

CODE IS THE FLOOR. STANDARD IS THE CEILING.

Scope: Service entrance · Panelboards · NM-B (Romex) · HomeWorks lighting panel · Palladiom keypads · Ketra · Linear LED · Boxes · OCPD · GFCI / AFCI · Grounding & Bonding. NEC-aligned. Luxury residential only.

§01	OPERATING PRINCIPLES
- One team. One project plan. Shared QC checklist. - Code is the floor. Standard is the ceiling. - Every box, run, and termination is owned by the installer. - If you see it, you own it. Flag and correct, not bury. - Documentation matches the field exactly at closeout.	

§02	APPROVED TOOLS — KEY ITEMS
- Stapler A: Milwaukee M12 Cable Stapler. Bare 2448-20 / kit 2448-21. - Staples A: Milwaukee MNM1-600, 1 in. insulated. - Stapler B: DeWalt 20V Max Cable Stapler. Bare DCN701B / kit DCN701D1. - Staples B: DeWalt DRS18100, 1 in. insulated. - Torque: calibrated screwdriver, lugs to mfr value, witnessed. - Test: calibrated GFCI tester at every device at trim. - Label: Brady printer. No handwritten labels at closeout.	

§03	PROHIBITED — DO NOT
- Hammered staples on NM-B, under any circumstance. - Aluminum branch-circuit conductors at devices. - Back-stab device terminations (push-in). - Bored holes within 1¼ in. of a framing edge without a 1/16 in. listed steel nail plate (300.4(A)). - Shared neutrals across circuits without a handle-tied MWBC (210.4(B)). - Substituting MC or BX for specified NM-B without written direction. - Line-voltage switching at keypad locations on panelized lighting. - Open conductors in service-entrance or panel-feed cavities.	

§04	SERVICE & PANELBOARDS
- Working space: 30 in. wide x 36 in. deep x 6½ ft high clear (110.26). - Panel mount plumb. Deadfront vertical. Top breaker max 6 ft 7 in. AFF (240.24). - Service GEC continuous. Sized per 250.66. Bonded at the first disconnect. - N/G bond at service only. Sub-panels: isolated neutral, separate EGC bar. - Phase tape consistent across all panels and gutters.	

§05	NM-B SUPPORT & PHYSICAL PROTECTION · 334.30 / 300.4
- Secure within 12 in. of every box and at intervals not exceeding 4½ ft (334.30). - Listed staples or straps only. No tightly cinched fasteners. - Bored holes: edge of hole ≥ 1¼ in. from nearest framing edge (300.4(A)(1)). - Setback < 1¼ in.: move the wire (re-bore toward center) or add protection (1/16 in. listed steel nail plate). One or the other, every time. - Notches: protect with a 1/16 in. listed steel plate sized to cover the notch (300.4(A)(2)). - Parallel runs along studs/plates: cable held ≥ 1¼ in. from the nearest face of the framing (300.4(D)). - Parallel run < 1¼ in.: move the wire deeper, or add a 1/16 in. listed steel plate covering the run. - Through metal studs: listed bushings or grommets at every opening (300.4(B)).	

§06	CONDUCTOR INTEGRITY & SLACK
- Round jacket, no deformation. Damaged jacket replace the run. - No kinks, sharp bends, or staple crush. Drive depth set on the tool. - Service loop at every box. Coil the slack, never bend it. - Loop diameter 3 to 4 in. NEC 300.14 minimum 6 in. of free conductor at each box. - Strip only at termination. No twisting conductors during the pull.	

§07	BOX FILL & RECEPTACLES
- Box fill: count each ungrounded + neutral as 1 unit; all EGCs = 1 unit; all clamps = 1 unit; each yoke = 2 units (314.16). - Wall space 2 ft+ requires a receptacle; max 12 ft between (210.52(A)). - Kitchen counter: receptacle within 24 in. of any point (210.52(C)). - Bathroom: at least one within 36 in. of basin edge on a 20 A circuit. - Boxes set plumb, flush to finish. No twist on the yoke.	

§08	GFCI & AFCI · NEC 210.8 / 210.12
- GFCI: bathrooms, garages, outdoors, crawl spaces, unfinished basements, kitchens, laundry, sinks within 6 ft, dishwashers, indoor damp/wet. - AFCI combination breakers on all 120 V, 15/20 A dwelling-unit branch circuits per 210.12(A). - Test trip-time at every device at trim. Capture results on QC sheet. - Verify torque on AFCI / GFCI breaker terminals before energization.	

§09	OCPD & CONDUCTOR SIZING · NEC 240
15 A circuit: 14 AWG Cu min, NM-B, 60 °C column. 20 A circuit: 12 AWG Cu min, NM-B, 60 °C column. 30 A circuit: 10 AWG Cu min. 40 A circuit: 8 AWG Cu min. 50 A circuit: 6 AWG Cu min. - Tap rules: 10 ft / 25 ft per 240.21(B). Document on the as-built.	

§10	GROUNDING & BONDING · NEC 250
- GEC continuous from service to grounding electrode system (250.64). - All metallic water and gas piping bonded (250.104). - EGC sized per Table 250.122 to OCPD ahead of the circuit. - Sub-panel: isolated neutral, separate EGC bar, four-wire feeder.	

§11	HOMEWORKS LIGHTING PANEL
- Located in dedicated electrical / equipment room. NEC 110.26 working space. - Dedicated 120 V control feed, individually breakered. Not shared with branch circuits. - Top or left wire entry only. No LV in HV compartment. - Panel plumb, mounted to backing. No drywall-only mounts. - Reference Lutron 043-262b install guide.	

§12	PALLADIOM KEYPADS (LV)
- Wallbox 3.7 x 1.8 x 2.8 in. (Lutron 369857 / 369881). LV-only mud ring. - Cable: QS link. GRX-CBL-346S, GRX-PCBL346S, or QS-CBL-LSZH (22 AWG). - Run: max 2,000 ft per QS link total. No daisy through line-voltage boxes. - Mounting: box plumb, flush, depth set for trim-plate gasket. - Zero line voltage at any keypad location.	

§13	LINEAR LED + KETRA
- Driver remoting (short / accessible runs): drivers in the lighting closet. - Driver remoting (long runs): local drivers where V-drop or distance exceeds budget. - V-drop budget driver-to-fixture: 1.5% max (Lutron AN591, ERP AN110). - Pull strings + service loop at every driver location. - Ketra N3: max 40 ft per P4 group; 100 ft max per circuit. - KetraNet Mesh: 50 ft node-to-node; 6 ft from any 2.4 GHz Wi-Fi radiator.	

QC GATE — VERIFY BEFORE CLOSE-IN

☐ Panels plumb · 30 in. clear	☐ All NM-B stapled to spec · no hammered	☐ Service loops coiled at every box	☐ Runs < 1¼ in. from edge: wire moved or 1/16 in. plate	☐ MWBCs handle-tied
☐ GFCI / AFCI tested · results captured	☐ Keypad LV mud rings · zero HV at switch	☐ HomeWorks panel feed dedicated	☐ Driver V-drop budget verified	☐ As-built matches field exactly