

August 1, 2006

PN 97082-1485

Mr. Joel Rojas
Director of Planning, Building and Code Enforcement
CITY OF RANCHO PALOS VERDES
30940 Hawthorne Boulevard
Rancho Palos Verdes, CA 90275-5391

Subject: Summary of Site Observations and Cursory Review of Site Conditions, Abalone Cove Landslide Area, Rancho Palos Verdes, California

Dear Mr. Rojas:

At your request and authorization, I contacted and met with Bill Griffin of 5 Ginger Root, Rancho Palos Verdes, California on Wednesday July 26, 2006. Mr. Griffin provided photo-documentation of what has been reported as recent movement of the Abalone Cove Landslide. In addition, Mr. Griffin provided a site map of the area with his approximated limit of the historic movement (Figure 1). Observations were limited to a vehicle reconnaissance of the area with stops including the Wayfarers Chapel, the Horan residence (20 Narcissa Drive), the Jester residence (28 Narcissa) and associated street areas including portions of Narcissa Drive, Palos Verdes Drive South, Figtree Road, and Cinnamon Lane.

Observations at the Wayfarers Chapel included separations between concrete slabs and concrete cracks up to approximately 1 inch in width. These were confined to the eastern perimeter of the chapel grounds associated with the breezeway and garden house (see photos 13 through 17 provided by Mr. Griffin and Zeiser Kling Consultants, Inc. (ZKCI) Figures 2 and 3). Additional photos illustrating distress within the interior of the garden house were provided by Mr. Griffin (photos 19 through 22).

Observations at the Jester residence (28 Narcissa Drive) were confined to the exterior of the residence. Distress in the form of a somewhat continuous crack within the length of the driveway was observed. This crack showed both horizontal and vertical separations on the order of ½ to 1 inch (see photos 1 through 4 and ZKCI Figure 4). Additional separations and cracks were observed within the entry stairs and within flatwork and walls of the residence (see photos 5 through 12 and ZKCI photos Figure 5 and 6).

The Horan residence (28 Narcissa Drive) included both interior and exterior observations. Observations included movement and separation in the brick driveway and cracking and tearing of interior drywall (see figure 7). Additional observations included uneven flooring within much of the residence.

Street distress observed included general cracking of asphalt pavements that appeared to be typical of aged pavements, other cracks that may be related to minor movement (lower Narcissa Drive, Photos 23 and 24 and in front of 1 and 2 Cinnamon Lane, Photos 27 through 29 and ZKCI Figure 8), and some areas that show heaving or settlement within pavement areas (Palos Verdes Drive South photos 35 and 36). The cracks observed are generally between 1/8 to 1 inch (see photos 23 through 36 and ZKCI Figure 8).

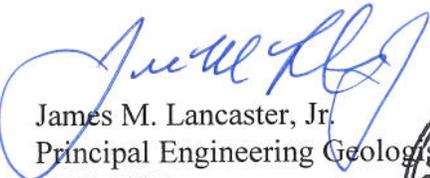
It was noted by all those that I spoke with that the majority of the cracks and distress observed in the area have occurred in the last 6 months. It is quite possible that the distress observed has occurred within the last 6 months; however, my observations cannot determine the age of the distress. Some the cracking in the pavements appear recent; however, the majority could be older than the purported 6 months. It is not possible for me to determine the age of the distress at the residences or concrete distress at Wayfarers Chapel based on my current observations.

The horizontal movement recorded by GPS survey observations during 2005 within the area in question by Charles Abbott Associates, Inc. is consistent with the movement observed during our recent site visit. It is recommended that GPS survey observations be continued at a frequency of four quarterly readings per year. In addition, it is recommended that site observations of the general distress also be completed on a quarterly basis. It should be stressed to all involved that if a change in the current distress regime occurs, the city should be notified so that additional steps can be taken if warranted.

We appreciate this opportunity to be of continued service to the City of Rancho Palos Verdes. Please call if you have any questions regarding the content of this letter.

Sincerely,

ZEISER KLING CONSULTANTS, INC.


James M. Lancaster, Jr.
Principal Engineering Geologist
CEG 1927
Expires 6/30/08



JL:MR:dm

Dist.: (3) Addressee
Attachments: Figures 1 through 8
Photographs 1 through 36
Sheet C, Horizontal Movement History

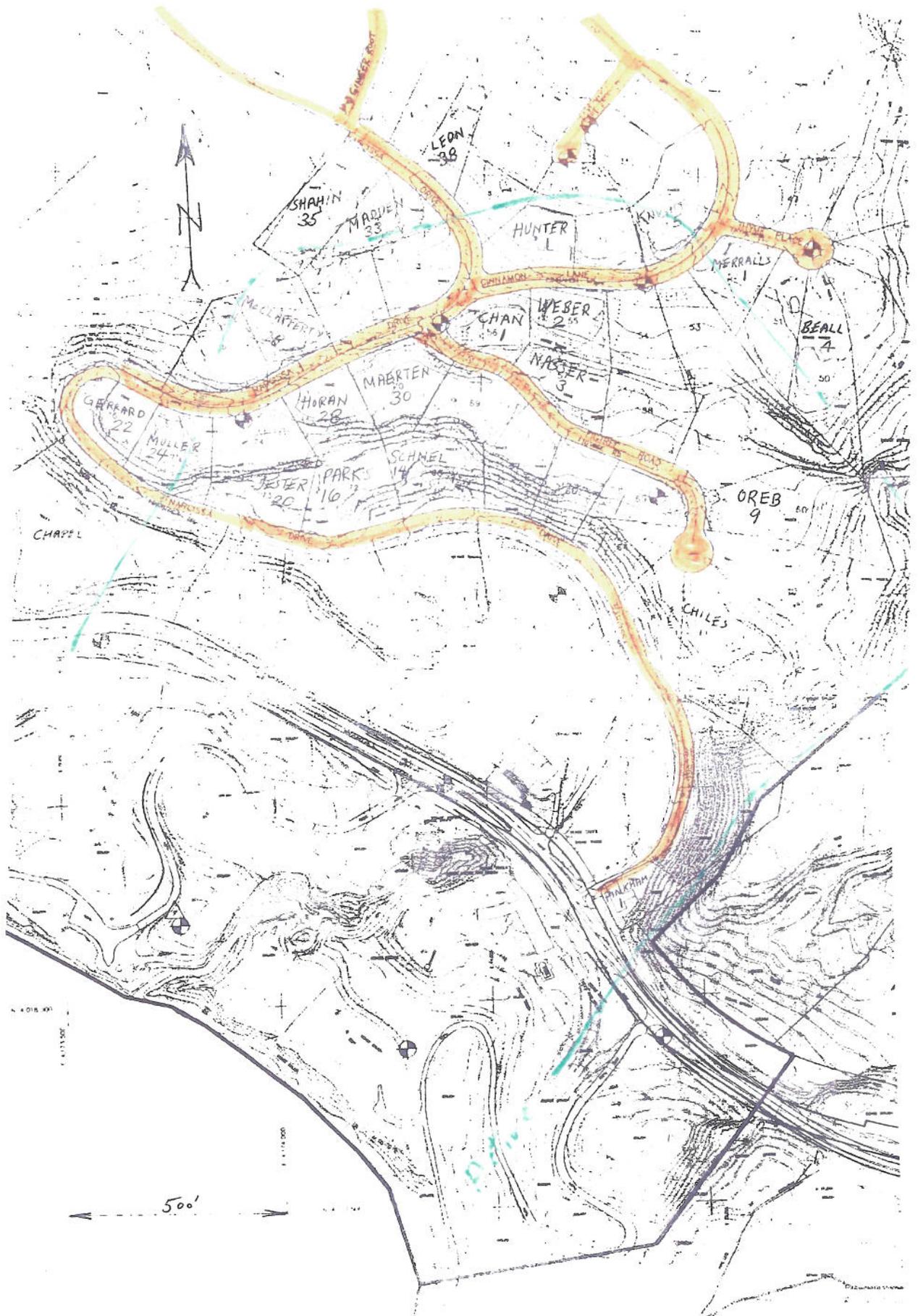


Figure 1

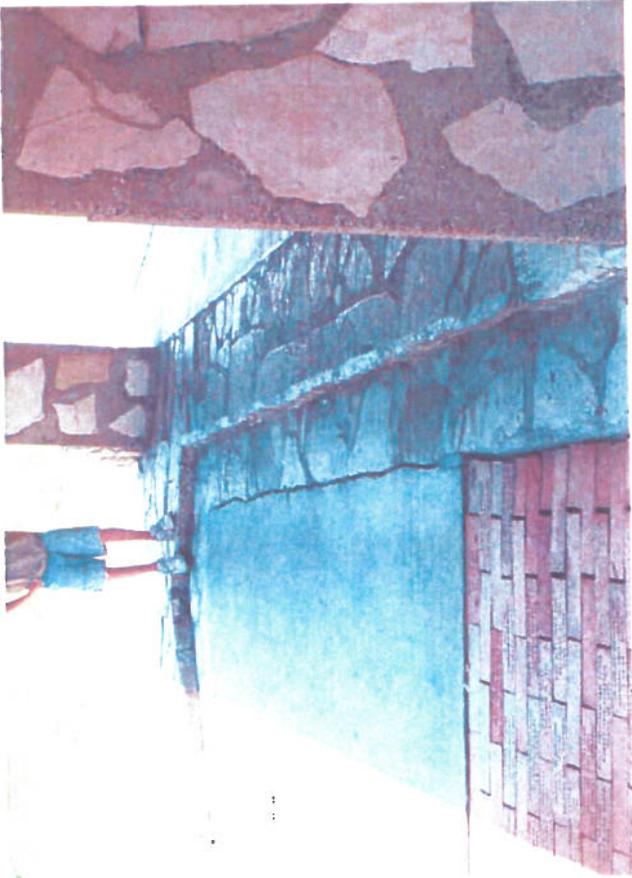


Figure 2



Figure 3



Figure 4

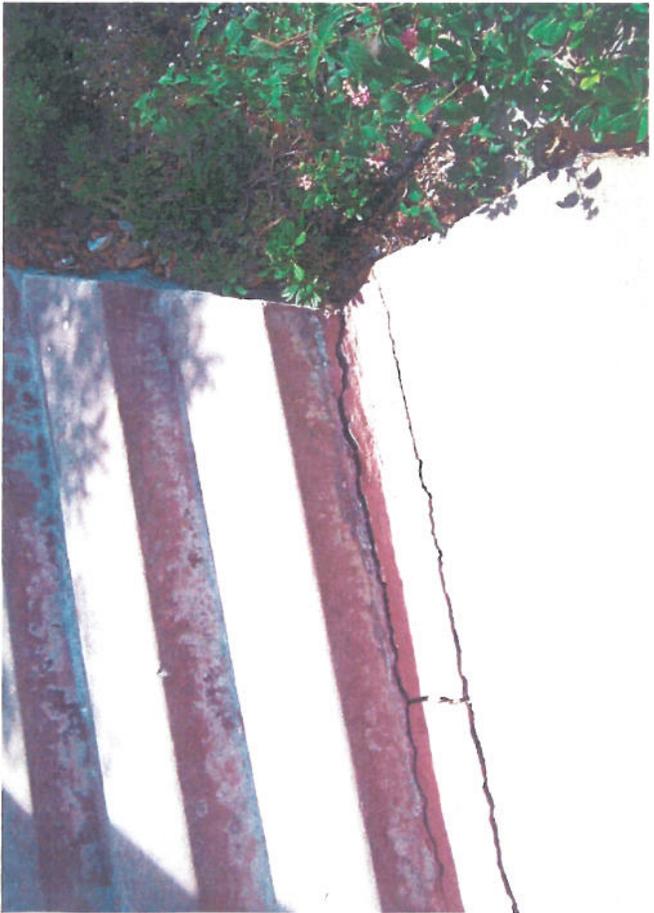


Figure 5



Figure 6

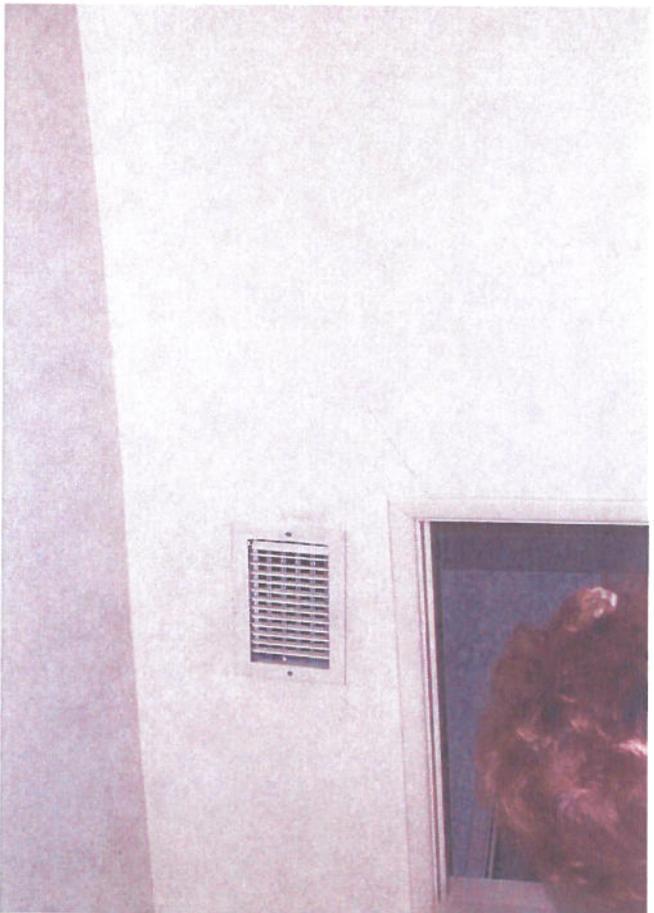


Figure 7

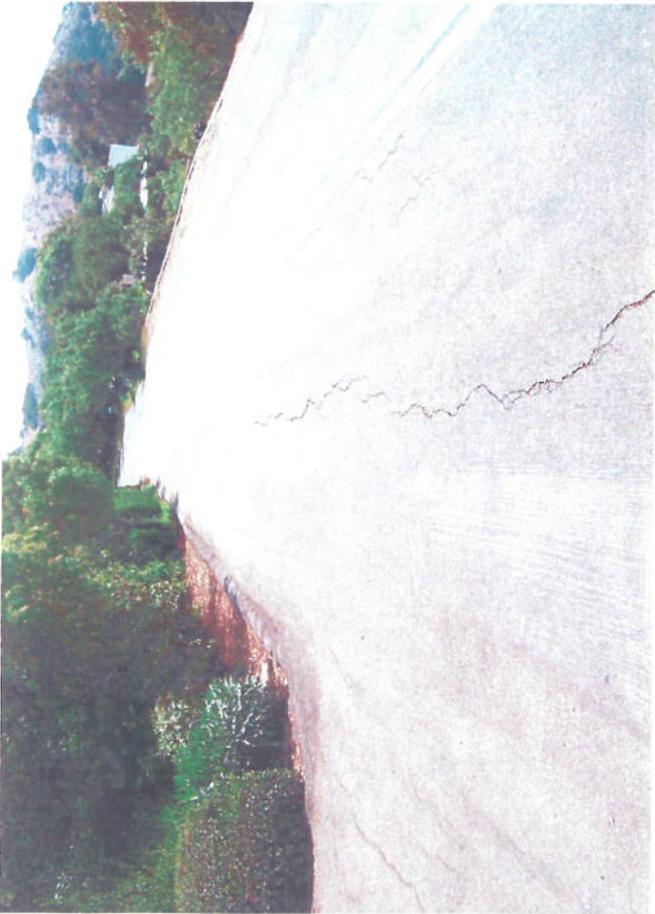


Figure 8



7/24/06
Jester Driveway - 20 Narcissus Dr
6 in. deep.

#1



7/24/06

Jester Driveway - 20
Narciss + PR.

2



7/24/06

JESTEK DRIVEWAY - 20 NARCISSE DR.



7/24/06

Jester Driveway - 20 NARCISSE DR.

4



7/24/06

Jester wall in BACK YARD
26 NARCISSE DR.

NOTE: previous patching is #



7/24/06

FRONT STEPS AT JESTER HOUSE
20 ~~STREETS~~ NARCISSE DR.



7/24/06

FRONT YARD at Jester's
20 NARCISSE # DK

PULL APART CRACK ON SLAB

8



11/24/06

BACK YARD AT JESTER'S
200 W. ALBERTA DR.
CRACKS IN SIDEWALK

9



7/24/06

Jester Home - 20 NARCISSE DR.
offset in patio wall.

#10



7/24/06

Back yard at Jester's
20 Narcissa Dr
New wall cracks

11



7/24/06

JUSTICE BACIE YARD WALL

20 WAREISSA DR.

Settlement a full apart crack

12



7/24/06

NEW MOVEMENT NEAR GREEN
HOUSE - wayfarer's Chapel.
UNDER Breeze way



7/24/06

Wayfare's Chapel - near garden
House. Sidewalk cracks UNDER
Breeze way.

14

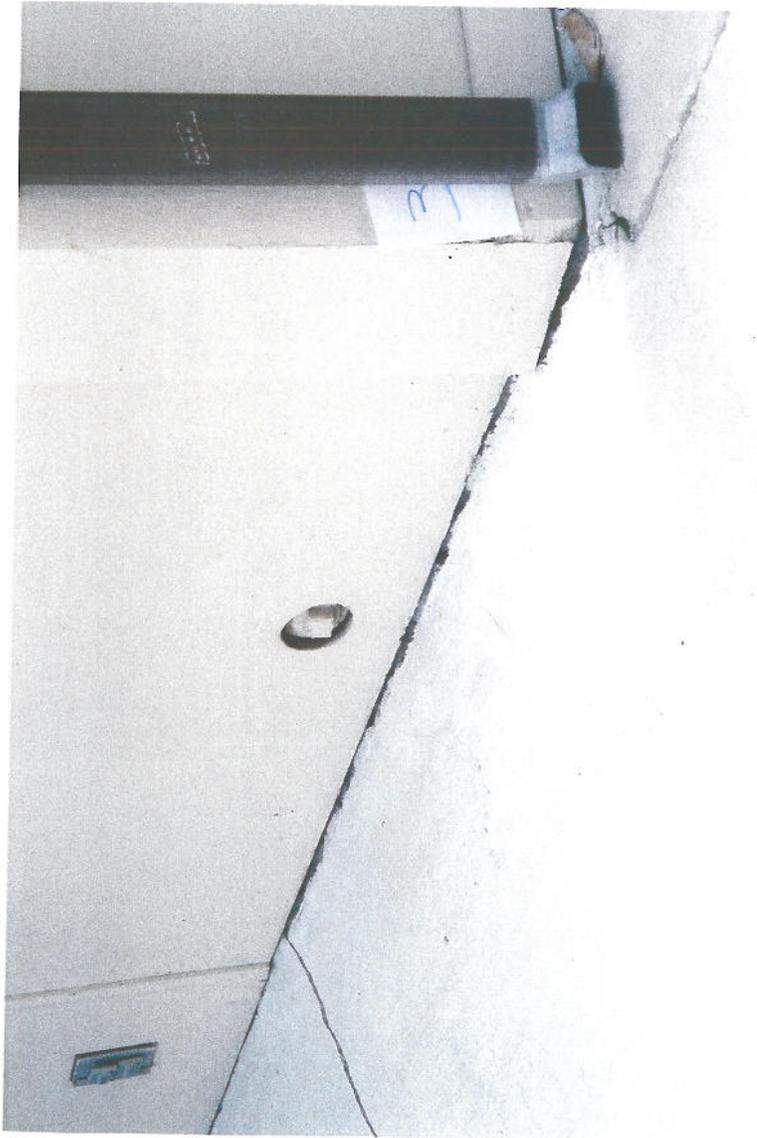


7/24/06

NEW MOVEMENT NEAR GARDEN
HOUSE. WAYFARER'S CHAPEL.

CRACK IN SLAB UNDER WALL.

4/5



7/24/06

Wayfarer's Chapel - near
Garden House.

sidewalk pulling away from wall



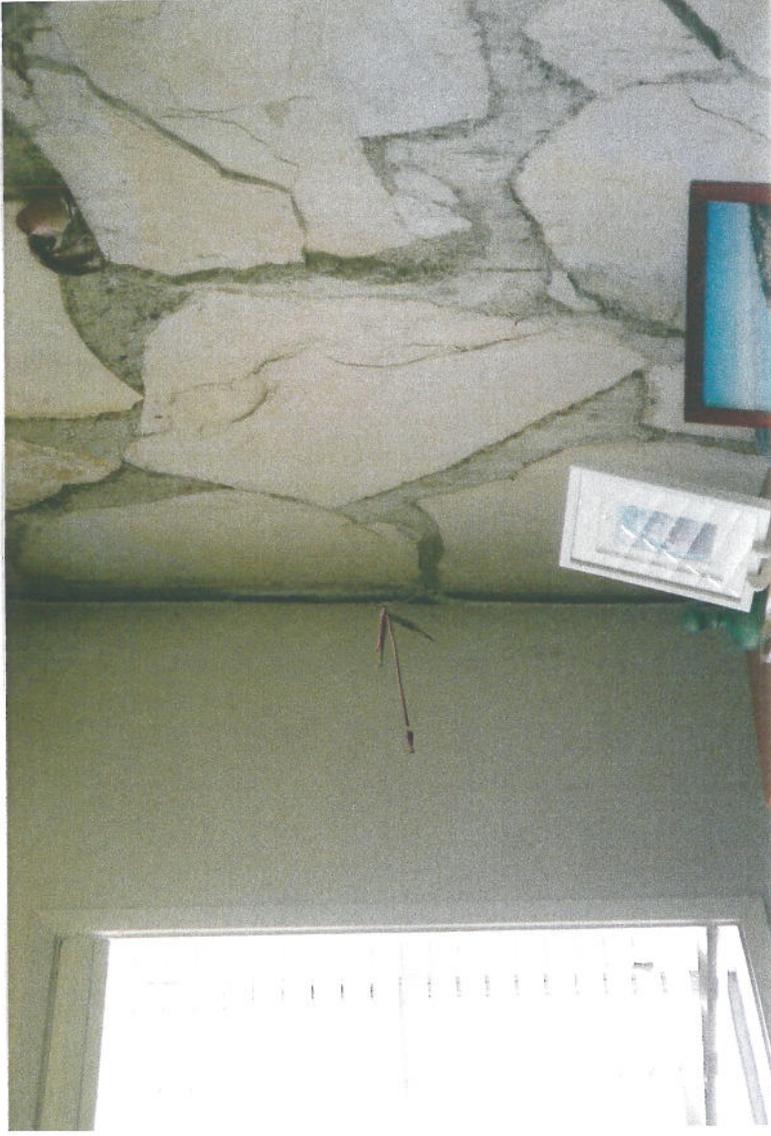
7/24/06

Wayfarer's Chapel
sidewalk outside small Bldg.



7/24/06

Bldg. at Wayfarer's Chapel
Crack in step.



7/24/06

Bldg. at Wayfarer's Chapel
wall peeling away

420



7/24/06

Bldg. at wayfare's Chapel
walls pulling away.

12 ft.



7/24/06

Blkg. at Wayfarer's Chapel
walls falling away.

22



7/24/06

ALTAMIRA CANYON - LOWER
NARCISSE DR.

23



HOWER NARCISSA DR. NEAR ALTAMIRAS CANYON
ON JULY 24, '06

24



7/24/06

ROAD BREAKING ON RIGHT SIDE OF
NARCISSA DR. NEAR ATAMING CANYON

215



7/24/06

ROAD CRACKING ON NARCISSE DR.
ALTA MOUNTAIN
NEAR CANYON

26



07
~~5/6~~ / 24 / 06

In echelon cracks

2 cinnamon - Weber Dürenberg

27



07
~~08~~ / 207 / 06

Cinnamon in front of #1
Looking toward Narcissa

28



07/24/06

Narcissus - ~~near~~ near #28 Haven

Cracks on original scarp

29



07/27/06

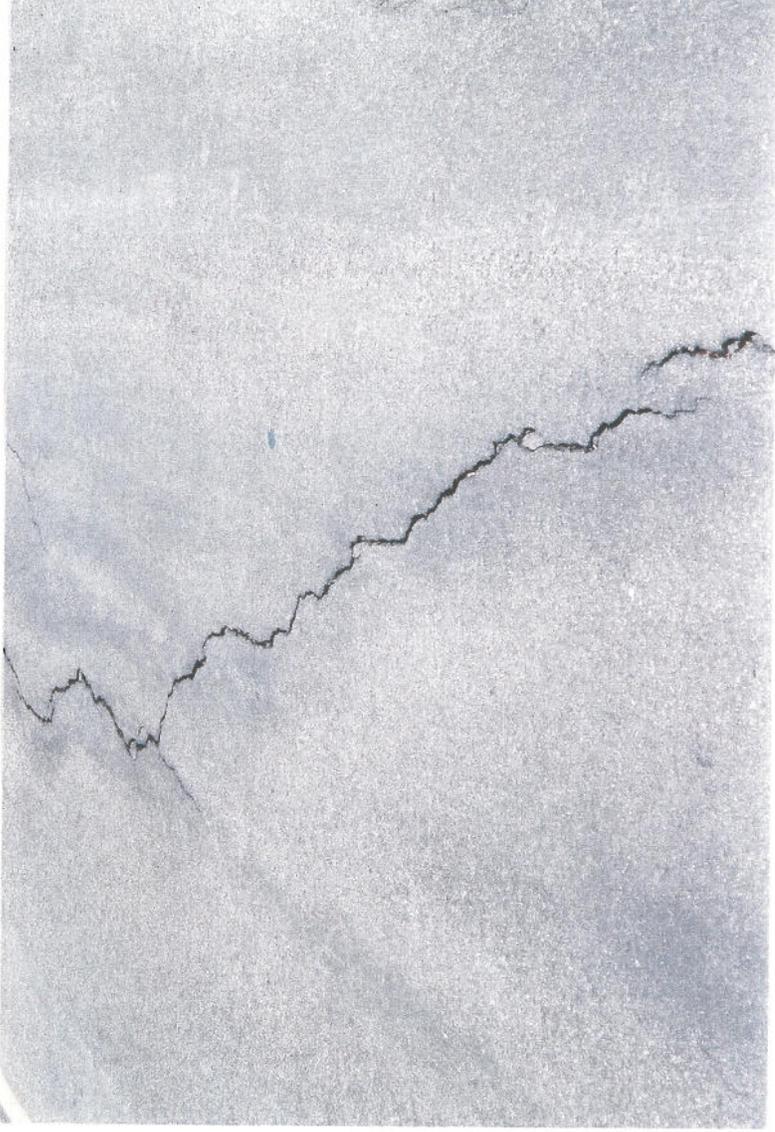
In front of 27 Navisca
The old scarp/offset

30



07/24/06

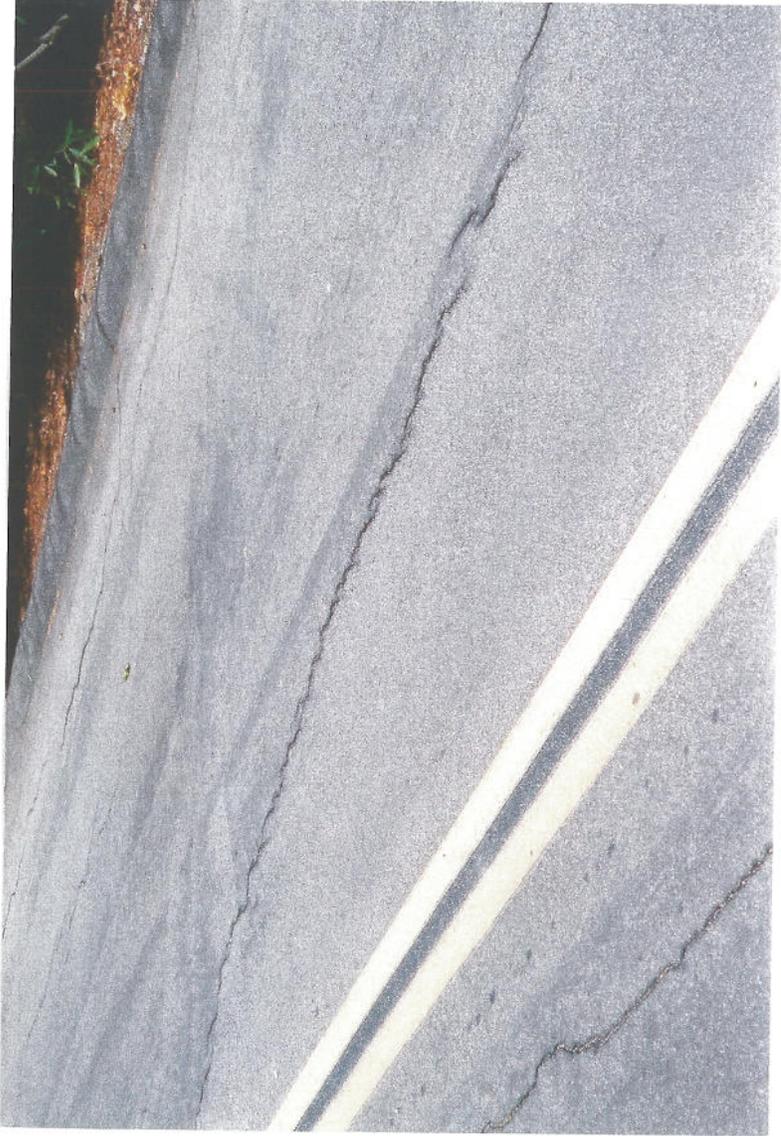
at Jester 20 Narcissia
near in echelon cracks



07/24/06

New open crack at 20 Navassa
fresh Movement

32



07/24/06

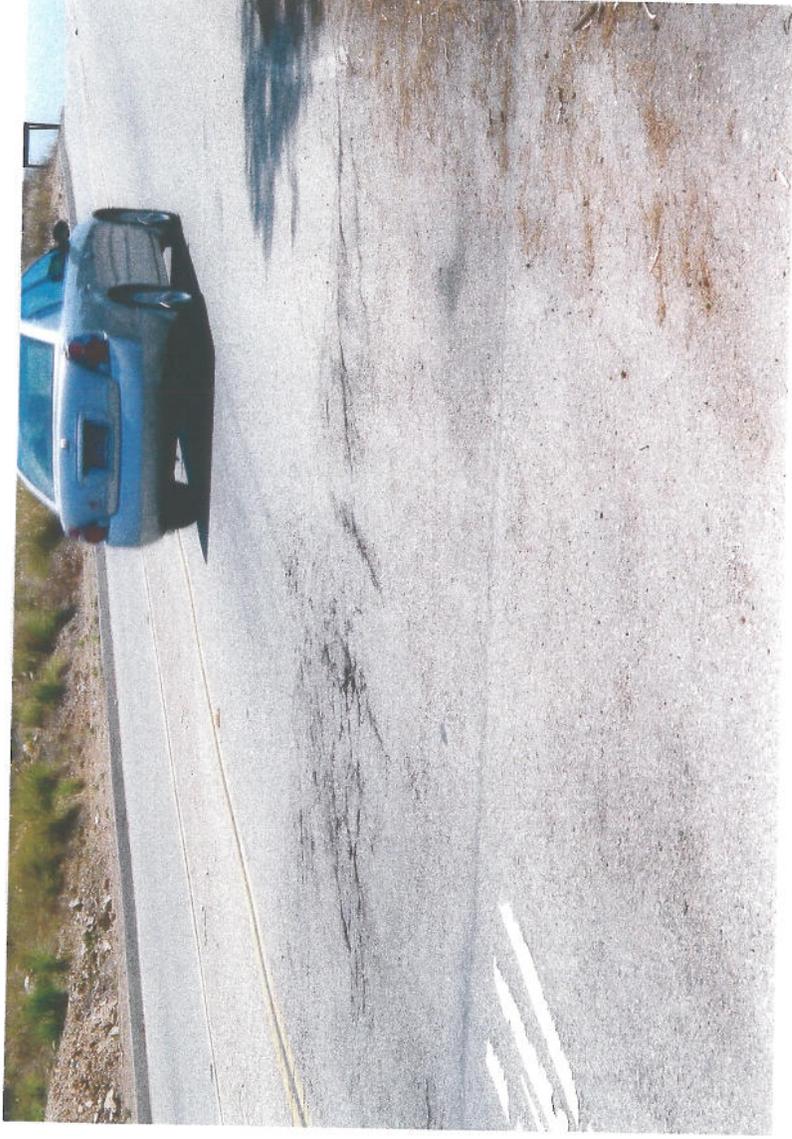
AT 16 Narcissa (Park)

wide new crack



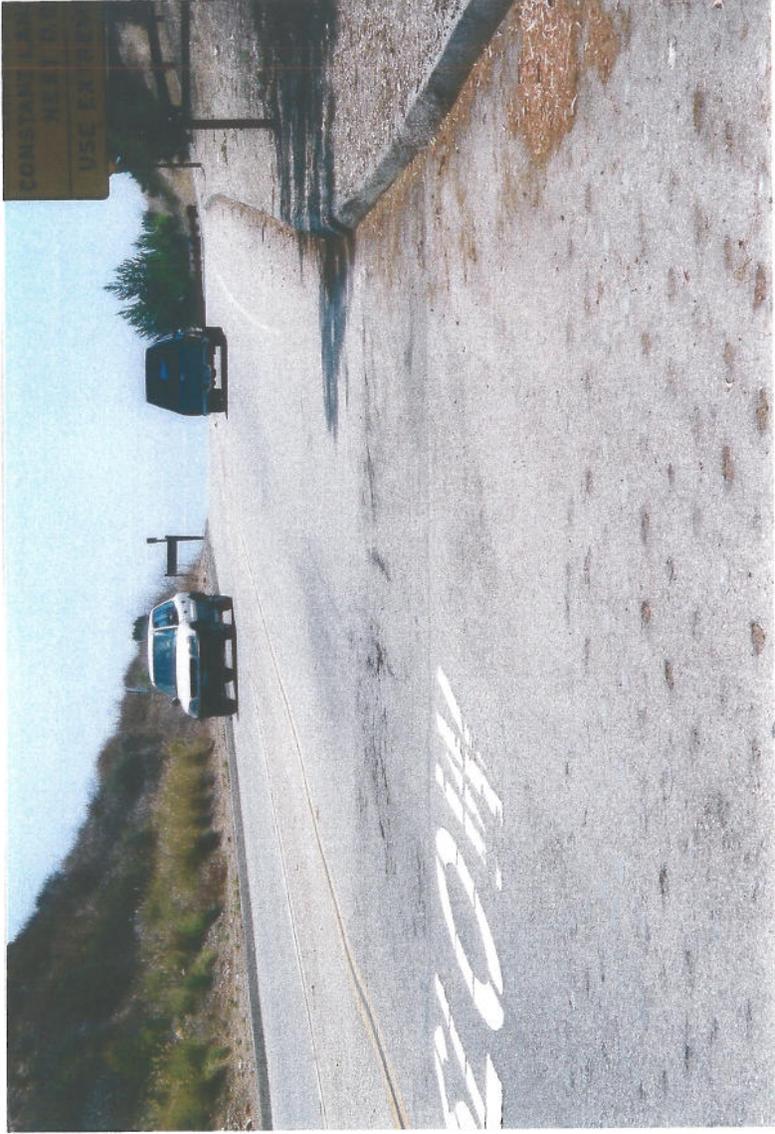
07 ~~07~~ / 24 / 06

Reinforced Conc Driveway
at 16 Narissa (P&Ps)



07/27/06 Potos Verde Drive South
Fresh cracks 200 feet east of
Nawassa at the main scarp of
Abelon Cove landslide and the stage
Portuguese Point

315

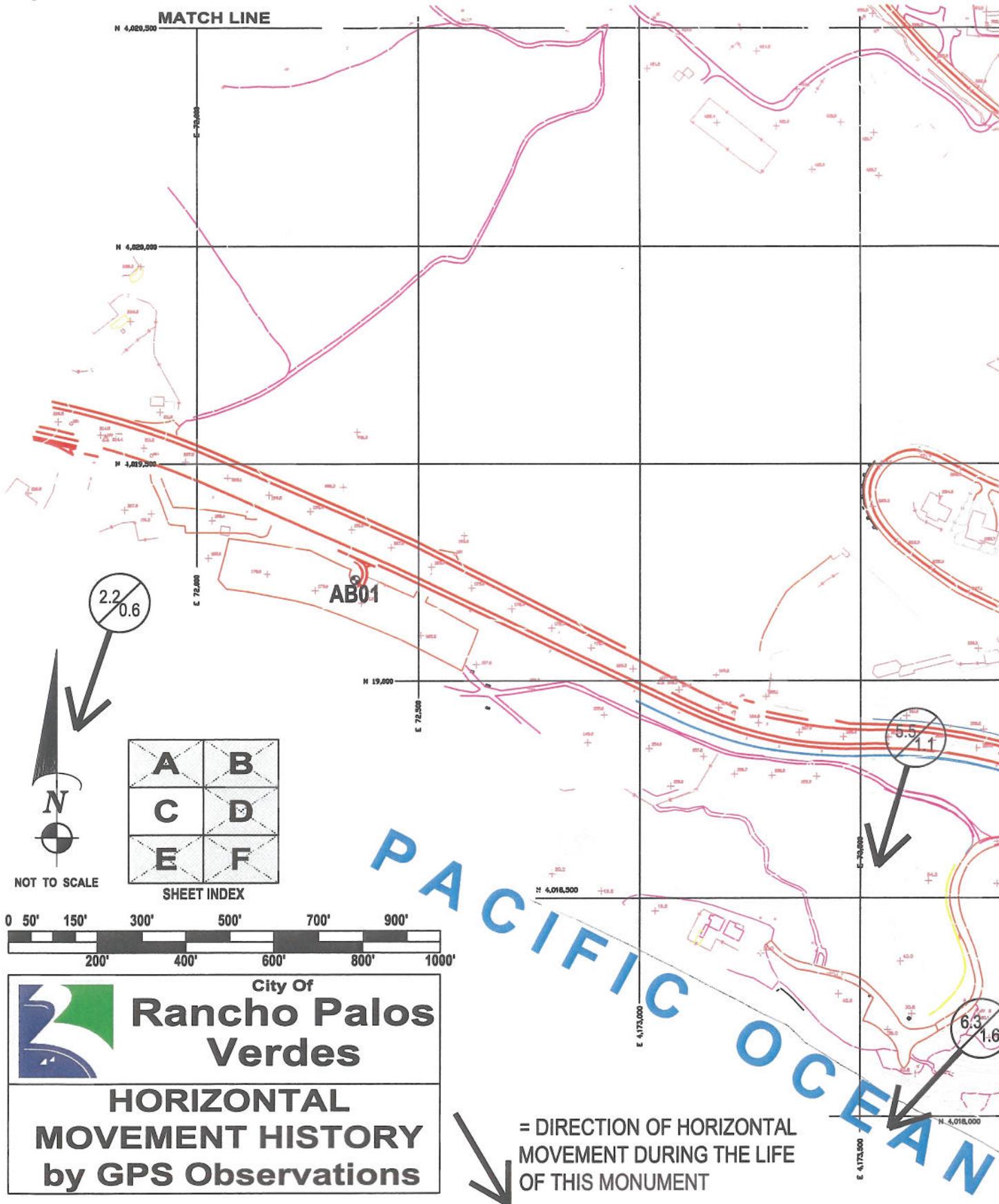


07/24/06 Polos Unidos Drive Santa
Contact between the Alcala Cove
Landslide and the Stark Portuguese
Point,

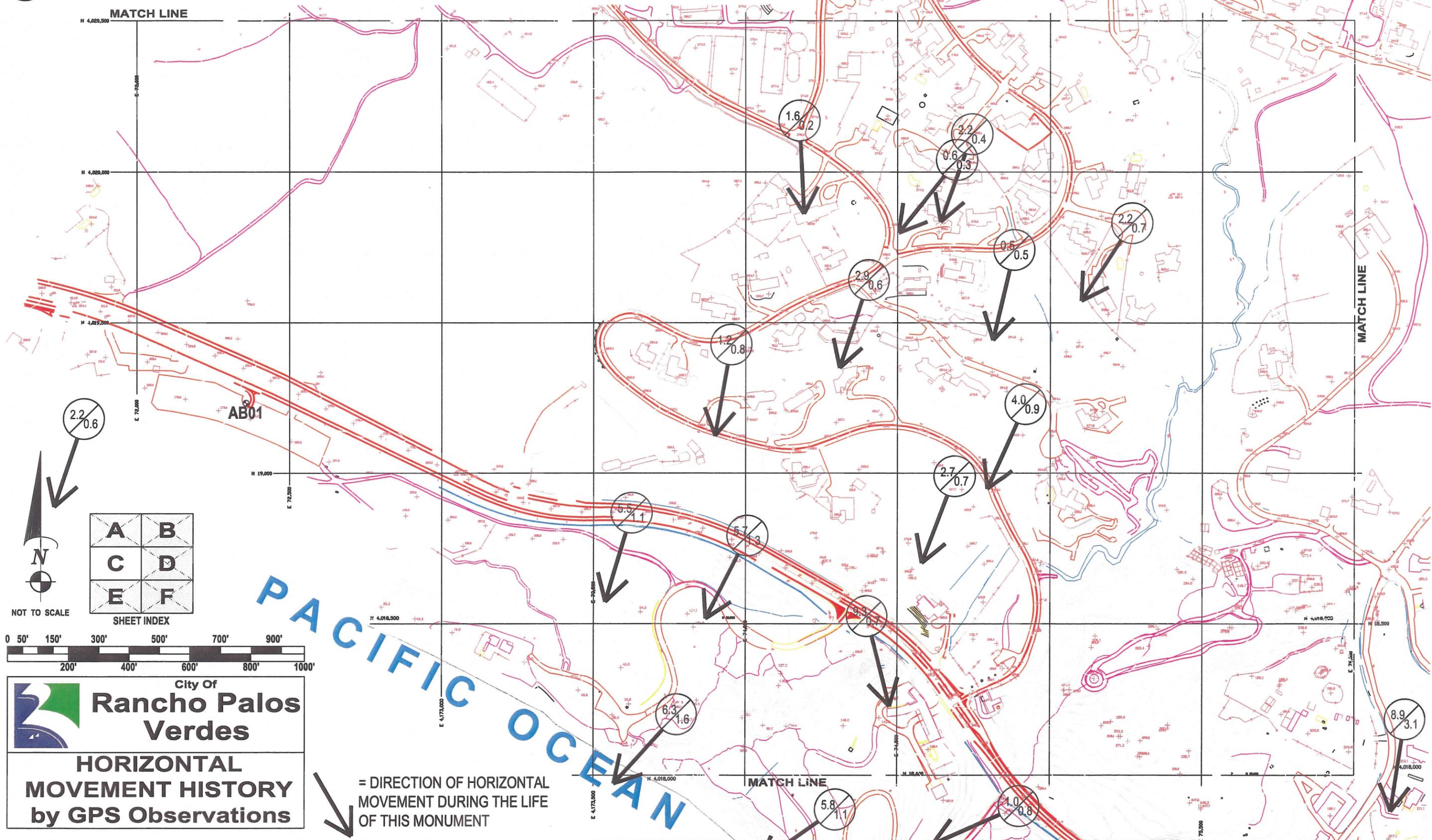
36



A = ANNUALIZED HORIZONTAL MOVEMENT IN INCHES DURING THE PERIOD OF 2005 OBSERVATIONS
 Σ = ANNUALIZED HORIZONTAL MOVEMENT IN INCHES THROUGHOUT THE ENTIRE OBSERVATION OF



$\frac{A}{\Sigma}$ A = ANNUALIZED HORIZONTAL MOVEMENT IN INCHES DURING THE PERIOD OF 2005 OBSERVATIONS
 Σ = ANNUALIZED HORIZONTAL MOVEMENT IN INCHES THROUGHOUT THE ENTIRE OBSERVATION OF THIS MONUMENT



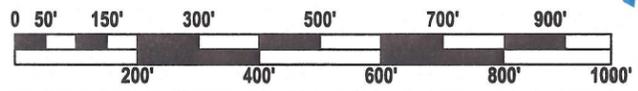
2.2/0.6

AB01



A	B
C	D
E	F

SHEET INDEX



City Of
Rancho Palos Verdes

HORIZONTAL MOVEMENT HISTORY by GPS Observations

↘ = DIRECTION OF HORIZONTAL MOVEMENT DURING THE LIFE OF THIS MONUMENT