

# HORIZONTAL CONTROL NETWORK

JANUARY 2007



PUBLIC WORKS DEPARTMENT  
ENGINEERING DIVISION

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# city of san luis obispo

Office of the City Engineer  
California

## Horizontal Control Network

*Revised January 2007*

Datum: North American Datum 1983  
Epoch Date: 1991.35  
NAD 83(92)  
Zone: California 5

Available on City Web Site:

<http://www.slocity.org/publicworks/documents.asp>

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## INTRODUCTION

During the summer of 1990, the City of San Luis Obispo hired a consultant to establish a horizontal control network using the Global Positioning System (GPS). The purpose for the network was to establish a precise and reliable survey control relative to the California Coordinate System, Zone 5 (defined in Section 8801 through 8819 of the California Public Resources code which in turn has as its official datum “North American Datum of 1983” or “NAD 83”).

The network was established as control for the City’s Geographic Information System (GIS) as well as to provide a reliable form of reference for the private surveying community.

### Primary Network.

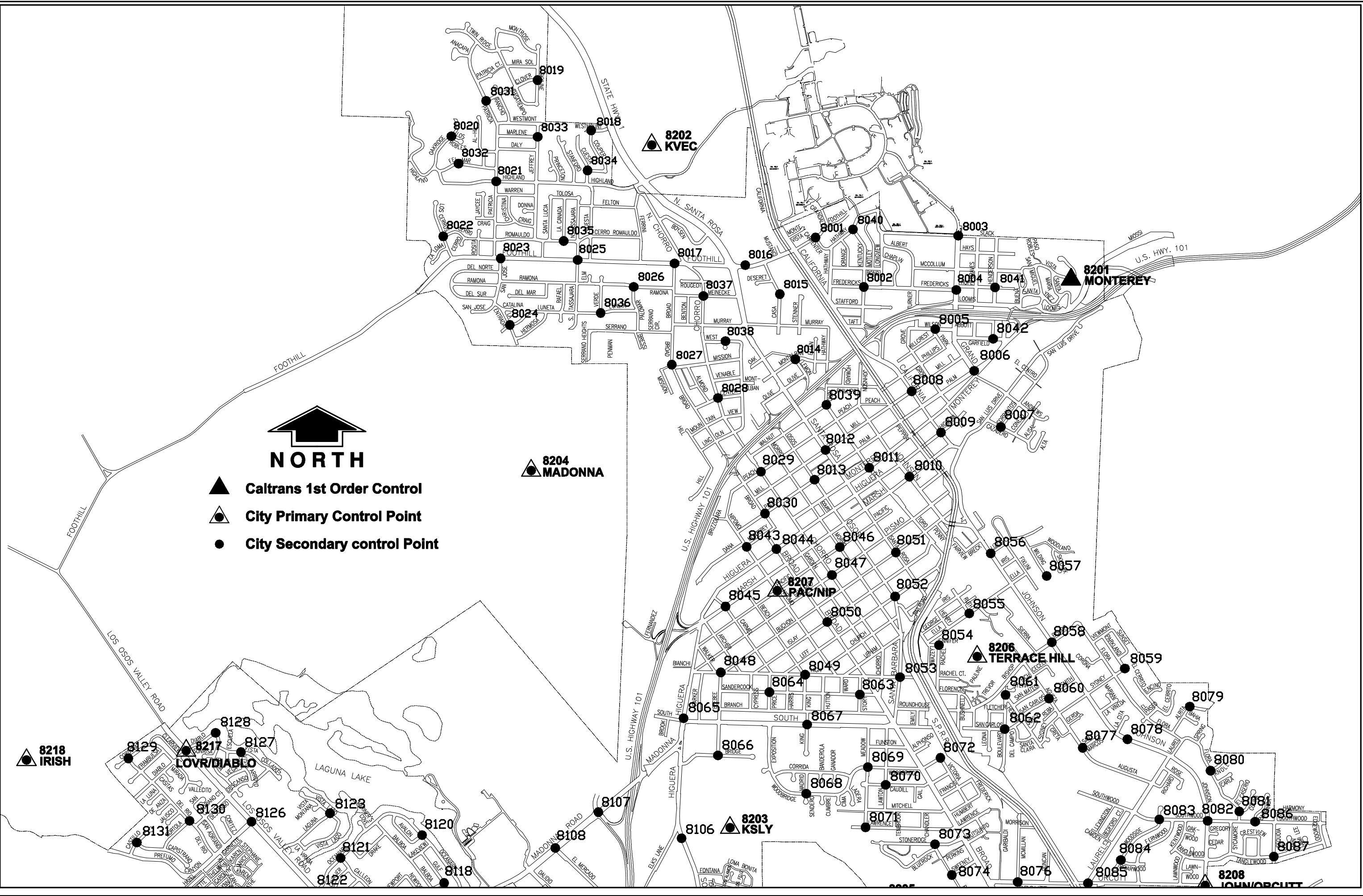
Fifteen primary survey control points evenly distributed through the City were established on high points ( such as San Luis Mountain and Terrace Hill) making sure that there was visibility to at least two other primary points to be used as backsites for future surveying activities. These were incorporated into a survey network including Caltrans control stations, KSLY, KVEC, and Monterey, all within the City. These are the only existing survey stations in the City with known California coordinates. This primary network of a total of 18 stations is a separate, all inclusive, network with a precision of at least 1:100,000 or first order.

### Secondary Network.

A secondary survey network of 132 stations was surveyed all relative to most of the Primary Network Stations. These Stations consisted of existing street centerline monuments, most of which are subterranean well monuments. This secondary network is surveyed to a precision of at least 1:50,000 or second order.

1999 HPGN Conversion. In 1999 the City’s Horizontal Control Network was converted from Imperial units (feet) to metric units (meters). In addition, the network was re-adjusted to the California High Density Precision Network (HPGN) known as the “1991.35 epoch adjustment of the North American Datum of 1983” also referred to as “NAD 83 (1992).” Refer to Appendix A for information concerning these adjustments.

2007 Imperial Unit Conversion. This 2007 publication of the City’s Horizontal Control Network has been converted from System International units (meters) to Imperial units (feet). Coordinates were adjusted using a scale factor of 3937/1200 (3.2808333333).



- ▲ Caltrans 1st Order Control
- ▲ City Primary Control Point
- City Secondary control Point

▲ 8204 MADONNA

▲ 8202 KVEC

▲ 8201 MONTEREY

▲ 8218 IRISH

▲ 8217 LOVR/DIABLO

▲ 8203 KSLY

▲ 8206 TERRACE HILL

▲ 8207 PAC/NIP

▲ 8208 JOHNORCLIFF

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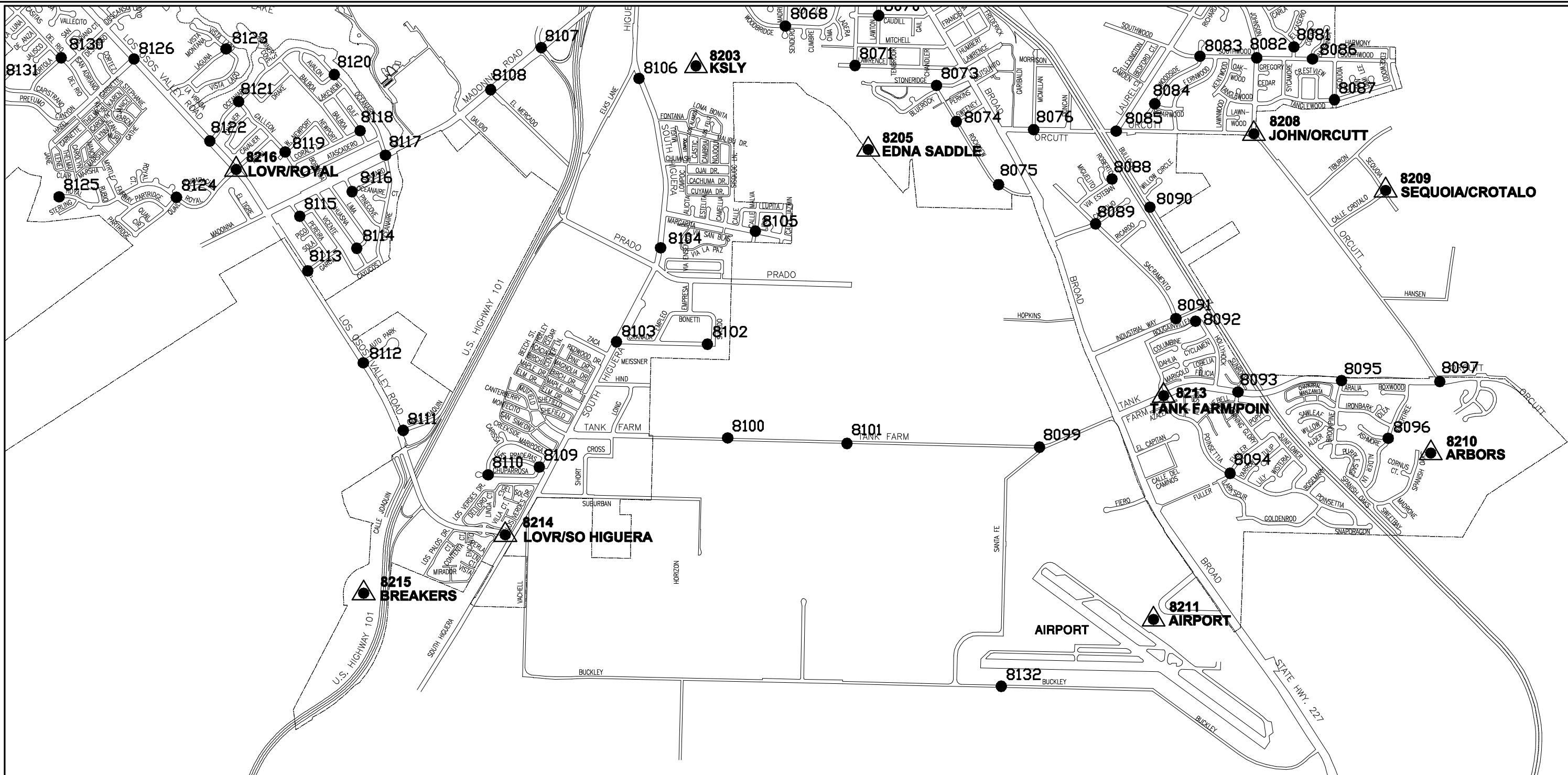
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**NORTH**

- ▲ Caltrans 1st Order Control
- ◄ City Primary Control Point
- City Secondary control Point

▲ 8212 CRESTMONT/227

8098

**NETWORK SORTED BY POINT NUMBER**

<b>Primary Network</b>
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Pt.No.	Northing	Easting	General Location	Full Description
8201	2303632.897	5772249.792	MONTEREY	3½" brass disk California Division of Highways 5.5' from curb face Buena Vista. (2005-OK)
8202	2306261.201	5764049.703	KVEC	3½" brass disk Calif. Division of Highways atop Tower Hill; approx. 36' from SE corner of bldg.
8203	2292906.176	5765580.979	KSLY	3½" brass disk in rock/north side of road, California Division of Highways atop hill approximately 150' due east from radio tower. (2005-OK)
8204	2299892.772	5761691.939	SAN LUIS MOUNTAIN	1½" brass disk "City of San Luis Obispo GPS 4" in rock atop San Luis Mountain at peak 25' from highest PT on ridge. (2005-OK)
8205	2291512.716	5768452.037	EDNA SADDLE	1½" brass disk "City of San Luis Obispo GPS 5" approximately 15' from Rock Cairn. (2005-OK)
8206	2296254.386	5770415.035	TERRACE HILL	1½" brass disk "City of San Luis Obispo GPS 6" atop Terrace Hill. (2005-OK)
8207	2297541.944	5766503.583	PACIFIC & NIPOMO	Brass pin in concrete in monument well at the centerline intersection of Pacific and Nipomo. (2005-OK)
8208	2291773.494	5774874.730	JOHNSON & ORCUTT	Nail in 1½" iron pipe in monument well at the centerline intersection of Johnson and Orcutt. (2005-OK)
8209	2290831.267	5777069.108	SEQUOIA & CALLE CROTALO	2¼" brass disk in County of SLO survey monument well at the centerline of Sequoia and Calle Crotalo. (2005-OK)
8210	2286452.063	5777822.511	ARBORS	1½" brass disk "City of San Luis Obispo GPS 10" in rock out crop behind "Arbors," Tract 1750. (2005-OK)
8211	2283679.648	5773203.057	AIRPORT	Nail in lead plug at top of curb, at Airport on east side of street 52' so. of flag pole, painted GPS 821. (2005-OK)
8212	2279313.130	5776879.593	CRESTMONT & HIGHWAY 227	2" brass disk California Department of Transportation at the centerline intersection of Crestmont west of Highway 227. (2005-OK)
8213	2287408.437	5773372.501	TANK FARM RD & POINSETTIA	Pin in concrete in monument well at the centerline intersection of Tank Farm and Poinsettia.
8214	2285090.128	5762404.573	LOVR & SO. HIGUERA	2" brass disk R.C.E. 16362 at centerline of LOVR in left turn lane approx. 90' from South Higuera. (2006-OK)
8215	2284116.210	5760047.006	KSBY	1½" brass disk "City of San Luis Obispo GPS 15" in rock out crop North side KSBY studio. (2005-OK)
8216	2291178.877	5757922.322	LOVR & ROYAL WAY	Pin in concrete in monument well at the centerline of LOVR and Royal Way with 4 straddlers.
8217	2294411.825	5754942.757	LOVR & DIABLO	Pin in concrete in monument well at the centerline intersection of Los Osos Valley Rd. and Diablo.
8218	2294230.184	5751821.088	IRISH	1½" brass disk "City of SLO GPS 18" atop hill. (2005-OK)



<b>Secondary Network</b>
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Pt.No.	Northing	Easting	General Location	Description/Comments
8001	2304450.929	5767252.143	FOOTHILL & CARPENTER	Concrete in monument well (2005-brass pin missing) at the centerline of Foothill and Carpenter.
8002	2303484.026	5768197.242	FREDERICKS & KENTUCKY	Brass pin in concrete in monument well at the centerline of Fredericks and Kentucky. (2005-OK)
8003	2304487.813	5770044.740	GRAND & SLACK	Brass pin in pipe in monument well at the centerline Grand and Slack. (2005-No well found.)
8004	2303426.308	5770006.543	FREDERICKS & GRAND	Nail in pipe in monument well at the centerline intersection of Fredericks and Grand.
8005	2302660.594	5769593.882	WILSON & PARK	Nail in concrete in monument well with 4 straddlers at centerline of Wilson and Park. (2005-No Nail found in deep well.)
8006	2301843.122	5770356.566	GRAND & PALM	Brass pin in concrete in monument well at centerline of Grand and Palm. (2005-OK)
8007	2300744.760	5770877.984	CAZADERO & CORRALITOS	1" iron pipe in monument well at the centerline intersection of Cazadero and Corralitos. (2005-OK)
8008	2301444.490	5769134.486	CALIFORNIA & MILL	Brass pin and tag "LS 5201" in concrete in monument well at the centerline intersection of California and Mill. (2002-Mon. reset by Volbrecht. 2005-OK)
8009	2300637.843	5769706.456	CALIFORNIA & HIGUERA	Brass pin in concrete in monument well at centerline of California and Higuera. (2005-OK)
8010	2299772.469	5769089.415	MARSH & JOHNSON	Pin flush with concrete in monument well at the centerline intersection of Marsh and Johnson. (2005-OK)
8011	2299946.690	5768302.920	MONTEREY & TORO	3" brass disk set in concrete, street level at the centerline intersection of Monterey and Toro.(O.9' from 2" brass disk). (2002-both monuments reset by Volbrecht. 2005-OK)
8012	2300295.328	5767448.305	SANTA ROSA & MILL	Lead and tack in concrete in monument well at centerline intersection of Santa Rosa and Mill. (2006-Appears disturbed)
8013	2299713.057	5767233.301	PALM & OSOS	Pin and tag "LS 6729" in concrete in monument well at the centerline intersection of Palm and Osos. (2002- Mon reset. 2005-OK)
8014	2302070.793	5766858.050	MONTALBAN & LEMON	Pipe and plastic cap LS. 54283 in asphalt concrete at the centerline intersection of Montalban and Lemon.( 2005 - Not found. Possibly paved over in 2004)
8015	2303344.948	5766555.440	CASA AT P.I.	Pin in concrete in monument well P.I. at Casa. (2005-OK)
8016	2303911.887	5765879.944	FOOTHILL - EAST OF SANTA ROSA	3½" brass disk in asphalt at northerly edge of pavement near J pole #487. Foothill east of Santa Rosa St. "San Luis Obispo Co. No. 5 J.P. Black County Surveyor T30S R12E. (2005-OK)

Pt.No.	Northing	Easting	General Location	Description/Comments
8017	2303946.592	5764495.955	FOOTHILL & BROAD	Pin in concrete in monument well at centerline intersection of Foothill and Broad. (2005-OK)
8018	2306547.957	5762864.412	WESTMONT & COUPER	Pin in concrete and monument well at centerline intersection of Westmont and Couper. (2005-OK)
8019	2307531.486	5761814.260	SKYLINE & CLOVER	2" brass disk in monument well with cross-ties at centerline intersection of Skyline and Clover. (2005-OK)
8020	2306431.587	5760131.534	OAKRIDGE DR. & LOS ROBLES	Pin in concrete in monument well at centerline of Oakridge Dr. and Los Robles. (2005-OK)
8021	2305551.060	5761007.051	HIGHLAND & PATRICIA	Pin in concrete in monument well at centerline intersection of Highland and Patricia. (2005-OK)
8022	2304474.595	5759970.672	LOS CERROS DR & CERRO ROMAULDO	Pin in concrete in monument well at centerline intersection of Los Cerros Drive and Cerro Romauldo. (2005-OK)
8023	2304043.846	5761093.266	FOOTHILL & LA ENTRADA	Nail and tag -(tag no. is illegible) - in monument well at centerline of Foothill and La Entrada. (2005-OK)
8024	2302741.141	5761274.778	LA ENTRADA, SOUTH. & LUNETTA	Nail and tin (R.C.E. 7-65) in concrete in monument well at centerline intersection of La Entrada South and Luneta. (2005-OK)
8025	2304011.528	5762600.347	FOOTHILL & TASSAJARA	Pin in concrete in monument well at the centerline intersection of Foothill and Tassajara. (2005-OK)
8026	2303485.734	5763696.742	RAMONA & PALOMAR P.I.	Pin in 1¼" iron pipe in monument well P.I. Ramona centerline Palomar. (2005-OK)
8027	2301963.806	5764442.232	BROAD NO. OF MISSION LANE	Brass disk in concrete in monument well at centerline intersection of Broad and Mission Lane. Replaced during 2002 paving. (2005-OK)
8028	2301310.848	5765345.300	CHORRO & CENTER	1.5" Brass disk "LS 6729" with punch mark in concrete collar of manhole at centerline intersection of Chorro and Center. (2005-reset by McMillan)
8029	2299870.081	5766185.943	CHORRO & PEACH	Pin in concrete in monument well at the centerline intersection of Chorro and Peach. (2005-OK)
8030	2299051.226	5766262.955	BROAD & PALM	Lead and tack in concrete in monument well at the centerline intersection of Broad and Palm.
8031	2307125.119	5760810.253	PATRICIA & CLOVER	Nail and tin R.C.E. 6923 in 1½" iron pipe in monument well at centerline of Patricia & Clover. (2005-OK)
8032	2305897.926	5760271.253	FELMAR BC	Pin in concrete in monument well at centerline B.C. intersection of Felmar, 33' from F.H. (2005-OK)
8033	2306421.270	5761818.133	JEFFREY & MARLENE	1¼" iron pipe in monument well at the centerline of Jeffrey and Marlene. (2005-OK)
8034	2305763.850	5762792.128	CUESTA & DARTMOUTH	Brass pin in ¾" iron pipe in monument well at centerline intersection of Cuesta and Dartmouth. (2005-OK)

Pt.No.	Northing	Easting	General Location	Description/Comments
8035	2304384.047	5762326.257	CERRO ROMAULDO & LA CANADA	1" iron pipe in monument well at the centerline intersection of Cerro Romauldo and La Canada. (2005-OK)
8036	2302975.469	5763049.346	LUNETTA & VERDE	Nail and tin R.C.E. 7765 in monument well at the centerline intersection of Luneta and Verde. (2005-OK)
8037	2303307.316	5765059.354	CHORRO & MEINECKE	Pin in concrete in monument well at the centerline intersection of Chorro and Meinecke. (2005-OK)
8038	2302425.292	5765491.182	WEST ST. & CUL DE SAC	Pin in 3/4" iron pipe in concrete in monument well at centerline of West St. and cul de sac. (2005-OK)
8039	2301177.193	5767464.510	WALNUT & TORO	Pin in concrete in monument well at the centerline intersection of Walnut and Toro. (2006-OK)
8040	2304611.107	5767984.635	KENTUCKY & HATHWAY	Brass pin in concrete in monument well at centerline of Kentucky and Hathway. (2005-OK)
8041	2303474.987	5770763.587	HOPE & HENDERSON	Brass pin in concrete in monument well at the centerline intersection of Hope and Henderson. (2005-OK)
8042	2302470.502	5770727.259	GARFIELD & HENDERSON	Brass pin in concrete in monument well at the centerline intersection Garfield and Henderson. (2005-OK)
8043	2298399.873	5765905.824	NIPOMO & MONTEREY	Nail and Tag "LS 6729" in concrete in monument well at centerline intersection of Nipomo and Monterey. (5/2005-Mon. reset by McMillian)
8044	2298357.193	5766487.708	HIGUERA & BROAD	Hole in concrete in monument well at the centerline intersection of Higuera and Broad. (2005-OK)
8045	2297233.484	5765492.395	MARSH & CARMEL	Brass Cap "LS 5702" in concrete in monument well at the centerline intersection of Marsh and Carmel. (2003-Mon. reset by Stanton.)
8046	2298394.656	5767727.616	PACIFIC & MORRO	Hole in the lead in concrete in monument well at the centerline intersection of Pacific and Morro. (2005-OK)
8047	2297848.464	5767573.961	PISMO & CHORRO	2" Brass Cap "LS 5903" with punch mark in concrete in monument well at the centerline intersection of Pismo and Chorro. (3/2002 Mon. reset by Fleming. 2005 – OK)
8048	2295942.887	5765400.978	HIGH & BEEBEE	Concrete in monument well (2005-Mising pin) at the centerline intersection of High and Beebee.
8049	2295899.329	5767049.411	HIGH & KING	Pin in concrete in monument well at the centerline intersection of High and King St(2005-OK).
8050	2296930.132	5767482.602	BROAD & ISLAY	Nail and tin LS. 2391 in 1" iron pipe in monument well at centerline of Broad and Islay. (2006-OK)
8051	2298290.510	5768822.094	SANTA ROSA & BUCHON	Pin in concrete in monument well at centerline intersection of Santa Rosa and Buchon. (2005-OK)
8052	2297429.164	5768810.138	OSOS & LEFF	Pin flush in concrete in monument well at the centerline intersection of Osos and Leff. (2005-No monument or pin found, only loose dirt in well ).

Pt.No.	Northing	Easting	General Location	Description/Comments
8053	2295849.715	5768903.956	SANTA BARBARA & HIGH	Pin in concrete in monument well at centerline intersection of Santa Barbara and High. (2006-monument is tipped, appears disturbed.)
8054	2296478.356	5769667.343	JENNIFER & RACHEL	Pin in concrete in monument well at the centerline intersection of Jennifer and Rachel. (2005-OK)
8055	2297099.182	5770261.159	ELLA & RUTH	Pin in concrete in monument well at the centerline intersection of Ella and Ruth. (2005-OK)
8056	2298271.588	5770679.939	JOHNSON & LIZZIE	Pin in concrete in monument well at the centerline intersection of Johnson and Lizzie. (2006-OK)
8057	2297829.893	5771772.802	WILDING LN. END	Pin in concrete in monument well at the centerline end of Wilding Lane. (2005-OK)
8058	2296532.088	5771874.339	JOHNSON & BISHOP	Pin in concrete in monument well at the centerline intersection of Johnson and Bishop. (2006-OK)
8059	2296020.004	5773302.792	SYDNEY & PARKLAND TRAIL	Pin in concrete in monument well at centerline intersection of Sydney and Parkland Trail. (2005-OK)
8060	2295432.762	5771817.498	AUGUSTA & SAN CARLOS	Pin in concrete in monument well at centerline intersection of Augusta and San Carlos. (2005-OK)
8061	2295502.828	5770969.973	DEL CAMPO & HELENA	Pin in concrete in monument well at centerline intersection of Del Campo and Helena. (2005-OK)
8062	2294834.883	5770953.433	DEL CAMPO & SAN CARLOS	1½" iron pipe in monument well at the centerline intersection of Del Campo and San Carlos. (2005-OK)
8063	2295510.385	5768119.100	SANDERCOCK & STORY	Pin in concrete in monument well at the centerline intersection of Sandercock and Story.(2005-OK)
8064	2295558.176	5766349.992	SANDERCOCK & PRICE	Pin in concrete in monument well at the centerline intersection of Sandercock and Price. (2005-OK)
8065	2295047.534	5764672.394	HIGUERA AT SOUTH ST.	Pin in concrete in monument well of southbound left turn lane of Higuera at South St.(2006-OK)
8066	2294317.920	5765344.523	BRIDGE & BEEBEE	Pin in concrete in monument well at the centerline intersection of Bridge and Beebee. (2005-OK)
8067	2294924.569	5767088.026	SOUTH & KING	Concrete (2006-Pin missing)in monument well at the centerline intersection of South and King.
8068	2293569.760	5767071.715	WOODBIDGE & SENDERO CT.	Pin in concrete in monument well at centerline intersection of Woodbridge and Sendero Ct. (2005-OK)
8069	2294089.125	5768274.984	MEADOW & WOODBRIDGE	Pin in concrete in monument well at centerline intersection of Meadow and Woodbridge. (2005-OK)
8070	2293745.071	5768625.201	CAUDILL & LAWTON	Pin in concrete in monument well at centerline intersection of Caudill and Lawton. (2005-OK)
8071	2292912.546	5768231.027	LAWRENCE DR. & MEADOW	Pin in concrete in monument well at centerline intersection of Lawrence Drive and Meadow. (2005-OK)
8072	2294271.387	5769696.588	WOODBIDGE & VICTORIA	Pin in concrete in monument well at centerline intersection of Woodbridge and Victoria. (2005-OK)

Pt.No.	Northing	Easting	General Location	Description/Comments
8073	2292581.403	5769588.802	STONERIDGE & ROCKVIEW PLACE	Pin in concrete in monument well at centerline intersection of Stoneridge and Rockview Place. (2005-OK)
8074	2291979.395	5769919.955	ROCKVIEW PL. & SWEENEY	Pin in 3/4" iron pipe in monument well at centerline of Rockview Place and Sweeney. (2005-OK)
8075	2290926.941	5770622.266	ROCKVIEW PLACE BC	Pin in concrete in monument well B.C. Rockview Place with straddlers. (2005-OK)
8076	2291843.544	5771206.588	ORCUTT & MCMILLAN RD.	Pin in concrete in monument well at centerline intersection of Orcutt and McMillan Rd. (2006-OK)
8077	2294467.854	5772477.490	AUGUSTA & SAN MARCOS	Pin in concrete in monument well at centerline intersection of Augusta and San Marcos. (2005-OK)
8078	2294635.059	5773353.622	JOHNSON B.C.	Pin in concrete in monument well B.C. centerline Johnson, 2851 Johnson. (2006-OK)
8079	2295274.227	5774572.364	ALRITA P.I.	Pin in 2" iron pipe in monument well at the P.I. of Arlita. (2005-OK)
8080	2294020.476	5774978.979	FLORA & KNOLL	Pin in concrete in monument well at the centerline intersection of Flora and Knoll. (2005-OK)
8081	2293222.873	5775542.530	FLORA & COLINA	Pin in concrete in monument well at the centerline intersection of Flora and Colina. (2005-OK)
8082	2293040.433	5774922.261	JOHNSON & SOUTHWOOD	Pin in 1 1/4" iron pipe in monument well at centerline intersection southerly monument of Johnson and Southwood (1500 block.). (2005-OK)
8083	2293066.519	5773977.400	SOUTHWOOD & WOODSIDE	Pin in concrete in monument well at centerline intersection of Southwood and Woodside. (2005-OK)
8084	2292274.309	5773224.922	WOODSIDE & BRIARWOOD	Pin in 2" iron pipe in monument well at centerline of Woodside and Briarwood. (2005-OK)
8085	2291817.956	5772581.512	ORCUTT & LAUREL LANE	Pin in monument well at the centerline intersection of Orcutt and Laurel Lane. (2006-OK)
8086	2293022.018	5775851.615	SOUTHWOOD & BARRANCA	Pin in concrete in monument well at centerline intersection of Southwood and Barranca. (2005-OK)
8087	2292341.919	5776216.372	TANGLEWOOD & SEQUOIA	2" brass disk in monument well at centerline intersection of Tanglewood and Sequoia. (2005-OK)
8088	2291021.278	5772512.308	VIA ESTEBAN END	Pin in concrete in centerline monument well at the end of Via Esteban. (2005-OK)
8089	2290274.210	5772238.999	CAPITOLIO & SACRAMENTO	2" brass disk in concrete in monument well at centerline of Capitolio and Sacramento. (2005-OK)
8090	2290551.122	5773142.516	BULLOCK NEAR WILLOW	Pin in concrete in monument well approx. 3' from southwesterly edge of pavement of Bullock and approx. 204' from centerline of Willow. (2005-OK)
8091	2288695.139	5773576.358	INDUSTRIAL WY & SACRAMENTO	Pin in concrete in monument well at centerline intersection of Industrial Way and Sacramento. (2005-OK)

Pt.No.	Northing	Easting	General Location	Description/Comments
8092	2288649.213	5773903.340	BOUGAINVILLEA & HOLLYHOCK	Pin in concrete in monument well with 4 straddlers at P.R.C. at the centerline of Bougainvillea at Hollyhock. (2005-OK)
8093	2287471.476	5774609.906	TANK FARM RD & MORNING GLORY	Pin in concrete in monument well at centerline intersection of Tank Farm and Morning Glory. (2005-OK)
8094	2286114.123	5774478.414	POINSETTIA & FULLER	Pin in concrete in monument well at centerline intersection of Poinsettia and Fuller. (2005-OK)
8095	2287662.027	5776336.092	TANK FARM RD. & BROOKPINE	Pin in concrete in monument well at centerline of Tank Farm at edge of bike path & Brookpine. (2005-OK)
8096	2286697.686	5777112.979	WAVERTREE & ASHMORE	Pin in concrete in monument well with 3 straddlers at the centerline intersection of Wavertree and Ashmore. (2005-OK)
8097	2287643.843	5777970.804	TANK FARM RD. & ORCUTT	Pin in concrete in monument well with 4 straddlers at the centerline intersection of Tank Farm and Orcutt (angle point at Orcutt). (2005-OK)
8098	2276781.416	5779270.477	RAILROAD OVERCROSSING	1½" brass disk "City of San Luis Obispo" in deck, NE comer, railroad overcrossing bridge.
8099	2286551.902	5771303.287	TANK FARM RD. & SANTA FE	2¼" brass disk "County of SLO Survey Monument" centerline of Tank Farm & Santa Fe. (2006- Paved over . Well raised by County.)
8100	2286704.091	5766109.826	TANK FARM RD, .5M EAST OF SO. HIGUERA	3" brass cap stamped "State Calif. Highway Depart. No. 14 LS 2019" on North side of Tank Farm approx. ½ mile east of South Higuera, 5'± west of Union Oil driveway. (2006- monument not found)
8101	2286612.480	5768097.628	TANK FARM AT UNION OIL ENTRANCE	3½" brass disk "Union Oil Co. of California" benchmark elev. 132.53' approx. 9' southerly from pavement edge on Tank Farm. (0.6 miles from #8099) at entrance to Oil Co. property.
8102	2288266.541	5765773.672	GRANADA AT SUELDO	Pin in concrete in monument well at centerline B.C. Granada at Sueldo with 3 straddlers. (2005-OK)
8103	2288307.129	5764257.465	HIGUERA & GRANADA	Pin in concrete in monument well at the centerline intersection Higuera and Granada. (2006-OK)
8104	2289874.833	5764993.600	SO. HIGUERA , NO. OF PRADO	Pin in concrete in monument well centerline E.C. South of Higuera and North of Prado intersection with 4 straddlers. (2006-OK)
8105	2290150.665	5766571.883	MARGARITA & CALLE MALVA	Brass plug in concrete in monument well at the centerline of Margarita and Calle Malva (Mon. replaced after 2002 road reconstruction. 2005-OK)
8106	2292696.951	5764632.492	HIGUERA NEAR ELKS LANE	Nail in asphalt concrete with 4 straddlers in center lane station 22 + 89.83 at the centerline of Higuera near Elks Lane. (2006- no nail/straddlers found. May be paved over.)

Pt.No.	Northing	Easting	General Location	Description/Comments
8107	2293210.597	5763004.338	MADONNA RD & SAN BERNARDINO	Pin in concrete in monument well at the centerline intersection of Madonna Road and San Bernardino 101 Madonna Rd. exit. (2006-OK)
8108	2292509.868	5762163.133	MADONNA & EL MERCADO	Pin in concrete in monument well at the centerline intersection of Madonna Road and El Mercado with 4 straddlers. (2006-OK)
8109	2286220.263	5762972.262	LAS PRADERAS & MARIPOSA	Brass screw in concrete in monument well at centerline intersection of Las Praderas and Mariposa/Chuparrosa with 4 pk straddlers. (2005-OK)
8110	2286088.357	5762120.546	CHUPARROSA & MARIPOSA	Brass screw in concrete in monument well at centerline intersection of Chuparrosa and Mariposa with 2 straddlers. (2005-OK)
8111	2286829.876	5760705.499	CALLE JOAQUIN & LOVR	2¼" brass disk "San Luis Obispo County Survey monument" in monument well at centerline of Calle Joaquin northeasterly right-of-way LOVR. (2006-No monument well found. Destroyed.)
8112	2287956.408	5760040.361	LOVR & AUTOPARK WAY	2¼" brass disk "San Luis Obispo County Survey monument" in monument well at the centerline intersection of LOVR. and Autopark Way. (2006-OK)
8113	2289490.203	5759114.692	GARCIA & LOVR	Pin in concrete in monument well at the centerline intersection of Garcia and LOVR Frontage Rd. with 4 straddlers. (2005-OK)
8114	2289866.690	5759930.813	HUASNA & LIMA	Pin in concrete in monument well at the centerline intersection of Huasna and Lima. (2005-OK)
8115	2290400.191	5758982.884	PEREIRA & VICENTE	Pin in concrete in 1½" iron pipe in monument well at centerline of Pereira and Vicente. (2005-OK)
8116	2290809.759	5759853.106	PINECOVE & SEAWARD	Pin in concrete in 1½" iron pipe in monument well at centerline of Pinecove and Seaward. (2005-OK)
8117	2291417.418	5760409.651	MADONNA & OCEANAIRE	Pin in concrete in 1½" iron pipe in monument well at centerline of Madonna and Oceanaire. (2006-OK)
8118	2291824.331	5759987.692	GULF & CORAL	Pin in concrete in 2" iron pipe in monument well at the centerline intersection of Gulf and Coral. (2005-OK)
8119	2291471.295	5758739.746	GALLEON & WEST NEWPORT	Pin in concrete in 2" iron pipe in monument well at the centerline intersection of Galleon and West Newport with 1 straddler. (2005-OK)
8120	2292760.657	5759556.922	OCEANAIRE & AVALON	Pin in concrete in monument well at center of southerly intersection of Oceanaire and Avalon. (2005-OK)
8121	2292312.828	5757965.965	OCEANAIRE & GALLEON	2½" brass disk R.C.E. 13241 in monument well at the centerline of Oceanaire and Galleon. (2005-OK)
8122	2291654.967	5757484.408	LOS OSOS VALLEY RD. & OCEANAIRE	Pin in 1¼" iron pipe in monument well at intersection of LOVR & Oceanaire with 4 straddlers. (2006-OK)
8123	2293187.869	5757755.267	VISTA LAGO & LAGUNA LANE	Pin in concrete in monument well at intersection of Vista Lago & Laguna Lane with 4 straddlers. (2005-OK)

Pt.No.	Northing	Easting	General Location	Description/Comments
8124	2290714.776	5756927.625	ROYAL & QUAIL	2 3/4" brass disk R.C.E. 11658 in monument well at centerline of Royal and Quail. (2005-OK)
8125	2290722.695	5754973.456	ROYAL AT CUL DE SAC	Pin and tag R.C.E. 12545 in concrete in monument well at centerline cul de sac. (2005-OK)
8126	2293022.837	5756222.362	LOVR & PREFUMO CANYON	Screw with tag LS. 3238 in concrete in monument well at centerline intersection of LOVR and Prefumo Canyon Rd. (2006-OK.)
8127	2294384.593	5756013.299	VISTA COLLADOS & VISTA ARROYO	Pin in concrete in monument well at centerline intersection of Vista Collados and Vista Arroyo. (2005-OK)
8128	2294762.371	5755519.114	DIABLO & VISTA BRISA	Pin in concrete in monument well P.I. at centerline of Diablo and Vista Brisa. (2005-OK)
8129	2294261.334	5753811.664	CORDOVA & DEL RIO	Pin in concrete in monument well at centerline intersection of Cordova and Del Rio. (2005-OK)
8130	2293040.790	5755009.917	DEL RIO & PORTOLA	1" iron pipe with plastic cap LS. 3982 in monument well at centerline of Del Rio & Portola. (2005-OK)
8131	2292615.649	5753977.541	CAPISTRANO & CALLISTO	Pin in concrete in monument well at centerline intersection of Capistrano and Callisto. (2005-OK)
8132	2282566.234	5770667.136	BUCKLEY & DAVENPORT CREEK RD.	3½" brass disk "SLO County No. 37 township 31 South Range 12 East, M.D.M. Sections 11, 12, 13 and 14 centerline Buckley and Davenport Creek Road. (2005-OK)



### Appendix A. 1998 HPGN Conversion

In 1990, the City of San Luis Obispo established a Primary and Secondary Control Network using GPS methods. The intent was for the Primary network to be first order and the Secondary network to be second order. Unfortunately, the Primary Network stations could not be classified as first order since they were set from second order Caltrans control stations: KVEC, KSLY, MONTEREY. However, the Primary Network does have a stand alone precision of first order.

The Primary Network was based on a minimally constrained adjustment holding KVEC fixed (constraining to all three second order Caltrans points would have degraded the precision of the GPS survey). In 1993, MONTEREY station was occupied as part of the California High Precision Geodetic Network (HPGN) densification survey. The National Geodetic Survey (NGS) published the new HPGN position and reclassified MONTEREY as First Order. The new readjusted datum is referred to as the “1991.35 epoch adjustment of the North American Datum of 1983” or “NAD 83 (1992)”.

In an effort to adjust the City’s control network to the more accurate NAD 83 (1992) datum, the City hired a consultant to determine the relationship between the City’s Horizontal Network and the NAD 83 (1992) datum. Three first order stations of the HPGN densification survey (Monterey, A 1315 and HPGN D CA 05 KL) were used to determine the new position of KVEC based on the NAD 83 (1992) datum. A comparison of the two stations, KVEC and MONTEREY, was made between the published City Horizontal Network positions and the NAD 83(1992) positions. The following results were obtained by Penfield and Smith in August of 1996:

		NAD83 City	NAD83(92) HPGN	Difference
Monterey:	N	702,148.5805	702,148.7112	0.1307
	E	1,759,385.5121	1,759,385.2555	-0.2566
Inverse:	N 63°00'35"W 0.288 m			
KVEC :	N	702,949.6779	702,949.8201	0.1422
	E	1,756,886.1216	1,756,885.8634	-0.2582
Inverse:	N 61°09'39"W 0.295 m			

	Inverse: MONTEREY to KVEC
NAD 83 City	N 72°13'42.4"W 2624.635 m
NAD 83 (1992) HPGN	N 72°13'41.6"W 2624.640 m
Difference City to HPGN	0°00'00.8" clockwise +0.005 m

The City’s Horizontal Control Network was transformed to the NAD83(1992) HPGN datum by first translating the Network to the NAD83(1992) coordinate for MONTEREY, then while holding MONTEREY fixed, rotating the network 0°00'00.8" clockwise to the NAD83(1992) coordinate established for KVEC by Penfield and Smith. The 5 mm difference was ignored.