STREETLIGHT RETROFIT PROJECT

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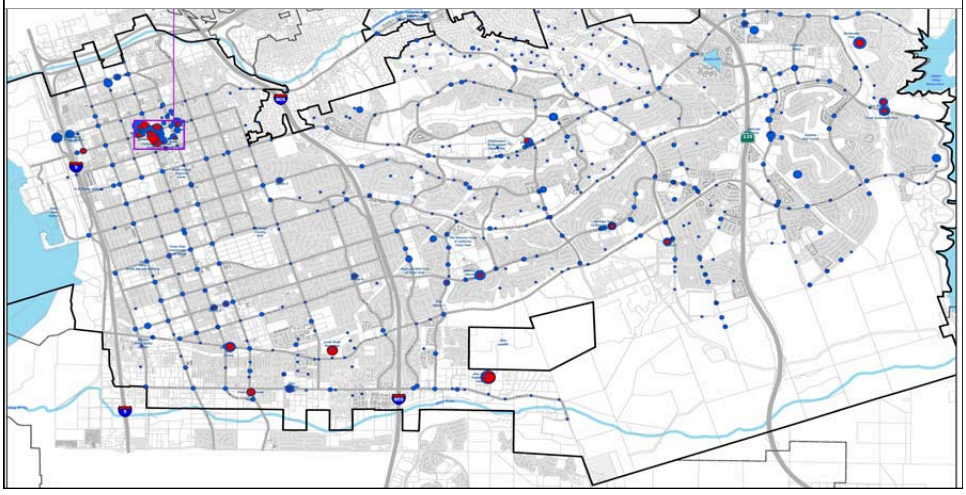
…CLOSE ENCOUNTERS OF THE STREETLIGHT KIND

OUTLINE

- **Why Streetlights?**
  - CV Energy Statistics
  - Streetlight Inventory
- **Streetlight Retrofit Project**
  - Assessment Phase
  - Residential Streets (Phase 1)
  - Financing
- **Lessons Learned**
  - Next Steps

MUNICIPAL (ENERGY) STATISTICS

- **700+ energy utility meters**
- **Annual electricity use = 18 million kWh**
- **Streetlights = 38% of electricity use**



CURRENT STREETLIGHT INVENTORY

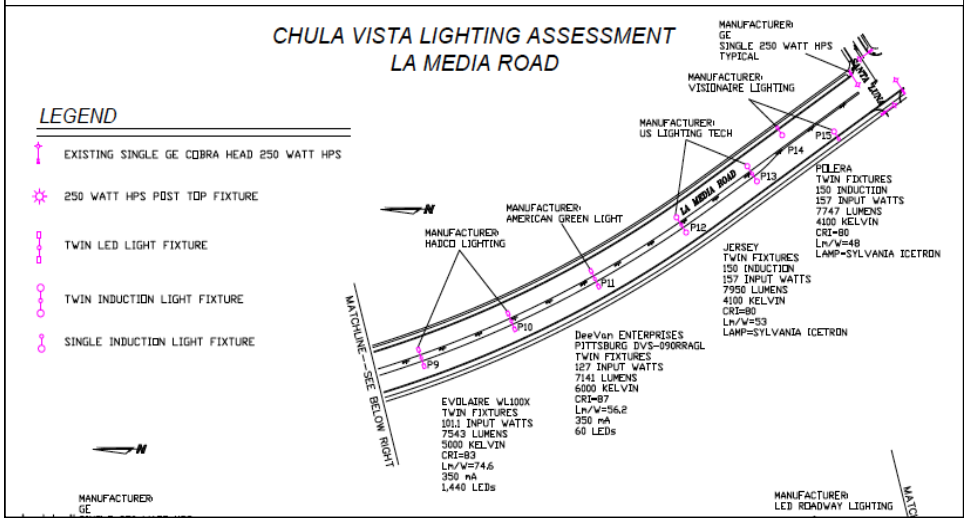
- 9,000 streetlight luminaires
  - 4,600 100-Watt HPS (residential streets)
  - 3,800 250-Watt HPS (arterial streets)
  - 600+ various wattages

STREETLIGHT ASSESSMENT PROJECT

- Pilot Phase began in 2008
- Solicited products for testing from vendors
- Arterial roadway in new development

STREETLIGHT ASSESSMENT PROJECT

- **32 test fixtures (20 LED, 10 Induction, 2 HPS)**
- **Preliminary specifications for participants**

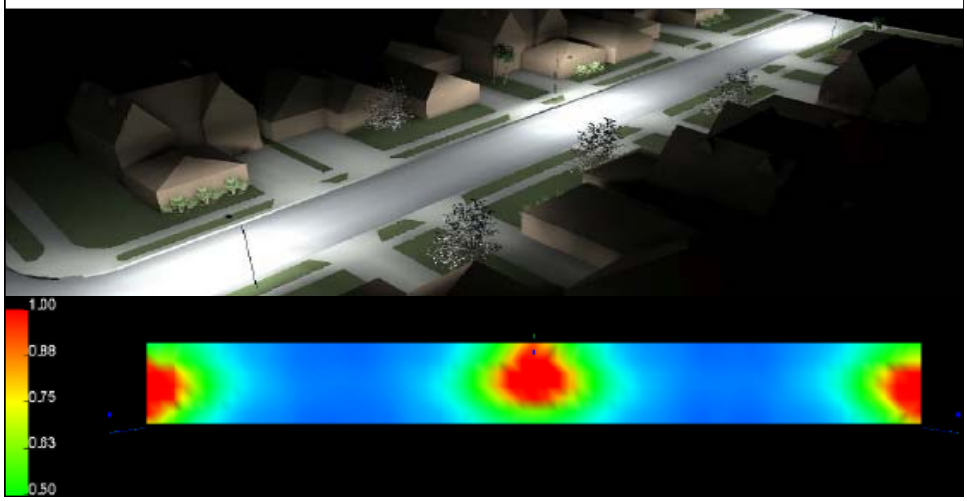


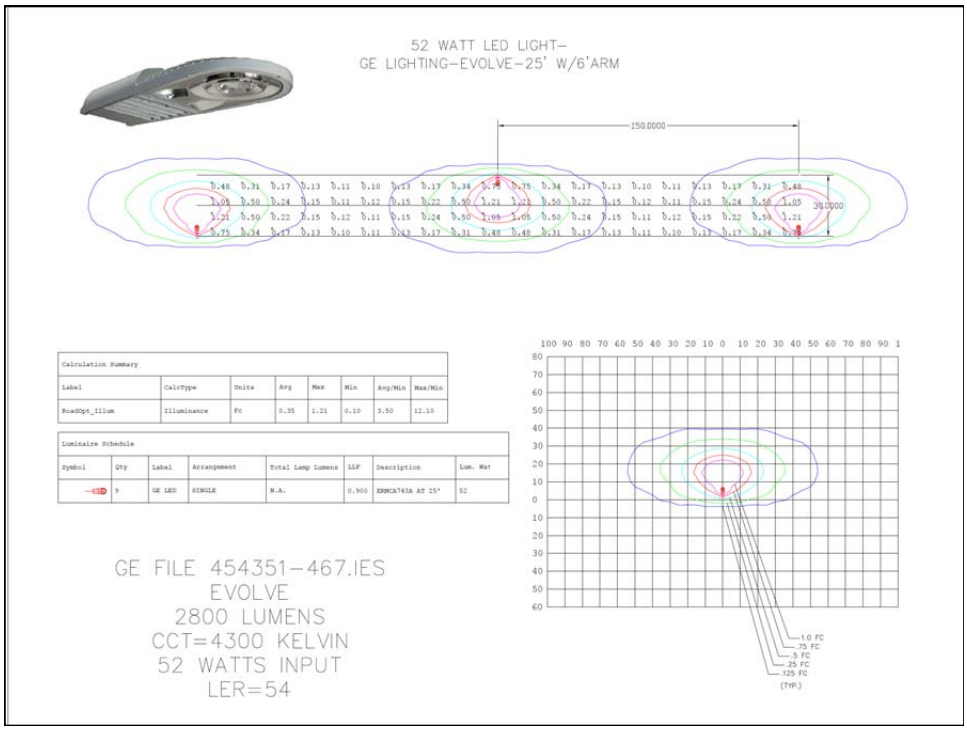
STREETLIGHT ASSESSMENT

- **Assessment metrics**
  - Performance
  - Light Quality
  - Reliability
  - Aesthetics
  - Serviceability
  - Energy consumption
  - Cost
- **LED technology chosen**
  - Mimic HPS light patterns
  - Greater controllability
  - Energy savings

RESIDENTIAL STREETS (Phase 1)

- **Replace 4,600 100-Watt HPS fixtures**
- **Design Build RFP**
- **Contractor solicit & rank LED fixtures**





RESIDENTIAL STREETS

- **Gross Project Costs**
  $2,281,000
- **Utility Rebate Amount**
  $230,000
- **Annual Energy Savings**
  900,000 kWh
- **Finance thru CEC Loan**
  1% interest rate
  10-yr simple payback

LESSONS LEARNED

- **Require independent, 3rd-party testing**
- **Work w/ IOU on rebate eligibility & tariff switch**
- **Warranty should be 10+ years**
- **Local purchasing & hiring**
- **Have contractor receive rebate directly**
- **Involve Planning Dept staff for future development**
- **Communicate with stakeholders!**

ARTERIAL STREETS (Phase 2)

- **Planned for Fall 2011**
- **Replace ~3,000 250-Watt HPS fixtures**
- **Finance w/ Qualified Energy Conservation Bonds**