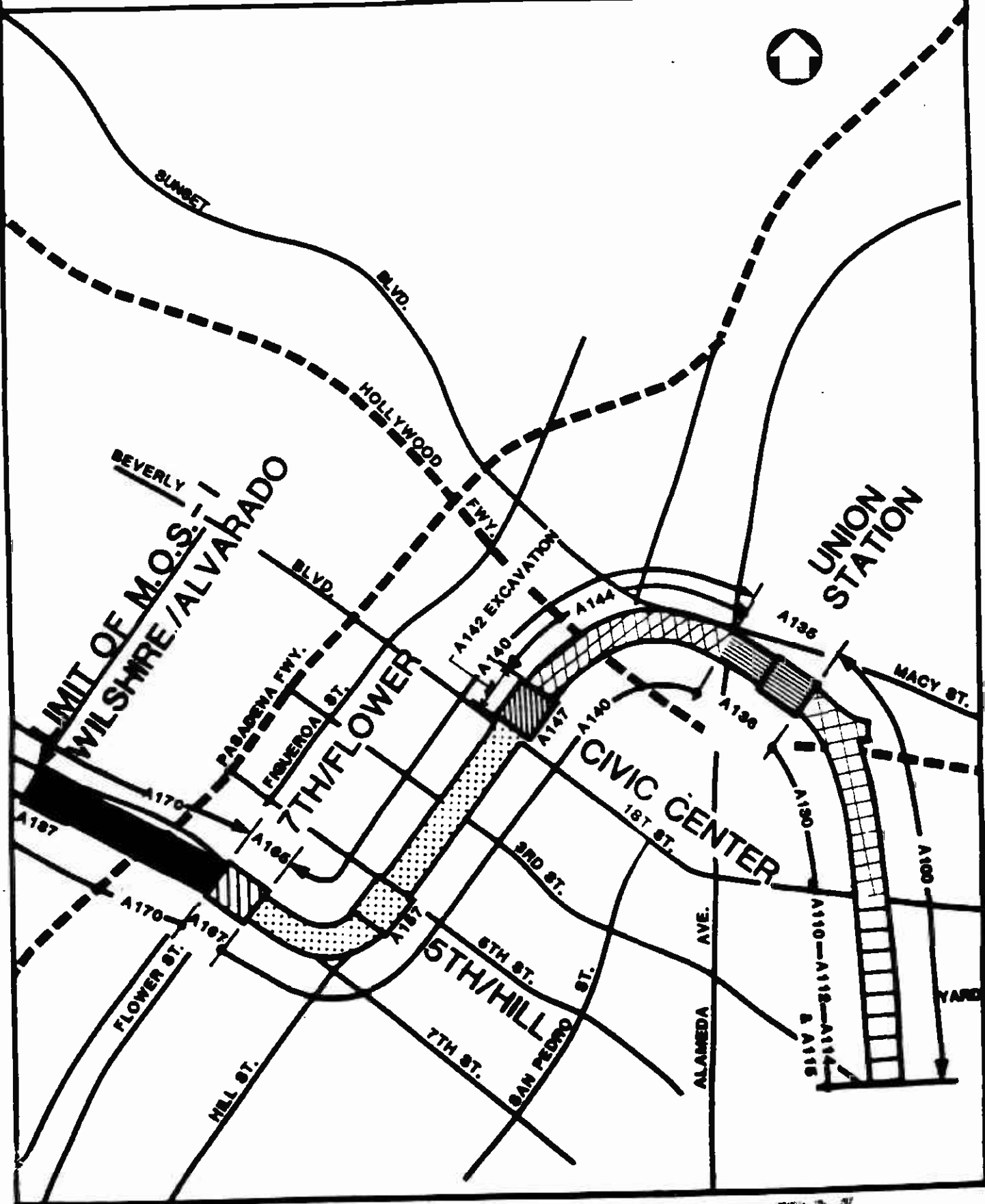


SEP 15 1984

COST AND SCHEDULE  
STATUS REPORT  
SEPTEMBER 1984

# MINIMAL OPERABLE SEGMENT-1



MTA LIBRARY

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SECTION I: BUDGET SUMMARY



RTD METRO RAIL PROJECT

STATUS NARRATIVE

SEPTEMBER 1984

The Total Project Approved Budget is now \$269.473 million; which includes funds for advanced land acquisition. Expenditures to date total \$71.806 million.

The accompanying graph illustrates the planned expenditures of \$148 million against the actual expenditures. This variance of \$76 million is primarily due to the late issuance of contract NTP's and the late acquisition of R-O-W properties.

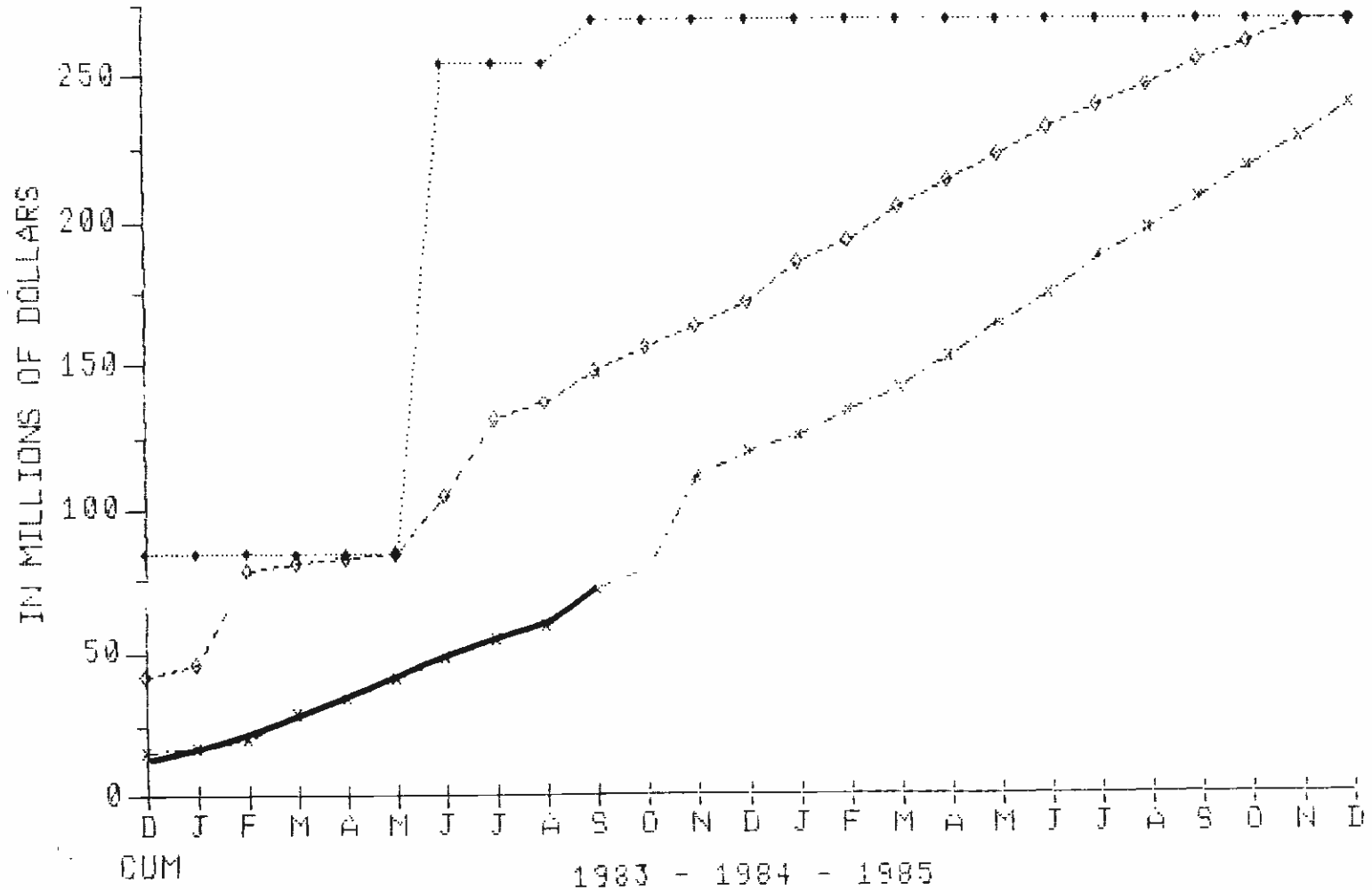
Presently, Preliminary Engineering is complete and Program Control is taking steps to close-out continued Preliminary Engineering.

SCRTD METRO RAIL PROJECT  
TOTAL PROJECT BUDGET  
SUMMARY BY MACS CODE (\$000's)  
STATUS AS OF: 03/30/84

APE	(MACS CODE) DESCRIPTION	UNOBLIGATED			OBLIGATIONS TO DATE			APPROVED BUDGET (7)	DRAW DOWN FROM CONTINGENCY (8)	REVISED BUDGET (9=3+6)
		RESERVED (1)	COMMITTED (2)	TOTAL (3=1+2)	UNEXPENDED (4)	EXPENDED (5)	TOTAL (6=4+5)			
02101	(20.02.01) Purchase of Support Autos	\$ 30	\$ - 0 -	\$ 30	\$ - 0 -	\$ - 0 -	\$ - 0 -	\$ 30	\$ - 0 -	\$ 30
02102	(20.02.02) Purchase/Installation of Support Equipment	1,271	- 0 -	1,271	125	94	219	1,490	- 0 -	1,490
02108	(20.02.07) Purchase/Installation of MIS Equipment	177	- 0 -	177	825	- 0 -	825	1,000	- 0 -	1,000
02109	(20.02.08) Purchase/Installation of Communications Equipment	100	- 0 -	100	- 0 -	- 0 -	- 0 -	100	- 0 -	100
02145	(20.06.10) Yard & Shops Acquisition	32,435	- 0 -	32,435	43	152	195	32,630	- 0 -	32,630
02110	(20.06.10) Right-of-Way	77,644	- 0 -	77,644	- 0 -	219	219	77,863	- 0 -	77,863
02103	(20.08.01) Professional Services Contracts for Eng. & Design	- 0 -	1,059	1,059	56,441	60,181	116,622	114,953	2,728	117,681
02111	(02.08.02) Professional Services Contracts for Constr. Mgmt.	2,410	- 0 -	2,410	6,590	- 0 -	6,590	9,000	- 0 -	9,000
02112	(20.11.01) Owner Controlled Insurance	4,000	- 0 -	4,000	- 0 -	- 0 -	- 0 -	4,000	- 0 -	4,000
02104	(20.15.02) Force Account Work	2,110	- 0 -	2,110	- 0 -	5,036	5,036	7,146	- 0 -	7,146
02106	(20.16.00) General & Administrative	138	- 0 -	138	192	359	551	689	- 0 -	689
02105	(20.16.90) Other Supporting Services	1,951	- 0 -	1,951	- 0 -	799	799	2,750	- 0 -	2,750
02107	(32.05.00) Contingencies	3,062	- 0 -	3,062	- 0 -	- 0 -	- 0 -	3,062	<2,728>	334
05401	(10.06.90) Advanced Land Acquisition	9,794	- 0 -	9,794	- 0 -	4,966	4,966	14,760	- 0 -	14,760
<b>GRAND TOTAL</b>		<b>\$ 135,122</b>	<b>\$ 1,059</b>	<b>\$ 136,181</b>	<b>\$ 64,214</b>	<b>\$ 71,806</b>	<b>\$ 136,020</b>	<b>\$ 269,473</b>	<b>\$ - 0 -</b>	<b>\$ 269,473*</b>

\* Does not include unmatched funds of \$ 33,284. (\$25,484 UMTA; \$3,000 State; \$4,100 LACTO; \$700 City)

RTD METRO RAIL PROJECT  
 TOTAL PROJECT STATUS  
 SEPTEMBER 1984



--\*-- FORECAST
— ACTUALS
--◇-- PLANNED EXPENDITURES
..... CAPITAL GRANT FUNDS



SCRTD METRO RAIL PROJECT

FUNDING BREAKDOWN

Funding Increment	FUNDING SOURCE					TOTAL
	UMTA Section 3	UMTA Section 9	State Article XIX	LACTC STAF	City of LA STAF	
Continued Preliminary Engineering, Phase I (9/82)	\$ 15,000,000	\$ -0-	\$ 2,812,500	\$ 937,500	\$ -0-	\$ 18,750,000
Continued Preliminary Engineering, Phase II (4/83)	25,000,000	-0-	5,503,000	2,830,000	-0-	33,333,000 (1)
SUB-TOTAL Continued Preliminary Engineering	\$ 40,000,000	\$ -0-	\$ 8,315,500	\$ 3,767,500	\$ -0-	\$ 52,083,000
Acquisition of Santa Fe Rail Yard (2/83)	\$ -0-	\$ -0-	\$ 31,000,000	\$ 1,630,000	\$ -0-	\$ 32,630,000
Advanced Land Acquisition (9/83)	\$ -0-	\$ 14,760,000	\$ -0-	\$ -0-	\$ -0-	\$ 14,760,000
Pre-Construction (5/84)	\$ 105,400,000	\$ -0-	\$ 24,400,000	\$ 33,900,000	\$ 6,300,000	\$ 170,000,000 (2)
Funds Available For Future Use/Match	\$ -0-	\$ 25,483,720	\$ 3,000,000	\$ 4,100,000	\$ 700,000	\$ 33,283,720
TOTAL, ALL GRANT ALLOCATIONS	\$ 145,400,000	\$ 40,243,720	\$ 66,715,500	\$ 43,397,500	\$ 7,000,000	\$ 302,756,720

(1) Share ratio changes from 80% Federal/20% State and Local to 75% Federal/25% State And Local.

(2) Local shares are tentative and include revenue financing.

MTA LIBRARY



RTD METRO RAIL PROJECT  
OPEN PROFESSIONAL SERVICES CONTRACTS

09/30/84

<u>AUDIT #</u>	<u>CONTRACT</u>	<u>\$</u> <u>BUDGET</u>
I. Transit Facilities		
2284-5	Lindvall Richter (Geotech. II)	480,900
3138	City of Los Angeles (Master Agreement)	693,000
3058	Los Angeles County Museum	24,500
3172	Pacific Bell	156,000
3301	CALTRANS	2,553,000
3237	Western Union Telegraph	49,000
3262	Dr. N.J. Maloney	1,500
3211	Eugene Stann	7,000
3351	John Gordon	20,000
3320	Julia Brown	20,000
3323	Alan Sieorty	20,000
3464-A	Dept. of Water & Power - Water Section	90,000
3173-A	Dept. of Water & Power - Power Section	360,000
2160-6	Barton Aschman	161,700
2611-3	County of Los Angeles (Staff Asst.)	229,300
2274	Carl Englund	14,153
3212	W.H. Patterson	7,000
		-----
	Sub-Total	\$ 4,887,053

II. Systems Design & Analysis

3394	MIDCOM	10,000
3282	SRI International	19,985
3090-1	Cons. Fire Prot. District	103,286
3136-1	Booz-Allen & Hamilton	1,499,031
3170-1	Mellon Institute	24,900
3371	COMMUNICOM	7,500
2218	Commission de Transport	5,000
2217	Walter Woods	1,020
		-----
	Sub-Total	\$ 1,670,722

10/29/84  
PC-13.3

RTD METRO RAIL PROJECT  
 OPEN PROFESSIONAL SERVICES CONTRACTS  
 (CONT.)

09/30/84

<u>AUDIT #</u>	<u>CONTRACT</u>	<u>\$</u> <u>BUDGET</u>
III. Planning		
3010	Community Redevelopment Agency	542,000
3137	City of Los Angeles (Station Dev.)	573,000
3254	Schimpeler - Corradino	847,213
2900-2	Schimpeler - Corradino	151,000
3328	CMB Communications	2,500
		-----
	Sub-Total	\$ 2,115,713
IV. Real Estate		
A. Yard & Shops Acquisition		
2963	AT & SF Railway	64,000
3033	Lea Associates	50,000
3102-1	Robert Swanson	22,500
		-----
	Sub-Total	\$ 136,500
B. Other Real Estate		
3116	Chicago Title Insurance	50,000
3175	TICOR Title Insurance	75,000
3379	Joseph Gary	10,000
3357	Business Valuation Services	8,500
3461	Leon Beliaivsky	6,450
3462	James Himes	6,250
3209	Arthur Anderson	1,550
3463	R.P. Laurain	7,500
2930	Lincoln Inst. of Land Policy	24,500
3407	Olof Olsen	5,250
3408	Edward Reilly	7,000
		-----
	Sub-Total	\$ 202,000

10/29/84  
 PC-13.3

RTD METRO RAIL PROJECT  
 OPEN PROFESSIONAL SERVICES CONTRACTS  
 (CONT.)

09/30/84

<u>AUDIT #</u>	<u>CONTRACT</u>	<u>\$</u> <u>BUDGET</u>
V. Legal		
2910-4	NBMBW & M	115,000
2943	O'Melveney & Myers	100,000
	Sub-Total	----- \$ 215,000
VI. Misc. Contracts		
3065	David Ashley	7,000
3030	Dillon Read & Co.	24,900
3054	Haverson International	24,900
2499	Barton-Aschman	4,121
2430	Bureau de Transit Metro	2,187
2940	Steve Mertz (U.S.C.)	5,000
2776	U.S.C.	4,320
	Sub-Total	----- \$ 72,428
VII. General Consultant		
2967	MRTC	106,425,960
	Sub-Total	----- \$ 106,425,960
VIII. Construction Management		
3369	PDCD	6,589,849
	Sub-Total	----- \$ 6,589,849
TOTAL OPEN PROFESSIONAL SERVICES CONTRACTS		\$ 122,315,225

10/29/84  
 PC-13.3

SECTION II: CONTRACT EVALUATIONS



A. COST

EXPLANATION OF TERMS

Cost Performance Index (C.P.I.)	- Used to indicate the actual cost of each planned dollar of work accomplished.  = $\frac{\text{Earned Costs}}{\text{Actual Costs Spent}}$
Cost Variance (C.V.)	- The difference between the actual dollars spent and the actual dollars earned.  = Actual \$ Spent - Earned \$
Current Contract Cost	- The dollar value on which contractual agreement has been reached.
Expended	- The entry into official RTD accounting ledgers of the use of resources.
Forecast at Completion	- An estimate and prediction of the total cost of the contract.
Independent Estimate at Completion (I.E.A.C.)	- A calculated EAC based on the current rate of cost performance.  = $\frac{\text{Forecast at Completion}}{\text{C.P.I.}}$
Negotiated Contract Changes	- The cumulative cost applicable to definitized contract changes which have occurred since the beginning of the contract.
Original Contract Cost	- The dollar value negotiated in the original contract.
Pending Changes	- The estimated cost for contract changes that have yet to be negotiated or approved.
Percent Complete	- A comparison of the completion status to the current projection of total work.
Productivity	- A relative measure of labor efficiency compared to an established base.  = $\frac{\% \text{ complete} \times \text{Total MH forecast}}{\text{MH's spent}}$

To Complete Performance Index

(T.C.P.I.) -

Basically a comparison of the work remaining to the amount of money remaining. The results of this formula indicate the cost efficiency the contractor must perform to meet the Forecast at Completion.

$$= \frac{\text{Forecast at Completion} - \text{Earned Costs}}{\text{Forecast at Completion} - \text{Actual \$ Spent}}$$

Variance

- Any actual or potential deviation from a budget or plan.

METRO RAIL PROJECT  
SECTION DESIGN EVALUATION SUMMARY  
SEPTEMBER 1984

UNIT NO.	DESCRIPTION	TOTAL % COMPLETE		CURRENT INCRE- MENTAL PROGRESS	PRODUCTIVITY BASED ON		ORIGINAL NEGOTIATED CONTRACT AMOUNT	FORECAST AT COMPLETION		TO COMPLETE AVERAGE EFFICIENCY *
		F'CAST	ACTUAL		MHRS	\$\$		MRTC	TSD PROJECTED	
MOS-1 CONTRACTS:										
A100	YARD AND SHOPS	79%	75%	5	93%	94%	\$ 4,080,878	\$ 6,617,000	\$ 7,039,360	124%
A135	UNION STATION	85%	80%	3	99%	99%	2,946,000	3,913,000	3,920,202	106%
A140	CIVIC CENTER/5TH & HILL/LINE	56%	54%	4	114%	119%	6,203,707	6,816,439	5,705,882	84%
A165	7TH & FLOWER	82%	82%	4	105%	103%	2,129,587	3,940,000	3,557,281	87%
A170	WILSHIRE/ALVARADO + LINE	85%	85%	4	105%	105%	3,119,430	4,016,000	3,824,762	80%
SUBTOTAL MOS-1 CONTRACTS:							\$ 18,479,602	\$ 25,302,439	\$ 24,147,487	
REMAINING CONTRACTS:										
A195	WILSHIRE/VERMONT	80%	78%	3	97%	98%	\$ 1,541,126	\$ 2,401,677	\$ 2,347,000	110%
A220	WILSHIRE/NORMANDIE & WILSHIRE/WESTERN + LINE	39%	37%	3	98%	106%	4,676,695	5,172,752	4,940,566	97%
A240	WILSHIRE/GRENSHAW	50%	45%	4	97%	92%	2,394,790	2,685,528	2,935,000	108%
A245	WILSHIRE/LA BREA	73%	73%	3	128%	126%	1,608,579	1,976,529	1,551,587	65%
A250	WILSHIRE/FAIRFAX + LINE	29%	34%	9	124%	136%	3,956,421	4,387,000	3,293,000	.88%
A275	FAIRFAX/BEVERLY	58%	60%	10	99%	97%	2,275,000	2,674,150	2,788,660	107%
A310	FAIRFAX/SANTA MONICA & LA BREA/SUNSET + LINE	29%	29%	4	107%	110%	4,409,415	4,582,415	4,140,000	97%
A350	HOLLYWOOD/CAHUENGA	43%	43%	5	97%	105%	2,071,181	2,399,160	2,295,238	97%
A410	LINE FROM HOLLYWOOD/CAHUENGA TO UNIVERSAL CITY	62%	62%	10	100%	97%	2,627,160	2,327,160	2,437,113	106%
A415	HOLLYWOOD BOWL	34%	34%	9	48%	47%	2,013,910	1,017,000	2,163,830	237%
A425	UNIVERSAL CITY	53%	51%	8	119%	105%	2,403,180	2,903,280	2,495,238	96%
A430	LINE FROM UNIVERSAL CITY TO NORTH HOLLYWOOD	62%	55%	6	106%	117%	1,968,766	2,144,966	1,793,162	85%
A445	NORTH HOLLYWOOD	39%	41%	8	116%	119%	2,141,868	2,564,494	2,135,037	90%
SUBTOTAL REMAINING CONTRACTS:							\$ 34,088,091	\$ 37,236,111	\$ 35,315,431	
SUBTOTAL MOS-1 CONTRACTS:							\$ 18,479,602	\$ 25,302,439	\$ 24,147,487	
GRAND TOTAL:							\$ 52,567,693	\$ 62,538,550	\$ 59,462,918	

\* FOR CONTRACTS TO BE COMPLETED AT MRTC'S FORECAST



RTD METRO RAIL PROJECT  
SYSTEMWIDE CONTRACTS  
DESIGN, INSTALLATION, PROCUREMENT, FURNISH AND SERVICE  
SUMMARY

STATUS DATE: September 30, 1984

CONTRACT NUMBER	DESCRIPTION	% COMPLETE	CURRENT WORKING ESTIMATE MOS-1
A610	Mainline Trackwork Design	31	10,700,000
A611	Running Rail Specifications	64	3,500,000
A613	Timber Tie Specifications	60	1,600,000
A614	Special Trackwork Design	61	2,200,000
A616	Trackwork Fasteners	0	3,600,000
A617	Rail Welding	0	700,000
A618	Yard Trackwork Design	25	2,967,600
A612, A615			
A630	Traction Power Procurement	74	4,826,700
A631	Traction Power Installation	13	4,743,000
A620	Automatic Train Control	49	16,637,700
A640	Communications	50	13,503,600
A650	Passenger Vehicles	60	38,781,000
A660	Fare Collection	43	6,779,700
A670	Auxiliary Vehicle (Locomotive)	80	920,700
A710	Escalators	95	11,800,000
A720	Elevators	95	2,000,000
A740	Fans and Blowers	95	7,200,000
A745	Air Handling Units	40	200,000
A750	Tunnel Liners	85	N/A
A760	Signing	30	600,000

COST PERFORMANCE REPORT

CONTRACT NO. : A100 Yard & Shops  
 CONTRACTOR : DMJM/PBQD  
 REPORT PERIOD : September 1984

CONTRACT START DATE: 7/13/83  
 SCHEDULED COMPLETION DATE: 1/07/85

(1) ORIGINAL CONTRACT COST	(2) NEGOTIATED CONTRACT CHANGES	(3) CURRENT CONTRACT COST (1) + (2)	(4) PENDING CHANGES	(5) FORECAST AT COMPLETION (3) + (4)	(6) EXPENDED	(7) VARIANCE  (5) - (6)
4,081,000	- 0 -	4,081,000	2,536,000	6,617,000	5,288,000	1,329,000

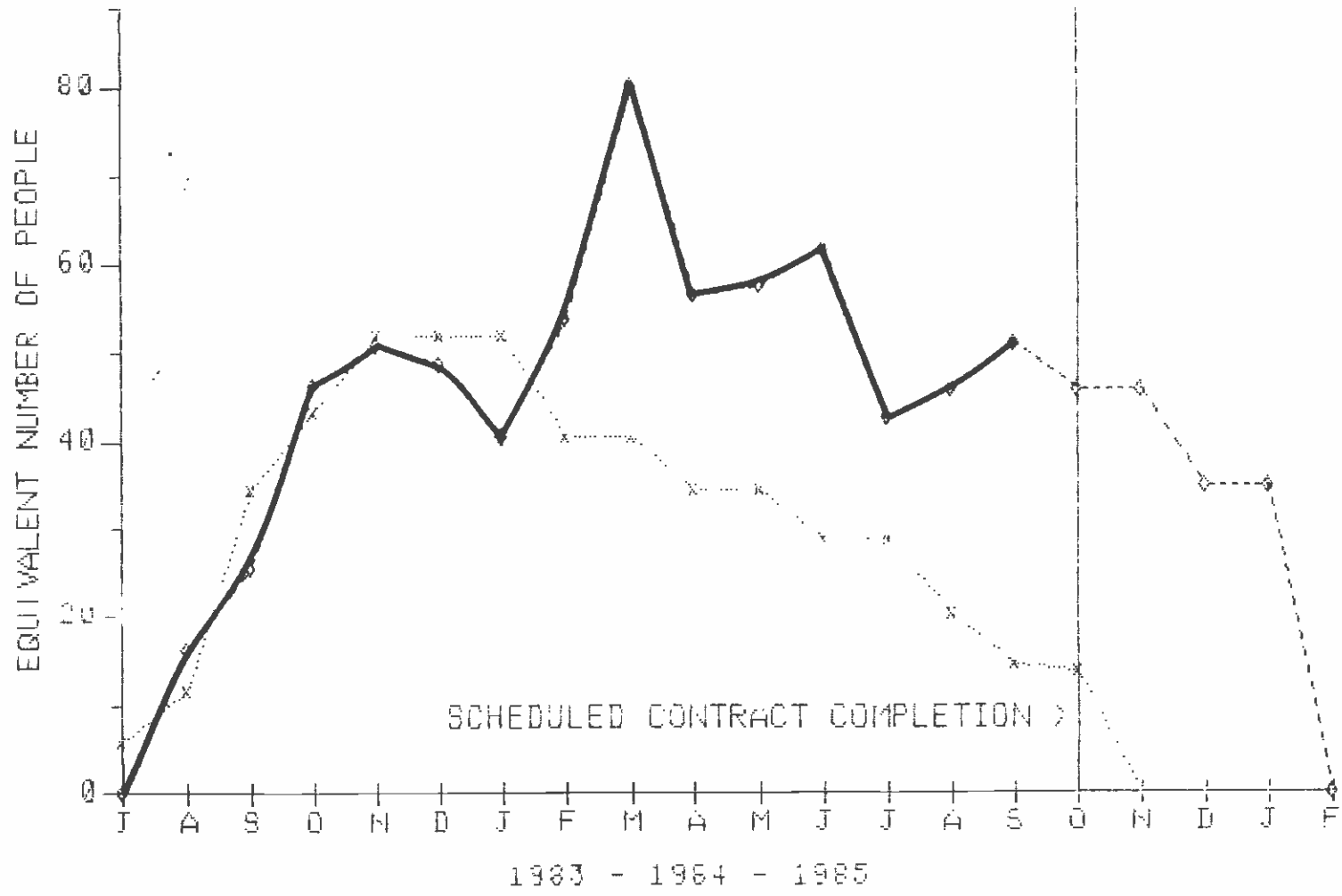
  

CUMULATIVE (%) DATE					
% COMPLETE	% PRODUCTIVITY	\$ C.P.I.	\$ COST VARIANCE	% P.C.P.I.	\$ C.E.A.C.
75	93	.94	325,250	124	7,039,360

CONCLUSIONS AND OBSERVATIONS:

Productivity is increasing, yet contractor is getting further behind in progress. This contractor is being forecast to complete the final 25% of progress in the next 4 months. This is highly unlikely based on prior performance. Based on the above calculations it will take the contractor 9 more months to complete design, making a total of 22 months to complete this contract.

RTD METRO RAIL PROJECT  
 CONTRACT A100 - MAIN YARD AND SHOPS  
 SECTION DESIGNER: DMJM/PBQD  
 SEPTEMBER 1984



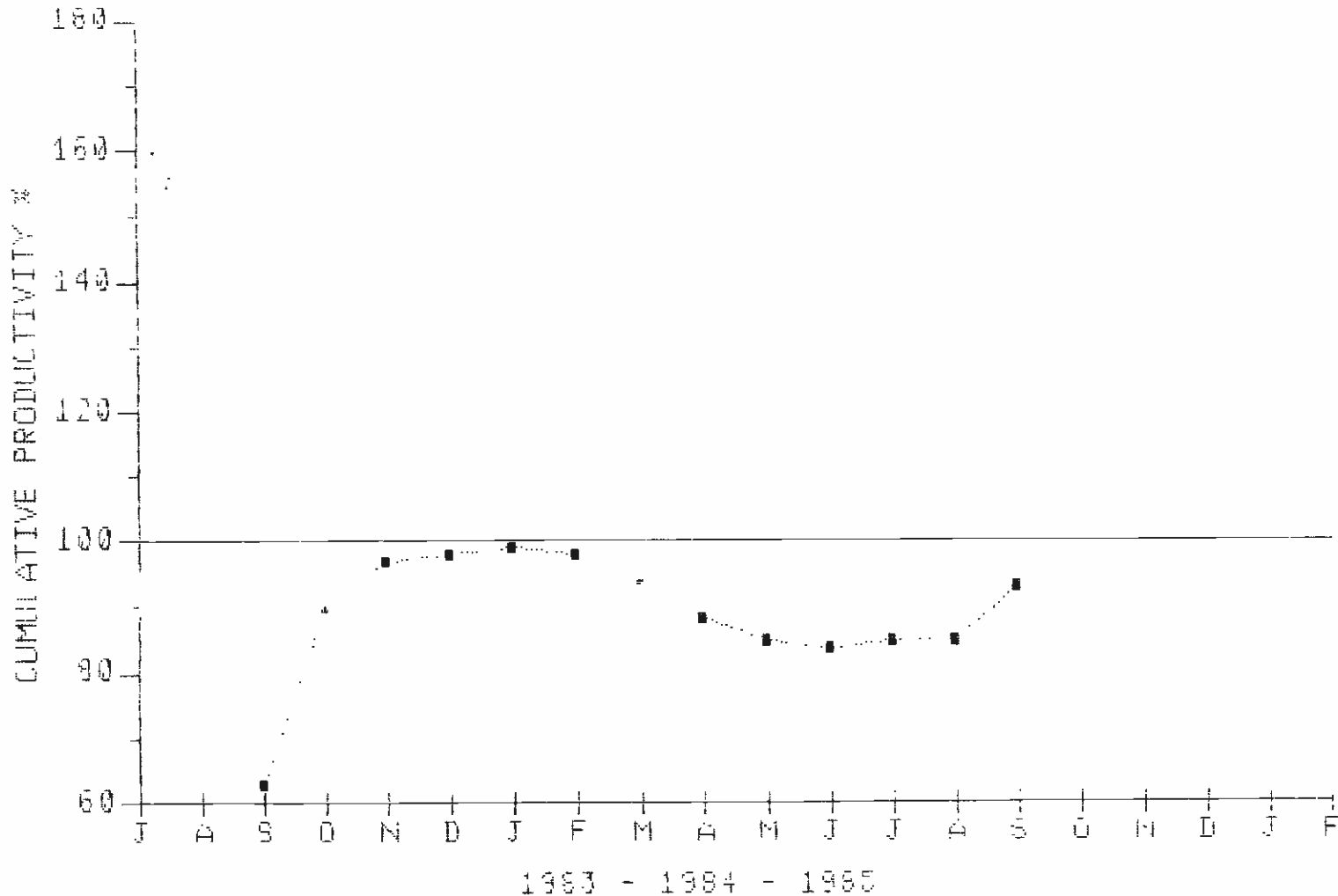
17

1983 - 1984 - 1985

--◇-- FORECAST
— ACTUAL
-x- PLANNED



RTD METRO RAIL PROJECT  
 CONTRACT #100 - MAIN YARD AND SHOPS  
 SECTION DESIGNER: DNJM/PBGD  
 SEPTEMBER 1984

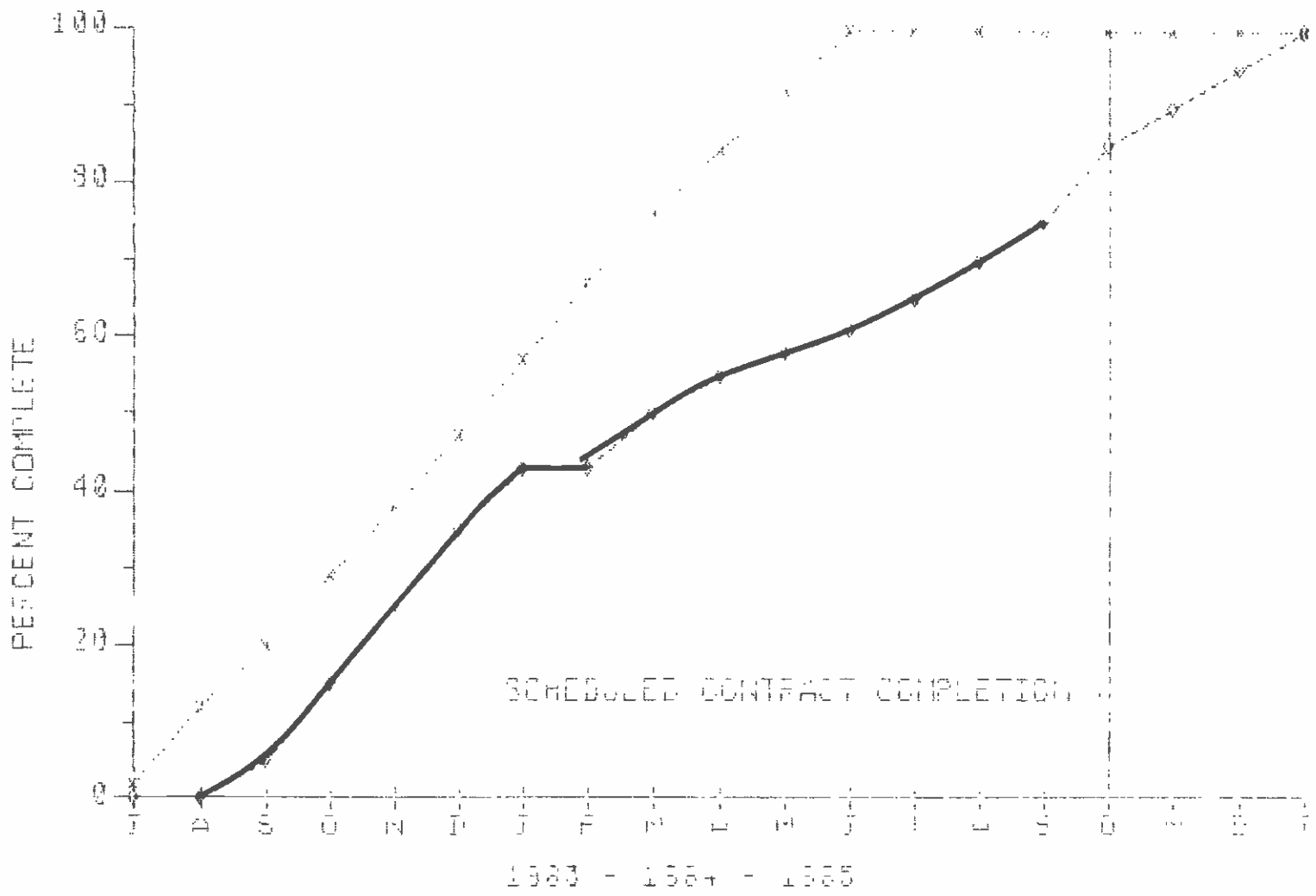


ACTUAL

81



P10 METRO RAIL PROJECT  
 CONTRACT #100 - MAIN YARD & SHOPS  
 SECTION DESIGNER: DMJM/PBDD  
 SEPTEMBER 1984



---x--- FORECAST    —◆— ACTUALS    ···x··· PLANNED



COST PERFORMANCE REPORT

CONTRACT NO. : A135 Union Station  
 CONTRACTOR : Harry Weese & Associates  
 REPORT PERIOD : September 1984

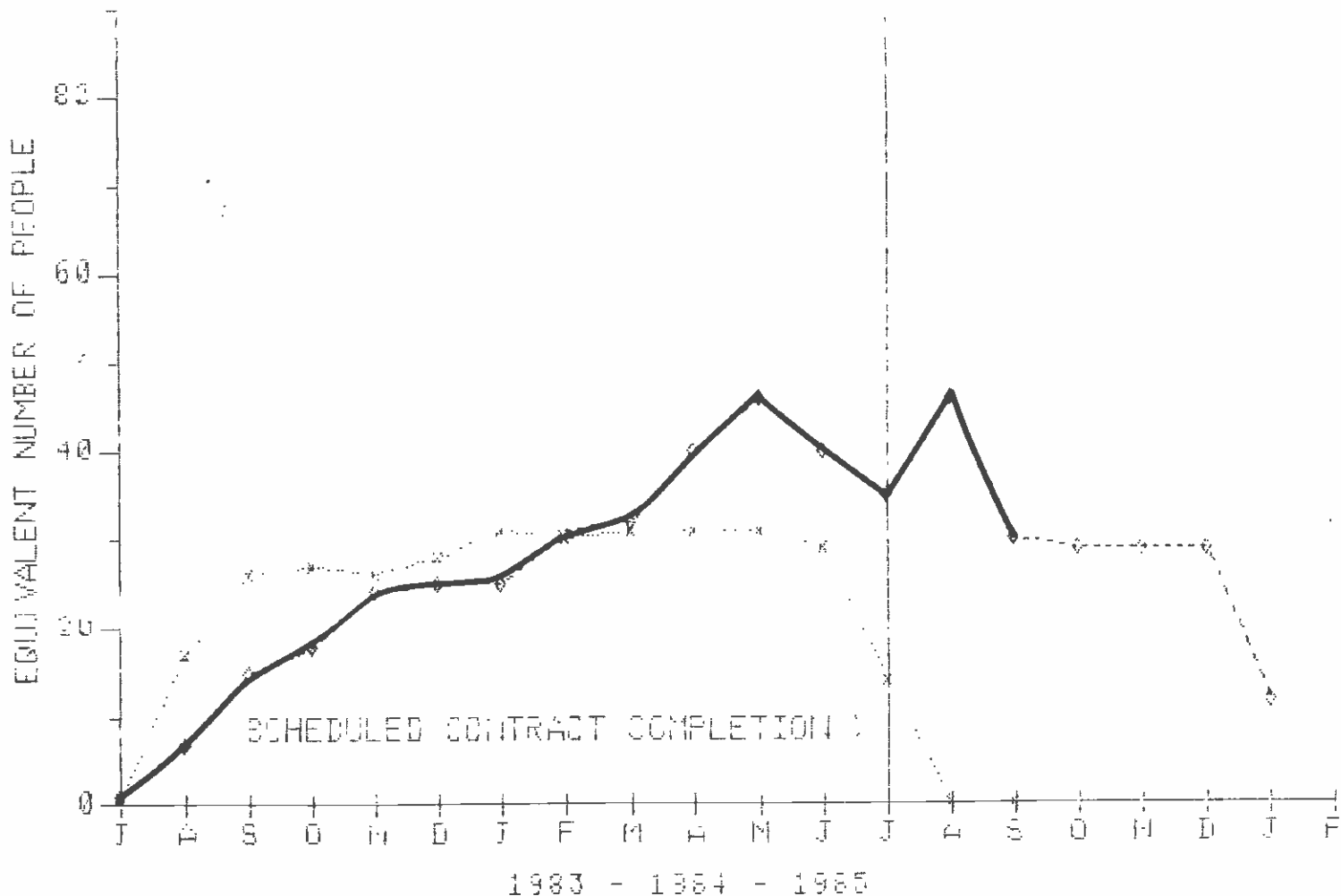
CONTRACT START DATE: 7/13/83  
 SCHEDULED COMPLETION DATE: 7/12/84

(1) ORIGINAL CONTRACT COST	(2) NEGOTIATED CONTRACT CHANGES	(3) CURRENT CONTRACT COST (1) + (2)	(4) PENDING CHANGES	(5) FORECAST AT COMPLETION (3) + (4)	(6) EXPENDED	(7) VARIANCE  (5) - (6)
2,897,000	- 0 -	2,897,000	1,016,000	3,913,000	3,149,000	764,000
<u>CUMULATIVE TO DATE</u>						
<u>% COMPLETE</u>	<u>% PRODUCTIVITY</u>	<u>\$ C.P.I.</u>	<u>\$ COST VARIANCE</u>	<u>% C.C.P.I.</u>	<u>\$ I.E.A.C.</u>	
80	99	.99	45,000	106	3,920,202	

CONCLUSIONS AND OBSERVATIONS:

According to an October 17, 1984 communication from the SCRTO Project Manager, changes to Union Station total \$761,459, not \$1,016,000 as stated in the Trend Report. Therefore, the Project Manager feels that the estimate to completion (EAC) above is excessive. The contract is behind schedule; a schedule of remaining work items has been submitted.

PTD METRO RAIL PROJECT  
 CONTRACT #135 - UNION STATION  
 SECTION DESIGNER: HARRY WEESE & ASSOC.  
 SEPTEMBER 1984

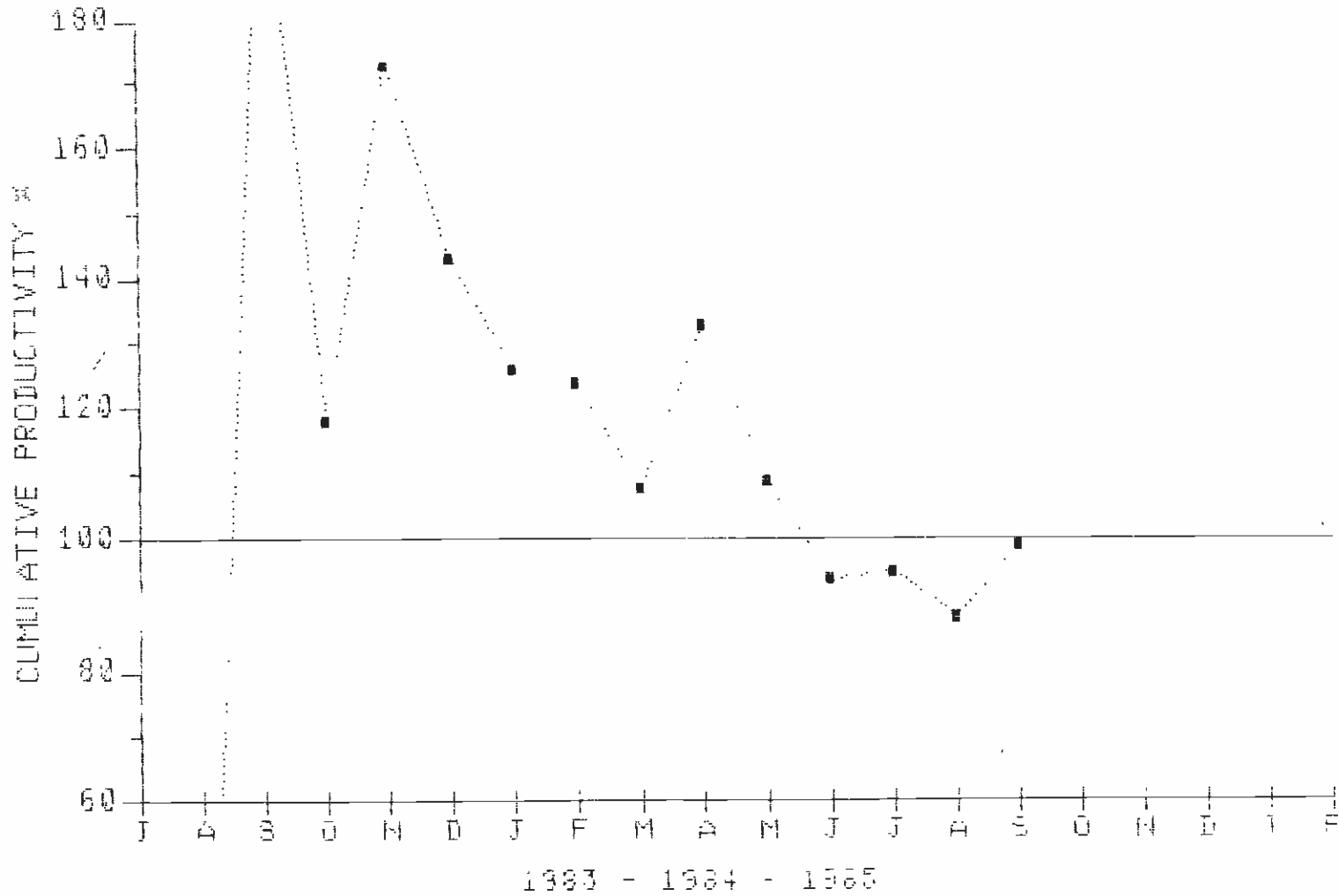


1983 - 1984 - 1985

--◇-- FORECAST	— ACTUAL	...x... PLANNED
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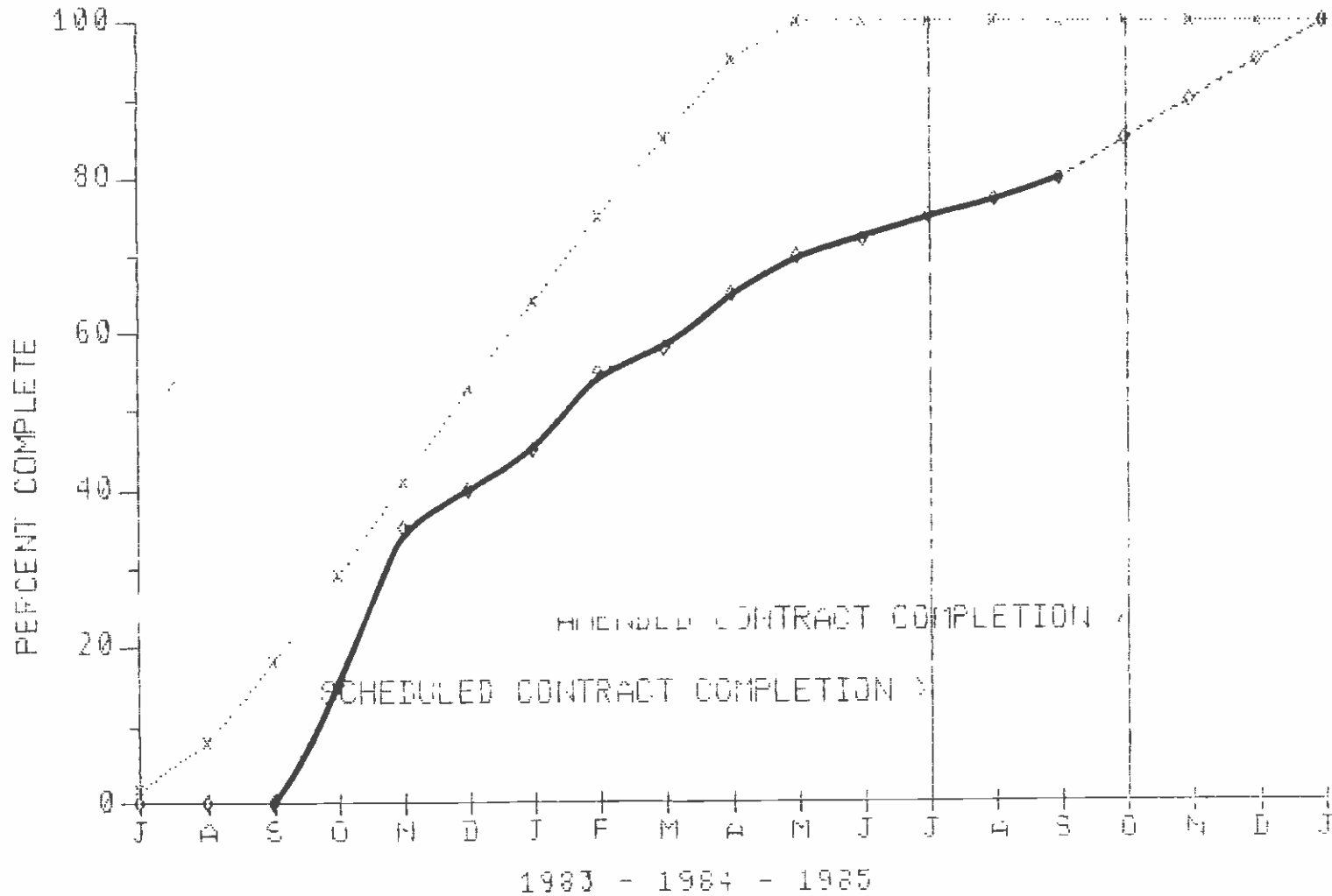
RTD METRO RAIL PROJECT  
 CONTRACT #135 - UNION STATION  
 SECTION DESIGNER: HARRY WEESE AND ASSOC.  
 SEPTEMBER, 1984



---■--- ACTUAL



RTD METRO RAIL PROJECT  
 CONTRACT A135 - UNION STATION  
 SECTION DESIGNER: HARRY WEESE & ASSOC.  
 SEPTEMBER 1984



COST PERFORMANCE REPORT

CONTRACT NO. : A140 Civic Center/5th & Hill  
 CONTRACTOR : Delon Hampton & Associates  
 REPORT PERIOD : September 1984

CONTRACT START DATE: 7/27/83  
 SCHEDULED COMPLETION DATE: 7/15/85

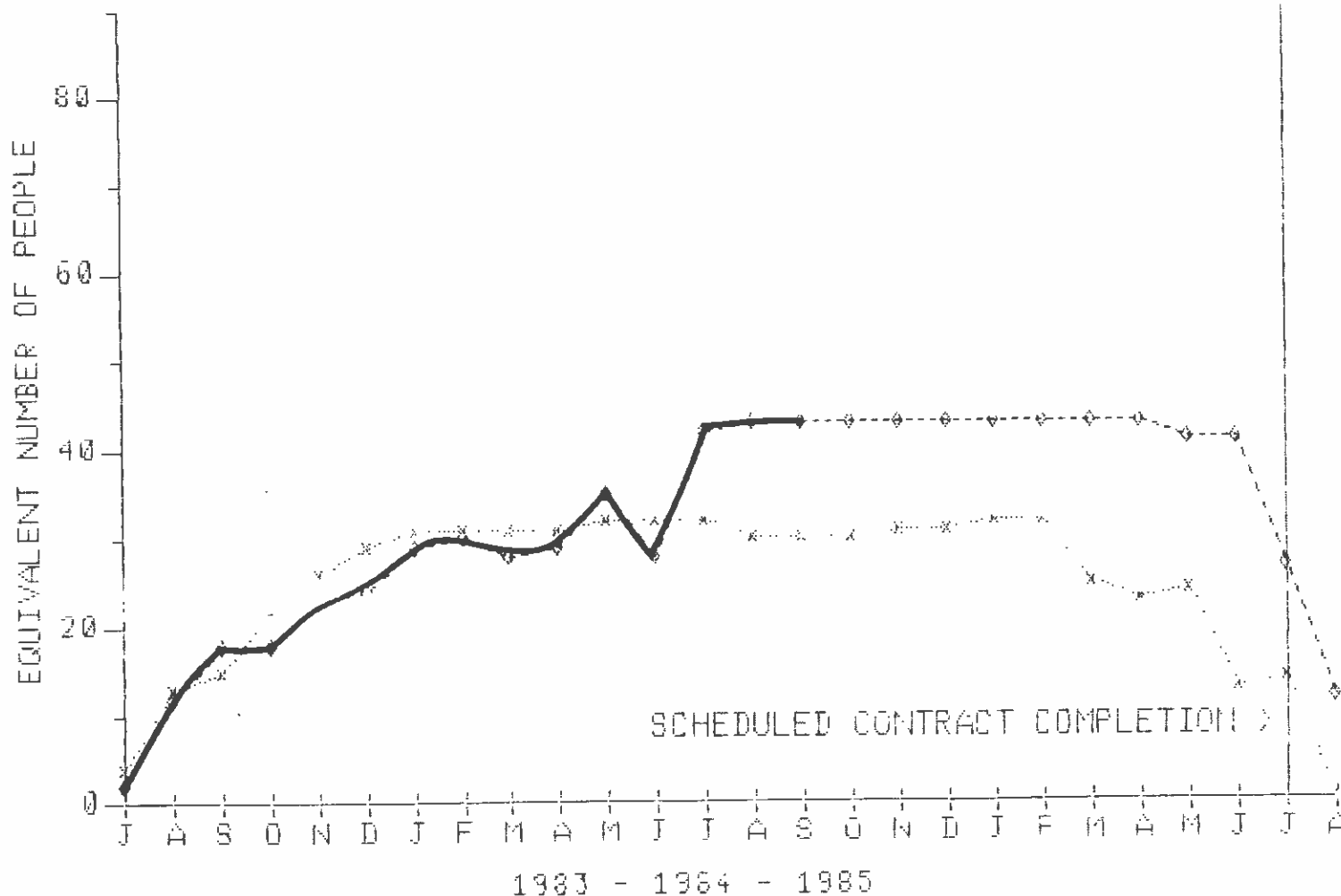
(1) ORIGINAL CONTRACT COST	(2) NEGOTIATED CONTRACT CHANGES	(3) CURRENT CONTRACT COST (1) + (2)	(4) PENDING CHANGES	(5) FORECAST AT COMPLETION (3) + (4)	(6) EXPENDED	(7) VARIANCE  (5) - (6)
8,761,000	6,732	6,210,439	606,000	6,816,439	3,082,000	3,734,439
CUMULATIVE TO DATE						
<u>COMPLETE</u>	<u>PRODUCTIVITY</u>	<u>C.P.I.</u>	<u>\$ COST VARIANCE</u>	<u>T.C.P.I.</u>	<u>I.F.A.C.</u>	
54	114	1.19	<584,600>	84	5,705,882	

CONCLUSIONS AND OBSERVATIONS:

The contractor maintains satisfactory progress and this contract is projected to be completed within forecasted cost and schedule.

24  
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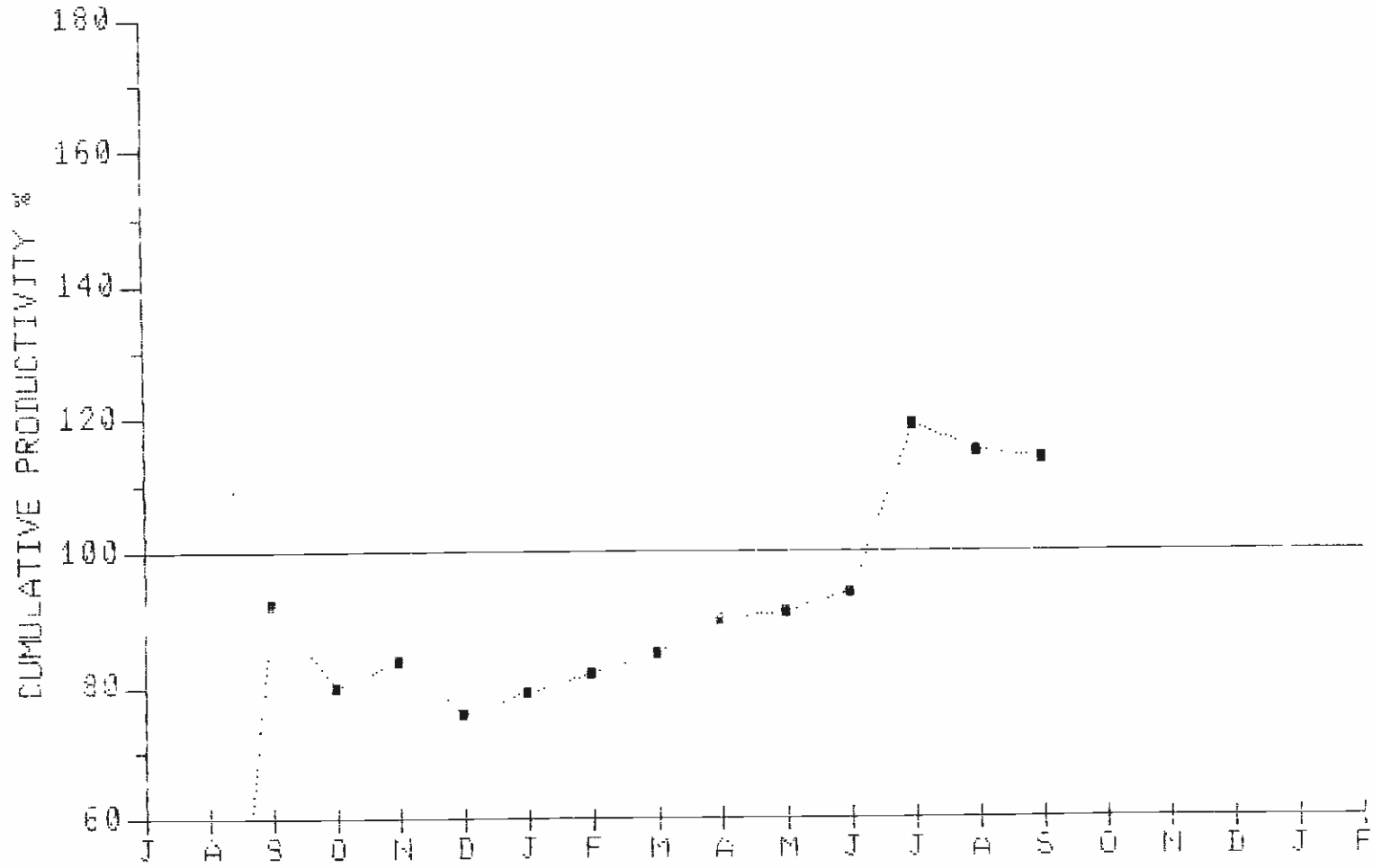
RTD METRO RAIL PROJECT  
 CONTRACT A140 - CIVIC CENTER/FIFTH & HILL  
 SECTION DESIGNER: DELON HAMPTON & ASSOC.  
 SEPTEMBER 1984



---◇--- FORECAST    ——— ACTUAL    .....\*..... PLANNED



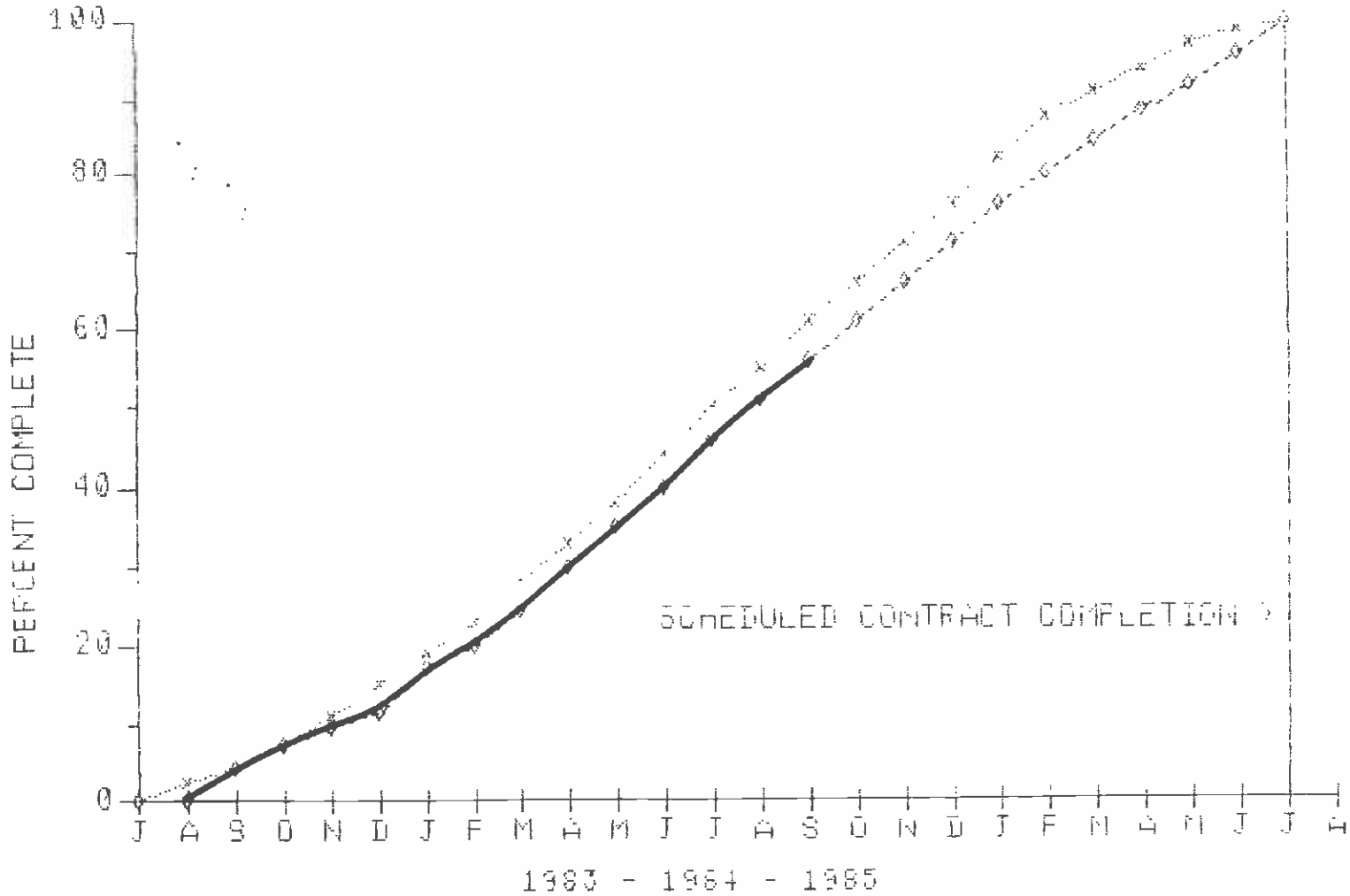
RTD METRO RAIL PROJECT  
 CONTRACT A140 - CIVIC CENTER/FIFTH & HILL  
 SECTION DESIGNER: DELON HAMPTON & ASSOC.  
 SEPTEMBER 1984



1983 - 1984 - 1985

..... ACTUAL

RTD METRO RAIL PROJECT  
 CONTRACT A140 - CIVIC CENTER/FIFTH & HILL  
 DESIGNER: DELON HAMPTON & ASSOC.  
 SEPTEMBER 1984



--◇-- FORECAST
—▲— ACTUAL
...×... PLANNED



COST PERFORMANCE REPORT

CONTRACT NO. : A165 7th/Flower Station  
 CONTRACTOR : Gannett Fleming/Dworsky  
 REPORT PERIOD : September 1984

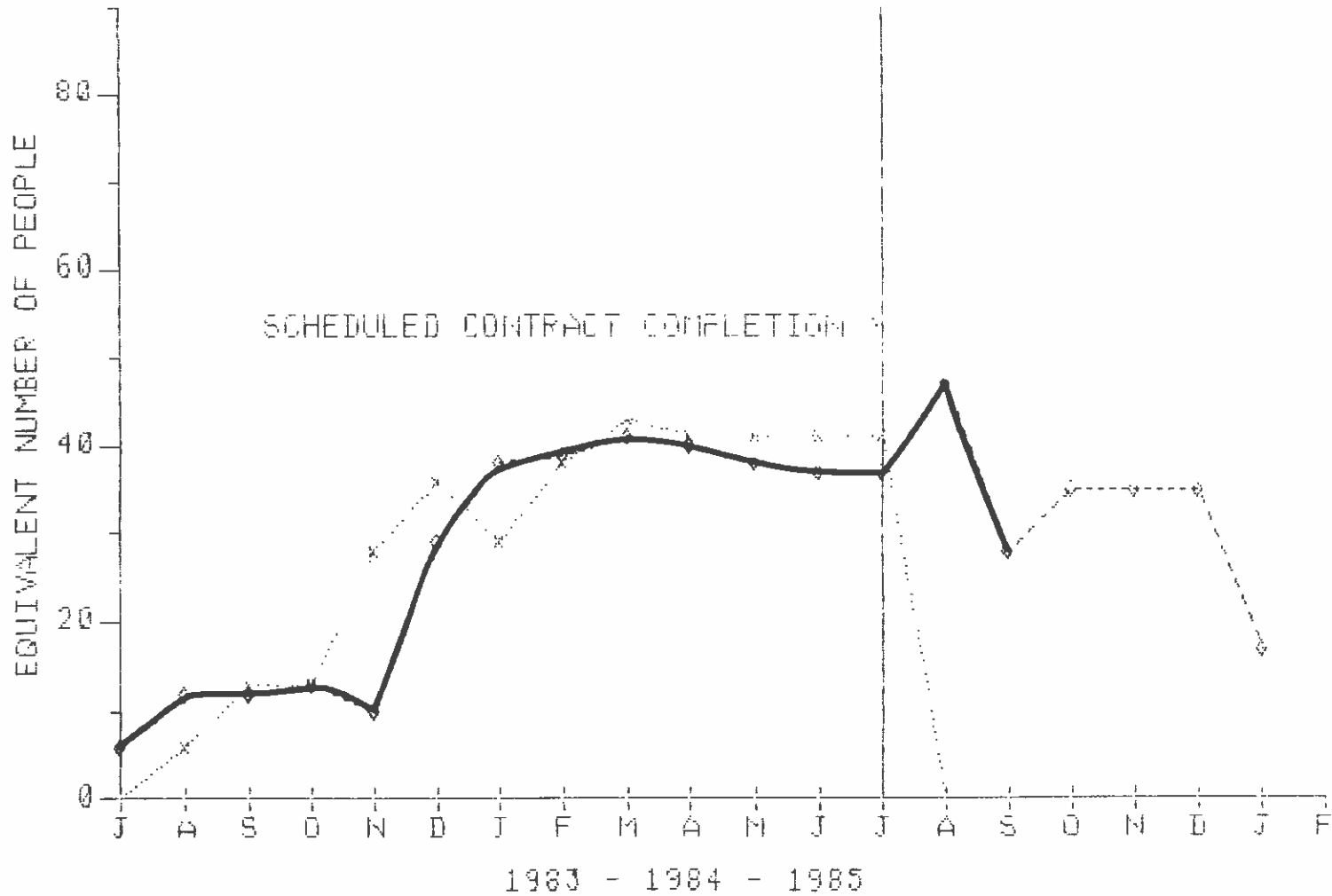
CONTRACT START DATE: 08/09/83  
 SCHEDULED COMPLETION DATE: 10/14/84

(1) ORIGINAL CONTRACT COST	(2) NEGOTIATED CONTRACT CHANGES	(3) CURRENT CONTRACT COST (1) + (2)	(4) PENDING CHANGES	(5) FORECAST AT COMPLETION (3) + (4)	(6) EXPENDED	(7) VARIANCE  (5) - (6)
2,129,587	532,515	2,662,102	1,277,898	3,940,000	2,903,000	1,037,000
CUMULATIVE TO DATE						
82	1.05	1.03	101,480	87	3,557,281	

CONCLUSIONS AND OBSERVATIONS:

The consultants cost and labor performance has improved considerably from last month with productivity increasing by 25% and the C.P.I. by 21%. All indications point to the consultant completing the contract under the currently forecasted amount.

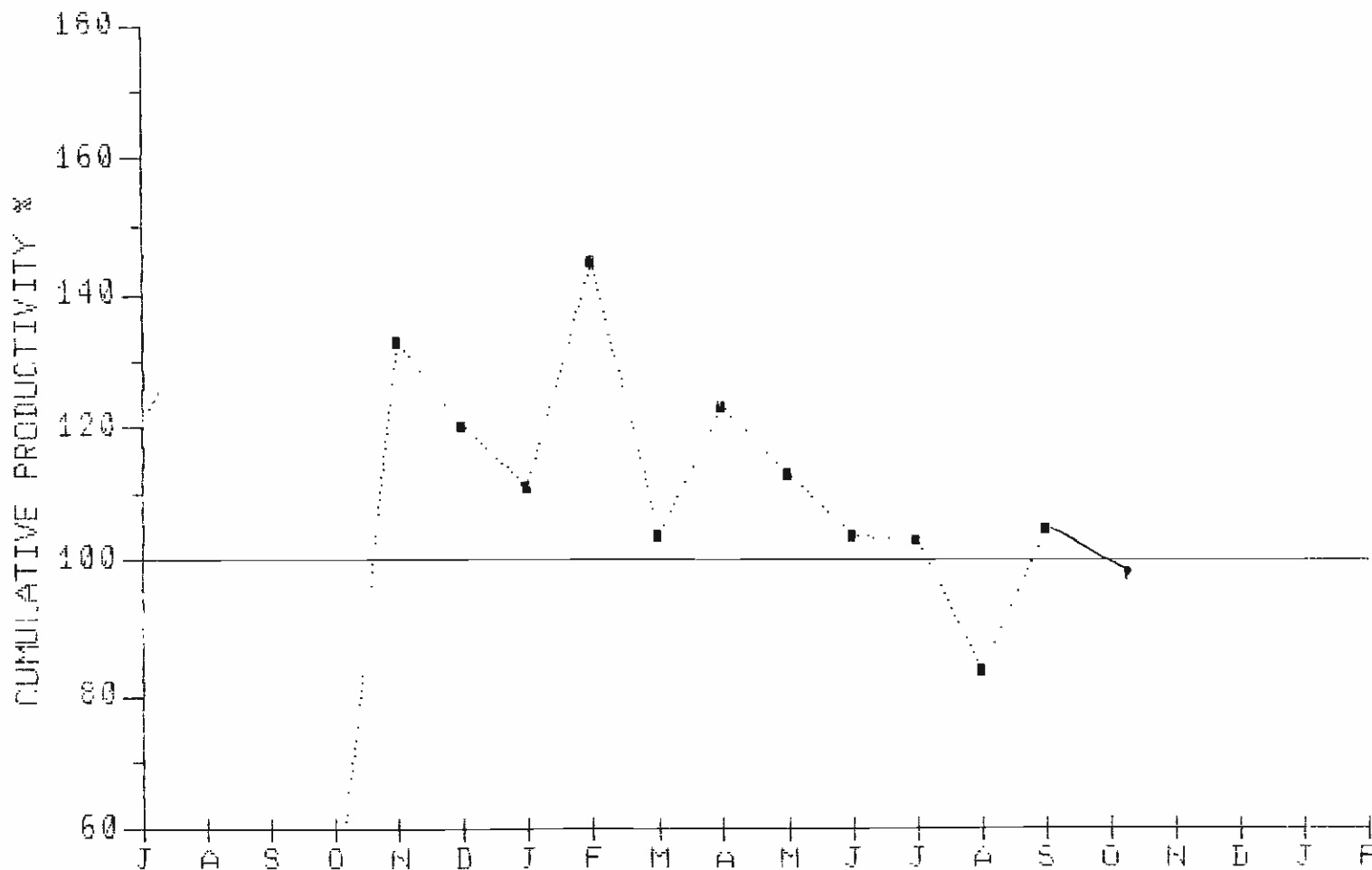
PTD METRO RAIL PROJECT  
 CONTRACT A165 - SEVENTH & FLOWER  
 SECTION DESIGNER: GANNETT FLEMING/DWORSKY  
 SEPTEMBER 1984



---◇--- FORECAST    ——— ACTUAL    ---x--- PLANNED



RTD METRO RAIL PROJECT  
 CONTRACT A165 - SEVENTH & FLOWER  
 SECTION DESIGNER: GANNETT FLEMING/DWORSKY  
 SEPTEMBER 1984



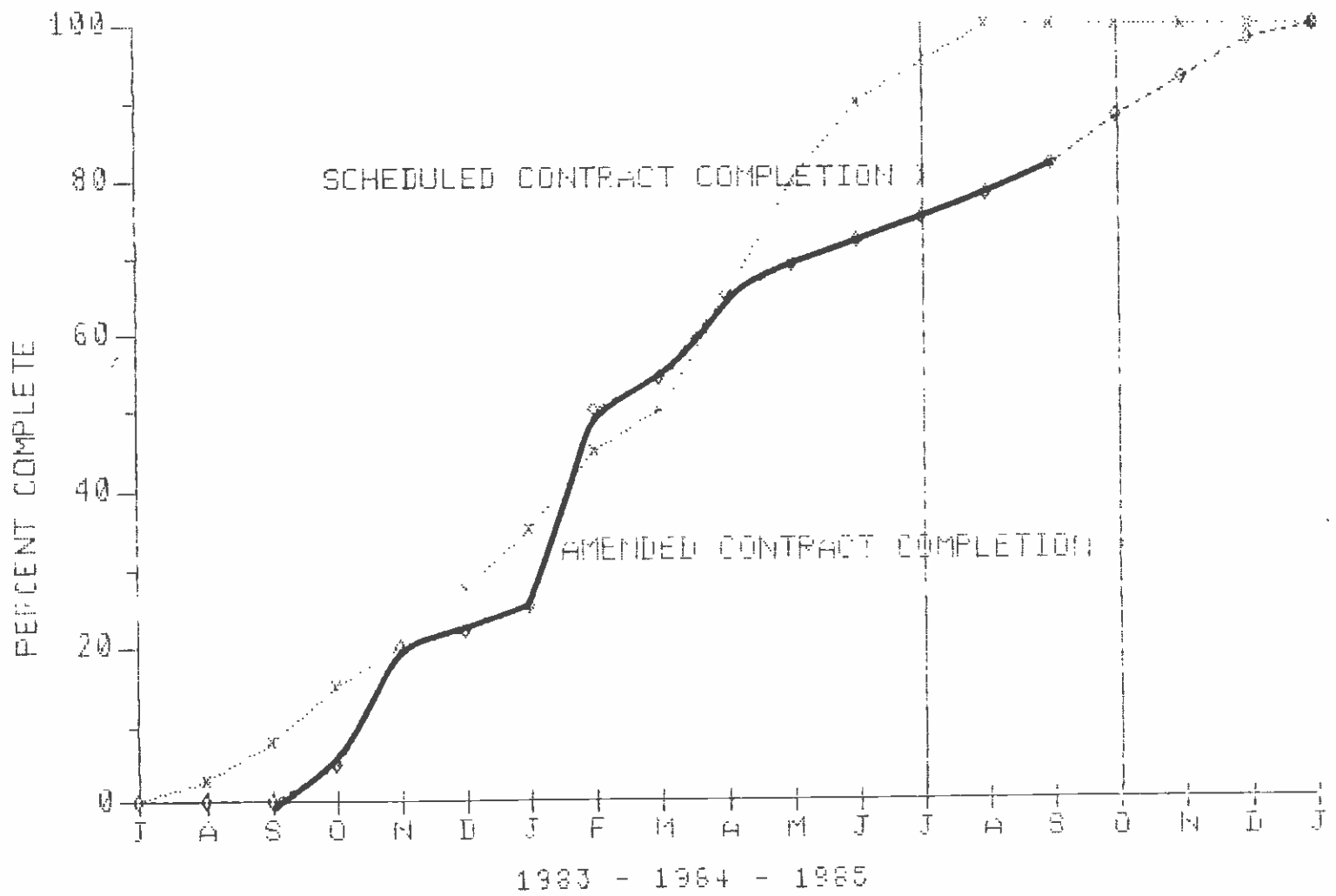
1983 - 1984 - 1985

—■— ACTUAL

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PTD METRO RAIL PROJECT  
 CONTRACT A165 - SEVENTH & FLOWER  
 SECTION DESIGNER, GANNETT FLEMING/DIVORSKY  
 SEPTEMBER 1984



COST PERFORMANCE REPORT

CONTRACT NO. : A170 Wilshire/Alvarado Station  
 CONTRACTOR : Sverdrup Corporation  
 REPORT PERIOD : September 1984

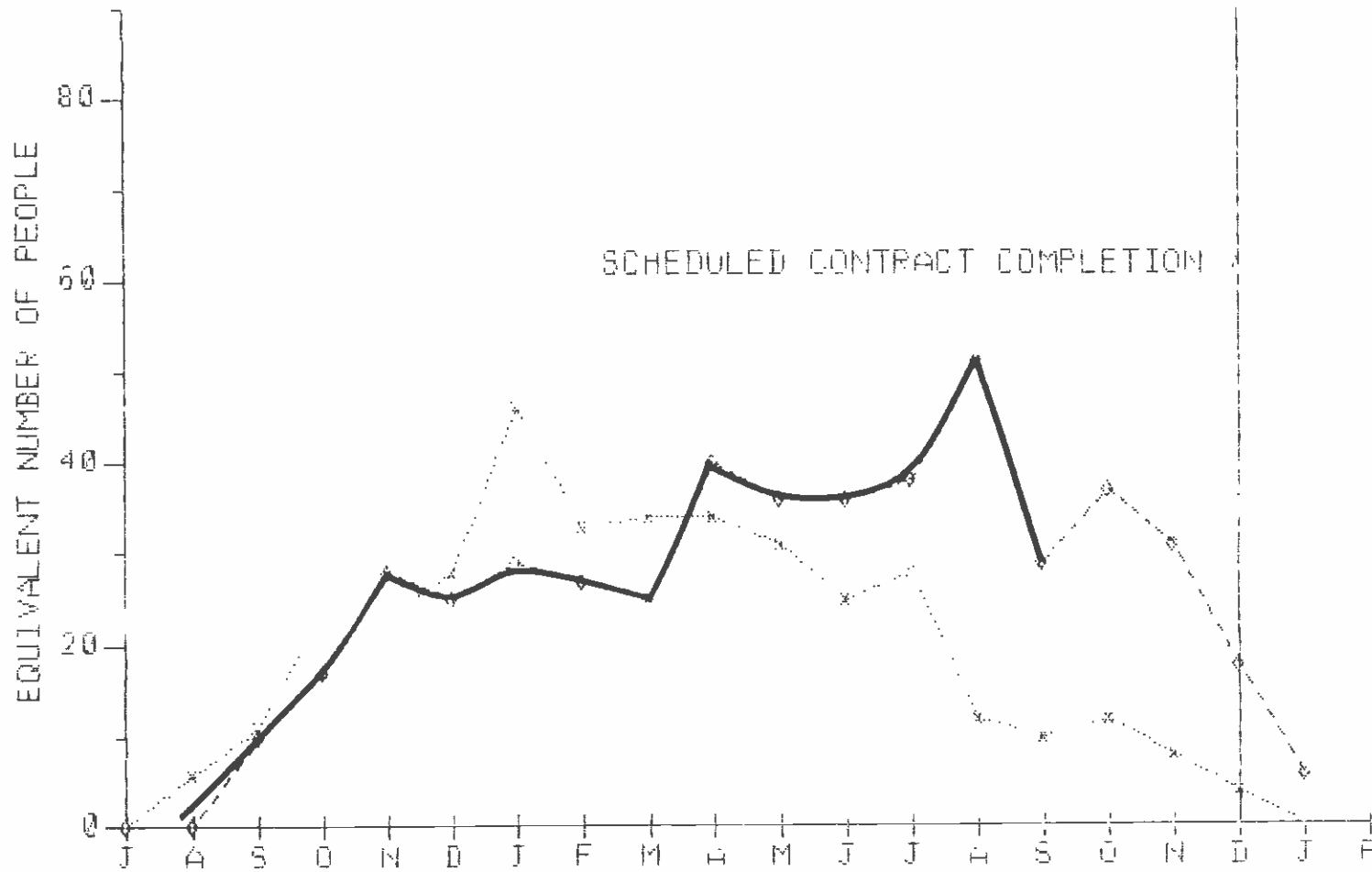
CONTRACT START DATE: 08/09/83  
 SCHEDULED COMPLETION DATE: 12/28/84

(1) ORIGINAL CONTRACT COST	(2) NEGOTIATED CONTRACT CHANGES	(3) CURRENT CONTRACT COST (1) + (2)	(4) PENDING CHANGES	(5) FORECAST AT COMPLETION (3) + (4)	(6) EXPENDED	(7) VARIANCE (5) - (6)
3,119,430	230,781	3,350,211	665,789	4,016,000	3,266,000	750,000
<u>CUMULATIVE TO DATE</u>						
<u>COMPLETE</u>	<u>PRODUCTIVITY</u>	<u>C.P.I.</u>	<u>COST VARIANCE</u>	<u>T.C.P.I.</u>	<u>I.E.A.C.</u>	
85	1.05	1.05	147,600	80	3,824,762	

**CONCLUSIONS AND OBSERVATIONS:**

The consultant's downward trend in productivity and cost performance has been reversed this month. Work has been progressing on a satisfactory basis and the consultant staffing levels are being reduced to correspond to the reduced workload.

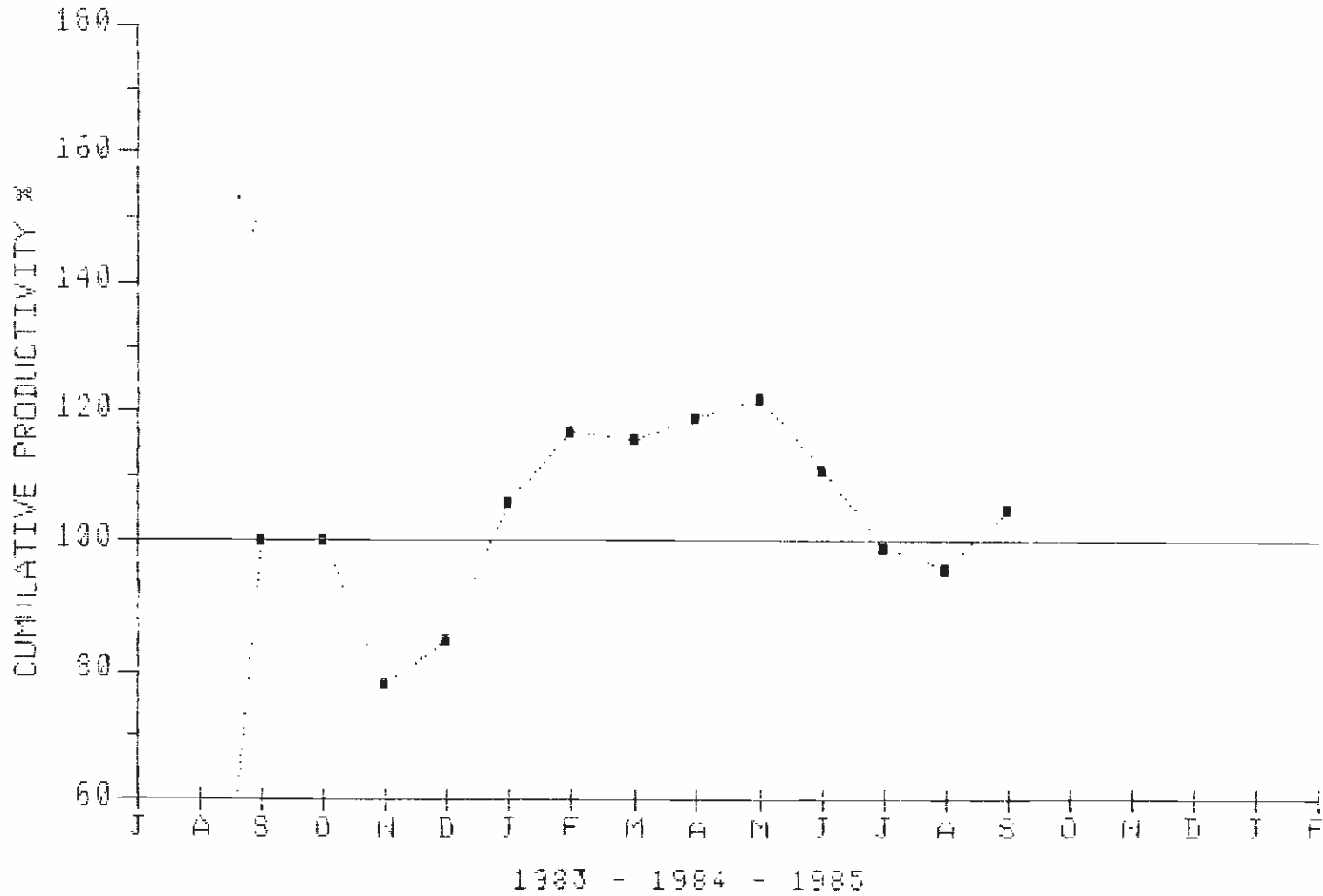
RTD METRO RAIL PROJECT  
 CONTRACT A170 - WILSHIRE/ALVARADO  
 SECTION DESIGNER: SVERDRUP CORP.  
 SEPTEMBER 1984



1983 - 1984 - 1985



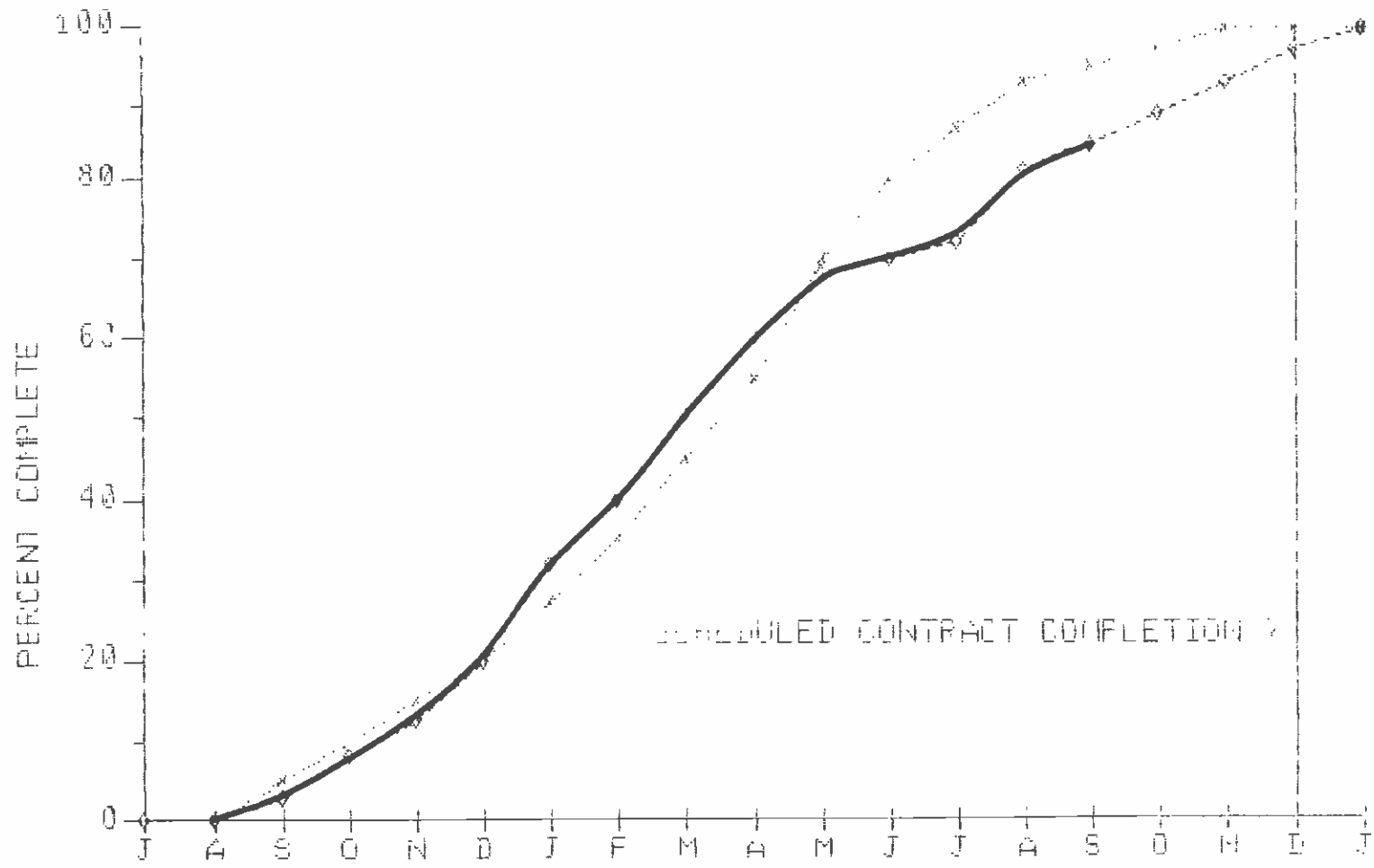
RTD METRO RAIL PROJECT  
 CONTRACT A170 - WILSHIRE/ALVARADO  
 SECTION DESIGNER: SVERDRUP CORP.  
 SEPTEMBER 1984



—■— ACTUAL

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RTD METRO RAIL PROJECT  
 CONTRACT A179 - MILSHIRE PALMARADO  
 SECTION DESIGNER: SVERDRUP CORP.  
 SEPTEMBER 1984



SCHEDULED CONTRACT COMPLETION

1983 - 1984 - 1985



B. SCHEDULE

### MOS-1 CRITICAL PATH

The Critical Path (MOS-1) defined in the Level II Schedule originates at Design Contract A170 (Wilshire/Alvarado Station and Line Section) and continues to Design Completion and the Construction Bid Process. This path follows construction through Utility Relocation, Support and Excavation, Tunnel Excavation and Invert Placement. The path then shifts to Trackwork Installation and on to Automatic Train Control and Communications Cabling and Installation to Energization of the system. The path then continues through Vehicle Acceptance Testing, Dynamic Testing and finally to Simulated Revenue Service Tests.

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METRO RAIL PROJECT  
DESIGN SCHEDULE STATUS

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DESIGN CONTRACTS	NOTICE TO PROCEED	CONTRACT TIME OF PERFORM.	60% SUBMITTAL		85% SUBMITTAL		100% SUBMITTAL		BID DOCUMENTS		CURR MONTH SLIPPAGE (C.D.)	TOTAL DELAY (WEEKS)
			SCHEDULE	F'CAST(F) ACTUAL(A)	SCHEDULE	F'CAST(F) ACTUAL(A)	SCHEDULE	F'CAST(F) ACTUAL(A)	SCHEDULE	F'CAST(F) ACTUAL(A)		
MOS-1: YARD & SHOPS	07/13/83	10/15/84										
A112			02/01/84	06/14/84A	03/28/84	10/08/84F	05/23/84	11/12/84F	-	12/10/84F	-	8
A114			-	01/27/84A	04/25/84	05/30/84A	06/13/84	08/27/84A	-	09/10/84A	-	-
A115			09/10/84	09/24/84A	10/08/84	-	12/10/84	12/10/84F	-	01/07/84F	-	12
A130			03/07/84	09/10/84A	05/02/84	10/29/84F	06/27/84	01/07/85F	-	01/29/85F	-	15
UNION STATION	07/13/83	10/09/84										
A135 STAGE I			02/01/84	03/09/84A	04/01/84	11/30/84F	06/01/84	02/01/85F	07/18/84	03/15/85F	-	22
A136 STAGE II			02/01/84	03/09/84A	04/01/84	11/30/84F	06/01/84	02/01/85F	07/18/84	03/15/85F	-	22
CIVIC CENTER/ 5TH & HILL	07/27/83	07/27/85										
A140 STAGE I			08/01/84	08/01/84A	03/01/85	03/01/85F	06/10/85	06/10/85F	07/15/85	07/15/85F	-	-
A142 EXC./SUP.			08/01/84	07/16/84A	09/07/84	09/21/84A	10/15/84	11/15/84F	11/15/84	11/15/84F	-	-
A147 STAGE II			08/01/84	08/01/84A	03/01/85	03/01/85F	06/10/85	06/10/85F	07/15/85	07/15/85F	-	-
A157 STAGE II			08/01/84	08/01/84A	03/01/85	03/01/85F	06/10/85	06/10/85F	07/15/85	07/15/85F	-	-
7TH & FLOWER	08/09/83	10/15/84*										
A165 STAGE I			02/07/84	03/12/84A	05/22/84	11/19/84F	08/07/84	01/14/85F	10/14/84	03/01/85F	-	19
A167 STAGE II			02/07/84	03/12/84A	05/22/84	11/19/84F	08/07/84	01/14/85F	10/14/84	03/01/85F	-	19
WILSH./ALVARADO	08/09/83	12/07/84										
A170 STAGE I			02/14/84	02/16/84A	05/30/84	10/21/84F	08/14/84	11/30/84F	09/26/84	12/21/84F	-	2
A187 STAGE II			04/02/84	05/07/84A	07/25/84	10/26/84F	11/02/84	11/09/84F	12/28/84	01/25/85F	35	7

\* Amendment #6 - Time of Performance Extension

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METRO RAIL PROJECT  
DESIGN SCHEDULE STATUS

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DESIGN CONTRACTS	NOTICE TO PROCEED	CONTRACT TIME OF PERFORM.	60% SUBMITTAL		85% SUBMITTAL		100% SUBMITTAL		BID DOCUMENT		CURR MONTH SLIPPAGE (C.D.)	TOTAL DELAY (WEEKS)
			SCHEDULE	F'CAST(F) ACTUAL(A)	SCHEDULE	F'CAST(F) ACTUAL(A)	SCHEDULE	F'CAST(F) ACTUAL(A)	SCHEDULE	F'CAST(F) ACTUAL(A)		
<u>BEYOND MOS-1</u>												
WILSH./VERMONT	08/12/83	08/11/84										
A195 STAGE I			02/07/84	02/10/84A	05/22/84	11/30/84F	08/07/84	-	-	-	-	22
A197 STAGE II			02/07/84	02/10/84A	05/22/84	11/30/84F	09/21/84	-	-	-	-	25
A222 TUNNEL	10/10/83		10/08/84	05/25/84A	04/08/85	11/30/84F	10/07/85	-	-	-	-	-
WILSH./WESTERN					08/05/84	08/23/84A	11/05/84	12/13/84F	02/04/85	-	-	-
A229 STAGE I			08/23/84	08/23/84A	11/05/84	02/14/85F	-	-	-	-	-	-
A237 STAGE II												
WILSH./NORMANDIE												
A220 STAGE I			12/03/84	01/17/85F	03/04/85	04/11/85F	05/03/85	-	-	-	-	-
A227 STAGE II			12/03/84	01/17/85F	03/04/85	05/30/85F	-	-	-	-	-	-
WILSH./CRENSHAW	01/27/84	01/25/85										
A240 STAGE I			07/26/84	09/13/84A	11/01/84	11/15/84F	01/14/85	-	-	-	-	-
A242 STAGE II			07/26/84	09/13/85A	11/01/84	11/15/85F	01/14/85	-	-	-	-	-
WILSH./LA BREA	10/10/83	10/15/84										
A245 STAGE I			04/15/84	05/07/84A	07/07/84	11/05/84F	10/16/84	-	-	-	-	-
A247 STAGE II			04/15/84	05/07/84A	07/07/84	11/05/84F	10/16/84	-	-	-	-	-
WILSH./FAIRFAX & LINE	03/02/84	05/17/85										
A250 STAGE I			11/12/84	11/12/84F	03/04/85	03/04/85F	05/06/85	-	-	-	-	-
A257 STAGE II			11/12/84	11/12/84F	03/04/85	03/04/85F	05/06/85	-	-	-	-	-

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METRO RAIL PROJECT  
DESIGN SCHEDULE STATUS

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DESIGN CONTRACTS	NOTICE TO PROCEED	CONTRACT TIME OF PERFORM.	60% SUBMITTAL		85% SUBMITTAL		100% SUBMITTAL		BID DOCUMENTS		CURR MONTH SLIPPAGE (C.D.)	TOTAL DELAY (WEEKS)
			SCHEDULE	F'CAST(F) ACTUAL(A)	SCHEDULE	F'CAST(F) ACTUAL(A)	SCHEDULE	F'CAST(F) ACTUAL(A)	SCHEDULE	F'CAST(F) ACTUAL(A)		
FAIRFAX/BEVERLY A275 STAGE I A277 STAGE II	12/30/83	12/27/84	06/28/84	06/28/84A	09/27/84	10/01/84F	12/27/84	-	-	-	-	-
FAIRFAX/SANTA MONICA & TUNNEL A320 STAGE I A327 STAGE II	12/05/83	12/05/85	11/10/84	11/08/84F	03/10/85	03/10/85F	06/10/85	-	-	-	-	-
LA BREA/SUNSET A330 STAGE I A347 STAGE II			02/10/85	02/10/85F	05/25/85	05/25/85F	10/10/85	-	-	-	-	-
HOLLYWOOD/CAHUENGA A350 STAGE I A352 STAGE II	12/29/83	05/02/85	08/27/84	09/10/84A	02/11/85	02/11/85F	-	-	-	-	-	-
LINE BETWEEN HOLLYWOOD/CAHUENGA AND UNIVERSAL CITY A410	12/29/83	12/29/84	05/28/84	07/31/84A	09/28/84	10/30/84F	12/28/84	-	-	-	-	-
HOLLYWOOD BOWL A415	02/13/84	02/11/85	08/13/84	11/02/84F	-	-	-	-	-	-	-	-
UNIVERSAL CITY A425 STAGE I A427 STAGE II	02/13/84	02/11/85	08/13/84	08/15/84A	11/19/84	11/19/84F	02/11/85	-	-	-	-	-

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METRO RAIL PROJECT  
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DESIGN CONTRACTS	NOTICE TO PROCEED	CONTRACT TIME OF PERFORM.	50% SUBMITTAL		85% SUBMITTAL		100% SUBMITTAL		BID DOCUMENTS		CURR MONTH SLIPPAGE (C.D.)	TOTAL DELAY (WEEKS)
			SCHEDULE	F'CAST(F) ACTUAL(A)	SCHEDULE	F'CAST(F) ACTUAL(A)	SCHEDULE	F'CAST(F) ACTUAL(A)	SCHEDULE	F'CAST(F) ACTUAL(A)		
LINE BETWEEN UNIVERSAL CITY & NO. HOLLYWOOD A430	12/29/83	12/29/84	07/06/84	08/06/84A	10/08/84	10/08/84F	12/28/84	-	-	-	-	-
NORTH HOLLYWOOD A445 STAGE I	12/29/83	05/28/85	09/20/84	09/20/84F	01/31/85	01/31/85F	05/27/85	-	-	-	-	-
A447 STAGE II			09/20/84	09/20/84F	01/31/85	-	05/27/85	-	-	-	-	-
SYSTEMWIDE												
A610 MAINLINE TRACKWORK	03/01/84	-	01/15/85	01/15/85F	05/15/85	05/15/85F	07/05/85	09/01/85F	11/01/85	11/01/85F	-	-
A611 RUNNING RAIL SPEC.	05/01/84	-	07/13/84	07/13/84A	10/15/84	10/15/84F	12/05/84	12/05/84	02/01/85	02/01/85F	-	-
A613 TIMBER TIE SPEC.	08/01/84	-	09/14/84	09/14/84F	12/14/84	12/14/84F	02/05/85	02/05/85F	03/20/85	03/20/85F	-	-
A614 SPECIAL TRACKWORK	02/15/84	-	09/07/84	09/07/84F	11/01/84	11/01/84F	02/01/85	02/01/85F	04/15/85	04/15/85F	-	-
A615 DIR. FIX. FASTENER SPEC.	10/01/84	-	02/15/85	02/15/85F	05/01/85	05/01/85F	06/20/85	06/20/85	08/01/85	08/01/85F	-	-
A617 RAIL WELDING SPEC.	08/31/84	-	11/30/84	11/30/84F	03/01/85	03/01/85F	04/19/85	04/19/85F	06/04/85	06/04/85F	-	-

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DESIGN SCHEDULE STATUS

STATUS AS OF: September 30, 1984

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DESIGN CONTRACTS	NOTICE TO PROCEED	CONTRACT TIME OF PERFORM.	50% SUBMITTAL		95% SUBMITTAL		100% SUBMITTAL		BID DOCUMENTS		CURR MONTH SLIPPAGE (C.D.)	TOTAL DELAY (WEEKS)
			SCHEDULE	F'CAST(F) ACTUAL(A)	SCHEDULE	F'CAST(F) ACTUAL(A)	SCHEDULE	F'CAST(F) ACTUAL(A)	SCHEDULE	F'CAST(F) ACTUAL(A)		
A618 YARD TRACKWORK	06/01/84	-	01/02/85	01/02/85F	04/01/85	04/01/85	05/20/85	05/20/85F	07/23/85	07/23/85F	-	-
A620 ATC	05/02/83	-	09/29/84	-	12/09/84	-	04/19/85	04/19/85F	06/07/85	06/07/85F	-	-
A630 TRACTION POWER EQUIP.	02/01/84	-	04/30/84	05/29/84A	11/30/84	11/30/84F	02/25/85	02/25/84F	-	-	-	-
A640 COMM.	05/02/83	-	03/30/85	03/30/85F	05/30/85	05/30/85F	07/30/85	07/30/85F	-	-	-	-
A650 PASS. VEHICLES	05/02/83	-	07/23/84	07/23/84A	11/01/84	12/03/84	02/15/85	-	-	-	-	-
A660 FARE COLLECTION	05/02/83	-	11/01/84	-	06/01/85	06/01/85	01/02/86	01/02/86F	-	-	-	-
A670 - 671 LOCOMOTIVE	05/02/83	-	05/01/84	05/11/84A	10/01/84	10/18/84F	02/15/85	02/15/85F	-	-	-	-
A710 ESCALATORS	05/02/83	-	01/30/84	02/08/84A	05/01/84	05/21/84A	06/01/84	10/22/84F	-	12/03/84	-	-
A720 ELEVATORS	05/02/83	-	05/01/84	07/05/84A	N/A	N/A	07/01/84	10/15/84F	-	11/26/84	-	-
A740 FANS	01/15/84	-	04/02/84	04/16/84A	09/24/84	09/24/84F	05/02/85	05/02/85F	05/13/85	05/13/85F	-	-
A745 TPSS AIR HANDLING EQUIP.	05/15/84	-	-	-	-	-	05/02/85	05/02/85F	-	-	-	-

N/A = Not Applicable

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DESIGN CONTRACTS	NOTICE TO PROCEED	CONTRACT TIME OF PERFORM.	60% SUBMITTAL		85% SUBMITTAL		100% SUBMITTAL		BID DOCUMENTS		CURR MONTH SLIPPAGE (C.D.)	TOTAL DELAY (WEEKS)
			SCHEDULE	F'CAST(F) ACTUAL(A)	SCHEDULE	F'CAST(F) ACTUAL(A)	SCHEDULE	F'CAST(F) ACTUAL(A)	SCHEDULE	F'CAST(F) ACTUAL(A)		
A750 TUNNEL LINERS	10/01/83	-	05/16/84	05/16/84A	08/15/84	08/23/84A	12/15/84	11/16/84F	-	-	-	-
A760 SIGNING	02/22/84	-	09/14/84	09/21/84A	11/09/84	11/09/84F	12/24/84	12/24/84F	12/24/84	12/24/84F	-	-
GROUP A		-	10/26/84	10/26/84F	12/21/84	12/21/84F	01/25/85	01/25/85F	01/25/85	01/25/85F	-	-
GROUP B		-	12/07/84	12/07/84F	02/01/85	02/01/85F	03/08/85	03/08/85F	03/08/85	03/08/85F	-	-
GROUP C		-										

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METRO RAIL PROJECT  
SCHEDULE EXCEPTION REPORT

Minimum Operable Segment-1 Design Contracts

CONTRACT: A112 Main Shop Building and Yard Service Area

AREA OF CONCERN: Contract completion is forecast eight (8) weeks beyond the Contract Time of Performance (10/15/84). Delay is due to the following:

- o reclassifying the main Shop Building as a B-4 occupancy and of Type II-FR construction per 1979 Uniform Building Code (UBC),
- o repackaging of all contracts within A100 due to ROW acquisition - Santa Fe.

RECOMMENDATION: An amendment is currently in preparation to extend the Contract Time of Performance and additional design cost Engineering Change Request (ECR's).

-----

CONTRACT: A115 Yard Storage Area

AREA OF CONCERN: Contract completion is forecast twelve (12) weeks beyond the Contract Time of Performance (10/15/84). Delay is due to the following:

- o incorporation of bid documents from the now deleted A110 contract,
- o repackaging of all contracts within A100 due to ROW acquisition - Santa Fe.

RECOMMENDATION: An amendment is currently in preparation to extend the Contract Time of Performance. Additional design cost ECR's will be negotiated.

-----

CONTRACT: A130 Yard Leads and Transfer Zone

AREA OF CONCERN: Contract completion is forecast fifteen (15) weeks beyond the Contract Time of Performance (10/15/84). Delay is due to the following:

- o incorporation of seismic design criteria,
- o repackaging of all contracts within A100 due to ROW acquisition - Santa Fe.

RECOMMENDATION: An amendment is currently in preparation to extend the Contract Time of Performance. Additional design cost ECR's will be negotiated.

CONTRACT: A135 Union Station

AREA OF CONCERN: Contract completion is forecast 22 weeks beyond the Contract Time of Performance (10/09/84). Delay is due to the late submittal of seismic design criteria to Section Designer.

RECOMMENDATION: It is recommended the schedule be revised to show remaining work items and strictly monitored to avoid further delays.

-----

CONTRACT: A165 7th/Flower Station

AREA OF CONCERN: Contract completion is forecast 19 weeks beyond the Contract Time of Performance (10/15/84). Delay is due to the following:

- o lack of design criteria,
- o continuous design changes.

Incorporation of the seismic design criteria may cause additional delay.

RECOMMENDATION: The schedule should be revised to reflect remaining work items.

-----

CONTRACT: A170/A187 Wilshire/Alvarado Station & Line

AREA OF CONCERN: Contract completion is forecast seven (7) weeks beyond the Contract Time of Performance (12/07/84). Delay is due to the following:

- o significant changes in criteria and drawings,
- o delayed submittal of seismic design criteria,
- o the base line final specifications to Section Designer are not available for mark-up by the Section Designer.

RECOMMENDATION: The Section Designer has been advised to have all submittals in no later than December 31; MRTD & SCRTD to do a comprehensive review of submittals in order to meet the Contract Completion Date.

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