TO THE **TESTING AND INSPECTION SECTION** OF THESE NOTES FOR THE COLD FORMED STEEL FRAMING TESTING AND INSPECTION REQUIREMENTS.

**STRUCTURAL LOADING CRITERIA**

1. STRUCTURAL BUILDING CODE - 2015 MICHIGAN BUILDING CODE
2. ROOF DEAD LOADS - SEE "SCHEDULE OF BUILDING DESIGN LOADS"
3. SOLAR PANELS - 2.5 PSF
4. MISC. WIRING AND CONNECTIONS - 1.0 PSF
5. STRUCTURAL + WIND WEIGHT OF STRUCTURAL MEMBERS INDICATED
6. ROOF LIVE LOADS: SOLAR PANELS NOT DESIGNED FOR OCCUPANCY
7. WIND LOADS:
  - A. BASIC WIND SPEED (SECOND ZONE),  $V = 115$  MPH (AS/MTATE)
  - B. RISK CATEGORY II
  - C. IMPORTANCE FACTOR = 1.00
  - D. EXPOSURE CATEGORY - B
  - E. WIND SPEED ADJUSTMENT FACTOR WITH MONOCL. OR ROOF
  - F. WIND LOADS ON STRUCTURAL MEMBERS (ALL DIRECTIONS) = 2.0 PSF
  - G. WIND PARALLEL TO ROOF SLOPE
    - A. VERTICAL DOWN FORCE AT WINDWARD HALF OF ROOF, CASE A = 2.0 PSF
    - B. VERTICAL DOWN FORCE AT LEeward HALF OF ROOF, CASE A = 8.0 PSF
    - C. VERTICAL UP/LIFT FORCE AT WINDWARD HALF OF ROOF, CASE B = 2.0 PSF
    - D. VERTICAL UP/LIFT FORCE AT LEeward HALF OF ROOF, CASE B = 7.0 PSF
    - E. WIND PERPENDICULAR TO ROOF SLOPE
      - A. VERTICAL UP/LIFT DOWN FORCE AT WINDWARD EDGE = 16.0 PSF
      - B. VERTICAL UP/LIFT DOWN FORCE AWAY FROM WINDWARD EDGE = 12.0 PSF
      - C. VERTICAL UP/LIFT DOWN FORCE AT LEeward EDGE = 7.0 PSF
    - F. COMPONENTS TRANSFERRING WIND LOAD FROM STRUCTURAL SYSTEM = SEE REFERENCED CODE ABOVE.
8. SNOW LOADS:
  - A. GROUND SNOW LOAD -  $P_g = 25$  PSF
  - B. IMPORTANCE FACTOR = 1.0
  - C. THERMAL FACTOR,  $C_t = 1.2$
  - D. EXPOSURE FACTOR = 0.9
  - E. FLAT ROOF SNOW LOAD  $P_f = 20$  PSF
  - F. RISK CATEGORY - II
  - G. IMPORTANCE FACTOR = 1.00
  - H. SHORT PERIOD SITE COEFFICIENT  $F_s = 1.0$
  - I. SECOND PERIOD SITE COEFFICIENT  $F_s = 1.4$
  - J. SHORT PERIOD DESIGN SPECTRAL RESPONSE ACCELERATION  $S_{DS} = 0.894$
  - K. SECOND PERIOD DESIGN SPECTRAL RESPONSE ACCELERATION  $S_{D1} = 0.74$
  - L. SEISMIC DESIGN CATEGORY - A
  - M. BASIC SEISMIC FORCE RESISTING SYSTEM = STEEL ORDINARY CANTILEVER COLUMN SYSTEM
  - N. SEISMIC MODIFICATION COEFFICIENT  $C_p = 1.25$
  - M. SEISMIC RESPONSE COEFFICIENT  $C_w = 0.0$

DATE PLOTTED: 11/14/2024 10:00 AM PROJECT: STRUCTURAL NOTES

THE DESIGN SHOWN ON THESE DRAWINGS IS INTENDED FOR THE NAMED STRUCTURE ONLY AND ANY USE FOR OTHER STRUCTURES IS EXPRESSLY FORBIDDEN. WITHOUT THE WRITTEN CONSENT OF TJK GUSTAFSON RECKERS WILSON ANDREWS, LLC, ANY CHANGES MADE TO THESE DRAWINGS BY OTHER THAN THE ENGINEERS, TJK GUSTAFSON RECKERS WILSON ANDREWS, LLC, SHALL VOID THE DESIGN AND RELIEVE THE ENGINEERS OF ANY FURTHER RESPONSIBILITY FOR THE DESIGN.

THESE DRAWINGS COVER THE DESIGN OF THE COMPLETED STRUCTURE ONLY. AND THE STRUCTURAL ENGINEERS DO NOT ASSUME ANY RESPONSIBILITY FOR ANY NEARBY STRUCTURES OR UTILITIES OR FOR THE CONFORMANCE OF ANY LOCAL, STATE OR FEDERAL SAFETY REQUIREMENTS CONCERNING SAFETY OF WORKMAN OR ANY OTHERS OR ABOVE THE JOB SITE.

**STRUCTURAL NOTES**

**REVISION SCHEDULE**

REV	ISSUE FOR	DATE

TGRWA

776 Grafton Road, Westborough, MA 01581  
 508-865-1100  
 Fax: 508-865-1101  
 www.tgrwa.com

STRUCTURAL SOLAR, LLC  
LINEAGE HO SOLAR PROJECT  
46500 HUMBOLDT DR., NOMI, MI

DATE PLOTTED: 11/14/2024 10:00 AM  
 PROJECT: STRUCTURAL NOTES

S0.1



SPECIAL INSPECTIONS AND TESTS (2015 MICHIGAN STATE BUILDING CODE)

- 1. THE OWNER OR THE OWNER'S AUTHORIZED AGENT, OTHER THAN THE CONTRACTOR, SHALL EMPLOY ONE OR MORE APPROVED AGENCIES TO PROVIDE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION ON THE TYPES OF WORK SPECIFIED BELOW AND IDENTIFY THE APPROVED AGENCIES TO THE BUILDING OFFICIAL.
2. THE APPROVED AGENCIES SHALL PROVIDE WRITTEN DOCUMENTATION TO THE BUILDING OFFICIAL DEMONSTRATING THE COMPETENCE AND RELEVANT EXPERIENCE OR TRAINING OF THE SPECIAL INSPECTORS WHO WILL PERFORM THE SPECIAL INSPECTIONS AND TESTS DURING CONSTRUCTION.
3. THE CONTRACTOR OR WORKER FOR WHICH SPECIAL INSPECTION OR TESTING IS REQUIRED SHALL REMAIN ACCESSIBLE AND EXPOSED FOR SPECIAL INSPECTION OR TESTING PURPOSES UNTIL COMPLETION OF THE REQUIRED SPECIAL INSPECTIONS OR TESTS.
4. APPROVED AGENCIES SHALL KEEP RECORDS OF SPECIAL INSPECTIONS AND TESTS. THE APPROVED AGENCY SHALL SUBMIT REPORTS OF SPECIAL INSPECTIONS AND TESTS TO THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL, IN RESPONSIBLE CHARGE. REPORTS SHALL INDICATE THAT WORK INSPECTED OR TESTED WAS OR WAS NOT COMPLETED IN CONFORMANCE TO APPROVED CONSTRUCTION DOCUMENTS. DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. IF THEY ARE NOT CORRECTED, THE DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF THE BUILDING OFFICIAL AND TO THE REGISTERED DESIGN PROFESSIONAL. IN RESPONSIBLE CHARGE PRIOR TO THE COMPLETION OF THAT PHASE OF WORK. A FINAL REPORT DOCUMENTING THE INSPECTIONS AND TESTS, AND CORRECTION OF ANY DISCREPANCIES NOTED IN THE INSPECTIONS OR TESTS, SHALL BE SUBMITTED AT A POINT IN TIME AGREED UPON PRIOR TO THE START OF WORK BY THE OWNER OR THE OWNER'S AUTHORIZED AGENT TO THE BUILDING OFFICIAL.
5. REFER TO 2015 MICHIGAN STATE BUILDING CODE FOR DEFINITION OF TERMS.

SOIL CONSTRUCTION (IBC 1706.6)

Table with 4 columns: Item, Continuity, Periodicity, and Description. Includes items like '1. VERIFY SUBGRADE IS ADEQUATE TO ACHIEVE DESIGN BEARING CAPACITY', '2. VERIFY EXCAVATIONS EXTEND TO PROPER DEPTH AND MATERIAL', '3. VERIFY THAT SUBGRADE HAS BEEN APPROPRIATELY PREPARED PRIOR TO PLACING COMPACTED FILL', '4. PERFORM CLASSIFICATION AND TESTING OF COMPACTED FILL MATERIALS', '5. VERIFY PROPER MATERIALS, DENSITIES AND LIFT THICKNESSES DURING PLACEMENT AND COMPACTION'.

CONCRETE CONSTRUCTION (IBC 1706.3 AND IBC CHAPTER 19)

Table with 4 columns: Item, Continuity, Periodicity, and Description. Includes items like '1. REINFORCING STEEL, INCLUDING PRESTRESSING TENDONS', '2. CAST-IN ANCHORS & EMBEDS', '3A. POST-INSTALLED ANCHORS (ADHESIVE)', '3B. POST-INSTALLED ANCHORS (NON-ADHESIVE)', '4. USE OF REQUIRED MIX DESIGN', '5. CONCRETE SAMPLING FOR STRENGTH TESTS, SLUR AIR CONTENT, AND TEMPERATURE', '6. CONCRETE & SHOTCRETE PLACEMENT', '7. CURING TEMPERATURE AND TECHNIQUES', '8. PRE-STRESSED CONCRETE', '9. SECTION OF PRECAST CONCRETE', '10. STRENGTH VERIFICATION FOR REMOVAL OF SHORES, FORMS AND FOR POST-TENSIONED CONCRETE', '11. FORMWORK', '12. VERIFICATION OF WELDABILITY OF REINFORCING STEEL'.

STRUCTURAL STEEL (IBC 1705.2.1, 1705.12.1 & 1705.13.1)

PRIOR TO WELDING (TABLE N6.4.1, AISC 308)

Table with 4 columns: Item, Continuity, Periodicity, and Description. Includes items like '1. VERIFY WELDING PROCEDURES (WPS) AND CONSUMABLE CERTIFICATES', '2. MATERIAL IDENTIFICATION', '3. WELDOR IDENTIFICATION', '4. FIT-UP GROOVE WELDS', '5. ACCESS HOLES', '6. FIT-UP OF FLLET WELDS'.

STRUCTURAL STEEL (CONT.) (IBC 1705.2.1, 1705.12.1 & 1705.13.1)

DURING WELDING (TABLE N6.4.2, AISC 308)

Table with 4 columns: Item, Continuity, Periodicity, and Description. Includes items like '1. USE OF QUALIFIED WELDERS', '2. CONTROL AND HANDLING OF WELDING CONSUMABLES', '3. CRACKED TACK WELDS', '4. ENVIRONMENTAL CONDITIONS', '5. WPS FOLLOWED', 'WELDING TECHNIQUES'.

AFTER WELDING (TABLE N6.4.3, AISC 308)

Table with 4 columns: Item, Continuity, Periodicity, and Description. Includes items like '1. WELDS CLEANED', '2. SIZE, LENGTH, AND LOCATION OF WELDS', '3. WELDS MEET VISUAL ACCEPTANCE CRITERIA', '4. ARC STRIKES', '5. K-AREA', '6. BACKING & WELD TACKS REMOVED', '7. REPAIR ACTIVITIES', '8. DOCUMENT ACCEPTANCE OR REJECTION OF WELDED JOINT MEMBER'.

NONDESTRUCTIVE TESTING (SECTION N6.4, AISC 308)

Table with 4 columns: Item, Continuity, Periodicity, and Description. Includes items like '1. C/P WELDS (RSJK CAT II)', '2. C/P WELDS (RSJK CAT I OR IV)', '3. ACCESS HOLES (FLANGE +2)', '4. WELDED JOINTS SUBJECT TO FATIGUE', 'PRIOR TO BOLTING (TABLE N6.4.1, AISC 308)'. Includes descriptions for ultrasonic testing and magnetic particle testing.

PRIOR TO BOLTING (TABLE N6.4.1, AISC 308)

Table with 4 columns: Item, Continuity, Periodicity, and Description. Includes items like '1. IDENTIFICATION OF FASTENERS', '2. FASTENERS MARKED', '3. PROPER FASTENERS FOR JOINT', '4. PROPER BOLTING PROCEDURE', '5. CONNECTING ELEMENTS', '6. PRE-INSTALLATION VERIFICATION TESTING', '7. PROPER STORAGE'.

DURING BOLTING (TABLE N6.4.2, AISC 308)

Table with 4 columns: Item, Continuity, Periodicity, and Description. Includes items like '1. FASTENER ASSEMBLIES', '2. SNUG-TIGHT PRIOR TO PRETENSIONING', '3. FASTENER COMPONENT', '4. PRETENSIONED FASTENERS'.

AFTER BOLTING (TABLE N6.4.3, AISC 308)

Table with 4 columns: Item, Continuity, Periodicity, and Description. Includes item '1. DOCUMENT ACCEPTANCE OR REJECTION OF BOLTED CONNECTIONS'.

OTHER STEEL INSPECTIONS (SECTION N6.7, AISC 308; TABLES J8-1 & J10-1, AISC 341)

Table with 4 columns: Item, Continuity, Periodicity, and Description. Includes items like '1. STRUCTURAL STEEL DETAILS', '2. ANCHOR RODS AND OTHER EMBEDMENTS SUPPORTING STRUCTURAL STEEL', '3. REDUCED BEAM SECTIONS (RBS)', '4. PROTECTED ZONES', '5. H-PILES', 'STEEL ELEMENTS OF COMPOSITE CONSTRUCTION (TABLE N6.1, AISC 308; TABLES J8-1 THRU J8-3, AISC 341)', '6. COMPOSITE MEMBER SIZE'.

COLD-FORMED STEEL CONSTRUCTION (IBC 1706.2.4, 1706.11.2 & 1706.13.2)

Table with 4 columns: Item, Continuity, Periodicity, and Description. Includes item '1. COLD-FORMED STEEL PURLIN'.

THE DESIGN SHOWN ON THESE DRAWINGS IS INTENDED FOR THE NAMED STRUCTURE ONLY AND ANY USE FOR OTHER STRUCTURES IS EXPRESSLY FORBIDDEN. WITHOUT THE WRITTEN CONSENT OF THIS CUSTOMER RECKERS WILSON ANDREWS, LLC, ANY CHANGES MADE TO THESE DRAWINGS BY OTHERS THAN THE ENGINEERS, THE CUSTOMER RECKERS WILSON ANDREWS, LLC, SHALL VOID THE DESIGN AND RELIEVE THE ENGINEERS OF ANY FURTHER RESPONSIBILITY FOR THE DESIGN.

THESE DRAWINGS COVER THE DESIGN OF THE COMPLETED STRUCTURE ONLY, AND THE STRUCTURAL ENGINEERS DO NOT ASSUME ANY RESPONSIBILITY FOR THE DESIGN OF THE FOUNDATION OR FOR THE CONSTRUCTION OF THE STRUCTURE OR FOR THE IDENTIFICATION OF ANY LOCAL, STATE, OR FEDERAL SAFETY REQUIREMENTS CONCERNING SAFETY OF WORKMEN OR OTHERS ON OR ABOUT THE JOBSITE.

REVISION SCHEDULE table with columns: REV, ISSUE FOR, DATE. Includes multiple empty rows for revisions.

TGRWA logo and contact information: TGRWA, Consulting Engineers, Architects, and Planners, LLC. Structural Engineers. 400 West 1st Street, Suite 202, Chicago, Illinois 60607. Phone: 312.346.0050 Fax: 312.346.8988 www.tgrwa.com

STRUCTURAL SOLAR, LLC
LINEAGE HO SOLAR PROJECT
46500 HUMBOLDT DR., NOME, MI

Table with columns: DRAWN, CHECKED, DATE, DATE, DATE, SHEET. Includes values: NC, SEO, 02/06/20, NTS, 23/116, SHEET.











## PLANNING REVIEW



# PLAN REVIEW CENTER REPORT

## Planning Review

### LINEAGE CARPORT ADDITION

JSP 24-18

October 10, 2024

#### PETITIONER

Madison Energy Holdings LLC

#### REVIEW TYPE

Preliminary/Final Site Plan

#### PROPERTY CHARACTERISTICS

Section	9	
Site Location	West of West Park Drive, North of Humboldt Drive; 22-09-176-019	
Site School District	Novi Community School District	
Site Zoning	I-2 General Industrial	
Adjoining Zoning	North	I-2 General Industrial
	East	I-2 General Industrial
	West	I-2 General Industrial
	South	I-2 General Industrial
Current Site Use	Proposed parking expansion area currently vacant	
Adjoining Uses	North	Industrial
	East	Industrial
	West	Industrial
	South	Industrial
Site Size	14.27 acres	
Plan Date	September 12, 2024	

#### PROJECT SUMMARY

The applicant is proposing to construct two structurally attached solar collectors to two new carports on their existing parking lot on the north side of the existing building. The new parking area would cover 68 parking spaces and include 8 EV charging stations. Additionally, the plan proposes adding two EV charging stations on the south side main entrance of the existing building.

#### RECOMMENDATION

**Planning recommends approval of the Preliminary and Final Site Plan, subject to approval by the Planning Commission and Zoning Board of Appeals, with comments to be addressed in the Electronic Stamping Set.** The plan mostly conforms to the requirements of the Zoning Ordinance, with any deviations noted below. All reviewers recommend approval or conditional approval.



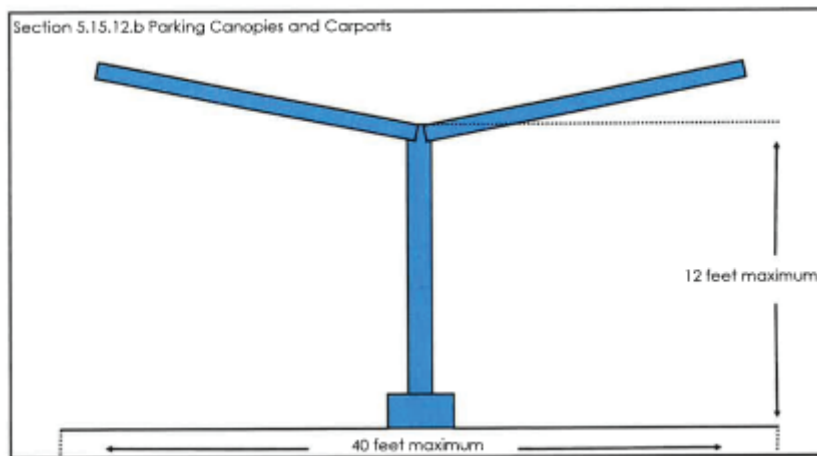
## ORDINANCE REQUIREMENTS

This project was reviewed for conformance with the Zoning Ordinance with respect to Article 3 (Zoning Districts), Article 4 (Use Standards), Article 5 (Site Standards), and any other applicable provisions of the Zoning Ordinance. Please address the items in **bold** below for the next submittal.

Planning Chart: Please refer to the attached Planning Chart for additional comments to address in the next submittal.

1. Canopies and Carports (Sec. 4.19.2.C.iii): Carports may be permitted under the following conditions: if they are designed subject to the conditions listed in Section 5.15.12. Carports as proposed are not designed to conditions listed in 5.15.12.b:
  - a. The proposed width of the two carports exceeds the maximum width permitted (40 feet maximum permitted, 52.5 feet proposed). This additional width is proposed because the carports will cover not only the parking spaces, but also an existing sidewalk that runs along the front of the parking spaces.
  - b. The carports also exceed the allowable height (12 ft maximum permitted, ~17 ft average height proposed). This is due to the design of the carport structures, and the extra width needed to cover not only the parking spaces, but also the existing sidewalk that runs along the front of the parking spaces.

See the exhibit from the new ordinance for Parking Canopies and Carports, below. **Variations should be required from Zoning Board of Appeals, and are supported by staff as the carports are designed in a manner similar to the exhibit provided in the ordinance, but are wider and taller in order to cover an existing sidewalk on the site, the carport design meets the other standards of the ordinance, the carports support solar panels that will improve the energy costs for the site, and the carports are effectively screened from adjacent properties.**



2. End Islands (Sec. 5.2.12): End Islands with landscaping and raised curbs are required at the end of all parking bays that abut traffic circulation isles; An unsupported landscape waiver for removal of tree from the southeast corner island. **Please find a different location for the transformer that won't require moving that tree.**
3. Canopies and Carports (Sec. 5.15.12.a and 5.15.12.b): All exposed surfaces shall be neutral color (black, gray, taupe, brown, tan, white) that harmonize with the primary building; **Please provide materials samples and color renderings at least one week prior to Planning Commission**

meeting.

4. Lighting and Photometric Plan (Sec. 5.7): Site Plan showing location of all existing & proposed buildings, landscaping, streets, drives, parking areas and exterior lighting fixtures. Lighting Plan should show all photometric data in footcandles. Applicant provided photometric sheet with Preliminary and Final Site Plan submittal. Proposed Lithonia Lighting for 22 permanent lighting installations have a Correlated Color Temperature (CCT) of 4000 Kelvin (K). **Please redesign with a CCT no greater than 3000K per Sec. 5.7.3.F on next submittal.**

## **OTHER REVIEWS**

---

- a. Engineering Review: Engineering recommends approval, with items to be addressed at electronic stamping set submittal.
- b. Landscape Review: Landscape recommends approval subject to conditions being met at electronic stamping set submittal, with necessary variances being granted by Planning Commission.
- c. Traffic Review: Traffic is recommending approval, with items to be addressed at electronic stamping set submittal.
- d. Façade Review: Façade recommends approval.
- e. Fire Review: Fire recommends approval.

## **NEXT STEP: PLANNING COMMISSION MEETING**

---

Several Landscape waivers are required for the proposed project. Due to these waivers, this site plan does not qualify for administrative approval under Section 6.1.1.C, Planning Commission approval will be required.

## **FUTURE STEP: ZONING BOARD OF APPEALS**

---

Several variances are required for the proposed project. Due to these variances, Zoning Board of Appeals approval will be required.

## **FUTURE STEP: ELECTRONIC STAMPING SET SUBMITTAL AND RESPONSE LETTER**

---

With all reviewers recommending either approval or conditional approval of the Preliminary and Final Site Plan, after addressing the items identified in the review letters AND receiving approval from the Planning Commission and Zoning Board of Appeals, please submit the following for Electronic Stamping Set approval:

1. Plans addressing the comments in all the staff and consultant review letters **in PDF format**.
2. Response letter addressing all comments in ALL letters and ALL charts and **refer to sheet numbers where the change is reflected**.
3. Drafts of any legal documents (note that any on-site easements need to be submitted in draft form before stamping sets will be stamped).

## **STAMPING SET APPROVAL**

---

Stamping sets are required for this project. After having received all the review letters from City staff the applicant should make the appropriate changes on the plans and submit **8 size 24" x 36" copies, folded, with signature and seal (may be electronic)** to the Community Development Department for final Stamping Set approval.

## **PRE-CONSTRUCTION MEETING**

---

**A Pre-Construction meeting is required for this project.** Prior to the start of any work on the site, Pre-Construction (Pre-Con) meetings must be held with the applicant's contractor and the City's consulting engineer. Pre-Con meetings are generally held after Stamping Sets have been issued and prior to the

start of any work on the site. There are a variety of requirements, fees and permits that must be issued before a Pre-Con can be scheduled, so it is suggested you contact Sarah Marchioni [248.347.0430 or [smarchioni@cityofnovi.org](mailto:smarchioni@cityofnovi.org)] once the Final Site Plan has been approved to begin the Pre-Con checklist. If you have questions regarding the checklist or the Pre-Con itself, please contact Sarah.

### **CHAPTER 26.5**

---

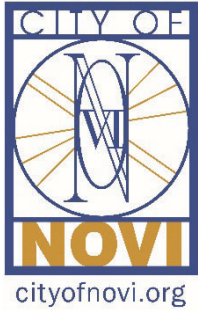
Chapter 26.5 of the City of Novi Code of Ordinances generally requires all projects be completed within two years of the issuance of any starting permit. Please contact Sarah Marchioni at 248-347-0430 for additional information on starting permits. The applicant should review and be aware of the requirements of Chapter 26.5 before starting construction.

If the applicant has any questions concerning the above review or the process in general, do not hesitate to contact me at 248.735.5607 or [dcommer@cityofnovi.org](mailto:dcommer@cityofnovi.org).

*Dan Commer*

---

Dan Commer, AICP – Planner



## PLANNING REVIEW CHART: I-2 General Industrial

**Review Date:** October 10, 2024  
**Review Type:** Combined Preliminary and Final Site Plan  
**Project Name:** **JSP24-18 LINEAGE CARPORT ADDITION**  
**Location:** 46500 Humboldt Drive; West of West Park Drive, North of Humboldt Drive  
**Plan Date:** September 12, 2024  
**Prepared by:** Dan Commer, AICP – Planner  
**E-mail:** dcommer@cityofnovi.org; **Phone:** (248) 735-5607

Items in **Bold** need to be addressed by the applicant before approval of the Preliminary Site Plan. Underlined items need to be addressed on the Final Site Plan.

Item	Required Code	Proposed	Meets Code	Comments
<b>Zoning and Use Requirements</b>				
<b>Master Plan</b>	Industrial Research Development and Technology	No Change	Yes	
<b>Area Study</b>	The site does not fall under any special category	NA	NA	
<b>Zoning</b> <i>(Effective January 8, 2015)</i>	I-2: General Industrial District	No Change	Yes	
<b>Uses Permitted</b> <i>(Sec 3.1.19.B)</i>	Sec 3.1.19.B Principal Permitted Uses	Construct, as an Accessory Structure (Sec. 4.19), two structurally attached solar collectors to two new carports covering 68 parking spaces; including 8 EV charging stations	Yes	<p>Solar structures shall be a permitted use in all districts and not subject to the requirements of Section 5.15.14.</p> <p>Structurally attached solar collectors shall be a permitted use in all districts and subject to administrative review and approval (Sec. 4.19.2.G.ii)</p> <p>Structurally attached solar collectors installed on a building with a sloped roof shall not project vertically above the peak of the roof (Sec. 4.19.2.G.ii)</p>
<b>Height, bulk, density and area limitations</b> <i>(Sec 3.1.18)</i>				
<b>Frontage on a Public Street.</b> <i>(Sec. 5.12)</i>	Frontage on a Public Street is required	Frontage on Humboldt Drive, no change	NA	

Item	Required Code	Proposed	Meets Code	Comments
<b>Access to Major Thoroughfare</b> (Sec. 5.13)	vehicular access shall be provided only to an existing or planned major thoroughfare or freeway service drive	No Change	NA	
<b>Minimum Zoning Lot Size</b> for each Unit in Ac (Sec 3.6.2.D)	Except where otherwise provided in this Ordinance, the minimum lot area and width, and the maximum percent of lot coverage shall be determined on the basis of off-street parking, loading, greenbelt screening, yard setback or usable open space		NA	
<b>Minimum Zoning Lot Size</b> for each Unit: Width in Feet			NA	
<b>Open Space Area</b>	----	No Change	NA	
<b>Maximum % of Lot Area Covered</b> (By All Buildings)	(Sec 3.6.2.D)	No Change	NA	
<b>Building Height</b> (Sec. 3.1.18.D) Sec. 3.14.5.C)	60 ft.	No change	Yes	No changes to existing building. For carports, see notes below.
<b>Building Setbacks</b> (Sec 3.1.18.D)				
Front (Humboldt Drive)	100 ft.	No Change	NA	Existing building
Exterior Side (West Park Drive)	100 ft.	220'	Yes	
Interior Side (west)	50 ft.	113'	Yes	
Rear (north)	50 ft.	471'	Yes	
<b>Parking Setback</b> (Sec 3.1.18.D) & Refer to applicable notes in Sec 3.6.2				
Front (Humboldt Drive)	50 ft. (See 3.6.2.E)	Complies	Yes	
Exterior Side (West Park Drive)	50 ft.	Complies	Yes	
Interior Side (north)	20 ft.	Complies	Yes	
Rear (east)	20 ft.	Complies	Yes	
<b>Note To District Standards</b> (Sec 3.6.2)				
<b>Exterior Side Yard Abutting a Street</b> (Sec 3.6.2.C)	All exterior side yards abutting a street shall be provided with a setback equal to front yard.	West Park Drive is considered exterior side	Yes	
<b>Off-Street Parking in Front</b>	Off-street parking is allowed in front yard if	No parking is proposed in front	NA	

Item	Required Code	Proposed	Meets Code	Comments
<b>Yard</b> (Sec 3.6.2.E)	<ul style="list-style-type: none"> <li>- the site is a minimum 2 acre site,</li> <li>- does not extend into the minimum required front yard setback of the district,</li> <li>- cannot occupy more than 50% of the area between min. front yard setback &amp; bldg. setback,</li> <li>- must be screened by brick wall or landscaped berm</li> <li>- lighting compatible with surrounding neighborhood</li> </ul>	yard		
<b>Off-Street Parking in Side and Rear Yards</b> abutting residential (Sec 3.6.2.F)	shall not occupy more than fifty (50) percent of the area of the side or rear yard abutting a residential district; and	Side and rear yards do not abut residential.	NA	
	Off-street parking shall be setback no less than one-hundred (100) feet from the residential district.	The property is separated from a residential district by more than 300 feet.  Parking is proposed in rear yard.		
<b>Setback from Residential District</b> (Sec 3.6.2.H)	I-1 and I-2 districts, five (5) feet of horizontal setback for each foot of building height, or one-hundred (100) feet, whichever is greater.	The property does not abut residential.	NA	
<b>Wetland/Watercourse Setback</b> (Sec 3.6.2.M)	A setback of 25ft from wetlands and from high watermark course shall be maintained	The plan shows 25' wetland buffer not disturbed	Yes	
<b>Additional Height</b> (Sec 3.6.2.O)	Additional heights for selected building is allowed based on conditions listed in Sec 3.6.2.O	Applicant not requesting additional height to existing building	NA	
<b>Parking setback screening</b> (Sec 3.6.2.P)	Required parking setback area shall be landscaped per sec 5.5.3.	<i>Parking lot is screened</i>	Yes	
<b>Modification of parking setback requirements</b> (Sec 3.6.2.Q)	The Planning Commission may modify parking setback requirements based on conditions listed in Sec 3.6.2.Q	Parking setbacks conform to the minimum required	NA	
<b>Parking, Loading and Dumpster Requirements</b>				
<b>Number of Parking Spaces</b>	Warehouses (Sec.5.2.12.E)	No change; a total of 332 spaces are	Yes	

Item	Required Code	Proposed	Meets Code	Comments
-	<ul style="list-style-type: none"> <li>- One (1) space for each seven hundred (700) square feet of usable floor area</li> <li>- 5 spaces plus 1 space/1.5 employee</li> <li>- For 300 employees, 205 space required</li> </ul>	provided in existing lot		
<b>Parking Space Dimensions and Maneuvering Lanes</b> (Sec. 5.3.2)	<ul style="list-style-type: none"> <li>- 90° Parking: 9 ft. x 19 ft.</li> <li>- 24 ft. two way drives</li> <li>- 9 ft. x 17 ft. parking spaces allowed along 7 ft. wide interior sidewalks as long as detail indicates a 4" curb at these locations and along landscaping</li> </ul>	9 ft x 17 ft parking spaces with 4" curb proposed	Yes	
<b>Parking stall located adjacent to a parking lot entrance</b> (public or private) (Sec. 5.3.13)	<ul style="list-style-type: none"> <li>- shall not be located closer than twenty-five (25) feet from the street right-of-way (ROW) line, street easement or sidewalk, whichever is closer</li> </ul>	Not applicable	NA	
<b>End Islands</b> (Sec. 5.3.12)	<ul style="list-style-type: none"> <li>- End Islands with landscaping and raised curbs are required at the end of all parking bays that abut traffic circulation aisles.</li> <li>- The end islands shall generally be at least 8 feet wide, have an outside radius of 15 feet, and be constructed 3' shorter than the adjacent parking stall as illustrated in the Zoning Ordinance</li> </ul>	Remove existing trees where proposed structure will be and fill in islands with concrete	No	<p><b>An unsupported landscape waiver for removal of tree from the southeast corner island</b></p> <p>Please see Landscape review for additional details</p>
<b>Barrier Free Spaces</b> Barrier Free Code	6 barrier free parking spaces (for total 301 to 400)& 2 van barrier free parking space are required	6 regular and 2 van barrier free space are provided in existing lot	Yes	
<b>Barrier Free Space Dimensions</b> Barrier Free Code	<ul style="list-style-type: none"> <li>- 8' wide with an 8' wide access aisle for van accessible spaces</li> <li>- 8' wide with a 5' wide access aisle for regular accessible spaces</li> </ul>	Two van accessible spaces are provided in existing lot	Yes	
<b>Barrier Free Signs</b> Barrier Free Code	One sign for each accessible parking space.	No change	Yes	

Item	Required Code	Proposed	Meets Code	Comments
<b>Minimum number of Bicycle Parking</b> (Sec. 5.16.1)	Five (5) percent of required automobile spaces, minimum two (2) spaces	10 spaces proposed in parking lot expansion plan	Yes	
<b>Bicycle Parking General requirements</b> (Sec. 5.16)	<ul style="list-style-type: none"> <li>- No farther than 120 ft. from the entrance being served</li> <li>- When 4 or more spaces are required for a building with multiple entrances, the spaces shall be provided in multiple locations</li> <li>- Spaces to be paved and the bike rack shall be inverted "U" design</li> <li>- Shall be accessible via 6 ft. paved sidewalk</li> </ul>	Bicycle parking is proposed  Located within 120 feet	Yes	
<b>Bicycle Parking Lot layout</b> (Sec 5.16.6)	Parking space width: 6 ft. One tier width: 10 ft. Two tier width: 16 ft. Maneuvering lane width: 4 ft. Parking space depth: 2 ft. single, 2 ½ ft. double	Bicycle parking layout is provided and labeled	Yes	
<b>Loading Spaces</b> (Sec. 5.4.1)	Loading area in the rear yard Loading area in interior side yard if it is adjacent to I, EXPO or EXO district	No change to existing loading area	Yes	
<b>Accessory Structures</b> (Section 4.19)				
<b>Accessory Buildings &amp; Structures</b> (Sec. 4.19.1 & 4.19.2)	<ul style="list-style-type: none"> <li>- A detached accessory structure shall not be located closer than 10 feet to any main building &amp; shall not be located closer than 6 feet to any interior side lot or rear lot line.</li> <li>- Not more than 2 detached accessory buildings shall be permitted.</li> <li>- Accessory structures shall be located in the rear yard &amp; shall meet the setback requirements of an accessory building.</li> </ul>	471.78' to property line  60.88' to existing building	Yes	
<b>Canopies and Carports</b> (Sec. 4.19.2.C.iii)	<ul style="list-style-type: none"> <li>- Carports may be permitted under the following conditions:</li> <li>- If they are designed subject to any conditions listed in Section 5.15.12.</li> <li>- One carport may be</li> </ul>	Two solar collector carport accessory structures are proposed.  Each carport is 202.5' long,	<b>No</b>	Carports as proposed are not designed to conditions listed in 5.15.12.b.  Specifically, the width (40



Item	Required Code	Proposed	Meets Code	Comments
	<p>permitted on any lot, regardless of size. Two or more carports may be permitted on any lot greater than 2 acres in size, provided they comply with accessory building setback and height requirements.</p> <ul style="list-style-type: none"> <li>- Carports qualify for administrative approval.</li> </ul>	<p>52.25' wide, 18.4' clearance height in front, and 12' clearance height in back.</p> <p>All proposed on a 14.27 acre site</p>		<p>feet maximum permitted, 52.5 feet proposed) and average height (12 ft maximum permitted, ~17 feet average height proposed) of each structure exceeds the limits allowable within the ordinance</p> <p><b>Variances granted by the Zoning Board of Appeals will be required</b></p> <p>Please see Planning review letter for additional details</p>
<p><b>Canopies and Carports (Sec. 5.15.12.a and 5.15.12.b)</b>  <b>Exterior Building Wall Façade Materials</b></p>	<p>Solar photo voltaic (PV) canopies and integration with EV charging stations is strongly encouraged.</p> <ul style="list-style-type: none"> <li>- The supporting columns shall be permanently attached to concrete foundations (direct attachment to the pavement is not permitted).</li> <li>- All exposed surfaces shall be a neutral color (black, gray, taupe, brown, tan, white) that harmonize with the primary building</li> </ul>	<p>Foundation details are shown on S2.1</p> <p>Materials samples will be submitted separately</p>	<p>Yes</p>	<p><b>Please provide materials samples and color renderings at least one week prior to Planning Commission meeting</b></p>
<p><b>Dumpster (Sec 4.19.2.F)</b></p>	<ul style="list-style-type: none"> <li>- Located in rear yard</li> <li>- Attached to the building or</li> <li>- No closer than 10 ft. from building if not attached</li> <li>- Not located in parking setback</li> <li>- If no setback, then it cannot be any closer than 10 ft, from property line.</li> <li>- Away from Barrier free Spaces</li> </ul>	<p>No change to existing</p>	<p>NA</p>	

Item	Required Code	Proposed	Meets Code	Comments
<b>Dumpster Enclosure</b> (Sec. 21-145. (c))	<ul style="list-style-type: none"> <li>- Screened from public view</li> <li>- A wall or fence 1 ft. higher than height of refuse bin</li> <li>- And no less than 5 ft. on three sides</li> <li>- Posts or bumpers to protect the screening</li> <li>- Hard surface pad.</li> <li>- Screening Materials: Masonry, wood or evergreen shrubbery</li> </ul>	No change to existing	NA	
<b>Roof top equipment and wall mounted utility equipment</b> (Sec. 4.19.2.E.ii)	All roof top equipment must be screened and all wall mounted utility equipment must be enclosed and integrated into the design and color of the building	Ground mounted transformer located at southeast corner and screened by 8 shrubs	TBD	<p><b>Please find a different location for the transformer that won't require transplanting the tree in the southeast corner of the parking lot.</b></p> <p>Please see Landscape review for additional details</p>
<b>Roof top appurtenances screening</b>	Roof top appurtenances shall be screened in accordance with applicable facade regulations, and shall not be visible from any street, road or adjacent property.	No change to existing	NA	
<b>I-1 District Required Conditions (Sec 3.14)</b>				
<b>Outdoor Storage of above ground storage tanks</b> (Sec. 3.14.1.B.ii)	Outdoor placement of above-ground storage tanks of not more than 600 capacities per tank and accessory to an otherwise permitted use. Additional conditions apply	None proposed	NA	
<b>Outdoor Storage of recreational equipment</b> (Sec. 3.14.1.B.iii)		None proposed	NA	
<b>Other</b> (Sec 3.14.2)	Unless otherwise provided, dealing directly with consumer at retail, is prohibited.	None proposed	NA	
<b>Adjacent to Freeway ROW</b>	Where a permitted use abuts a freeway right-of way ,	Not adjacent to freeway ROW	NA	

Item	Required Code	Proposed	Meets Code	Comments
(Sec 3.14.4)	special conditions listed in section 3.14.4 apply			
<b>Planning Commission findings for permitted uses (Sec 3.14.3)</b>				
<b>Impacts on residential district</b> (Sec 3.14.3.A)	The scale, size, building design, facade materials, landscaping and activity of the use is such that current and future adjacent residential uses will be protected from any adverse impact	The property does not abut residential	NA	
<b>Long term truck parking</b> (Sec 3.14.3.B)	No long term delivery truck parking on site	No change to existing building or use	NA	
<b>Performance standards</b> (Sec 3.14.3.C)	The lighting, noise, vibration, odor and other possible impacts are in compliance with standards and intent of the article and performance standards of Section 5.14	No change to existing building or use	NA	
<b>Storage and/use of material</b> (Sec 3.14.3.D)	The storage and/or use of any volatile, flammable or other materials shall be fully identified in application and shall comply with any city ordinances regarding toxic or hazardous materials.		NA	
<b>Hazardous material checklist</b> (Sec 3.14.3.E)	Compliance of City's hazardous materials checklist		NA	
<b>Sidewalks and Pathways</b>				
<b>ARTICLE XI. OFF-ROAD NON-MOTORIZED FACILITIES</b> (Sec. 11-256. Requirement. (c) & Sub. Ord. Sec. 4.05,)	<ul style="list-style-type: none"> <li>- New streets, sidewalks required on both sides.</li> <li>- Arterials and collectors: 6 feet or 8 feet wide as designated by the "Bicycle and Pedestrian Plan,"</li> <li>- industrial service streets: no sidewalk</li> <li>- local streets and private roadways: five (5) feet</li> </ul>	No change to existing	NA	
<b>Pedestrian Connectivity</b>	- Whether the traffic circulation features within the site and parking areas are designed to assure safety and convenience of both vehicular and pedestrian traffic both within the site and in	Pedestrian connectivity from proposed parking lot to the building has been included	Yes	

Item	Required Code	Proposed	Meets Code	Comments
	relation to access streets - Building exits must be connected to sidewalk system or parking lot.			
<b>Other Requirements</b>				
<b>Exterior lighting</b> (Sec. 5.7)	Photometric plan and exterior lighting details needed at time of Final Site Plan submittal	Updated photometrics are included in this submittal package to demonstrate how under-canopy lighting will interact with perimeter lighting in the parking area	Yes	
<b>Design and Construction Standards Manual</b>	Land description, Sidwell number (metes and bounds for acreage parcel, lot number(s), Liber, and page for subdivisions).	Provided – parcels have been combined, new parcel #22-09-176-019	Yes	
<b>General layout and dimension of proposed physical improvements</b>	Location of all existing and proposed buildings, proposed building heights, building layouts, (floor area in square feet), location of proposed parking and parking layout, streets and drives, and indicate square footage of pavement area (indicate public or private).	Provided	Yes	
<b>Economic Impact Information</b>	- Total cost of the proposed building & site improvements - Number of anticipated jobs created (during construction & after building is occupied, if known)	Not Applicable	NA	
<b>Development and Street Names</b>	Development and street names must be approved by the Street Naming Committee before Preliminary Site Plan approval	Not Applicable	NA	
<b>Development/ Business Sign</b>	Signage if proposed requires a permit.		NA	Contact Ordinance at <a href="tel:248-735-5602">248-735-5602</a> if any <u>changes to existing signs are proposed</u>

Item	Required Code	Proposed	Meets Code	Comments
<b>Property Split or Combination</b>	Property split or combinations should be reviewed and approved prior to final stamping set approval	Property combination and master deed amendment completed Liber 53608 page 798	Yes	
<b>Site Addressing</b>	Application for a new address can be submitted after Preliminary Site Plan approval		Yes	<u>For more information contact Brian Riley at 248-347-0438</u>
<b>Lighting and Photometric Plan (Sec. 5.7)</b>				
<b>Intent</b> (Sec. 5.7.1)	Establish appropriate minimum levels, prevent unnecessary glare, reduce spillover onto adjacent properties & reduce unnecessary transmission of light into the night sky	A lighting and photometric plan is provided	Yes	
<b>Lighting Plan</b> (Sec. 5.7.A.i)	Site plan showing location of all existing & proposed buildings, landscaping, streets, drives, parking areas & exterior lighting fixtures		Yes	
<b>Building Lighting</b> (Sec. 5.7.2.A.iii)	Relevant building elevation drawings showing all fixtures, the portions of the walls to be illuminated, illuminance levels of walls and the aiming points of any remote fixtures.		Yes	
<b>Lighting Plan</b> (Sec.5.7.A.2.ii)	Specifications for all proposed & existing lighting fixtures	14 – 24' light	Yes	
	Photometric data	Provided	Yes	
	Fixture height	18-24 feet	Yes	
	Mounting & design	Provided	Yes	
	Glare control devices (Also see Sec. 5.7.3.D)	Provided	Yes	
	Type & color rendition of lamps	LED	Yes	
	Hours of operation	6am to 7pm, M-F	Yes	
<b>Maximum Height</b> (Sec. 5.7.3.A)	Height not to exceed maximum height of zoning district (or 25 ft. where adjacent to residential districts or uses	24 feet	Yes	
<b>Color Spectrum Management</b> (Sec. 5.7.3.F)	- All Permanent lighting installations shall have a minimum color Rendering Index (CRI) of 70	Proposed Lithonia Lighting for the 3 permanent lighting installations have a Correlated Color	<b>No</b>	<b>Please redesign with a CCT no greater than 3000K on next submittal.</b>

Item	Required Code	Proposed	Meets Code	Comments
	- All permanent lighting installations shall have a Correlated Color Temperature (CCT) of no greater than 3000 Kelvin (K)	Temperature (CCT) of 4000 Kelvin (K).  Please redesign with a CCT no greater than 3000K on next submittal.		
<b>Indoor Lighting</b> (Sec. 5.7.3.H)	- Indoor lighting shall not be the source of exterior glare or spillover		Yes	
<b>Standard Notes</b> (Sec. 5.7.3.B)	- Electrical service to light fixtures shall be placed underground - Flashing light shall not be permitted - Only necessary lighting for security purposes & limited operations shall be permitted after a site's hours of operation		Yes	
<b>Security Lighting</b> (Sec. 5.7.3.i)	- All fixtures shall be located, shielded and aimed at the areas to be secured. - Fixtures mounted on the building and designed to illuminate the facade are preferred - Lighting for security purposes shall be directed only onto the area to be secured		Yes	
<b>Average Light Level</b> (Sec.5.7.3.E)	Average light level of the surface being lit to the lowest light of the surface being lit shall not exceed 4:1	3.6:1	Yes	
<b>Min. Illumination</b> (Sec. 5.7.3.k)	Parking areas: 0.2 min		Yes	
	Loading & unloading areas: 0.4 min		Yes	
	Walkways: 0.2 min		Yes	
	Building entrances, frequent use: 1.0 min		Yes	
	Building entrances, infrequent use: 0.2 min		Yes	
<b>Max. Illumination adjacent to Non-Residential</b> (Sec. 5.7.3.K)	When site abuts a non-residential district, maximum illumination at the property line shall not exceed 1 foot candle	0.0 fc at property lines	Yes	

Item	Required Code	Proposed	Meets Code	Comments
<b>Cut off Angles</b> (Sec. 5.7.3.L)	when adjacent to residential districts - All cut off angles of fixtures must be 90° - maximum illumination at the property line shall not exceed 0.5 foot candle	Does not abut residential	NA	

**NOTES:**

1. This table is a working summary chart and not intended to substitute for any Ordinance or City of Novi requirements or standards.
2. The section of the applicable ordinance or standard is indicated in parenthesis. Please refer to those sections in Article 3, 4 and 5 of the zoning ordinance for further details
3. Please include a written response to any points requiring clarification or for any corresponding site plan modifications to the City of Novi Planning Department with future submittals.

## ENGINEERING REVIEW

---





# PLAN REVIEW CENTER REPORT

10/10/2024

**Engineering Review**  
Lineage Carport Addition  
JSP24-0018

## **APPLICANT**

---

Madison Energy Infrastructure

## **REVIEW TYPE**

---

Preliminary and Final Site Plan

## **PROPERTY CHARACTERISTICS**

---

- Site Location: West side of West Park Drive north of Humboldt Drive, located in section 9 of the City of Novi
- Site Size: Total site 14.27 acres, area of disturbance ~ 0.6 acres
- Plan Date: 9/12/2024
- Design Engineer: Rebecca Klein, PEA Group

## **PROJECT SUMMARY**

---

- Construction of two new carports with solar panels covering 68 parking spaces located in the existing parking lot; including 8 EV charging stations located under the proposed carports. As well as 2 EV charging stations located next to the existing Linage building.
- No changes proposed to existing water, sanitary sewer or storm sewer. No changes proposed to existing stormwater management plan.

## **RECOMMENDATION**

---

**Approval of the Preliminary and Final Site Plan is recommended, with items to be addressed at Electronic Stamping Set submittal.**

### **Comments:**

The Preliminary and Final Site Plan meets the general requirements of the design and construction standards as set forth in [Chapter 11 of the City of Novi Code of Ordinances](#), the Storm Water Management Ordinance and the [Engineering Design Manual](#) with the following items to be addressed at the time of Electronic Stamping Set submittal:

### **General**

1. Provide a minimum of two ties to established section or quarter section corners. Provide at least two reference benchmarks at intervals no greater than 1,200 feet. At least one referenced benchmark must be a City-established benchmark, refer to [City of Novi Survey Benchmarks Arch Map](#).
2. Provide a note on the plans that all work shall conform to the current City of Novi standards and specifications.
3. **Only at the time of the printed Stamping Set submittal**, provide the City's standard detail sheets for paving (2 sheets). The most updated details can be found on the City's website under [Engineering Standards and Construction Details](#).
4. The grading and SESC sheets shall show the tree fence at least as far from the trunk as the critical root zone, defined as a circular area around a tree with a radius measured to the tree's longest dripline radius plus one (1) foot. No grading shall occur within the dripline. If the critical root zone is not fully protected, then replacements for that tree may be required.
5. Label the distance between the proposed carport columns.
6. For EV charging stations proposed next to the building, provide the width of the remaining walkway between the charging station and the building.
7. Add note that proposed EV charging station will not impact two-foot vehicle overhang.
8. Add drainage arrows to show how drainage pattern for entire parking lot, add note that there are no catch basins or storm sewer in this area.
9. Per MDOT Special Provision for Crushed Concrete, the use of crushed concrete is prohibited on the project within 100 feet of any water course (stream, river, county drain, etc.) and lake, regardless of the application of location of the water course or lake relative to the project limits. Add note to use 21AA crushed limestone base for any pavement within 100 feet of a water course.

#### **Soil Erosion and Sediment Control**

10. The SESC package has been received and will be reviewed separately from this review.

#### **The following must be addressed prior to construction:**

11. A pre-construction meeting shall be required prior to any site work being started. Please contact Sarah Marchioni in the Community Development Department to setup a meeting (248-347-0430). **Be advised that scheduling the pre-construction meeting can take 2-4 weeks.**
12. A City of Novi Grading Permit will be required prior to any grading on the site. This permit will be issued at the pre-construction meeting (no application required). No fee is required for this permit.
13. Material certifications must be submitted to Spalding DeDecker for review prior to the construction of any onsite utilities. Contact Ted Meadows at 248-844-5400 for more information.

14. Construction inspection fees in the amount of **\$3,850.00** must be paid to the Community Development Department. **\*\*fees are subject to change.**
15. A traffic control inspection fee of **\$605.00** must be paid to Community Development. This fee is the inspection of traffic control items such as signs, striping, curbs, parking stalls, sidewalk, detectable warning surfaces, and temporary pavement markings.
16. A [Soil Erosion Control Permit](#) must be obtained from the City of Novi. Contact Sarah Marchioni in the Community Development Department, Building Division (248-347-0430) for forms and information. The financial guarantee and inspection fees will be determined during the SESC review.

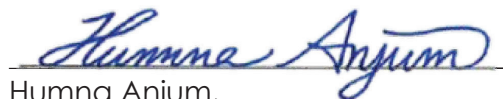
**The following must be addressed prior to issuance of a Temporary Certificate of Occupancy (TCO) approval for the development:**

17. The amount of the incomplete site work performance guarantee for any outstanding site improvement items (limited to top course of pavement and other minor items), is calculated at 1.2 times the amount required to complete the site improvements (as specified in the Performance Guarantee Ordinance).

**Prior to preparing stamping sets**, the Applicant should submit the Electronic Stamping set to Planning for review, if any changes are proposed after Electronic Stamping set approval send revised sheets directly to Engineering for an informal review and approval.

To the extent this review letter addresses items and requirements that require the approval of or a permit from an agency or entity other than the City, this review shall not be considered an indication or statement that such approvals or permits will be issued.

Please contact Humna Anjum at (248)735-5632 or email at [hanjum@cityofnovi.org](mailto:hanjum@cityofnovi.org) with any questions.



Humna Anjum,  
Project Engineer

cc: Dan Commer, Community Development  
Angela Sosnowski, Community Development  
Milad Alesmail, Engineering  
Ben Nelson, Engineering  
Ben Croy, City Engineer  
T. Meadows, H. Demers, T. Reynolds; Spalding DeDecker

## LANDSCAPE REVIEW



**PLAN REVIEW CENTER REPORT**  
**October 3, 2024**  
**Lineage Logistics Solar Carports**  
**Combined Preliminary/Final Site Plan - Landscape**

**Review Type**

Combined Preliminary/Final Site Plan Landscape Review

**Job #**

JSP24-0018

**Property Characteristics**

- Site Location: 46500 Humboldt Drive
- Site Acreage: 14.27 ac.
- Site Zoning: I-2
- Adjacent Zoning: North: I-1, East, South & West: I-2
- Plan Date: 7/23/2024

**Ordinance Considerations**

This project was reviewed for conformance with Chapter 37: Woodland Protection, Zoning Article 5.5 Landscape Standards, the Landscape Design Manual and any other applicable provisions of the Zoning Ordinance. Items in **bold** below must be addressed and incorporated as part of the revised Preliminary Site Plan submittal. Underlined items must be addressed on the Final Site Plans. Please follow guidelines of the Zoning Ordinance and Landscape Design Guidelines. This review and the accompanying Landscape Chart are summaries and are not intended to substitute for any Ordinance. Please address the comments on both reviews.

**RECOMMENDATION:**

This project is **recommended for approval, conditional on the relocation of the proposed transformer in the southeast corner of the lot.** The remaining fixes noted could be addressed on the Final Site Plans.

**LANDSCAPE WAIVERS REQUIRED FOR PROPOSED PROJECT:**

- 4 parking bays have 17 contiguous spaces without a landscaped island with canopy trees – *supported by staff*
- Lack of 13 interior parking lot island trees – *supported for 12 trees in islands to be occupied by the solar panels, not for the tree to be transplanted from the southeast corner island*

**Please find a different location for the transformer that won't require transplanting the tree in the southeast corner of the parking lot.**

**Please add the City project number, JSP24-0018, to the bottom right corner of the cover sheet.**

**Ordinance Considerations**

Existing Trees (Sec 37 Woodland Protection, Preliminary Site Plan checklist #17 and LDM 2.3 (2))

1. Interior island trees to be transplanted are identified
2. Existing perimeter trees are not identified.
3. **Please show the identities of the perimeter trees to remain in place.**
4. Please add a tree protection fence detail to the demolition plan.

Adjacent to Residential - Buffer (Zoning Sec. 5.5.3.B.ii and iii)

The site is not adjacent to residential so this buffering is not required.

Adjacent to Public Rights-of-Way – Berm/Wall, Buffer and Street Trees (Zoning Sec. 5.5.3.B.ii, iii)

Aside from some of the transplanted trees being added between the lot and West Park Drive, no changes are required or proposed.

Parking Lot Landscaping (Zoning Sec. 5.5.3.C.)

1. The required interior landscape area and trees are provided but **the requirements for landscaped endcap islands and bays less than 15 spaces without a landscaped islands are not met with the removal of the trees from six interior islands require two landscape waivers.**
2. *These waivers are supported by staff because the installation of solar panels in the parking lot will provide shade for the parking lots and the trees are being transplanted to the lot's perimeter.*
3. *The waiver is not supported for the location of the transformer in the southeast corner of the lot, which requires the transplanting of an important shade tree for the lot. **Please find a different location for the transformer that won't require moving that tree.***
4. **All transplanted trees should be within 15 feet of the parking lot edge and ideally located in the southern half of the lot to provide the most shade possible.**
5. **Some of the transplanted trees can be located along the south side of the south parking lot or the west side of the drive west of the building, where spacing allows. If this is done, show them on the plans.**

Building Foundation Landscaping (Zoning Sec 5.5.3.D)

1. No changes to the building foundation landscaping are required.
2. Some shrubs are being relocated or replaced in nearby locations, which is acceptable.

Loading Zone screening (Zoning Section 5.4.2)

No impacts to loading zone screening are proposed.

Plant List (LDM 4, 10)

1. No new plantings are proposed.
2. If a tree dies it will be replaced with the same species.

Planting Notations and Details (LDM 10)

Provided

Storm Basin Landscape (Zoning Sec 5.5.3.E.iv and LDM 3)

No changes are proposed

Irrigation (LDM 10)

If the existing irrigation system will be extended to include the new planting locations, please add a note to that effect to the landscape plan.

If the applicant has any questions concerning the above review or the process in general, do not hesitate to contact me at 248.735.5621 or [rmeader@cityofnovi.org](mailto:rmeader@cityofnovi.org).

Thank you for your consideration.



---

Rick Meader – Landscape Architect

## LANDSCAPE REVIEW SUMMARY CHART – Combined Preliminary/Final Site Plan

**Review Date:** October 3, 2024  
**Project Name:** JSP24-0018: Lineage Logistics Carports  
**Project Location:** 46500 Humboldt Drive  
**Plan Date:** July 23, 2024  
**Prepared by:** Rick Meader, Landscape Architect E-mail: [rmeader@cityofnovi.org](mailto:rmeader@cityofnovi.org);  
 Phone: (248) 735-5621

Items in **Bold** need to be addressed by the applicant before approval of the Preliminary Site Plan. Underlined items need to be addressed for Final Site Plan.

### LANDSCAPE WAIVERS REQUIRED FOR PROPOSED PROJECT:

- 4 parking bays have 17 contiguous spaces without a landscaped island with canopy trees – *supported by staff*
- Lack of 13 interior parking lot island trees – *supported for 12 trees in islands to be occupied by the solar panels, not for the tree to be transplanted from the southeast corner island*

**Please find a different location for the transformer that won't require transplanting the tree in the southeast corner of the parking lot.**

**Please add the City project number, JSP24-0018, to the bottom right corner of the cover sheet.**

**Please replace missing plantings from the original plan which is provided here. The replacement plants do not need to be included in the project cost for the City calculations.**

Item	Required	Proposed	Meets Code	Comments
<b>Landscape Plan Requirements (LDM (2))</b>				
<b>Landscape Plan</b> <i>(Zoning Sec 5.5.2, LDM 2.e.)</i>	<ul style="list-style-type: none"> <li>• New commercial or residential developments</li> <li>• Addition to existing building greater than 25% increase in overall footage or 400 SF whichever is less.</li> <li>• 1"=20' minimum with proper North. Variations from this scale can be approved by LA</li> <li>• Consistent with plans throughout set</li> </ul>	Scale: 1"=30'	Yes	
<b>Project Information</b> <i>(LDM 2.d.)</i>	Name and Address	Yes	Yes	
<b>Owner/Developer Contact Information</b> <i>(LDM 2.a.)</i>	Name, address and telephone number of the owner and developer or association	<ul style="list-style-type: none"> <li>• On Cover Sheet</li> <li>• On Title Block</li> </ul>	<ul style="list-style-type: none"> <li>• Yes</li> <li>• Yes</li> </ul>	
<b>Landscape Architect contact information</b>	Name, Address and telephone number of	Janet Evans, PEA	Yes	

Item	Required	Proposed	Meets Code	Comments
(LDM 2.b.)	RLA/PLA/LLA who created the plan			
<b>Sealed by LA.</b> (LDM 2.g.)	Requires original signature	Yes – copy of seal and signature	Yes	
<b>Miss Dig Note</b> (800) 482-7171 (LDM.3.a.(8))	Show on all plan sheets	In title block	Yes	
<b>Zoning</b> (LDM 2.f.)	Include all adjacent zoning	<ul style="list-style-type: none"> <li>• Sheet C-1.0</li> <li>• <u>Parcel:</u> I-2</li> <li>• <u>North South, East:</u> I-2</li> <li>• <u>West:</u> I-1</li> </ul>	Yes	
<b>Survey information</b> (LDM 2.c.)	<ul style="list-style-type: none"> <li>• Legal description or boundary line survey</li> <li>• Existing topography</li> </ul>	Sheets C-1.0, C-1.1	Yes	
<b>Existing plant material</b> <b>Existing woodlands or wetlands</b> (LDM 2.e.(2))	<ul style="list-style-type: none"> <li>• Show location type and size. Label to be saved or removed.</li> <li>• Plan shall state if none exists.</li> </ul>	<ul style="list-style-type: none"> <li>• Sheets C-1.0, C-1.1</li> <li>• 13 Interior parking lot trees are shown as being transplanted to perimeter locations</li> <li>• The existing trees around the perimeter are not identified</li> <li>• The project will not impact nearby wetlands</li> <li>• Some shrubs south of the building are shown as being relocated</li> </ul>	<ul style="list-style-type: none"> <li>• Yes</li> <li>• Yes/No</li> <li>• No</li> <li>• Yes</li> <li>• TBD</li> </ul>	<ol style="list-style-type: none"> <li>1. Please identify existing trees around parking lot to remain.</li> <li>2. Please find a different location for the transformer so the southeast tree can remain where it is.</li> </ol>
<b>Soil types</b> (LDM.2.r.)	<ul style="list-style-type: none"> <li>• As determined by Soils survey of Oakland county</li> <li>• Show types, boundaries</li> </ul>	Sheet C-2.0	Yes	
<b>Existing and proposed improvements</b> (LDM 2.e.(4))	Existing and proposed buildings, easements, parking spaces, vehicular use areas, and R.O.W	Yes	Yes	
<b>Existing and proposed utilities</b> (LDM 2.e.(4))	<ul style="list-style-type: none"> <li>• Overhead and underground utilities, including hydrants</li> <li>• Existing and proposed light posts</li> </ul>	<ul style="list-style-type: none"> <li>• There are no underground or overhead utilities in or around the parking lot</li> <li>• Light posts are provided.</li> </ul>	<ul style="list-style-type: none"> <li>• Yes</li> <li>• Yes</li> </ul>	



Item	Required	Proposed	Meets Code	Comments
<b>Proposed grading. 2' contour minimum</b> (LDM 2.e.(1))	Provide proposed contours at 2' interval	Spot elevations on Sheets C-3.1 and C-3.2	Yes	
<b>Snow deposit</b> (LDM.2.g.)	Show snow deposit areas on plan	No	No	<u>Please indicate where snow will be deposited.</u>
<b>LANDSCAPING REQUIREMENTS</b>				
<b>Parking Area Landscape Requirements LDM 1.c. &amp; Calculations (LDM 2.o.)</b>				
<b>General requirements</b> (LDM 1.c)	<ul style="list-style-type: none"> <li>• Clear sight distance within parking islands</li> <li>• No evergreen trees</li> </ul>	No shrubs or evergreens are proposed within the parking lot.	Yes	
<b>Name, type and number of ground cover</b> (LDM 1.c.(5))	As proposed on planting islands	Irrigated sod	Yes	
<b>General (Zoning Sec 5.5.3.C.ii)</b>				
<b>Parking lot Islands</b> (a, b. i)	<ul style="list-style-type: none"> <li>• A minimum of 200 SF to qualify</li> <li>• A minimum of 200sf unpaved area per tree planted in an island</li> <li>• 6" curbs</li> <li>• Islands minimum width 10' BOC to BOC</li> </ul>	All islands are suitably sized.	Yes	
<b>Curbs and Parking stall reduction</b> (c)	Parking stall can be reduced to 17' and the curb to 4" adjacent to a sidewalk of minimum 7 ft.	<ul style="list-style-type: none"> <li>• Shortened spaces are provided around the lot exterior.</li> <li>• Parking spaces are not changing</li> </ul>	Yes	
<b>Contiguous space limit</b> (i)	Maximum of 15 contiguous spaces	17 is maximum bay length without a landscaped island	No	<b>1. A landscape waiver is required for this deficiency.</b> 2. <i>It will be supported by staff because solar panels will occupy the islands.</i>
<b>Plantings around Fire Hydrant</b> (d)	No plantings with matured height greater than 12' within 10 ft. of fire hydrants	No hydrant or utility structures are proposed within the development area.	Yes	
<b>Landscaped area</b> (g)	Areas not dedicated to parking use or driveways exceeding 100 sq. ft. shall be landscaped	Yes – except for the islands beneath the solar panels	TBD	<u>Please indicate whether the groundcover of the islands beneath the panels will be grass or some other groundcover.</u>
<b>Clear Zones</b> (LDM 2.3.(5))	25 ft corner clearance required. Refer to Zoning Section 5.5.9	Not applicable as the parking lot does not directly access	NA	

Item	Required	Proposed	Meets Code	Comments
		a road.		
<b>Category 1: For OS-1, OS-2, OSC, OST, B-1, B-2, B-3, NCC, EXPO, FS, TC, TC-1, RC, Special Land Use or non-residential use in any R district (Zoning Sec 5.5.3.C.iii)</b>				
A = Total square footage of vehicular use areas up to 50,000sf x 7.5%	<ul style="list-style-type: none"> <li>• <math>A = x \text{ sf} * 7.5\% = A \text{ sf}</math></li> <li>• <math>50,000 * 7.5\% = 3750 \text{ sf}</math></li> </ul>	NA		
B = Total square footage of additional paved vehicular use areas (not including A or B) over 50,000 SF) x 1 %	<ul style="list-style-type: none"> <li>• <math>B = x \text{ sf} * 1\% = B \text{ sf}</math></li> <li>• <math>(xxx - 50000) * 1\% = xx \text{ sf}</math></li> </ul>	NA		
<b>Category 2: For: I-1 and I-2 (Zoning Sec 5.5.3.C.iii)</b>				
A. = Total square footage of vehicular use area up to 50,000 sf x 5%	<ul style="list-style-type: none"> <li>• <math>A = x \text{ sf} * 5\% = A \text{ sf}</math></li> <li>• <math>A = 50,000 * 5\% = 2500 \text{ sf}</math></li> </ul>	No changes to the parking lot are proposed other than the construction of the panels and transplanting of the trees	Yes	
B = Total square footage of additional paved vehicular use areas over 50,000 SF x 0.5%	<ul style="list-style-type: none"> <li>• <math>B = 0.5\% * 0 \text{ sf} = B \text{ SF}</math></li> <li>• <math>B = (66,329 - 50,000) * 0.5\% = 81.65 \text{ sf}</math></li> </ul>	See above	Yes	
<b>All Categories</b>				
C = A+B Total square footage of landscaped islands	<ul style="list-style-type: none"> <li>• <math>xxx + xxx = xx \text{ SF}</math></li> <li>• <math>2500 + 82 = 2582 \text{ SF}</math></li> </ul>	3869 SF	Yes	
D = C/200 Number of canopy trees required	<ul style="list-style-type: none"> <li>• <math>xx/200 = xx \text{ trees}</math></li> <li>• <math>2582/200 = 13 \text{ trees}</math></li> </ul>	17 trees	Yes	<ol style="list-style-type: none"> <li>1. Per area, the correct number of trees still exist, but the solar panels will create 6 non-conforming landscape islands within the lot.</li> <li>2. This requires a landscape waiver.</li> <li>3. It is supported by staff since the trees are being provided around the lot perimeter and the solar panels will provide an environmental benefit, while shading the parking</li> </ol>

Item	Required	Proposed	Meets Code	Comments
				<i>lot.</i>
<p><b>Parking Lot Perimeter Trees</b></p>	<ul style="list-style-type: none"> <li>• 1 Canopy tree per 35 lf</li> <li>• 1030/35 = 29 trees</li> </ul>	<p>24 provided + 6 greenbelt trees provided within 15' of east edge of parking lot</p>	<p>Yes</p>	<ol style="list-style-type: none"> <li>1. In addition to the required trees, 13 canopy trees are shown as being transplanted from the interior islands to the parking lot perimeter.</li> <li>2. In order to be accepted, trees must be within 15 feet of the parking lot to provide some shading benefit.</li> <li>3. Trees along the south edge of the parking lot will provide better shade than trees in the north half of the lot. <b>Please move trees from the north edge to the south edge where there is room.</b></li> <li>4. <b>Rather than overcrowding the north parking lot edge or putting trees where they can't serve as perimeter trees, please move some of the them to the southern edge of the lot south of the building or along the west drive, where there is room for trees vis a vis the utility lines and curbs (3-4 feet behind the curb and 5 feet away from the water line). If this is done, show them on the plans.</b></li> <li>5. The transformer should not be located in the southeast corner of the lot. That tree provides important shade for the lot. <i>The</i></li> </ol>

Item	Required	Proposed	Meets Code	Comments
				waiver to relocate trees would not be supported for that tree. <b>6. Please locate the transformer somewhere else so that tree can remain as is.</b>
<b>Access way perimeter</b>	<ul style="list-style-type: none"> <li>1 canopy tree per 35 lf on each side of road, less widths of access drives.</li> <li><math>(60*2+55*2 \text{ lf})/35 = 7</math> trees</li> </ul>	7 existing trees	Yes	
<b>Parking land banked</b>	NA	No		
<b>Berms, Walls and ROW Planting Requirements</b>				
<b>Berms</b>				
<ul style="list-style-type: none"> <li>All berms shall have a maximum slope of 33%. Gradual slopes are encouraged. Show 1ft. contours</li> <li>Berm should be located on lot line except in conflict with utilities.</li> <li>Berms should be constructed with 6" of topsoil.</li> </ul>				
<b>Residential Adjacent to Non-residential (Sec 5.5.3.A) &amp; (LDM 1.a)</b>				
<b>Berm requirements (Zoning Sec 5.5.A)</b>	No berm is required as the property does not abut any residential property	None	Yes	
<b>Planting requirements (LDM 1.a.)</b>	LDM Novi Street Tree List	NA		
<b>Adjacent to Public Rights-of-Way (Sec 5.5.B) and (LDM 1.b)</b>				
<b>Berm requirements (Zoning Sec 5.5.3.A.(5))</b>	As the lot is at least 160 feet away from West Park Drive, it is not considered to be adjacent to the right-of-way, so no berm is required.	<ul style="list-style-type: none"> <li>A short berm is provided</li> <li>An evergreen hedge along the east end of the parking is provided in lieu of the berm</li> </ul>	Yes	No changes are proposed
<b>Cross-Section of Berms (LDM 2.j)</b>				
Slope, height and width	<ul style="list-style-type: none"> <li>Label contour lines</li> <li>Maximum 33%</li> <li>Min. 3 feet flat horizontal area</li> <li>Minimum 3 feet high</li> <li>Constructed of loam with 6' top layer of topsoil.</li> </ul>	No berm is provided so no cross section is required.		
Type of Ground Cover		Sod	Yes	

Item	Required	Proposed	Meets Code	Comments
Setbacks from Utilities	Overhead utility lines and 15 ft. setback from edge of utility or 20 ft. setback from closest pole	A note indicates that there are no overhead lines near the project.		
<b>Walls (LDM 2.k &amp; Zoning Sec 5.5.3.vi)</b>				
<b>Material, height and type of construction footing</b>	Freestanding walls should have brick or stone exterior with masonry or concrete interior	No walls are proposed		
<b>Walls greater than 3 ½ ft. should be designed and sealed by an Engineer</b>		NA		
<b>ROW Landscape Screening Requirements (Sec 5.5.3.B. ii)</b>				
<b>Greenbelt width (2)(3) (5)</b>	Parking: 25 ft.	154-207 ft	Yes	
Min. berm crest width	Not adjacent to pkg: 0'	No changes to existing configuration are proposed	Yes	
Minimum berm height (9)	Not adjacent to pkg: 0'	See above	Yes	
3' wall	(4)(7)	None		
<b>Canopy deciduous or large evergreen trees</b> Notes (1) (10)	<ul style="list-style-type: none"> <li>• Not adj to Pkg: 1 per 60 ft</li> <li>• 280/60 = 5 trees</li> </ul>	6 canopy trees + existing trees to remain	Yes	
<b>Sub-canopy deciduous trees</b> Notes (2)(10)	<ul style="list-style-type: none"> <li>• Not adj to Pkg: 1 per 40 ft</li> <li>• 280/40 = 7 trees</li> </ul>	13 subcanopy trees	Yes	
<b>Canopy deciduous trees in area between sidewalk and curb</b> (Novi Street Tree List)	<ul style="list-style-type: none"> <li>• Parking &amp; No Parking: 1 tree per 45 lf</li> <li>• 280/45 = 6 trees</li> </ul>	10 trees located below steep slope	Yes	
<b>Non-Residential Zoning Sec 5.5.3.E.iii &amp; LDM 1.d (2)</b> Refer to Planting in ROW, building foundation landscape, parking lot landscaping and LDM				
<b>Interior Street to Industrial subdivision</b> (LDM 1.d.(2))	<ul style="list-style-type: none"> <li>• 1 canopy deciduous or 1 large evergreen per 35 l.f. along ROW</li> <li>• No evergreen trees closer than 20 ft.</li> <li>• 3 sub canopy trees per 40 l.f. of total linear frontage</li> <li>• Plant massing for 25% of ROW</li> </ul>	NA – parking lot does not front on a drive		
<b>Screening of outdoor storage, loading/unloading</b>		No loading area is located in the parking lot		

Item	Required	Proposed	Meets Code	Comments
<i>(Zoning Sec. 3.14, 3.15, 4.55, 4.56, 5.5)</i>				
<b>Transformers/Utility boxes</b> <i>(LDM 1.e from 1 through 5)</i>	<ul style="list-style-type: none"> <li>A minimum of 2ft. separation between box and the plants</li> <li>Ground cover below 4" is allowed up to pad.</li> <li>No plant materials within 8 ft. from the doors</li> </ul>	A transformer is proposed in the southwest corner of the parking lot	No	<ol style="list-style-type: none"> <li>Please propose a different location for the transformer that won't require the removal of another interior tree.</li> <li>Please revise the detail to show screening shrubs on all four sides of the transformer, with room for access to the doors.</li> </ol>
<b>• Building Foundation Landscape Requirements (Sec 5.5.3.D)</b>				
<b>Interior site landscaping SF</b>	<ul style="list-style-type: none"> <li>Equals to entire perimeter of the building x 8 with a minimum width of 4 ft.</li> <li>A: x lf x 8ft = x SF</li> </ul>	NA – the project does not include any changes to the building.		
<i>Zoning Sec 5.5.3.D.ii. All items from (b) to (e)</i>	If visible from public street a minimum of 60% of the exterior building perimeter should be covered in green space	NA		
<b>Detention/Retention Basin Requirements (Sec. 5.5.3.E.iv)</b>				
<b>Planting requirements</b> <i>(Sec. 5.5.3.E.iv)</i>	<ul style="list-style-type: none"> <li>Clusters shall cover 70-75% of the basin rim area</li> <li>10" to 14" tall grass along sides of basin</li> <li>Refer to wetland for basin mix</li> </ul>	No changes to the detention basin are needed or proposed	Yes	
<b>Phragmites Control</b> <i>(Sec 5.5.6.C)</i>	<ul style="list-style-type: none"> <li>Any and all populations of Phragmites australis on site shall be included on tree survey.</li> <li>Treat populations per MDEQ guidelines and requirements to eradicate the weed from the site.</li> </ul>		TBD	<ol style="list-style-type: none"> <li>If Phragmites still exists, it should be chemically treated by a licensed ANC contractor to kill it.</li> <li>Please add a note to this effect to the plans.</li> </ol>
<b>LANDSCAPING NOTES, DETAILS AND GENERAL REQUIREMENTS</b>				
<b>Landscape Notes – Utilize City of Novi Standard Notes</b>				
<b>Installation date</b> <i>(LDM 2.I. &amp; Zoning Sec 5.5.5.B)</i>	Provide intended date	Between Mar 15 and Nov 15.	Yes	
<b>Maintenance &amp;</b>	• Include statement of	Yes	Yes	

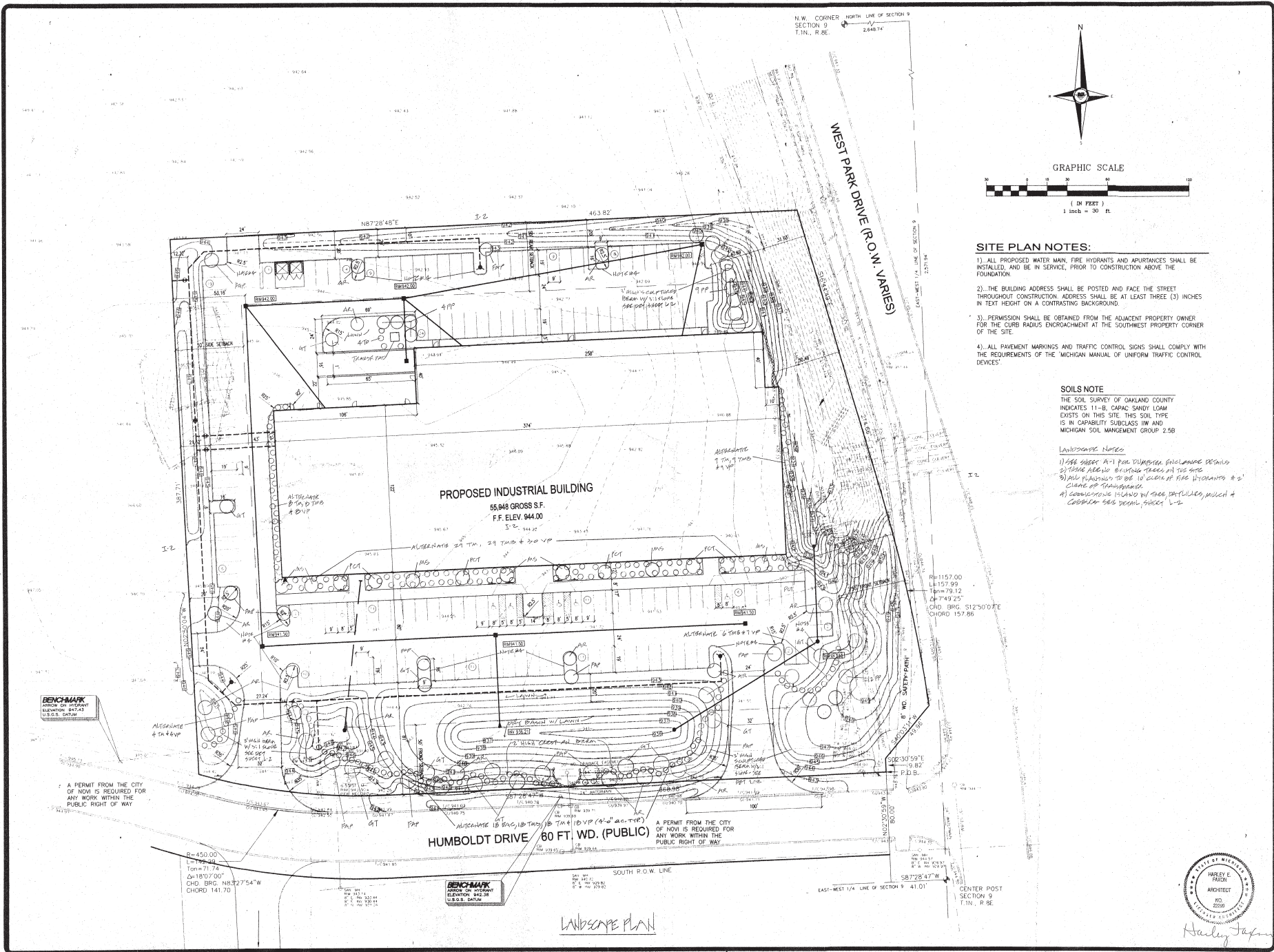
Item	Required	Proposed	Meets Code	Comments
<b>Statement of intent</b> (LDM 2.m & Zoning Sec 5.5.6)	intent to install and guarantee all materials for 2 years.			
<b>Plant source</b> (LDM 2.n & LDM 3.a.(2))	Shall be northern nursery grown, No.1 grade.	Yes	Yes	
<b>Irrigation plan</b> (LDM 2.s.)	A fully automatic irrigation system or a method of providing sufficient water for plant establishment and survival is required on Final Site Plans.	Provided	Yes	<u>If the existing irrigation system will be extended to include the transplanted trees, please add a note to that effect to the landscape plans.</u>
<b>Other information</b> (LDM 2.u)	Required by Planning Commission	Information and notes regarding seeding have been provided.	Yes	
<b>Establishment period</b> (Zoning Sec 5.5.6.B)	<b>2 yr. Guarantee</b>	Yes	Yes	<b>1. The transplanted trees must be guaranteed for two years. 2. If they weaken or fail during that time, they must be replaced.</b>
<b>Approval of substitutions.</b> (Zoning Sec 5.5.5.E)	City must approve any substitutions in writing prior to installation.	Yes	Yes	
<b>Plant List (LDM 4) – Include all cost estimates</b>				
Quantities and sizes	Refer to LDM suggested plant list	Yes	Yes	
Root type		Yes	Yes	
Botanical and common names		No new trees are proposed	Yes	
Type and amount of lawn		Lawn seed is noted in legend	Yes	
Cost estimate (LDM 2.t)	For all new plantings, mulch and sod as listed on the plan	Not provided	NA	
<b>Planting Details/Info (LDM 2.i) – Utilize City of Novi Standard Details</b>				
Canopy Deciduous Tree	Refer to LDM for detail drawings	Yes	Yes	
Evergreen Tree		NA	NA	
Shrub		Yes	Yes	
Perennial/ Ground Cover		NA	NA	
Tree stakes and guys. (Wood stakes, fabric guys)		No	No	Please add the tree guying detail
Tree protection fencing	Located at Critical Root Zone (1' outside of	• Tree fencing is shown around	Yes	<u>Please add a tree protection fence detail</u>

Item	Required	Proposed	Meets Code	Comments
	dripline)	existing trees to remain • Detail is provided.		<u>to Sheet C-1.1 showing the fence at the tree's dripline where possible.</u>
<b>Other Plant Material Requirements (LDM 3)</b>				
<b>General Conditions (LDM 3.a)</b>	Plant materials shall not be planted within 4 ft. of property line	Yes	Yes	
<b>Plant Materials &amp; Existing Plant Material (LDM 3.b)</b>	Clearly show trees to be removed and trees to be saved.	13 trees and some shrubs to be transplanted or replaced in different locations.	Yes	
<b>Landscape tree credit (LDM3.b.(d))</b>	<ul style="list-style-type: none"> <li>• Substitutions to landscape standards for preserved canopy trees outside woodlands/ wetlands should be approved by LA.</li> <li>• Refer to Landscape tree Credit Chart in LDM</li> </ul>	No		
<b>Plant Sizes for ROW, Woodland replacement and others (LDM 3.c)</b>	<ul style="list-style-type: none"> <li>• 3" canopy trees</li> <li>• 6' evergreen trees</li> </ul>	On plant list	Yes	
<b>Prohibited Plants (LDM 3.d)</b>	No plants on City Invasive Species List	None are proposed	Yes	
<b>Recommended trees for planting under overhead utilities (LDM 3.e)</b>	Label the distance from the overhead utilities	A note indicates that there are no overhead lines	Yes	
<b>Nonliving Durable Material: Mulch (LDM 4)</b>	<ul style="list-style-type: none"> <li>• Trees shall be mulched to 3" depth and shrubs, groundcovers to 2" depth</li> <li>• Specify natural color, finely shredded hardwood bark mulch.</li> </ul>	Yes	Yes	

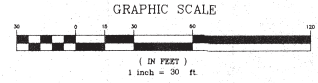
**NOTES:**

1. This table is a working summary chart and not intended to substitute for any Ordinance or City of Novi requirements or standards.
2. The section of the applicable ordinance or standard is indicated in parenthesis. For the landscape requirements, please see the Zoning Ordinance landscape section 5.5 and the Landscape Design Manual for the appropriate items under the applicable zoning classification.
3. Please include a written response to any points requiring clarification or for any corresponding site plan modifications to the City of Novi Planning Department with future submittals.





N.W. CORNER NORTH LINE OF SECTION 9  
SECTION 9  
T.1N., R.8E. 2449.74'



**SITE PLAN NOTES:**

- 1). ALL PROPOSED WATER MAIN, FIRE HYDRANTS AND APURTANCES SHALL BE INSTALLED, AND BE IN SERVICE, PRIOR TO CONSTRUCTION ABOVE THE FOUNDATION.
- 2). THE BUILDING ADDRESS SHALL BE POSTED AND FACE THE STREET THROUGHOUT CONSTRUCTION. ADDRESS SHALL BE AT LEAST THREE (3) INCHES IN TEXT HEIGHT ON A CONTRASTING BACKGROUND.
- 3). PERMISSION SHALL BE OBTAINED FROM THE ADJACENT PROPERTY OWNER FOR THE CURB RADIUS ENCRoACHMENT AT THE SOUTHWEST PROPERTY CORNER OF THE SITE.
- 4). ALL PAVEMENT MARKINGS AND TRAFFIC CONTROL SIGNS SHALL COMPLY WITH THE REQUIREMENTS OF THE 'MICHIGAN MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES'.

**SOILS NOTE**  
THE SOIL SURVEY OF OAKLAND COUNTY INDICATES 11-B, CAPAC SANDY LOAM EXISTS ON THIS SITE. THIS SOIL TYPE IS IN CAPABILITY SUBCLASS I1W AND MICHIGAN SOIL MANAGEMENT GROUP 2.5B

**LANDSCAPE NOTES**  
1) SEE SHEET A-1 FOR DETAILED INCLUDING DETAILS  
2) SEE SHEET A-1 FOR DETAILED INCLUDING DETAILS  
3) ALL PLANTINGS TO BE 10' CLEAR OF FIRE HYDRANTS & 2' CLEAR OF FOUNDATIONS  
4) CONSIDER ISLANDS WITH BAY LILIES, MULCH & CORNER FOR TREE PLANTING 1'-2'

**BENCHMARK**  
ARROW ON INVERT  
ELEVATION 947.40  
U.S.G.S. DATUM

A PERMIT FROM THE CITY OF NMI IS REQUIRED FOR ANY WORK WITHIN THE PUBLIC RIGHT OF WAY

A PERMIT FROM THE CITY OF NMI IS REQUIRED FOR ANY WORK WITHIN THE PUBLIC RIGHT OF WAY

R=450.00  
T=119.24  
Δ=180°00'  
CHD. BRG. N83°27'54"W  
CHORD 141.70

**BENCHMARK**  
ARROW ON INVERT  
ELEVATION 942.38  
U.S.G.S. DATUM

**LANDSCAPE PLAN**



Harley E. Faxon

REVISIONS	BY
0/10/01	

CHAMBER PARKERS, LLC 080-250-5007  
90-00 WOODWARD AVE, SUITE 240  
BLOOMFIELD HILLS, MICH. 48304

MENS CAROLING BUILDING  
PARK-NEST CONCRETE PARK  
NMI Section 9 NMI

**HARLEY FAXON R.A., P.C.**  
**ARCHITECT**  
(248) 852-0350 TEL  
(248) 852-0355 FAX  
4469 DECKERLAND DRIVE  
W. BLOOMFIELD, MI 48323

DRAWN
CHECKED
DATE
SCALE
JOB NO.
SHEET
OF SHEETS

**NOTES**

- INSTALLATION**
- 1. Installation of all plant materials shall be in accordance with the latest edition of the American Association of Professional Horticulturists and with the specifications set forth by the City of Novi.
  - 2. All plantings shall be completed within three (3) months, and no later than November 30, from the date of issuance of a certificate of occupancy or such certificate to be issued during the April 1 - September 30 period. If the certificate is issued during the October 1 - March 31 period, the planting shall be completed no later than the ending day 31; plantings shall thereafter be seasonally maintained, including watering and fertilizing, until the season ends, including watering and fertilizing and including the amount of weeds and debris.
  - 3. All planting beds to be mulched with P&G, (max 4" of planting bed over 3" deep) wood mulch or approved equivalent. Mulch shall be applied to a minimum depth of 2" and shall extend 18" beyond the perimeter of the planting bed. All planting beds to be mulched with P&G, (max 4" of planting bed over 3" deep) wood mulch or approved equivalent. Mulch shall be applied to a minimum depth of 2" and shall extend 18" beyond the perimeter of the planting bed.
  - 4. All planting beds to be mulched with P&G, (max 4" of planting bed over 3" deep) wood mulch or approved equivalent. Mulch shall be applied to a minimum depth of 2" and shall extend 18" beyond the perimeter of the planting bed.

- MAINTENANCE**
- 1. All landscaped areas shall be maintained at all building materials and debris to a minimum depth of eighteen (18") and shall be maintained to a minimum depth of eighteen (18") and shall be maintained to a minimum depth of eighteen (18") and shall be maintained to a minimum depth of eighteen (18").
  - 2. All written dimensions override verbal dimensions on plan. Report all changes, substitutions, or deviations to the landscape architect.
  - 3. All heights must respect the site and report any discrepancies to the landscape architect.
  - 4. All specifications subject to change due to existing site conditions.
  - 5. The landscape architect reserves the right to approve all plant materials.
  - 6. The contractor shall be responsible according to an irrigation plan approved by the landscape architect.
  - 7. No one shall discharge or deposit any waste, refuse, or debris on the site.
  - 8. Maintain a 6" (6") foot (6") distance from center of utility lines for planting materials. All planting materials shall be placed in a safe and secure manner.
  - 9. All planting materials shall be installed only and contractor is responsible for all other materials.

- MATERIALS**
- 1. Plant material shall include:
    - Shrubbery: 1" caliper
    - Evergreen Trees: 1" caliper
    - Deciduous Trees: 1" caliper
    - Shrubs (small): 1" spread
  - 2. Structural landscape material shall satisfy American Association of Horticulture standards and be:
    - a. Heavy duty
    - b. Sixty (60) pounds of aggregate (impacted)
    - c. Free earth (transported while in the dormant state, or, if not in the dormant state, having been balled and burlapped with a soil wetting root ball wrap, in the dormant state)
    - d. 100% Balled, 100% Free earth (impacted) and a high developed oil film cover (each grade tree are unacceptable)
    - e. Water, fertilizer, watered and mulched in accordance with standard planting practices.
    - f. Quarantined for one year, including labor to remove and dispose of dead material.
    - g. Approved through inspection by the city of Novi.
    - h. Of the same species as the named plant shown available from Michigan sources. Where plants of the same species are not available, replacement shall be made by recommendation of the Environmental Commission and shall only consist of material within the Forest Association of Michigan and approved.
    - i. Suggested annuals include blue aster, red-top begonia, and impatiens. Annual beds to be mulched with three (3") of peat with a neutral pH before planting.
    - j. Annuals shall be supplied (quantity and representative of color) to the contractor. All planting materials shall be delivered to the site in a safe and secure manner, including but not limited to:
      - 4" x 4" cobbles to be used for drainage
      - 2" x 2" cobbles to be used for drainage
      - 1" x 1" cobbles to be used for drainage
    - k. All plants shall be installed in a safe and secure manner.
    - l. All plants shall be installed in a safe and secure manner.
    - m. All plants shall be installed in a safe and secure manner.
    - n. All plants shall be installed in a safe and secure manner.
    - o. All plants shall be installed in a safe and secure manner.
    - p. All plants shall be installed in a safe and secure manner.
    - q. All plants shall be installed in a safe and secure manner.
    - r. All plants shall be installed in a safe and secure manner.
    - s. All plants shall be installed in a safe and secure manner.
    - t. All plants shall be installed in a safe and secure manner.
    - u. All plants shall be installed in a safe and secure manner.
    - v. All plants shall be installed in a safe and secure manner.
    - w. All plants shall be installed in a safe and secure manner.
    - x. All plants shall be installed in a safe and secure manner.
    - y. All plants shall be installed in a safe and secure manner.
    - z. All plants shall be installed in a safe and secure manner.

**LANDSCAPE REQUIREMENTS**

- LANDSCAPING ADJACENT TO ROAD**
- 1. 12" x 12" x 1.5" L.F. OF PLANT (1/2" WET BUFFER (SLOPE) SOFT HANDLED) 4" (SIT) F. WET AREA.
  - 2. 50% OF PLANT (AND LANDSCAPED) (SLOPE)
- PROGRESS LOT LANDSCAPING**
- 1. 12" x 12" x 1.5" L.F. OF PLANT (1/2" WET BUFFER (SLOPE) SOFT HANDLED) 4" (SIT) F. WET AREA.
  - 2. 50% OF PLANT (AND LANDSCAPED) (SLOPE)
- PROGRESS LOT TREES**
- 1. 12" x 12" x 1.5" L.F. OF PLANT (1/2" WET BUFFER (SLOPE) SOFT HANDLED) 4" (SIT) F. WET AREA.
  - 2. 50% OF PLANT (AND LANDSCAPED) (SLOPE)

**PLANT LIST**

KEY	QTY	BOTANICAL NAME	COMMON NAME	SIZE
AR	12	ACER RUBRA	RED MAPLE	3" CAL. B & B
BAC	12	BIGNONIA PLATA COMPACTA	BIGNONIA BUSH	3" CAL. B & B
PAP	15	FRAXINUS AMERICANA PYRAMIDALIS	AMERICAN PAPER BIRCH	3" CAL. B & B
MS	7	MALUS SARGENTII	SARGENT CRAB	3" CAL. B & B
PP	25	PISEA PINGIENS GLAUCA	BLUE SPRUCE	7" CAL. B & B
TA	60	TAXUS MEDIA DENSIFORMIS	DENYARD'S YEW	3" CAL. B & B
TO	4	T. OCCIDENTALIS 'PYRAMIDALIS'	PYRAMID ARBORVITAE	5" CAL. B & B
VP	70	VIBURNUM PLICATUM TORONTOENSE	INDIAN SPICE VIBURNUM	3" CAL. B & B
TAUF	70	TAXUS X MEDIA TORONTO	GLAUC YEW	3" CAL. B & B
PT	7	PRUNUS CERASIFERA 'PENSILVANICA'	PENNSYLVANIAN FLORING PEACH	3" CAL. B & B
AT	12	ALNUS INCANA TORONTO	WHITE BIRCH	3" CAL. B & B
MULCH		CEASE DARK MULCH		

REVISIONS	BY
3/27/01	
3/28/01	
5/13/01	
6/15/01	

CHANNIE PARRISH, LLC 2882880007  
 3580 WOODWARD AVE, SUITE 240  
 BLOOMFIELD HILLS MI 48304

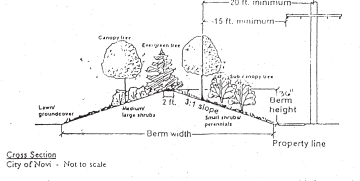
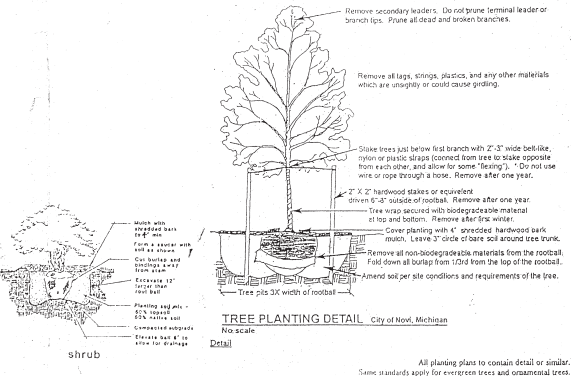
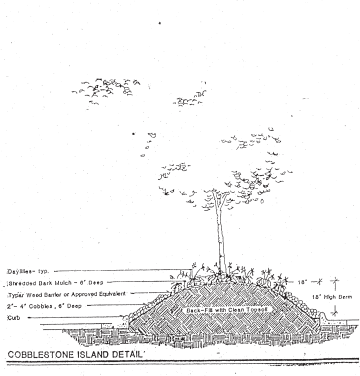
OWNERS CORNING BUILDING  
 3580 WOODWARD PARK  
 BLOOMFIELD HILLS MI 48304  
 Section 9

**HARLEY FAXON R.A., P.C.**  
**ARCHITECT**  
 (248) 852-0360 TEL  
 (248) 852-0355 FAX  
 4469 DECKERLAND DRIVE  
 W. BLOOMFIELD, MI 48323

DRAWN
CHECKED
DATE
SCALE
JOB NO.
11-20
SHEET
L-2
OF SHEETS



Harley Faxon



**Cross Section**  
 City of Novi - Not to scale

Maximum 1:1 slope.  
 Minimum 2' crest.  
 Contractor to verify utility easement requirements on site before planting.  
 No canopy or overgrown trees to be planted directly over utilities.  
 Slope 4:1 maximum. 1:1 slope must be provided to accompany flat areas - 10' wide strip. 1:1 slope has 50% of slope to be provided to be 10' wide strip.

## TRAFFIC REVIEW

---



AECOM  
39575 Lewis Dr, Ste. 400  
Novi  
MI, 48377  
USA  
aecom.com

**Project name:**  
JSP24-18 – Lineage Carport Addition PSP/FSP  
Traffic Review

**From:**  
AECOM

**Date:**  
October 9, 2024

**To:**  
Barbara McBeth, AICP  
City of Novi  
45175 10 Mile Road  
Novi, Michigan 48375

**CC:**  
Lindsay Bell, Humna Anjum, Diana Shanahan, Adam  
Yako, Dan Commer

# Memo

**Subject:** JSP24-18 – Lineage Carport Addition Preliminary/Final Traffic Review

The combined preliminary and final site plan was reviewed to the level of detail provided and AECOM recommends **approval** of the preliminary and final site plan as long as the comments provided below are adequately addressed to the satisfaction of the City.

## GENERAL COMMENTS

1. The applicant, Madison Energy Infrastructure, is proposing the installation of solar carports at the existing Lineage parking lot.
2. The development is located on the north side of Humboldt Drive, west of West Park Drive. Humboldt Drive is under the jurisdiction of the City of Novi.
3. The site is zoned I-2 (General Industrial).
4. There are no traffic related deviations required at this time.

## TRAFFIC IMPACTS

1. AECOM did not perform an initial trip generation based on the ITE Trip Generation Manual, 11<sup>th</sup> Edition, as the existing building footprint is not changing.
2. The City of Novi generally requires a traffic impact study/statement if the number of trips generated by the proposed development exceeds the City's threshold of more than 750 trips per day or 100 trips per either the AM or PM peak hour, or if the project meets other specified criteria.

Trip Impact Study Recommendation	
Type of Study:	Justification
None	-

## TRAFFIC REVIEW

The following table identifies the aspects of the plan that were reviewed. Items marked O are listed in the City's Code of Ordinances. Items marked with ZO are listed in the City's Zoning Ordinance. Items marked with ADA are

listed in the Americans with Disabilities Act. Items marked with MMUTCD are listed in the Michigan Manual on Uniform Traffic Control Devices.

The values in the 'Compliance' column read as 'met' for plan provision meeting the standard it refers to, 'not met' stands for provision not meeting the standard and 'inconclusive' indicates applicant to provide data or information for review and 'NA' stands for not applicable for subject Project. The 'remarks' column covers any comments reviewer has and/or 'requested/required variance' and 'potential variance'. A potential variance indicates a variance that will be required if modifications are not made or further information provided to show compliance with the standards and ordinances. The applicant should put effort into complying with the standards; the variances should be the last resort after all avenues for complying have been exhausted. Indication of a potential variance does not imply support unless explicitly stated.

EXTERNAL SITE ACCESS AND OPERATIONS				
No.	Item	Proposed	Compliance	Remarks
1	Driveway Radii   O <a href="#">Figure IX.3</a>	-	N/A	No changes proposed.
2	Driveway Width   O <a href="#">Figure IX.3</a>	-	N/A	No changes proposed.
3	Driveway Taper   O <a href="#">Figure IX.11</a>	-	N/A	No changes proposed.
3a	Taper length			
3b	Tangent			
4	Emergency Access   O <a href="#">11-194.a.19</a>	-	N/A	No changes proposed.
5	Driveway sight distance   O <a href="#">Figure VIII-E</a>	-	N/A	No changes proposed.
6	Driveway spacing	-	N/A	No changes proposed.
6a	Same-side   O <a href="#">11.216.d.1.d</a>			
6b	Opposite side   O <a href="#">11.216.d.1.e</a>			
7	External coordination (Road agency)	-	N/A	No changes proposed.
8	External Sidewalk   <a href="#">Master Plan &amp; EDM</a>	-	N/A	No changes proposed.
9	Sidewalk Ramps   <a href="#">EDM 7.4 &amp; R-28-K</a>	-	N/A	No changes proposed.
10	Any Other Comments:			

INTERNAL SITE OPERATIONS				
No.	Item	Proposed	Compliance	Remarks
11	Loading zone   <a href="#">ZO 5.4</a>	Existing	N/A	No changes proposed.
12	Trash receptacle   <a href="#">ZO 5.4.4</a>	Existing	N/A	No changes proposed.
13	Emergency Vehicle Access	Existing	N/A	No changes proposed.
14	Maneuvering Lane   <a href="#">ZO 5.3.2</a>	Existing	N/A	No changes proposed.
15	End islands   <a href="#">ZO 5.3.12</a>	Existing	N/A	No changes proposed.
15a	Adjacent to a travel way			
15b	Internal to parking bays			
16	Parking spaces   <a href="#">ZO 5.2.12</a>	Converting 10 standard parking spaces to EV parking spaces with charging stations.	N/A	See Planning review letter.
17	Adjacent parking spaces   <a href="#">ZO 5.5.3.C.ii.i</a>	Existing	N/A	No changes proposed.

INTERNAL SITE OPERATIONS				
No.	Item	Proposed	Compliance	Remarks
18	Parking space length   <a href="#">ZO 5.3.2</a>	Existing (17' and 18')	N/A	No changes proposed. <b>The applicant should verify that the EV charging stations will not interfere with the 2' overhang required.</b>
19	Parking space Width   <a href="#">ZO 5.3.2</a>	Existing (9')	N/A	No changes proposed.
20	Parking space front curb height   <a href="#">ZO 5.3.2</a>	4" integral curb sidewalk proposed in front of 17' spaces.	Met	Detail included for proposed integral curb sidewalk.
21	Accessible parking – number   <a href="#">ADA</a>	Existing	N/A	No changes proposed.
22	Accessible parking – size   <a href="#">ADA</a>	Existing	N/A	No changes proposed.
23	Number of Van-accessible space   <a href="#">ADA</a>	Existing	N/A	No changes proposed.
24	Bicycle parking	Existing	N/A	No changes proposed.
24a	Requirement   <a href="#">ZO 5.16.1</a>			
24b	Location   <a href="#">ZO 5.16.1</a>			
24c	Clear path from Street   <a href="#">ZO 5.16.1</a>			
24d	Height of rack   <a href="#">ZO 5.16.5.B</a>			
24e	Other (Covered / Layout)   <a href="#">ZO 5.16.1</a>			
25	Sidewalk – min 5' wide   <a href="#">Master Plan</a>	Existing	N/A	No changes proposed.
26	Sidewalk ramps   <a href="#">EDM 7.4</a> & <a href="#">R-28-K</a>	Existing	N/A	No changes proposed.
27	Sidewalk – distance back of curb   <a href="#">EDM 7.4</a>	Existing	N/A	No changes proposed.
28	Cul-De-Sac   O <a href="#">Figure VIII-F</a>	-	N/A	
29	EyeBrow   O <a href="#">Figure VIII-G</a>	-	N/A	
30	Turnaround   <a href="#">ZO 5.10</a>	-	N/A	
31	Any Other Comments:			

SIGNING AND STRIPING				
No.	Item	Proposed	Compliance	Remarks
32	Signing: Sizes   <a href="#">MMUTCD</a>	-	N/A	No proposed signs.
33	Signing table: quantities and sizes	-	N/A	
34	Signs 12" x 18" or smaller in size shall be mounted on a galvanized 2 lb. U-channel post   <a href="#">MMUTCD</a>	-	N/A	
35	Signs greater than 12" x 18" shall be mounted on a galvanized 3 lb. or greater U-channel post   <a href="#">MMUTCD</a>	-	N/A	
36	Sign bottom height of 7' from final grade   <a href="#">MMUTCD</a>	-	N/A	
37	Signing shall be placed 2' from the face of the curb or edge of the nearest sidewalk to the near edge of the sign   <a href="#">MMUTCD</a>	-	N/A	
38	FHWA Standard Alphabet series used for all sign language   <a href="#">MMUTCD</a>	-	N/A	

SIGNING AND STRIPING				
No.	Item	Proposed	Compliance	Remarks
39	High-Intensity Prismatic (HIP) sheeting to meet FHWA retro-reflectivity   <a href="#">MMUTCD</a>	-	N/A	
40	Parking space striping notes	Indicated	Met	Detail included for EV parking space symbol striping.
41	The international symbol for accessibility pavement markings   ADA	-	N/A	
42	Crosswalk pavement marking detail	-	N/A	
43	Any Other Comments:			

Note: Hyperlinks to the standards and Ordinances are for reference purposes only, the applicant and City of Novi to ensure referring to the latest standards and Ordinances in its entirety.

Should the City or applicant have questions regarding this review, they should contact AECOM for further clarification.

Sincerely,

**AECOM**



Paula K. Johnson, PE  
Senior Transportation Engineer



Saumil Shah, PMP  
Project Manager

## FAÇADE REVIEW

---





October 9, 2024

**Façade Review Status:**  
**Approved**

City of Novi Planning Department  
 45175 W. 10 Mile Rd.  
 Novi, MI 48375-3024

Attn: Ms. Barb McBeth – Director of Community Development

Re: FACADE ORDINANCE  
**Lineage Solar Carport, JSP24-18,**  
 Façade Region: 1, Zoning District: OST

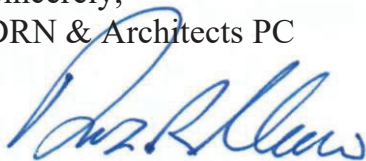
Dear Ms. McBeth:

The following Façade Review is based on the drawings prepared by TGRWA Structural Engineers, dated 10/4/23. The percentages of materials for each façade are shown on the table below. The maximum and minimum percentages required by the Façade Ordinance are shown in the right-hand column. As shown below, all proposed materials are in non-compliance with the Façade Ordinance.

	South (Front)	North	East	West	Ordinance Maximum (Minimum)
Brick	0%	0%	0%	0%	30% Minimum
Structural Steel (Painted and Galvanized Finish)	100%	100%	100%	100%	50%

The proposed structure consists of exposed structural galvanized steel with solar panel roof. Section 5.15.14. of the Façade Ordinance states that Solar structures are not subject to the Façade Ordinance. It is recommended that the carport structure be approved on that basis.

Sincerely,  
DRN & Architects PC



Douglas R. Necci, AIA

## FIRE REVIEW

---



October 1, 2024

TO: Barbara McBeth - City Planner  
Lindsay Bell - Plan Review Center  
Heather Zeigler – Plan Review Center  
Dan Commer – Plan Review Center  
Diana Shanahan – Planning Assistant

**CITY COUNCIL**

**Mayor**  
Justin Fischer

**Mayor Pro Tem**  
Laura Marie Casey

Dave Staudt

Brian Smith

Ericka Thomas

Matt Heintz

Priya Gurumurthy

**City Manager**  
Victor Cardenas

**Director of Public Safety**  
**Chief of Police**  
Erick W. Zinser

**Fire Chief**  
John B. Martin

**Assistant Chief of Police**  
Scott R. Baetens

**Assistant Fire Chief**  
Todd Seog

RE: Lineage Solar Carports

PREAPP24-08  
**PSP24-043**  
**JSP24-18**

**Project Description:**

Construct solar chargers in an existing parking lot. Canopy Solar roof panels and new carports.

**Comments:**

- If the EM disconnect is secured by some type of lock, a Knox Box will be required next to the disconnect switch.
- Shall follow the National Electrical Code for installation.

**Recommendation:**

No changes from previous review. New prints indicate 24 hr access to EV system will be made available.

Sincerely,

Andrew Copeland – Acting Fire Marshal  
City of Novi Fire Department

cc: file

**Novi Public Safety Administration**  
45125 Ten Mile Road  
Novi, Michigan 48375  
248.348.7100  
248.347.0590 fax

cityofnovi.org

**RESPONSE LETTER**

58105 Van Dyke Avenue  
Washington, MI 48094

586.272.2276  
peagroup.com

September 20, 2024  
PEA Project No: 23-1048

Dan Commer  
Planner  
City of Novi  
45175 10 Mile Road  
Novi, MI 48375

**Re: Lineage Logistics Carports Addition  
PREAPP 24-08**

Dear Mr. Commer:

We are in receipt of Preapplication review comments from staff dated July 23, 2024. Below please find a list of responses to the comments provided below:

## Planning Comments

1. *Building Height (Sec. 3.1.18.D) Sec. 3.14.5.C) Please provide the overall and average height of the carports on the next submittal.*

**Response: The height of the canopies is detailed on S2.1.**

2. *Parking Space Dimensions and Maneuvering Lanes (Sec. 5.3.2) On next submittal please label length of existing and proposed parking spaces and add note if charging stations will impact the parking stall dimensions. Please refer to Engineering Review for additional details.*

**Response: Please refer to sheet C-2.1 for parking space dimensions for both standard and EV stalls. The EV pedestals will not impact the stall dimensions.**

3. *End Islands (Sec. 5.3.12) A Planning Commission landscape waiver will be required for the lack of interior parking lot area and trees.*

**Response: Per coordination with Rick Meader, interior landscape trees will be relocated to the perimeter of the parking area. A waiver is requested. This is noted on L-1.0 under City of Novi note block.**

4. *Bicycle Parking Lot layout (Sec 5.16.6) Please label existing bicycle parking on next submittal.*

**Response: The existing bike rack is shown and labeled on sheet C-2.2.**

5. *Accessory Buildings & Structures (Sec. 4.19.1 & 4.19.2) On next submittal please provide all applicable setback measurements of proposed carport structures (e.g. property line, buildings, etc.).*

**Response: Setback lines and dimensions are shown on C-2.0.**

6. *Canopies and Carports (Sec. 4.19.2.C.iii) On next submittal please label precise measurements of proposed carport structures and their attached solar collectors.*

**Response: Measurements of the Carports are shown on sheets S1.0 and S2.1.**

7. *Canopies and Carports (Sec. 5.15.12.a and 5.15.12.b) Exterior Building Wall Façade Materials: Provide details for how supporting columns will be affixed to concrete foundations on the next submittal. Provide paint sample that harmonized with primary building with next submittal.*

**Response: Foundation details are shown on S2.1. Material Samples will be submitted separately.**

8. *Roof top equipment and wall mounted utility equipment (Sec. 4.19.2.E.ii) Ground mounted transformers will need to be screened with landscaping.*

**Response: Transformer screening is shown on L-1.0.**

9. *Exterior lighting (Sec. 5.7) Please provide any changes to the parking lot lighting and how lighting under the carports will be addressed.*

**Response: Updated photometrics are included in this submittal package to demonstrate how under-canopy lighting will interact with perimeter lighting in the parking area.**

10. *Intent (Sec. 5.7.1) Please provide any changes to the parking lot lighting and how lighting under the carports will be addressed.*

**Response: Updated photometrics are included in this submittal package to demonstrate how under-canopy lighting will interact with perimeter lighting in the parking area.**

11. *Lighting Plan (Sec.5.7.A.2.ii) Include lighting fixture specifications in the plan set.*

**Response: Fixture specifications are included in the photometric package.**

### Engineering Comments

1. *A full engineering review was not performed due to the limited information provided in this submittal. Further information related to the utilities, easements, etc. will be required to provide a more detailed review.*

**Response: Noted.**

2. *The site plan shall be designed in accordance with Chapter 11 of the City of Novi Code of Ordinances.*

**Response: Noted. Plans have been designed per City of Novi Ordinances.**

3. *This project may be a candidate for combined PSP/FSP review. If the applicant is confident that a complete set of engineering plans can be provided for the next submittal, the plan may be reviewed as a final site plan.*

**Response: This application is intended to be reviewed as a combined PSP/FSP package.**

4. *A letter from either the applicant or the applicant's engineer must be submitted with the Preliminary Site Plan submittal highlighting the changes made to the plans addressing each of the comments in this review.*

**Response: This letter is intended to fulfill this requirement.**

5. *Add note stating that changes are proposed to existing utilities.*

**Response: Only electrical service will be modified by this project. This is noted on sheet C-4.0.**

6. *Provide new concrete and asphalt cross-section where pavement removals are proposed.*

**Response: Pavement sections are shown on sheet C-5.0.**

7. *Label length of existing and proposed parking spaces, add note if charging stations will impact the parking stall dimensions. Based on the previous site plan, existing parking spaces are already 19-foot long, not overhang is needed for the parking spaces under the carports.*

**Response: Please refer to sheet C-2.1 for parking space dimensions for both standard and EV stalls. The EV pedestals will not impact the stall dimensions.**

8. *Provide spot elevations at the intersection of the proposed pavement with the existing pavement.*

**Response: Grading plans are included on sheets C-3.1 and C-3.2.**

#### Storm Water Management Plan

9. *No changes proposed to existing storm water management plan.*

**Response: No changes are proposed that would impact the existing storm system.**

#### Off-Site Easements

10. *No off-site easements anticipated.*

**Response: No off-site easements are planned.**

#### Landscape Comments

1. *As the plan does not include the expansion of any parking or building, no new landscaping is required. However, since 12 trees are being removed from the parking lot's interior, those trees should be replaced around the parking lot perimeter to provide as much shade for the lot as possible.*

*A landscape waiver will be required for the lack of interior parking lot area and trees. I will support the waiver as the project is a net gain for the environment as long as the removed trees are replaced elsewhere around the parking lot to provide shading.*

**Response: Interior landscape trees will be relocated to the perimeter of the parking area. A waiver is requested. This is noted on L-1.0 under the City of Novi note block.**

2. *Owner/Developer Contact Information (LDM 2.a.) Please add the required information to the title block for the Landscape Plan and other sheets.*

**Response: Owner and Developer information are on the title block for all civil sheets.**

3. *Number of canopy trees required Please plant the trees as close to the center as possible for the health of the trees.*

**Response: Trees will be located an adequate distance behind the curb to promote healthful growth. Please refer to L-1.0**

4. *Canopy deciduous or large evergreen trees Notes (1) (10) Please use the frontage along West Park Drive as measured from the north and south edges of the parking lot. Any future development north of the northern edge will be responsible for the West Park Greenbelt for the remaining area of the property. Please show the northern "edge point" on the plans with a note to the effect of the above on L-1.0. Please revise all greenbelt and street tree calculations based on a 280lf frontage. If desired, the applicant may eliminate some of the "extra" greenbelt and street trees from the plan as long as the required numbers are provided.*

**Response: Existing trees onsite were installed in compliance with the City of Novi ordinances in force at the time. No changes in other than the aforementioned relocation of existing trees are contemplated for this project. Future development north of the parking lot will have to comply with the City of Novi Ordinances as updated. A note to that effect has been added to L-1.0.**

#### Traffic Comments

1. *The applicant, Madison Energy Infrastructure, is proposing the installation of solar carports at the existing Lineage parking lot.*

**Response: Noted.**

2. *The development is located on the north side of Humboldt Drive, west of West Park Drive. Humboldt Drive is under the jurisdiction of the City of Novi.*

**Response: Noted.**

3. *The site is zoned I-2 (General Industrial).*

**Response: Noted.**

4. *There are no traffic related deviations required at this time.*

**Response: Noted.**

5. *Parking space front curb height | ZO 5.3.2 Include detail for proposed integral curb sidewalk in future submittal.*

**Response: Curb details are shown on sheet C-5.0.**

6. *Signing: Sizes | MMUTCD Include if any EV parking signs will be proposed in future submittals.*

**Response: Painted symbols will be used to denote EV spaces. Detail is shown on sheet C-5.0.**

7. *Parking space striping notes*

**Response: Painted symbols will be used to denote EV spaces. Detail is shown on sheet C-5.0.**



Fire Comments

1. *If the EM disconnect is secured by some type of lock, a Knox Box will be required next to the disconnect switch.*

**Response: Noted.**

2. *Shall follow the National Electrical Code for installation.*

**Response: Noted.**

We trust these responses meet requirements. If you should have any questions or require any additional information, please feel free to contact this office.

**PEA Group**

A handwritten signature in blue ink, appearing to read "Becky Klein", with a stylized flourish at the end.

Becky Klein, PE, LEED AP BD+C  
Project Manager