

Ultrasonic Pole Inspection Report



Sample Property Report

Sample Property Report

Attn: Customer

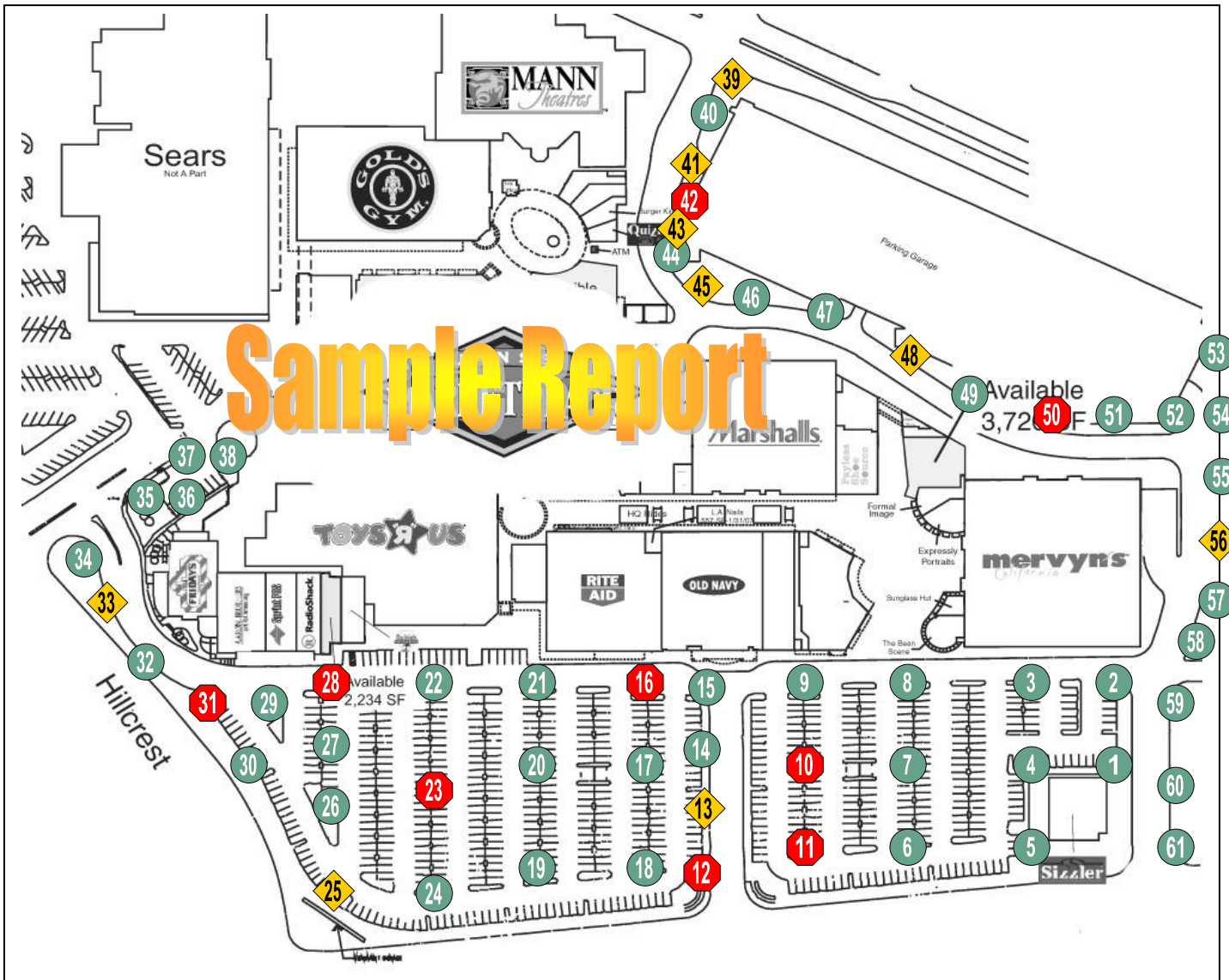
SUMMARY OF ULTRASONIC POLE INSPECTION

An ultrasonic pole inspection of (61) Parking Lot Light Standards (poles) was conducted on Dec 6 & 7, 2007. The purpose of this inspection was to determine the physical condition of each pole. This inspection consisted of a 12point reading at the base of each pole to determine the poles integrity. The table below lists the poles inspected and the general condition of each pole. Comments and recommendations follow the table. For more information on how these readings are taken, please see the "Pole Data" information below.

Acceptable	Marginal	Below Acceptable Standards
This rating is based on the pole meeting the following criteria: 1) Pole wall thickness at all points exceeds 90% of the nominal thickness. 2) No structural damage is present. 3) No sign of rust or corrosion is present at base plate. These poles are considered to be in good condition but should be tested again within 12 months.	This rating is based on the pole meeting one or more of the following criteria: 1) There are 2 or 3 readings that are less than 90% of the nominal wall thickness. 2) Pole has sustained structural damage. 3) Pole base plate shows signs of moderate rust, corrosion or deterioration. These poles are considered to be marginally acceptable and should be tested again within 12 months.	This rating is based on the pole meeting one or more of the following criteria: 1) There are 4 or more readings that are less than 90% of the nominal thickness. 2) Pole has sustained structural damage. 3) Pole base plate shows signs of severe rust, corrosion or deterioration. These poles are considered to be in poor condition and should be replaced as soon as possible.

Pole #	Rating	Notes	Pole #	Rating	Notes
11	Below Acceptable Standards		14	Acceptable	
12	Below Acceptable Standards	Anchor Bolts need to be replaced	15	Acceptable	
13	Marginal	Anchor Bolts need to be replaced	16	Below Acceptable Standards	

Site Map



ITEMS IN NEED OF ATTENTION:

1. **Replace missing mounting hardware** (washers & nuts) for pole locations #40, 41, 42, 43, 44, 51, 53, 54, 55, 56, 58, 59.
2. **Remove & replace 6 poles #11, 12, 16, 31, 42 and 50** rated as “Below Acceptable Standards”
3. **Repair concrete bases for 4 pole locations.** Repair existing concrete bases at poles #35, 36, 37, & 38 to allow for proper moisture drainage. These (4) four poles have a convex top, allowing water to pond at the anchor bolts. Poles will require new anchor bolts once the concrete is repaired.
4. **Replace Rusted Anchor Bolts for 8 poles** 12, 13, 35, 36, 37, 38, 45 & 46
5. **Schedule another inspection for the entire property approximately 12 months** from now paying special attention to the poles rated as “Marginal”.
6. **Instruct landscaping company to redirect sprinkler heads away from pole bases** 37, 38, 45, 46, 47, 48, 51, 52, 53, 54, 55, 56,

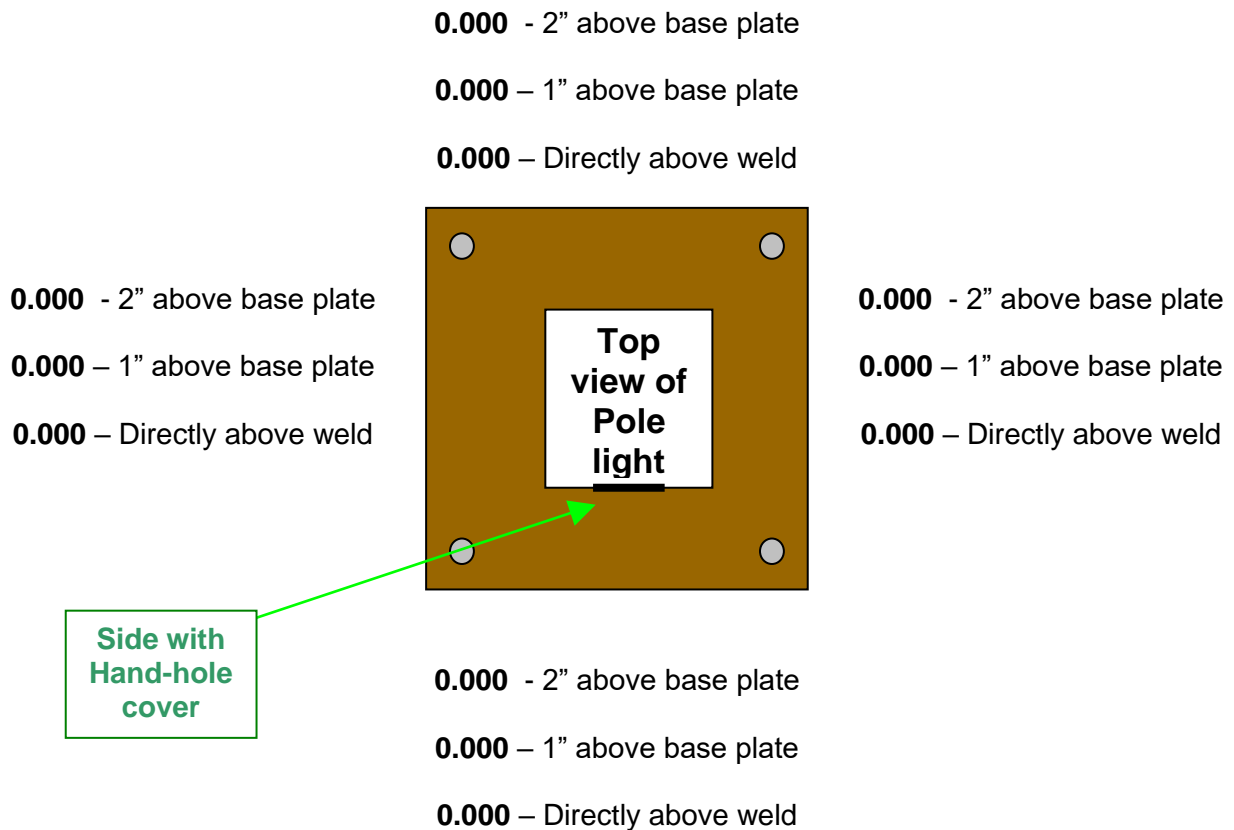
ADDITIONAL RECOMMENDATIONS:

- a. As of January 2003 all pole manufacturers are now placing a “warning” label on every pole that states, **“Warning - Pole and pole finish must be inspected, repaired and maintained annually”**.
- b. When you repair the poles that are mounted “at or below grade level”, consider installing the poles back onto new raised concrete bases, which greatly reduces future corrosion at the base of the poles. By having the poles installed on raised 6”-24” above grade concrete bases, the poles are protected from irrigation (especially with reclaimed water) and acid in the soil, which continuously corrodes the base of the steel poles.
- c. In addition, when installing either new poles or old poles back onto concrete bases, make sure to have your contractor allow for a minimum separation of about ½” between pole’s base plate and concrete base in order to allow moisture to drain and the surface to dry.
- d. Instruct landscaping company to redirect sprinkler heads away from pole bases and to maintain concrete base(s) free of moisture, soil, shrubs on a regular basis (*Important fact about corrosion on steel: Leading causes for corrosion on steel are Humidity, Moisture, Soils with high moisture content, high electrical conductivity, high acidity, and high dissolved salts. These factors can lead to extreme variations in the rate of the attack thus accelerating the corrosion process*).
- e. Hanging signs, banners, flags and/or additional fixtures on poles is not recommended without considering increased wind loading. The EPA (Effective Projected Area) ratings for most poles, do not allow for this added stress. The EPA rating of the pole must be equal to or greater than that of the fixture(s), taking in consideration the wind conditions for this site. Please consult pole factory or Maintenance Company for advice to determine whether or not the EPA rating was taken in consideration when installing the floodlights on poles #2-#11 and J-box on pole #18.



Pole Data



A total of (12) twelve readings are taken at the base of each pole. The readings are shown from top to bottom, the first (top) reading being taken at roughly 2 inches above the weld of the base plate. The second (middle) reading is taken roughly 1 inch above the weld of the base plate. The third (bottom) reading is taken just above the base plate weld. This same procedure is used on every side of every pole.



To determine the nominal thickness, several readings are taken around the pole approximately (5) five feet above the base plate. From this nominal thickness, a "flag" is set for any reading that falls below 90% of this nominal reading. Due to tolerances in manufactures specifications, this nominal thickness will vary from pole to pole. Additionally, each property may have several different pole types and manufactures. Therefore each pole is tested to determine its own unique nominal and flag readings.





Individual Pole Readings

Pole 13	Test Data	Nominal	0.131	Flag	0.118	 Anchor Bolts need to be replaced
	0.128		0.125			
	0.134		0.120			
	0.130		0.122			
	0.131	0.121		0.128		
	0.129	0.120		0.136		
	0.132	0.119		0.118		
			0.125			
			0.131			
			0.125			

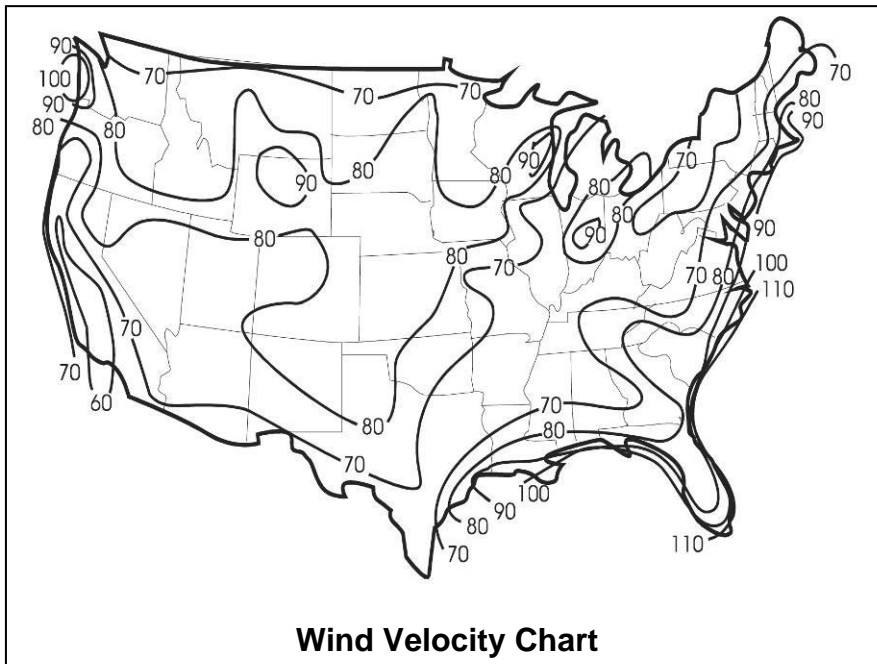
Pole 14	Test Data	Nominal	0.131	Flag	0.118	
	0.128		0.127			
	0.134		0.123			
	0.130		0.121			
	0.131	0.129		0.122		
	0.129	0.125		0.124		
	0.132	0.123		0.123		
			0.128			
			0.123			
			0.123			

Pole 15	Test Data	Nominal	0.131	Flag	0.118	
	0.128		0.122			
	0.134		0.124			
	0.130		0.131			
	0.131	0.136		0.120		
	0.129	0.125		0.121		
	0.132	0.121		0.123		
			0.121			
			0.121			
			0.126			

Pole 16	Test Data	Nominal	0.161	Flag	0.145	
	0.174		0.145			
	0.166		0.138			
	0.160		0.129			
	0.161	0.152		0.140		
	0.161	0.118		0.146		
	0.142	0.134		0.129		
			0.155			
			0.126			
			0.135			

Maintenance Concerns

Poles are design to withstand certain wind velocity ratings. Overloading the pole with too much weight, in addition to banners, flags and signs hanging on the pole can cause the pole to fail (fall over). Banners can act as parachutes or sails, adding stress to already weak rusted pole bases.



SANTA ANA WINDS

Pole Manufacture Warnings;

Maintenance: *The facility owner's/manager's regular scheduled maintenance program must include initial and regular follow-up inspections for structural damage, broken welds, tampering, nut loosening, missing wire covers, dangling electrical wiring, internal or external corrosion, foundation settlement, excessive shaft deflection and vibration for all lighting poles, immediate repair or replacement may be necessary.*

Overloading: Do not overload poles by attaching flags, banners or any items that can add excessive wind or mechanical load to designed pole assemblies.