

**SAN FERNANDO VALLEY
EAST-WEST RAIL TRANSIT PROJECT**

**SP BURBANK BRANCH ALIGNMENT
PRE-PRELIMINARY ENGINEERING STUDY**

**PRE-PRELIMINARY CONSTRUCTION
COST ESTIMATE**

**ATTACHMENT
FINAL REPORT**

Prepared for:
Los Angeles County Metropolitan
Transportation Authority

Prepared by:
Engineering Management Consultant

September, 1994



7/21
Holman, FYI
dlw

DATE July 21, 1994
TO: Donald Holman
FROM: Ernest Pluma Jr.
SUBJECT: REVISED BUDGET ESTIMATE
Burbank Branch Alignment

I have deleted the four parcels from the alignment requested by David Mieger and have attached a revised report to this memo.

In summary the Alignment now includes 70 parcels: 55 subsurface easements, 7 "full takes" and 8 partial acquisitions.

The total acquisition cost estimate of \$50,522,000 includes estimates of

1) Real Estate Values/Costs,	\$42,965,160
2) Other related acquisition costs (legal fees, escrow costs, etc)	2,967,000
3) A 10% contingency factor	<u>4,593,216</u>
	\$50,522,000

Parcels 2230, 24-801,
24-901,
2251-1-802
and 2242-000-000? were deleted from
the original estimate.



**INTEROFFICE
MEMORANDUM**

July 12, 1994

TO: Don Holman
Appraisals, Real Estate

FROM: David Mieger, Project Manager
San Fernando Valley East-West Rail Transit Project

SUBJECT: Revisions to Budgetary Estimate
SP Burbank Branch Alignment

I am in receipt of your budgetary estimate for the above project, dated June 24, 1994. Several of the parcels indicated as takings are actually parcels that will be traded with the US Government in exchange for portions of the SP Burbank Branch right-of-way which is currently owned by the MTA. Please provide a revised estimate that deletes consideration of these properties as full takes.

Please respond to me directly (ex 46320) if you have questions.

BUDGETARY ESTIMATE
METRO BURBANK BRANCH
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APN	SITUS	TYPE ACQ	REAL ESTATE COSTS	OTHER COSTS	SUB-TOTAL ACQUISITION COST	PLUS 10% CONTINGENCY	TOTAL ACQUISITION COSTS
2148-031-013	6600 CANOGA PARK AVE	PART	\$12,803,000	\$900,000	\$13,703,000	\$1,370,300	\$15,073,000
2149-007-901	NWC VICTORY & WINNETKA	FULL	\$7,360,560	\$21,000	\$7,381,560	\$738,156	\$8,120,000
2153-008-903	NEC VICTORY & WINNETKA	FULL	\$13,122,900	\$11,000	\$13,133,900	\$1,313,390	\$14,447,000
2127-018-000	R/W West of RESEDA AVE on OXNARD	PART	\$365,240	\$11,000	\$376,240	\$37,624	\$414,000
2127-018-000	R/W West of RESEDA @ TOPHAM ST	PART	\$246,000	\$11,000	\$257,000	\$25,700	\$283,000
????-???-???	6075 RESEDA AV.	FULL	\$367,250	\$11,000	\$378,250	\$37,825	\$416,000
2124-014-001	6066 RESEDA BLVD	FULL	\$609,500	\$11,000	\$620,500	\$62,050	\$683,000
2124-014-STREET	R/W East of Reseda Blvd	PART	\$0	\$10,000	\$10,000	\$1,000	\$11,000
2123-032-000	R/W West of WHITE OAK AVE	PART	\$1,011,200	\$11,000	\$1,022,200	\$102,220	\$1,124,000
2229-033-801	R/W East OF WHITE OAK AVE	PART	\$1,287,500	\$11,000	\$1,298,500	\$129,850	\$1,428,000
2241-027-003	6075-77 VAN NUYS BLVD	FULL	\$440,000	\$11,000	\$451,000	\$45,100	\$496,000
2240-008-2 & 5	14300 BESSEMER STREET	FULL	\$1,591,200	\$1,060,000	\$2,651,200	\$265,120	\$2,916,000
2240-008-004	6050 VAN NUYS BLVD	FULL	\$966,450	\$11,000	\$977,450	\$97,745	\$1,075,000
2240-008-802	HAZELTINE & Right of Way	PART	\$2,124,840	\$265,000	\$2,389,840	\$238,984	\$2,629,000
2341-025-900	VAN NUYS, CA. 91401	PART	\$255,440	\$11,000	\$266,440	\$26,644	\$293,000
2348-001-025	11679 CHANDLER BLVD	U G E	\$500	\$11,000	\$11,500	\$1,150	\$13,000
2348-001-026	11667 CHANDLER BLVD	U G E	\$2,000	\$11,000	\$13,000	\$1,300	\$14,000
2348-001-057	11659 CHANDLER BLVD	U G E	\$22,000	\$11,000	\$33,000	\$3,300	\$36,000
2348-1-59 thru 73	11643 CHANDLER BLVD	U G E	\$20,000	\$11,000	\$31,000	\$3,100	\$34,000
2348-001-032	5415 WESTPARK DRIVE	U G E	\$5,000	\$11,000	\$16,000	\$1,600	\$18,000
2348-001-037	5440 TROOST AVE	U G E	\$2,000	\$11,000	\$13,000	\$1,300	\$14,000
2350-002-900	NONE	U G E	\$0	\$11,000	\$11,000	\$1,100	\$12,000
2350-002-045	11566 CUMPSTON ST	U G E	\$7,000	\$11,000	\$18,000	\$1,800	\$20,000
2350-002-034	11570 CUMPSTON ST	U G E	\$18,000	\$11,000	\$29,000	\$2,900	\$32,000
2350-002-035	11576 CUMPSTON ST	U G E	\$2,000	\$11,000	\$13,000	\$1,300	\$14,000
2350-002-026	11571 CUMPSTON ST	U G E	\$10,000	\$11,000	\$21,000	\$2,100	\$23,000
2350-002-027	11581 CUMPSTON ST	U G E	\$13,000	\$11,000	\$24,000	\$2,400	\$26,000
2350-002-028	11585 CUMPSTON ST	U G E	\$8,000	\$11,000	\$19,000	\$1,900	\$21,000
2350-002-029	11591 CUMPSTON ST	U G E	\$1,000	\$11,000	\$12,000	\$1,200	\$13,000
2350-002-019	5463 BECK AVE	U G E	\$1,000	\$11,000	\$12,000	\$1,200	\$13,000
2350-002-018	5503 BECK AVE	U G E	\$8,000	\$11,000	\$19,000	\$1,900	\$21,000
2350-002-017	5509 BECK AVE	U G E	\$14,400	\$11,000	\$25,400	\$2,540	\$28,000
2350-002-014	11544 KILLION ST	U G E	\$4,000	\$11,000	\$15,000	\$1,500	\$17,000
2350-002-013	11536 KILLION ST	U G E	\$10,000	\$11,000	\$21,000	\$2,100	\$23,000
2350-007-016	11526 KILLION ST	U G E	\$9,600	\$11,000	\$20,600	\$2,060	\$23,000
2350-007-017	11522 KILLION ST	U G E	\$6,000	\$11,000	\$17,000	\$1,700	\$19,000
2350-007-018	11518 KILLION ST	U G E	\$3,000	\$11,000	\$14,000	\$1,400	\$15,000
2350-007-019	11510 KILLION ST	U G E	\$2,000	\$11,000	\$13,000	\$1,300	\$14,000
2350-007-020	11508 KILLION ST	U G E	\$1,000	\$11,000	\$12,000	\$1,200	\$13,000
2350-004-047	11521 KILLION ST	U G E	\$1,000	\$11,000	\$12,000	\$1,200	\$13,000
2350-004-046	11515 KILLION ST	U G E	\$2,000	\$11,000	\$13,000	\$1,300	\$14,000
2350-004-045	11511 KILLION ST	U G E	\$3,400	\$11,000	\$14,400	\$1,440	\$16,000
2350-004-044	11509 KILLION ST	U G E	\$4,600	\$11,000	\$15,600	\$1,560	\$17,000
2350-004-043	5539 CAMELLIA AVE	U G E	\$5,800	\$11,000	\$16,800	\$1,680	\$18,000
2350-004-049	11489 KILLION ST	U G E	\$12,000	\$11,000	\$23,000	\$2,300	\$25,000
2350-004-050	11483 KILLION ST	U G E	\$12,400	\$11,000	\$23,400	\$2,340	\$26,000
2350-004-051	11481 KILLION ST	U G E	\$7,200	\$11,000	\$18,200	\$1,820	\$20,000
2350-004-052	11477 KILLION ST	U G E	\$7,200	\$11,000	\$18,200	\$1,820	\$20,000

BUDGETARY ESTIMATE
METRO BURBANK BRANCH
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APN	SITUS	TYPE ACQ	REAL ESTATE COSTS	OTHER COSTS	SUB-TOTAL ACQUISITION COST	PLUS 10% CONTINGENCY	TOTAL ACQUISITION COSTS
2350-004-053	11473 KILLION ST	U G E	\$10,000	\$11,000	\$21,000	\$2,100	\$23,000
2350-004-054	11467 KILLION ST	U G E	\$12,800	\$11,000	\$23,800	\$2,380	\$26,000
2350-004-038	11458 BURBANK BLVD	U G E	\$22,000	\$11,000	\$33,000	\$3,300	\$36,000
2350-004-037	11452 BURBANK BLVD	U G E	\$30,000	\$11,000	\$41,000	\$4,100	\$45,000
2350-004-036	11435 KILLION ST	U G E	\$10,000	\$11,000	\$21,000	\$2,100	\$23,000
2350-004-034	11430 BURBANK BLVD	U G E	\$8,000	\$11,000	\$19,000	\$1,900	\$21,000
2350-004-033	11425 KILLION ST	U G E	\$7,000	\$11,000	\$18,000	\$1,800	\$20,000
2350-004-032	11419 KILLION ST	U G E	\$5,000	\$11,000	\$16,000	\$1,600	\$18,000
2350-004-031	11410 BURBANK BLVD	U G E	\$2,000	\$11,000	\$13,000	\$1,300	\$14,000
2350-004-029	5545 TUJUNGA AVE	U G E	\$4,000	\$11,000	\$15,000	\$1,500	\$17,000
2350-007-052	11424 KILLION ST	U G E	\$1,000	\$11,000	\$12,000	\$1,200	\$13,000
2350-007-055	11420 KILLION ST	U G E	\$2,000	\$11,000	\$13,000	\$1,300	\$14,000
2350-007-056	11416 KILLION ST	U G E	\$3,000	\$11,000	\$14,000	\$1,400	\$15,000
2350-007-061	5523 TUJUNGA AVE	U G E	\$400	\$11,000	\$11,400	\$1,140	\$13,000
2350-007-060	5519 TUJUNGA AVE	U G E	\$8,400	\$11,000	\$19,400	\$1,940	\$21,000
2350-007-059	5505 TUJUNGA AVE	U G E	\$4,400	\$11,000	\$15,400	\$1,540	\$17,000
2350-008-028	5543 LANKERSHIM BLVD	U G E	\$4,030	\$11,000	\$15,030	\$1,503	\$17,000
2350-008-029	5535 LANKERSHIM BLVD	U G E	\$19,000	\$11,000	\$30,000	\$3,000	\$33,000
2350-008-030	5517 LANKERSHIM BLVD	U G E	\$22,000	\$11,000	\$33,000	\$3,300	\$36,000
2350-008-032	111319 CUMPSTON	U G E	\$500	\$7,000	\$7,500	\$750	\$8,000
2350-008-033	5513 LANKERSHIM BLVD	U G E	\$8,000	\$11,000	\$19,000	\$1,900	\$21,000
2350-008-034	5513 LANKERSHIM BLVD	U G E	\$5,450	\$11,000	\$16,450	\$1,645	\$18,000
===== Total:	=====	=====	===== \$42,965,160	===== \$2,967,000	===== \$45,932,160	===== \$4,593,216	===== \$50,522,000



*Original Memo
R.H.*

**INTEROFFICE
MEMO**

June 24, 1994

Los Angeles County
Metropolitan
Transportation
Authority

TO: DAVE MIEGER
THROUGH: *VM* VELMA MARSHALL, DIRECTOR OF REAL ESTATE
FROM: *Don Holman* DON HOLMAN, MANAGER OF APPRAISALS
SUBJECT: BURBANK BRANCH ALIGNMENT
BUDGETARY ESTIMATE

818 West Seventh Street
Suite 300
Los Angeles, CA 90017
213.623.1194

The appraisal staff has completed budgetary estimates for the Burbank Branch Alignment (Chandler Extension) to provide "rough order of magnitude" comparisons for this alignment and the two Ventura Freeway alternatives.

The alignment includes 74 parcels including 55 subsurface easements, 7 "full-takes", and 12 partial acquisitions.

The total estimate is approximately \$52,000,000 a ~~five~~ *ten* percent contingency of \$5,000,000 for a total of \$57,000,000.

BURBANK.BE1

off

BUDGETARY ESTIMATE
 METRO BURBANK BRANCH
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6/11/94

APN	SITUS	TYPE ACQ	REAL ESTATE COSTS	OTHER COSTS	SUB-TOTAL ACQUISITION COST	PLUS 10% CONTINGENCY	TOTAL ACQUISITION COSTS
2148-031-013	6600 CANOGA PARK AVE	PART	\$12,803,000	\$900,000	\$13,703,000	\$1,370,300	\$15,073,000
2149-007-901	NWC VICTORY & WINNETKA	FULL	\$7,360,560	\$21,000	\$7,381,560	\$738,156	\$8,120,000
2153-008-903	NEC VICTORY & WINNETKA	FULL	\$13,122,900	\$11,000	\$13,133,900	\$1,313,390	\$14,447,000
2127-018-000	R/W West of RESEDA AVE on OXNARD	PART	\$365,240	\$11,000	\$376,240	\$37,624	\$414,000
2127-018-000	R/W West of RESEDA @ TOPHAM ST	PART	\$246,000	\$11,000	\$257,000	\$25,700	\$283,000
????-???-???	6075 RESEDA AV.	FULL	\$367,250	\$11,000	\$378,250	\$37,825	\$416,000
2124-014-001	6066 RESEDA BLVD	FULL	\$609,500	\$11,000	\$620,500	\$62,050	\$683,000
2124-014-STREET	R/W East of Reseda Blvd	PART	\$0	\$10,000	\$10,000	\$1,000	\$11,000
2123-032-000	R/W West of WHITE OAK AVE	PART	\$1,011,200	\$11,000	\$1,022,200	\$102,220	\$1,124,000
2229-033-801	R/W East OF WHITE OAK AVE	PART	\$1,287,500	\$11,000	\$1,298,500	\$129,850	\$1,428,000
* 2230-024-801	R/W in SEPULVEDA DAM REC AREA	PART	\$0	\$40,000	\$40,000	\$4,000	\$44,000
* 2230-024-801	R/W along VICTORY W. OF BALBOA	PART	\$0	\$40,000	\$40,000	\$4,000	\$44,000
* 2254-004-802	R/W along VICTORY E. OF BALBOA	PART	\$4,036,500	\$44,000	\$4,080,500	\$404,750	\$4,485,250
2242-000-000	R/W along SD Fwy	PART	\$2,055,390	\$44,000	\$2,099,390	\$209,939	\$2,309,329
2241-027-003	6075-77 VAN NUYS BLVD	FULL	\$440,000	\$11,000	\$451,000	\$45,100	\$496,000
2240-008-2 & 5	14300 BESSEMER STREET	FULL	\$1,591,200	\$1,060,000	\$2,651,200	\$265,120	\$2,916,000
2240-008-004	6050 VAN NUYS BLVD	FULL	\$966,450	\$11,000	\$977,450	\$97,745	\$1,075,000
2240-008-802	HAZELTINE & Right of Way	PART	\$2,124,840	\$265,000	\$2,389,840	\$238,984	\$2,629,000
341-025-900	VAN NUYS, CA. 91401	PART	\$255,440	\$11,000	\$266,440	\$26,644	\$293,000
2348-001-025	11679 CHANDLER BLVD	U G E	\$500	\$11,000	\$11,500	\$1,150	\$13,000
2348-001-026	11667 CHANDLER BLVD	U G E	\$2,000	\$11,000	\$13,000	\$1,300	\$14,000
2348-001-057	11659 CHANDLER BLVD	U G E	\$22,000	\$11,000	\$33,000	\$3,300	\$36,000
2348-1-59 thru 73	11643 CHANDLER BLVD	U G E	\$20,000	\$11,000	\$31,000	\$3,100	\$34,000
2348-001-032	5415 WESTPARK DRIVE	U G E	\$5,000	\$11,000	\$16,000	\$1,600	\$18,000
2348-001-037	5440 TROOST AVE	U G E	\$2,000	\$11,000	\$13,000	\$1,300	\$14,000
2350-002-900	NONE	U G E	\$0	\$11,000	\$11,000	\$1,100	\$12,000
2350-002-045	11566 CUMPSTON ST	U G E	\$7,000	\$11,000	\$18,000	\$1,800	\$20,000
2350-002-034	11570 CUMPSTON ST	U G E	\$18,000	\$11,000	\$29,000	\$2,900	\$32,000
2350-002-035	11576 CUMPSTON ST	U G E	\$2,000	\$11,000	\$13,000	\$1,300	\$14,000
2350-002-026	11571 CUMPSTON ST	U G E	\$10,000	\$11,000	\$21,000	\$2,100	\$23,000
2350-002-027	11581 CUMPSTON ST	U G E	\$13,000	\$11,000	\$24,000	\$2,400	\$26,000
2350-002-028	11585 CUMPSTON ST	U G E	\$8,000	\$11,000	\$19,000	\$1,900	\$21,000
2350-002-029	11591 CUMPSTON ST	U G E	\$1,000	\$11,000	\$12,000	\$1,200	\$13,000
2350-002-019	5463 BECK AVE	U G E	\$1,000	\$11,000	\$12,000	\$1,200	\$13,000
2350-002-018	5503 BECK AVE	U G E	\$8,000	\$11,000	\$19,000	\$1,900	\$21,000
2350-002-017	5509 BECK AVE	U G E	\$14,400	\$11,000	\$25,400	\$2,540	\$28,000
2350-002-014	11544 KILLION ST	U G E	\$4,000	\$11,000	\$15,000	\$1,500	\$17,000
2350-002-013	11536 KILLION ST	U G E	\$10,000	\$11,000	\$21,000	\$2,100	\$23,000
2350-007-016	11526 KILLION ST	U G E	\$9,600	\$11,000	\$20,600	\$2,060	\$23,000
2350-007-017	11522 KILLION ST	U G E	\$6,000	\$11,000	\$17,000	\$1,700	\$19,000
2350-007-018	11518 KILLION ST	U G E	\$3,000	\$11,000	\$14,000	\$1,400	\$15,000
2350-007-019	11510 KILLION ST	U G E	\$2,000	\$11,000	\$13,000	\$1,300	\$14,000
2350-007-020	11508 KILLION ST	U G E	\$1,000	\$11,000	\$12,000	\$1,200	\$13,000
2350-004-047	11521 KILLION ST	U G E	\$1,000	\$11,000	\$12,000	\$1,200	\$13,000
2350-004-046	11515 KILLION ST	U G E	\$2,000	\$11,000	\$13,000	\$1,300	\$14,000

BUDGETARY ESTIMATE
METRO BURBANK BRANCH

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APN	SITUS	TYPE ACQ	REAL ESTATE COSTS	OTHER COSTS	SUB-TOTAL ACQUISITION COST	PLUS 10% CONTINGENCY	TOTAL ACQUISITION COSTS
2350-004-045	11511 KILLION ST	U G E	\$3,400	\$11,000	\$14,400	\$1,440	\$16,000
2350-004-044	11509 KILLION ST	U G E	\$4,600	\$11,000	\$15,600	\$1,560	\$17,000
2350-004-043	5539 CAMELLIA AVE	U G E	\$5,800	\$11,000	\$16,800	\$1,680	\$18,000
2350-004-049	11489 KILLION ST	U G E	\$12,000	\$11,000	\$23,000	\$2,300	\$25,000
2350-004-050	11483 KILLION ST	U G E	\$12,400	\$11,000	\$23,400	\$2,340	\$26,000
2350-004-051	11481 KILLION ST	U G E	\$7,200	\$11,000	\$18,200	\$1,820	\$20,000
2350-004-052	11477 KILLION ST	U G E	\$7,200	\$11,000	\$18,200	\$1,820	\$20,000
2350-004-053	11473 KILLION ST	U G E	\$10,000	\$11,000	\$21,000	\$2,100	\$23,000
2350-004-054	11467 KILLION ST	U G E	\$12,800	\$11,000	\$23,800	\$2,380	\$26,000
2350-004-038	11458 BURBANK BLVD	U G E	\$22,000	\$11,000	\$33,000	\$3,300	\$36,000
2350-004-037	11452 BURBANK BLVD	U G E	\$30,000	\$11,000	\$41,000	\$4,100	\$45,000
2350-004-036	11435 KILLION ST	U G E	\$10,000	\$11,000	\$21,000	\$2,100	\$23,000
2350-004-034	11430 BURBANK BLVD	U G E	\$8,000	\$11,000	\$19,000	\$1,900	\$21,000
2350-004-033	11425 KILLION ST	U G E	\$7,000	\$11,000	\$18,000	\$1,800	\$20,000
2350-004-032	11419 KILLION ST	U G E	\$5,000	\$11,000	\$16,000	\$1,600	\$18,000
2350-004-031	11410 BURBANK BLVD	U G E	\$2,000	\$11,000	\$13,000	\$1,300	\$14,000
2350-004-029	5545 TUJUNGA AVE	U G E	\$4,000	\$11,000	\$15,000	\$1,500	\$17,000
2350-007-052	11424 KILLION ST	U G E	\$1,000	\$11,000	\$12,000	\$1,200	\$13,000
2350-007-055	11420 KILLION ST	U G E	\$2,000	\$11,000	\$13,000	\$1,300	\$14,000
2350-007-056	11416 KILLION ST	U G E	\$3,000	\$11,000	\$14,000	\$1,400	\$15,000
2350-007-061	5523 TUJUNGA AVE	U G E	\$400	\$11,000	\$11,400	\$1,140	\$13,000
2350-007-060	5519 TUJUNGA AVE	U G E	\$8,400	\$11,000	\$19,400	\$1,940	\$21,000
2350-007-059	5505 TUJUNGA AVE	U G E	\$4,400	\$11,000	\$15,400	\$1,540	\$17,000
2350-008-028	5543 LANKERSHIM BLVD	U G E	\$4,030	\$11,000	\$15,030	\$1,503	\$17,000
2350-008-029	5535 LANKERSHIM BLVD	U G E	\$19,000	\$11,000	\$30,000	\$3,000	\$33,000
2350-008-030	5517 LANKERSHIM BLVD	U G E	\$22,000	\$11,000	\$33,000	\$3,300	\$36,000
2350-008-032	111319 CUMPSTON	U G E	\$500	\$7,000	\$7,500	\$750	\$8,000
2350-008-033	5513 LANKERSHIM BLVD	U G E	\$8,000	\$11,000	\$19,000	\$1,900	\$21,000
2350-008-034	5513 LANKERSHIM BLVD	U G E	\$5,450	\$11,000	\$16,450	\$1,645	\$18,000
Total:			\$49,057,050	\$3,009,000	\$52,066,050	\$5,206,605	\$57,269,000

\$ 50,522,00

* Properties to be traded w/ Sepulveda Basin for SP Burbank Branch ROW.

■ Phased-length railyard deleted.

6/14/94

epj

**SAN FERNANDO VALLEY
EAST-WEST RAIL TRANSIT PROJECT
PRE-PRELIMINARY ESTIMATE**

September 8, 1994

POTENTIAL COST SAVINGS FROM REDUCTION OF PLATFORM LENGTH

General:

Three types of station are used on the Project:

- Cut and Cover
- Aerial
- Open Trench

There are variations in estimated cost from station to station depending upon individual site conditions and operational requirements. Basic construction philosophy and methods remain unchanged.

Platform length on each type of station is 450 FT. Cost savings arising from a reduction of the platform length to 300 FT (four car train) are not directly proportional to platform length except on Aerial stations.

Typical examples of the savings which can be applied to the stations on the Project are shown. A brief explanation of the factors which must be considered in calculating the saving are given for each type.

1. Cut and Cover

Savings are confined to the RC box structure, platform concrete and finishes. Appendages, ancillary structures, mechanical and electrical work are not significantly changed.

Typical Saving:

- Reduce Platform to 300FT	\$4,531,000
- Additional Guideway(Tunnel) 150RF @ \$7050	\$1,057,500
- Net Saving	\$3,473,000
	SAY \$3.47 Million

2. Aerial

Aerial station construction is the least complicated. Costs are generally accrued in proportion to overall length.

Typical Saving:

- Reduce Platform length to 300FT	150FT @ \$13,300	\$1,995,000
- Additional Guideway(Aerial)	150RF @ \$3095	\$ 464,000
- Net Saving		\$1,531,000
	SAY	\$1.53 Million

3. Open

Potential saving is in open trench construction, platform concrete and finishes. Appendages, ancillary structures, mechanical and electrical work do not change significantly.

Typical Saving:

- Reduce Platform length to 300FT		\$4,402,000
- Additional Guideway(Cut&Cover)	150RF @ \$7686	\$1,153,000
- Net Saving		&3,249,000
	SAY	\$3.25 Million

The typical savings are "Project Specific" and are based upon the platform reductions being achieved in the manner shown on the attached Drawings Nos. G-060, G-090, G-490, G-561, G-342, G-646 and unnumbered sketch of Laurel Canyon Station.

All costs are in 1994 Dollars.

**SAN FERNANDO VALLEY
EAST-WEST RAIL TRANSIT PROJECT
PRE-PRELIMINARY ESTIMATE**

September 8, 1994

POTENTIAL COST SAVINGS FROM REDUCTION OF PLATFORM LENGTH

General:

Three types of station are used on the Project:

- Cut and Cover
- Aerial
- Open Trench

There are variations in estimated cost from station to station depending upon individual site conditions and operational requirements. Basic construction philosophy and methods remain unchanged.

Platform length on each type of station is 450 FT. Cost savings arising from a reduction of the platform length to 300 FT (four car train) are not directly proportional to platform length except on Aerial stations.

Typical examples of the savings which can be applied to the stations on the Project are shown. A brief explanation of the factors which must be considered in calculating the saving are given for each type.

1. Cut and Cover

Savings are confined to the RC box structure, platform concrete and finishes. Appendages, ancillary structures, mechanical and electrical work are not significantly changed.

Typical Saving:

- Reduce Platform to 300FT	\$4,531,000
- Additional Guideway(Tunnel) 15ORF @ \$7050	\$1,057,500
- Net Saving	\$3,473,000
	SAY \$3.47 Million

2. Aerial

Aerial station construction is the least complicated. Costs are generally accrued in proportion to overall length.

Typical Saving:

- Reduce Platform length to 300FT	150FT @ \$13,300	\$1,995,000
- Additional Guideway(Aerial)	150RF @ \$3095	\$ 464,000
- Net Saving		\$1,531,000
	SAY	\$1.53 Million

3. Open

Potential saving is in open trench construction, platform concrete and finishes. Appendages, ancillary structures, mechanical and electrical work do not change significantly.

Typical Saving:

- Reduce Platform length to 300FT		\$4,402,000
- Additional Guideway(Cut&Cover)	150RF @ \$7686	\$1,153,000
- Net Saving		\$3,249,000
	SAY	\$3.25 Million

The typical savings are "Project Specific" and are based upon the platform reductions being achieved in the manner shown on the attached Drawings Nos. G-060, G-090, G-490, G-561, G-342, G-646 and unnumbered sketch of Laurel Canyon Station.

All costs are in 1994 Dollars.

31366243

**San Fernando Valley
East-West Rail Project
Pre-preliminary Construction Cost Estimate**

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September 20, 1994

**INTEROFFICE
MEMO**

Los Angeles County
Metropolitan
Transportation
Authority

818 West Seventh Street
Suite 300
Los Angeles, CA 90017

213.623.1194

MEMO TO: DAVID MIEGER, PROJECT MANAGER, SAN FERNANDO
VALLEY EAST-WEST RAIL TRANSIT PROJECT

FROM: HENRY LIU, SENIOR COST ESTIMATOR, RAIL
CONSTRUCTION CORPORATION

SUBJECT: SAN FERNANDO VALLEY EAST - WEST RAIL TRANSIT
PROJECT, S.P. BURBANK BRANCH, SUMMARY OF COST
ESTIMATES

As requested, full project costs for the SP Burbank Branch baseline alternatives are hereby attached. Engineering Management Consultant construction cost estimates for guideways, structures, stations, yards, shops, systemwide equipment and dewatering/waste handling have been coupled on the attached tables. In addition, RCC estimated costs for vehicles, right-of-way, soft costs and contingencies have been added per MTA Policies and Procedures for cost estimating. Total project costs have been escalated, per your instructions, to 1998 dollars at a rate of 3.54% per year.

Following the tables for Alternatives A, AZ, B and C, tabular information from EMC is provided in support of the project cost tables.

If you have any questions, please call me at extension 46727.

HL:jaw

TABLE 1

**SAN FERNANDO VALLEY EAST – WEST RAIL TRANSIT PROJECT
S. P. BURBANK BRANCH
SUMMARY OF COST ESTIMATES
(\$1998 MILLIONS)**

	ALT A DEEP BORE SUBWAY ▲ MODULAR STATIONS (EIR ADOPTED 3A)	ALT A 2 DEEP BORE SUBWAY ▲ OPEN AIR STATIONS	ALT B * OPEN AIR SUBWAY OPEN AIR STATIONS (NOT CONSISTENT WITH LEGISLATION)	ALT C OPEN AIR SUBWAY ▲ CUT/COVER (CONSISTENT WITH LEGISLATION)
FULL PROJECT UNIVERSAL CITY/ NORTH HOLLYWOOD TO WARNER CENTER	\$2,274 (TABLE B-6)	\$2,132 (TABLE B-8)	\$2,061 (TABLE B-10)	\$2,116 (TABLE B-12)
PHASE ONE ONLY UNIVERSAL CITY/ NORTH HOLLYWOOD TO SAN DIEGO FWY	\$ 796 (TABLE B-7)	\$ 760 (TABLE B-9)	\$ 735 (TABLE B-11)	\$ 809 (TABLE B-13)

A-1

* STATE LEGISLATION (SB211 – JUNE 1991) PROHIBITS ANY ALIGNMENTS ON THE SP BURBANK BRANCH BETWEEN HAZELTINE AND THE HOLLYWOOD FREEWAY THAT ARE NOT COVERED SUBWAY.

SAN FERNANDO VALLEY EAST/WEST RAIL TRANSIT PROJECT

PROJECT COST ESTIMATE SUMMARY

TABLE A-2 SP BURBANK BRANCH - ALTERNATIVE A - FULL PROJECT (NORTH HOLLYWOOD TO WARNER CENTER)		
ITEM DESCRIPTION	1994 \$ ESTIMATED COST	1998 \$ ESTIMATED COST
1A) GUIDEWAYS AND STRUCTURES	\$420,260,000	\$483,003,968
1B) DEWATERING/GROUND TREATMENT/WASTE HANDLING	\$15,300,000	\$17,584,259
2) STATIONS	\$294,555,000	\$338,531,466
3) MAIN YARD AND SHOP	\$32,641,000	\$37,514,235
4) SYSTEMWIDE EQUIPMENT	\$211,790,000	\$243,409,819
5) VEHICLES	\$67,200,000	\$77,232,824
SUBTOTAL (A)	\$1,041,746,000	\$1,197,276,571
6) PRE REVENUE OPERATION	\$26,043,650	\$29,931,914
7) OWNERS INSURANCE	\$83,339,680	\$95,782,126
8) MASTER AGREEMENTS	\$26,043,650	\$29,931,914
SUBTOTAL (B)	\$135,426,980	\$155,645,954
9) ART FOR TRANSIT (C)	\$5,208,730	\$5,986,383
SUBTOTAL (C)	\$5,208,730	\$5,986,383
10 A) RIGHT OF WAY (MTA PROPERTIES)	\$159,000,000	\$159,000,000
10 B) RIGHT OF WAY (PROPOSED TAKES)	\$50,000,000	\$57,464,899
SUBTOTAL (D)	\$209,000,000	\$216,464,899
11) PROF. SERVICES (E)	\$419,009,781	\$481,567,094
SUBTOTAL (E)	\$419,009,781	\$481,567,094
12) CONTINGENCY (F)		
A) ITEM 1A 12%	\$50,431,200	\$57,960,476
B) ITEM 1B 10%	\$1,530,000	\$1,758,426
C) ITEM 2 17%	\$50,074,350	\$57,550,349
D) ITEMS 3, 4, 5 10%	\$31,163,100	\$35,815,688
E) ITEMS 6, 7, 8 10%	\$13,542,698	\$15,564,595
F) ITEM 10B 10%	INCL. IN ITEM	INCL. IN ITEM
G) ITEM 11 10%	\$41,900,978	\$48,156,709
SUBTOTAL (F)	\$188,642,326	\$216,806,244
GRAND TOTALS:	\$1,999,033,618	\$2,273,747,146

NOTES:

(COSTS ARE SHOWN IN 1994 DOLLARS)

- 1A) GUIDEWAYS & STRUCTURES:** DEEP BORE TUNNEL: NO. HLYWD TO HAZELTINE
 AERIAL GUIDEWAY: HAZELTINE TO WHITE OAK

 DEEP BORE TUNNEL: WHITE OAK TO TOPANGA
- 1B) WASTE HANDLING:** LUMP SUM PER RCC ENVIRONMENTAL DEPT.
- 2) STATIONS:** AERIAL (4 EA @ \$6.8 MILLION)
 MODULAR SUBWAY (3 EA @ \$44 TO \$47 MIL / 1 EA @ \$56.5 MIL)
 CUT & COVER (2 EA @ \$37.4 MILLION)
- 3) YARD & SHOPS:** SHERMAN WAY YARD @ \$32.6 MILLION
- 4) SYSTEMWIDE EQUIPMENT:** STANDARD TRACKWORK, COMMUNICATIONS,
 SIGNALIZATION, SIGNS & GRAPHICS
- 5) VEHICLES (HEAVY RAIL):** (28 EA @ \$2.4 MILLION)
- 6) PRE-REVENUE OPERATION:** 2.5 % OF ITEMS 1 THRU 5
- 7) OWNERS INSURANCE:** 8.0 % OF ITEMS 1 THRU 5
- 8) MASTER AGREEMENTS:** 2.5 % OF ITEMS 1 THRU 5
- 9) ART IN TRANSIT:** 0.5 % OF ITEMS 1 THRU 5
- 10) RIGHT-OF-WAY:**
 A) PREVIOUSLY ACQUIRED MTA PROPERTIES
 - S.P.T.C. RIGHT OF WAY : \$116 MILLION
 - DRIVE IN & OTHERS: \$ 43 MILLION
 B) NEW PARCELS TO BE ACQUIRED
 - PER MTA REAL ESTATE DEPT.: \$ 50 MILLION
- 11) PROFESSIONAL SERVICES:** 22 % OF GRAND TOTAL
- 12) CONTINGENCIES:** GUIDEWAY & STRUCTURES - 12.0%
 WASTE HANDLING - 10.0%
 STATIONS - 17.0%
 SYSTEMS/YARD/VEHICLES - 10.0%
 STARTUP & OCIP - 10.0%
 RIGHT OF WAY - 10.0%
 PROFESSIONAL SERVICES - 10.0%
- ESCALATION FACTOR:** 3.54 % PER ANNUM

A-2

SAN FERNANDO VALLEY EAST/WEST RAIL TRANSIT PROJECT

PROJECT COST ESTIMATE SUMMARY

TABLE A-3
SP BURBANK BRANCH
 - ALTERNATIVE A
 - PHASE ONE ONLY (NORTH HOLLYWOOD TO I-405)

ITEM DESCRIPTION	1994 \$ ESTIMATED COST	1998 \$ ESTIMATED COST
1A) GUIDEWAYS AND STRUCTURES	\$192,185,000	\$220,877,832
1B) DEWATERING/GROUND TREATMENT/WASTE HANDLING	\$750,000	\$861,973
2) STATIONS	\$60,490,000	\$69,521,035
3) MAIN YARD AND SHOP	\$2,045,000	\$2,350,314
4) SYSTEMWIDE EQUIPMENT	\$86,147,000	\$99,008,573
5) VEHICLES	\$19,200,000	\$22,066,521
SUBTOTAL (A)	\$360,817,000	\$414,686,248
6) PRE REVENUE OPERATION	\$9,020,425	\$10,367,156
7) OWNERS INSURANCE	\$28,865,360	\$33,174,900
8) MASTER AGREEMENTS	\$9,020,425	\$10,367,156
SUBTOTAL (B)	\$46,906,210	\$53,909,212
9) ART FOR TRANSIT (C)	\$1,804,085	\$2,073,431
SUBTOTAL (C)	\$1,804,085	\$2,073,431
10 A) RIGHT OF WAY (MTA PROPERTIES)	\$79,500,000	\$79,500,000
10 B) RIGHT OF WAY (PROPOSED TAKES)	\$8,450,000	\$9,711,568
SUBTOTAL (D)	\$87,950,000	\$89,211,568
11) PROF. SERVICES (E)	\$142,112,280	\$163,329,356
SUBTOTAL (E)	\$142,112,280	\$163,329,356
12) CONTINGENCY (F)		
A) ITEM 1A 12 %	\$23,062,200	\$26,505,340
B) ITEM 1B 10 %	\$75,000	\$86,197
C) ITEM 2 17 %	\$10,283,300	\$11,818,576
D) ITEMS 3, 4, 5 10 %	\$10,739,200	\$12,342,541
E) ITEMS 6, 7, 8 10 %	\$4,690,621	\$5,390,921
F) ITEM 10B 10 %	INCL. IN ITEM	INCL. IN ITEM
G) ITEM 11 10 %	\$14,211,228	\$16,332,936
SUBTOTAL (F)	\$63,061,549	\$72,476,511
GRAND TOTALS:	\$702,651,124	\$795,686,327

NOTES: (COSTS ARE SHOWN IN 1994 DOLLARS)
 1A) GUIDEWAYS & STRUCTURES: DEEP BORE TUNNEL: NO. HLYWD TO HAZELTNE
 AERIAL GUIDEWAY: HAZELTNE TO I405 FRWY

1B) WASTE HANDLING: LUMP SUM PER RCC ENVIRONMENTAL DEPT.

2) STATIONS: AERIAL (2 EA @ \$6.8 MILLION)
 MODULAR SUBWAY (1 EA @ \$56.5 MIL)

3) YARD & SHOPS: TEMPORARY STORAGE YARD FOR 26 VEHICLES

4) SYSTEMWIDE EQUIPMENT: STANDARD TRACKWORK, COMMUNICATIONS,
 SIGNALIZATION, SIGNS & GRAPHICS

5) VEHICLES (HEAVY RAIL): (8 EA @ \$2.4 MILLION)

6) PRE-REVENUE OPERATION: 2.5 % OF ITEMS 1 THRU 5

7) OWNERS INSURANCE: 8.0 % OF ITEMS 1 THRU 5

8) MASTER AGREEMENTS: 2.5 % OF ITEMS 1 THRU 5

9) ART IN TRANSIT: 0.5 % OF ITEMS 1 THRU 5

10) RIGHT-OF-WAY:
 A) PREVIOUSLY ACQUIRED MTA PROPERTIES
 - S.P.T.C. RIGHT OF WAY: \$59.0 MILLION
 - DRIVE IN & OTHERS: \$20.5 MILLION
 B) NEW PARCELS TO BE ACQUIRED
 - PER MTA REAL ESTATE DEPT.: \$8.45 MIL

11) PROFESSIONAL SERVICES: 22 % OF GRAND TOTAL

12) CONTINGENCIES:
 GUIDEWAY & STRUCTURES - 12.0%
 WASTE HANDLING - 10.0%
 STATIONS - 17.0%
 SYSTEMS/YARD/VEHICLES - 10.0%
 STARTUP & OCIP - 10.0%
 RIGHT OF WAY - 10.0%
 PROFESSIONAL SERVICES - 10.0%

ESCALATION FACTOR: 3.54 % PER ANNUM

A-3

SAN FERNANDO VALLEY EAST/WEST RAIL TRANSIT PROJECT

PROJECT COST ESTIMATE SUMMARY

TABLE A-4
SP BURBANK BRANCH
 - ALTERNATIVE A2
 - FULL PROJECT (NORTH HOLLYWOOD TO WARNER CENTER)

ITEM DESCRIPTION	1994 \$ ESTIMATED COST	1998 \$ ESTIMATED COST
1A) GUIDEWAYS AND STRUCTURES	\$428,893,000	\$492,925,858
1B) DEWATERING/GROUND TREATMENT/WASTE HANDLING	\$15,300,000	\$17,584,259
2) STATIONS	\$214,428,000	\$246,439,368
3) MAIN YARD AND SHOP	\$32,641,000	\$37,514,235
4) SYSTEMWIDE EQUIPMENT	\$212,989,000	\$244,787,827
5) VEHICLES	\$67,200,000	\$77,232,824
SUBTOTAL (A)	\$971,449,000	\$1,116,484,371
6) PRE REVENUE OPERATION	\$24,286,225	\$27,912,109
7) OWNERS INSURANCE	\$77,715,920	\$89,318,750
8) MASTER AGREEMENTS	\$24,286,225	\$27,912,109
SUBTOTAL (B)	\$126,288,370	\$145,142,968
9) ART FOR TRANSIT (C)	\$4,857,245	\$5,582,422
SUBTOTAL (C)	\$4,857,245	\$5,582,422
10 A) RIGHT OF WAY (MTA PROPERTIES)	\$159,000,000	\$159,000,000
10 B) RIGHT OF WAY (PROPOSED TAKES)	\$50,000,000	\$57,464,899
SUBTOTAL (D)	\$209,000,000	\$216,464,899
11) PROF. SERVICES (E)	\$391,882,169	\$450,389,385
SUBTOTAL (E)	\$391,882,169	\$450,389,385
12) CONTINGENCY (F)		
A) ITEM 1A 12 %	\$51,467,160	\$59,151,103
B) ITEM 1B 10 %	\$1,530,000	\$1,758,426
C) ITEM 2 17 %	\$36,452,420	\$41,894,693
D) ITEMS 3, 4, 5 10 %	\$31,283,000	\$35,953,489
E) ITEMS 6, 7, 8 10 %	\$12,628,837	\$14,514,297
F) ITEM 10B 10 %	INCL. IN ITEM	INCL. IN ITEM
G) ITEM 11 10 %	\$39,188,217	\$45,038,938
SUBTOTAL (F)	\$172,548,634	\$198,310,945
GRAND TOTALS:	\$1,876,026,418	\$2,132,374,990

NOTES: (COSTS ARE SHOWN IN 1994 DOLLARS)

- 1A) GUIDEWAYS & STRUCTURES:** DEEP BORE TUNNEL: NO. HLYWD TO HAZELTINE
 AERIAL/RETAIN FILL: HAZELTINE TO WHITE OAK

 DEEP BORE TUNNEL: WHITE OAK TO TOPANGA
- 1B) WASTE HANDLING:** LUMP SUM PER RCC ENVIRONMENTAL DEPT.
- 2) STATIONS:** AERIAL (4 EA @ \$6.8 MILLION)
 OPEN AIR (3 EA @ \$22.7 MIL / 1 EA @ \$36.5 & \$26.1 MIL)
 MODULAR SUBWAY (1 EA @ \$56.5 MILLION)
- 3) YARD & SHOPS:** SHERMAN WAY YARD @ \$32.6 MILLION
- 4) SYSTEMWIDE EQUIPMENT:** STANDARD TRACKWORK, COMMUNICATIONS,
 SIGNALIZATION, SIGNS & GRAPHICS
- 5) VEHICLES (HEAVY RAIL):** (28 EA @ \$2.4 MILLION)
- 6) PRE-REVENUE OPERATION:** 2.5 % OF ITEMS 1 THRU 5
- 7) OWNERS INSURANCE:** 8.0 % OF ITEMS 1 THRU 5
- 8) MASTER AGREEMENTS:** 2.5 % OF ITEMS 1 THRU 5
- 9) ART IN TRANSIT:** 0.5 % OF ITEMS 1 THRU 5
- 10) RIGHT-OF-WAY:** A) PREVIOUSLY ACQUIRED MTA PROPERTIES
 - S.P.T.C. RIGHT OF WAY: \$116 MILLION
 - DRIVE IN & OTHERS: \$ 43 MILLION
 B) NEW PARCELS TO BE ACQUIRED
 - PER MTA REAL ESTATE DEPT.: \$ 50 MILLION
- 11) PROFESSIONAL SERVICES:** 22 % OF GRAND TOTAL
- 12) CONTINGENCIES:** GUIDEWAY & STRUCTURES - 12.0%
 WASTE HANDLING - 10.0%
 STATIONS - 17.0%
 SYSTEMS/YARD/VEHICLES - 10.0%
 STARTUP & OCIP - 10.0%
 RIGHT OF WAY - 10.0%
 PROFESSIONAL SERVICES - 10.0%
- ESCALATION FACTOR:** 3.54 % PER ANNUM

A-4

SAN FERNANDO VALLEY EAST/WEST RAIL TRANSIT PROJECT PROJECT COST ESTIMATE SUMMARY

A-5

TABLE A-5 SP BURBANK BRANCH - ALTERNATIVE A2 - PHASE ONE ONLY (NORTH HOLLYWOOD TO I-405)		
ITEM DESCRIPTION	1994 \$ ESTIMATED COST	1998 \$ ESTIMATED COST
1A) GUIDEWAYS AND STRUCTURES	\$195,086,000	\$224,211,945
1B) DEWATERING/GROUND TREATMENT/WASTE HANDLING	\$750,000	\$861,973
2) STATIONS	\$39,681,000	\$45,605,293
3) MAIN YARD AND SHOP	\$2,045,000	\$2,350,314
4) SYSTEMWIDE EQUIPMENT	\$86,147,000	\$99,008,573
5) VEHICLES	\$19,200,000	\$22,066,521
SUBTOTAL (A)	\$342,909,000	\$394,104,620
6) PRE REVENUE OPERATION	\$8,572,725	\$9,852,616
7) OWNERS INSURANCE	\$27,432,720	\$31,528,370
8) MASTER AGREEMENTS	\$8,572,725	\$9,852,616
SUBTOTAL (B)	\$44,578,170	\$51,233,601
9) ART FOR TRANSIT (C)	\$1,714,545	\$1,970,523
SUBTOTAL (C)	\$1,714,545	\$1,970,523
10 A) RIGHT OF WAY (MTA PROPERTIES)	\$79,500,000	\$79,500,000
10 B) RIGHT OF WAY (PROPOSED TAKES)	\$8,450,000	\$9,711,568
SUBTOTAL (D)	\$87,950,000	\$89,211,568
11) PROF. SERVICES (E)	\$135,201,583	\$155,386,906
SUBTOTAL (E)	\$135,201,583	\$155,386,906
12) CONTINGENCY (F)		
A) ITEM 1A 12 %	\$23,410,320	\$26,905,433
B) ITEM 1B 10 %	\$75,000	\$86,197
C) ITEM 2 17 %	\$6,745,770	\$7,752,900
D) ITEMS 3, 4, 5 10 %	\$10,739,200	\$12,342,541
E) ITEMS 6, 7, 8 10 %	\$4,457,817	\$5,123,360
F) ITEM 10B 10 %	INCL IN ITEM	INCL IN ITEM
G) ITEM 11 10 %	\$13,520,158	\$15,538,691
SUBTOTAL (F)	\$58,948,265	\$67,749,122
GRAND TOTALS:	\$671,301,563	\$759,656,340

NOTES: (COSTS ARE SHOWN IN 1994 DOLLARS)

1A) GUIDEWAYS & STRUCTURES: DEEP BORE TUNNEL: NO. HLYWD TO HAZELTNE
AERIAL GUIDEWAY: HAZELTNE TO I405 FRWY

1B) WASTE HANDLING: LUMP SUM PER RCC ENVIRONMENTAL DEPT.

2) STATIONS: AERIAL (2 EA @ \$6.8 MILLION)
OPEN AIR (1 EA @ \$28.1 MIL)

3) YARD & SHOPS: TEMPORARY STORAGE YARD FOR 28 VEHICLES

4) SYSTEMWIDE EQUIPMENT: STANDARD TRACKWORK, COMMUNICATIONS,
SIGNALIZATION, SIGNS & GRAPHICS

5) VEHICLES (HEAVY RAIL): (8 EA @ \$2.4 MILLION)

6) PRE-REVENUE OPERATION: 2.5 % OF ITEMS 1 THRU 5

7) OWNERS INSURANCE: 8.0 % OF ITEMS 1 THRU 5

8) MASTER AGREEMENTS: 2.5 % OF ITEMS 1 THRU 5

9) ART IN TRANSIT: 0.5 % OF ITEMS 1 THRU 5

10) RIGHT-OF-WAY: A) PREVIOUSLY ACQUIRED MTA PROPERTIES
- S.P.T.C. RIGHT OF WAY: \$59.0 MILLION
- DRIVE IN & OTHERS: \$20.5 MILLION
B) NEW PARCELS TO BE ACQUIRED
- PER MTA REAL ESTATE DEPT.: \$8.45 MIL

11) PROFESSIONAL SERVICES: 22 % OF GRAND TOTAL

12) CONTINGENCIES: GUIDEWAY & STRUCTURES - 12.0%
WASTE HANDLING - 10.0%
STATIONS - 17.0%
SYSTEMS/YARD/VEHICLES - 10.0%
STARTUP & OCIP - 10.0%
RIGHT OF WAY - 10.0%
PROFESSIONAL SERVICES - 10.0%

ESCALATION FACTOR: 3.54 % PER ANNUM

SAN FERNANDO VALLEY EAST/WEST RAIL TRANSIT PROJECT PROJECT COST ESTIMATE SUMMARY

TABLE A-6
SP BURBANK BRANCH
 - ALTERNATIVE B
 - FULL PROJECT (NORTH HOLLYWOOD TO WARNER CENTER)

ITEM DESCRIPTION	1994 \$ ESTIMATED COST	1998 \$ ESTIMATED COST
1A) GUIDEWAYS AND STRUCTURES	\$381,099,000	\$437,996,310
1B) DEWATERING/GROUND TREATMENT/WASTE HANDLING	\$16,600,000	\$19,078,346
2) STATIONS	\$224,590,000	\$258,120,833
3) MAIN YARD AND SHOP	\$32,641,000	\$37,514,235
4) SYSTEMWIDE EQUIPMENT	\$212,189,000	\$243,868,389
5) VEHICLES	\$67,200,000	\$77,232,824
SUBTOTAL (A)	\$934,319,000	\$1,073,810,937
6) PRE REVENUE OPERATION	\$23,357,975	\$26,845,273
7) OWNERS INSURANCE	\$74,745,520	\$85,904,875
8) MASTER AGREEMENTS	\$23,357,975	\$26,845,273
SUBTOTAL (B)	\$121,461,470	\$139,595,422
9) ART FOR TRANSIT (C)	\$4,671,595	\$5,369,055
SUBTOTAL (C)	\$4,671,595	\$5,369,055
10 A) RIGHT OF WAY (MTA PROPERTIES)	\$159,000,000	\$159,000,000
10 B) RIGHT OF WAY (PROPOSED TAKES)	\$50,000,000	\$57,464,899
SUBTOTAL (D)	\$209,000,000	\$216,464,899
11) PROF. SERVICES (E)	\$377,553,702	\$433,921,706
SUBTOTAL (E)	\$377,553,702	\$433,921,706
12) CONTINGENCY (F)		
A) ITEM 1A 12 %	\$45,731,880	\$52,559,557
B) ITEM 1B 10 %	\$1,660,000	\$1,807,835
C) ITEM 2 17 %	\$38,180,300	\$43,880,542
D) ITEMS 3, 4, 5 10 %	\$31,203,000	\$35,861,545
E) ITEMS 6, 7, 8 10 %	\$12,146,147	\$13,959,542
F) ITEM 10B 10 %	INCL IN ITEM	INCL IN ITEM
G) ITEM 11 10 %	\$37,755,370	\$43,392,171
SUBTOTAL (F)	\$166,676,697	\$181,561,191
GRAND TOTALS:	\$1,813,682,464	\$2,060,723,210

NOTES:

(COSTS ARE SHOWN IN 1994 DOLLARS)

- 1A) GUIDEWAYS & STRUCTURES:** DEEP BORE TUNNEL: NO. HLYWD TO FULTON
 OPEN AIR: FULTON TO HAZELTINE
 AERIAL/RETAIN FILL: HAZELTINE TO WHITE OAK
 OPEN AIR: WHITE OAK TO DESOTO
- 1B) WASTE HANDLING:** LUMP SUM PER RCC ENVIRONMENTAL DEPT.
- 2) STATIONS:** AERIAL (4 EA @ \$6.6 MILLION)
 OPEN AIR (4 EA @ \$26.1 MIL / 1 EA @ \$36.5 MIL)
 MODULAR SUBWAY (1 EA @ \$56.5 MILLION)
- 3) YARD & SHOPS:** SHERMAN WAY YARD @ \$32.8 MILLION
- 4) SYSTEMWIDE EQUIPMENT:** STANDARD TRACKWORK, COMMUNICATIONS,
 SIGNALIZATION, SIGNS & GRAPHICS
- 5) VEHICLES (HEAVY RAIL):** (26 EA @ \$2.4 MILLION)
- 6) PRE-REVENUE OPERATION:** 2.5 % OF ITEMS 1 THRU 5
- 7) OWNERS INSURANCE:** 8.0 % OF ITEMS 1 THRU 5
- 8) MASTER AGREEMENTS:** 2.5 % OF ITEMS 1 THRU 5
- 9) ART IN TRANSIT:** 0.5 % OF ITEMS 1 THRU 5
- 10) RIGHT-OF-WAY:** A) PREVIOUSLY ACQUIRED MTA PROPERTIES
 - S.P.T.C. RIGHT OF WAY: \$116 MILLION
 - DRIVE IN & OTHERS: \$ 43 MILLION
 B) NEW PARCELS TO BE ACQUIRED
 - PER MTA REAL ESTATE DEPT.: \$ 50 MILLION
- 11) PROFESSIONAL SERVICES:** 22 % OF GRAND TOTAL
- 12) CONTINGENCIES:** GUIDEWAY & STRUCTURES - 12.0%
 WASTE HANDLING - 10.0%
 STATIONS - 17.0%
 SYSTEMS/YARD/VEHICLES - 10.0%
 STARTUP & OCIP - 10.0%
 RIGHT OF WAY - 10.0%
 PROFESSIONAL SERVICES - 10.0%
- ESCALATION FACTOR:** 3.54 % PER ANNUM

A-6

SAN FERNANDO VALLEY EAST/WEST RAIL TRANSIT PROJECT PROJECT COST ESTIMATE SUMMARY

TABLE A-7
SP BURBANK BRANCH
 - ALTERNATIVE B
 - PHASE ONE ONLY (NORTH HOLLYWOOD TO I-405)

ITEM DESCRIPTION	1994 \$ ESTIMATED COST	1998 \$ ESTIMATED COST
1A) GUIDEWAYS AND STRUCTURES	\$182,379,000	\$209,607,816
1B) DEWATERING/GROUND TREATMENT/WASTE HANDLING	\$750,000	\$861,973
2) STATIONS	\$39,681,000	\$45,605,293
3) MAIN YARD AND SHOP	\$2,045,000	\$2,350,314
4) SYSTEMWIDE EQUIPMENT	\$86,147,000	\$99,008,573
5) VEHICLES	\$19,200,000	\$22,066,521
SUBTOTAL (A)	\$330,202,000	\$379,500,491
6) PRE REVENUE OPERATION	\$8,255,050	\$9,487,512
7) OWNERS INSURANCE	\$26,416,160	\$30,360,039
8) MASTER AGREEMENTS	\$8,255,050	\$9,487,512
SUBTOTAL (B)	\$42,926,260	\$49,335,064
9) ART FOR TRANSIT (C)	\$1,651,010	\$1,897,502
SUBTOTAL (C)	\$1,651,010	\$1,897,502
10 A) RIGHT OF WAY (MTA PROPERTIES)	\$79,500,000	\$79,500,000
10 B) RIGHT OF WAY (PROPOSED TAKES)	\$8,450,000	\$9,711,568
SUBTOTAL (D)	\$87,950,000	\$89,211,568
11) PROF. SERVICES (E)	\$130,297,952	\$149,751,173
SUBTOTAL (E)	\$130,297,952	\$149,751,173
12) CONTINGENCY (F)		
A) ITEM 1A 12 %	\$21,885,480	\$25,152,938
B) ITEM 1B 10 %	\$75,000	\$86,197
C) ITEM 2 17 %	\$6,745,770	\$7,752,900
D) ITEMS 3, 4, 5 10 %	\$10,739,200	\$12,342,541
E) ITEMS 6, 7, 8 10 %	\$4,292,626	\$4,933,506
F) ITEM 10B 10 %	INCL. IN ITEM	INCL. IN ITEM
G) ITEM 11 10 %	\$13,029,795	\$14,975,117
SUBTOTAL (F)	\$56,767,871	\$65,243,200
GRAND TOTALS:	\$649,795,093	\$734,938,997

- NOTES:** (COSTS ARE SHOWN IN 1994 DOLLARS)
- 1A) GUIDEWAYS & STRUCTURES:** DEEP BORE TUNNEL: NO. HLYWD TO FULTON
 OPEN AIR: FULTON TO HAZELTNE
 AERIAL GUIDEWAY: HAZELTNE TO I405 FRWY
- 1B) WASTE HANDLING:** LUMP SUM PER RCC ENVIRONMENTAL DEPT.
- 2) STATIONS:** AERIAL (2 EA @ \$6.8 MILLION)
 OPEN AIR (1 EA @ \$26.1 MIL)
- 3) YARD & SHOPS:** TEMPORARY STORAGE YARD FOR 26 VEHICLES
- 4) SYSTEMWIDE EQUIPMENT:** STANDARD TRACKWORK, COMMUNICATIONS, SIGNALIZATION, SIGNS & GRAPHICS
- 5) VEHICLES (HEAVY RAIL):** (8 EA @ \$2.4 MILLION)
- 6) PRE-REVENUE OPERATION:** 2.5 % OF ITEMS 1 THRU 5
- 7) OWNERS INSURANCE:** 6.0 % OF ITEMS 1 THRU 5
- 8) MASTER AGREEMENTS:** 2.5 % OF ITEMS 1 THRU 5
- 9) ART IN TRANSIT:** 0.5 % OF ITEMS 1 THRU 5
- 10) RIGHT-OF-WAY:** A) PREVIOUSLY ACQUIRED MTA PROPERTIES
 - S.P.T.C. RIGHT OF WAY: \$59.0 MILLION
 - DRIVE IN & OTHERS: \$20.5 MILLION
 B) NEW PARCELS TO BE ACQUIRED
 - PER MTA REAL ESTATE DEPT.: \$8.45 MIL
- 11) PROFESSIONAL SERVICES:** 22 % OF GRAND TOTAL
- 12) CONTINGENCIES:** GUIDEWAY & STRUCTURES - 12.0%
 WASTE HANDLING - 10.0%
 STATIONS - 17.0%
 SYSTEMS/YARD/VEHICLES - 10.0%
 STARTUP & OCIP - 10.0%
 RIGHT OF WAY - 10.0%
 PROFESSIONAL SERVICES - 10.0%
- ESCALATION FACTOR:** 3.54 % PER ANNUM

A-7

SAN FERNANDO VALLEY EAST/WEST RAIL TRANSIT PROJECT PROJECT COST ESTIMATE SUMMARY

TABLE A-8 SP BURBANK BRANCH - ALTERNATIVE C - FULL PROJECT (NORTH HOLLYWOOD TO WARNER CENTER)		
ITEM DESCRIPTION	1994 \$ ESTIMATED COST	1998 \$ ESTIMATED COST
1A) GUIDEWAYS AND STRUCTURES	\$388,161,000	\$446,135,838
1B) DEWATERING/GROUND TREATMENT/WASTE HANDLING	\$16,600,000	\$19,078,346
2) STATIONS	\$245,619,000	\$282,289,420
3) MAIN YARD AND SHOP	\$32,641,000	\$37,514,235
4) SYSTEMWIDE EQUIPMENT	\$211,789,000	\$243,408,669
5) VEHICLES	\$67,200,000	\$77,232,824
SUBTOTAL (A)	\$962,030,000	\$1,105,659,134
6) PRE REVENUE OPERATION	\$24,050,750	\$27,641,478
7) OWNERS INSURANCE	\$76,962,400	\$88,452,731
8) MASTER AGREEMENTS	\$24,050,750	\$27,641,478
SUBTOTAL (B)	\$125,063,900	\$143,735,687
9) ART FOR TRANSIT (C)	\$4,810,150	\$5,528,296
SUBTOTAL (C)	\$4,810,150	\$5,528,296
10 A) RIGHT OF WAY (MTA PROPERTIES)	\$159,000,000	\$159,000,000
10 B) RIGHT OF WAY (PROPOSED TAKES)	\$50,000,000	\$57,464,899
SUBTOTAL (D)	\$209,000,000	\$216,464,899
11) PROF. SERVICES (E)	\$388,247,377	\$446,211,925
SUBTOTAL (E)	\$388,247,377	\$446,211,925
12) CONTINGENCY (F)		
A) ITEM 1A 12 %	\$46,581,720	\$53,538,277
B) ITEM 1B 10 %	\$1,660,000	\$1,907,835
C) ITEM 2 17 %	\$41,755,230	\$47,989,201
D) ITEMS 3, 4, 5 10 %	\$31,183,000	\$35,815,573
E) ITEMS 6, 7, 8 10 %	\$12,506,390	\$14,373,569
F) ITEM 10B 10 %	INCL. IN ITEM	INCL. IN ITEM
G) ITEM 11 10 %	\$38,824,738	\$44,621,193
SUBTOTAL (F)	\$172,491,078	\$198,243,647
GRAND TOTALS:	\$1,861,642,505	\$2,115,843,568

NOTES: (COSTS ARE SHOWN IN 1994 DOLLARS)

1A) GUIDEWAYS & STRUCTURES: DEEP BORE TUNNEL: NO. HLYWD TO FULTON
CUT & COVER: FULTON TO HAZELTNE
AERIAL/RETAIN FILL: HAZELTNE TO WHITE OAK
OPEN AIR: WHITE OAK TO DESOTO

1B) WASTE HANDLING: LUMP SUM PER RCC ENVIRONMENTAL DEPT.

2) STATIONS: AERIAL (4 EA @ \$8.8 MILLION)
OPEN AIR (3 EA @ \$26.1 MIL / 1 EA @ \$38.5 MIL)
MODULAR SUBWAY (1 EA @ \$58.5 & \$47.1 MILLION)

3) YARD & SHOPS: SHERMAN WAY YARD @ \$32.6 MILLION

4) SYSTEMWIDE EQUIPMENT: STANDARD TRACKWORK, COMMUNICATIONS,
SIGNALIZATION, SIGNS & GRAPHICS

5) VEHICLES (HEAVY RAIL): (28 EA @ \$2.4 MILLION)

6) PRE-REVENUE OPERATION: 2.5 % OF ITEMS 1 THRU 5

7) OWNERS INSURANCE: 8.0 % OF ITEMS 1 THRU 5

8) MASTER AGREEMENTS: 2.5 % OF ITEMS 1 THRU 5

9) ART IN TRANSIT: 0.5 % OF ITEMS 1 THRU 5

10) RIGHT-OF-WAY: A) PREVIOUSLY ACQUIRED MTA PROPERTIES
- S.P.T.C. RIGHT OF WAY: \$116 MILLION
- DRIVE IN & OTHERS: \$ 43 MILLION
B) NEW PARCELS TO BE ACQUIRED
- PER MTA REAL ESTATE DEPT.: \$ 50 MILLION

11) PROFESSIONAL SERVICES: 22 % OF GRAND TOTAL

12) CONTINGENCIES: GUIDEWAY & STRUCTURES - 12.0%
WASTE HANDLING - 10.0%
STATIONS - 17.0%
SYSTEMS/YARD/VEHICLES - 10.0%
STARTUP & OCIP - 10.0%
RIGHT OF WAY - 10.0%
PROFESSIONAL SERVICES - 10.0%

ESCALATION FACTOR: 3.54 % PER ANNUM

A-8

SAN FERNANDO VALLEY EAST/WEST RAIL TRANSIT PROJECT

PROJECT COST ESTIMATE SUMMARY

TABLE A-9 SP BURBANK BRANCH - ALTERNATIVE C - PHASE ONE ONLY (NORTH HOLLYWOOD TO I-405)		
ITEM DESCRIPTION	1994 \$ ESTIMATED COST	1998 \$ ESTIMATED COST
1A) GUIDEWAYS AND STRUCTURES	\$198,583,000	\$228,231,040
1B) DEWATERING/GROUND TREATMENT/WASTE HANDLING	\$750,000	\$861,973
2) STATIONS	\$80,710,000	\$69,773,880
3) MAIN YARD AND SHOP	\$2,045,000	\$2,350,314
4) SYSTEMWIDE EQUIPMENT	\$88,147,000	\$99,008,573
5) VEHICLES	\$19,200,000	\$22,066,521
SUBTOTAL (A)	\$367,435,000	\$422,292,302
6) PRE REVENUE OPERATION	\$9,185,975	\$10,557,308
7) OWNERS INSURANCE	\$29,394,800	\$33,783,384
8) MASTER AGREEMENTS	\$9,185,975	\$10,557,308
SUBTOTAL (B)	\$47,766,550	\$54,897,999
9) ART FOR TRANSIT (C)	\$1,837,175	\$2,111,462
SUBTOTAL (C)	\$1,837,175	\$2,111,462
10 A) RIGHT OF WAY (MTA PROPERTIES)	\$79,500,000	\$79,500,000
10 B) RIGHT OF WAY (PROPOSED TAKES)	\$8,450,000	\$9,711,568
SUBTOTAL (D)	\$87,950,000	\$89,211,568
11) PROF. SERVICES (E)	\$144,666,167	\$166,264,533
SUBTOTAL (E)	\$144,666,167	\$166,264,533
12) CONTINGENCY (F)		
A) ITEM 1A 12 %	\$23,829,960	\$27,387,225
B) ITEM 1B 10 %	\$75,000	\$86,197
C) ITEM 2 17 %	\$10,320,700	\$11,861,560
D) ITEMS 3, 4, 5 10 %	\$10,739,200	\$12,342,541
E) ITEMS 6, 7, 8 10 %	\$4,776,655	\$5,489,800
F) ITEM 10B 10 %	INCL IN ITEM	INCL IN ITEM
G) ITEM 11 10 %	\$14,466,617	\$16,626,453
SUBTOTAL (F)	\$64,208,132	\$73,794,276
GRAND TOTALS:	\$713,863,023	\$808,572,140

- NOTES:** (COSTS ARE SHOWN IN 1994 DOLLARS)
- 1A) GUIDEWAYS & STRUCTURES:** DEEP BORE TUNNEL: NO. HLYWD TO FULTON
CUT & COVER: FULTON TO HAZELTNE
AERIAL GUIDEWAY: HAZELTNE TO 1405 FRWY
- 1B) WASTE HANDLING:** LUMP SUM PER RCC ENVIRONMENTAL DEPT.
- 2) STATIONS:** AERIAL (2 EA @ \$6.8 MILLION)
CUT & COVER (1 EA @ \$47.1 MIL)
- 3) YARD & SHOPS:** TEMPORARY STORAGE YARD FOR 26 VEHICLES
- 4) SYSTEMWIDE EQUIPMENT:** STANDARD TRACKWORK, COMMUNICATIONS,
SIGNALIZATION, SIGNS & GRAPHICS
- 5) VEHICLES (HEAVY RAIL):** (9 EA @ \$2.4 MILLION)
- 6) PRE-REVENUE OPERATION:** 2.5 % OF ITEMS 1 THRU 5
- 7) OWNERS INSURANCE:** 8.0 % OF ITEMS 1 THRU 5
- 8) MASTER AGREEMENTS:** 2.5 % OF ITEMS 1 THRU 5
- 9) ART IN TRANSIT:** 0.5 % OF ITEMS 1 THRU 5
- 10) RIGHT-OF-WAY:** A) PREVIOUSLY ACQUIRED MTA PROPERTIES
- S.P.T.C. RIGHT OF WAY: \$59.0 MILLION
- DRIVE IN & OTHERS: \$20.5 MILLION
B) NEW PARCELS TO BE ACQUIRED
- PER MTA REAL ESTATE DEPT.: \$8.45 MIL
- 11) PROFESSIONAL SERVICES:** 22 % OF GRAND TOTAL
- 12) CONTINGENCIES:** GUIDEWAY & STRUCTURES - 12.0%
WASTE HANDLING - 10.0%
STATIONS - 17.0%
SYSTEMS/YARD/VEHICLES - 10.0%
STARTUP & OCIP - 10.0%
RIGHT OF WAY - 10.0%
PROFESSIONAL SERVICES - 10.0%
- ESCALATION FACTOR:** 3.54 % PER ANNUM



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Fax: (213) 362-3112

MEMORANDUM

DATE: September 8, 1994

TO: Leon Berdugo
Project Manager

FROM: Al Amador
Manager, Estimating *AL*

SUBJECT: San Fernando Valley, East-West Rail Transit Project
Pre-Preliminary Estimate, Abstract of Project Costs

As requested, the estimated costs for the Base Alignments, Options and combinations of these have been arranged in Abstract form for comparison purposes.

The Abstract, Summaries of individual Base Alignments and Options, location sketches and the estimate back-up have been bound into a single document, in logical order, and numbered sequentially starting with the Abstract as page 1.

A copy of the bound document is attached for your use.

It should be noted that no changes have been made to the Pre-Preliminary Estimate which accompanied my memo to you dated August 1, 1994.

If you have any questions, please call me at extension 4741 or Ralph Davis at extension 4736.

AA:jwh
cc: K.N. Murthy
A. Hadnett
Bob Ree
DCC(2)



Partnership For Excellence In Rail Construction

**SAN FERNANDO VALLEY
EAST - WEST RAIL PROJECT
PRE-PRELIMINARY ESTIMATE**

ABSTRACT OF PROJECT COST

<u>ALTERNATE</u>	<u>PHASE I</u>	<u>FULL PROJECT</u>
'A' Base	\$341.62	\$974.55
'B' Base	\$311.0	\$867.12
'C' Base	\$348.24	\$894.83

PROJECT OPTIONS

CHANGE IN FULL PROJECT

		<u>A Base</u>	<u>B Base</u>	<u>C Base</u>
Oxnard Option 1 - Modular Stations	Add	\$49.52	\$80.14	\$42.91
Oxnard Option 2 - Structural Shell Stations	Add	\$61.55	\$92.17	\$54.94
Chatsworth	Add	\$158.88	\$158.88	\$158.88
Valley Circle	Add	\$201.97	\$201.97	\$201.97
A Base vs. 'A2'	Deduct	\$70.30		
B Base vs. 'B2'	Deduct	\$85.49		
C Base vs. 'C2'	Deduct	\$63.82		

1994 Dollars in Millions

**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRE-PRELIMINARY ESTIMATE
ALTERNATE A**

September 6, 1994

Description	Alt A Phase 1 6.01 Miles +	Alt A Phase 2 7.81 Miles +	Alt A Phase 1+2 13.82 Miles +
	1 Underground +	4 Underground +	5 Underground +
	2 Aerial Stns	1 Cut & Cover +	1 Cut & Cover +
		2 Aerial Stns	4 Aerial Stns
	\$ x 1000	\$ x 1000	\$ x 1000
Total - Facilities	252,675	462,139	714,815
Total - Systems	86,147	125,643	211,790
Total - Permanent Yard	N/A	32,641	32,641
Total - Temporary Yard	2,045	N/A	N/A
Total - Waste Handling	N/A	11,800	11,800
Total - Dewatering	750	2,750	3,500
Totals	341,617	634,973	974,545

Note:
Base Scheme
Tunnel 68%, Aerial 29%, At-Grade 3%

mm/de

**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRE-PRELIMINARY ESTIMATE
ALTERNATE A 2**

September 6, 1994

Description	Alt A 2 Phase 1 6.01 Miles + 1 Open + 2 Aerial Stns	Alt A 2 Phase 2 7.81 Miles + 1 Underground + 2 Aerial + 4 Open Stns	Alt A 2 Phase 1+2 13.82 Miles + 1 Underground + 4 Aerial + 5 Open Stns
	\$ x 1000	\$ x 1000	\$ x 1000
Total - Facilities	234,767	408,552	643,319
Total - Systems	86,147	126,843	212,989
Total - Permanent Yard	N/A	32,641	32,641
Total - Temporary Yard	2,045	N/A	N/A
Total - Waste Handling	N/A	11,800	11,800
Total - Dewatering	750	2,750	3,500
Totals	323,709	582,585	904,249

Note:

Same alignment, guideway length and number of stations as Alternate A

Different construction methods for stations and guideways

Tunnel 60%, Aerial 30%, At-Grade Guideway 2%, Open Cut 8%

mrr/de

**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRE-PRELIMINARY ESTIMATE
ALTERNATE B**

September 6, 1994

Description	Alt B Base Phase 1 6.01 Miles + 1 Open + 2 Aerial Stns	Alt B Base Phase 2 7.81 Miles + 1 Underground + 2 Aerial + 4 Open Stns	Alt B Base Phase 1+2 13.82 Miles + 1 Underground + 4 Aerial + 5 Open Stns
	\$ x 1000	\$ x 1000	\$ x 1000
Total - Facilities	222,060	383,630	605,689
Total - Systems	86,147	126,042	212,189
Total - Permanent Yard	N/A	32,641	32,641
Total - Temporary Yard	2,045	N/A	N/A
Total - Waste Handling	N/A	13,100	13,100
Total - Dewatering	750	2,750	3,500
Totals	311,002	558,163	867,119

Note:

Same alignment, guideway length and number of stations as Alternates A and A2

Different combination of construction methods

Tunnel 29%, Aerial 20%, At-Grade 11%, Open Cut 40%

r/de

**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRE-PRELIMINARY ESTIMATE
ALTERNATE B 2**

September 6, 1994

Description	Alt B Opt 2 Phase 1 6.01 Miles + 1 Open + 2 Aerial Stns	Alt B Opt 2 Phase 2 7.81 Miles + 1 Underground + 1 Aerial + 2 Open Stns	Alt B Opt 2 Phase 1+2 13.82 Miles + 1 Underground + 3 Aerial + 3 Open Stns
	\$ x 1000	\$ x 1000	\$ x 1000
Total - Facilities	222,059	308,236	530,295
Total - Systems	86,147	115,942	202,089
Total - Permanent Yard	N/A	32,641	32,641
Total - Temporary Yard	2,045	N/A	N/A
Total - Waste Handling	N/A	13,100	13,100
Total - Dewatering	750	2,750	3,500
Totals	311,001	472,669	781,625

Note:

Same alignment, guideway length as Alternate A, A2 and B but with only 7 stations
Different construction methods for stations and guideways
Tunnel 29%, Aerial 20%, At-Grade 11%, Open Cut 40%

r/de

**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRE-PRELIMINARY ESTIMATE
ALTERNATE C**

September 6, 1994

Description	Alt C Phase 1 6.01 Miles + 1 Cut & Cover + 2 Aerial Stns	Alt C Phase 2 7.81 Miles + 1 Cut & Cover + 2 Aerial + 4 Open Stns	Alt C Phase 1+2 13.82 Miles + 2 Cut & Cover + 4 Aerial + 4 Open Stns +
	\$ x 1000	\$ x 1000	\$ x 1000
Total - Facilities	259,293	374,507	633,800
Total - Systems	86,147	125,642	211,789
Total - Permanent Yard	N/A	32,641	32,641
Total - Temporary Yard	2,045	N/A	N/A
Total - Waste Handling	N/A	13,100	13,100
Total - Dewatering	750	2,750	3,500
Totals	348,235	548,639	894,829

Note:

Same alignment, guideway length and numbr of stations as Alternates A , A2 and B
Different combination of construction methods
Tunnel 36%, Aerial 27%, At-Grade 3%, Open Cut 34%

r/de

**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRE-PRELIMINARY ESTIMATE
ALTERNATE C 2**

September 6, 1994

Description	Alt C Opt 2 Phase 1 6.01 Miles + 1 Cut & Cover + 2 Aerial Stns \$ x 1000	Alt C Opt 2 Phase 2 7.81 Miles + 1 Underground + 1 Aerial + 2 Open Stns \$ x 1000	Alt C Opt 2 Phase 1+2 13.82 Miles + 1 Underground + 3 Aerial + 1 Cut & Cover + 2 Open Stns \$ x 1000
Total - Facilities	254,319	325,363	579,683
Total - Systems	86,147	115,940	202,087
Total - Permanent Yard	N/A	32,641	32,641
Total - Temporary Yard	2,045	N/A	N/A
Total - Waste Handling	N/A	13,100	13,100
Total - Dewatering	750	2,750	3,500
Totals	343,261	489,794	831,010

Note:

Same alignment, guideway length as Alternates A, A2, B, B2 and C but only 7 stations

Different construction methods for stations and guideways

Tunnel 36%, Aerial 27%, At-Grade 3%, Open Cut 34%

r/de

SAN FERNANDO VALLEY September 6, 1994
EAST- WEST RAIL TRANSIT PROJECT
PRE-PRELIMINARY ESTIMATE
OXNARD OPTION 1

Description	Phase 1 6.04 Miles + 2 Cut & Cover + 2 Aerial Stns \$ x 1000
Total - Facilities	295,562
Total - Systems	92,783
Total - Permanent Yard	N/A
Total - Temporary Yard	2,045
Total - Waste Handling	N/A
Total - Dewatering	750
Totals	391,140

Note:
 Optional alignment for Phase 1 along Oxnard Street
 One additional station over Alternates A, B and C

r/de

SAN FERNANDO VALLEY September 6, 1994
EAST- WEST RAIL TRANSIT PROJECT
PRE-PRELIMINARY ESTIMATE
OXNARD OPTION 2

Description	Phase 1 6.04 Miles + 2 Cut & Cover + 2 Aerial Stns \$ x 1000
Total - Facilities	307,592
Total - Systems	92,783
Total - Permanent Yard	N/A
Total - Temporary Yard	2,045
Total - Waste Handling	N/A
Total - Dewatering	750
Totals	403,170

Note:
 Optional alignment for Phase 1 along Oxnard Street
 Different station configuration from Oxnard Option 1
 One additional station over Alternates A, B and C

r/de

SAN FERNANDO VALLEY September 6, 1994
EAST- WEST RAIL TRANSIT PROJECT
PRE-PRELIMINARY ESTIMATE
CHATSWORTH EXTENSION

Description	4.81 Miles + 1 At Grade Stn + 2 Aerial Stns \$ x 1000
Total - Facilities	92,234
Total - Systems	66,641
Total - Permanent Yard	N/A
Total - Temporary Yard	N/A
Total - Waste Handling	N/A
Total - Dewatering	N/A
Totals	158,876

Notes:

Line Extension Option

If the Chatsworth Option is adopted the calculated saving on the main scheme to Topanga Station will be approximately \$100 millio

SAN FERNANDO VALLEY September 6, 1994
EAST- WEST RAIL TRANSIT PROJECT
PRE-PRELIMINARY ESTIMATE
VALLEY CIRCLE EXTENSION

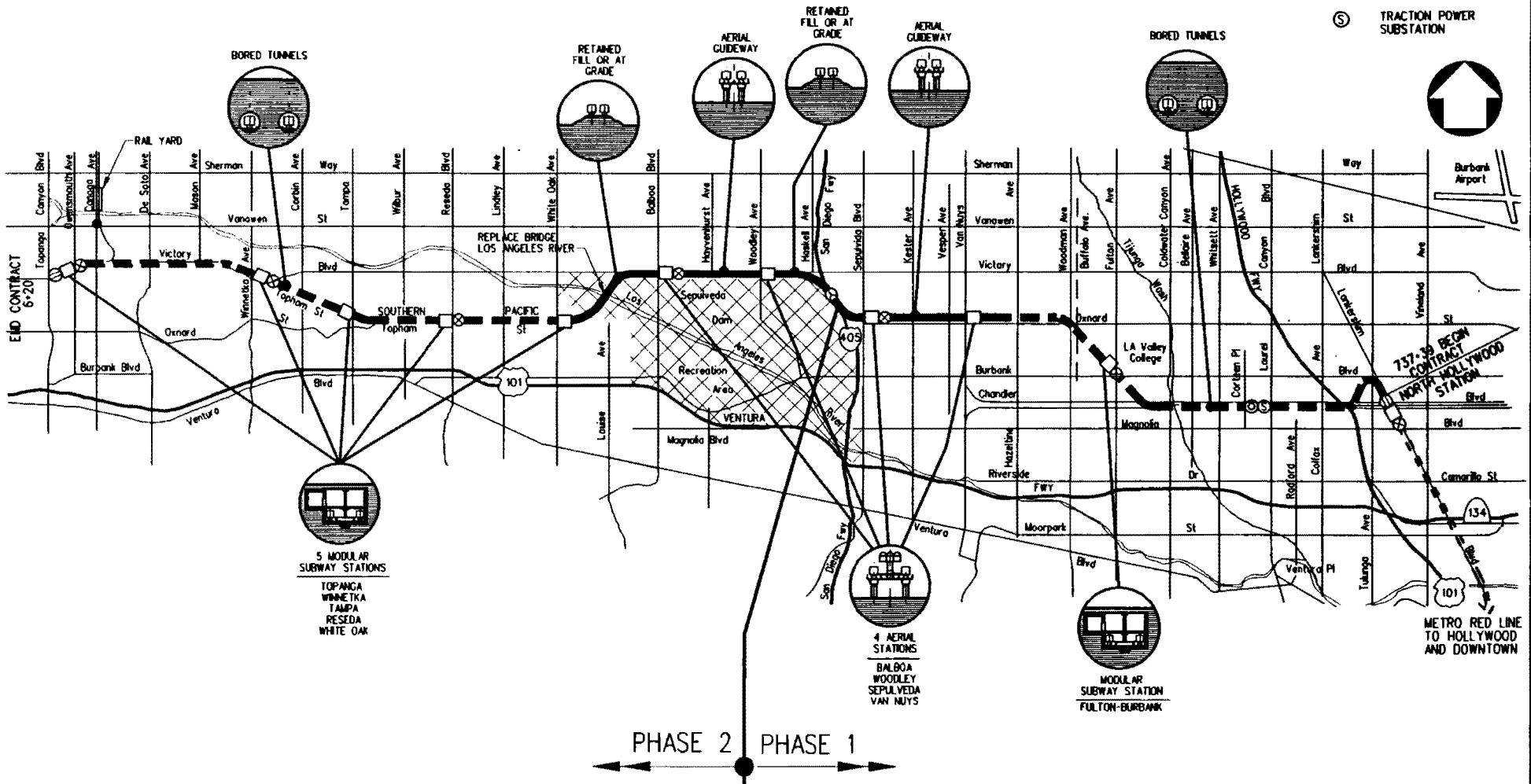
Description	3.28 Miles + 1 Underground + 2 Aerial Stns \$ x 1000
Total - Facilities	150,859
Total - Systems	51,115
Total - Permanent Yard	N/A
Total - Temporary Yard	N/A
Total - Waste Handling	N/A
Total - Dewatering	N/A
Totals	201,974

Notes:
 Line Extension Option
 Valley Circle Option is applicable only if the Line Section to
 Topanga is adopted

r/de

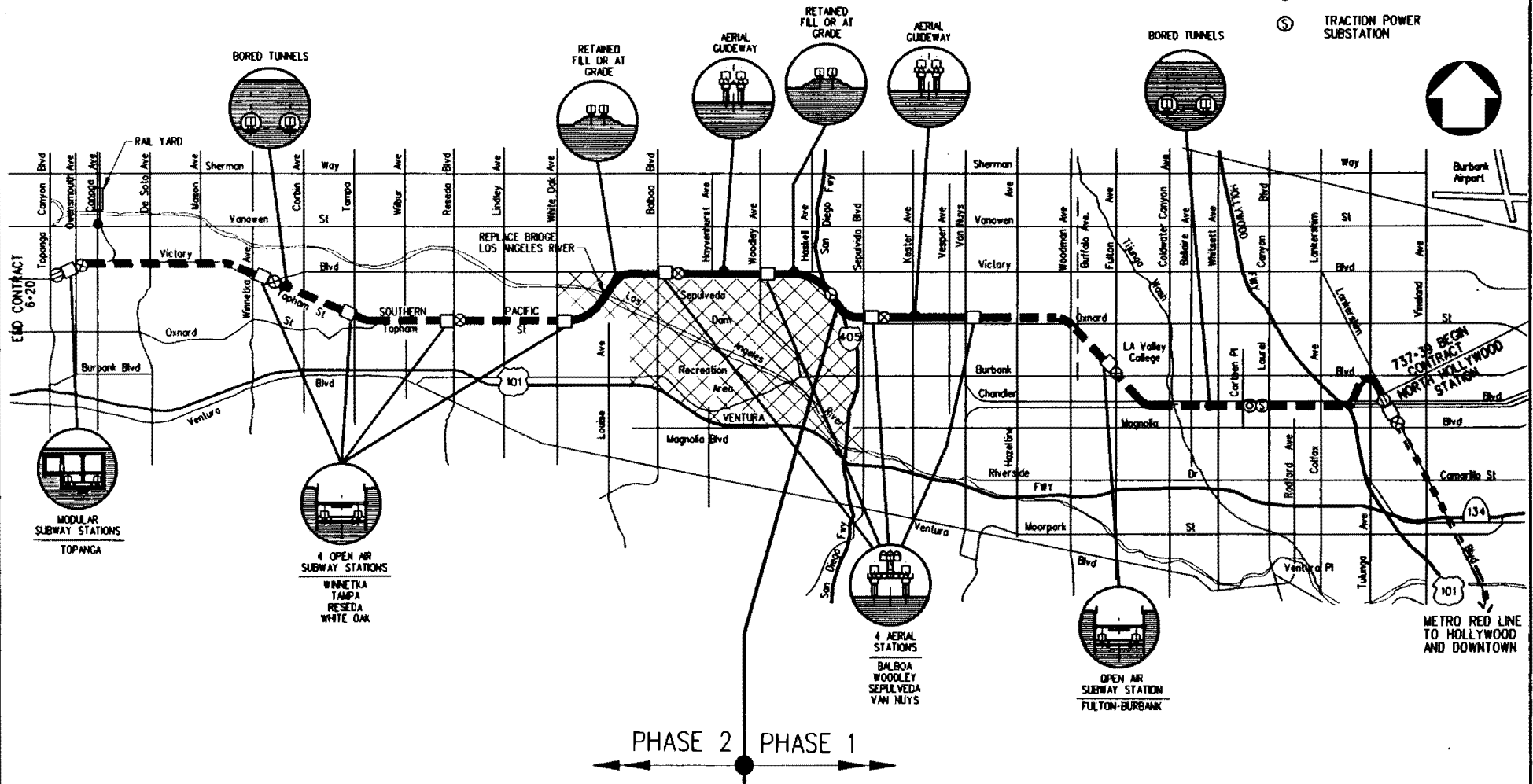
LEGEND

- STATION
- ⊗ CROSSOVER
- ⊗ POCKET TRACK
- ⊕ TAIL TRACK
- ⊙ MIDLINE VENT
- ⊙ TRACTION POWER SUBSTATION



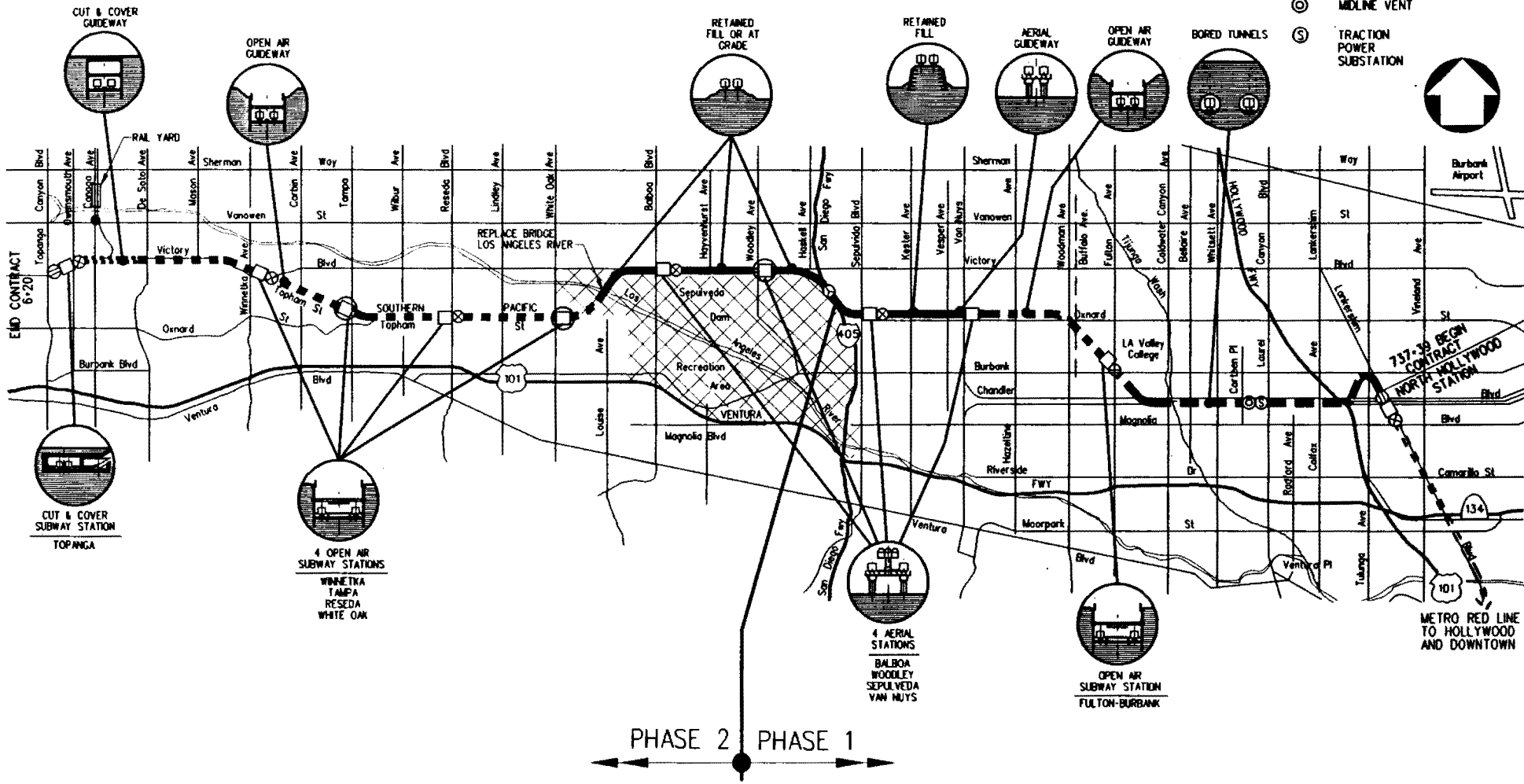
LEGEND

- STATION
- ⊗ CROSSOVER
- ⊕ POCKET TRACK
- ⊖ TAIL TRACK
- ⊙ MIDLINE VENT
- Ⓢ TRACTION POWER SUBSTATION



LEGEND

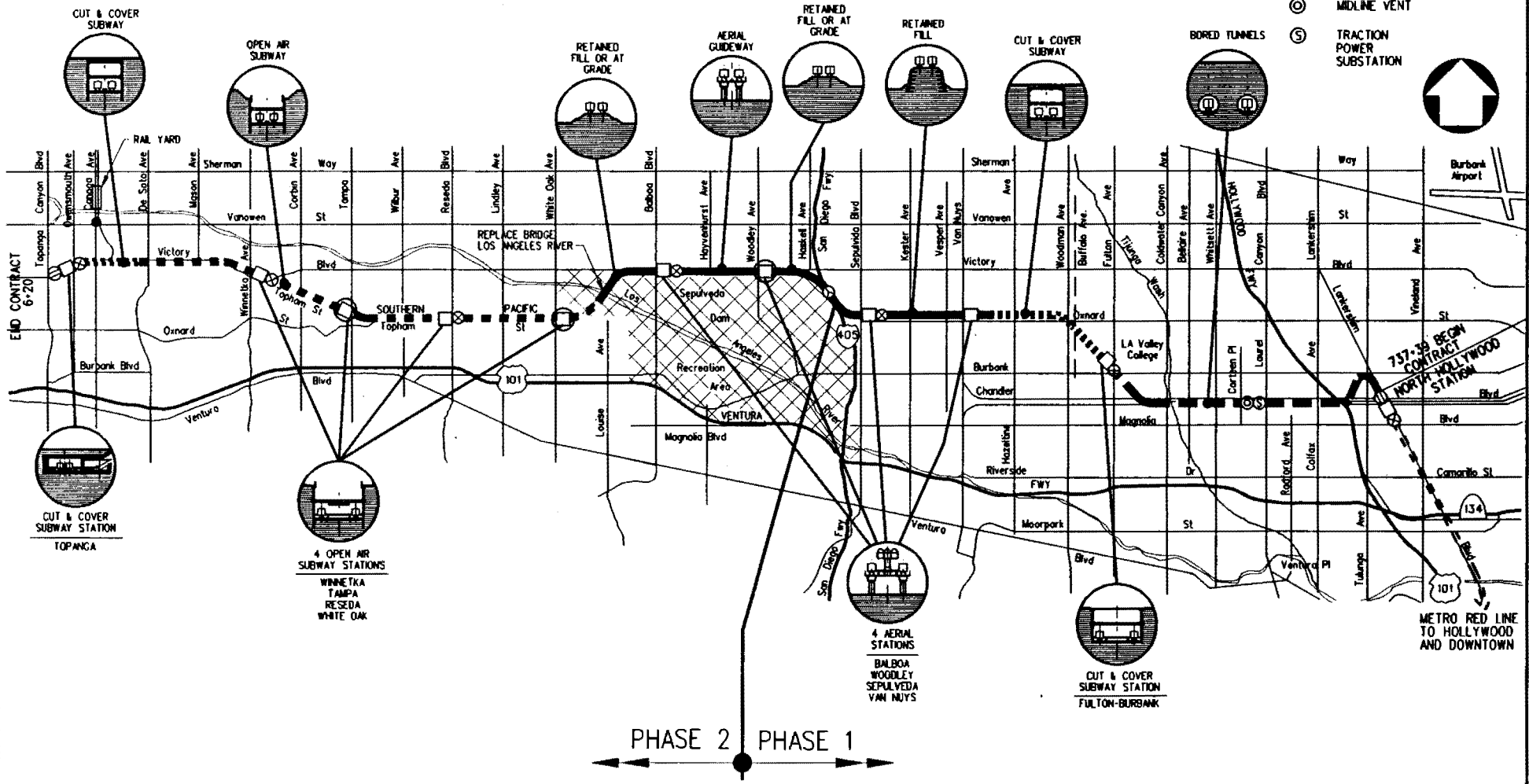
- STATION
- ⊠ POSSIBLE DEFERRED STATIONS (3)
- ⊗ CROSSOVER
- ⊕ POCKET TRACK
- ⊖ TAIL TRACK
- ⊙ MIDLINE VENT
- ⊙ TRACTION POWER SUBSTATION



SP BURBANK BRANCH - ALTERNATE B
OPEN AIR ALIGNMENT/STATIONS
 (NOT FULLY CONSISTANT WITH LEGISLATION)
 (FOR OPTION-2, 3 STATIONS ARE DEFERRED)

LEGEND

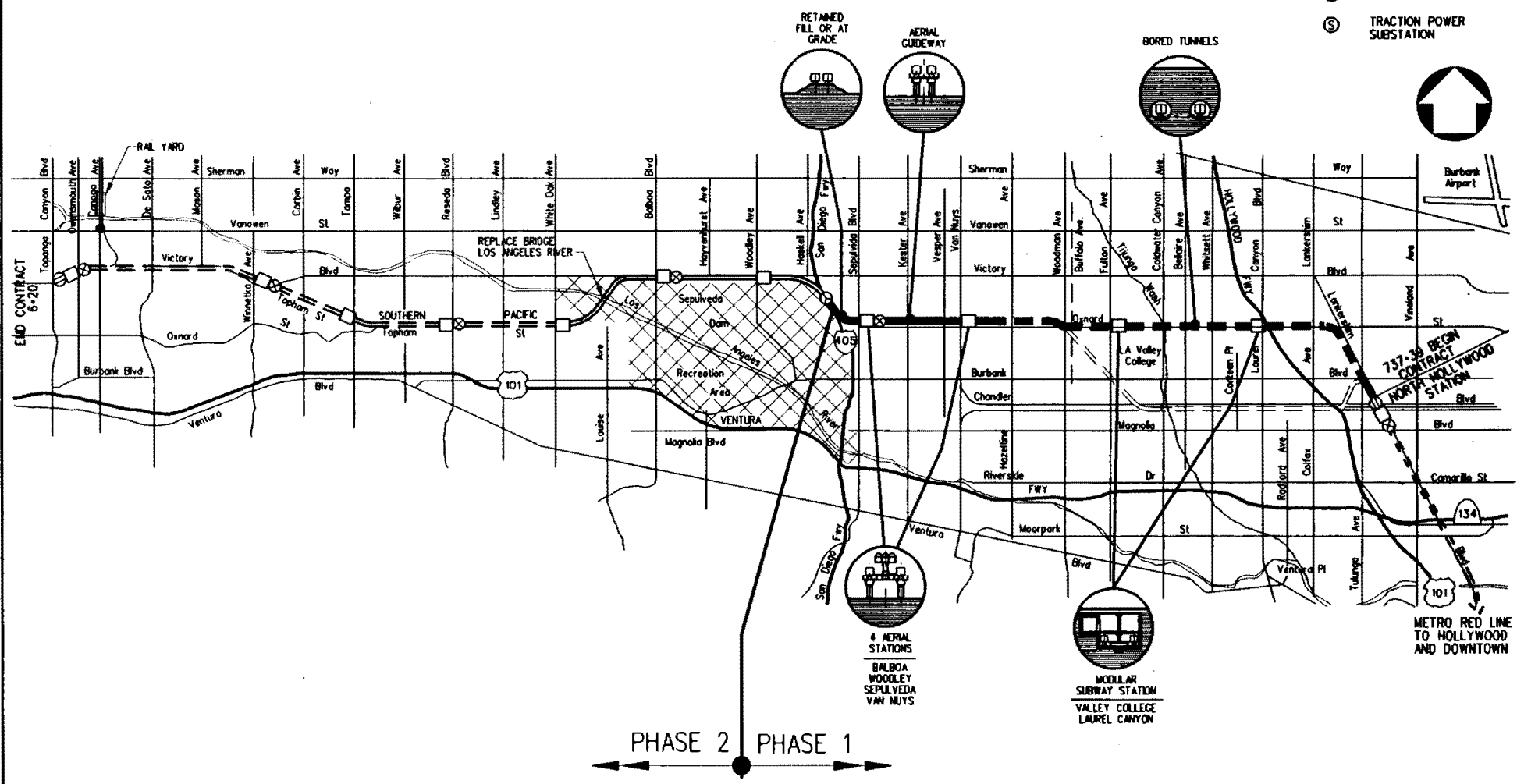
- STATION
- ⊠ POSSIBLE DEFERRED STATIONS (3)
- ⊗ CROSSOVER
- ⊕ POCKET TRACK
- ⊖ TAIL TRACK
- ⊙ MIDLINE VENT
- ⊚ TRACTION POWER SUBSTATION



SP BURBANK BRANCH - ALTERNATE C
OPEN AIR ALIGNMENT/STATIONS
(CONSISTANT WITH LEGISLATION)
(FOR OPTION-2, 3 STATION ARE DEFERRED)

LEGEND

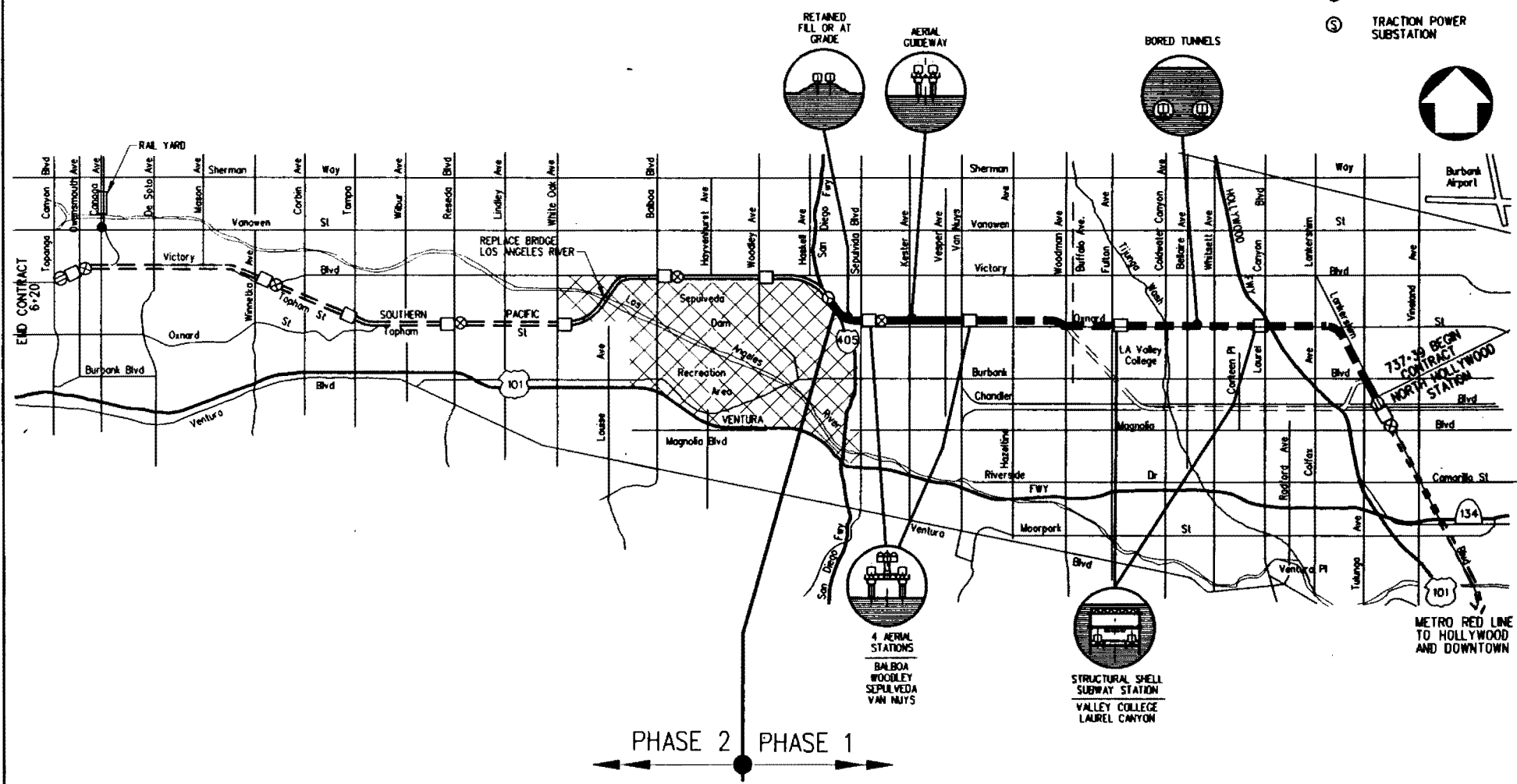
- STATION
- ⊗ CROSSOVER
- ⊕ POCKET TRACK
- ⊖ TAIL TRACK
- ⊙ MIDLINE VENT
- Ⓢ TRACTION POWER SUBSTATION



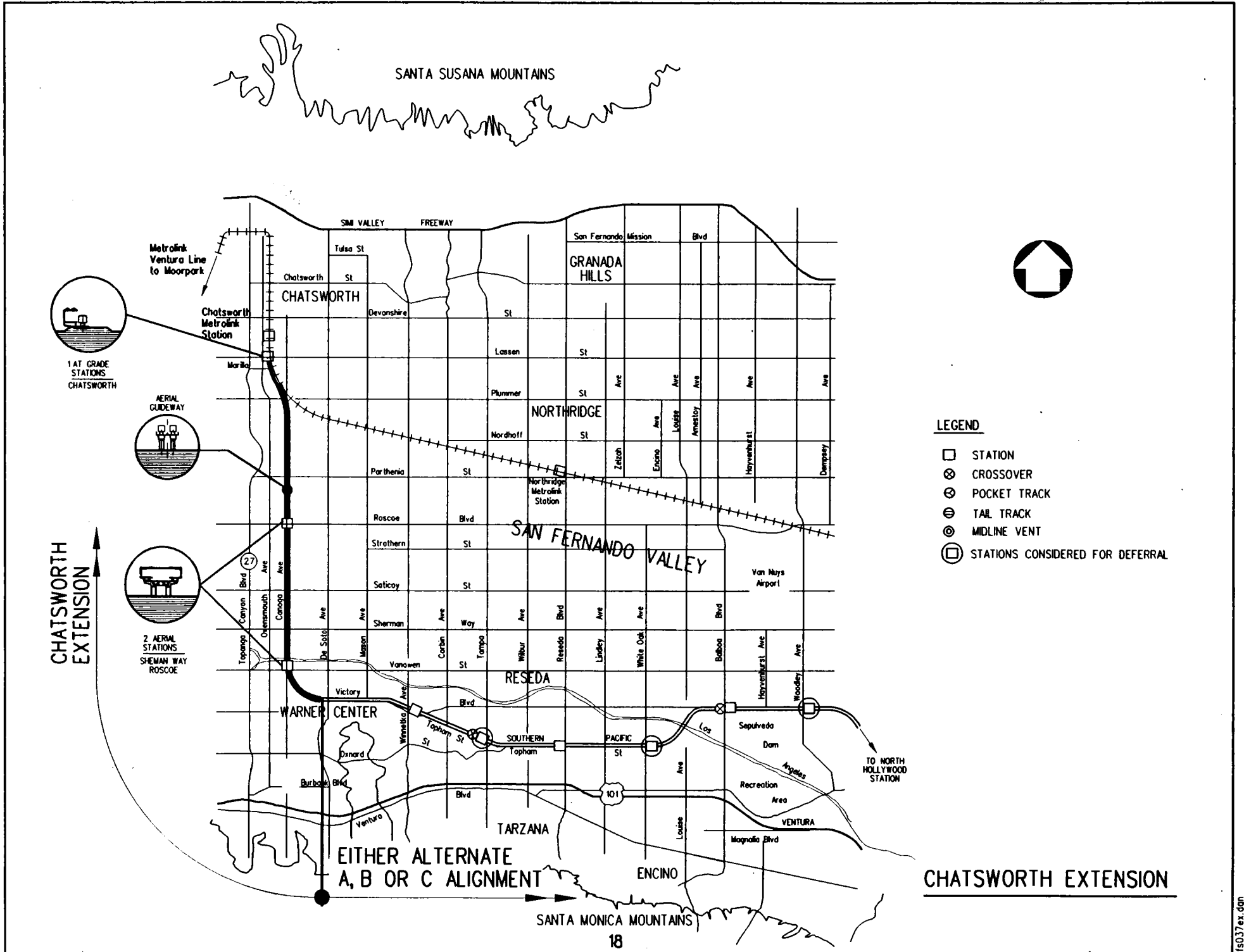
**OXNARD OPTION 1 - MODULAR STATIONS
ONLY APPLIES TO PHASE 1**

LEGEND

- STATION
- ⊗ CROSSOVER
- ⊕ POCKET TRACK
- ⊖ TAIL TRACK
- ⊙ MIDLINE VENT
- ⊚ TRACTION POWER SUBSTATION



**OXNARD OPTION 2 - STRUCTURAL SHELL STATIONS
ONLY APPLIES TO PHASE 1**



CHATSWORDH
EXTENSION

- LEGEND**
- STATION
 - ⊗ CROSSOVER
 - ⊕ POCKET TRACK
 - ⊖ TAIL TRACK
 - ⊙ MIDLINE VENT
 - ⊠ STATIONS CONSIDERED FOR DEFERRAL

CHATSWORDH EXTENSION

EITHER ALTERNATE
A, B OR C ALIGNMENT

**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE A - PHASE 1
ESTIMATE SUMMARY**

6 September, 1994

No.	Description	Unit Length	Section Length	ROM
		RF	RF	Cost \$ x 1000
Phase 1 - Stn 737+39 to Stn 420+00 = 31,739 RF = 6.01 Miles				
Start Contract: Stn 737+39				
Facilities				
1	Line Section: Tunnel Stn 737+39 to Stn 595+50 Vent Structure : 150 FT long, 50 Ft Deep Access Shaft at Stn 737+39: 60 FT long (Tunnelling in 2 Segments - No TBM Drive through Fulton/Birbank Stn.)	19407 RF	19,407 150 60	136,819 10,084 1,500
2	Fulton/Burbank Station w/ Crossover (U/G) inc Plaza, 5000SF	902 RF	902	46,924
3	Transition: Open Cut Stn 532+20 - Stn 514+00 Retained Fill Guideway: Stn 514+00 to Stn 510+00 Aerial Guideway: Stn 510+00 - Stn 442+50 At Grade Guideway: Stn 442+50 - Stn 420+00	1820 RF 400 RF 6750 RF 2250 RF	1,820 400 6,750 2,250	13,228 395 20,891 2,790
4	Pocket Track: Approx. Stn 420+00 (6 Car Train Storage Capacity)	500 RF	inc	532
5	Van Nuys Station (Aerial) inc. Plaza and Parking	510 RF	inc	6,783
6	Sepulveda Station (Aerial) inc. Plaza and Parking	510 RF	inc	6,783
7	Parking - 30% x 4330 Places	1299 EA		4,974
8	Utilities including Maintenance and Support	1 LS		835
9	Associated Costs: Furniture, Stores, Fire & Emergency	1 LS		138
Total - Facilities (6.01 Route Miles + 1 Underground + 2 Aerial Stations)			31,739	\$252,675
10	Possible Temporary Storage Yard - Phase I Two Parallel tracks with storage capacity of 1000 LF per track equals Storage Capacity - 26 Vehicles	1 LS		\$2,045

rrr/de

**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE A - PHASE 1
ESTIMATE SUMMARY**

6 September, 1994

No.	Description	Unit Length/ No. Section Length	ROM Cost \$ x 1000
		RF	
Systems			
	Trackwork inc Pocket Track	31,739 RF	22,344
	Signs & Graphics		
	- Underground	1 Station	1,924
	- Aerial	2 Stations	
	Fans For Underground	1 Station	1,695
	Fans For Underground	1 Vent Struct.	400
	Train Control	3 Stations	
	Train Control inc Pocket Track	29,817 RF	21,424
	Traction Power inc. Pocket Track	31,739 RF	13,186
	Communications	31,739 RF	18,789
	Fare Collection		
	- Underground	1 Station	680
	- Aerial	2 Stations	1,360
	Operational Graphics inc. Pocket Track	31,739 RF	73
	Elevators and Escalators	3 Stations	4,272
	Total - Systems		\$86,147

rrr/de

**SAN FERNANDO VALLEY
 EAST-WEST RAIL TRANSIT PROJECT
 PRELIMINARY ESTIMATE
 ALTERNATIVE A - PHASE 1
 ESTIMATE SUMMARY**

6 September, 1994

No.	Description	Unit Length/ No. Section Length	ROM Cost \$ x 1000
		RF	
Dewatering/Ground Treatment			
	Dewatering	1LS	250
	Ground Treatment	1LS	500
Total - Dewatering/Ground Treatment			\$750
Summary - Phase 1 (6.01 Route Miles + 1 Underground + 2 Aerial Stations)			
Total - Facilities			\$252,675
Total - Systems			\$86,147
Total - Phase 1			\$338,822
Total - Temporary Storage Yard ""			\$2,045
Total - Dewatering/Ground Treatment ""			\$750
"" Not included in Phase 1 Total			

rrr/de

**SAN FERNANDO VALLEY
EAST-WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE A - PHASE 2
ESTIMATE SUMMARY**

6 September, 1994

No.	Description	Unit Length/ No.	Section Length RF	ROM Cost \$ x 1000
Phase 2 - Stn 420+00 to Stn 7+70 = 41,230 RF + 7.81 Miles Facilities				
11	At Grade Guideway: Stn 420+00-Stn 407+00	1300 RF	inc.	1,612
	Retained Fill Guideway: Stn 407+00-Stn 399+10	790 RF	inc.	780
	Aerial Guideway: Stn 399+10 -Stn 325+00	7410 RF	inc.	22,934
	Retained Fill Guideway: Stn 325+00 - Stn 304+00	2100 RF	11,600	6,500
12	L.A. River Bridge Stn 304+00 - Stn 298+00 - Demolish & Replace	600 RF	600	1,498
13	Line Section Cut & Cover: Stn 298+00-Stn 272+20	1970 RF	inc.	15,141
	White Oak Station (Cut & Cover) inc. Plaza ,5,000 SF	610 RF	2,580	37,169
14	Line Section Tunnel: Stn 272+20 - Stn 18+95	22684 RF	22,684	159,922
	Access Shafts 60 FT long at White Oak,Tampa & Winetka Stns.)	180 RF	180	4,500
15	Woodley Station Stage II (Aerial) inc Plaza , 5,000 SF	510 RF	inc.	6,783
	Balboa Station Stage II (Aerial) inc Plaza 5,000 SF	510 RF	inc.	6,783
16	Reseda Station w/ Crossover(U/G) inc Plaza, 5,000 SF	902 RF	902	44,703
17	Tampa Station w/ Crossover (U/G) inc Plaza, 5,000 SF	902 RF	902	44,703
18	Winnetka Station (U/G) inc Plaza, 5,000 SF	610 RF	610	37,425
19	Topanga Station w/ Crossover (U/G) - Stn 19+42 to Stn 7+70	822 RF		
	Tailtrack at Topanga - 350 RF	350 RF	1,172	56,499
20	Utilities including Maintain & Support	1 LS		3,260
21	Associated Costs: Furniture, Stores, Fire & Emergency	1 LS		322
22	Parking - 70% x 4330 Places	3031 EA		11,606
Total - Facilities			41,230	\$462,139
(7.81 Route miles + 5 Underground + 2 Aerial Stations)				

Notes:

* June 14, 1994 Crossover added by RCC

rrrr/de

**SAN FERNANDO VALLEY
 EAST- WEST RAIL TRANSIT PROJECT
 PRELIMINARY ESTIMATE
 ALTERNATIVE A - PHASE 2
 ESTIMATE SUMMARY**

6 September, 1994

No.	Description	Unit Length/ No. Section Length	ROM Cost \$ x 1000
		RF	
	Permanent Storage Yard - Phase 2	1 LS	\$32,641
	Storage Capacity - 36 Vehicles (50% operating cars) Ref: RCC Letter of June 28, 1994		
	Yard built on average 2 FT fill.		
	Shop Building 60 FT x 40 Ft for following activities:		
	<ul style="list-style-type: none"> - Operator Reporting - Emergency Maintenance - Car Cleaning 		
	includes Pit 5.5 FT Deep x 20 FT Long		

rrr/de

**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE A - PHASE 2
ESTIMATE SUMMARY**

6 September, 1994

No.	Description	Unit Length/ No. Section Length RF	ROM Cost \$ x 1000
Systems			
	Trackwork	41230 RF	27,995
	Signs & Graphics - Underground - Aerial	5 Station 2 Stations	4,672
	Fans For Underground	5 Stations	8,475
	Train Control Station Train Control Guideway	7 Stations 36306 RF	27,830
	Traction Power	41230 RF	16,863
	Communications	41230 RF	24,408
	Fare Collection - Underground - Aerial	5 Station 2 Stations	3,400 1,360
	Operational Graphics	41230 RF	169
	Elevators and Escalators	7 Stations	10,470
	Total - Systems		\$125,643

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE A - PHASE 2
ESTIMATE SUMMARY**

6 September, 1994

No.	Description	Unit Length/ No. Section Length RF	ROM Cost \$ x 1000
Waste Handling/Water Treatment			
	Water Treatment) (As Law and Crandall Draft Report - June 23, 1994)	1 LS	4,000
	Waste Handling (As Law and Crandall Draft Report - June 23, 1994)	1 LS	7,800
Total - Waste Handling/Water Treatment			\$11,800
Dewatering/Ground Treatment			
	Dewatering	1 LS	2,250
	Ground Treatment	1 LS	500
Total - Dewatering/Ground Treatment			\$2,750
Summary - Phase 2 (7.81 Route miles + 5 Underground + 2 Aerial Stations)			
Total - Facilities			\$462,139
Total - Systems			\$125,643
Total - Phase 2			\$587,782
Total - Permanent Yard - Phase 2 ***			\$32,641
Total - Waste Handling ****			\$11,800
Total - Dewatering ****			\$2,750
** Not included in Phase 2 Total			

mrr/de

**SAN FERNANDO VALLEY
 EAST- WEST RAIL TRANSIT PROJECT
 PRELIMINARY ESTIMATE
 ALTERNATIVE A - PHASE 2
 ESTIMATE SUMMARY**

6 September, 1994

No.	Description	Unit Length/ No. Section Length		ROM Cost \$ x 1000
		RF	RF	
Summary - Phase 1 and Phase 2 (13.82 Route miles + 6 Underground + 4 Aerial Stations)				
	Total - Facilities			\$714,815
	Total - Systems			\$211,790
Total - Phase 1 and Phase 2				\$926,604
	Total - Waste Handling ***			\$11,800
	Total - Dewatering ***			\$3,500
	Total - Temporary Yard ***			\$2,045
	Total - Permanent Yard ***			\$32,641

Note:

*** NOT included in Phase 1 or Phase 2 Totals

mm/de

**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE A OPTION 2 - PHASE 1
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length RF	ROM Cost \$ x 1000
Systems			
	Trackwork	31,739 RF	22,344
	Signs & Graphics		
	- Open	1 Station	1,924
	- Aerial	2 Stations	
	Fans	1 Station	1,695
		1 Vent Struct	400
	Train Control	3 Stations	
	Train Control	29,817 RF	21,424
	Traction Power	31,739 RF	13,186
	Communications	31,739 RF	18,789
	Fare Collection		
	- Open	1 Station	680
	- Aerial	2 Stations	1,360
	Operational Graphics	31,739 RF	73
	Elevators and Escalators	3 Stations	4,272
	Total - Systems		\$86,147

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE A OPTION 2 - PHASE 1
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length RF	ROM Cost \$ x 1000
Systems			
	Trackwork	31,739 RF	22,344
	Signs & Graphics		
	- Open	1 Station	1,924
	- Aerial	2 Stations	
	Fans	1 Station 1 Vent Struct	1,695 400
	Train Control	3 Stations	
	Train Control	29,817 RF	21,424
	Traction Power	31,739 RF	13,186
	Communications	31,739 RF	18,789
	Fare Collection		
	- Open	1 Station	680
	- Aerial	2 Stations	1,360
	Operational Graphics	31,739 RF	73
	Elevators and Escalators	3 Stations	4,272
	Total - Systems		\$86,147

rrr

**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE A, OPTION 2 - PHASE 2
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No.	Section Length RF	ROM Cost \$ x 1000
Phase 2 - Stn 420+00 to Stn 7+70 = 41,230 RF = 7.81 Miles				
Facilities				
11	Line Section At Grade: Stn 420+00-Stn 407+00	1300 RF	1300	1,812
	Retained Fill Guideway: Stn 407+00-Stn 399+10	790 RF	790	780
	Aerial Guideway: Stn 399+10 -Stn 325+00	7410 RF	7410	22,934
	Retained Fill Guideway: Stn 325+00 - Stn 304+00	2100 RF	2,100	2,073
12	L.A. River Bridge Stn 304+00 - Stn 298+00 - Demolish & Replace	600 RF	600	1,498
13	Open Cut Guideway: Stn 298+00 - Stn 280+50	1750 RF	1750	9,814
14	Cut & Cover Guideway: Stn 280+50 - Stn 276+80	370 RF	370	2,844
	White Oak Station (Open) inc. Plaza , 5,000 SF	880 RF	880	22,727
15	Line Section Tunnel: Stn 268+00 - Stn 221+20 inc.	4680 RF	4,534	31,965
	Vent Structure: 86 FT Long, 55 Ft Deep		86	6,050
	Access Shaft : 60 Ft Long		60	1,500
16	Cut & Cover Guideway: Stn 221+20 - Stn 214+50	670 RF	670	5,150
	Reseda Station w/ Crossover(Open) inc Plaza ,5,000 SF *	880 RF	880	36,499
17	Line Section Tunnel: Stn 205+70 - Stn 167+00 inc	3870 RF	3724	26,254
	Vent Structure: 86 FT Long, 65 FT Deep		86	6,554
	Access Shaft: 60 Ft Long		60	1,500
18	Cut & Cover Guideway: Stn 167+00 - Stn 157+80	920 RF	920	7,071
	Tampa Station w/ Crossover (Open) inc Plaza, 5,000 SF	880 RF	880	22,727
	Line Section Tunnel: Stn 149+00 - Stn 119+50 inc Vent Structure	2950 RF	2864	20,191
	Vent Shaft: 86 FT long, 55Ft Deep		86	6,050
19	Cut & Cover Guideway: Stn 119+50 - Stn 110+70	670 RF	670	5,150
	Winnetka Station (Open) inc Plaza, 5,000 SF	880 RF	880	22,727
20	Line Section Tunnel: Stn 104+00 - Stn 19+42	8458 RF	8458	59,629
21	Topanga Station w/ Crossover (U/G) Stn 19+42 to Stn 7+70	822 RF		
	Tailtrack at Topanga - 350 RF	350 RF	1172	56,499
22	Woodley Station Stage II (Aerial) inc Plaza, 5,000 SF	510 RF		6,783
23	Balboa Station Stage II (Aerial) inc Plaza, 5,000 SF	510 RF		6,783
24	Utilities - Maintain & Support	1 LS		3,260
25	Associated Costs: Furniture, Stores, Fire & Emergency	1 LS		322
26	Parking- 70% x 4330 Places	3031 EA		11,606
Total - Facilities			41,230	\$408,552
(7.81 Route miles +1 Underground + 2 Aerial + 4 Open Stations)				
Notes:				
rrrr	* June 14, 1994 Crossover added by RCC			

**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE A, OPTION 2 - PHASE 2
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length		ROM Cost \$ x 1000
			RF	
Phase 2 - Stn 420+00 to Stn 7+70 = 41,230 RF = 7.81 Miles				
Facilities				
11	Line Section At Grade: Stn 420+00-Stn 407+00	1300 RF	1300	1,612
	Retained Fill Guideway: Stn 407+00-Stn 399+10	790 RF	790	780
	Aerial Guideway: Stn 399+10 -Stn 325+00	7410 RF	7410	22,934
	Retained Fill Guideway: Stn 325+00 - Stn 304+00	2100 RF	2,100	2,073
12	L.A. River Bridge Stn 304+00 - Stn 298+00 - Demolish & Replace	600 RF	600	1,498
13	Open Cut Guideway: Stn 298+00 - Stn 280+50	1750 RF	1750	9,814
14	Cut & Cover Guideway: Stn 280+50 - Stn 276+80	370 RF	370	2,844
	White Oak Station (Open) inc. Plaza , 5,000 SF	880 RF	880	22,727
15	Line Section Tunnel: Stn 268+00 - Stn 221+20 inc.	4680 RF	4,534	31,965
	Vent Structure: 86 FT Long, 55 Ft Deep		86	6,050
	Access Shaft : 60 Ft Long		60	1,500
16	Cut & Cover Guideway: Stn 221+20 - Stn 214+50	670 RF	670	5,150
	Reseda Station w/ Crossover(Open) inc Plaza ,5,000 SF *	880 RF	880	35,499
17	Line Section Tunnel: Stn 205+70 - Stn 167+00 inc	3870 RF	3724	26,254
	Vent Structure: 86 FT Long, 65 FT Deep		86	6,554
	Access Shaft: 60 Ft Long		60	1,500
18	Cut & Cover Guideway: Stn 167+00 - Stn 157+80	920 RF	920	7,071
	Tampa Station w/ Crossover (Open) inc Plaza, 5,000 SF	880 RF	880	22,727
	Line Section Tunnel: Stn 149+00 - Stn 119+50 inc Vent Structure	2950 RF	2864	20,191
	Vent Shaft: 86 FT long, 55Ft Deep		86	6,050
19	Cut & Cover Guideway: Stn 119+50 - Stn 110+70	670 RF	670	5,150
	Winnetka Station (Open) inc Plaza, 5,000 SF	880 RF	880	22,727
20	Line Section Tunnel: Stn 104+00 - Stn 19+42	8458 RF	8458	59,629
21	Topanga Station w/ Crossover (U/G) Stn 19+42 to Stn 7+70	822 RF		
	Tailtrack at Topanga - 350 RF	350 RF	1172	56,499
22	Woodley Station Stage II (Aerial) inc Plaza, 5,000 SF	510 RF		6,783
23	Balboa Station Stage II (Aerial) inc Plaza, 5,000 SF	510 RF		6,783
24	Utilities - Maintain & Support	1 LS		3,260
25	Associated Costs: Furniture, Stores, Fire & Emergency	1 LS		322
26	Parking- 70% x 4330 Places	3031 EA		11,606
Total - Facilities			41,230	\$408,552
(7.81 Route miles +1 Underground + 2 Aerial + 4 Open Stations)				
Notes:				
rrrr	* June 14, 1994 Crossover added by RCC			

**SAN FERNANDO VALLEY
 EAST- WEST RAIL TRANSIT PROJECT
 PRELIMINARY ESTIMATE
 ALTERNATIVE A , OPTION 2 - PHASE 2
 ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length RF	ROM Cost \$ x 1000
	Permanent Storage Yard - Phase 2	1 LS	\$32,641
	Storage Capacity - 36 Vehicles (50% operating cars) Ref. RCC Letter of June 28, 1994		
	Yard built on average 2 FT fill.		
	Shop Building 60 FT x 40 Ft for following activities:		
	<ul style="list-style-type: none"> - Operator Reporting - Emergency Maintenance - Car Cleaning 		
	includes Pit 5.5 FT Deep x 20 FT Long		

mrr/de

**SAN FERNANDO VALLEY
EAST-WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE A , OPTION 2 - PHASE 2
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length RF	ROM Cost \$ x 1000
Systems			
	Trackwork	41230 RF	27,995
	Signs & Graphics		
	- Underground	1 Station	
	- Aerial	2 Stations	4,672
	- Open	4 Stations	
	Fans For Underground	5 Station	8,475
		3 Vent Struct.	1,200
	Train Control Station	7 Stations	
	Train Control Guideway	35142 RF	27,830
	Traction Power	41230 RF	16,863
	Communications	41230 RF	24,408
	Fare Collection		
	- Underground	1 Station	680
	- Aerial	2 Stations	1,360
	- Open	4 Stations	2,720
	Operational Graphics	41230 RF	169
	Elevators and Escalators	7 Stations	10,470
	Total - Systems		\$126,843

rrr

**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE A , OPTION 2 - PHASE 2
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length RF	ROM Cost \$ x 1000
Waste Handling/Water Treatment			
	Water Treatment) (As Law and Crandall Draft Report - June 23, 1994)	1 LS	4,000
	Waste Handling (As Law and Crandall Draft Report - June 23, 1994)	1 LS	7,800
Total - Waste Handling/Water Treatment			\$11,800
Dewatering/Ground Treatment			
	Dewatering	1 LS	2,250
	Ground Treatment	1 LS	500
Total - Dewatering/Ground Treatment			\$2,750
Summary - Phase 2 (7.81 Route miles + 1 Underground + 2 Aerial + 4 Open Stations)			
Total - Facilities			\$408,552
Total - Systems			\$126,843
Total - Phase 2			\$535,394
Total - Permanent Yard - Phase 2 ****			\$32,641
Total - Waste Handling ****			\$11,800
Total - Dewatering ****			\$2,750

rrr/de **** Not included in Phase 2 Total

**SAN FERNANDO VALLEY
 EAST-WEST RAIL TRANSIT PROJECT
 PRELIMINARY ESTIMATE
 ALTERNATIVE A , OPTION 2 - PHASE 2
 ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length		ROM Cost \$ x 1000
		RF	RF	
Summary - Phase 1 and Phase 2 (13.82 Route miles + 1 Underground + 4 Aerial + 5 Open Stations)				
	Total - Facilities			\$643,319
	Total - Systems			\$212,989
	Total - Phase 1 and Phase 2		41,230	\$856,308
	Total - Possible Temporary Yard ""			\$2,045
	Total - Permanent Storage Yard ""			\$32,641
	Total - Waste Handling ""			\$11,800
	Total - Dewatering ""			\$3,500

Note:

"" NOT included in Phase 1 or Phase 2 Totals

rrrr/de

**SAN FERNANDO VALLEY
EAST-WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE B , BASE - PHASE 1
ESTIMATE SUMMARY**

6 September, 1994

No.	Description	Unit Length	Section Length	ROM
		RF	RF	Cost \$ x 1000
Facilities				
Phase 1 - Stn 737+39 - Stn 420+00 = 31,739 RF = 6.01 Miles				
Start Contract: Stn 737+39				
1	Line Section:Tunnel Stn 737+39 to Stn 595+50	13979 RF	13,979	98,552
	Vent Structure: 150 FT Long, 50 FT Deep		150	10,084
	Access Shaft at Stn 737+39 , 60 Ft Long		60	1,500
2	Cut and Cover Tunnel Stn 595+50 to Stn 590+20	530 RF	530	4,074
3	Fulton/Burbank Station(Open) w/ Crossover inc. Plaza, 5,000 SF	880 RF	880	26,115
4	Open Guideway Stn 581+40 - Stn 558+40	2300 RF	2,300	12,898
5	Cut and Cover Tunnel Stn 558+40 to Stn 556+40	200 RF	200	1,537
	Open Guideway Stn 556+40 - Stn 554+00	240 RF	240	1,346
	Cut and Cover Tunnel Stn 554+00 to Stn 552+00	200 RF	200	1,537
	Open Guideway Stn 552+00 - Stn 527+20	2480 RF	2,480	13,908
6	Cut and Cover Tunnel Stn 527+20 to Stn 525+20	200 RF	200	1,537
	Trans. Open Cut Stn 525+20 - Stn 514+00	1120 RF	1,120	8,140
7	Aerial Guideway Stn 514+00 - Stn 491+20	2280 RF	2,280	7,057
8	Van Nuys Station (Aerial) inc Plaza, 5,000 SF	510 RF	inc	6,783
9	Retained Fill Guideway Stn 491+20 - Stn 486+00	520 RF	520	513
	At Grade Guideway: Stn 486+00 to Stn 459+00	2700 RF	2700	3,348
	2 Overpass Bridges at Kester Ave 3000SF EA + 1400LF Bypass Rd.	1 LS		6,169
	Retained Fill Guideway Stn 459+00 - Stn 448+50	1050 RF	1,050	1,036
10	Sepulveda Station(Aerial) inc Plaza, 5,000SF	510 RF	510	6,783
11	Retained Fill Guideway Stn 442+40 - Stn 434+00	940 RF	940	928
	At Grade Guideway Stn 434+00 - Stn 420+00	1400 RF	1,400	1,736
12	Pocket Track: Approx Stn 420+00	500 RF	inc	532
13	Utilities - Maintenance and Support	1 LS		835
14	Associated Costs: Furniture, Stores, fire & Emergency	1 LS		138
15	Parking: 30% x 4330 Places	1299 EA		4,974
Total - Facilities			31,739	\$222,060
16	Temporary Storage Yard - Phase I	1 LS		\$2,045
	Two Parallel tracks with storage capacity of 1000 LF per track equals Storage Capacity - 26 Vehicles			

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE B, BASE - PHASE 1
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length	ROM Cost \$ x 1000
		RF	
Systems			
	Trackwork inc Pocket Track	31,739 RF	22,344
	Signs & Graphics		
	- Open	1 Station	1,924
	- Aerial	2 Stations	
	Fans	1 Station 1 Vent Struct.	1,695 400
	Train Control	3 Stations	
	Train Control inc Pocket Track	29,739 RF	21,424
	Traction Power inc. Pocket Track	31,739 RF	13,186
	Communications	31,739 RF	18,789
	Fare Collection		
	- Open	1 Station	680
	- Aerial	2 Stations	1,360
	Operational Graphics inc. Pocket Track	31,739 RF	73
	Elevators and Escalators	3 Stations	4,272
	Total - Systems		\$86,147

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE B, BASE - PHASE 1
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length	ROM Cost \$ x 1000
		RF	
Dewatering/Ground Treatment			
	Dewatering	1LS	250
	Ground Treatment	1LS	500
Total - Dewatering/Ground Treatment			\$750
Summary - Phase 1 (6.01 Route Miles + 1 Open + 2 Aerial Stations)			
Total - Facilities			\$222,060
Total - Systems			\$86,147
Total - Phase 1			\$308,207
Total - Possible Temporary Storage Yard ^{***}			\$2,045
Total - Dewatering/Ground Treatment ^{***}			\$750

^{***} Not included in Phase 1 Total

**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE B, BASE - PHASE 2
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No.	Section Length RF	ROM Cost \$ x 1000
Facilities - Phase 2 Stn 420+00 to Stn 7+70 = 41,230 RF= 7.81 Miles				
17	At Grade Guideway : Stn 420+00-Stn 407+00	1300 RF	1300	1,612
	Retained Fill Guideway: Stn 407+00-Stn 399+00	800 RF	800	790
	Aerial Guideway: Stn 399+00 -Stn 379+00	2000 RF	2000	6,190
18	Woodley Station Stage II (Aerial) inc Plaza, 5,000 SF	510 RF		6,783
	Retained Fill Guideway: Stn 379+00 - Stn 374+00	500 RF	500	494
	At Grade Guideway : Stn 374+00-Stn 348+00	2600 RF	2600	3,224
	Pedestrian Overpass	1 LS		1,350
	Retained Fill Guideway: Stn 348+00-Stn 343+00	500 RF	500	494
	Aerial Guideway: Stn 343+00 -Stn 325+00	1800 RF	1800	5,571
	Balboa Station Stage II (Aerial) inc Plaza, 5,000 SF	510 RF		6,783
	Retained Fill Guideway: Stn 325+00-Stn 304+00	2100 RF	2100	2,073
19	L.A. River Bridge Stn 304+00 - Stn 298+00 - Demolish & Replace	600 RF	600	1,498
20	Open Cut Guideway: Stn 298+00 - Stn 49+00 including:	24900 RF	24900	139,639
	White Oak Station (Open) inc. Plaza, 5,000 SF	880 RF		26,115
	Cut & Cover Guideway: Lindley Ave.	205 RF		1,576
	Cut & Cover Guideway: Caballero Creek	50 RF		384
	Cut & Cover Box: Etiwanda Ave.	40 RF		307
	Reseda Station w/ Crossover(Open) inc Plaza, 5,000SF *	880 RF		36,499
	Cut & Cover Box: Wimber Street	200 RF		1,537
	Tampa Station w/ Crossover (Open) inc Plaza,5,000 SF	880 RF		26,115
	Cut & Cover Box: Corbin Ave.	200 RF		1,537
	Cut & Cover Box: Stn 123+50	50 RF		384
	Winnetka Station (Open) inc Plaza, 5,000 SF	880 RF		26,115
	Cut & Cover Box: Stn 92+50	40 RF		307
	Cut & Cover Box: Mason Ave.	200 RF		1,537
	Cut & Cover Box: De Soto Ave.	200 RF		1,537
	Cut and Cover Tunnel: Stn 49+00 - Stn 18+95	3005 RF	3005	23,096
21	Topanga Station w/ Crossover (U/G) inc Plaza, 5,000 SF	775 RF	inc.	
	Tailtrack at Topanga - 350 RF	350 RF	1125	56,499
22	Utilities - Maintain & Support	1 LS		3,260
23	Associated Costs: Furniture, Stores, Fire & Emergency	1 LS		322
24	Parking - 70% x 4330	3031 Places		11,606
Total - Facilities			41,230	\$383,630
(7.81 Route miles +1 Underground + 2 Aerial + 4 Open Stations)				

Notes:

* June 14, 1994 Crossover added by RCC

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**SAN FERNANDO VALLEY
EAST-WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE B, BASE - PHASE 2
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length RF	ROM Cost \$ x 1000
Systems			
	Trackwork	41230 RF	27,995
	Signs & Graphics		
	- Underground	1 Station	
	- Aerial	2 Stations	4,672
	- Open	4 Stations	
	Fans For Underground	5 Station	8,475
		1 Vent Struct.	400
	Train Control Station	7 Stations	
	Train Control Guideway	35565 RF	27,830
	Traction Power	41230 RF	16,863
	Communications	41230 RF	24,408
	Fare Collection		
	- Underground	1 Station	680
	- Aerial	2 Stations	1,360
	- Open	4 Stations	2,720
	Operational Graphics	41230 RF	169
	Elevators and Escalators	7 Stations	10,470
	Total - Systems		\$128,042

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE B, BASE - PHASE 2
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length RF	ROM Cost \$ x 1000
Waste Handling/Water Treatment			
	Water Treatment) (As Law and Crandall Draft Report - June 23, 1994)	1 LS	4,000
	Waste Handling (As Law and Crandall Draft Report - June 23, 1994)	1 LS	9,100
Total - Waste Handling/Water Treatment			\$13,100
Dewatering/Ground Treatment			
	Dewatering	1 LS	2,250
	Ground Treatment	1 LS	500
Total - Dewatering/Ground Treatment			\$2,750
Summary - Phase 2 (7.81 Route miles + 1 Underground + 2 Aerial + 4 Open Stations)			
Total - Facilities			\$383,630
Total - Systems			\$126,042
Total - Phase 2			\$509,672
Total - Permanent Yard ""			\$32,641
Total - Waste Handling ""			\$13,100
Total - Dewatering ""			\$2,750
"" Not included in Phase 2 Total			

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE B, BASE - PHASE 2
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No.		Section Length	ROM Cost \$ x 1000
		RF	RF		
Summary - Phase 1 and Phase 2 (13.82 Route miles + 1 Underground + 4 Aerial + 5 Open Stations)					
	Total - Facilities				\$605,689
	Total - Systems				\$212,189
	Total - Phase 1 and Phase 2			41,230	\$817,879
	Total - Temporary Yard ***				\$2,045
	Total - Permanent Yard ***				\$32,641
	Total - Dewatering ***				\$3,500
	Total - Waste Handling ***				\$13,100

Note:

*** NOT included in Phase 1 or Phase 2 Totals

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE B , OPTION 2 - PHASE 1
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length	Section Length	ROM
		RF	RF	Cost \$ x 1000
Phase 1 - Stn 737+39 to Stn 420+00 = 31,739 RF = 6.01 Miles				
Start Contract: Stn 737+39				
Facilities				
1	Line Section:Tunnel Stn 737+39 to Stn 595+50 inc. Vent Structure	13979 RF	13,979	98,552
	Vent Structure: 150 Ft Long, 50 Ft Deep		150	10,084
	Access Shaft at Stn 737+39 , 60 FT Long		60	1,500
2	Cut and Cover: Tunnel Stn 595+50 to Stn 590+20	530 RF	530	4,074
3	Fulton/Burbank Station(Open) w/ Crossover inc. Plaza, 5,000 SF	880 RF	880	26,115
4	Open Cut Guideway: Stn 581+40 to Stn 558+40	2300 RF	2300	12,898
5	Cut and Cover :Tunnel Stn 558+40 to Stn 556+40	200 RF	200	1,537
	Open Cut Guideway: Stn 556+40 to Stn 554+00	240 RF	240	1,346
	Cut and Cover :Tunnel Stn 554+00 to Stn 552+00	200 RF	200	1,537
	Open Cut Guideway: Stn 552+00 to Stn 527+20	2480 RF	2480	13,908
6	Cut and Cover :Tunnel Stn 527+20 to Stn 525+20	200 RF	200	1,537
	Trans. Open Cut Stn 525+20 - Stn 514+00	1120 RF	1,120	8,140
7	Aerial Guideway: Stn 514+00 - Stn 491+20	2280 RF	2,280	7,057
8	Van Nuys Station (Aerial) inc. Plaza, 5,000 SF	510 RF	inc	6,783
9	Retained Fill Guideway: Stn 491+20 to Stn 486+00	520 RF	520	513
	At Grade Guideway: Stn 486+00 - Stn 459+00	2700 RF	2,700	3,348
	2 Overpass Bridges at Kester Ave. 3000 SF EA & 1,400 LF Bypass	1 LS		6,169
	Retained Fill Guideway: Stn 459+00 to Stn 448+50	1050 RF	1050	1,036
10	Sepulveda Station (Aerial) inc. Plaza, 5,000 SF	510 RF	510	6,783
	Retained Fill Guideway: Stn 442+40 to Stn 434+00	940 RF	940	928
11	Pocket Track: Approx Stn 420+00	500 RF	inc	532
12	At Grade Guideway: Stn 434+00 - Stn 420+00	1400 RF	1,400	1,736
13	Utilities - including Maintenance and Support	1 LS		835
14	Associated Costs: Furniture, Stores, Fire & Emergency	1 LS		138
15	Parking: 30% x 4330	1299 Places		4,974
Total - Facilities			31,739	\$222,059
16	Possible Temporary Storage Yard - Phase I	1 LS		\$2,045
	Two Parallel tracks with storage capacity of 1000 LF per track equals Storage Capacity - 26 Vehicles			

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**SAN FERNANDO VALLEY
 EAST- WEST RAIL TRANSIT PROJECT
 PRELIMINARY ESTIMATE
 ALTERNATIVE B , OPTION 2 - PHASE 1
 ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length RF	ROM Cost \$ x 1000
Systems			
	Trackwork inc Pocket Track	31,739 RF	22,344
	Signs & Graphics		
	- Open	1 Station	1,924
	- Aerial	2 Stations	
	Fans for Underground	1 Station 1 Vent Struct	1,695 400
	Train Control	3 Stations	
	Train Control inc Pocket Track	29,739 RF	21,424
	Traction Power inc. Pocket Track	31,739 RF	13,186
	Communications	31,739 RF	18,789
	Fare Collection		
	- Open	1 Station	680
	- Aerial	2 Stations	1,360
	Operational Graphics inc. Pocket Track	31,739 RF	73
	Elevators and Escalators	3 Stations	4,272
	Total - Systems		\$86,147

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE B , OPTION 2 - PHASE 1
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length RF	ROM Cost \$ x 1000
Dewatering/Ground Treatment			
	Dewatering	1LS	250
	Ground Treatment	1LS	500
Total - Dewatering/Ground Treatment			\$750
Summary - Phase 1 (6.01 Route Miles + 1 Open + 2 Aerial Stations)			
Total - Facilities			\$222,059
Total - Systems			\$86,147
Total - Phase 1			\$308,206
Total - Possible Temporary Storage Yard ^{***}			\$2,045
Total - Dewatering/Ground Treatment ^{***}			\$750

^{***} Not included in Phase 1 Total

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE B , OPTION 2 - PHASE 2
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No.	Section Length RF	ROM Cost \$ x 1000
Facilities - Phase 2 Stn 420+00 to Stn 7+70 = 41,230 RF= 7.81 Miles				
14	At Grade Guideway : Stn 420+00-Stn 407+00	1300 RF	1,300	1,612
	Retained Fill Guideway: Stn 407+00-Stn 399+00	800 RF	800	790
	Aerial Guideway: Stn 399+00 -Stn 379+00	2000 RF	2,000	6,190
15	Retained Fill Guideway: Stn 379+00 - Stn 374+00	500 RF	500	494
	At Grade Guideway : Stn 374+00-Stn 348+00	2600 RF	2,600	3,224
	Pedestrian Overpass	1 LS		1,485
16	Retained Fill Guideway: Stn 348+00-Stn 343+00	500 RF	500	494
	Aerial Guideway: Stn 343+00 -Stn 325+00	1800 RF	1,800	5,571
17	Balboa Station Stage II (Aerial) inc Plaza, 5,000 SF	510 RF		6,783
	Retained Fill Guideway: Stn 325+00-Stn 304+00	2100 RF	2,100	2,073
18	L.A. River Bridge Stn 304+00 - Stn 298+00 - Demolish & Replace	600 RF	600	1,498
19	Open Cut Guideway: Stn 298+00 - Stn 49+00 including:	21955 RF	21,955	123,124
	Cut & Cover Guideway: Lindley Ave.	205 RF		1,576
	Cut & Cover Guideway: Caballero Creek	50 RF		384
	Cut & Cover Box: Etiwanda Ave.	40 RF		307
	Reseda Station w/ Crossover(Open) inc Plaza, 5,000 SF *	880 RF		36,499
	Cut & Cover Box: Wimber Street	200 RF		1,537
	Cut & Cover Box: Corbin Ave.	200 RF		1,537
	Cut & Cover Box: Stn 123+50	50 RF		384
	Winnetka Station (Open) inc Plaza, 5,000 SF	880 RF		26,115
	Cut & Cover Box: Stn 92+50	40 RF		307
	Cut & Cover Box: Mason Ave.	200 RF		1,537
	Cut & Cover Box: De Soto Ave.	200 RF	2,945	1,537
20	Cut and Cover Tunnel: Stn 49+00 - Stn 18+95	3005 RF	3,005	23,096
21	Topanga Station w/ Crossover (U/G)	775 RF		
	Tailtrack at Topanga - 350 RF	350 RF	1,125	56,499
22	Utilities - Maintain & Support	1 LS		3,260
23	Associated Costs: Furniture, Stores, Fire & Emergency	1 LS		322
24	Parking: 70% x 4330	3031 Places		11,606
Total - Facilities			41,230	\$308,236
(7.81 Route miles +1 Underground + 1 Aerial + 2 Open Stations)				
Notes:				
* June 14, 1994 Crossover added by RCC				

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**SAN FERNANDO VALLEY
EAST-WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE B , OPTION 2 - PHASE 2
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length	ROM Cost \$ x 1000
		RF	
Systems			
	Trackwork	41230 RF	27,995
	Signs & Graphics		
	- Underground	1 Station	
	- Aerial	1 Stations	4,672
	- Open	2 Stations	
	Fans For Underground	3 Stations	5,086
	Train Control Station	4 Stations	
	Train Control Guideway	37459 RF	27,830
	Traction Power	41230 RF	16,863
	Communications	41230 RF	24,408
	Fare Collection		
	- Underground	1 Station	680
	- Aerial	1 Station	680
	- Open	2 Stations	1,360
	Operational Graphics	41230 RF	169
	Elevators and Escalators	4 Stations	6,198
Total - Systems			\$115,942

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE B, OPTION 2 - PHASE 2
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length RF	ROM Cost \$ x 1000
Waste Handling/Water Treatment			
	Water Treatment) (As Law and Crandall Draft Report - June 23, 1994)	1 LS	4,000
	Waste Handling (As Law and Crandall Draft Report - June 23, 1994)	1 LS	9,100
Total - Waste Handling/Water Treatment			\$13,100
Dewatering/Ground Treatment			
	Dewatering	1 LS	2,250
	Ground Treatment	1 LS	500
Total - Dewatering/Ground Treatment			\$2,750
Summary - Phase 2 (7.81 Route miles + 1 Underground + 1 Aerial+ 2 Open Stations)			
Total - Facilities			\$308,236
Total - Systems			\$115,942
Total - Phase 2			\$424,178
Total - Permanent Yard ""			\$32,641
Total - Waste Handling ""			\$13,100
Total - Dewatering ""			\$2,750

"" Not included in Phase 2 Total

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**SAN FERNANDO VALLEY
 EAST-WEST RAIL TRANSIT PROJECT
 PRELIMINARY ESTIMATE
 ALTERNATIVE B, OPTION 2 - PHASE 2
 ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length		ROM Cost \$ x 1000
		RF	RF	
Summary - Phase 1 and Phase 2 (13.82 Route miles + 1 Underground + 3 Aerial+ 3 Open Stations)				
	Total - Facilities			\$530,295
	Total - Systems			\$202,089
	Total - Phase 1 and Phase 2		41,230	\$732,384
	Total - Waste Handling ***			\$11,800
	Total - Dewatering ***			\$3,500
	Total - Temporary Yard ***			\$2,045
	Total - Permanent Yard ***			\$32,641

Note:

*** NOT included in Phase 1 or Phase 2 Totals

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE C , BASE - PHASE 1
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length	Section Length	ROM Cost
		RF	RF	\$ x 1000
Facilities				
Phase 1; Stn 737+39 to Stn 420+00 = 31,739 RF = 6.01 Miles				
Start Contract: Stn 737+39				
1	Line Section:Tunnel Stn 737+39 to Stn 595+50 inc. Vent Structure Vent Structure 150 FT Long, 50 FT Deep Access Shaft at Stn 737+39 60 Ft Long	13979 RF	13,979 150 60	98,552 10,084 1,500
2	Cut and Cover Tunnel Stn 595+50 to Stn 590+20	530 RF	530	4,074
3	Fulton/Burbank Station(C & C) w/ Crossover inc. Plaza, 5,000 SF	880 RF	880	47,144
4	Cut and Cover Tunnel Stn 581+40 to Stn 525+20	5620 RF	5,620	43,195
5	Trans. Open Cut Stn 525+20 - Stn 514+00 Aerial Guideway Stn 514+00 - Stn 491+20	1120 RF 2280 RF	1,120 2,280	8,140 7,057
6	Van Nuys Station (Aerial) inc. Plaza, 5,000 SF	510 RF	inc	6,783
7	Retained Fill Guideway Stn 491+20 - Stn 486+00 includes At Grade Guideway Stn 486+00 - Stn 459+00 2 Overpass Bridges x 3000SF EA + 1400 LF Bypass Road	520 RF 2700 RF 1 LS	520 2700	513 3,348 6,169
8	Aerial Guideway Stn 459+00 - Stn 434+00	2500 RF	2,500	7,738
9	Sepulveda Station (Aerial) inc. Plaza, 5,000 SF	510 RF	inc	6,783
10	At Grade Guideway Stn 434+00 - Stn 420+00 Pocket Track: Approx Stn 420+00	1400 RF 500 RF	1,400 inc	1,736 532
11	Utilities - Maintenance and Support	1 LS		835
12	Associated Costs: Furniture, Stores, fire & Emergency	1 LS		138
13	Parking: 30% x 4330	1299 Places		4,974
Total - Facilities			31,739	\$259,293
14	Temporary Storage Yard - Phase I Two Parallel tracks with storage capacity of 1000 LF per track equals Storage Capacity - 26 Vehicles	1 LS		2,045

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE C, BASE - PHASE 1
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length RF	ROM Cost \$ x 1000
Systems			
	Trackwork inc Pocket Track	31,739 RF	22,344
	Signs & Graphics		
	- Open	1 Station	1,924
	- Aerial	2 Stations	
	Fans	1 Station 1 Vent Struct.	1,695 400
	Train Control	3 Stations	
	Train Control inc Pocket Track	28,839 RF	21,424
	Traction Power inc. Pocket Track	31,739 RF	13,186
	Communications	31,739 RF	18,789
	Fare Collection		
	- Open	1 Station	680
	- Aerial	2 Stations	1,360
	Operational Graphics inc. Pocket Track	31,739 RF	73
	Elevators and Escalators	3 Stations	4,272
	Total - Systems		\$86,147

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**SAN FERNANDO VALLEY
 EAST- WEST RAIL TRANSIT PROJECT
 PRELIMINARY ESTIMATE
 ALTERNATIVE C, BASE - PHASE 1
 ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length RF	ROM Cost \$ x 1000
Dewatering/Ground Treatment			
	Dewatering	1LS	250
	Ground Treatment	1LS	500
Total - Dewatering/Ground Treatment			\$750
Summary - Phase 1 (6.01 Route Miles + 1 Open + 2 Aerial Stations)			
Total - Facilities			\$259,293
Total - Systems			\$86,147
Total - Phase 1			\$345,440
Total - Temporary Storage Yard ***			\$2,045
Total - Dewatering/Ground Treatment			\$750

*** Not included in Phase 1 Total

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE C, BASE - PHASE 2
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No.	Section Length RF	ROM Cost \$ x 1000
Facilities Phase 2 Stn 420+00 to Stn 7+70 = 41,230 RF = 7.82 Miles				
15	At Grade Guideway : Stn 420+00-Stn 404+00	1600 RF	1,600	1,984
	Retained Fill Guideway: Stn 404+00-Stn 399+00	500 RF	500	494
16	Aerial Guideway: Stn 399+00 -Stn 325+00	7400 RF	7,400	22,903
17	Woodley Station Stage II (Aerial) inc Plaza, 5,000 SF	510 RF		6,783
18	Balboa Station Stage II (Aerial) inc Plaza, 5,000 SF	510 RF		6,783
19	Retained Fill Guideway: Stn 325+00-Stn 304+00	2100 RF	2,100	2,073
20	L.A. River Bridge Stn 304+00 - Stn 298+00 - Demolish & Replace	600 RF	600	1,498
21	Open Cut Guideway: Stn 298+00 - Stn 49+00 including:	20195 RF	20,195	113,254
	White Oak Station (Open) inc. Plaza, 5,000 SF	880 RF		26,115
	Cut & Cover Guideway: Lindley Ave.	205 RF		1,576
	Cut & Cover Guideway: Caballero Creek	50 RF		384
	Cut & Cover Box: Etiwanda Ave.	40 RF		307
	Reseda Station w/ Crossover(Open) inc Plaza, 5,000 SF *	880 RF		36,499
	Cut & Cover Box: Wimber Street	200 RF		1,537
	Tampa Station w/ Crossover (Open) inc Plaza, 5,000 SF	880 RF		26,115
	Cut & Cover Box: Corbin Ave.	200 RF		1,537
	Cut & Cover Box: Stn 123+50	50 RF		384
	Winnetka Station (Open) inc Plaza, 5,000 SF	880 RF		26,115
	Cut & Cover Box: Stn 92+50	40 RF		307
	Cut & Cover Box: Mason Ave.	200 RF		1,537
	Cut & Cover Box: De Soto Ave.	200 RF	4,705	1,537
22	Cut and Cover Tunnel: Stn 49+00 - Stn 18+95	3005 RF	3,005	23,096
23	Topanga Station w/ Crossover (U/G)	775 RF		
	Tailtrack at Topanga - 350 RF	350 RF	1125	56,499
24	Utilities - Maintain & Support	1 LS		3,260
25	Associated Costs: Furniture, Stores, Fire & Emergency	1 LS		322
26	Parking: 70% x 4330	3031 Places		11,606
Total - Facilities			41,230	\$374,507
(7.81 Route miles + 1 Underground + 2 Aerial + 4 Open Stations)				
Notes:				
* June 14, 1994 Crossover added by RCC				

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**SAN FERNANDO VALLEY
EAST-WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE C, BASE - PHASE 2
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length	ROM Cost \$ x 1000
		RF	
Systems			
	Trackwork	41230 RF	27,995
	Signs & Graphics		
	- Underground	1 Station	
	- Aerial	2 Stations	4,672
	- Open	4 Stations	
	Fans For Underground	5 Station	8,475
	Train Control Station	7 Stations	
	Train Control Guideway	35565 RF	27,830
	Traction Power	41230 RF	16,863
	Communications	41230 RF	24,408
	Fare Collection		
	- Underground	1 Station	680
	- Aerial	2 Stations	1,360
	- Open	4 Stations	2,720
	Operational Graphics	41230 RF	168
	Elevators and Escalators	7 Stations	10,470
	Total - Systems		\$125,642

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE C, BASE - PHASE 2
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length RF	ROM Cost \$ x 1000
Waste Handling/Water Treatment			
	Water Treatment) (As Law and Crandall Draft Report - June 23, 1994)	1 LS	4,000
	Waste Handling (As Law and Crandall Draft Report - June 23, 1994)	1 LS	9,100
Total - Waste Handling/Water Treatment			\$13,100
Dewatering/Ground Treatment			
	Dewatering	1 LS	2,250
	Ground Treatment	1 LS	500
Total - Dewatering/Ground Treatment			\$2,750
Summary - Phase 2 (7.81 Route miles + 1 Underground + 2 Aerial+ 4 Open Stations)			
Total - Facilities			\$374,507
Total - Systems			\$125,642
Total - Phase 2			\$500,148
Total - Permanent Yard ""			32,841
Total - Waste Handling/Water Treatment ""			\$13,100
Total - Dewatering ""			\$2,750

"" Not included in Phase 2 Total

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**SAN FERNANDO VALLEY
EAST-WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE C, BASE - PHASE 2
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length		ROM Cost \$ x 1000
		RF	RF	
Summary - Phase 1 and Phase 2 (13.82 Route miles + 1 Underground + 4 Aerial + 5 Open Stations)				
	Total - Facilities			\$633,800
	Total - Systems			\$211,789
	Total - Phase 1 and Phase 2		41,230	\$845,588
	Total - Permanent Yard ""			\$32,641
	Total - Temporary Yard ""			\$2,045
	Total - Waste Handling ""			\$13,100
	Total - Dewatering ""			\$3,500

Note:

"" NOT included in Phase 1 or Phase 2 Totals

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE C , OPTION 2 - PHASE 1
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length	Section Length	ROM
		RF	RF	Cost \$ x 1000
Facilities				
Phase 1: Stn 737+39 to Stn 420+00 + 31,739 RF = 6.01 Miles				
Start Contract: Stn 737+39				
1	Line Section:Tunnel Stn 737+39 to Stn 595+50 inc. Vent Structure Vent Structure 150 FT Long, 50 FT Deep Access Shaft at Stn 737+39, 60 FT Long	13979 RF	13,979 150 60	98,552 10,084 1,500
2	Cut and Cover: Tunnel Stn 595+50 to Stn 590+20	530 RF	530	4,074
3	Fulton/Burbank Station(C & C) w/ Crossover inc. Plaza, 5,000 SF	880 RF	880	47,144
4	Cut and Cover :Tunnel Stn 581+40 to Stn 525+20	5620 RF	5620	43,195
5	Trans. Open Cut Stn 525+20 - Stn 514+00	1120 RF	1,120	8,140
6	Aerial Guideway: Stn 514+00 - Stn 491+20	2280 RF	2,280	7,057
7	Van Nuys Station (Aerial) inc. Plaza, 5,000 SF	510 RF	inc	6,783
8	Retained Fill Guideway: Stn 491+20 to Stn 486+00	520 RF	520	513
9	At Grade Guideway: Stn 486+00 - Stn 459+00 2 Overpass Bridges x 3000 SF EA + 1440 LF Bypass Roadway Pocket Track: Approx Stn 420+00	2700 RF 500 RF	2,700 inc	3,348 6,169 532
10	Sepulveda Station (Aerial) inc. Plaza and Parking	510 RF	inc	6,783
11	Aerial Guideway: Stn 459+00 - Stn 434+00	2500 RF	2,500	7,738
12	At Grade Guideway: Stn 434+00 - Stn 420+00	1400 RF	1,400	1,736
13	Utilities - including Maintenance and Support	1 LS		835
14	Associated Costs: Furniture, Stores, Fire & Emergency	1 LS		138
15	Parking: 30% x 4330	1299 Places		4,974
Total - Facilities			31,739	\$254,319
16	Temporary Storage Yard - Phase I Two Parallel tracks with storage capacity of 1000 LF per track equals Storage Capacity - 26 Vehicles	1 LS		\$2,045

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE C , OPTION 2 - PHASE 1
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length RF	ROM Cost \$ x 1000
Systems			
	Trackwork inc Pocket Track	31,739 RF	22,344
	Signs & Graphics		
	- Open	1 Station	1,924
	- Aerial	2 Stations	
	Fans	1 Station 1 Vent Struct.	1,695 400
	Train Control	3 Stations	
	Train Control inc Pocket Track	29,839 RF	21,424
	Traction Power inc. Pocket Track	31,739 RF	13,186
	Communications	31,739 RF	18,789
	Fare Collection		
	- Open	1 Station	680
	- Aerial	2 Stations	1,360
	Operational Graphics inc. Pocket Track	31,739 RF	73
	Elevators and Escalators	3 Stations	4,272
	Total - Systems		\$86,147

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**SAN FERNANDO VALLEY
 EAST- WEST RAIL TRANSIT PROJECT
 PRELIMINARY ESTIMATE
 ALTERNATIVE C , OPTION 2 - PHASE 1
 ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No.	Section Length RF	ROM Cost \$ x 1000
Dewatering/Ground Treatment				
	Dewatering	1LS		250
	Ground Treatment	1LS		500
Total - Dewatering/Ground Treatment				\$750
Summary - Phase 1 (6.01 Route Miles + 1 Open + 2 Aerial Stations)				
Total - Facilities				\$254,319
Total - Systems				\$86,147
Total - Phase 1				\$340,466
Total - Temporary Storage Yard ***				\$2,045
Total - Dewatering/Ground Treatment				\$750

*** Not included in Phase 1 Total

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE C , OPTION 2 - PHASE 2
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No.	Section Length RF	ROM Cost \$ x 1000
Facilities; Phase 2 Stn 420+00 to Stn 7+70 = 41,230 RF = 7.81 Miles				
17	At Grade Guideway : Stn 420+00-Stn 404+00	1600 RF	1,600	1,984
18	Retained Fill Guideway: Stn 404+00-Stn 399+00	500 RF	500	494
19	Aerial Guideway: Stn 399+00 -Stn 325+00	7400 RF	7,400	22,903
20	Balboa Station Stage II (Aerial) inc Plaza, 5,00 SF Retained Fill Guideway: Stn 325+00 - Stn 304+00	510 RF 2100 RF	2,100	6,783 2,073
21	L.A. River Bridge Stn 304+00 - Stn 298+00 - Demolish & Replace	600 RF	600	1,498
22	Open Cut Guideway: Stn 298+00 - Stn 49+00 including:	21955 RF	21,955	123,124
	Cut & Cover Guideway: Lindley Ave.	205 RF		1,576
	Cut & Cover Guideway: Caballero Creek	50 RF		384
	Cut & Cover Box: Etiwanda Ave.	40 RF		307
23	Reseda Station w/ Crossover(Open) inc Plaza, 5,000 SF *	880 RF		36,499
	Cut & Cover Box: Wimber Street	200 RF		1,537
	Cut & Cover Box: Corbin Ave.	200 RF		1,537
	Cut & Cover Box: Stn 123+50	50 RF		384
24	Winnetka Station (Open) inc Plaza, 5,000 SF	880 RF		26,115
	Cut & Cover Box: Stn 92+50	40 RF		307
	Cut & Cover Box: Mason Ave.	200 RF		1,537
	Cut & Cover Box: De Soto Ave.	200 RF	2,945	1,537
25	Cut and Cover Tunnel: Stn 49+00 - Stn 18+95	3005 RF	3,005	23,096
26	Topanga Station w/ Crossover (U/G) Tailtrack at Topanga - 350 RF	775 RF 350 RF	1125	56,499
27	Utilities - including Maintain & Support	1 LS		3,260
28	Associated Costs: Furniture, Stores, Fire & Emergency	1 LS		322
29	Parking: 70% x 4330	3031 Places		11,606

Total - Facilities **41,230** **\$325,363**
(7.82 Route miles + 1 Underground + 1 Aerial + 2 Open Stations)

Notes:

* June 14, 1994 Crossover added by RCC

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
PRELIMINARY ESTIMATE
ALTERNATIVE C , OPTION 2 - PHASE 2
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length RF	ROM Cost \$ x 1000
Systems			
	Trackwork	41230 RF	27,995
	Signs & Graphics		
	- Underground	1 Station	
	- Aerial	1 Stations	4,672
	- Open	2 Stations	
	Fans For Underground	3 Station	5,085
	Train Control Station	4 Stations	
	Train Control Guideway	37,459 RF	27,830
	Traction Power	41230 RF	16,863
	Communications	41230 RF	24,408
	Fare Collection		
	- Underground	1 Station	680
	- Aerial	1 Station	680
	- Open	2 Stations	1360
	Operational Graphics	41230 RF	168
	Elevators and Escalators	4 Stations	6,198
Total - Systems			\$115,940

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT**

September 6, 1994

PRELIMINARY ESTIMATE

ALTERNATIVE C, OPTION 2 - PHASE 2

ESTIMATE SUMMARY

No.	Description	Unit Length/ No. Section Length RF	ROM Cost \$ x 1000
Waste Handling/Water Treatment			
	Water Treatment) (As Law and Crandall Draft Report - June 23, 1994)	1 LS	4,000
	Waste Handling (As Law and Crandall Draft Report - June 23, 1994)	1 LS	9,100
Total - Waste Handling/Water Treatment			\$13,100
Dewatering/Ground Treatment			
	Dewatering	1 LS	2,250
	Ground Treatment	1 LS	500
Total - Dewatering/Ground Treatment			\$2,750
Summary - Phase 2 (7.81 Route miles + 1 Underground + 1 Aerial + 2 Open Stations)			
Total - Facilities			\$325,363
Total - Systems			\$115,940
Total - Phase 2			\$441,303
Total - Permanent Yard ***			\$32,641
Total - Waste Handling ***			\$13,100
Total - Dewatering ***			\$2,750

*** Not included in Phase 2 Total

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EAST-WEST RAIL TRANSIT PROJECT

PRELIMINARY ESTIMATE

ALTERNATIVE C, OPTION 2 - PHASE 2
ESTIMATE SUMMARY

No.	Description	Unit Length/ No. Section Length		ROM Cost \$ x 1000
		RF	RF	
Summary - Phase 1 and Phase 2 (13.82 Route miles + 1 Underground + 3 Aerial + 3 Open Stations)				
	Total - Facilities			\$579,683
	Total - Systems			\$202,087
	Total - Phase 1 and Phase 2		41,230	\$781,769
	Total - Permanent Yard ^{***}			\$32,641
	Total - Temporary Yard ^{***}			\$2,045
	Total - Waste Handling			\$13,100
	Total - Dewatering			\$3,500

Note:

^{***} NOT included in Phase 1 or Phase 2 Totals

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
VALLEY CIRCLE EXTENSION
PRELIMINARY ESTIMATE
ALTERNATIVE A, B & C
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length	Section Length	ROM
		RF	RF	Cost \$ x 1000
Facilities				
Stn 2+26 to Stn 175+50 = 17,324 RF = 3.28 Miles				
Start Contract: Stn 2+26				
1	Cut and Cover: Tunnel Stn 2+26 to Stn 9+00	674 RF	674	5,180
	Tunnel Guideway: Stn 9+00 to Stn 46+50	2950 RF	2,950	20,798
	Drive Through Oxnard station			
	Launch from South 60 Ft of Cut and Cover Guideway			
2	Oxnard Station (U/G) Center Platform inc Plaza, 5,000 SF	800 RF	800	48,567
3	Cut and Cover :Tunnel Stn 46+50 to Stn 70+00	2350 RF	2,350	18,062
	Trans. Open Cut Stn 70+00 - Stn 80+00	1000 RF	1,000	7,268
4	Aerial Guideway: Stn 80+00 - Stn 175+50	9550 RF	9,550	29,557
5	Falbrook Station, Stage II(Aerial) Side Plat. inc. Plaza inc 5,000 SF	510 RF	inc	6,783
6	Valley Circle Station, Stage II(Aerial) Side Plat. inc Plaza, 5,000 SF 500 FT Tailtrack	510 RF	inc	6,783 3,637
7	Utilities - including Maintenance and Support	1 LS		835
8	Associated Costs: Furniture, Stores, Fire & Emergency	1 LS		73
9	Parking: Allowance 2x 433 Additional Allowance	866 Places		3,316
Total - Facilities			17,324	\$150,859

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**SAN FERNANDO VALLEY
 EAST- WEST RAIL TRANSIT PROJECT
 VALLEY CIRCLE EXTENSION
 PRELIMINARY ESTIMATE
 ALTERNATIVE A, B & C
 ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length RF	ROM Cost \$ x 1000
Systems			
	Trackwork inc Pocket Track	17,324 RF	12,109
	Signs & Graphics		
	- Underground	1 Station	1,924
	- Aerial	2 Stations	
	Fans	1 Station	1,695
	Train Control	3 Stations	
	Train Control inc Pocket Track	15,504 RF	11,694
	Traction Power inc. Pocket Track	17,324 RF	7,086
	Communications	17,324 RF	10,256
	Fare Collection		
	- Open	1 Station	680
	- Aerial	2 Stations	1,360
	Operational Graphics inc. Pocket Track	17,324 RF	40
	Elevators and Escalators	3 Stations	4,272
	Total - Systems		\$51,115

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**SAN FERNANDO VALLEY
 EAST- WEST RAIL TRANSIT PROJECT
 VALLEY CIRCLE EXTENSION
 PRELIMINARY ESTIMATE
 ALTERNATIVE A, B & C
 ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length	ROM Cost \$ x 1000
		RF	
Summary (3.28 Route Miles + 1 Underground + 2 Aerial Stations)			
	Total - Facilities		\$150,859
	Total - Systems		\$51,115
	Total		\$201,974

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
CHATSWORTH EXTENSION OPTION
PRELIMINARY ESTIMATE
ALTERNATIVE A, B & C
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length	Section Length	ROM Cost
		RF	RF	\$ x 1000
Facilities				
Stn 47+00 to Stn 301+00 = 25,400 RF = 4.81 Miles				
Start Contract: Stn 47+00				
1	Retained Cut Guideway: Stn 47+00 to Stn 68+00	2,100 RF	2,100	6,500
	Retained Fill Guideway: Stn 68+00 to Stn 75+00	700 RF	700	691
2	Aerial Guideway: Stn 75+00 to Stn 136+00	6100 RF	6,100	18,880
3	Retained Fill Yard 3100 RF = in (2)	800 RF	inc	
	Roadwork: Canoga Avenue, Deering and Sherman Way		inc	
4	Sherman Station, Stage II (Aerial) Stage I in (2)	510 RF		6,783
5	Retained Fill Guideway: Stn 136+00 to Stn 140+00	400 RF	400	395
	At Grade Guideway: Stn 140+00 to Stn 162+00	2,200 RF	2,200	2,728
	Retained Fill Guideway: Stn 162+00 to Stn 168+00	600 RF	600	592
6	Aerial Guideway: Stn 168+00 to Stn 233+00	6500 RF	6,500	20,118
7	Roscoe Blvd. Station, Stage II(Aerial) inc. Plaza, 5,000 SF	510 RF	inc	6,783
8	Retained Fill Guideway: Stn 233+00 to Stn 237+00	400 RF	400	395
	At Grade Guideway: Stn 237+00 to Stn 275+00	3,800 RF	3,800	4,712
	Retained Fill Guideway: Stn 275+00 to Stn 280+00	500 RF	500	494
9	Aerial Guideway: Stn 280+00 to Stn 290+00	1000 RF	1,000	3,095
	Retained Fill Guideway: Stn 290+00 to Stn 293+00	300 RF	300	296
	At Grade Guideway: Stn 293+00 to Stn 301+00	800 RF	800	992
10	Chatsworth Station (At Grade) w/ Crossover inc Plaza, 5,000 SF	700 RF		3,148
11	Marilla Yard Site	1 LS		9,753
12	Utilities - including Maintenance and Support	1 LS		835
13	Associated Costs: Furniture, Stores, Fire & Emergency	1 LS		73
14	Parking: 3 x 433 Additional Allowance	1,299 Places		4,974
Total - Facilities			25,400	\$92,234

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
CHATSWORTH EXTENSION OPTION
PRELIMINARY ESTIMATE
ALTERNATIVE A, B & C
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length	ROM Cost \$ x 1000
		RF	
Systems			
	Trackwork inc Pocket Track	25,400 RF	17,755
	Signs & Graphics		
	- At Grade	1 Station	1,924
	- Aerial	2 Stations	
	Fans	Station	0
	Train Control	3 Stations	
	Train Control inc Pocket Track	23,680 RF	17,145
	Traction Power inc. Pocket Track	25,400 RF	10,389
	Communications	25,400 RF	15,037
	Fare Collection		
	- At Grade	1 Station	880
	- Aerial	2 Stations	1,360
	Operational Graphics inc. Pocket Track	25,400 RF	58
	Elevators and Escalators	2 Stations	2,294
	Total - Systems		\$68,641

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**SAN FERNANDO VALLEY
 EAST- WEST RAIL TRANSIT PROJECT
 CHATSWORTH EXTENSION OPTION
 PRELIMINARY ESTIMATE
 ALTERNATIVE A, B & C
 ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length	ROM Cost \$ x 1000
		RF	
<hr/>			
	Summary (4.81 Route Miles + 1 At Grade + 2 Aerial Stations)		
	Total - Facilities		\$92,234
	Total - Systems		\$66,641
			<hr/>
	Total		\$158,876

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**SAN FERNANDO VALLEY
 EAST- WEST RAIL TRANSIT PROJECT
 OXNARD STREET EXTENSION - OPTION 1
 ALTERNATIVE A
 PRELIMINARY ESTIMATE
 ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length	Section Length	ROM Cost
		RF	RF	\$ x 1000
Facilities				
Stn 738+79 to Stn 420+00 + 31,879 RF = 6.04 Miles				
Start Contract: Stn 738+79				
1	Line Section:Tunnel Stn 738+79 to Stn 532+20 Vent Structure 150 FT Long, 50 FT Deep Access Shaft at Stn 737+39, 60 FT Long	20449 RF	20,449 150 60	140,280 10,084 1,500
2	Laurel Canyon Station(Cut and Cover)	610 RF	inc	32,523
3	Valley College Station(Cut and Cover) w/ Crossover	944 RF	inc	57,261
4	Trans. Open Cut Stn 532+20 - Stn 514+00 Retained Fill Guideway: Stn 514+00 - Stn 510+00 Aerial Guideway: Stn 510+00 - Stn 442+50	1820 RF 400 RF 6750 RF	1,820 400 6,750	13,228 395 20,891
5	At Grade Guideway: Stn 442+50 - Stn 420+00 Pocket Track: Approx Stn 420+00	2250 RF 500 RF	2,250 inc	2,790 532
6	Van Nuys Station (Aerial) inc. Plaza, 5,000 SF	510 RF	inc	6,783
7	Sepulveda Station (Aerial) inc. Plaza, 5,000 SF	510 RF	inc	3,348
8	Utilities - including Maintenance and Support	1 LS		835
9	Associated Costs: Furniture, Stores, Fire & Emergency	1 LS		139
10	Parking: 30% x 4330	1299 Places		4,974
Total - Facilities			31,879	\$295,562
11	Temporary Storage Yard - Phase I Two Parallel tracks with storage capacity of 1000 LF per track equals Storage Capacity - 26 Vehicles	1 LS		\$2,045

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**SAN FERNANDO VALLEY
 EAST- WEST RAIL TRANSIT PROJECT
 OXNARD STREET EXTENSION - OPTION 1
 ALTERNATIVE A
 PRELIMINARY ESTIMATE
 ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No.	Section Length	ROM Cost \$ x 1000
			RF	
Systems				
	Trackwork inc Pocket Track	31,879	RF 31879	22,443
	Signs & Graphics			
	- Cut and Cover	2 Stations		2,566
	- Aerial	2 Stations		
	Fans	2 Station		3,390
		1 Vent Struct.		400
	Train Control	4 Stations		
	Train Control inc Pocket Track	29,305	RF	21,518
	Traction Power inc. Pocket Track	31,879	RF	13,039
	Communications	31,879	RF	18,872
	Fare Collection			
	- Cut and Cover	2 Station		1,360
	- Aerial	2 Stations		1,360
	Operational Graphics inc. Pocket Track	31,879	RF	73
	Elevators and Escalators	4 Stations		7,762
	Total - Systems			\$92,783

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**SAN FERNANDO VALLEY
 EAST- WEST RAIL TRANSIT PROJECT
 OXNARD STREET EXTENSION - OPTION 1
 ALTERNATIVE A
 PRELIMINARY ESTIMATE
 ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length	ROM Cost \$ x 1000
		RF	
Dewatering/Ground Treatment			
	Dewatering	1LS	250
	Ground Treatment	1LS	500
Total - Dewatering/Ground Treatment			\$750
Summary - Phase 1 (6.04 Route Miles + 2 Cut & Cover + 2 Aerial Stations)			
Total - Facilities			\$295,562
Total - Systems			\$92,783
Total - Phase 1			\$388,345
Total - Temporary Storage Yard ^{***}			\$2,045
Total - Dewatering/Ground Treatment			\$750
^{***} Not included in Phase 1 Total			

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
OXNARD STREET EXTENSION - OPTION 2
ALTERNATIVE A
PRELIMINARY ESTIMATE
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length RF	Section Length RF	ROM Cost \$ x 1000
Facilities				
Stn 738+79 to Stn 420+00 + 31,879 RF = 6.04 Miles				
Start Contract: Stn 738+79				
1	Line Section:Tunnel Stn 738+79 to Stn 532+20 Vent Structure 150 FT Long, 50 FT Deep Access Shaft at Stn 737+39, 60 FT Long	20449 RF	20,449 150 60	140,280 10,084 1,500
2	Laurel Canyon Station(Cut and Cover)	800 RF	inc	42,567
3	Valley College Station(Cut and Cover) w/ Crossover	920 RF	inc	55,812
4	Trans. Open Cut Stn 532+20 - Stn 514+00 Retained Fill Guideway: Stn 514+00 - Stn 510+00 Aerial Guideway: Stn 510+00 - Stn 442+50	1820 RF 400 RF 6750 RF	1,820 400 6,750	13,228 395 20,891
5	At Grade Guideway: Stn 442+50 - Stn 420+00 Pocket Track Approx Stn 420+00	2250 RF 500 RF	2,250 inc	2,790 532
6	Van Nuys Station (Aerial) inc. Plaza, 5,000 SF	510 RF	inc	6,783
7	Sepulveda Station (Aerial) inc. Plaza, 5,000 SF	510 RF	inc	6,783
8	Utilities - including Maintenance and Support	1 LS		835
9	Associated Costs: Furniture, Stores, Fire & Emergency	1 LS		139
10	Parking: 30% x 4330	1299 Places		4,974
Total - Facilities			31,879	\$307,592
16	Temporary Storage Yard - Phase I Two Parallel tracks with storage capacity of 1000 LF per track equals Storage Capacity - 26 Vehicles	1 LS		\$2,045

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**SAN FERNANDO VALLEY
EAST- WEST RAIL TRANSIT PROJECT
OXNARD STREET EXTENSION - OPTION 2
ALTERNATIVE A
PRELIMINARY ESTIMATE
ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No.	Section Length	ROM Cost \$ x 1000
			RF	
Systems				
	Trackwork inc Pocket Track	31,879	RF	31879 22,443
	Signs & Graphics			
	- Cut and Cover	2 Stations		2,566
	- Aerial	2 Stations		
	Fans	2 Station		3,380
		1 Vent Struct.		400
	Train Control	4 Stations		
	Train Control inc Pocket Track	29,305	RF	21,518
	Traction Power inc. Pocket Track	31,879	RF	13,039
	Communications	31,879	RF	18,872
	Fare Collection			
	- Cut and Cover	2 Station		1,360
	- Aerial	2 Stations		1,360
	Operational Graphics inc. Pocket Track	31,879	RF	73
	Elevators and Escalators	4 Stations		7,762
	Total - Systems			\$92,783

rrr/de

**SAN FERNANDO VALLEY
 EAST- WEST RAIL TRANSIT PROJECT
 OXNARD STREET EXTENSION - OPTION 2
 ALTERNATIVE A
 PRELIMINARY ESTIMATE
 ESTIMATE SUMMARY**

September 6, 1994

No.	Description	Unit Length/ No. Section Length	ROM Cost \$ x 1000
		RF	
Dewatering/Ground Treatment			
	Dewatering	1LS	250
	Ground Treatment	1LS	500
Total - Dewatering/Ground Treatment			\$750
Summary - Phase 1 (6.04 Route Miles + 2 Cut & Cover + 2 Aerial Stations)			
Total - Facilities			\$307,592
Total - Systems			\$92,783
Total - Phase 1			\$400,375
Total - Temporary Storage Yard ^{***}			\$2,045
Total - Dewatering/Ground Treatment			\$750
^{***} Not included in Phase 1 Total			

mm/de