White-Lot Power Memo — Phase 1 (Lots 1–13, 14–22, 28–37)

Scope: 32 dwellings (white plots only): Lots 1–13 (13× @ 3,200 ft²), 14–22 (9× @ 2,800 ft²), 28–37 (10× @ 3,800 ft²).

Group	Home Size	Load (kVA)	Amps @240V	Service
1–13 (13x)	3,200 ft²	28.79	~120 A	200 A
14–22 (9x)	2,800 ft²	28.37	~118 A	200 A
28–37 (10x)	3,800 ft²	29.42	~123 A	200 A

Non-coincident sum: ~923.64 kVA. Subdivision diversity ~40% ⇒ **coincident (base):** ~369 kVA. EV allowance: Level-2 11.5 kW/home @40% coincident ⇒ ~147 kW. **Coincident total (with EV):** ~517 kVA.

Feeder/Transformer planning: If 480Y/277 V, 3Φ → ~621 A @ 517 kVA ⇒ size 800 A main (1,000 A for headroom). If 208Y/120 V, 3Φ → ~1,434 A ⇒ size 1,600 A main. Pad-mount transformer serving white lots: start at ~750 kVA with EVs included; downsize to ~400 kVA if EVs are off-feeder or staged later.

Net■zero PV + storage per home (Puerto Rico sun, thin-film/solar pavers, flat roof): 2,800 ft² → ~7.5 kW PV, ~38 kWh battery, 10–12 kW hybrid inverter; 3,200 ft² → ~8.5 kW PV, ~44 kWh battery, 12 kW hybrid inverter; 3,800 ft² → ~10.1 kW PV, ~52 kWh battery, 12–15 kW hybrid inverter.

Optional micro■wind: Where mean wind ≥5.5 m/s, add 2–5 kW VAWT per home as supplemental; integrate via rectifier to hybrid DC bus. Treat as bonus kWh (not required for offset).

One■line (summary): 15 kV primary sectionalized by street clusters; pad■mounts at tee nodes; secondary 480Y/277 V preferred for conductor efficiency; services 200 A 1Φ 120/240 V; whole■home + PV/BESS SPDs; reserve 60 A breaker space for EV.