

AGENDA



2:30 P.M.

CITY COUNCIL MEETING

Wednesday, August 26, 2026

NOTES:

· Meeting room is wheelchair accessible. American Disabilities Act (ADA) accommodations and translation services are available upon request. Please phone 928-862-3220 at least two (2) business days in advance.

· City Council Meeting Agenda Packets are available on the City's website at: www.SedonaAZ.gov

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GUIDELINES FOR PUBLIC COMMENT

PURPOSE:

To allow the public to provide input to the City Council on a particular subject scheduled on the agenda. This is not a question/answer session. No disruptive behavior or profane language will be allowed. The decision to receive Public Comment during Work Sessions/Special City Council meetings is at the discretion of the Mayor.

PROCEDURES:

Fill out a "Comment Card" and deliver it to the City Clerk.

When recognized, use the podium/microphone.

State your:

1. Name and
2. City of Residence
- Limit comments to

3 MINUTES.

· Submit written comments to the City Clerk.

1. CALL TO ORDER/PLEDGE OF ALLEGIANCE/MOMENT OF SILENCE

2. ROLL CALL

3. SPECIAL BUSINESS

- a. AB 3377 **Discussion/possible direction** regarding the 50% status update on the decarbonization planning and design project.
- b. AB 2378 **Discussion/possible direction** regarding Sedona in Motion (SIM) projects overview.
- c. **Discussion/possible action** regarding ideas for future meetings/agenda items.

4. EXECUTIVE SESSION

Upon a public majority vote of the members constituting a quorum, the COUNCIL may hold an Executive Session that is not open to the public for the following purposes:

- a. To consult with legal counsel for advice on matters listed on this agenda per A.R.S. § 38-431.03(A)(3).
- b. Return to open session. Discussion/possible action on executive session items.

5. ADJOURNMENT

Posted: 08/20/2026

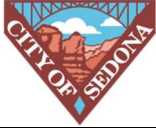
By: DJ

JoAnne Cook, CMC, City Clerk

Note: Pursuant to A.R.S. § 38-431.02 notice is hereby given to the members of the City Council and to the general public that the Council will hold the above open meeting. Members of the City Council will attend either in person or by telephone, video, or internet communications. The Council may vote to go into executive session on any agenda item, pursuant to A.R.S. § 38-431.03(A)(3) and (4) for discussion and consultation for legal advice with the City Attorney. Because various other commissions, committees and/or boards may speak at Council meetings, notice is also given that a quorum of members of these other City commissions, boards, or committees may be in attendance.

A copy of the packet with materials relating to the agenda items is typically available for review by the public in the Clerk's office after 1:00 p.m. the Thursday prior to the Council meeting and on the City's website at www.SedonaAZ.gov. The Council Chambers is accessible to people with disabilities, in compliance with the Federal 504 and ADA laws. Those with needs for special typeface print, may request these at the Clerk's Office. All requests should be made forty-eight hours prior to the meeting.

NOTICE TO PARENTS AND LEGAL GUARDIANS: Parents and legal guardians have the right to consent before the City of Sedona makes a video or voice recording of a minor child, pursuant to A.R.S. § 1-602(A)(9). The Sedona City Council meetings are recorded and may be viewed on the City of Sedona website. If you permit your child to attend/participate in a televised City Council meeting, a recording will be made. You may exercise your right not to consent by not allowing your child to attend/participate in the meeting.



CITY COUNCIL AGENDA BILL

AB 3377
August 26, 2026
Special Business

Agenda Item: 3a

Proposed Action & Subject: Discussion/possible direction regarding the 50% status update on the decarbonization planning and design project.

Department	Sustainability/ Bryce Beck
Time to Present	20 min
Total Time for Item	45 min
Other Council Meetings	September 11, 2024, November 14, 2023, December 9 th , 2025
Exhibits	A. Decarbonization Roadmap 50% Deliverables B. Decarbonization Design Drawings Packet

Finance Approval	Reviewed 8/19/2026 BGW	
City Attorney Approval	Reviewed 8/17/2026 MKC	Expenditure Required
		\$ 0
City Manager's Recommendation	Review and provide feedback. ABS 8/17/26	Amount Budgeted
		\$ \$150,000
		Account No. 22-5350-89-68J3 (Description)

SUMMARY STATEMENT

Background

In November 2023, the City initiated work on the Municipal Decarbonization Roadmap to advance emissions reduction goals outlined in the Climate Action Plan and Municipal Sustainability Plan. Results presented on September 11, 2024 identified approximately \$13 million in potential carbon reduction capital projects. Funding for planning and design was secured through an EECBG grant, and Council approved a professional services agreement with AESC on December 9, 2025.

AESC has now submitted the 50% design deliverables, which include engineering work across eight scopes: solar PV, EV charging infrastructure, battery energy storage, HVAC and water heating electrification, electrical capacity upgrades, microgrid considerations, energy efficiency controls, and heat mitigation/adaptation strategies. These deliverables reflect mid-project technical progress and serve as the foundation for final design development.

Scope of Work

The 50% deliverables include engineering progress across all decarbonization roadmap scopes and municipal facilities.

1. Solar PV, EV Charging, and Energy Storage Systems

AESC produced detailed mechanical and electrical drawings covering proposed solar photovoltaic arrays, EV charging infrastructure, and battery energy storage systems. Helioscope modeling was completed for all solar PV systems, including generation profiles, optimization layouts, and shading analyses. Preliminary Energy Toolbase financial modeling was completed for the City Hall solar plus EV charging system. Design documents include conduit routing, trenching details, and charger placements across multiple facilities.

2. HVAC Electrification – Heat Pumps and Heat Pump Water Heaters

The design identifies the retrofit of natural gas HVAC units with electric heat pumps and the replacement of both gas and electric resistance water heaters with hybrid heat pump water heaters (HPWHs). Locations include City Hall, Police Department, OPS Building, Wastewater Administration, Wastewater Operations, Contractors Road, and Posse Grounds. AESC prepared equipment specifications, capacity selections, and integration requirements for these systems.

3. Energy Efficiency Controls & Operational Improvements

3.1 Thermostat Conflict Assessment (City Hall Buildings 104 & 106)

AESC documented thermal comfort conflicts caused by single zone/multiroom imbalances and interzone thermostat interactions. Recommended controls strategies include:

- Remote sensor averaging
- Deadband widening and setpoint synchronization
- Mode-lockout scheduling
- PRO rule interlocking for real-time alignment

3.2 Wastewater Administration Chiller Assessment

AESC conducted a deep analysis of chiller short-cycling and laboratory undercooling. Root causes include low system water volume, oversized minimum chiller staging (10-ton step), and close-coupled piping. Recommended corrective actions include:

- Installation of a 120-gallon chilled-water buffer tank (Lochinvar CVL120)
- Review/adjustment of chiller onboard controls (anti-recycle timers, staging deadbands)
- BAS logic review for Call for Plant sequencing
- Sensor calibration and pump operation verification

These measures are intended to address short-cycling and stabilize lab temperatures.

4. Heat Mitigation & Adaptation Strategies (All Sites)

AESC evaluated the feasibility of cool roof coatings, green roof retrofits, cool pavement applications, and strategic tree preservation strategies across all City facilities. Each site

includes conceptual renderings, cost ranges, and considerations for structural capacity, water demand, shading effectiveness, and maintenance requirements. Key findings include:

4.1 Wastewater Administration & Operations Buildings

Evaluations include tree preservation, cool roof coatings for metal/membrane roofs, potential green roof application for low slope areas, and reflective cool pavement capable of lowering surface temperatures by up to ~32°F.

4.2 Parks & Recreation (Posse Grounds)

Existing reflective roofs provide meaningful cooling; however, options for recoating, installing green roofs, or applying cool pavement were analyzed with cost estimates and site-specific limitations.

4.3 221 Brewer Road

Tree preservation, cool roofs, a green roof retrofit, and reflective pavement concepts were evaluated, with considerations for rooftop PV coverage reducing cool roof impact.

4.4 2070 Contractor's Road

Roof was identified as already reflective; analyses included opportunities for green roof retrofit, tree plantings, and cool pavement treatments.

4.5 102 Roadrunner Drive (City Hall Campus)

Extensive evaluation of cool roofs, green roofs, tree preservation in courtyards, and cool pavement applications for large parking areas, including solar carport integration.

5. Microgrid Feasibility

AESC assessed how combined electrification, PV, EV charging, and potential battery storage could support future microgrid functionality. The analysis considers load profiles, resiliency objectives, and infrastructure needs.

6. Community Outreach Integration

AESC and City staff have incorporated significant community and employee engagement into the 50% design phase. The City of Sedona hosted a public open house on April 30th, providing residents an opportunity to review early solar, EV charging, heat-mitigation, and electrification concepts and give direct feedback. In addition, the City held informal drop-in conversations on March 25th and April 2nd, which offered smaller-group opportunities for open conversation about proposed municipal decarbonization projects. To supplement in-person engagement, the City also conducted two surveys for city staff (22 responses received) and community members (79 responses received).

Survey feedback is being integrated directly into design refinements for rooftop and carport solar layouts, heat-mitigation strategies (tree preservation, cool roofs, cool pavement), EV charger siting preferences, and priorities for building electrification. Insights gathered from the open house, coffee chats, and surveys are informing the 50% design updates and will continue to shape and guide project development.

Procurement Process

RFQ 26-03RFQ was issued in August 2025; AESC was selected based on qualifications and contract execution occurred in December 2025. The project is funded by an Energy Efficiency Conservation Block Grant through the Governor's Office of Resiliency.

Summary

The project with AESC has reached 50% design progress for municipal decarbonization projects. The deliverables include detailed engineering drawings, modeling, preliminary specifications, site analyses, and conceptual designs for electrification, renewable energy, energy efficiency, and heat mitigation strategies across all major City facilities. Staff seeks Council direction and feedback for refinements needed before proceeding to final deliverables.

Climate Action Plan/Sustainability Consistent: ☒Yes - ☐No - ☐Not Applicable

The project is consistent with the Climate Action Plan. Planning and design services would go towards decarbonization projects that target emissions reductions and resiliency improvements in municipal operations.

Board/Commission Recommendation: ☐Applicable - ☒Not Applicable

Alternative(s): N/A

MOTION

I move to: For information, discussion, and possible direction only.

June 26, 2026



City of Sedona Decarbonization Planning and Design (50% Deliverable)

PREPARED FOR
City of Sedona

SUBMITTED BY
AESC, a Franklin Energy Company

Disclaimer

The analyses, designs, and economic projections contained in this report have been prepared using accepted engineering practices and represent AESC's professional judgment based on information available at the time of preparation. Projected costs, savings, energy production, storage capacity, and financial performance are estimates and actual results may vary due to factors beyond AESC's control. While this report is intended to support project planning and implementation decisions, AESC does not guarantee the achievement of specific economic, operational, or performance outcomes. Professional services are provided in accordance with the applicable standard of care for engineering consulting services.

Table of Contents

1. Executive Summary	5
2. Solar PV, EV charger, and Energy Storage System	5
3. HVAC Equipment Electrification	5
3.1 Heat Pump Heating, Ventilation, and Air Conditioning (HVAC)	5
3.2 Heat Pump Water Heater (HPWH)	5
4. Energy Efficiency	6
4.1 City Hall Buildings 104 & 106 Thermostat Conflict Assessment	6
4.1.1 Issue	6
4.1.2 Remediation	6
4.1.3 Scope of Work	7
4.1.4 Limitations	8
4.2 Wastewater Treatment Plant, Administration Building Chiller Assessment	8
4.2.1 Background	8
4.2.2 Diagnosis	9
4.2.3 Remediation	10
4.2.4 Buffer Tank Sizing Basis	11
4.2.5 Installation Considerations	12
4.2.6 Alternatives Considered	12
4.2.7 Limitations	13
5. Heat Mitigation and Adaptation Strategies	13
5.1 Wastewater Administration and Operations Building	13
5.1.1 Tree Preservation	13
5.1.2 Cool Roof	14
5.1.3 Green Roof	16
5.1.4 Cool Pavement	17
5.2 Parks and Recreation (Posse Ground)	18
5.2.1 Tree Preservation	18
5.2.2 Cool Roof	19
5.2.3 Green Roof	20

5.2.4	Cool Pavement.....	22
5.3	221 Brewer Road.....	23
5.3.1	Tree Preservation.....	23
5.3.2	Cool Roof.....	24
5.3.3	Green Roof.....	26
5.3.4	Cool Pavement.....	27
5.4	2070 Contractor's Road (Public Works Maintenance).....	28
5.4.1	Tree Preservation.....	28
5.4.2	Cool Roof.....	29
5.4.3	Green Roof.....	30
5.4.4	Cool Pavement.....	31
5.5	102 Roadrunner Drive (City Hall Campus).....	32
5.5.1	Tree Preservation.....	32
5.5.2	Cool Roof.....	33
5.5.3	Green Roof.....	35
5.5.4	Cool Pavement.....	37

1. Executive Summary

This report supports the City of Sedona's Decarbonization Roadmap and presents progress on design drawings and specifications for solar PV, EV charging, HVAC and HPWH electrification, electrical capacity upgrades, and energy efficiency improvements across the buildings listed below. It also includes conceptual designs and considerations for heat mitigation and adaptation strategies.

Table 1 List of Buildings in the Decarbonization Plan

Property Name	Address	Space Type
Wastewater Administration	7500 W. State Rte. 89A	Admin Offices
Wastewater Operations	7500 W. State Rte. 89A	Office + garage
Parks & Recreation	525 Posse Ground Road	Recreation Rooms
221 Brewer Road	221 Brewer Road	Offices/Courts
2070 Contractor's Road	2070 Contractor's Road	Maintenance
Police Department (Boynton)	102 Roadrunner Drive	Office
City Administration (Mogollon)	102 Roadrunner Drive	Admin Offices
Community Development	102 Roadrunner Drive	Multi- purpose
City Hall	102 Roadrunner Drive	office, admin etc.
IT/City Attorney/Public Works	102 Roadrunner Drive	Offices
Public Works (Chevron Building)	125 W. State Route 89A	Offices

2. Solar PV, EV charger, and Energy Storage System

Mechanical and electrical design drawings, including solar PV, EV charging, energy storage, and electrification upgrades, are provided in the Design Plans folder. Equipment specifications are included in the cut sheets folder. Helioscope reports for the solar PV system are available in the Helioscope folder. A detailed Energy Toolbase financial analysis for the City Hall solar PV and EV charger is included in the submittals folder.

3. HVAC Equipment Electrification

3.1 Heat Pump Heating, Ventilation, and Air Conditioning (HVAC)

Details about the specification of the proposed HP HVAC units can be found in the mechanical cut sheet folder.

3.2 Heat Pump Water Heater (HPWH)

The existing natural gas water heaters at the CityHall, Police Station, and OPS Building are proposed to be replaced by a Hybrid HPWH. The existing electric resistance water heaters at the WWTP, contractor's

road, and Posse Grounds are also proposed to be replaced by a HPWH which will increase the efficiency of the water heaters. Details about the specification of the proposed HPWH units a can be found in the mechanical cut sheet folder.

4. Energy Efficiency

4.1 City Hall Buildings 104 & 106 Thermostat Conflict Assessment

4.1.1 Issue

Facilities staff have reported recurring occupant comfort complaints where rooms within the same HVAC zone, or in adjacent zones, experience simultaneously conflicting thermal conditions. Two distinct conflict types have been identified:

Single-zone, multi-room conflict. A single thermostat located in one room (e.g., Kitchen 659) controls a constant-volume RTU serving multiple downstream spaces without zone-level airflow modulation rooms with different load profiles (conference room, private office). The thermostat reading in the kitchen does not represent actual conditions in the other spaces. This results in one room overcooling while another remains too warm, or vice versa. Confirmed in Building 106 (Rooms 651/653/659) and suspected in Building 104 (south-side meeting room area).

Inter-zone thermostat conflict. Adjacent thermostats in separate zones independently call for opposing modes; one heating while the other cools, causing their respective RTUs to work against each other through shared walls. Confirmed between Rooms 417/421 in Community Development (Building 104) and Rooms 653/603 in Building 106.

4.1.2 Remediation

The Autani EnergyCenter platform provides three categories of tools to address these conflicts. The table below summarizes each remedy, what it requires, and the manual reference confirming system capability.

Table 2 List of Recommended Remediation Strategies

Remedy	Type	Description	EnergyCenter Reference
Remote Sensor Averaging	Hardware + Software	Install additional wireless thermostats or temperature sensors in rooms that lack sensing points. Configure the controlling thermostat to average its onboard reading with the remote sensors, producing a blended temperature signal that better represents the zone as a whole. Sensor averaging improves temperature sensing but does not correct underlying	<i>HVAC Management User Guide</i> • Section 2.1.2, Table 5: Remote Sensor → “Onboard Sensor and Remote Sensor Averaging” (T-32-P) • Section 2.2.2, Table 9: Remote Sensor → “Average” (SMT-131) • Section 3.4: Mapping sensors from other devices to a thermostat

		load imbalance or distribution constraints.	
Deadband Widening + Setpoint Sync	Software	Widen the gap between heating and cooling setpoints from the default 2°F to a minimum 4°F to create a thermal buffer that reduces mode cycling. Push uniform settings across all thermostats in affected zone groups using the batch-apply function.	<i>HVAC Management User Guide</i> • Section 2.6, Table 17: Deadband and setpoint configuration • Section 2.6: “Apply to...” button for batch configuration
Scheduled Mode Lockout	Software	Create schedule templates that lock adjacent conflicting thermostats into the same operating mode during predictable periods (e.g., Heat mode during morning warm-up, Cool mode during afternoon peak). This prevents opposing simultaneous calls. Mode lockout applies to the zone group level, not globally across the facility.	<i>HVAC Management User Guide</i> • Section 6.1: Creating and assigning a schedule • Table 22: Event configuration settings (Mode parameter)
PRO Rule Interlocking	Programming	For dynamic conditions that do not align with fixed schedules, create a custom PRO script that monitors the HVAC state of one thermostat and forces the adjacent thermostat into the same mode in real time (e.g., “While Thermostat A is Heating, set Thermostat B to Heat”).	<i>EnergyCenter PRO Custom Scripting User Guide</i> • Section 2.1: Working with Event Rules • Section 3.8.7, Table 2: “HVAC is Heating/Cooling” monitoring block • Section 3.8.13, Table 8: “Set Thermostat” / “Mode” control block

4.1.3 Scope of Work

Hardware. Install 2–3 additional Autani wireless thermostats or temperature sensors in rooms that currently lack dedicated sensing points (Building 106 Rooms 651 and 653; Building 104 south-side meeting room, room ID to be confirmed). All devices shall be commissioned on the existing EnergyCenter network.

Software Configuration. Configure remote sensor averaging on each controlling thermostat in the affected single-zone areas. Widen the heating-to-cooling deadband to a minimum of 4°F. Push uniform setpoint and mode settings to all thermostats within each zone group using the Apply to... batch function.

Create and assign schedule templates that lock adjacent conflicting thermostats into the same operating mode during high-conflict periods.

Programming (if needed). If scheduled mode lockout does not resolve the inter-zone conflicts, create PRO custom event rules that dynamically interlock adjacent thermostats in real time. Associate each rule with a standing override and include alert notifications limited to once per hour.

Verification. Confirm all new devices are reporting Active. Verify sensor averaging, schedule events, and interlock rules are functioning as intended via the thermostat dashboard, event logs, and alert history. Monitor for a minimum of 5 business days post-commissioning.

4.1.4 Limitations

The Autani system controls when the RTU operates and in what mode. It cannot modify the temperature or volume of supply air delivered to individual rooms within a constant-volume zone. Sensor averaging will improve the control signal but may not fully eliminate comfort discrepancies in zones with significant load diversity. If residual complaints persist after implementation, mechanical remediation such as zone damper installation or ductwork rebalancing should be evaluated as a subsequent phase. These control measures are intended as operational mitigation measures and do not replace proper zoning design

4.2 Wastewater Treatment Plant, Administration Building Chiller Assessment

4.2.1 Background

The Administration building is served by a single Carrier 30RAP020 AquaSnap air cooled scroll chiller with two compressors on R-410A, providing capacity staging at approximately 0%, 50%, and 100% of nominal load. Chilled water is delivered by pump through a short, close-coupled piping run that leaves the chiller, turns through an exterior wall, and enters the adjacent air handler room. The run holds very little water. Two air handlers are served from this loop. The office spaces are served by a variable air volume unit (VAV AHU 1310) with five terminal zones. The laboratory is served by a constant volume 100% outside air unit (OSA AHU 1320) with a dedicated exhaust fan.

The two air handlers are managed by a Delta Controls enteliWEB building automation system (BAS), which controls the supply fans, outside air dampers, supply air temperature and flow setpoints, and reads the zone sensors. The office unit has supply air temperature reset and duct static reset enabled. The chiller and chilled water pump are not on the BAS. They run from a standalone hardware control panel with hand-off-auto switches and alarm indication, and the chiller operates on its own onboard Carrier controls. The BAS issues a Call for Plant signal that enables the chiller and pump when the air handler cooling coils require chilled water.

Two complaints have been reported:

- **Laboratory comfort.** Occupants in the 100% outside air lab report periods of being too warm, described as undercooling during portions of the day.
- **Chiller short cycling.** Maintenance staff report that the chiller starts and stops frequently, consistent with short cycling behavior.

On the surface these appear to be opposite problems. Too warm suggests insufficient cooling, while short cycling suggests insufficient load. A cooling load analysis was performed and confirms that the installed chiller capacity is sufficient for the building. This indicates that the issue is not a capacity shortfall but a low load stability problem, and that the two complaints are linked rather than independent.

Table 3 Detailed Notes by Chiller Equipment

Item	Identification	Notes
Chiller	Carrier 30RAP020 AquaSnap, air cooled scroll	Two compressors, R-410A, 460V 3ph. Staging 0 / 50 / 100%.
Chilled water pump	CWP-1310, Paco end suction, 1 HP Baldor motor	Motor is inverter ready, but no VFD was observed. Appears constant speed.
Chilled water loop	Close-coupled run through exterior wall	Very low system water volume. Confirmed by site photos.
Office air handler	VAV AHU 1310, five terminal zones	Supply air temperature reset and duct static reset enabled.
Lab air handler	OSA AHU 1320, constant volume 100% OSA	Dedicated exhaust fan EF-1320.
Building automation	Delta Controls enteliWEB	Manages the air handlers. Issues Call for Plant.
Chiller and pump control	Standalone panel	Hand-off-auto and alarm. Not on the BAS.

4.2.2 Diagnosis

The building load is low relative to the chiller. Because the smallest capacity step is one compressor (approximately 10 tons, or 50% of nominal), the chiller cannot modulate below that step. When the actual building load falls well under 10 tons, the chiller overcools the loop almost immediately, then trips off on low load or low leaving water temperature.

The piping run is close-coupled and short, so the system holds very little water. With minimal loop volume there is almost no thermal mass to act as a flywheel. The sequence that results is as follows:

- **Rapid satisfaction.** The chiller starts, drives the loop temperature down quickly against a load smaller than its minimum step, and reaches setpoint in a short run time.
- **Anti-recycle lockout.** On shutdown the compressor enters its anti-recycle safety delay, during which it cannot restart regardless of demand.
- **Fast loop warm up.** With little water in the loop, the chilled water temperature rises quickly during the lockout window.
- **Comfort loss at the lab.** The 100% outside air lab coil has no recirculated air to buffer it. As loop temperature rises during the lockout, the supply air temperature climbs immediately and the lab feels a slug of warm air. In Sedona summer conditions the outside air entering this coil can be hot and humid, which makes the effect more pronounced and can also limit dehumidification.

The undercooling reported in the lab is therefore occurring inside the short cycle off periods. Short cycling and the warm periods are the same event observed from two perspectives. The 100% outside air requirement of the lab is the primary aggravating factor, because it removes the air-side buffering that a recirculating system would otherwise provide.

Two site-specific factors make this worse. First, the office unit resets its supply air temperature upward in mild weather, so in many hours the laboratory is the only space calling for cooling. The chiller then sees only the lab load, which is well under its 10 ton minimum step. Second, the chiller and pump run on their own controls rather than the BAS, so the building automation system cannot directly lengthen the chiller cycle. The levers that govern cycling are the loop volume and the chiller's own onboard settings.

4.2.3 Remediation

The measures below are general recommendations based on the reported complaints, the cooling load analysis, and observed site conditions. They are not a construction specification. A licensed mechanical contractor should perform on-site diagnosis to confirm the root cause, finalize the tank selection and piping configuration, and define the actual scope, sequencing, and cost of the work.

The primary corrective action is to add loop volume with a chilled water buffer tank, which directly addresses the thermal mass deficiency and lengthens each cooling cycle. A buffer tank is most effective when paired with verification of the chiller control settings, because short cycle performance depends on both loop volume and the control deadband. The table below summarizes the recommended measures by type.

Table 4 List of Recommended Remediation Strategies

Measure	Type	Description
Chilled Water Buffer Tank	Hardware	Install a buffer tank in the chilled water loop to add thermal mass. Recommended unit is a Lochinvar CVL120, 120 gallon, which provides loop volume in the upper end of the industry range for low volume, close-coupled systems. Sizing basis is detailed in Section 4.
Tank Piping Configuration	Hardware	Two options. Series (2-port) places the tank inline, typically on the return, so all loop water passes through the thermal mass. It is simpler to pipe and adds little head. Decoupled (4-port) lets the tank act as a low loss header where chiller flow and AHU flow can differ. Series is preferred for this footprint unless the chiller pump and AHU flow requirements diverge.
Chiller Onboard Controls	Controls	Review the chiller's onboard Carrier controls, which govern short cycle behavior once the plant is called. Verify the anti-recycle (minimum off) timer, minimum on-time, staging deadband, and leaving water temperature setpoint. With added loop volume these can be set to extend run time and reduce starts per hour. This requires access to the chiller controller and Carrier service parameters.
Call for Plant Logic	Controls (BAS)	The BAS issues Call for Plant to enable the chiller and pump. Review this logic so the plant is not enabled for trivial cooling requests, and consider a minimum plant runtime at the BAS to complement the buffer tank and the chiller anti-recycle timer. Review the summer supply air setpoints set at HCP-1310, since a low lab supply air setpoint increases chiller demand and cycling.

Measure	Type	Description
Sensor Calibration	Controls	Confirm calibration of the chiller's chilled water supply and return sensors, which are on the standalone chiller controls. A supply sensor reading colder than actual will trip the chiller off prematurely and present as short cycling that no amount of loop volume will fix.
Pump Operation	Controls	No variable frequency drive was observed on pump CWP-1310. It appears to run at constant speed from the hand-off-auto starter at HCP-1310, so a VFD low flow trip is not a likely contributor. A contractor should still confirm the pump runs whenever the plant is called and that loop flow meets the chiller minimum.
Minimum Load Control (evaluate)	Mechanical	If building load is frequently far below the 10 ton minimum step even after the tank is added, evaluate a minimum load control (hot gas bypass) option for the chiller. Carrier offers minimum load control on the 30RAP family, which lets the lead compressor hold a continuous low load rather than cycle, at an energy penalty. Treat as a secondary measure if the tank and chiller controls do not fully resolve cycling.

4.2.4 Buffer Tank Sizing Basis

The industry rule of thumb for minimum loop volume is approximately 3 to 6 gallons per ton for normal comfort cooling, and 6 to 10 gallons per ton for process or tight tolerance loads with short piping and low system volume. The 100% outside air lab places this application in the tight tolerance category, so the upper end of the range is appropriate.

Table 5 List of Sizing Basis per Parameter

Parameter	Value	Basis
Chiller nominal capacity	20 tons	Carrier 30RAP020
Smallest capacity step	10 tons (50%)	Two compressors
Design delta-T	10 F	Design
Design flow at full load	48 gpm	2.4 gpm/ton at 10 F
Selected tank volume	120 gallons	Lochinvar CVL120
Volume per ton (full tonnage)	6 gal/ton	120 / 20
Volume per ton (smallest step)	12 gal/ton	120 / 10

Against full tonnage the selection provides 6 gallons per ton, the upper end of the comfort range. Against the 10 ton smallest step, which governs cycling, it provides 12 gallons per ton, which is within the process range. Combined with the small existing pipe volume, total system volume after installation is

approximately 130 to 140 gallons. The selection is appropriately conservative for a tight tolerance lab application.

Note on cycle performance. Short cycle protection is the product of loop volume and the control deadband. The tank raises loop volume from near zero into the recommended range, which is the necessary first step. Final starts per hour should be confirmed after installation by setting the staging deadband and anti-recycle timer in the BAS and observing chiller behavior at low load.

4.2.5 Installation Considerations

Placement and Structural

- **Location.** Given the tight indoor footprint, mounting the tank outside near the chiller is generally easier. An outdoor tank must be UV rated and heavily insulated.
- **Weight.** A 120-gallon tank weighs on the order of 1,000 lbs when full. Confirm the outdoor concrete pad or indoor floor can carry the point load.
- **Pump suction.** The existing chilled water pump sits on the pad near the chiller. If the tank is added, confirm the pump draws from a stable, pressurized point. Locating the tank on the return side, with the pump pulling from the tank, keeps the pump inlet steady and avoids drawing entrained air.

Condensation and Insulation

- **Vapor barrier.** As a chilled water vessel the tank will sweat. Wrap it in closed-cell insulation with a continuous vapor barrier to prevent condensation and dripping.
- **Outdoor protection.** If placed outside, add a jacket to protect the insulation from sun and rain. Water under the foam leads to corrosion under insulation.

Air and Maintenance

- **Automatic air vent.** The tank creates a new high point where air can collect. Install an automatic air vent at the top.
- **Drain valve.** Provide a drain at the bottom. The tank becomes the settling point for any sediment in the loop and will need periodic flushing.

4.2.6 Alternatives Considered

A dedicated low-capacity lead chiller, sometimes called a pony chiller, was considered. The concept is to add a small chiller, on the order of 5 tons, and stage it as the lead unit so the existing 20 ton chiller runs only when load is high. Small air-cooled chillers in this range are in fact available, including packaged process units and variable speed models from specialty manufacturers, so availability is not the limiting factor.

This option is not recommended for this site, for three reasons. First, it carries significant additional installed cost relative to a buffer tank, including the chiller itself, a pad, electrical service, controls integration, piping tie-ins, and permitting. Second, the chilled water loop volume would still be very low, so a fixed speed small chiller could continue to short cycle at very low loads and may not fully resolve the issue on its own. A variable speed model would turn down better but adds cost. Third, it would improve staging from three steps (0, 50, 100%) to six steps (0, 25, 50, 75, 100, 125%) in 5 ton increments and would halve the minimum step from 10 tons to 5 tons, but the building's low load means the upper stages are unlikely to ever be needed, so much of the added capacity would provide little benefit.

The buffer tank remains the more cost effective primary fix. A contractor could revisit a small lead chiller, ideally a variable speed unit, if the tank and control measures do not resolve the cycling.

4.2.7 Limitations

The buffer tank addresses the thermal mass deficiency that drives the loop temperature swings and the short cycling. It does not change the fact that the smallest chiller step is 10 tons. If the building load sits far below that step for extended periods, the tank lengthens each cycle and reduces the severity of the temperature swings, but the chiller will still cycle. In that case the staging and control measures in Section 3, and potentially hot gas bypass, are required to fully stabilize operation.

Sensor calibration and pump minimum flow should be confirmed before and after installation. A drifted supply sensor or a low flow trip can produce behavior that looks like short cycling and that added loop volume will not correct. Final control settings should be verified against the chiller manufacturer limits and the BAS capabilities.

This assessment is based on the reported complaints, the cooling load analysis, site photographs, the chiller and pump nameplate data, the building automation system graphics, and the buffer tank sizing workbook. It is a general engineering recommendation, not a construction document. Chiller-side recommendations should be confirmed against the Carrier controls for this unit, and a qualified mechanical contractor should confirm the diagnosis and define the final scope on site.

5. Heat Mitigation and Adaptation Strategies

As part of the City of Sedona's Climate Action Plan, heat mitigation and adaptation strategies were evaluated, including cool roofs, green roofs, cool pavements, and tree preservation. AI-generated models were used to visualize these technologies on representative buildings. Cost estimates were developed using vendor quotes and available research data to support informed decision-making should any of these strategies be pursued.

5.1 Wastewater Administration and Operations Building

5.1.1 Tree Preservation

Summary: The wastewater administration and operations buildings include a small number of mature trees located adjacent to the buildings and parking lot. These trees provide meaningful localized cooling benefits by shading hard-scape surfaces, reducing surface temperatures, and improving outdoor thermal comfort for building occupants. Tree canopy also helps mitigate heat in the parking lot and near building entrances, where pedestrian activity is highest. Preserving existing trees on-site offers an effective, low-cost heat mitigation strategy compared to other interventions, while also supporting aesthetic quality and site usability.

Cost: Tree preservation primarily involves ongoing maintenance and irrigation costs rather than significant upfront capital investment. For an area of this size, annual costs are estimated to be approximately \$2,000, depending on tree count, irrigation requirements, and maintenance intensity.

Considerations: Tree preservation on this site should prioritize maintaining mature canopy in high-use areas such as walkways and parking lot edges, where shading provides the greatest benefit. In a hot, semi-arid climate, ongoing irrigation and maintenance are critical to sustaining tree performance. While trees provide significant cooling benefits, they require long-term care, including watering, pruning, and monitoring for health and safety. Water use should be managed through efficient irrigation systems and, where possible, drought-tolerant species should be prioritized to balance cooling benefits with water conservation goals. Additionally, tree placement should be evaluated to maximize shading effectiveness without interfering with building systems and solar installations.

5.1.2 Cool Roof

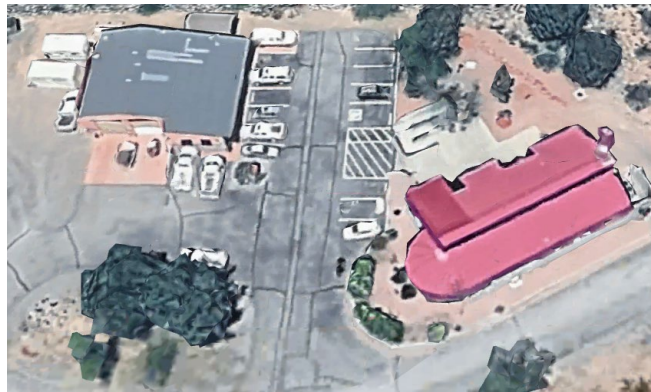


Figure 1 Existing WWTP admin (right) and operations (left) building- aerial view



Figure 2 Existing WWTP admin building with red roof

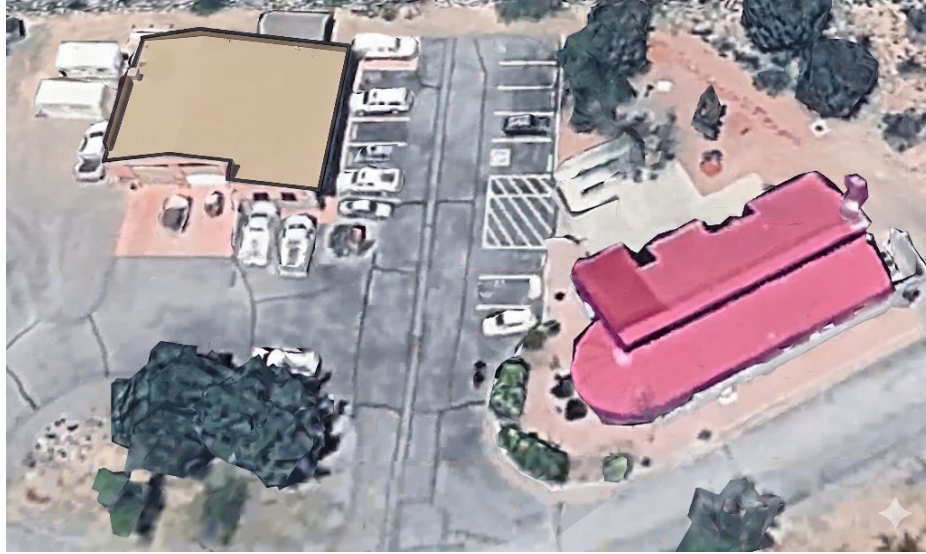


Figure 3 Cool Roof Model in the WWTP operations building

Summary: The area includes one building with a red metal roof and one building with a low-slope gray membrane roof. Cool roof systems are designed to reflect solar radiation and reduce heat absorption, thereby lowering roof surface temperatures and decreasing heat transfer into the building. Air temperature in the area and neighboring buildings is expected to reduce by 2-5°F and indoor building temperature can drop by up to 2-6°F.

Cost: Both roofs may be coated with a light-colored, high-reflectance finish to reduce heat transfer into the building and lower cooling energy demand.

The total cost to add a cool roof coating to the red-roofed admin building is approximately \$23,180. Based on measurements from Google Maps, the total roof area of this building is estimated to be approximately 3,800 sq.ft. The cost assumptions include a material cost of \$3.00 per sq.ft. for a silicone cool roof coating and a labor cost of approximately \$3.10 per sq.ft., based on contractor-provided data.

Depending on the age of the gray-roofed operations building, a roof replacement may be warranted. The roof is estimated to be either modified bitumen or a single-ply membrane, which have approximate lifespans of 15 to 30 years. If the roof is past its expected lifetime, it may be more cost-effective to apply a cool roof coating at the same time as a roof replacement. The cost to add a cool roof coating to this building is approximately \$19,520, and the cost to replace the roof and add a cool roof coating is approximately \$28,000. Based on measurements from Google Maps, the total roof area of this building is estimated to be approximately 4,200 sq.ft. For adding a cool roof coating only, the cost assumptions are the same as above. For both a roof replacement and a cool roof coating, the cost assumptions include a combined material and labor cost of \$.75 per sq.ft.

Considerations: Regular maintenance or recoat may be sufficient to restore performance and achieve most of the available energy savings at a lower cost than full replacement.

5.1.3 Green Roof

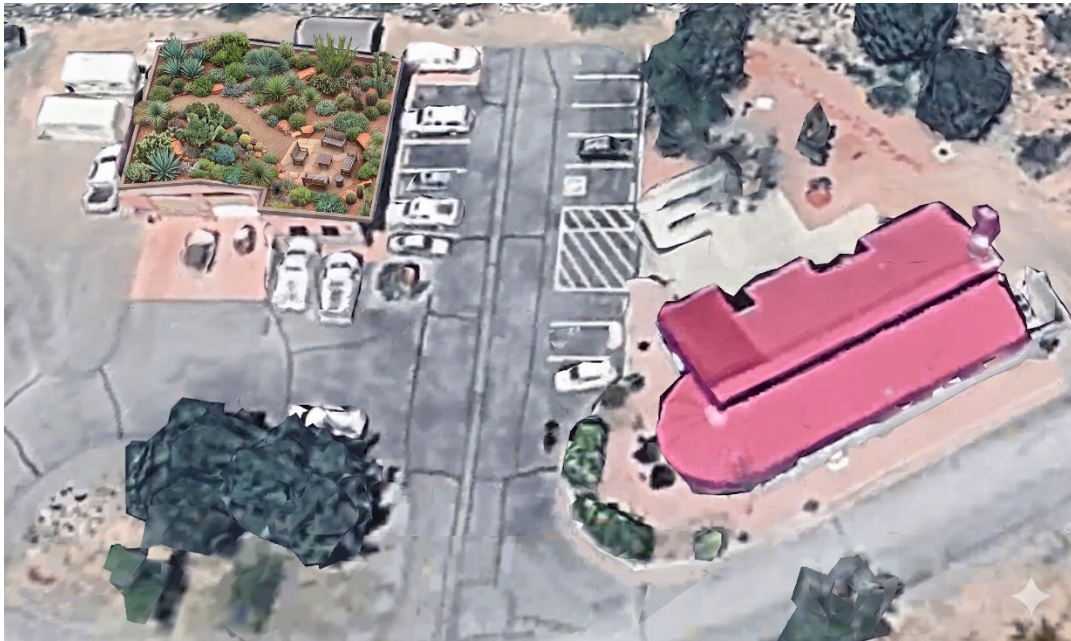


Figure 4 Proposed Green Roof in the WWTP operations building

Summary: The admin building features a high-slope roof which is unlikely to be suitable for a green roof retrofit. However, the operations building features a low-slope roof for which a green roof retrofit could provide localized benefits by reducing roof surface temperatures, improving insulation, and lowering heat transfer into the building. Air temperature in the area and neighboring buildings is expected to reduce by 3-5°F and indoor building temperature can drop by up to 27°F. Additional co-benefits include stormwater retention, increased roof membrane protection, and improved site aesthetics.

Cost: Green roof installation costs typically range from approximately \$10 to \$35 per sq.ft., depending on the system type, with lightweight extensive systems on the lower end and more intensive vegetated systems on the higher end. For this analysis, an average cost of \$17.30 per sq.ft has been assumed for an extensive green roof system.

Based on measurements from Google Maps, the available roof area is estimated to be approximately 2,900 sq.ft., resulting in a total projected cost of \$50,750. It should be noted that this estimate does not include potential additional costs associated with structural analysis, roof repairs or replacement, or ongoing maintenance requirements.

Considerations: Implementation of a green roof on this site would require careful evaluation of structural capacity, as vegetated systems introduce additional dead load that may exceed the design limits of existing roof structures. Retrofitting may be necessary, particularly for older roofs not originally designed to support added weight. The other key factor to consider is water demand. Green roof systems typically require irrigation to sustain plant health, which can increase ongoing operational costs and may conflict with water conservation goals, particularly in arid climates, unless drought-tolerant or low-water plant species are incorporated. Maintenance requirements, including irrigation system upkeep, plant replacement, and drainage management, should also be factored into lifecycle costs.

5.1.4 Cool Pavement



Figure 5 Proposed Gray Cool Pavement Model in the WWTP pavement

Summary: The site is dominated by a large expanse of exposed asphalt pavement associated with parking and circulation areas, with minimal shading and limited vegetation.

The City conducted a series of demonstration tests to assess the effectiveness of various pavement coatings in reducing surface temperatures under typical environmental conditions. The results showed that coated surfaces significantly lowered peak temperatures, helping to reduce heat buildup at the pavement level. For example, baseline asphalt temperatures were measured at approximately 164°F, while a gray reflective coating reduced surface temperatures to around 132°F, representing a reduction of about 32°F.

Cost: The cost of reflective or “cool pavement” coatings is primarily influenced by factors such as project size (square footage), existing surface condition, and the type of coating selected. Key cost drivers include surface preparation requirements, material quality, and labor for installation.

For this analysis, a combined material and labor cost of \$0.61 per sq.ft has been assumed based on the contractor quote provided by the City. Using measurements obtained from Google Earth, the total parking lot area is estimated to be approximately 119,160 00 sq.ft. This results in an estimated total implementation cost of \$72,341.

Considerations: Although reflective pavement coatings can lower surface temperatures, their overall effectiveness as a heat mitigation strategy requires careful application. The effectiveness of cool pavement as a heat mitigation strategy is closely tied to a city’s level of urbanization, often characterized by its Impervious Surface Area (ISA)—the portion of land covered by heat-absorbing materials such as roads, parking lots, and rooftops. In dense urban environments with high ISA, these surfaces contribute significantly to elevated ambient temperatures, creating conditions where cool pavement strategies can deliver measurable cooling benefits and potential reductions in building energy use. Research suggests that ISA levels in the range of approximately 40–50% are typically associated with pronounced urban heat island effects, and cities such as Los Angeles have demonstrated meaningful improvements at this scale.

In contrast, lower-density communities like Sedona—where impervious surface coverage is relatively limited and natural terrain and vegetation remain prevalent—experience a diminished citywide impact from cool pavement interventions. In these settings, cool pavement can still provide localized reductions in surface temperatures in targeted areas such as parking lots, plazas, or walkways. However, it is more appropriately positioned as a site-specific comfort improvement measure rather than a broad strategy for citywide heat mitigation or energy reduction.

5.2 Parks and Recreation (Posse Ground)

5.2.1 Tree Preservation

Summary: The park includes a distributed network of mature trees located primarily along pedestrian pathways and perimeter areas adjacent to parking lots. These trees provide meaningful localized cooling benefits by shading hard-scape surfaces, reducing surface temperatures, and improving outdoor thermal comfort for building occupants. Tree canopy also helps mitigate heat buildup in paved areas, particularly along walkways and near building entrances, where pedestrian activity is highest. Preserving existing trees on-site offers an effective, low-cost heat mitigation strategy compared to other interventions, while also supporting aesthetic quality and site usability.

Cost: Tree preservation primarily involves ongoing maintenance and irrigation costs rather than significant upfront capital investment. For a campus of this size, annual costs are estimated to be approximately \$20,000, depending on tree count, irrigation requirements, and maintenance intensity.

Considerations: Tree preservation on this site should prioritize maintaining mature canopy in high-use areas such as walkways, courtyards, and parking lot edges, where shading provides the greatest benefit. In a hot, semi-arid climate, ongoing irrigation and maintenance are critical to sustaining tree performance. While trees provide significant cooling benefits, they require long-term care, including watering, pruning, and monitoring for health and safety. Water use should be managed through efficient irrigation systems and, where possible, drought-tolerant species should be prioritized to balance cooling benefits with water conservation goals. Additionally, tree placement should be evaluated to maximize shading effectiveness without interfering with building systems and solar installations.

5.2.2 Cool Roof



Figure 6 Existing Posse Grounds Building Roof- Aerial view



Figure 7 Proposed Cool Roof Model in the Posse Grounds Building

Summary: The park consists of several low-rise buildings with flat or low-slope roofs, many of which already appear to have light-colored, reflective cool roof finish. Cool roof systems are designed to reflect solar radiation and reduce heat absorption, thereby lowering roof surface temperatures and decreasing heat transfer into the building. Air temperature in the area and neighboring buildings is expected to reduce by 3-5°F and indoor building temperature can drop by up to 27°F.

Cost: Assuming the existing roofs are already equipped with reflective cool roof coatings, no additional capital cost is required. However, if the City elects to recoat the roofs to restore optimal performance, the total estimated cost for all buildings is approximately \$67,558.

Based on measurements from Google Maps, the total roof area is estimated to be approximately 11,075 Sq.ft.. The cost assumptions include a material cost of \$1.00 per sq.ft. for a silicone cool roof coating and a labor cost of approximately \$3.10 per sq.ft., based on contractor-provided data.

Considerations: Given that portions of the existing roofs already appear to be light-colored, the incremental benefit of installing new cool roof materials may be limited unless the current surfaces are aged or have reduced reflectivity. Regular maintenance or recoat may be sufficient to restore performance and achieve most of the available energy savings at a lower cost than full replacement.

One of the buildings at this site is a restroom, and cool roof coating at this building will not provide the benefits of a reduced cooling load because the building is not conditioned.

5.2.3 Green Roof



Figure 8 Proposed Green Roof model in the parks building at Posse Ground

Summary: The park buildings feature several flat/ low-slope roofs with light-colored reflective membrane surfaces. Based on this configuration, the installation of a green roof could provide localized cooling benefits by reducing roof surface temperatures, improving insulation, and lowering heat transfer into the building. Air temperature in the area and neighboring buildings is expected to reduce by 2-5°F and indoor building

temperature can drop by up to °F. Green roof systems can also contribute to stormwater retention, improved roof durability, and enhanced site aesthetics, particularly given the centralized courtyard layout and visibility of the roof areas from adjacent spaces.

However, in a hot, semi-arid climate, the overall energy savings from green roofs are generally moderate compared to other strategies, with benefits primarily concentrated at the building level rather than contributing significantly to broader ambient temperature reduction.

Cost: Green roof installation costs typically range from approximately \$10 to \$35 per sq.ft, depending on the system type, with lightweight extensive systems on the lower end and more intensive vegetated systems on the higher end. For this analysis, an average cost of \$17.30 per sq.ft. has been assumed for an extensive green roof system.

Based on measurements from Google Maps, the available roof area is estimated to be approximately 8,139 sq.ft. resulting in a total projected cost of \$142,428. It should be noted that this estimate does not include potential additional costs associated with structural analysis, roof repairs or replacement, or ongoing maintenance requirements.

Considerations: Implementation of a green roof on this site would require careful evaluation of structural capacity, as vegetated systems introduce additional dead load that may exceed the design limits of existing roof structures. Retrofitting may be necessary, particularly for older roofs not originally designed to support added weight. The other key factor to consider is water demand. Green roof systems typically require irrigation to sustain plant health, which can increase ongoing operational costs and may conflict with water conservation goals, particularly in arid climates, unless drought-tolerant or low-water plant species are incorporated. Maintenance requirements including irrigation system upkeep, plant replacement, and drainage management should also be factored into lifecycle costs.

Given the presence of existing light-colored reflective roofing, which already provides significant cooling benefits with minimal maintenance, the incremental benefit of converting to a green roof may be limited from a cost-effectiveness standpoint.

5.2.4 Cool Pavement



Figure 9 Proposed cool pavement model in the West side of Posse Grounds Park



Figure 10 Proposed cool pavement model in the East side of Posse Grounds Park

Summary: The City conducted a series of demonstration tests to assess the effectiveness of various pavement coatings in reducing surface temperatures under typical environmental conditions. The results showed that coated surfaces significantly lowered peak temperatures, helping to reduce heat buildup at the pavement level. For example, baseline asphalt temperatures were measured at approximately 164°F, while a gray reflective coating reduced surface temperatures to around 132°F, representing a reduction of about 32°F.

While these findings confirm that reflective or “cool pavement” treatments can effectively reduce surface temperatures, their broader influence on ambient air temperature and overall human thermal comfort is more complex. Outcomes can vary depending on surrounding factors such as available shading, adjacent building conditions, and the level of pedestrian activity.

Cost: The cost of reflective or “cool pavement” coatings is primarily influenced by factors such as project size (square footage), existing surface condition, and the type of coating selected. Key cost drivers include surface preparation requirements, material quality, and labor for installation.

For this analysis, a combined material and labor cost of \$0.61 per sq.ft. has been assumed based on the contractor quote provided by the City. Using measurements obtained from Google Earth, the total parking lot area is estimated to be approximately 80,250 sq.ft. This results in an estimated total implementation cost of \$48,719.

Considerations: Although reflective pavement coatings can lower surface temperatures, their overall effectiveness as a heat mitigation strategy requires careful application. The effectiveness of cool pavement as a heat mitigation strategy is closely tied to a city’s level of urbanization, often characterized by its Impervious Surface Area (ISA)—the portion of land covered by heat-absorbing materials such as roads, parking lots, and rooftops. In dense urban environments with high ISA, these surfaces contribute significantly to elevated ambient temperatures, creating conditions where cool pavement strategies can deliver measurable cooling benefits and potential reductions in building energy use. Research suggests that ISA levels in the range of approximately 40–50% are typically associated with pronounced urban heat island effects, and cities such as Los Angeles have demonstrated meaningful improvements at this scale.

In contrast, lower-density communities like Sedona—where impervious surface coverage is relatively limited and natural terrain and vegetation remain prevalent—experience a diminished citywide impact from cool pavement interventions. In these settings, cool pavement can still provide localized reductions in surface temperatures in targeted areas such as parking lots, plazas, or walkways. However, it is more appropriately positioned as a site-specific comfort improvement measure rather than a broad strategy for citywide heat mitigation or energy reduction.

5.3 221 Brewer Road

5.3.1 Tree Preservation

Summary: The park buildings include a distributed network of mature trees located primarily along pedestrian pathways, and perimeter areas adjacent to parking lots. These trees provide meaningful localized cooling benefits by shading hard-scape surfaces, reducing surface temperatures, and improving

outdoor thermal comfort for building occupants. Tree canopy also helps mitigate heat buildup in paved areas, particularly near building entrances, where pedestrian activity is highest. Preserving existing trees on-site offers an effective, low-cost heat mitigation strategy compared to other interventions, while also supporting aesthetic quality and site usability.

Cost: Tree preservation primarily involves ongoing maintenance and irrigation costs rather than significant upfront capital investment. For a campus of this size, annual costs are estimated to be approximately \$5,000, depending on tree count, irrigation requirements, and maintenance intensity.

Considerations: Tree preservation on this site should prioritize maintaining mature canopy in high-use areas such as walkways and parking lot edges, where shading provides the greatest benefit. In a hot, semi-arid climate, ongoing irrigation and maintenance are critical to sustaining tree performance. While trees provide significant cooling benefits, they require long-term care, including watering, pruning, and monitoring for health and safety. Water use should be managed through efficient irrigation systems and, where possible, drought-tolerant species should be prioritized to balance cooling benefits with water conservation goals. Additionally, tree placement should be evaluated to maximize shading effectiveness without interfering with building systems and solar installations.

5.3.2 Cool Roof



Figure 11 Existing Building in Brewer Road - Aerial View



Figure 12 Proposed Cool Roof Model in the Brewer Road Buildings

Summary: The park buildings are low-rise buildings with flat or low-slope roofs, and appear to have a light-colored, reflective cool roof finish. Cool roof systems are designed to reflect solar radiation and reduce heat absorption, thereby lowering roof surface temperatures and decreasing heat transfer into the building. Air temperature in the area and neighboring buildings is expected to reduce by 2-5°F and indoor building temperature can drop by up to 2-6°F.

Cost: Assuming the existing roofs are already equipped with reflective cool roof coatings, no additional capital cost is required. However, if the City elects to recoat the roofs to restore optimal performance, the total estimated cost for both buildings is approximately \$84,790.

Based on measurements from Google Maps, the total roof area is estimated to be approximately 13,900 sq.ft.. The cost assumptions include a material cost of \$1.00 per sq.ft. for a silicone cool roof coating and a labor cost of approximately \$3.10 per sq.ft., based on contractor-provided data.

Considerations: Given that portions of the existing roofs already appear to be light-colored, the incremental benefit of installing new cool roof materials may be limited unless the current surfaces are aged or have reduced reflectivity. Regular maintenance or recoat may be sufficient to restore performance and achieve most of the available energy savings at a lower cost than full replacement.

Additionally, one of the building roofs is significantly covered by a rooftop PV system. The rooftop PV system significantly reduces the amount of roof space for which a cool roofing system is relevant, as the solar panels provide shading to the roof area below them.

5.3.3 Green Roof

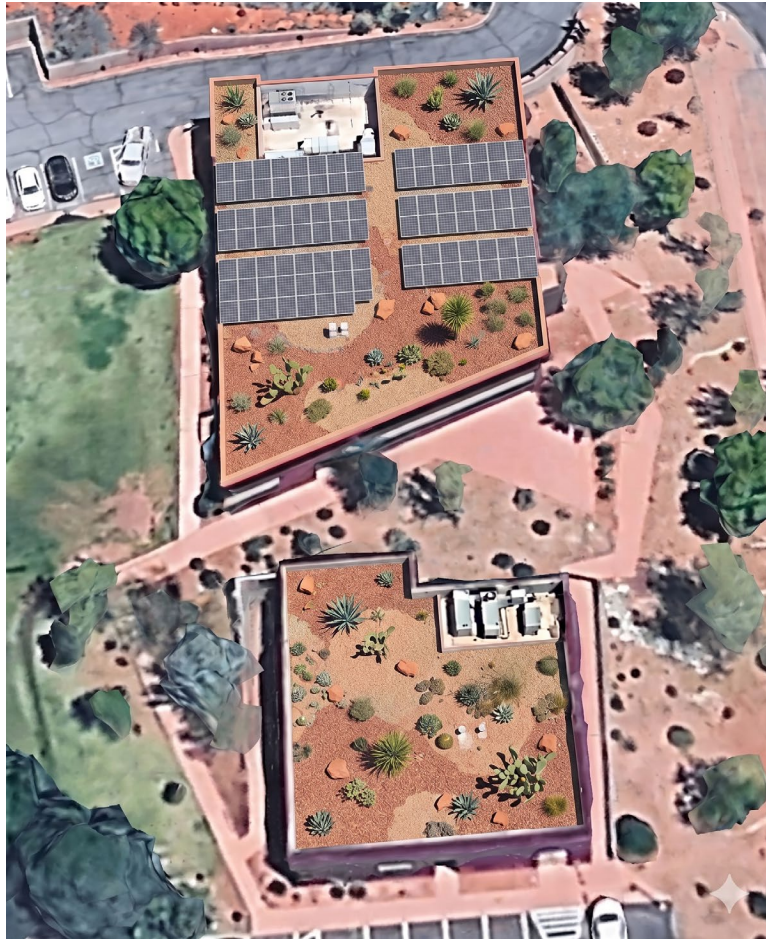


Figure 13 Proposed Green Roof Layout in Brewer Road Park

Summary: The 221 Brewer Rd park includes two flat/ low-slope roofs with light-colored reflective membrane surfaces. Based on this configuration, the installation of a green roof could provide localized cooling benefits by reducing roof surface temperatures, improving insulation, and lowering heat transfer into the building. Green roof systems can also contribute to stormwater retention, improved roof durability, and enhanced site aesthetics, particularly given the centralized courtyard layout and visibility of the roof areas from adjacent spaces.

However, in a hot, semi-arid climate, the overall energy savings from green roofs are generally moderate compared to other strategies, with benefits primarily concentrated at the building level rather than contributing significantly to broader ambient temperature reduction. Air temperature in the area and neighboring buildings is expected to reduce by 3-5°F and indoor building temperature can drop by up to 27°F.

Cost: Green roof installation costs typically range from approximately \$10 to \$35 per sq.ft, depending on the system type, with lightweight extensive systems on the lower end and more intensive vegetated systems on the higher end. For this analysis, an average cost of \$17.30 per sq.ft. has been assumed for an extensive green roof system.

Based on measurements from Google Maps, the available roof area is estimated to be approximately 8,200 sq.ft. resulting in a total projected cost of \$143,500. It should be noted that this estimate does not include potential additional costs associated with structural analysis, roof repairs or replacement, or ongoing maintenance requirements.

Considerations: Implementation of a green roof on this site would require careful evaluation of structural capacity, as vegetated systems introduce additional dead load that may exceed the design limits of existing roof structures. Retrofitting may be necessary, particularly for older roofs not originally designed to support added weight. The other key factor to consider is water demand. Green roof systems typically require irrigation to sustain plant health, which can increase ongoing operational costs and may conflict with water conservation goals, particularly in arid climates, unless drought-tolerant or low-water plant species are incorporated. Maintenance requirements including irrigation system upkeep, plant replacement, and drainage management should also be factored into lifecycle costs.

Given the presence of existing light-colored reflective roofing, which already provides significant cooling benefits with minimal maintenance, the incremental benefit of converting to a green roof may be limited from a cost-effectiveness standpoint.

5.3.4 Cool Pavement



Figure 14 Proposed Gray Cool Pavement Model in Brewer Road Park

Summary: The City conducted a series of demonstration tests to assess the effectiveness of various pavement coatings in reducing surface temperatures under typical environmental conditions. The results showed that coated surfaces significantly lowered peak temperatures, helping to reduce heat buildup at the pavement level. For example, baseline asphalt temperatures were measured at approximately 164°F, while a gray reflective coating reduced surface temperatures to around 132°F, representing a reduction of about 32°F.

While these findings confirm that reflective or “cool pavement” treatments can effectively reduce surface temperatures, their broader influence on ambient air temperature and overall human thermal comfort is more complex. Outcomes can vary depending on surrounding factors such as available shading, adjacent building conditions, and the level of pedestrian activity.

Cost: The cost of reflective or “cool pavement” coatings is primarily influenced by factors such as project size (square footage), existing surface condition, and the type of coating selected. Key cost drivers include surface preparation requirements, material quality, and labor for installation.

For this analysis, a combined material and labor cost of \$0.61 per sq.ft. has been assumed based on the contractor quote provided by the City. Using measurements obtained from Google Earth, the total parking lot area is estimated to be approximately 18,950 sq.ft. This results in an estimated total implementation cost of \$11,504.

Considerations: Although reflective pavement coatings can lower surface temperatures, their overall effectiveness as a heat mitigation strategy requires careful application. The effectiveness of cool pavement as a heat mitigation strategy is closely tied to a city’s level of urbanization, often characterized by its Impervious Surface Area (ISA)—the portion of land covered by heat-absorbing materials such as roads, parking lots, and rooftops. In dense urban environments with high ISA, these surfaces contribute significantly to elevated ambient temperatures, creating conditions where cool pavement strategies can deliver measurable cooling benefits and potential reductions in building energy use. Research suggests that ISA levels in the range of approximately 40–50% are typically associated with pronounced urban heat island effects, and cities such as Los Angeles have demonstrated meaningful improvements at this scale.

In contrast, lower-density communities like Sedona—where impervious surface coverage is relatively limited and natural terrain and vegetation remain prevalent—experience a diminished citywide impact from cool pavement interventions. In these settings, cool pavement can still provide localized reductions in surface temperatures in targeted areas such as parking lots, plazas, or walkways. However, it is more appropriately positioned as a site-specific comfort improvement measure rather than a broad strategy for citywide heat mitigation or energy reduction.

5.4 2070 Contractor’s Road (Public Works Maintenance)

5.4.1 Tree Preservation

Summary: This site consists primarily of a building with adjacent parking areas and minimal tree canopy. A small number of trees are located along the side perimeter, providing limited cooling benefits, and these trees may not be within the property boundary.

Cost: No associated costs as there are no trees within the property boundary

Considerations: Given the extent of exposed pavement and the limited tree coverage, there may be opportunities to strategically introduce additional tree plantings, particularly along parking rows and pedestrian pathways, to enhance shading.

5.4.2 Cool Roof



Figure 15 Existing Metal Roof with White Coating



Summary: The roof appears to be a low-sloped metal roof system with a white high-reflectance surface. This type of roofing inherently functions as a cool roof, as the light-colored finish reflects a significant portion of incoming solar radiation and reduces heat absorption. As a result, roof surface temperatures are lower compared to darker or uncoated materials, which helps reduce heat transfer into the building and lowers cooling energy demand. Air temperature in the area and neighboring buildings is expected to reduce by 2-5°F and indoor building temperature can drop by up to 2-6°F.

Cost: Assuming the existing roof is already equipped with reflective cool roof coatings, no additional capital cost is required. However, if the City elects to recoat the roofs to restore optimal performance, the total estimated cost for this building is approximately \$35,533.

Based on measurements from Google Maps, the total roof area is estimated to be approximately 5,825 Sq.ft.. The cost assumptions include a material cost of \$3.00 per sq.ft. for a silicone cool roof coating and a labor cost of approximately \$3.10 per sq.ft., based on contractor-provided data.

Considerations: Because the roof is already a reflective metal system, the primary focus should be on maintenance rather than replacement or retrofit. Over time, dust accumulation, weathering, and minor surface degradation can reduce reflectivity and performance. Periodic cleaning or recoating—if necessary—can help restore solar reflectance and maintain efficiency.

5.4.3 Green Roof



Figure 16 Proposed Green Roof model at 2070 Contractor's Road

Summary: The building features a low-slope roof area that appears to be finished with a light-colored reflective metal surface. A green roof retrofit could provide localized benefits by reducing roof surface temperatures, improving insulation, and lowering heat transfer into the building. Additional co-benefits include stormwater retention, increased roof membrane protection, and improved site aesthetics.

However, given that the existing roof already functions as a reflective cool roof, the incremental energy savings from a green roof installation are expected to be moderate. In this configuration, the primary

benefits of a green roof would be at the building level rather than providing broader site-wide cooling. Air temperature in the area and neighboring buildings is expected to reduce by 3-5°F and indoor building temperature can drop by up to 27°F.

Cost: Green roof installation costs typically range from approximately \$10 to \$35 per sq.ft., depending on the system type, with lightweight extensive systems on the lower end and more intensive vegetated systems on the higher end. For this analysis, an average cost of \$17.30 per sq.ft has been assumed for an extensive green roof system.

Based on measurements from Google Maps, the available roof area is estimated to be approximately 5,534 sq.ft. resulting in a total projected cost of \$96,841. It should be noted that this estimate does not include potential additional costs associated with structural analysis, roof repairs or replacement, or ongoing maintenance requirements.

Considerations: Implementation of a green roof on this site would require careful evaluation of structural capacity, as vegetated systems introduce additional dead load that may exceed the design limits of existing roof structures. Retrofitting may be necessary, particularly for older roofs not originally designed to support added weight. The other key factor to consider is water demand. Green roof systems typically require irrigation to sustain plant health, which can increase ongoing operational costs and may conflict with water conservation goals, particularly in arid climates, unless drought-tolerant or low-water plant species are incorporated. Maintenance requirements including irrigation system upkeep, plant replacement, and drainage management should also be factored into lifecycle costs.

Given the presence of existing light-colored reflective roofing, which already provides significant cooling benefits with minimal maintenance, the incremental benefit of converting to a green roof may be limited from a cost-effectiveness standpoint.

5.4.4 Cool Pavement



Figure 17 Proposed Gray Cool Pavement Model at 2070 Contractor's Road

Summary: The site is dominated by a large expanse of exposed asphalt pavement associated with parking and circulation areas, with minimal shading and limited vegetation.

The City conducted a series of demonstration tests to assess the effectiveness of various pavement coatings in reducing surface temperatures under typical environmental conditions. The results showed that coated surfaces significantly lowered peak temperatures, helping to reduce heat buildup at the pavement level. For example, baseline asphalt temperatures were measured at approximately 164°F, while a gray reflective coating reduced surface temperatures to around 132°F, representing a reduction of about 32°F.

Cost: The cost of reflective or “cool pavement” coatings is primarily influenced by factors such as project size (square footage), existing surface condition, and the type of coating selected. Key cost drivers include surface preparation requirements, material quality, and labor for installation.

For this analysis, a combined material and labor cost of \$0.61 per sq.ft has been assumed based on the contractor quote provided by the City. Using measurements obtained from Google Earth, the total parking lot area is estimated to be approximately 16,374 sq.ft. This results in an estimated total implementation cost of \$9,940.

Considerations: Although reflective pavement coatings can lower surface temperatures, their overall effectiveness as a heat mitigation strategy requires careful application. The effectiveness of cool pavement as a heat mitigation strategy is closely tied to a city’s level of urbanization, often characterized by its Impervious Surface Area (ISA)—the portion of land covered by heat-absorbing materials such as roads, parking lots, and rooftops. In dense urban environments with high ISA, these surfaces contribute significantly to elevated ambient temperatures, creating conditions where cool pavement strategies can deliver measurable cooling benefits and potential reductions in building energy use. Research suggests that ISA levels in the range of approximately 40–50% are typically associated with pronounced urban heat island effects, and cities such as Los Angeles have demonstrated meaningful improvements at this scale.

In contrast, lower-density communities like Sedona—where impervious surface coverage is relatively limited and natural terrain and vegetation remain prevalent—experience a diminished citywide impact from cool pavement interventions. In these settings, cool pavement can still provide localized reductions in surface temperatures in targeted areas such as parking lots, plazas, or walkways. However, it is more appropriately positioned as a site-specific comfort improvement measure rather than a broad strategy for citywide heat mitigation or energy reduction.

5.5 102 Roadrunner Drive (City Hall Campus)

5.5.1 Tree Preservation

Summary: The campus includes a distributed network of mature trees located primarily along pedestrian pathways, courtyard spaces, and perimeter areas adjacent to parking lots. These trees provide meaningful localized cooling benefits by shading hard-scape surfaces, reducing surface temperatures, and improving outdoor thermal comfort for building occupants. Tree canopy also helps mitigate heat buildup in paved areas, particularly within courtyards and near building entrances, where pedestrian activity is highest. Preserving existing trees on-site offers an effective, low-cost heat mitigation strategy compared to other interventions, while also supporting aesthetic quality and site usability.

Cost: Tree preservation primarily involves ongoing maintenance and irrigation costs rather than significant upfront capital investment. For a campus of this size, annual costs are estimated to be approximately \$10,000, depending on tree count, irrigation requirements, and maintenance intensity.

Considerations: Tree preservation on this site should prioritize maintaining mature canopy in high-use areas such as walkways, courtyards, and parking lot edges, where shading provides the greatest benefit.

In a hot, semi-arid climate, ongoing irrigation and maintenance are critical to sustaining tree performance. While trees provide significant cooling benefits, they require long-term care, including watering, pruning, and monitoring for health and safety. Water use should be managed through efficient irrigation systems and, where possible, drought-tolerant species should be prioritized to balance cooling benefits with water conservation goals. Additionally, tree placement should be evaluated to maximize shading effectiveness without interfering with building systems and solar installations.

5.5.2 Cool Roof



Figure 18 Existing City Hall Campus- Aerial View



Figure 19 Existing City Hall/Police Department Building Roof



Figure 20 Proposed Cool Roof Model - City Hall Campus

Summary: The campus consists primarily of low-rise buildings with flat or low-slope roofs, many of which already appear to have light-colored, reflective cool roof finish. Cool roof systems are designed to reflect solar radiation and reduce heat absorption, thereby lowering roof surface temperatures and decreasing

heat transfer into the building. Air temperature in the area and neighboring buildings is expected to reduce by 2-5°F and indoor building temperature can drop by up to 2-6°F.

Cost: Assuming the existing roofs are already equipped with reflective cool roof coatings, no additional capital cost is required. However, if the City elects to recoat the roofs to restore optimal performance, the total estimated cost for all buildings is approximately \$125,538.

Based on measurements from Google Maps, the total roof area is estimated to be approximately 30,619 Sq.ft.. The cost assumptions include a material cost of \$1.00 per sq.ft. for a silicone cool roof coating and a labor cost of approximately \$3.10 per sq.ft., based on contractor-provided data.

Considerations: Given that portions of the existing roofs already appear to be light-colored, the incremental benefit of installing new cool roof materials may be limited unless the current surfaces are aged or have reduced reflectivity. Regular maintenance or recoat may be sufficient to restore performance and achieve most of the available energy savings at a lower cost than full replacement.

5.5.3 Green Roof



Figure 21 Proposed Green Roof Model Layout

Summary: The City hall campus features several flat/ low-slope roofs with light-colored reflective membrane surfaces. Based on this configuration, the installation of a green roof could provide localized cooling benefits by reducing roof surface temperatures, improving insulation, and lowering heat transfer into the building. Green roof systems can also contribute to stormwater retention, improved roof durability, and enhanced site aesthetics, particularly given the centralized courtyard layout and visibility of the roof areas from adjacent spaces.

However, in a hot, semi-arid climate, the overall energy savings from green roofs are generally moderate compared to other strategies, with benefits primarily concentrated at the building level rather than contributing significantly to broader ambient temperature reduction. Air temperature in the area and neighboring buildings is expected to reduce by 3-5°F and indoor building temperature can drop by up to 27°F.

Cost: Green roof installation costs typically range from approximately \$10 to \$35 per sq.ft, depending on the system type, with lightweight extensive systems on the lower end and more intensive vegetated systems on the higher end. For this analysis, an average cost of \$17.30 per sq.ft. has been assumed for an extensive green roof system.

Based on measurements from Google Maps, the available roof area is estimated to be approximately 24,668 sq.ft. resulting in a total projected cost of \$431,689. It should be noted that this estimate does not include potential additional costs associated with structural analysis, roof repairs or replacement, or ongoing maintenance requirements.

Considerations: Implementation of a green roof on this site would require careful evaluation of structural capacity, as vegetated systems introduce additional dead load that may exceed the design limits of existing roof structures. Retrofitting may be necessary, particularly for older roofs not originally designed to support added weight. The other key factor to consider is water demand. Green roof systems typically require irrigation to sustain plant health, which can increase ongoing operational costs and may conflict with water conservation goals, particularly in arid climates, unless drought-tolerant or low-water plant species are incorporated. Maintenance requirements including irrigation system upkeep, plant replacement, and drainage management should also be factored into lifecycle costs.

5.5.4 Cool Pavement



Figure 22 Proposed Gray Cool Pavement Layout in 102 Road Runner Drive

Summary: The City conducted a series of demonstration tests to assess the effectiveness of various pavement coatings in reducing surface temperatures under typical environmental conditions. The results showed that coated surfaces significantly lowered peak temperatures, helping to reduce heat buildup at the pavement level. For example, baseline asphalt temperatures were measured at approximately 164°F, while a gray reflective coating reduced surface temperatures to around 132°F, representing a reduction of about 32°F.

While these findings confirm that reflective or “cool pavement” treatments can effectively reduce surface temperatures, their broader influence on ambient air temperature and overall human thermal comfort is more complex. Outcomes can vary depending on surrounding factors such as available shading, adjacent building conditions, and the level of pedestrian activity.

Cost: The cost of reflective or “cool pavement” coatings is primarily influenced by factors such as project size (square footage), existing surface condition, and the type of coating selected. Key cost drivers include surface preparation requirements, material quality, and labor for installation.

For this analysis, a combined material and labor cost of \$0.61 per sq.ft. has been assumed based on the contractor quote provided by the City. Using measurements obtained from Google Earth, the total parking lot area is estimated to be approximately 46,825 Sq.ft., including the solar carport area. This results in an estimated total implementation cost of \$28,427.

Considerations: Although reflective pavement coatings can lower surface temperatures, their overall effectiveness as a heat mitigation strategy requires careful application. The effectiveness of cool pavement as a heat mitigation strategy is closely tied to a city’s level of urbanization, often characterized by its Impervious Surface Area (ISA)—the portion of land covered by heat-absorbing materials such as roads, parking lots, and rooftops. In dense urban environments with high ISA, these surfaces contribute significantly to elevated ambient temperatures, creating conditions where cool pavement strategies can

deliver measurable cooling benefits and potential reductions in building energy use. Research suggests that ISA levels in the range of approximately 40–50% are typically associated with pronounced urban heat island effects, and cities such as Los Angeles have demonstrated meaningful improvements at this scale.

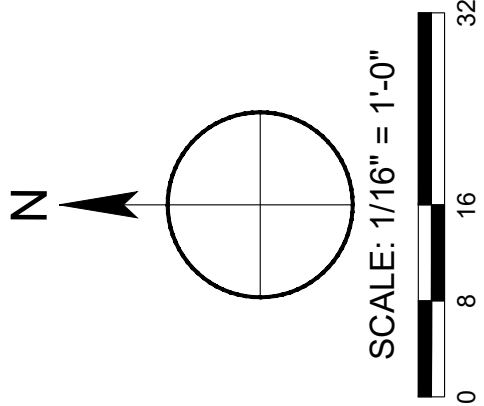
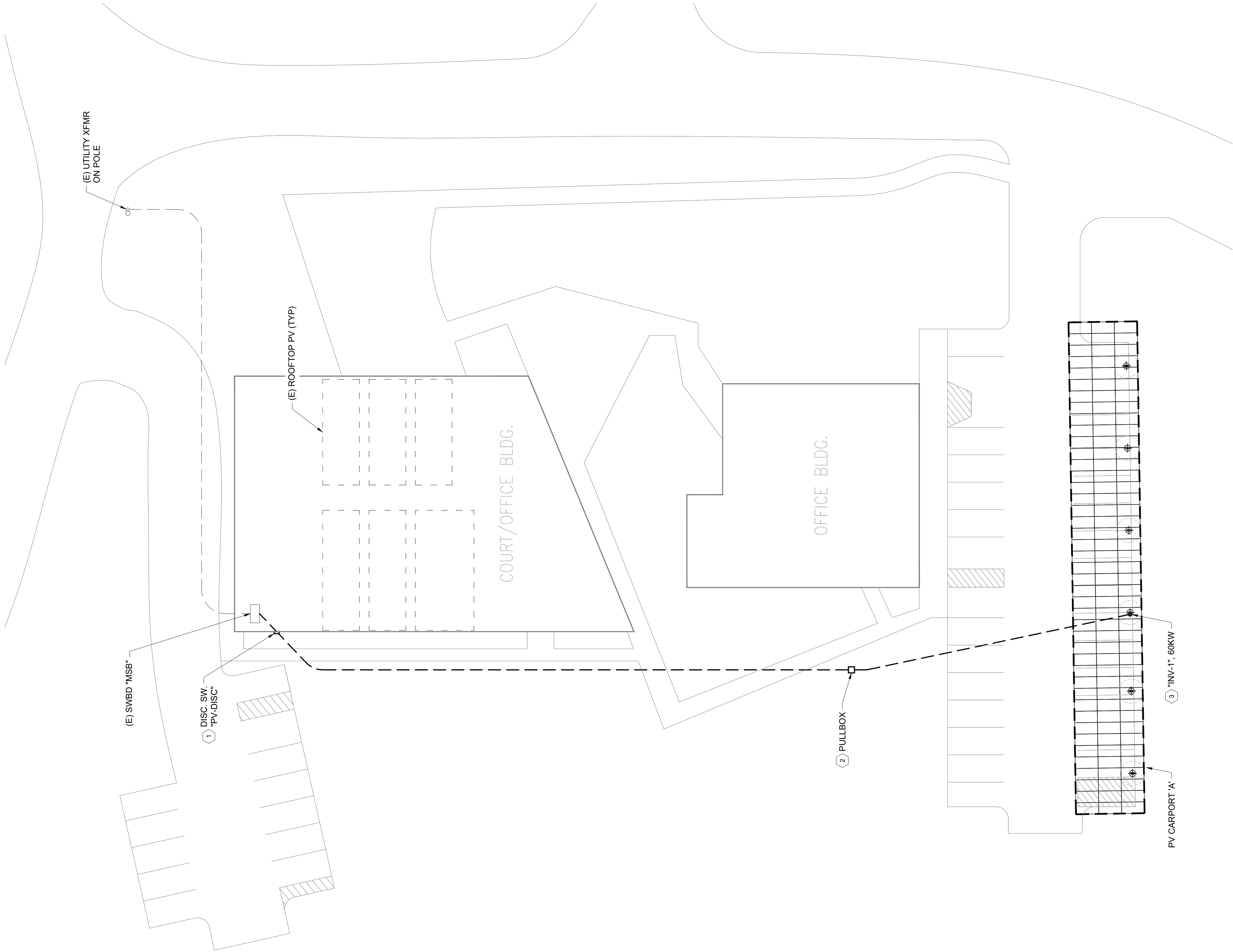
In contrast, lower-density communities like Sedona—where impervious surface coverage is relatively limited and natural terrain and vegetation remain prevalent—experience a diminished citywide impact from cool pavement interventions. In these settings, cool pavement can still provide localized reductions in surface temperatures in targeted areas such as parking lots, plazas, or walkways. However, it is more appropriately positioned as a site-specific comfort improvement measure rather than a broad strategy for citywide heat mitigation or energy reduction.

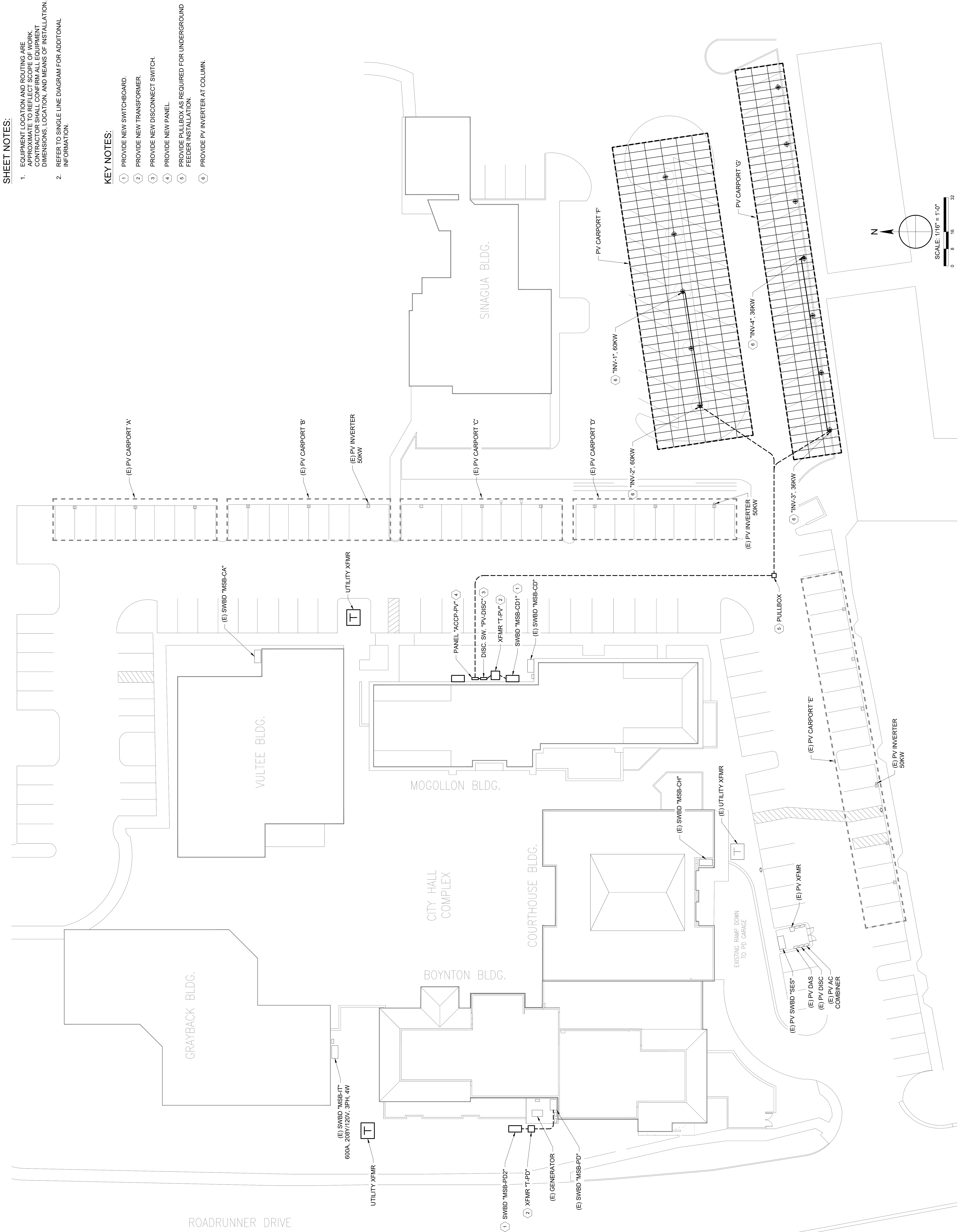
SHEET NOTES:

- EQUIPMENT LOCATION AND ROUTING ARE APPROXIMATE TO REFLECT SCOPE OF WORK. CONTRACTOR SHALL CONFIRM ALL EQUIPMENT DIMENSIONS, LOCATION, AND MEANS OF INSTALLATION.
- REFER TO SINGLE LINE DIAGRAM FOR ADDITIONAL INFORMATION.

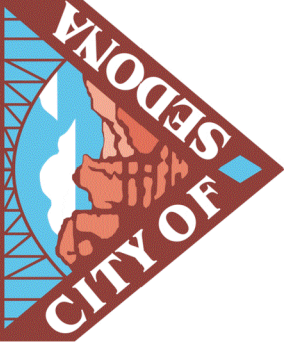
KEY NOTES:

- PROVIDE NEW DISCONNECT SWITCH.
- PROVIDE PULLBOX AS REQUIRED FOR UNDERGROUND FEEDER INSTALLATION.
- PROVIDE PV INVERTER AT COLUMN.





CLIENT



102 ROADRUNNER DRIVE
SEDONA, AZ 86336

PRIME



2445 INPALA DRIVE
CARLSBAD, CA 92010

STAMP



REVISIONS:

PROJECT #:	37157
SUBMITTAL:	XXX
DRAWN BY:	AJS
REVIEWED BY:	AC
SCALE:	AS NOTED
DATE:	06/24/2026

SHEET NAME:

SITE PLAN - PV

SHEET NUMBER:

E-101

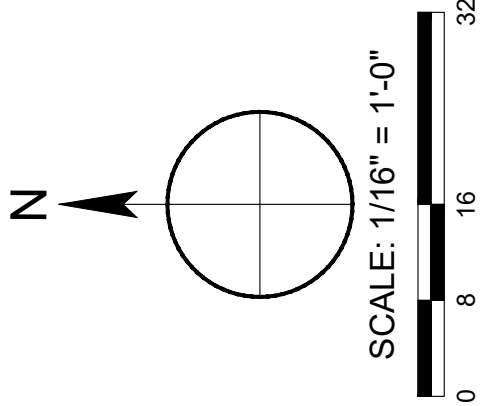
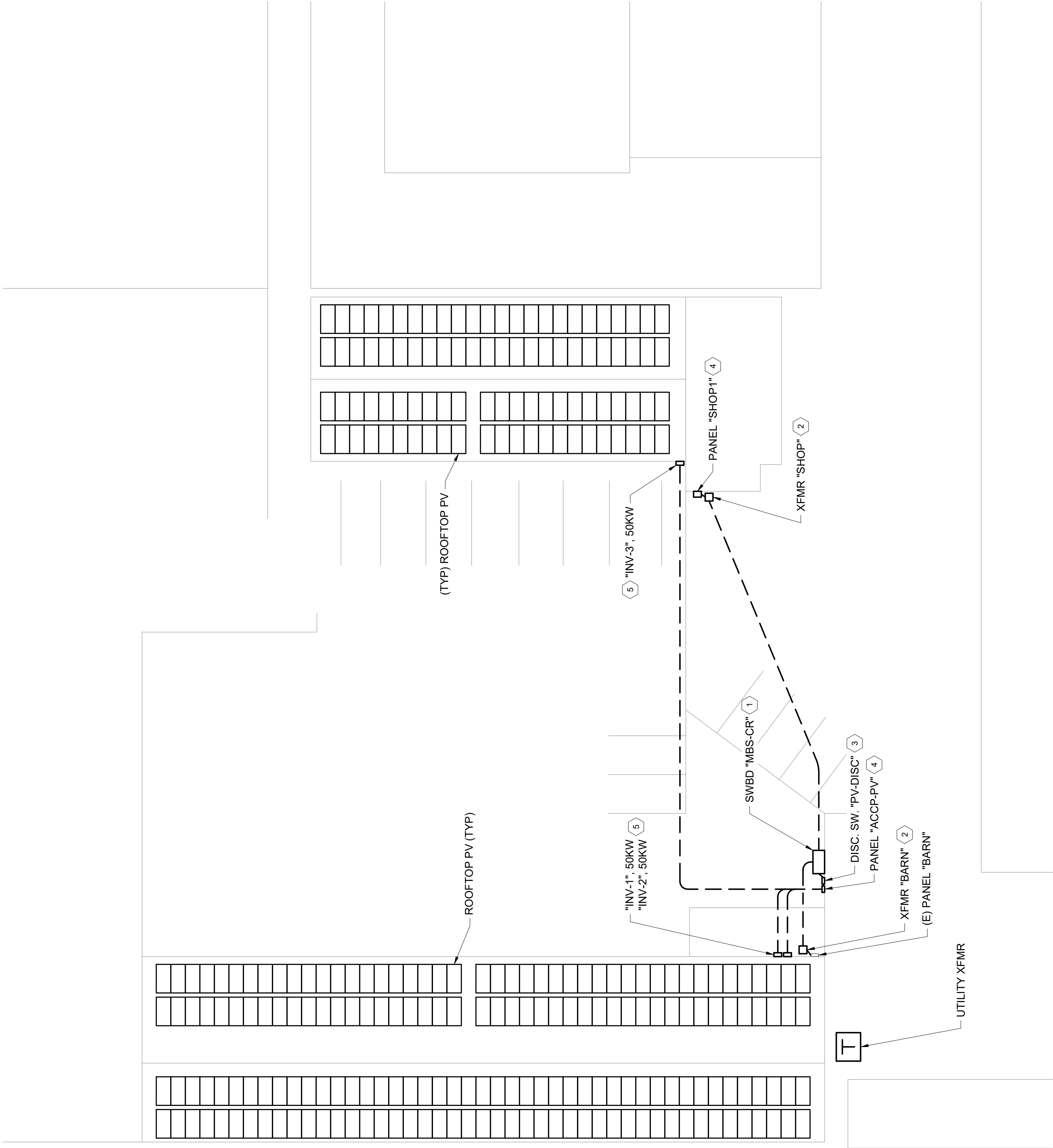
Project Page 46

SHEET NOTES:

1. EQUIPMENT LOCATION AND ROUTING ARE APPROXIMATE TO REFLECT SCOPE OF WORK. CONTRACTOR SHALL CONFIRM ALL EQUIPMENT DIMENSIONS, LOCATION, AND MEANS OF INSTALLATION.
2. REFER TO SINGLE LINE DIAGRAM FOR ADDITIONAL INFORMATION.

KEY NOTES:

- 1 PROVIDE NEW SWITCHBOARD.
- 2 PROVIDE NEW TRANSFORMER.
- 3 PROVIDE NEW DISCONNECT SWITCH.
- 4 PROVIDE NEW PANEL.
- 5 PROVIDE PV INVERTER.

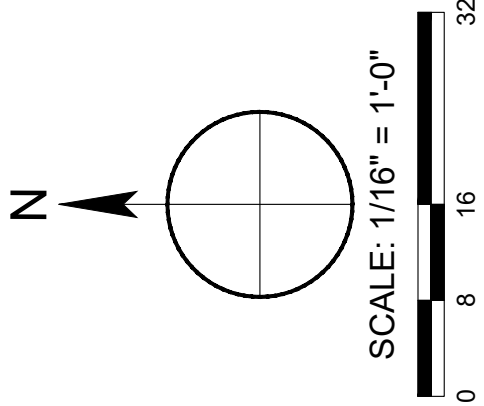
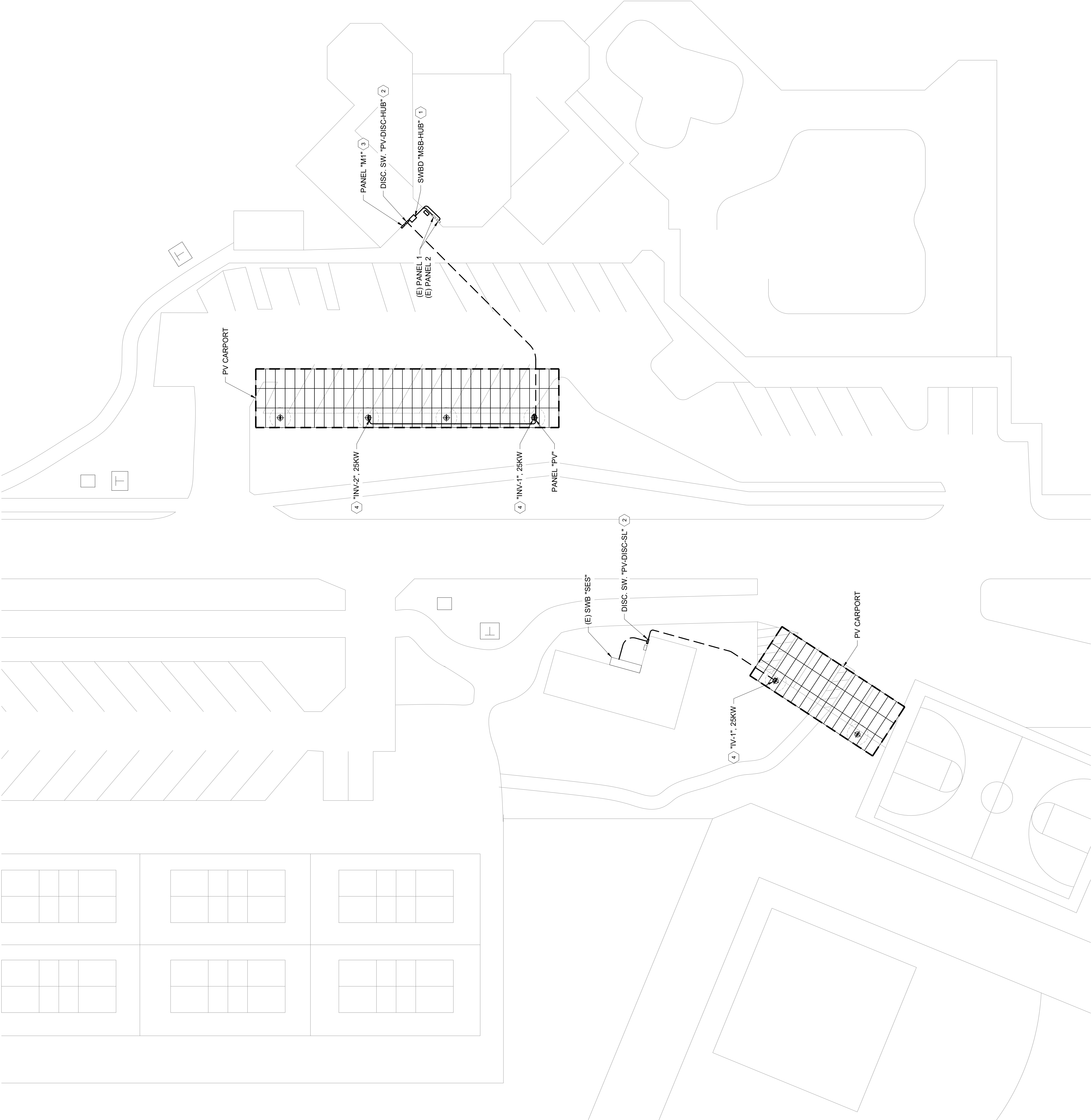


SHEET NOTES:

- EQUIPMENT LOCATION AND ROUTING ARE APPROXIMATE TO REFLECT SCOPE OF WORK. CONTRACTOR SHALL CONFIRM ALL EQUIPMENT DIMENSIONS, LOCATION, AND MEANS OF INSTALLATION.
- REFER TO SINGLE LINE DIAGRAM FOR ADDITIONAL INFORMATION.

KEY NOTES:

- PROVIDE NEW SWITCHBOARD.
- PROVIDE NEW DISCONNECT SWITCH.
- PROVIDE NEW PANEL.
- PROVIDE PV INVERTER AT COLUMN.

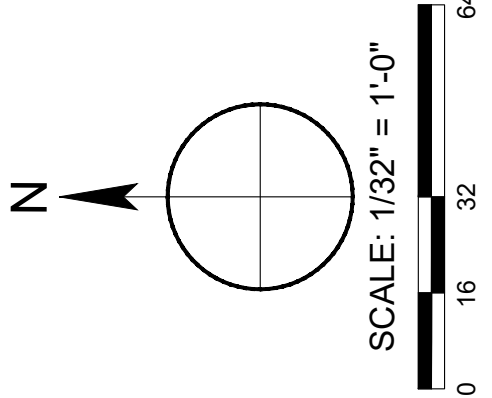
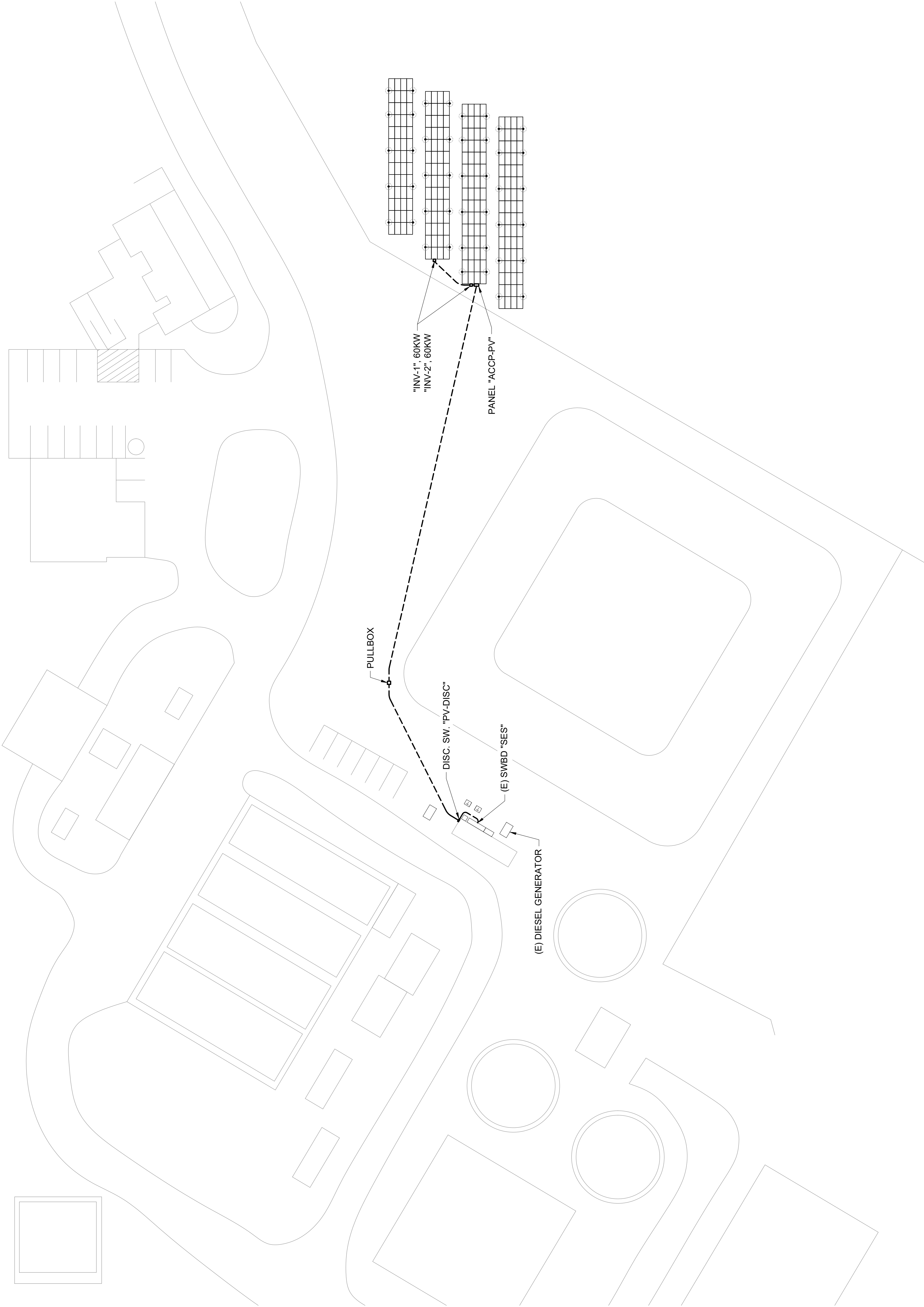


SHEET NOTES:

- 1. XXX
- 2. XXX

KEY NOTES:

- 1. XXX
- 2. XXX

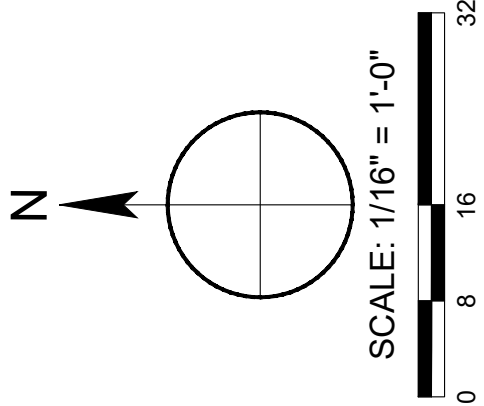
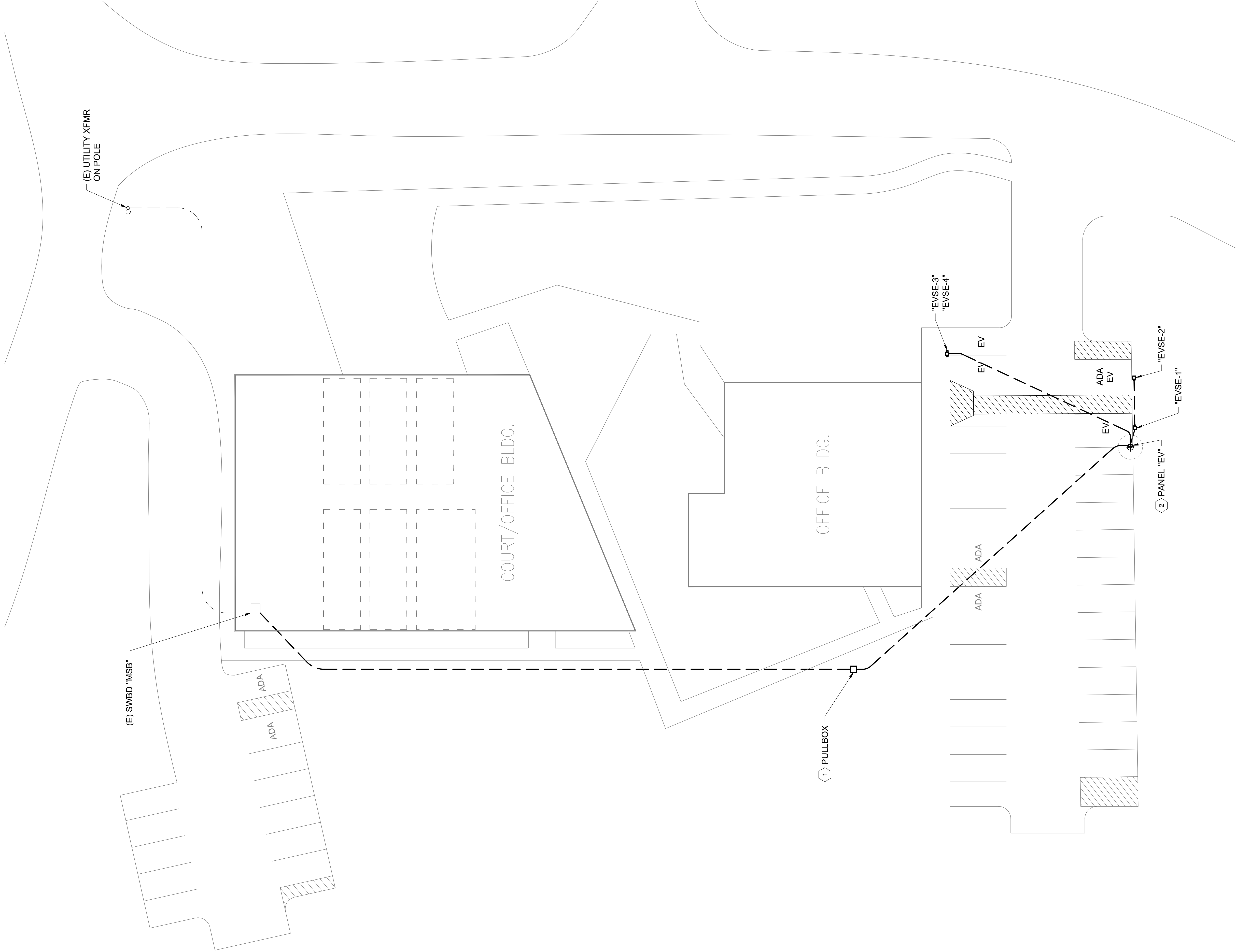


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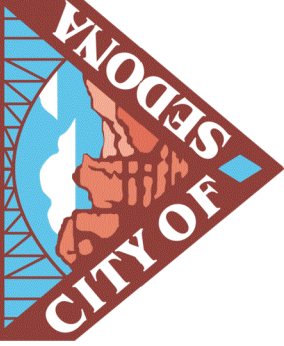
- EQUIPMENT LOCATION AND ROUTING ARE APPROXIMATE TO REFLECT SCOPE OF WORK. CONTRACTOR SHALL CONFIRM ALL EQUIPMENT DIMENSIONS, LOCATION, AND MEANS OF INSTALLATION.
- REFER TO SINGLE LINE DIAGRAM FOR ADDITIONAL INFORMATION.

KEY NOTES:

- PROVIDE PULLBOX AS REQUIRED FOR UNDERGROUND FEEDER INSTALLATION.
- PROVIDE PANEL AT COLUMN.



CLIENT



102 ROADRUNNER DRIVE
SEDONA, AZ 86336

PRIME



2445 INPALA DRIVE
CARLSBAD, CA 92010

STAMP



REVISIONS:

PROJECT #:	37157
SUBMITTAL:	XXX
DRAWN BY:	AJS
REVIEWED BY:	AC
SCALE:	AS NOTED
DATE:	08/24/2025

SHEET NAME:

SITE PLAN EV

SHEET NUMBER:

E-102

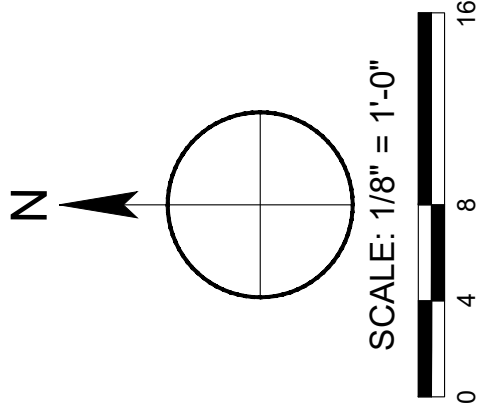
Project 37157-00

SHEET NOTES:

1. EQUIPMENT LOCATION AND ROUTING ARE APPROXIMATE TO REFLECT SCOPE OF WORK. CONTRACTOR SHALL CONFIRM ALL EQUIPMENT DIMENSIONS, LOCATION, AND MEANS OF INSTALLATION.
2. REFER TO SINGLE LINE DIAGRAM FOR ADDITIONAL INFORMATION.

KEY NOTES:

- 1 PROVIDE NEW PANEL.

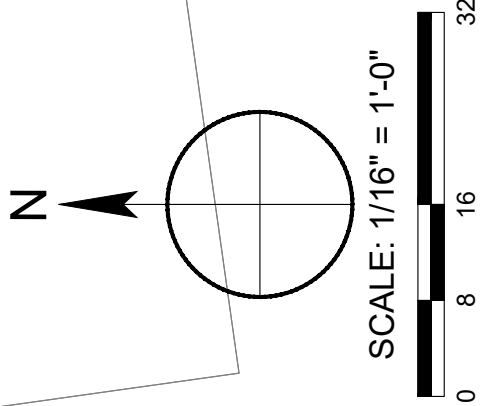
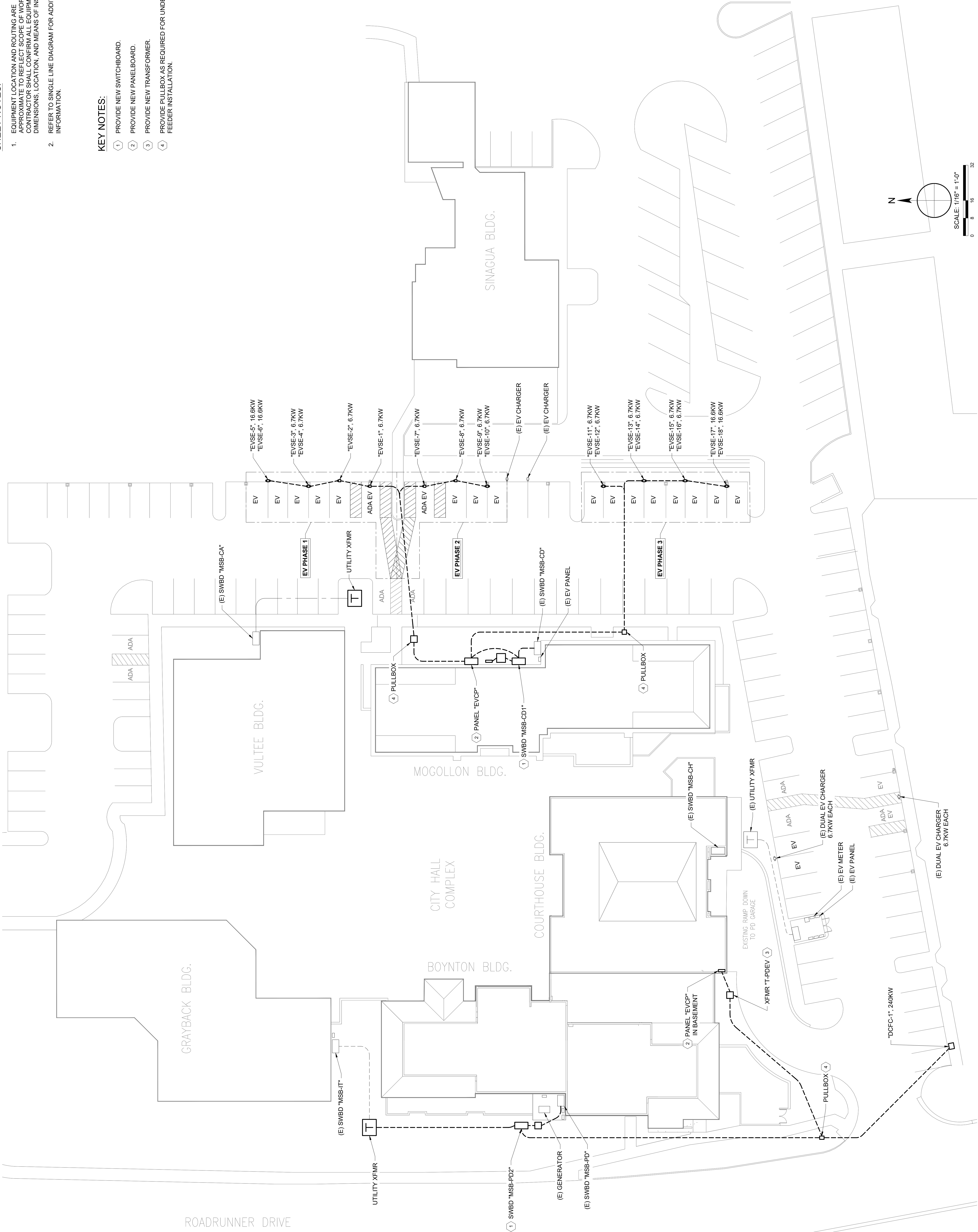


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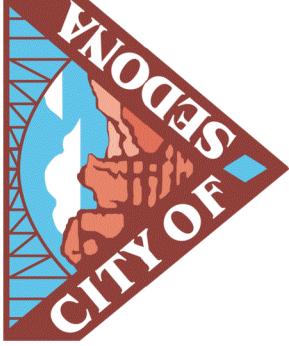
- EQUIPMENT LOCATION AND ROUTING ARE APPROXIMATE TO REFLECT SCOPE OF WORK. CONTRACTOR SHALL CONFIRM ALL EQUIPMENT DIMENSIONS, LOCATION, AND MEANS OF INSTALLATION.
- REFER TO SINGLE LINE DIAGRAM FOR ADDITIONAL INFORMATION.

KEY NOTES:

- PROVIDE NEW SWITCHBOARD.
- PROVIDE NEW PANELBOARD.
- PROVIDE NEW TRANSFORMER.
- PROVIDE PULLBOX AS REQUIRED FOR UNDERGROUND FEEDER INSTALLATION.



CLIENT



102 ROADRUNNER DRIVE
SEDONA, AZ 86336

PRIME



2445 IMPALA DRIVE
CARLSBAD, CA 92010

STAMP



REVISIONS:

PROJECT #:	37157
SUBMITTAL:	XXX
DRAWN BY:	AJS
REVIEWED BY:	AC
SCALE:	AS NOTED
DATE:	08/24/2023

SHEET NAME:

SITE PLAN - EV

SHEET NUMBER:

E-102

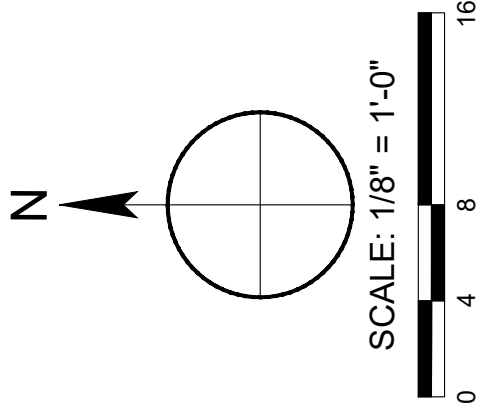
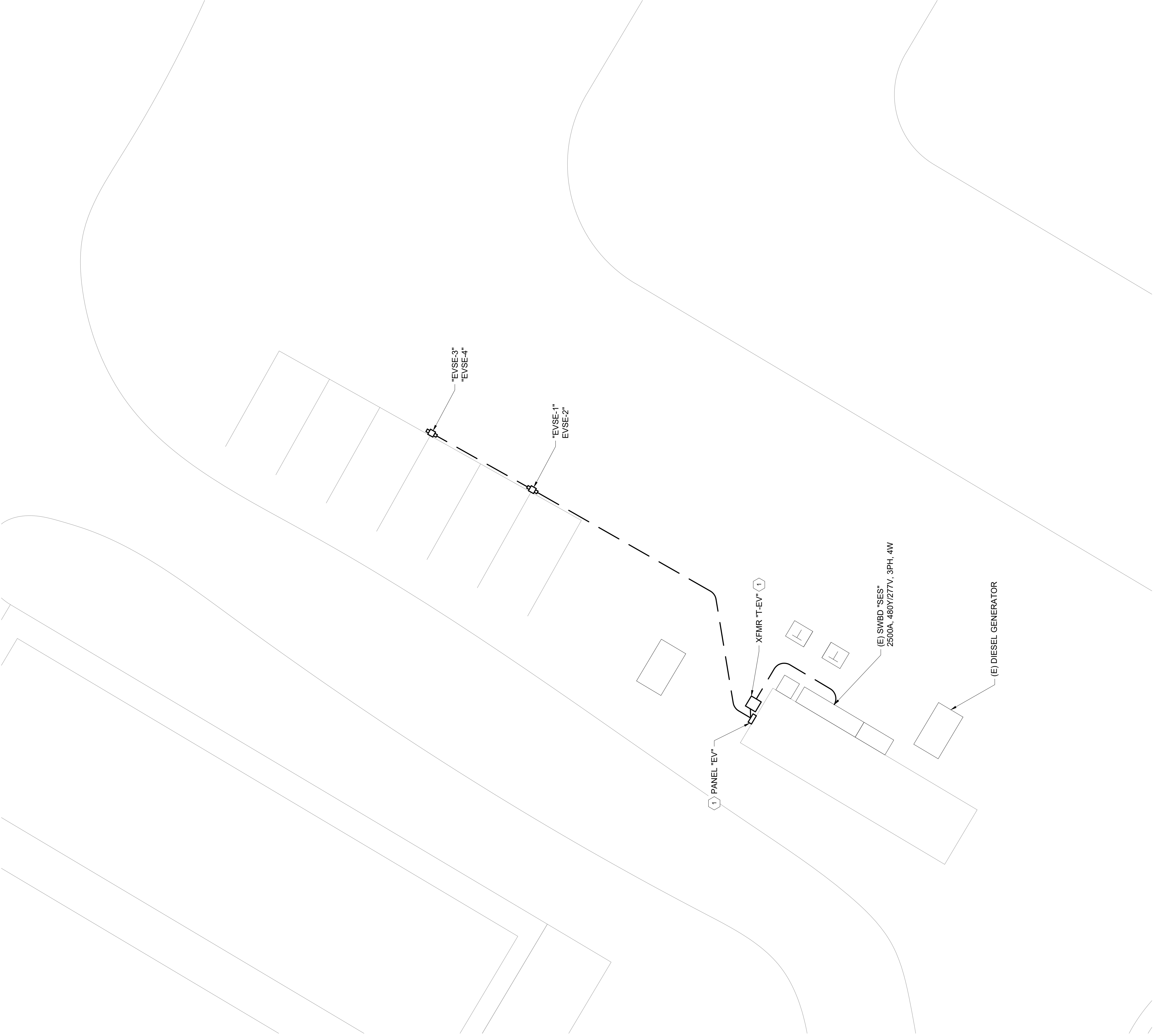
Project 37157

SHEET NOTES:

1. EQUIPMENT LOCATION AND ROUTING ARE APPROXIMATE TO REFLECT SCOPE OF WORK. CONTRACTOR SHALL CONFIRM ALL EQUIPMENT DIMENSIONS, LOCATION, AND MEANS OF INSTALLATION.
2. REFER TO SINGLE LINE DIAGRAM FOR ADDITIONAL INFORMATION.

KEY NOTES:

- 1 PROVIDE NEW TRANSFORMER.
- 2 PROVIDE NEW PANELBOARD.



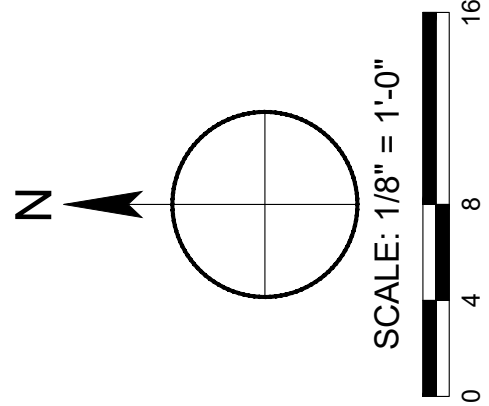
CLIENT  102 ROADRUNNER DRIVE SEDONA, AZ 86336	PRIME  2445 INPALA DRIVE CARLSBAD, CA 92010	STAMP 
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PRIME
EVA GREEN POWER
2445 IMPALA DRIVE
CARLSBAD, CA 92010

REVISED:					
PROJECT #:	37157				
SUBMITTAL:	XXXX				
DRAWN BY:	AJS				
REVIEWED BY:	AC				
SCALE:	AS NOTED				
DATE:	06/24/2028				
SHEET NAME:	GARAGE PLAN - EV				
SHEET NUMBER:	E-103 Page 10 of 104				

1. EQUIPMENT LOCATION AND ROUTING ARE APPROXIMATE TO REFLECT SCOPE OF WORK. CONTRACTOR SHALL CONFIRM ALL EQUIPMENT DIMENSIONS, LOCATION, AND MEANS OF INSTALLATION
2. REFER TO SINGLE LINE DIAGRAM FOR ADDITIONAL INFORMATION

1 PROVIDE NEW PANELBOARD.



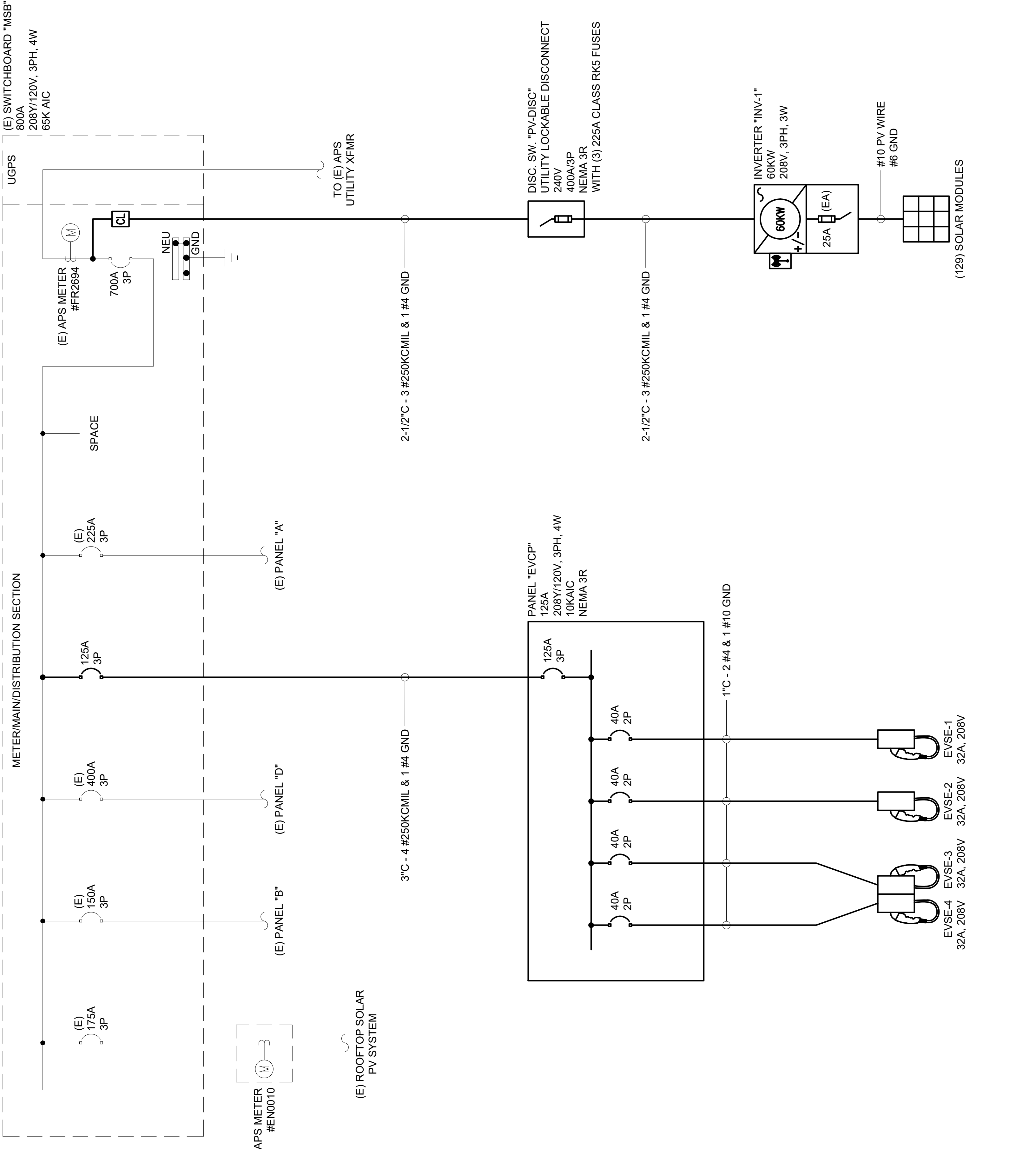
Packet Page 54

SHEET NOTES:

1. CONDUCTORS SHALL BE 90°C COPPER THWN-2.

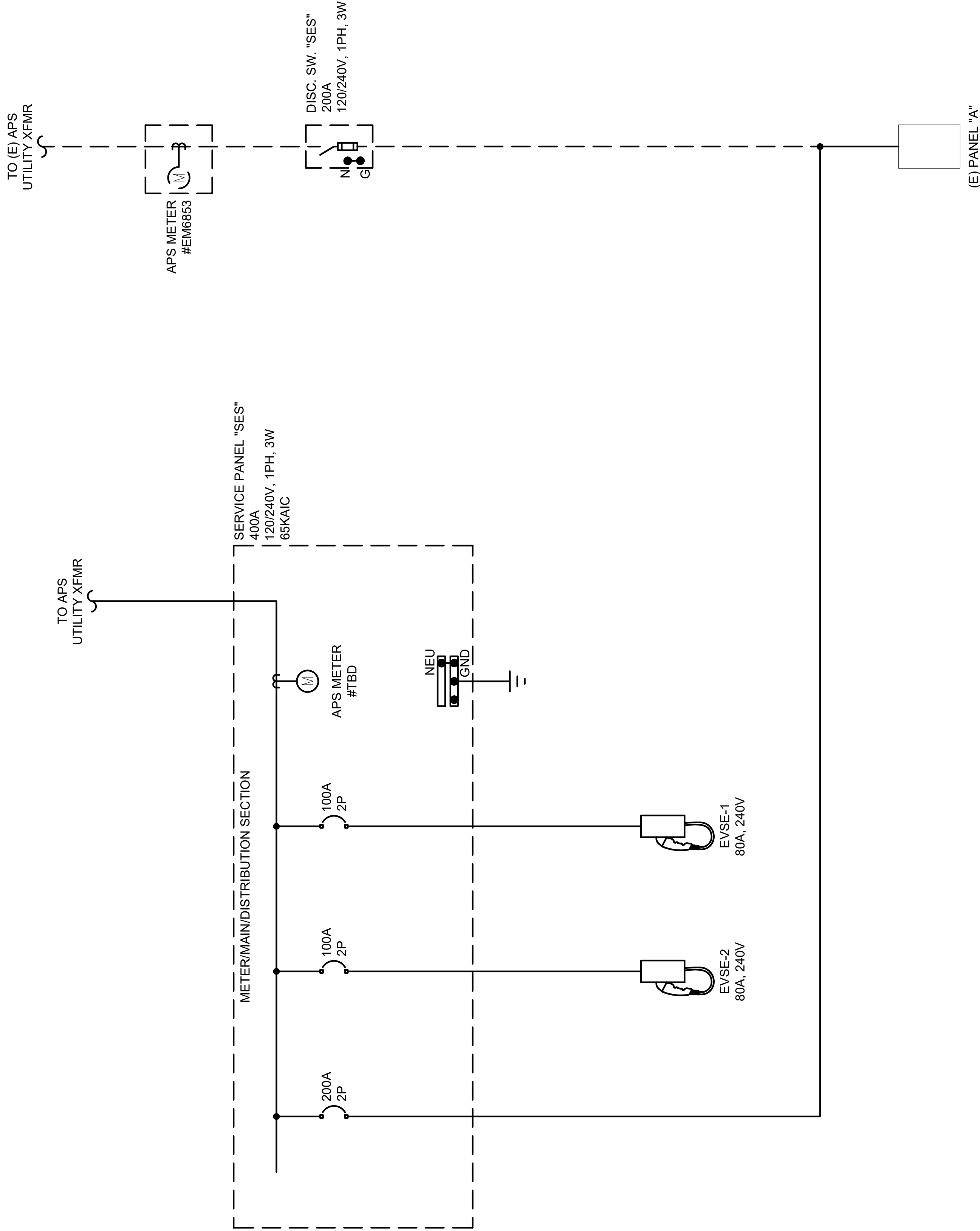
KEY NOTES:

- ① XXX.
- ② XXX.



SHEET NOTES:

1. CONDUCTORS SHALL BE 90°C COPPER THWN-2.



KEY NOTES:

- ① XXX.
- ② XXX.

125W STATE ROUTE 89A LOAD SUMMARY:

"MAIN" EXISTING PEAK DEMAND IN 2025
XX KW @ 0.9PF = XXX KVA
+25% PER NEC 220.87 = XXX KVA

LOADS ADDED THIS PROJECT

- HVAC REPLACEMENT =
- (2) LEVEL II HIGH EV CHARGERS = 48.0 KVA

TOTAL LOAD

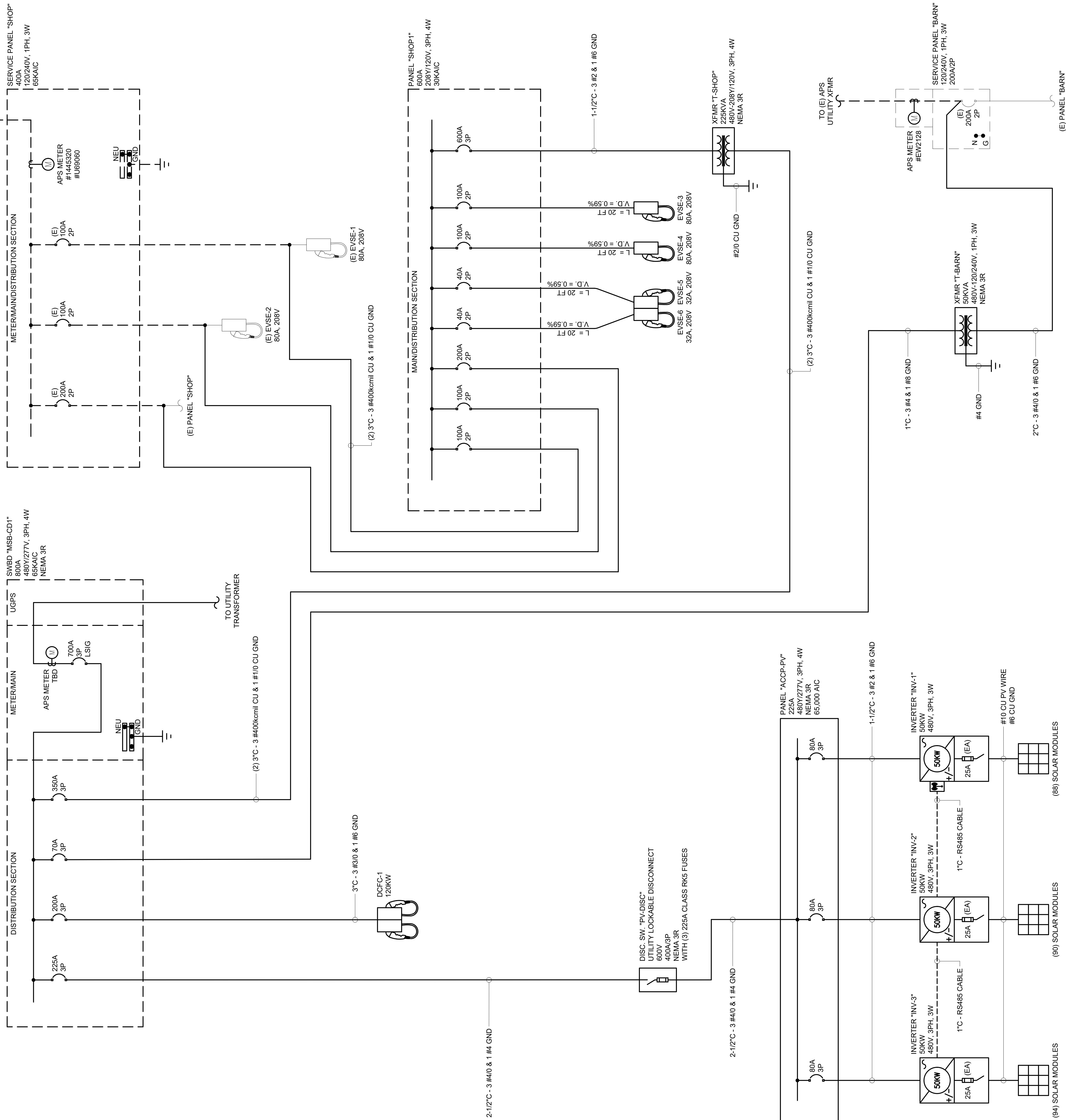
XXX KVA @ 240V/1PH = XXX AMPS

EXISTING SERVICE REQUIRES UPGRADE TO SERVE
NEW LOADS.

NEW SERVICE REQUESTED
400A @ 120/240V, 1PH, 3W

SHEET NOTES:

1. CONDUCTORS SHALL BE 90°C COPPER THWN-2.



KEY NOTES:

-
- The diagram shows two DNA molecules, labeled 1 and 2, each consisting of two intertwined strands. The strands are represented by 'X' characters. The labels 1 and 2 are inside hexagons below the molecules.

2070 CONTRACTORS ROAD LOAD SUMMARY:

"SHOP" EXISTING PEAK DEMAND IN 2025
95.5 KW @ 0.9PF = 106.1 KVA
+25% PER NEC 220.87 = 132.6 KVA

- HVAC REPLACEMENT = 28.9 KVA
- (2) LEVEL II LOW EV CHARGERS = 19.2 KVA
- (2) LEVEL II HIGH EV CHARGERS = 48.0 KVA

LOAD SHOP BUILDING
228.7 KVA @ 208V/3PH = 634.8 AMPS
NOTE: LOADS WILL BE MANAGED TO AVOID
OVERLOAD AT 600A EQUIPMENT RATING

"BARN" EXISTING PEAK DEMAND IN 2025
15.0 KW @ 0.9PF = 16.1 KVA
+25% PER NEC 220.87 = 20.1 KVA

LOADS ADDED THIS PROJECT

- (1) LEVEL III DC FAST CHARGER = 150.0 KVA

TOTAL LOAD FOR SITE

398.8 KVA @ 480V/3PH = 479.7 AMPS

EXISTING SERVICE REQUIRES UPGRADE TO SERVE
NEW LOADS.

NEW SERVICE REQUESTED
700A @ 480Y/277V, 3PH, 4W

PV SYSTEM SUMMARY:

MODULE
MISSION SOLAR ENERGY
#MSH10-590HN4G (590W)
QTY: (272)

INVERTER
YASKAWA SOLECTRIA
#PVI-50TL-480 (50KW)
QTY: (3)

SYSTEM SIZE
DC: (272) X (590W) = 160.48 KW
AC: (3) X (50KW) = 150.00 KW
= 225.5 A @ 480V/3PH [CONT.]
CEC-AC: (272) X (555.6 PTC) X (.985%) = 148.86 KW
DC/AC RATIO: 1.07

INTERCONNECTED LOAD-SIDE IN ACCORDANCE
WITH CEC 705.12(B)(2) [120% RULE].
MAX PV AMPS = 120% BUS - MAIN
= 1.2*800 - 700
= 960 - 700
= 260 A > 225.5 A

[illegible]

SHEET NOTES:

1. CONDUCTORS SHALL BE 90°C COPPER THWN-2.

KEY NOTES:

-

HUB 525B POSSE GROUND ROAD SUMMARY:

"MSB" EXISTING PEAK DEMAND IN 2025
90.5 KW @ 0.9PF = 100.6 KVA
+25% PER NEC 220.87 = 125.7 KVA

- **HVAC REPLACEMENT = 83.9 KVA**

TOTAL LOAD
209.6 KVA @ 208V/3PH = 581.8 AMPS

EXISTING SERVICE REQUIRES UPGRADE TO SERVE
NEW LOADS.

NEW SERVICE

NEW SERVICE REQUESTED
800A @ 208Y/120V, 3PH, 4W

PV SYSTEM SUMMARY:

MODULE
MISSION SOLAR ENERGY
#MSH10-590HN4G (590W)
QTY: (93)

INVERTER
YASKAWA SOLECTRIA
#PVI-25TL-208 (25KW)

UNITED STATES OF AMERICA

DC: $(93) \times (590W) = 54.87 \text{ KW}$
AC: $(2) \times (25KW) = 50.00 \text{ KW}$

CEC-AC: (93) X (555.6 PTC) X (1/3.5 A @ 208V/3PH) [CONF]

20050505

WITH CEC 705.12(B)(2) [120% RULE].
MAY BY AMPS - 120% PLUS MAIN

$$= 1.2 \times 800 - 700$$

SPORT LTG 525 POSSE GROUND ROAD SUMMARY

"SES" EXISTING PEAK DEMAND IN 2025
288.6 KW @ 0.0 PE - 230.7 KVA

LOADS ADDED THIS PROJECT

- ## • ENION

320.7 KVA @

EXISTING SERVICE TO REMAIN

PV SYSTEM SUMMARY:

MODULE
MISSION SOLAR ENERGY
#MSH10-590HN4G (590W)
QTY: (45)

INVERTER
YASKAWA SOLECTRIA
#PVI-25TL-480 (25KW)

SYSTEM SIZE

DC: $(45) \times (590W) = 26.55 \text{ KW}$
AC: $(1) \times (25KW) = 25.00 \text{ KW}$

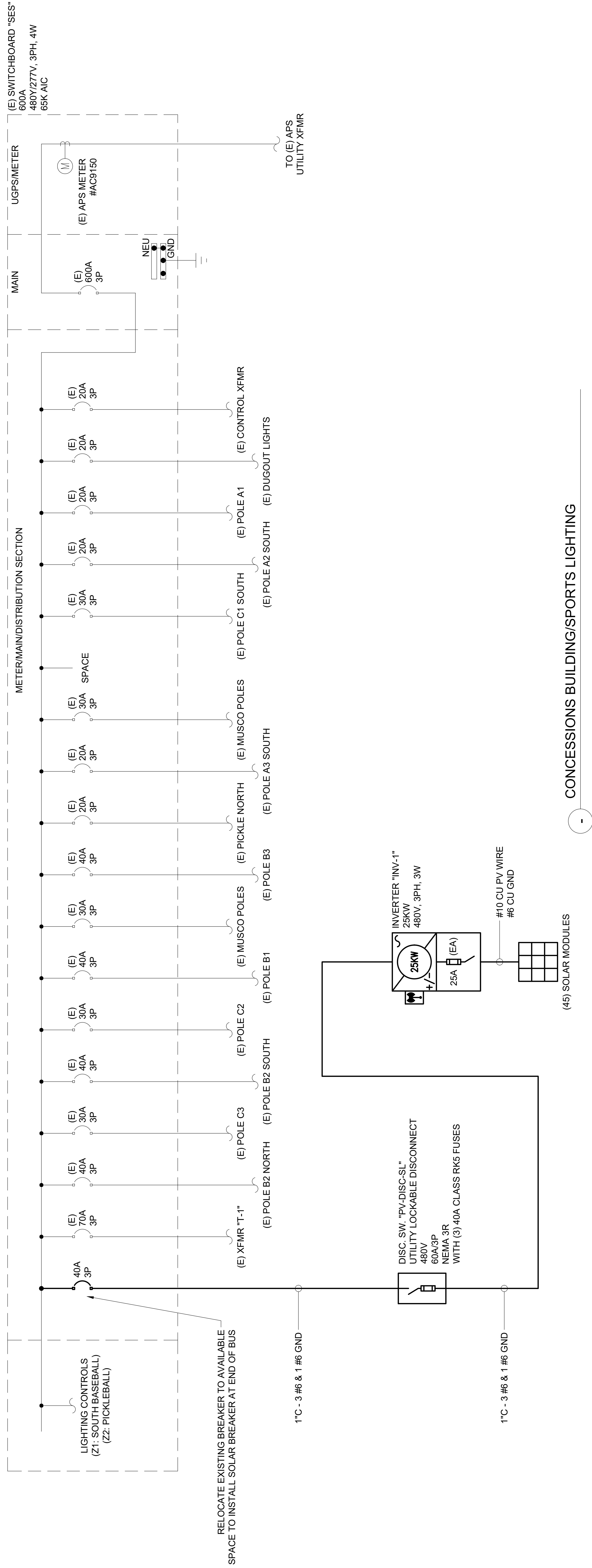
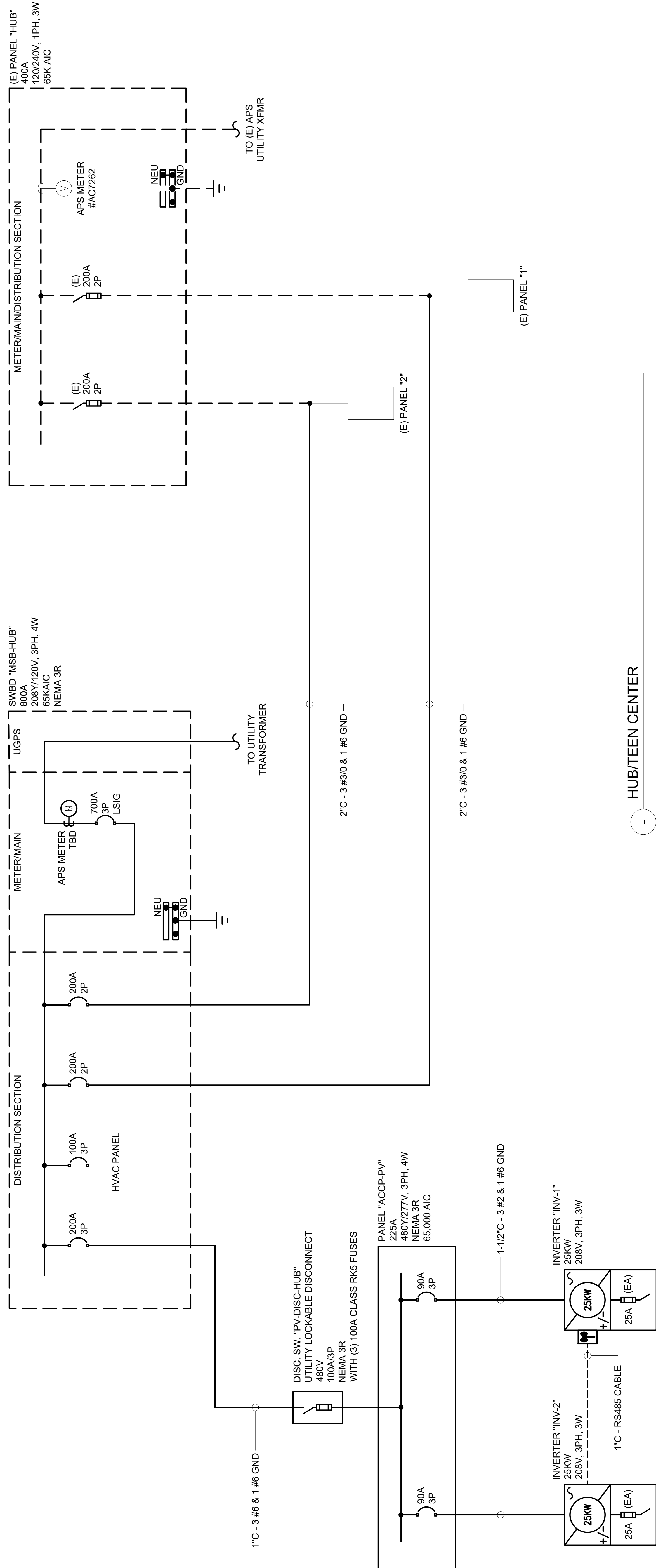
CEC-AC: (45) X (555.6 PTC) X (:

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WITH CEC 705.12(B)(2) [120% RULE].
MAX PV AMPS = 120% BUIS - MAIN

$$\begin{aligned} &= 1.2600 - 600 \\ &= 720 - 600 \end{aligned}$$

44010 - 44071

[illegible]

CITY OF SEDONA DECARBONIZATION

WASTEWATER OPERATIONS & ADMINISTRATION UPGRADES

7500 WEST STATE ROUTE 89A, SEDONA, ARIZONA, 86336

REVISIONS:	
PROJECT #:	37157
SUBMITTAL:	XXX
DRAWN BY:	AJS
REVIEWED BY:	AC
SCALE:	AS NOTED
DATE:	08/24/2025
SHEET NAME:	
SINGLE LINE	
DIAGRAM	
SHEET NUMBER:	
E-401	
Project: 37157	

SHEET NOTES:

1. CONDUCTORS SHALL BE 90°C COPPER THWN-2.

KEY NOTES:

- 1

XXX.
- 2

XXX.

7500W STATE ROUTE 89A LOAD SUMMARY:

"SES" EXISTING PEAK DEMAND IN 2025
XXX KW @ 0.9PF = XXX KVA
+25% PER NEC 220.87 = XXX KVA

LOADS ADDED THIS PROJECT

- HVAC REPLACEMENT = XXX KVA
- (4) LEVEL II LOW = 33.28 KVA

TOTAL LOAD
XXX KVA @ 480V/3PH = XXX AMPS

EXISTING SERVICE IS ADEQUATE TO SERVE NEW LOADS.

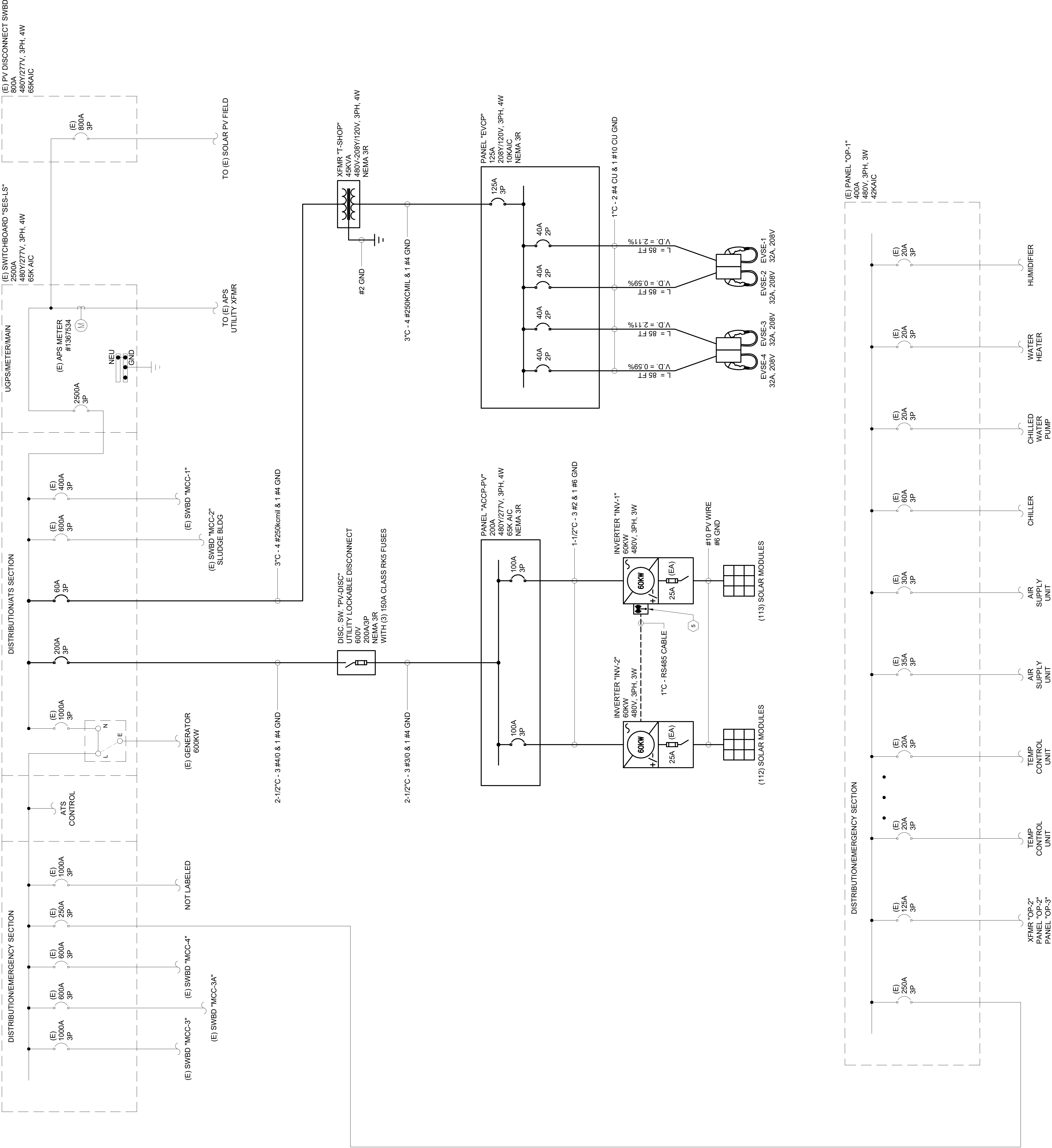
PV SYSTEM SUMMARY:

MODULE
MISSION SOLAR ENERGY
#MSH10-590HN4G (590W)
QTY: (225)

INVERTER
YASKAWA SOLECTRIA
#PVI-60TL-480 (60KW)
QTY: (2)

SYSTEM SIZE
DC: (225) X (590W) = 132.75 KW
AC: (2) X (60KW) = 120.00 KW
[120.00 KW @ 120% (144.00 KW) = 144.00 KW]
CEC-AC: (225) X (555.6 PTC) X (985%) = 123.13 KW
DC/AC RATIO: 1.07

INTERCONNECTED LOAD-SIDE IN ACCORDANCE WITH CEC 705.12(B)(2) [120% RULE].
MAX PV AMPS = 120% BUS - MAIN
= 12*2500 - 2500
= 3000 - 2500
= 500 A > 180.4 A



 CITY OF SEDONA CLIENT 102 ROADRUNNER DRIVE SEDONA, AZ 86336	 PRIME EVA GREEN POWER 2445 HUPA DRIVE CARLSBAD, CA 92010	 STAMP													
REVISIONS: <table border="1"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table>														PROJECT #: 37157157 SUBMITTAL: XXXX DRAWN BY: AUS REVIEWED BY: AC SCALE: AS NOTED DATE: 09/24/2026	
		SHEET NAME: SITE PLAN													
		SHEET NUMBER: M-101 Page 12													



 CLIENT 102 ROADRUNNER DRIVE SEDONA, AZ 86336  PRIME GREEN POWER 2445 HUPA DRIVE CARLSBAD, CA 92010	 STAMP		REVISIONS: <table border="1"> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> <tr><td> </td><td> </td><td> </td></tr> </table> PROJECT #: 37157/157 XXXX SUBMITTAL: AJS DRAWN BY: AC REVIEWED BY: AS NOTED SCALE: AS NOTED DATE: 09/24/2026										SHEET NAME: SITE PLAN	SHEET NUMBER: M-101 Resubmittal #2

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CLIENT		
	102 ROADRUNNER DRIVE SEDONA, AZ 86336	
	PRIME	
	 GREEN POWER	
	2445 HUPA DRIVE CARLSBAD, CA 92010	
	STAMP	
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PROJECT #:	37157/SIT XXXX	
SUBMITTAL:	AJS	
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REVIEWED BY:	AS NOTED	
SCALE:	AS NOTED	
DATE:	09/24/2026	
SHEET NAME:		
SITE PLAN		
SHEET NUMBER: M-101 Project Page 42		

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DATE: 06/24/2026		SHEET NAME: SITE PLAN	SHEET NUMBER: M-101																								
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 CITY OF SEDONA CLIENT 102 ROADRUNNER DRIVE SEDONA, AZ 86336	 PRIME EVA GREEN POWER 2445 HUPA DRIVE CARLSBAD, CA 92010	 88379 ALLEN J. SLY P.E. STAMP																																																	
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SHEET NUMBER: M-101 Page 12																																																			

SHEET NOTES:

1. XXX.
2. XXX.

KEY NOTES:

1. XXX.
2. XXX.

SCALE: 1/8" = 1'-0"

N

-
- SHEET NOTES:**
1. XXX.
 2. XXX.
- KEY NOTES:**
1. XXX.
 2. XXX.
- SCALE:** 1/8" = 1'-0"
- N**

SHEET NOTES:

1. XXX.
2. XXX.

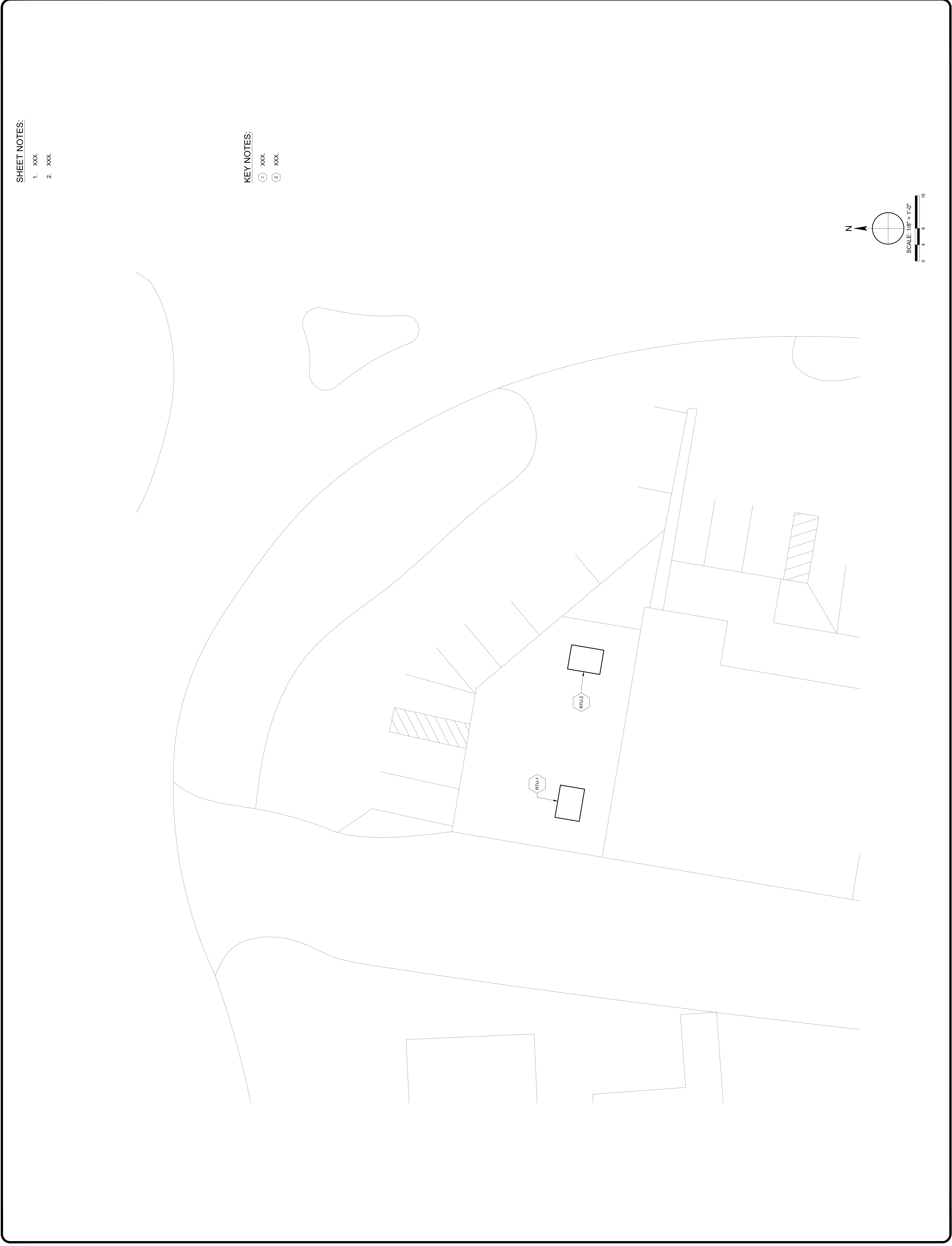
KEY NOTES:

1. XXX.
2. XXX.

SCALE: 1/8" = 1'-0"

N

-
- SHEET NOTES:**
1. XXX.
 2. XXX.
- KEY NOTES:**
1. XXX.
 2. XXX.
- SCALE:** 1/8" = 1'-0"
- N**



SHEET NOTES:

1. XXX.
2. XXX.

KEY NOTES:

1. XXX.
2. XXX.

SCALE: 1/8" = 1'-0"

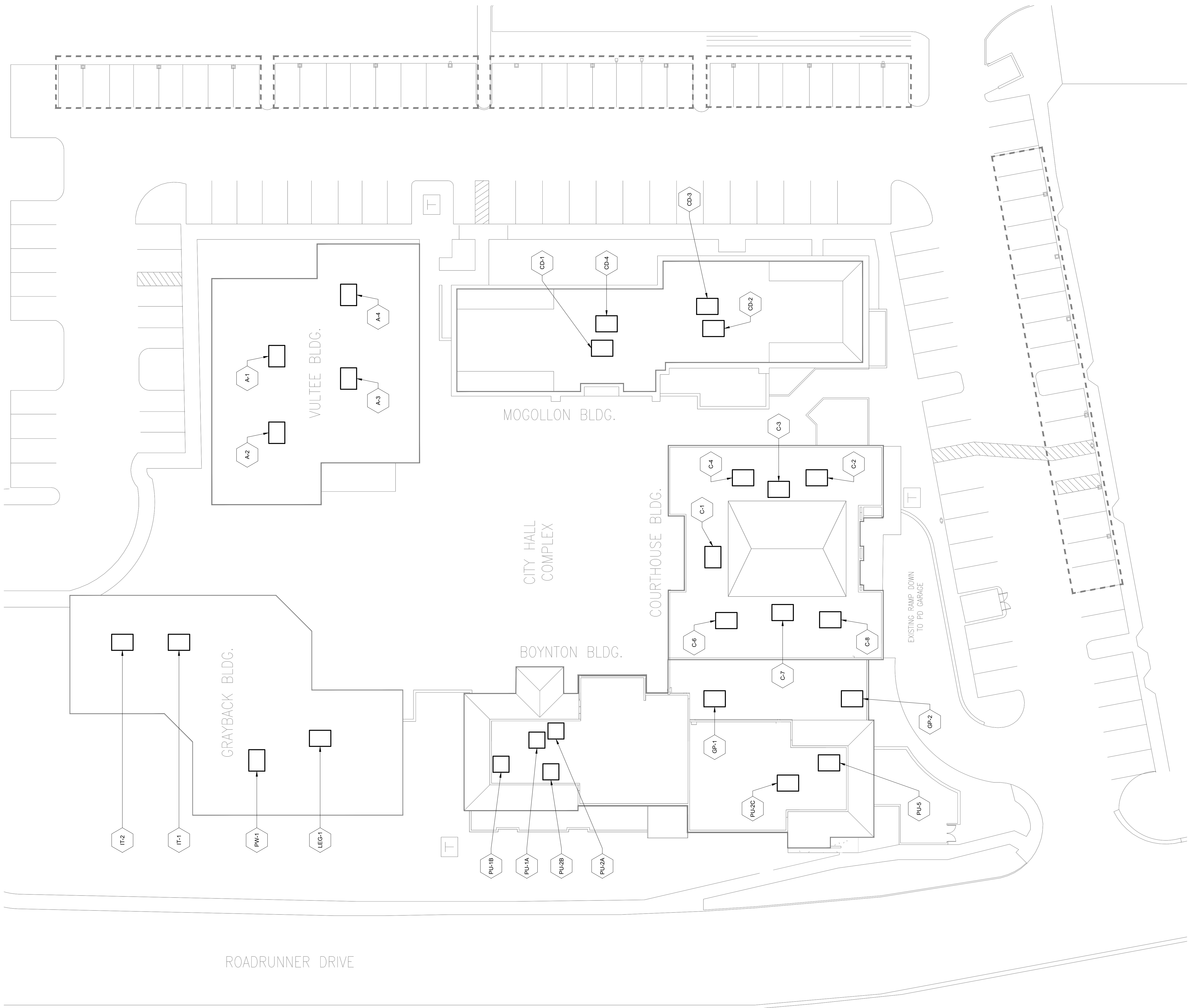
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SHEET NOTES:

1. XXX
2. XXX

KEY NOTES:

1. XXX
2. XXX



CITY OF SEDONA

102 ROADRUNNER DRIVE
SEDONA, AZ 86336

PRIME

EVA GREEN POWER

2445 INPA LA DRIVE
CARLSBAD, CA 92010

STAMP

85379
ALLEN J.
SLY

REVISIONS:

PROJECT #:

37157

SUBMITTAL:

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DRAWN BY:

AJS

REVIEWED BY:

AC

SCALE:

AS NOTED

DATE:

08/24/2026

SHEET NAME:

SITE PLAN

SHEET NUMBER:

M-101

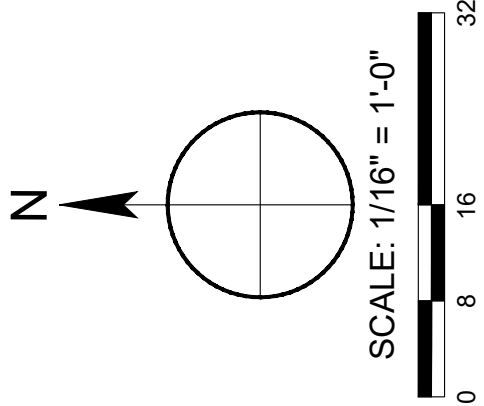
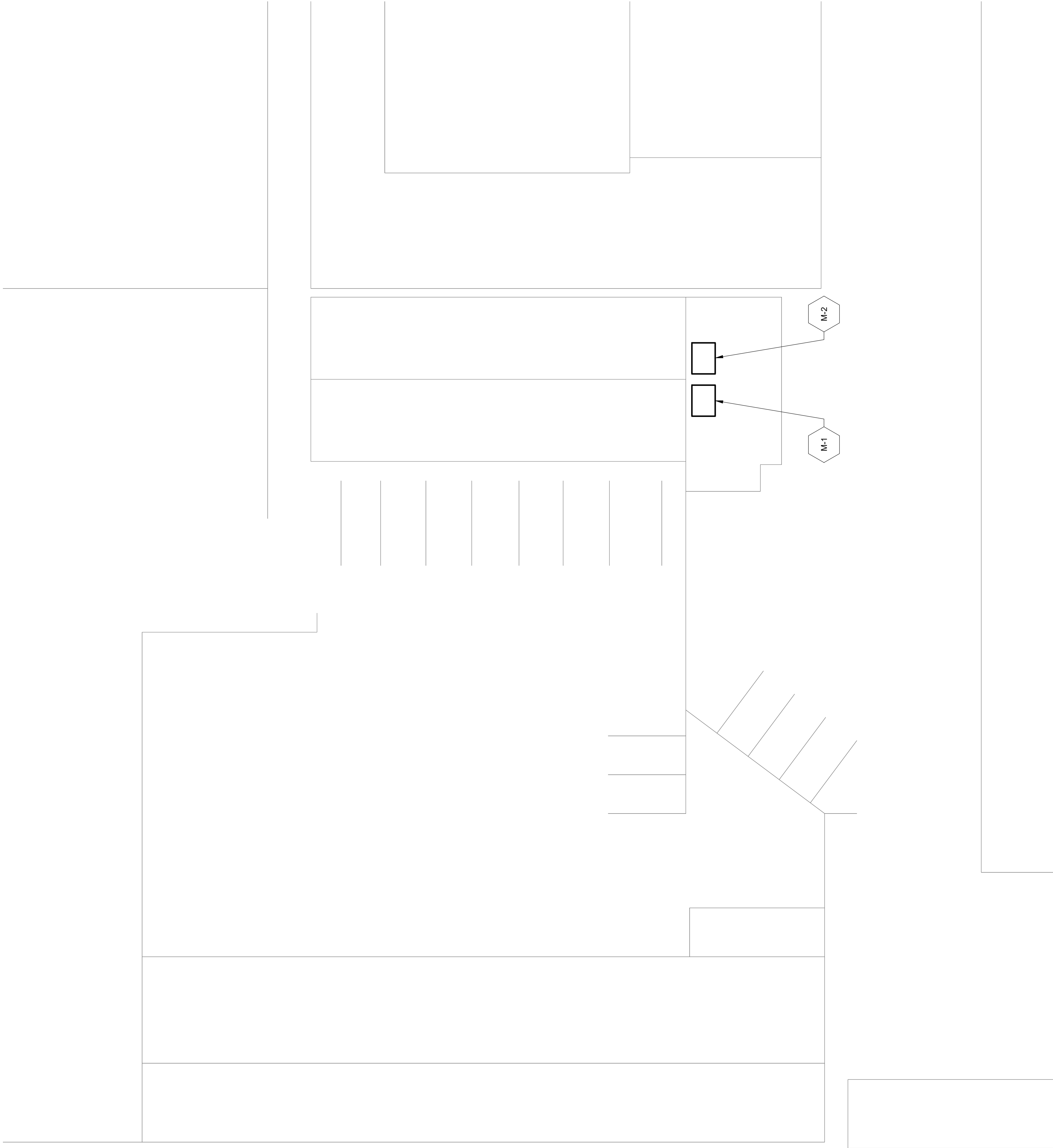
Project Page 44

SHEET NOTES:

1. XXX
2. XXX

KEY NOTES:

1. XXX
2. XXX



CITY OF SEDONA

102 ROADRUNNER DRIVE
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PRIME

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2445 INPA LA DRIVE
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STAMP

85379
ALLEN J.
SLY

REVISIONS:

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08/24/2025

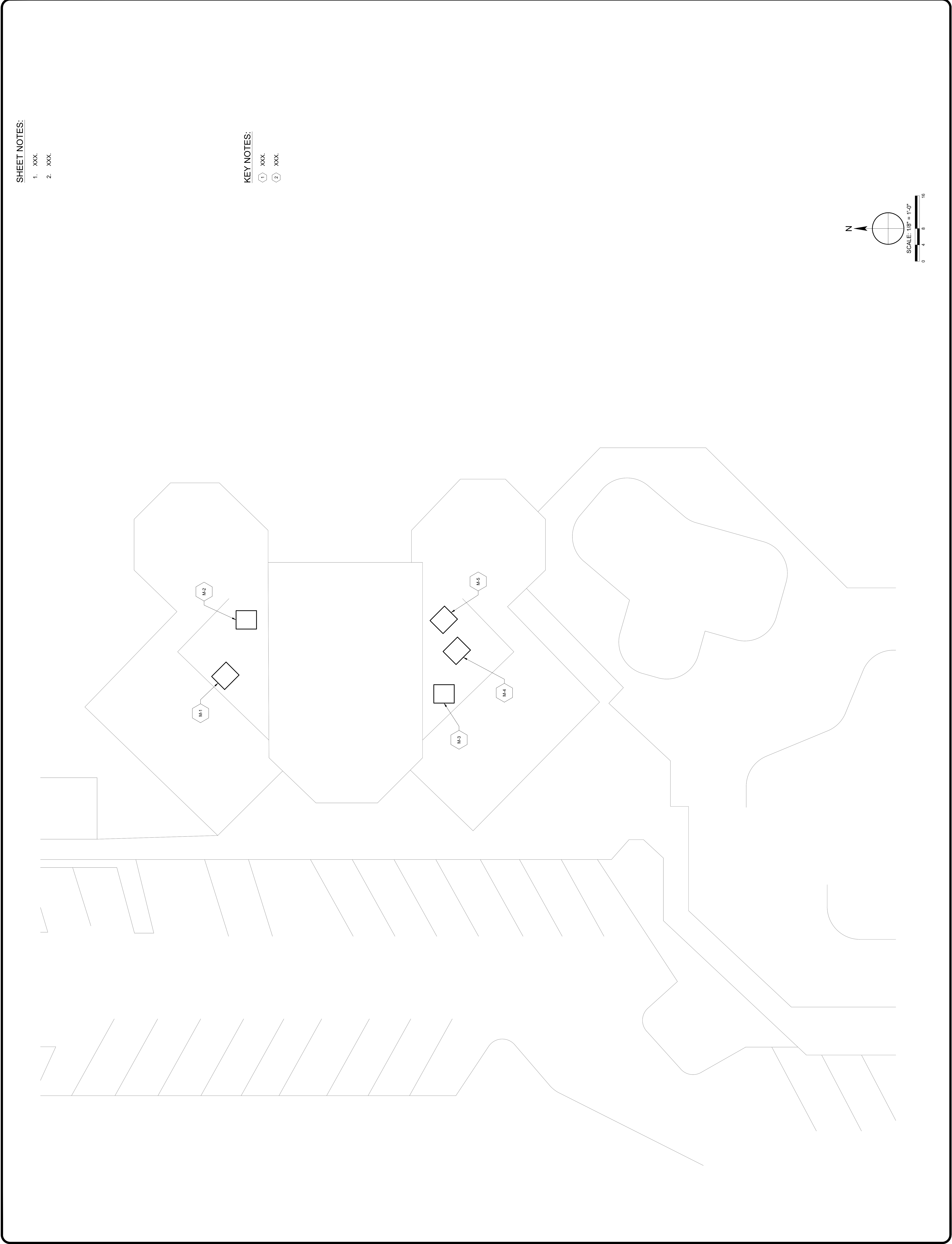
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M-101

Project # 37157

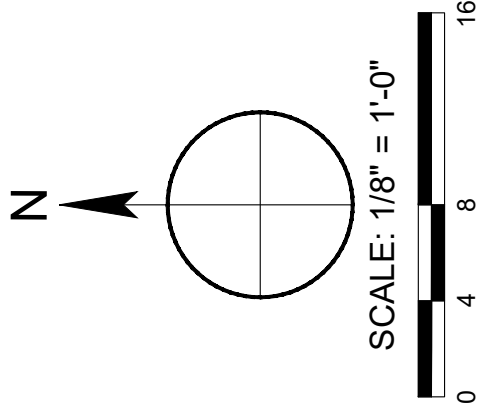


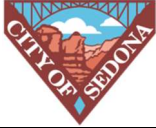
SHEET NOTES:

1. XXX.
2. XXX.

KEY NOTES:

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CITY COUNCIL AGENDA BILL

AB 2378
August 26, 2026
Special Business

Agenda Item: 3b

Proposed Action & Subject: Discussion/possible direction regarding Sedona in Motion (SIM) projects overview.

Department Public Works/ Roxanne Holland and Jon Ebers

Time to Present 90 min

Total Time for Item 120 min

Other Council Meetings 2018: March 27 AB 2355, June 13 AB 2378, August 15 AB 2378, December 11 AB 2378; 2019: March 27 AB 2378, May 29 AB 2378, July 23 AB 2378, October 22 AB 2378; 2020: February 11 AB 2378, June 24 AB 2378, October 14 AB 2378; 2021: February 24 AB 2378, June 9 AB 2378, October 12 AB 2378; 2022: January 25 AB 2378, May 11 AB 2378, October 12 AB 2378; 2023: April 11 AB 2378, August 9 AB 2378, December 13 N/A; 2024: April 24 AB 2378, July 10 AB 3086, November 13 AB 3086; 2025: February 26 AB 3152, May 28 AB 3153, September 23 AB 3135

Exhibits

Finance Approval	Reviewed 7/29/26 JMC; BGW		
City Attorney Approval	Reviewed 8/17/26 MKC	Expenditure Required	
City Manager's Recommendation	Reviewed ABS 7/29/26	\$	NA
		Amount Budgeted	
		\$	NA
Account No. (Description)			

SUMMARY STATEMENT

Background:

The January 2018 City of Sedona Transportation Master Plan (TMP) evaluated citywide transportation needs and concluded with recommended strategies to address the congestion and mobility needs of residents, visitors, and commuters. These strategies have been developed into a system of capital improvement projects (CIP) that collectively have been identified and promoted as the Sedona in Motion (SIM) program. The SIM program is a multi-modal transportation initiative embracing Sedona's community values for improved traffic flow, community connections, business and tourism connections, economic vitality and diversity, environmental stewardship, walkability, and a sense of place.

SIM projects are divided into 12 categories:

- SIM-1: Uptown Sedona Roadway Improvements
- SIM-2: Uptown Sedona Pedestrian Improvements
- SIM-3: Uptown Sedona Parking Improvements
- SIM-4: SR 179 Improvements, Schnebly Hill Roundabout to the “Y”
- SIM-5: Major Roadway Connections
- SIM-6: Neighborhood Vehicular Connections
- SIM-7: Enhanced Transit Service – Commuter/Resident Focused
- SIM-8: Enhanced Transit Service – Tourism Focused Shuttle Service
- SIM-9: Neighborhood Vehicles – Tourism Focused
- SIM-10: SR 89A/West Sedona Access Improvements
- SIM-11: Bicycle and Pedestrian Improvements
- SIM-12: Traveler Information

Summaries of the most recent SIM updates presented to Council are below:

- On February 26, 2025, staff provided an update on the Traction Dashboard data for traffic volume counts and travel time improvements.
- On May 28, 2025, staff provided an update on transit and parking projects, as well as a Traction Dashboard data update. The traffic data dashboard compared travel time over the last two years and demonstrated the effectiveness of the completed uptown SIM projects including SIM-1B Amara Right Turn Lane, Forest Road Traffic Signal and Zipper Lane, and SIM-4C Pedestrian Crossing at Oak Creek.
- On September 23, 2025, staff provided an overview of strategies, successes, and setbacks, focusing on funding source direction for proposed roundabouts at SIM-5D Brewer/Ranger Roads and SIM-5E SR89a/Forest/Ranger, and the SIM-4F Y-Roundabout Signal Metering Project; A general overview of transit and the Uptown Parking Garage. By majority consensus, Council directed staff to drop option 3 from the SIM 5E Brewer Roundabout Options, and to bring back pricing and cost analysis to remove the crosswalk for the next SIM update. Staff will bring information regarding accidents or near-miss accident counts at the Forest/Ranger/SR 89A intersections.

This update provides an overview of SIM projects completed in Fiscal Year-26 (FY-26) which include SIM-11M Dry Creek Road Pathway, Gringo to White Bear and SIM-11N Andante Shared-Use Path and Drainage Improvements, Fiscal Year-27 (FY-27) project status updates, and a summary of future planned projects. Staff are seeking direction on funding strategies for projects with unsuccessful grant applications for construction funds.

The table below summarizes completed projects, current FY-27 projects, and planned future projects for each SIM category:

SIM Category	Completed Projects	FY-27 Projects	Future Projects
SIM-1 Uptown Roadway Improvements	1A Uptown Roadway, 1B Uptown Northbound		
SIM-2 Uptown Pedestrian Improvements			2 Uptown Pedestrian Improvement
SIM-3 Uptown Parking Improvements		3A Uptown Parking Garage, 3B Uptown Residential Parking Improvements, 3C Wayfinding Signage, 3D Forest Road Improvements, 3E Parking Management System	
SIM-4 SR 179 Improvements, Schnebly Hill roundabout to the “Y”	4C Pedestrian Crossing at Oak Creek	4C Median Pedestrian Safety Barrier, 4E Ranger/ SR 179 Intersection Improvements, 4F Y RAB Adaptive Signals	4B SR179 Lane Expansion from Schnebly RAB to Y, 4D SR89A & SR179 RAB Modernization
SIM-5 Major Roadway Connections	5B Forest Road Connection, 5C Los Abridados to Brewer Connection	5D Brewer-Ranger Intersection, 5E Forest/Ranger/SR 89A Intersection Improvements	5A Portal to Brewer Rd Connection
SIM-6 Neighborhood Vehicular Connections		6A Chapel Neighborhood Connection	6B Other areas
SIM-7 Enhanced Transit Service-Commuter/Resident Focused			
SIM-8 Enhanced Transit Service-Tourism Focused Shuttle Service		PT-04 Bus Stop Improvements, PT-04B North SR179 Park and Ride	PT-05 West Sedona Intercept Lot, PT-06 South SR 179 Park and Ride
SIM-10 SR 89A/West Sedona Access Improvements		10 West SR 89A Access Improvements & Adaptive Signal Control, 10A Traffic Calming and SUP- White Bear Rd to SR89A	PW-10 - Intersection Improvements - 7500 West SR 89A
SIM-11 Bicycle and Pedestrian Improvements	11B Posse Ground Parking Improvements & Soldiers Pass SUP, 11C Sunset Park SUP, 11F Bicycle Green Lanes, 11G Thunder Mountain/Sandborn SUP and	11P Brewer Rd SUP, 11Q Shelby II SUP*, 11T Coffee Pot SUP, 11U Navoti Dr State Land, 11X Zane Grey	11R Rodeo SUP, 11W Tranquil Madole SUP, 11Y Thunder Mtn II, 11-4 Jordan Rd SUP, 11-A Rodeo Rd to Dry Creek

	Drainage Improvements, 11H Chapel Road SUP, 11I Dry Creek Road SUP, 11J Pinon Drive SUP, 11o SR179 Signing & Striping, 11S Little Horse SUP, 11M Dry Creek Road Pathway, Gringo to White Bear, 11N Andante SUP and Drainage Improvements	SUP, 11Z Gun Fury SUP, 11-3 Cook's Hill USFS SUP	Rd SUP, 11-D Schnebly Hill SUP
SIM 12 Traveler Information	12A Traveler Info (ADOT Project)		

FY-27 PROJECTS STATUS UPDATE

SIM-3 Uptown Parking Improvements

SIM-3A Uptown Parking Garage (Priority 1)

Construction of the Garage is complete, except punch list work and remaining operational infill work. The city is negotiating with AZ Water on improvements needed to existing water infrastructure for the area, which are necessary to ensure fire flow to the parking garage will be supplied within safe operating parameters of Arizona Water Company's water distribution system. The city does not have a construction timeline for completion of these improvements.

SIM-3B Uptown Residential Parking Improvements (Priority 2)

This project is currently under development by transit program staff, with an implementation strategy expected to be developed in fall 2026.

SIM-3C Wayfinding Signage

This project is currently under development by transit program staff, with an implementation strategy expected to be developed in fall 2026. The Wayfinding Signage project will improve driver direction to public parking areas.

SIM-3D Forest Road Improvements (Priority 1)

Design is substantially complete and features roadway, pedestrian, and utility improvements between the Uptown Parking Garage and SR 89A. Construction of this project is expected to begin in spring 2027.

SIM-3E Parking Management System (Priority 1)

This project is currently under development by transit program staff, with an implementation strategy expected to be developed in fall 2026. The project will implement parking management, guidance, and access/revenue control systems for city-wide parking.

SIM-4 SR 179 Improvements, Schnebly Hill roundabout to the "Y"

SIM-4C Pedestrian Crossing at Oak Creek (Priority 1)

Phase I of this project was complete with the addition of the pedestrian underpass beneath the SR 179 bridge over Oak Creek. Phase 2 consists of a barrier in the median of SR 179 near the Tlaquepaque corridor. Design for this project is being completed in-house. A mock-up of the barrier will be constructed at Ranger Station Park for community input late this summer.

After community input, design changes will be made as needed, and construction is expected in the late fall or winter.

SIM-4E Ranger/SR179 Intersection Improvements (Priority 2)

This project is planned for the addition of an acceleration/merge lane for Ranger Road traffic turning right onto SR 179. Design will be contracted using the city's Master Service Agreements (MSA) for Professional Services. Construction is tentatively planned for FY-28.

SIM-4F "Y" Roundabout Adaptive Signals (Priority 1)

Adaptive signals relieve congestion by keeping the roundabout in a free flow condition by creating gaps and preventing vehicles stopping in the roundabout. Design is complete and an IGA with ADOT is being prepared. Construction is expected to occur in early 2027.

SIM-5 Major Roadway Connections

SIM-5A Portal Lane to Brewer Road Connection (Priority 2)

This project is intended to reduce traffic congestion along SR 179 by directing vehicles from the Tlaquepaque parking lot to exit out to Brewer Road for West Sedona or Uptown destinations. Staff is working with Tlaquepaque to finalize a mutually agreeable concept design. Afterwards, a development agreement for property exchange will be initiated. Design is expected to begin in FY-28.

SIM-5D Ranger/Brewer Roundabout Intersection & SIM-5E Forest/Ranger/SR 89A Roundabout Intersections with Ranger Extension Improvements (Priority 1)

These projects are integral to improving connectivity near the Y-Roundabout. Staff applied for grant funding for both projects in FY-26 and both applications were unsuccessful. Full funding for construction of these projects is not in the FY-27 budget, and without the anticipated grant funding, additional funds are needed to complete the projects. Options for additional funding could include:

- Begin construction in late FY-27, utilizing current fiscal year funding to construct a portion of the projects. This would require remaining funds to be budgeted and approved in FY-28 to complete the remainder of the construction in FY-28.
- Identify additional grant opportunities and apply for grant funding in FY-27. This would delay construction until FY-28 or beyond.
- Pursue bonding the construction costs.

Staff are actively pursuing acquisition of right-of-way and temporary construction easements. Minor design work is needed if the projects are combined into a single construction contract. Combining the two projects into a singular construction project would shorten the overall construction duration and potentially result in cost savings. Significant utility work will also need

to be coordinated during the construction, which would be more efficient by combining the two projects for construction.

SIM-6 Neighborhood Vehicular Connections

SIM 6 Neighborhood Street Connections (Priority 2)

This project is planned for connecting the disconnected Chapel area neighborhoods to improve ingress-egress particularly related to high visitation to Chapel of the Holy Cross. Design will be contracted utilizing MSA's for professional services. Design in FY-27 will include an initial study to determine potential alignment options.

SIM-8 Enhanced Transit Service-Tourism Focused Shuttle Service

PT-04 Bus Stop Improvements (Priority 2)

This project focuses on improving the Dry Creek Vulture Arch shuttle stop. These improvements will allow shuttle drop off and pick up of passengers outside of the Vulture parking lot mitigating the chances of the shuttle getting stuck. Staff expect to have finalized design for summer construction.

PT-04B SR 179 and Bowstring Dr (Priority 1)

This improvement project separates the shuttle bus operation from the parking lot. A bus bypass ramp will pass by a new restroom facility and shade canopy area adjacent to the parking lot. Additionally, the parking lot will be resurfaced and provided with a turnaround area at the end of the lot. The layout will provide improved circulation and additional parking spaces. A turnaround area will also be provided for passenger cars that are turned away from entering due to the frequent condition of the lot being full. Design is expected to be completed in the fall, with construction beginning in the winter.

SIM-10 SR 89A-West/Sedona Access Improvements

SIM-10 West SR 89A Access Improvements & Adaptive Signal Control (Priority 2)

Improvements may include the addition of a continuous raised median with median breaks every ¼ mile between Dry Creek Road and Airport Road, identification of redundant driveways that can be consolidated and closed, and implementation of adaptive traffic signal control system and communication line between traffic signals. Design will be contracted utilizing MSA's for professional services. Design in FY-27 will include an initial study to determine a full scope of work and possible options for design in FY-28.

SIM-10A Traffic Calming and SUP- White Bear Rd to SR89A (Priority 2)

This project includes widening of Dry Creek Road to accommodate 5-foot-wide bike lanes and 10-foot-wide SUPs on both sides of the road. Design is 90% complete, with right-of-way and temporary construction easement acquisition in progress. Staff are communicating with property owners to ensure understanding of how the right-of-way will change, how businesses

will be impacted and incorporate feedback into the construction plans where possible. Construction is expected to begin in late spring 2027.

SIM-11 Bicycle Pedestrian

SIM-11-3 Cook's Hill (USFS) Shared-Use Path (Priority 2)

Design will be contracted utilizing MSA's for professional services. Design in FY-27 will include an initial study to determine a full scope of work and possible options for design in FY-28.

SIM-11P Brewer Rd Shared-Use Path (Priority 1)

The city was awarded grant funding to complete construction of this project. ADOT will perform contract and construction management of this project, which was opened for bid on July 25, 2026. Construction is expected to begin in late 2026.

SIM-11Q Shelby II Shared-Use Path (Priority 1)

This project added SUP along Shelby Road to connect recently added SUP from Sedona Recycles to S Monte Verde Dr. The city was awarded grant funding for this project and ADOT is performing contract and construction management. Construction of the project is expected to be completed in August 2026.

SIM-11T Coffee Pot Shared-Use Path,(Priority 2)

Design of this project is underway and expected to be complete in spring 2027. Applications were unsuccessful in securing grant funding for this project. Partial construction funding for this project is available in FY-27. Options for additional funding include:

- Begin construction in late FY-27, utilizing current fiscal year funding to construct a portion of the project. This would require remaining funds to be budgeted and approved in FY-28 to complete the remainder of the construction in FY-28.
- Identify additional grant opportunities and apply for grant funding in FY-27. This would delay construction until FY-28 or beyond.

SIM-11U Navoti II Shared-Use Path (Priority 2)

This project includes a portion of SUP that will connect the West SR 89A Park and Ride to Dry Creek Road and is possible after the city acquired an easement agreement from Arizona State Land. Design of the Shared-Use Path is expected to be complete in fall 2026, with construction following immediately.

SIM-11X Zane Grey Shared-Use Path (Priority 2)

This project will connect a parallel pedestrian and cyclist east-west routes to Posse Grounds Park. Design will be completed in FY-27 and construction is planned for FY-28.

SIM-11Z Gun Fury Shared-Use Path (Priority 2)

This SUP is planned for approximately 900 linear feet along Gun Fury Road and Last Wagon drive to provide an east-west route to Posse Grounds Park. Design will be completed in FY-27 and construction is planned for FY-28.

Staff are seeking council direction on timing and funding mechanisms for SIM-5D Ranger/Brewer Roundabout Intersection, SIM-5E Forest/Ranger/SR 89A Roundabout Intersections with Ranger Extension Improvements, and SIM-11T Coffee Pot Shared-Use Path.

Climate Action Plan/Sustainability Consistent: ☒Yes - ☐No - ☐Not Applicable

Strategies implemented under this program aim to reduce congestion and improve travel times, which results in reduced vehicle emissions.

Board/Commission Recommendation: ☐Applicable - ☒Not Applicable

Alternative(s): Not Applicable



I move to: For discussion and possible direction only.