VLA TEST MEMO NO. 215

## CONCRETE END-OF-SPUR RAIL ANCHORS

## By Pat Lewis

In September & October of 1997 the Track Crew poured concrete rail anchors at the end of the rail extensions on the intersections at DW-2 & 3 and DN-3 & 5. They also poured anchors at the end of the spur rail at DW-3. The purpose of the anchors was to try to keep the ends of the rails from curling upward due to the weight of the transporter plus antenna. Each time the loaded transporter turned at an intersection, the end of the rail tended to curl upwards allowing ballast to get under the ties. When the transporter left the intersection, the rail remained higher than its original elevation. Eventually, this curling action raised the ends of the track to the point that the transporter trucks could not be turned. Also, this curling action at the end of the spur rail eventually raised the track so that the transporter was unable to set an antenna down.

We consulted with Jon Thunborg in order to get a weight needed to keep the ends of the rails from being raised. Jon stated that six thousand pounds at each track would keep it down. We poured approximately two cubic yards of concrete at each rail extension and at the end of DW-3 spur track and anchored the rail with one inch by eighteen inch anchor bolts.

On Oct.31,1997, Michael Torres & I shot levels on the anchors using the survey offset, approximately 100 ft. from the intersections, as a base. However, we neglected to take levels on the anchors on the south side of DW-3 (DW-3A on the chart).

On Oct.9,1998, Paul Savedra, Joe Rodriguez, & I shot levels at the anchors (including the DW-3A anchors) & on Oct.14, 1998, Joe Sanchez & I shot levels again because there appeared to be a discrepancy in the readings. There was in fact a discrepancy, the original levels at DW-2 west may have been off or there may have been movement of the concrete.

On Nov.10, 1998 Paul Savedra and the Track Crew shot levels again and included rail levels at the rear foundation of DW-3 as per request of G. Stanzione. By shooting the rail which was originally set at 6 ft. 4 in. (6.33 ft) below the top of the rear pedestal plate we have determined that there has been no detectable movement on the rail nor the foundations. The discrepancy was an error on the part of the level operator.

The recommendation is to continue to pour rail anchors as time and money permit. Included is a copy of the chart of all level shots taken to date.

## cc: File

- C. Janes
- L. Serna
- G. Stanzione
- P.Savedra

ANCHORS_LVL	A	B	C	D	E	F	G	H	<u> </u>	J	ĸ
	LOCATION		Offset/Ped	EAST	WEST	NORTH	SOUTH	DIFFERENTIALS	INITIALS		
2	DW-2	Oct.31,97	6.9	2.08	2.12			E=4.82W=4.78			Intersec.Cond
3	DW-3	Oct.31,97	6.62	2.17	2.12			E=4.45W=4.50	PL,MT		Intersec Cond
	DN-3 DN-5	Oct.31,97	5.83			0.8			PL,MT		Intersec.Cond
6	UN-5	Oct.31,97	6.28			1.84	1.87	N=4.44S=4.41	PL,MT		Intersec.Cond
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	DW-2	Oct.9,98	7.09	2.25	2.27			E=4.484W=4.82	PS, JR, PL		Intersec.Conc
	DW-3	Oct.9,98	8.66	4.18	4.14			E=4.48W=4.53	PS, JR, PL		Intersec.Cond
9	DW-3A	Oct.9,98	8.66	4.04	4.04			E=4.62W=4.62	PS,JR,PL	Initial shot	Station Conc.
10	DN-3	Oct.9,98	6.75			1.72		N=5.03S=5.05	PS, JR, PL		Intersec.Cond
<u>11</u> 12	DN-5	Oct.9,98	6.35			1.95	1.97	N=4.44S=4.42	PS, JR, PL		Intersec.Cond
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13	DW-2	Oct. 14,98	6.46	1.63	1.64			E=4.83W=4.82	PL,JS		Intersec.Conc
14	DW-3	Oct. 14,98	6.16	1.69	1.63			E=4.47W=4.53			Intersec.Conc
15	DW-3A	Oct. 14,98	6.16	1.54	1.54			E=4.62W=4.62			Station Conc.
16	DN-3	Oct. 14,98	5.98			0.95	0.93	N=5.03S=5.05	PL,JS		Intersec.Conc
17	DN-5	Oct.14,98	6.29			1.85	1.87	N=4.44S=4.42	PL,JS		Intersec.Conc
. 18	L	ļ							1		
. 19	DW-2	Nov.10,98	8.76	3.91	3.94			E=4.85-W=4.82			Intersec.Conc
20	DW-3	Nov.10,98	9.49	5.01	4.95			E=4.48W=4.54			Intersec.Conc
21	DW-3A	Nov.10,98	9.49	4.85	4.85			E=4.64W=4.64		1	Station Conc.
22	DW-3RW1	Nov.10,98	2.04	4.3	4.27			E=6.34W=6.31		Initial shot	West side rail
23	DW-3RW2	Nov. 10, 98	2.04	4.3	4.3			E=6.34W=6.34			West side rail
24		Nov.10,98	2.04	4.3	4.29			E=6.34W=6.33			West side rail
25	DW-3RE1	Nov.10,98	2.04	4.27	4.26			E=6.31W=6.3			East side rail
26	DW-3RE2	Nov.10,98	2.04	4.29	4.3			E=6.33W=6.34			East side rail
27	DW-3RE3	Nov.10,98	2.04	4.29	4.3			E=6.33W=6.34			East side rail
28	DN-3	Nov.10,98	9.35			4.32		N=5.03S=5.06			Intersec Conc
29	DN-5	Nov.10,98	8.45			4.02	4.04	N=4.43-S=4.41			Intersec.Conc
30	1 										
31	DW-2										Intersec.Conc
32	DW-3										Intersec.Conc
33	DW-3A							·······	····		Station Conc.
34	DW-3RW1										West side rail
	DW-3RW2			_					· · ·		West side rail
	DW-3RW3										West side rail
37	DW-3RE1								· · · · · · · · · · · · · · · · · · ·		East side rail
38	DW-3RE2						·	·····			East side rail
39	DW-3RE3										East side rail
40	DN-3							· · · · · · · · · · · · · · · · · · ·			Intersec.Conc
41	DN-5		1								
42											Intersec.Conc
43	DW-2										Internet Cons
	DW-3										Intersec.Conc
	DW-3A										Intersec.Conc
46	DW-3RW1										Station Conc.
	DW-3RW2										West side rail
	DW-3RW3								·		West side rail
	DW-3RE1										West side rail
	DW-3RE2										East side rail
	DW-3RE3										East side rail
	DN-3										East side rail
•											Intersec.Conc
	DN-5										Intersec.Conc