
Horizontal and Vertical Control Records

City of Del Mar

50 Camino Del Mar
Del Mar, California 92014

Prepared by:



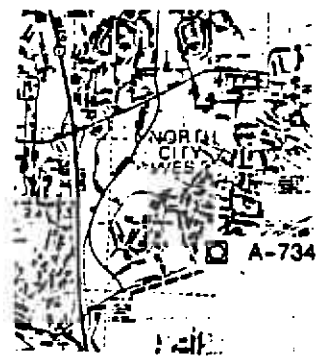
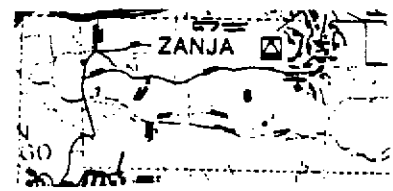
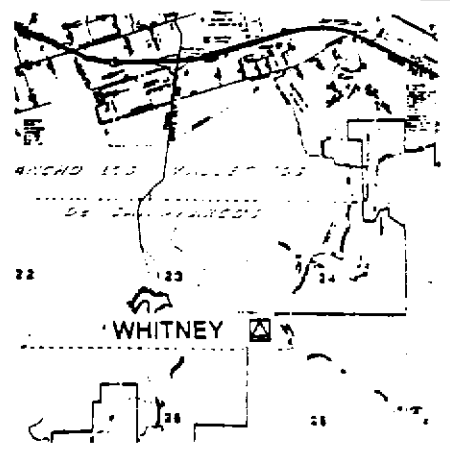
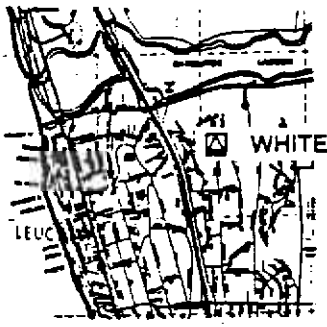
Robert Dein, William Root & Associates

GEO STAR

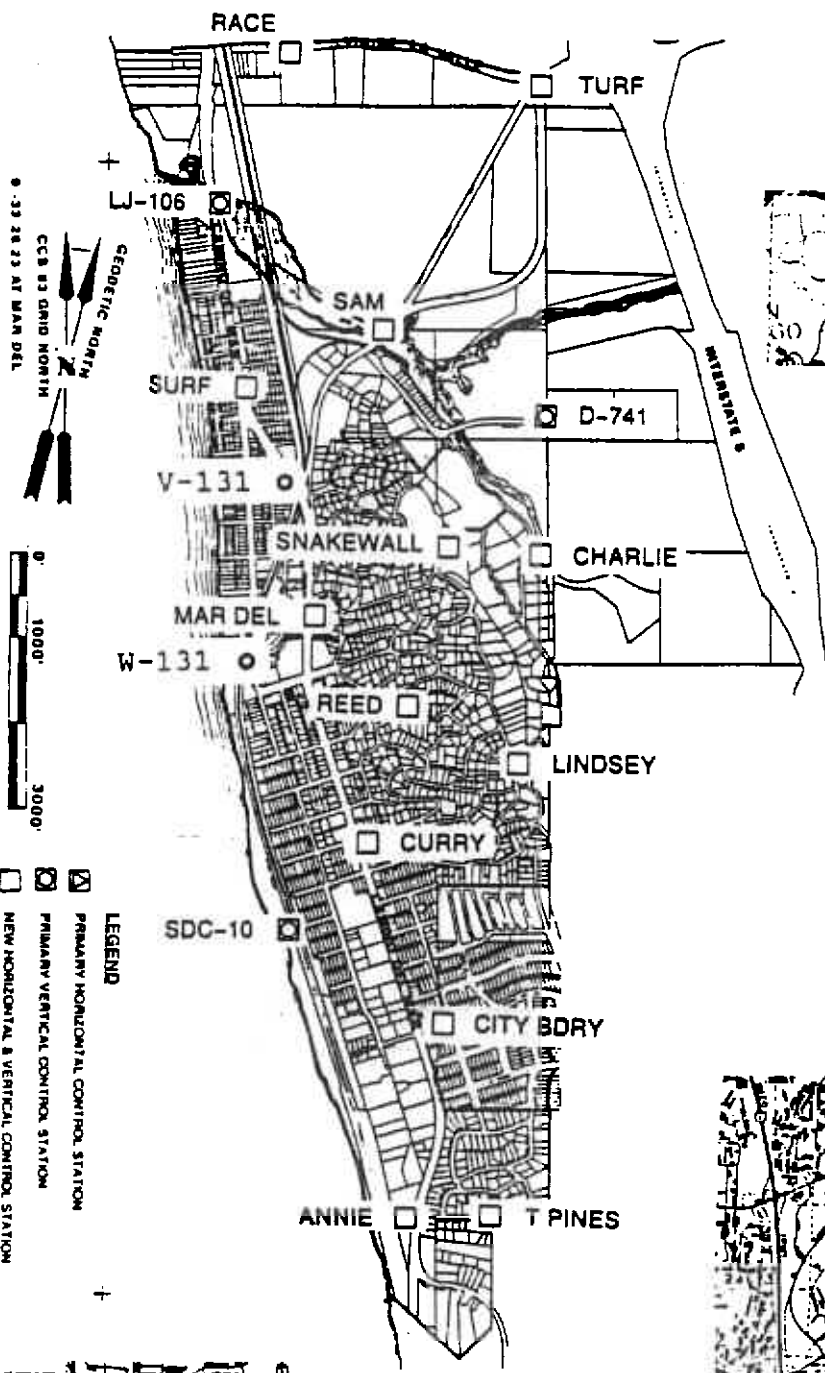
GLOBAL POSITIONING SATELLITE SURVEYING - GPS

June 1990

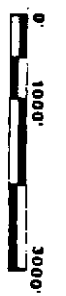
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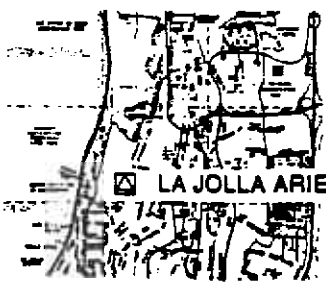
CITY OF DEL MAR GPS GEODETIC CONTROL SURVEY



GEODETIC NORTH
CCS 83 GRID NORTH
0.33 28 23 AT MAR DEL



- LEGEND**
- PRIMARY HORIZONTAL CONTROL STATION
 - PRIMARY VERTICAL CONTROL STATION
 - NEW HORIZONTAL & VERTICAL CONTROL STATION



H-53

Robert Bejn, William Fost & Associates



GLOBAL POSITIONING SATELLITE SURVEYING • GPS

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION
**** RECOVERY DESCRIPTION ****

Station Serial Number - 0013 Designation - A-734

Horizontal Position - Latitude 32 56 16.21959 North
- Longitude 117 13 36.81798 West

Datum - NAD 83 Source - RBF/GEO*STAR Accuracy - \pm 2 cm

Plane Coordinates - Northing (Y) 585,952.887 Meters
CCS 83, Zone 6 - Easting (X) 1,908,645.519 Meters

- Northing (Y) 1,922,413.76 U.S. Feet
- Easting (X) 6,261,947.84 U.S. Feet

Vertical Position - Elevation 21.244 Meters
69.698 Feet

Datum - NGVD 29 Source - Co.S.D. Accuracy - 1

Recovered in Good Condition by - RBF/GEOSTAR on May 15, 1990
Monument Type - 3 1/2" Brass Disk in Concrete Monument
Mark is Stamped - A 734 1944
Agency - USC & GS
Center Mark - Line and Hash Mark

Special Applications of Mark:
- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located on the top of a small cut bank on the southerly side of Carmel Valley Road 0.9 miles easterly of interstate Route 5 in the City of San Diego, California.

To reach from interstate Route 5 at Carmel Valley Road; proceed easterly on Carmel Valley Road 0.8 miles to Carmel Creek Road; continue easterly on Carmel Valley Road 0.1 miles to the station on the right side.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION
**** RECOVERY DESCRIPTION ****

Station Serial Number - 0034 Designation - ANNIE

Horizontal Position - Latitude 32 56 31.86329 North
- Longitude 117 15 40.27710 West

Datum - NAD 83 Source - RBF/GEO*STAR Accuracy - \pm 2 cm

Plane Coordinates - Northing (Y) 586,465.356 Meters
CCS 83, Zone 6 - Easting (X) 1,905,443.260 Meters

- Northing (Y) 1,924,095.09 U.S. Feet
- Easting (X) 6,251,441.76 U.S. Feet

Vertical Position - Elevation 41.530 Meters
136.253 Feet

Datum - NGVD 29 Source - RBF/GEO*STAR Accuracy - \pm 4 cm

Recovered in Good Condition by - RBF/GEOSTAR on May 25, 1990

Monument Type - 2 1/2" Brass Disk Set in Concrete in Monument Well

Mark is Stamped - ANNIE 1990 PLS 4965

Agency - City of Del Mar

Center Mark - Punch Mark

Special Applications of Mark:

- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located in a dirt clearing on the westerly side of Camino Del Mar (North Torrey Pines Road) approximately 500 feet northerly of the intersection with Carmel Valley Road in the City of Del Mar, California.

To reach from intersection of Camino Del Mar and 15th Street in the City of Del Mar, CA; proceed southerly on Camino Del Mar 1.3 miles to the station on the right approximately 20 feet westerly of the edge of pavement.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION
**** RECOVERY DESCRIPTION ****

Station Serial Number - 0028 Designation - CHARLIE

Horizontal Position - Latitude 32 57 47.72879 North
- Longitude 117 15 21.91697 West

Datum - NAD 83 Source - RBF/GEO*STAR Accuracy - ± 2 cm

Plane Coordinates - Northing (Y) 588,797.733 Meters
CCS 83, Zone 6 - Easting (X) 1,905,942.703 Meters
- Northing (Y) 1,931,747.23 U.S. Feet
- Easting (X) 6,253,080.35 U.S. Feet

Vertical Position - Elevation 10.442 Meters
34.26 Feet

Datum - NGVD 29 Source - RBF/GEO*STAR Accuracy - ± 4 cm

Recovered in Good Condition by - RBF/GEOSTAR on May 21, 1990
Monument Type - 2-1/2 inch Brass Disk Set on top of curb inlet
Mark is Stamped - CHARLIE 1990 PLS 4965
Agency - City of Del Mar
Center Mark - Punch Mark

Special Applications of Mark:
- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located on the northerly corner of a concrete curb inlet at the southeast corner of San Dieguito Road at the intersection with Racetrack View Road near the Easterly boundary of the City of Del Mar, California.

To reach from the intersection of Camino Del Mar and 15th Street in the City of Del Mar, CA; proceed northerly on Camino Del Mar 0.4 miles to Jimmy Durante Blvd; turn right on Jimmy Durante Blvd. and go 0.4 miles to San Dieguito Road; turn right and go 0.5 miles to where San Dieguito Road turns right and Racetrack View Rd. continues straight. The inlet and Station is on the southeast curb return.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION
**** RECOVERY DESCRIPTION ****

Station Serial Number - 0037 Designation - CITY BDRY

Horizontal Position - Latitude 32 56 54.00013 North
- Longitude 117 15 36.64846 West

Datum - NAD 83 Source - RBF/GEO*STAR Accuracy - ± 2 cm

Plane Coordinates - Northing (Y) 587,146.354 Meters
CCS 83, Zone 6 - Easting (X) 1,905,544.119 Meters

- Northing (Y) 1,926,329.33 U.S. Feet
- Easting (X) 6,251,772.66 U.S. Feet

Vertical Position - Elevation 64.024 Meters
210.05 Feet

Datum - NGVD 29 Source - RBF/GEO*STAR Accuracy - ± 4 cm

Recovered in Good Condition by - RBF/GEOSTAR on May 16, 1990

Monument Type - Brass Disk Set in Concrete in Monument Well

Mark is Stamped - No Stamping

Agency - City of San Diego

Center Mark - Cross and Center Punch

Special Applications of Mark:

- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located in the center of Del Mar Heights Road (4th Street) approximately 200 feet Easterly of Camino Del Mar on the Easterly boundary of the City of Del Mar, California.

To reach from the intersection of Camino Del Mar and 15th Street in the City of Del Mar, CA; proceed southerly on Camino Del Mar 0.8 miles to Del Mar Heights Road (4th Street); turn left and go up steep hill 200 feet to station in the center of the road.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION

**** RECOVERY DESCRIPTION ****

Station Serial Number - 0032 Designation - CURRY

Horizontal Position - Latitude 32 57 15.69777 North
- Longitude 117 15 47.45917 West

Datum - NAD 83 Source - RBF/GEO*STAR Accuracy - ± 2 cm

Plane Coordinates - Northing (Y) 587,817.460 Meters
CCS 83, Zone 6 - Easting (X) 1,905,269.833 Meters

- Northing (Y) 1,928,531.12 U.S. Feet
- Easting (X) 6,250,872.78 U.S. Feet

Vertical Position - Elevation 44.730 Meters
146.75 Feet

Datum - NGVD 29 Source - RBF/GEO*STAR Accuracy - ± 4 cm

Recovered in Good Condition by - RBF/GEOSTAR on May 16, 1990

Monument Type - 2 1/2 inch Brass Disk Set in Top of Curb inlet

Mark is Stamped - CURRY 1990 PLS 4965

Agency - City of Del Mar

Center Mark - Punch Mark

Special Applications of Mark:

- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located on the top of a concrete curb inlet at the southeasterly curb return at Camino Del Mar and 10th Street in the City of Del Mar, California.

To reach from the intersection of Camino Del Mar and 15th Street in the City of Del Mar, CA; proceed southerly on Camino Del Mar 0.4 miles to 10th Street and the Station at the southeast curb return.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION
**** RECOVERY DESCRIPTION ****

Station Serial Number - 0026 Designation - D-741

Horizontal Position - Latitude 32 58 5.28891 North
- Longitude 117 15 21.49799 West

Datum - NAD 83 Source - RBF/GEO*STAR Accuracy - ± 2 cm

Plane Coordinates - Northing (Y) 589,338.558 Meters
CCS 83, Zone 6 - Easting (X) 1,905,958.803 Meters

- Northing (Y) 1,933,521.58 U.S. Feet
- Easting (X) 6,253,133.17 U.S. Feet

Vertical Position - Elevation 1.910 Meters
6.266 Feet

Datum - NGVD 29 Source - NGS Accuracy - 1 st

Recovered in Good Condition by - RBF/GEOSTAR on May 15, 1990
Monument Type - 3 1/2 inch Brass Disk Set in Concrete Monument
Mark is Stamped - D 741 1945
Agency - USC & GS
Center Mark - Line with a Hash Mark

Special Applications of Mark:
- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located in the San Dieguito Ecological Preserve approximately on the easterly boundary line of the City of Del Mar, California, on the north side of Grand Avenue near the remains of the old Del Mar Airport and 10th Street in the City of Del Mar, California.

To reach from the intersection of Camino Del Mar and 15th Street in the City of Del Mar, CA; proceed northerly on Camino Del Mar 0.4 miles to Jimmy Durante Blvd. turn right on Jimmy Durante Blvd. and go 0.4 miles to San Dieguito Road; turn right and go 0.25 miles to an unmarked paved road on the left (Grand Avenue) with a locked gate across it; pass through gate and proceed easterly for 0.2 miles to an old fence line and the station on the left.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION
**** RECOVERY DESCRIPTION ****

Station Serial Number - 0036 Designation - H-53

Horizontal Position - Latitude 32 56 5.08335 North
 - Longitude 117 15 38.40439 West

Datum - NAD 83 Source - RBF/GEO*STAR Accuracy - ± 2 cm

Plane Coordinates - Northing (Y) 585,639.946 Meters
CCS 83, Zone 6 - Easting (X) 1,905,483.906 Meters

 - Northing (Y) 1,921,387.05 U.S. Feet
 - Easting (X) 6,251,575.12 U.S. Feet

Vertical Position - Elevation 5.943 Meters
 19.499 Feet

Datum - NGVD 29 Source - NGS Accuracy - 3 rd

Recovered in Good Condition by - RBF/GEO*STAR on May 16, 1990

Monument Type - 3-1/2 inch Brass Disk set in Concrete Bridge

Mark is Stamped - H 53 1938

Agency - USGS

Center Mark - Triangle with a cross

Special Applications of Mark:
 - Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located at the northwesterly corner of a concrete bridge on North Torrey Pines Road (old U.S. 101) at Penasquitos Creek 0.4 miles southerly of Carmel Valley Road in the City of San Diego, California.

To reach from the intersection of Camino Del Mar and 15th Street in the City of Del Mar, CA; proceed southerly on Camino Del Mar 1.4 miles to Carmel Valley Road; continue southerly on North Torrey Pines Road (Camino Del Mar heading northerly) 0.4 miles to second bridge and station on the right.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION
**** RECOVERY DESCRIPTION ****

Station Serial Number - 0014 Designation - LA JOLLA ARIES 1 1978

Horizontal Position - Latitude 32 51 56.53010 North
- Longitude 117 15 0.97482 West

Datum - NAD 83 Source - NGS Accuracy - 1 st

Plane Coordinates - Northing (Y) 577,974.048 Meters
CCS 83, Zone 6 - Easting (X) 1,906,382.742 Meters
- Northing (Y) 1,896,236.522 U.S. Feet
- Easting (X) 6,254,524.049 U.S. Feet

Vertical Position - Elevation 77.486 Meters
254.22 Feet

Datum - NGVD 29 Source - NGS Accuracy - ± 10 cm

Recovered in Good Condition by - RBF/GEO*STAR on May 16, 1990
Monument Type - 3-1/2 inch Brass Disk set in Concrete
Mark is Stamped - LA JOLLA ARIES NO 1 1977
Agency - NGS
Center Mark - Triangle & Dot

Special Applications of Mark:
- Site is suitable for receiving satellite signals.
- Site is suitable for mobile VLBI installations.

**** TO REACH DESCRIPTION ****

The station is located on the UCSD Campus about 1/4 mi southeast of the Scripps Pier in La Jolla, California.

To reach from the intersection of North Torrey Pines Rd and La Jolla Shores Dr; proceed southwesterly on La Jolla Shores Drive 0.5 mi. to Discovery, WY and an unmarked paved road 40 ft. to the west; turn left on the unmarked road and proceed southerly 0.3 mile to a cross road at the bottom of a hill; continue southerly 0.1 mi onto small mesa area and station on the west side of a fenced compound around a small block building.

The station is on the proposed site for the new Scripps Aquarium and is scheduled to be destroyed by construction in the near future.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION
**** RECOVERY DESCRIPTION ****

Station Serial Number - 0031 Designation - LINDSEY

Horizontal Position - Latitude 32 57 24.31916 North
 - Longitude 117 15 26.05064 West

Datum - NAD 83 Source - RBF/GEO*STAR Accuracy - ± 2 cm

Plane Coordinates - Northing (Y) 588,077.650 Meters
CCS 83, Zone 6 - Easting (X) 1,905,828.393 Meters

 - Northing (Y) 1,929,384.76 U.S. Feet
 - Easting (X) 6,252,705.32 U.S. Feet

Vertical Position - Elevation 105.943 Meters
 347.58 Feet

Datum - NGVD 29 Source - RBF/GEO*STAR Accuracy - ± 4 cm

Recovered in Good Condition by - RBF/GEO*STAR on May 24, 1990
Monument Type - 2-1/2 inch Brass Disk in Concrete in Monument Well
Mark is Stamped - LINDSEY 1990 PLS 4965
Agency - City of Del Mar
Center Mark - Punch Mark

Special Applications of Mark:
- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located in a dirt clearing on the northeasterly side of Crest road approximately 230 feet northwesterly of Amphitheater Drive in the City of Del Mar, California.

To reach from the intersection of Camino Del Mar and 15th Street in the City of Del Mar, California; proceed northeasterly on 15th Street 0.45 miles to Crest Road; turn right and go 0.4 miles to station on the left approximately 6 feet past the edge of pavement.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION
**** RECOVERY DESCRIPTION ****

Station Serial Number - 0023 Designation - LJ-106

Horizontal Position - Latitude 32 58 27.48369 North
- Longitude 117 16 7.45665 West

Datum - NAD 83 Source - RBF/GEO*STAR Accuracy - ± 2 cm

Plane Coordinates - Northing (Y) 590,033.841 Meters
CCS 83, Zone 6 - Easting (X) 1,904,772.090 Meters

- Northing (Y) 1,935,802.69 U.S. Feet
- Easting (X) 6,249,239.77 U.S. Feet

Vertical Position - Elevation 4.142 Meters
13.589 Feet

Datum - NGVD 29 Source - NGS Accuracy - 1 st

Recovered in Good Condition by - RBF/GEO*STAR on May 21, 1990
Monument Type - Brass Disk set in Concrete Bridge
Mark is Stamped - LJ 106
Agency - Co S.D.
Center Mark - Raised Nipple

Special Applications of Mark:
- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located on the top of a concrete wing-wall at the southeast corner of a concrete bridge on Camino Del Mar crossing the San Dieguito River in the City of Del Mar, California.

To reach from the intersection of Camino Del Mar and 15th Street in the City of Del Mar, California; proceed northerly on Camino Del mar 1.1 miles to the concrete bridge and the station on the right.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION

**** RECOVERY DESCRIPTION ****

Station Serial Number - 0029 Designation - MAR DEL

Horizontal Position - Latitude 32 58 40.59148 North
- Longitude 117 15 54.53993 West

Datum - NAD 83 Source - RBF/GEO*STAR Accuracy - ± 2 cm

Plane Coordinates - Northing (Y) 588,586.084 Meters
CCS 83, Zone 6 - Easting (X) 1,905,093.406 Meters

- Northing (Y) 1,931,052.84 U.S. Feet
- Easting (X) 6,250,293.95 U.S. Feet

Vertical Position - Elevation 30.984 Meters
101.65 Feet

Datum - NGVD 29 Source - RBF/GEO*STAR Accuracy - ± 4 cm

Recovered in Good Condition by - RBF/GEO*STAR on May 21, 1990

Monument Type - 2-1/2 inch Brass Disk set in top of curb inlet

Mark is Stamped - MAR DEL 1990 PLS 4965

Agency - City of Del Mar

Center Mark - Punch Mark

Special Applications of Mark:

- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located on the northerly corner of a concrete curb inlet on the easterly side of Camino Del Mar approximately 400 feet northerly of the intersection with 15th Street in the City of Del Mar, California.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION

**** RECOVERY DESCRIPTION ****

Station Serial Number - 0021 Designation - RACE

Horizontal Position - Latitude 32 58 48.69070 North
 - Longitude 117 15 58.00576 West

Datum - NAD 83 Source - RBF/GEO*STAR Accuracy - ± 2 cm

Plane Coordinates - Northing (Y) 590,684.716 Meters
CCS 83, Zone 6 - Easting (X) 1,905,023.847 Meters

 - Northing (Y) 1,937,938.11 U.S. Feet
 - Easting (X) 6,250,065.74 U.S. Feet

Vertical Position - Elevation 23.158 Meters
 75.98 Feet

Datum - NGVD 29 Source - RBF/GEO*STAR Accuracy - ± 1 cm

Recovered in Good Condition by - RBF/GEO*STAR on May 16, 1990
Monument Type - 3-1/2 inch Brass Disk set on concrete monument
Mark is Stamped - RACE 1959
Agency - Co. of S.D.
Center Mark - Triangle & Dot

Special Applications of Mark:
- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located on the south side of Via De La Valle 800 feet easterly of Camino Del Mar on a bluff overlooking the Del Mar Race Track in the City of Del Mar, California.

To reach from the intersection of Camino Del Mar and 15th Street in the City of Del Mar, California; proceed northerly on Camino Del Mar 1.4 miles to Via De La Valle; turn right and go 800 feet to the station on the right side of the road 15 feet south of the edge of pavement.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION
**** RECOVERY DESCRIPTION ****

Station Serial Number - 0030 Designation - REED

Horizontal Position - Latitude 32 57 32.04673 North
 - Longitude 117 15 40.43557 West

Datum - NAD 83 Source - RBF/GEO*STAR Accuracy - ± 2 cm

Plane Coordinates - Northing (Y) 588,319.309 Meters
CCS 83, Zone 6 - Easting (X) 1,905,457.125 Meters

 - Northing (Y) 1,930,177.60 U.S. Feet
 - Easting (X) 6,251,487.25 U.S. Feet

Vertical Position - Elevation 66.318 Meters
 217.58 Feet

Datum - NGVD 29 Source - RBF/GEO*STAR Accuracy - ± 4 cm

Recovered in Good Condition by - RBF/GEO*STAR on May 25, 1990

Monument Type - 2-1/2 inch Brass Disk in concrete in Monument Well
Mark is Stamped - REED 1990 PLS 4965
Agency - City of Del Mar
Center Mark - Punch Mark

Special Applications of Mark:

- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located in the pavement on the southeasterly side of Van Dyke Avenue approximately 75 feet northeasterly of Rimini Road in the City of Del Mar, California.

To reach from the intersection of Camino Del Mar and 15th Street in the City of Del Mar, California; proceed northeasterly on 15th Street 0.1 miles to Luneta Drive; turn right and go 0.2 miles to Van Dyke Avenue; turn left and go 0.1 miles to Rimini Road and bear left for 75 feet to the station on the right side of the road.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION
**** RECOVERY DESCRIPTION ****

Station Serial Number - 0024 Designation - SAM

Horizontal Position - Latitude 32 58 16.80490 North
- Longitude 117 15 43.58066 West

Datum - NAD 83 Source - RBF/GEO*STAR Accuracy - ± 2 cm

Plane Coordinates - Northing (Y) 589,698.850 Meters
CCS 83, Zone 6 - Easting (X) 1,905,388.833 Meters
- Northing (Y) 1,934,703.64 U.S. Feet
- Easting (X) 6,251,263.20 U.S. Feet

Vertical Position - Elevation 4.016 Meters
13.18 Feet

Datum - NGVD 29 Source - RBF/GEO*STAR Accuracy - ± 4 cm

Recovered in Good Condition by - RBF/GEO*STAR on May 21, 1990
Monument Type - 2-1/2 inch Brass Disk set in top of concrete inlet
Mark is Stamped - SAM 1990 PLS 4965
Agency - City of Del Mar
Center Mark - Punch Mark

Special Applications of Mark:
- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located in the top of a concrete curb inlet on the northerly corner of a concrete bridge on Jimmy Durante Blvd. over the San Dieguito River in the City of Del Mar, California.

To reach from the intersection of Camino Del Mar and 15th Street in the City of Del Mar, California; proceed northerly on Camino Del Mar 0.4 miles to Jimmy Durante Blvd; turn right on Jimmy Durante Blvd. and go 0.45 miles to the concrete bridge and the station on the left.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION
**** RECOVERY DESCRIPTION ****

Station Serial Number - 0033 Designation - SDC-10

Horizontal Position - Latitude 32 57 5.76428 North
- Longitude 117 15 56.90783 West

Datum - NAD 83 Source - RBF/GEO*STAR Accuracy - ± 2 cm

Plane Coordinates - Northing (Y) 587,513.854 Meters
CCS 83, Zone 6 - Easting (X) 1,905,021.463 Meters
- Northing (Y) 1,927,535.03 U.S. Feet
- Easting (X) 6,250,057.92 U.S. Feet

Vertical Position - Elevation 18.240 Meters
59.842 Feet

Datum - NGVD 29 Source - NGS Accuracy - 1 st

Recovered in Good Condition by - RBF/GEO*STAR on May 15, 1990
Monument Type - 3 inch Brass Disk in the top of a Concrete Headwall
Mark is Stamped - SDC 10 1968
Agency - Co. S.D.
Center Mark - Raised Nipple

Special Applications of Mark:
- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located on the top of a concrete headwall on the westerly side of the AT & SF railway tracks near the southwesterly end of 8th Street in the City of Del Mar, California.

To reach from the intersection of Camino Del Mar and 15th Street in the City of Del Mar, California; proceed southerly on Camino Del Mar 0.45 miles to 9th Street; turn right and go 0.1 miles to Stratford Ct.; turn left and go 0.1 miles to 8th Street; turn right and go to 0.1 miles to the end of 8th Street and the station 65 feet northeasterly of 8th Street produced and 28 feet westerly of the rails.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION
**** RECOVERY DESCRIPTION ****

Station Serial Number - 0027 Designation - SNAKEWALL

Horizontal Position - Latitude 32 57 50.88708 North
- Longitude 117 15 35.42071 West

Datum - NAD 83 Source - RBF/GEO*STAR Accuracy - ± 2 cm

Plane Coordinates - Northing (Y) 588,898.413 Meters
CCS 83, Zone 6 - Easting (X) 1,905,592.979 Meters

- Northing (Y) 1,932,077.54 U.S. Feet
- Easting (X) 6,251,932.97 U.S. Feet

Vertical Position - Elevation 92.551 Meters
303.64 Feet

Datum - NGVD 29 Source - RBF/GEO*STAR Accuracy - ± 4 cm

Recovered in Good Condition by - RBF/GEO*STAR on May 25, 1990

Monument Type - 2-1/2 inch Brass Disk in concrete in Monument Well

Mark is Stamped - SNAKEWALL 1990 PLS 4965

Agency - City of Del Mar

Center Mark - Punch Mark

Special Applications of Mark:

- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located in the pavement on the southeasterly side of Serpentine Drive 200 feet northeasterly of Avenue Primavera in the City of Del Mar, California.

To reach from the intersection of Camino Del Mar and 15th Street in the City of Del Mar, California; proceed northeasterly on 15th St. 0.4 miles to the intersection with Crest Road and Avenue Prima Vera; bear left on Avenue Prima Vera and go 0.1 miles to the intersection with Serpentine Drive; turn right and go 200 feet to #641 Serpentine and station on the right side of the road.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION
**** RECOVERY DESCRIPTION ****

Station Serial Number - 0026 Designation - SURF

Horizontal Position - Latitude 32 58 9.01627 North
- Longitude 117 16 3.74351 West

Datum - NAD 83 Source - RBF/GEO*STAR Accuracy - ± 2 cm

Plane Coordinates - Northing (Y) 589,464.022 Meters
CCS 83, Zone 6 - Easting (X) 1,904,862.948 Meters

- Northing (Y) 1,933,933.21 U.S. Feet
- Easting (X) 6,249,537.86 U.S. Feet

Vertical Position - Elevation 2.140 Meters
7.02 Feet

Datum - NGVD 29 Source - RBF/GEO*STAR Accuracy - ± 4 cm

Recovered in Good Condition by - RBF/GEO*STAR on May 24, 1990

Monument Type - 2-1/2 inch Brass Disk in concrete in Monument Well

Mark is Stamped - SURF 1990 PLS 4965

Agency - City of Del Mar

Center Mark - Punch Mark

Special Applications of Mark:

- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located in a dirt parkway behind the northeast curb return at the intersection of Camino Del Mar and 24th Street in the northwesterly end of the City of Del Mar, California.

To reach from the intersection of Camino Del Mar and 15th Street in the City of Del Mar, California; proceed northerly on Camino Del Mar 0.7 miles to the intersection with 24th Street and the station in the northeast corner.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION

**** RECOVERY DESCRIPTION ****

Station Serial Number - 0036 Designation - T PINES

Horizontal Position - Latitude 32 56 31.25778 North
- Longitude 117 15 29.64214 West

Datum - NAD 83 Source - RBF/GEO*STAR Accuracy - \pm 2 cm

Plane Coordinates - Northing (Y) 586,444.029 Meters
CCS 83, Zone 6 - Easting (X) 1,905,719.316 Meters

- Northing (Y) 1,924,025.12 U.S. Feet
- Easting (X) 6,252,347.46 U.S. Feet

Vertical Position - Elevation 76.078 Meters
249.60 Feet

Datum - NGVD 29 Source - RBF/GEO*STAR Accuracy - \pm 4 cm

Recovered in Good Condition by - RBF/GEO*STAR on May 25, 1990

Monument Type - 2 1/2 inch Brass Disk in Concrete in Monument Well

Mark is Stamped - T PINES 1990 PLS 4965

Agency - City of Del Mar

Center Mark - Punch Mark

Special Applications of Mark:

- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located in the pavement at the easterly end of Torrey Pines Terrace in the southerly end of the City of Del Mar, California.

To reach from the intersection of Camino Del Mar and 15th Street in the City of Del Mar, California; proceed southerly on Camino Del Mar 0.8 miles to Del Mar Heights Road; turn left and go uphill 0.25 miles to Pine Needles Drive; turn right and go 0.3 miles to Ocean View Avenue; turn right and go 0.35 miles to Torrey Pines Terrace; turn left and go 0.1 mile to end of road and station in the southeasterly end of the cul-de-sac.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION
**** RECOVERY DESCRIPTION ****

Station Serial Number - 0022 Designation - TURF

Horizontal Position - Latitude 32 58 45.04855 North
- Longitude 117 15 23.08950 West

Datum - NAD 83 Source - RBF/GEO*STAR Accuracy - ± 2 cm

Plane Coordinates - Northing (Y) 590,563.729 Meters
CCS 83, Zone 6 - Easting (X) 1,905,929.299 Meters

- Northing (Y) 1,937,541.17 U.S. Feet
- Easting (X) 6,253,036.38 U.S. Feet

Vertical Position - Elevation 4.725 Meters
15.50 Feet

Datum - NGVD 29 Source - RBF/GEO*STAR Accuracy - ± 1 cm

Recovered in Good Condition by - RBF/GEO*STAR on May 21, 1990

Monument Type - 2-1/2 inch Brass Disk set in top of concrete vault
Mark is Stamped - TURF 1990 PLS 4965
Agency - City of Del Mar
Center Mark - Punch Mark

Special Applications of Mark:

- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located on the northerly corner of a large concrete utility vault in the center of an asphalt traffic island in the southeast corner of the intersection of Via De La Valle and Jimmy Durante Blvd. near the northeast corner of the City of Del Mar, California.

To reach from the intersection of Camino Del Mar and 15th Street in the City of Del Mar, California; proceed northerly on Camino Del Mar 0.4 miles to Jimmy Durante Blvd; turn right and go 1.3 miles to Via De La Valle and the station.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION
**** RECOVERY DESCRIPTION ****

Station Serial Number - 0011 Designation - WHITE

Horizontal Position - Latitude 33 4 48.29977 North
 - Longitude 117 17 19.23544 West

Datum - NAD 83 Source - NGS Accuracy - 1 st

Plane Coordinates - Northing (Y) 601,783.052 Meters
CCS 83, Zone 6 - Easting (X) 1,903,025.232 Meters

 - Northing (Y) 1,974,349.90 U.S. Feet
 - Easting (X) 6,243,508.62 U.S. Feet

Vertical Position - Elevation 95.081 Meters
 311.94 Feet

Datum - NGVD 29 Source - RBF/GEO*STAR Accuracy - ± 10 cm

Recovered in Good Condition by - RBF/GEO*STAR on May 16, 1990
Monument Type - 3-1/2 inch Brass Disk set in concrete monument
Mark is Stamped - WHITE 1933
Agency - USC & GS
Center Mark - Triangle and dot

Special Applications of Mark:
- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located on a bluff on the south side of the Baticuitos Lagoon in the City of Encinitas, California.

To reach from Interstate Route 5 and La Costa Avenue in the City of Encinitas, California; proceed easterly on La Costa Avenue 0.05 miles to Piraeus St.; turn right and go 0.25 miles to Skyloft Rd.; turn left and go 0.4 miles to Skyloft Ln. and the point where Skyloft Road becomes Gascony Road; continue straight and heading southerly 0.3 miles to the station on the right side of the road approximately 10 feet past the edge of pavement.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION
**** RECOVERY DESCRIPTION ****

Station Serial Number - 0015 Designation - WHITNEY

Horizontal Position - Latitude 33 6 31.88839 North
 - Longitude 117 9 18.68832 West

Datum - NAD 83 Source - NGS Accuracy - 1 st

Plane Coordinates - Northing (Y) 604,857.921 Meters
CCS 83, Zone 6 - Easting (X) 1,915,515.294 Meters

 - Northing (Y) 1,984,438.03 U.S. Feet
 - Easting (X) 6,284,486.43 U.S. Feet

Vertical Position - Elevation 529.164 Meters
 1,736.10 Feet

Datum - NGVD 29 Source - RBF/GEO*STAR Accuracy - ± 10 cm

Recovered in Good Condition by - RBF/GEO*STAR on June 4, 1990
Monument Type - 3-1/2 inch Brass Disk set in rock outcropping
Mark is Stamped - WHITNEY 1939
Agency - USC & GS
Center Mark - Triangle and dot

Special Applications of Mark:
- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located on the highest point of Mount Whitney approximately 3 miles southeast of the City of Escondido, California.

To reach from Highway 78 and Twin Oaks Valley Road in the City of San Marcos, California; proceed southerly on Twin Oaks Valley Road 0.2 miles to Myrtle Avenue; turn left and go 0.7 miles to La Moree; turn right and go 0.8 miles to Coronado Hills Road; turn right and go 0.8 miles to Washingtonia Drive; turn right and go 0.8 miles to a triple fork; go straight 0.05 miles to a locked gate; pass through the gate and go 0.3 miles to the highest point and the station near the southwest fence corner of a micro wave tower.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION
**** RECOVERY DESCRIPTION ****

Station Serial Number - 0012 Designation - ZANJA

Horizontal Position - Latitude 32 58 26.71305 North
- Longitude 117 12 36.21142 West

Datum - NAD 83 Source - NGS Accuracy - 2 nd

Plane Coordinates - Northing (Y) 589,958.053 Meters
CCS 83, Zone 6 - Easting (X) 1,910,256.832 Meters
- Northing (Y) 1,935,554.04 U.S. Feet
- Easting (X) 6,267,234.29 U.S. Feet

Vertical Position - Elevation 99.007 Meters
324.82 Feet

Datum - NGVD 29 Source - RBF/GEO*STAR Accuracy - ± 10 cm

Recovered in Good Condition by - RBF/GEO*STAR on May 15, 1990
Monument Type - 3-1/2 inch Brass Disk set in concrete monument
Mark is Stamped - ZANJA 1933
Agency - USC & GS
Center Mark - Triangle and dot

Special Applications of Mark:
- Site is suitable for receiving satellite signals.

**** TO REACH DESCRIPTION ****

The station is located on the top of a bluff south of the San Dieguito River and 1.5 miles East of El Camino Real in the City of San Diego, California.

To reach from Interstate Route 5 at Via De La Valle near the northeast corner of the City of Del Mar, California; proceed easterly on Via De La Valle 1.3 miles to El Camino Real; turn right and go 0.5 miles to San Dieguito Road; turn left and go 0.05 miles to Old El Camino Real; turn right and go 0.25 miles to a dirt road and a locked gate; pass through the gate and go along the dirt road through farm land and generally following the top of the bluff for 1.5 miles to the station on the left side approximately 500 feet from the northerly end of Bareback Sq.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION

**** RECOVERY DESCRIPTION ****

Station Serial Number - Designation - V-131

Horizontal Position - Latitude North
- Longitude West

Datum - NAD 83 Source - NGS Accuracy -

Plane Coordinates - Northing (Y) Meters
CCS 83, Zone 6 - Easting (X) Meters

- Northing (Y) U.S. Feet
- Easting (X) U.S. Feet

Vertical Position - Elevation 6.403 Meters
21.007 Feet

Datum - NGVD 29 Source - NGS Accuracy - 1 st

Recovered in Good Condition by - RBF/GEO*STAR on May 16, 1990
Monument Type - 3-1/2 inch Brass Disk set in face of bridge piling
Mark is Stamped - V 131 1933
Agency - USC & GS
Center Mark - N/A

Special Applications of Mark:
- Site is not suitable for horizontal control purposes.

**** TO REACH DESCRIPTION ****

The station is located on the northernmost bridge piling on Camino Del Mar crossing the AT & SF railway in the City of Del Mar, California. The monument is set vertical in the face of the piling approximately 0.3 miles northerly of the Santa Fe railway station and 2 feet above the tracks.

CITY OF DEL MAR, CALIFORNIA

HORIZONTAL / VERTICAL CONTROL STATION
 **** RECOVERY DESCRIPTION ****

Station Serial Number -	Designation - W-131		
Horizontal Position	- Latitude	North	
	- Longitude	West	
Datum - NAD 83	Source - NGS	Accuracy -	
Plane Coordinates	- Northing (Y)	Meters	
CCS 83, Zone 6	- Easting (X)	Meters	
	- Northing (Y)	U.S. Feet	
	- Easting (X)	U.S. Feet	
Vertical Position	- Elevation	12.881 Meters	
		42.260 Feet	
Datum - NGVD 29	Source - NGS	Accuracy - 1 st	
Recovered in Good Condition by	- RBF/GEO*STAR on May 16, 1990		
Monument Type	- 3-1/2 inch Brass Disk set in face of wall		
Mark is Stamped	- W 131 1933		
Agency	- USC & GS		
Center Mark	- N/A		

Special Applications of Mark:
 - Site is not suitable for horizontal control purposes.

 **** TO REACH DESCRIPTION ****

The station is located at the Santa Fe Railway Depot in the City of Del Mar, California. The monument is set vertically in the face of the west wall between 2 windows in the South waiting room and 4 feet above the ground.