
APPENDIX D

ORANGE COUNTY COMPREHENSIVE SEWERAGE STUDY

APPENDIX D

PROJECT SCENARIO COMPONENT COSTS FOR SECOND STAGE EVALUATION
All Costs in 1991 Dollars

Approach No.	Description	Service Area	Pipeline Costs		Pumping Station Costs		Treatment Related Costs		Total Project Costs			
			Capital, \$1000	1995 O&M, \$1000/yr	Capital, \$1000	1995 O&M, \$1000/yr	Capital, \$1000	1995 O&M, \$1000/yr	Capital, \$1000	1995 O&M, \$1000/yr	2020 O&M, \$1000/yr	
Stage 1 Rec.	Maint Cornwall & Firthcliff STPs at 1.72 mgd SEC	Cornwall (UT&V)	\$0	\$0	\$0	\$0	\$0	\$630	\$670	\$0	\$630	\$670
Stage 1 Rec.	Exp Pine Bush STP from 0.15 to 0.3 mgd ADV(LL)	Crawford	\$0	\$0	\$0	\$0	\$3,500	\$260	\$370	\$3,500	\$260	\$370
Stage 1 Rec.	New pkg STPs & septic for 0.08 mgd	Deerpark	\$0	\$0	\$0	\$0	\$1,400	\$17	\$80	\$1,400	\$20	\$80
Stage 1 Rec.	Exp/Up Florida STP from 0.3 to 0.45 mgd ADV(LL)	Florida	\$0	\$0	\$0	\$0	\$3,500	\$380	\$450	\$3,500	\$380	\$450
Stage 1 Rec.	Maintain Goshen (V) STP for 1.5 mgd ADV(LL)	Goshen (V)	\$0	\$0	\$0	\$0	\$0	\$640	\$710	\$0	\$640	\$710
Stage 1 Rec.	New pkg STPs & septic for 0.06 mgd	Greenville	\$0	\$0	\$0	\$0	\$1,200	\$17	\$60	\$1,200	\$20	\$60
Stage 1 Rec.	New pkg STPs & septic for 0.05 mgd	Hamptonburgh	\$0	\$0	\$0	\$0	\$1,100	\$17	\$50	\$1,100	\$20	\$50
Stage 1 Rec.	Maintain Cragston STP for 1.35 mgd SEC	Highland Falls	\$0	\$0	\$0	\$0	\$0	\$300	\$360	\$0	\$300	\$360
Stage 1 Rec.	Exp Fort Montgom. STP from 0.12 to 0.14 mgd SEC	Highlands	\$0	\$0	\$0	\$0	\$400	\$90	\$210	\$400	\$90	\$210
Stage 1 Rec.	Upgrade Haybrook STP for 0.4 mgd ADV(LL)	Haybrook	\$0	\$0	\$0	\$0	\$2,900	\$400	\$410	\$2,900	\$400	\$410
Stage 1 Rec.	Maintain Middletown STP at 6.0 mgd ADV(LL)	Middletown	\$0	\$0	\$0	\$0	\$0	\$2,190	\$2500	\$0	\$2,190	\$2,500
Stage 1 Rec.	New pkg STPs & septic for 0.06 mgd	Minisink/Unionvil	\$0	\$0	\$0	\$0	\$1,200	\$17	\$60	\$1,200	\$20	\$60
Stage 1 Rec.	New 0.6 ADV(LL) mgd Wallkill R. STP	Montgomery (UT)	\$0	\$0	\$0	\$0	\$6,400	\$250	\$510	\$6,400	\$250	\$510
Stage 1 Rec.	Maint. Montgomery (V) STP for 0.5 mgd ADV(LL)	Montgomery (V)	\$0	\$0	\$0	\$0	\$0	\$400	\$450	\$0	\$400	\$450

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Stage 1 Rec.	Expand Newburgh (C) STP from 7.0 to 9.3 mgd SEC	Newburgh (C) Newburgh (UT)	\$0	\$0	\$0	\$0	\$8,300	\$1,300	\$8,300	\$1,300	\$2,350
Stage 1 Rec.	Expand New Windsor STP from 5 to 12.0 mgd SEC	New Windsor Cornwall (UT) Cornwall (V)	\$0	\$0	\$0	\$0	\$25,700	\$2,390	\$25,700	\$2,390	\$4,330
Stage 1 Rec.	Maintain Port Jervis STP for 2.5 mgd SEC	Port Jervis	\$0	\$0	\$0	\$0	\$0	\$600	\$0	\$600	\$650
Stage 1 Rec.	Exp/Upgr Hamlet STP from 0.1 to 0.2 mgd ADV(LL)	Tuxedo (UT)	\$0	\$0	\$0	\$0	\$3,200	\$200	\$3,200	\$200	\$320
Stage 1 Rec.	Upgrade Tuxedo Park STP at 0.15 mgd ADV(LL)	Tuxedo Park (V)	\$0	\$0	\$0	\$0	\$1,700	\$200	\$1,700	\$200	\$270
Stage 1 Rec.	Maintain Walden STP for 1.1 mgd SEC	Walden	\$0	\$0	\$0	\$0	\$0	\$400	\$0	\$400	\$470
Local 1.	New 0.4 mgd ADV(H) Trout Brook STP	Greenwood Lake	\$2,400	\$2	\$3	\$1,200	\$21	\$29	\$5,900	\$300	\$490
Local 2.	New 0.2 mgd ADV(H) Shawangunk Kill STP	Mt. Hope/Otisville	\$0	\$0	\$0	\$0	\$4,300	\$280	\$4,300	\$280	\$350
Local 3.	Expand Wallkill STP from 4.0 to 4.8 mgd	Wallkill	\$0	\$0	\$0	\$0	\$8,900	\$1,330	\$8,900	\$1,330	\$2,190
Local 4.	Exp/Up Warwick (U) STP from 0.39 to 1.0 mgd ADV(H) Warwick (UT)	Warwick (UT)	\$0	\$0	\$0	\$0	\$8,300	\$450	\$8,300	\$450	\$770
Local 5.	Maintain Warwick (U) STP at 0.39 mgd ADV(LL)	Warwick (UT)	\$0	\$0	\$0	\$0	\$0	\$410	\$0	\$410	\$410
Local 6.	Exp/Up Warwick (V) STP from 0.5 to 0.9 mgd ADV(LL) Warwick (V)	Warwick (V)	\$0	\$0	\$0	\$0	\$6,500	\$600	\$6,500	\$600	\$640

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Local 7.	Exp/Up Wash-ville STP from 0.4 to 0.9 mgd ADV(L)	Washingtonville	\$0	\$0	\$0	\$0	\$6,400	\$400	\$6,400	\$400	\$640
Regional 1a.	Expand/Upgrade OCSO#1 STP to 4.6 mgd ADV(U)	OCSO#1	\$0	\$0	\$0	\$0	\$13,300	\$1,200	\$13,300	\$1,200	\$2,240
Regional 1b.	Pipelines Routes: 1.1, 1.2 Pumping Stations: 1.1 Expand/Upgrade OCSO#1 STP to 5.0 mgd ADV(U)	OCSO#1 Greenwood Lake	\$4,700	\$5	\$6	\$21	\$29	\$13,400	\$1,300	\$2350	\$2,350
Regional 2a.	Pipelines Routes: 1.2, 2.1(R), 2.2(R), 3.1(R), 3.2(R), 3.3 Pumping Stations: 2.1(R), 3.1(R), 3.3 New 6.0 mgd SEC Hudson R. STP	MBSR Washingtonville	\$23,600	\$30	\$37	\$119	\$211	\$23,500	\$1,000	\$1680	\$1,930
Regional 2b.	Pipelines Routes: 1.1, 1.2, 2.1(R), 2.2(R), 3.1(R), 3.2(R), 3.3 Pumping Stations: 1.1, 2.1(R), 3.1(R), 3.3 New 6.5 mgd SEC Hudson R. STP	MBSR Washingtonville Greenwood Lake	\$28,300	\$35	\$40	\$140	\$240	\$25,000	\$1,000	\$1790	\$2,070
Regional 2c.	Pipelines Routes: 1.1, 1.2, 2.1(R), 2.2(R), 3.1(R), 3.2(R), 3.3, 5.1 Pumping Stations: 1.1, 2.1(R), 3.1(R), 3.3, 5.1 New 7.5 mgd SEC Hudson R. STP	MBSR Washingtonville Greenwood Lake Goshen (UT)	\$29,900	\$38	\$43	\$165	\$278	\$26,000	\$1,100	\$2040	\$2,360

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Regional 3.	<u>Pipelines Routes:</u> 6.1, 7.1, 7.2 <u>Pumping Stations:</u> 6.1, 7.1 New 1.5 mgd ADV(L) Walkkill River STP	Goshen (UT) Wayayanda	\$2,000	\$2	\$3	\$2,800	\$48	\$85	\$10,700	\$500	\$900	\$15,500	\$550	\$990
Regional 4.	<u>Pipelines Routes:</u> none <u>Pumping Stations:</u> none New 0.6 mgd ADV(H) Shawangunk K. STP	Mount Hope Otisville State & Fed. Jails	\$0	\$0	\$0	\$0	\$0	\$0	\$7,100	\$300	\$580	\$7,100	\$300	\$580
Regional 5a.	<u>Pipelines Routes:</u> 6.2, 7.1 <u>Pumping Stations:</u> 7.1 Exp/Upgr Walkkill STP from 4 to 5.3 mgd ADV(L)	Walkkill Wayayanda	\$1,200	\$2	\$2	\$1,100	\$20	\$25	\$11,100	\$1,300	\$2240	\$13,400	\$1,320	\$2,270
Regional 5b.	<u>Pipelines Routes:</u> 6.1, 6.2, 7.1 <u>Pumping Stations:</u> 6.1, 7.1 Exp/Upgr Walkkill STP from 4 to 6.2 mgd ADV(L)	Walkkill Wayayanda Goshen (UT)	\$2,000	\$3	\$4	\$2,800	\$48	\$85	\$14,300	\$1,500	\$2600	\$19,100	\$1,550	\$2,690
Regional 6.	<u>Pipelines Routes:</u> none <u>Pumping Stations:</u> none Exp/Upgr Warwick (V) STP from 0.5 to 1.5 mgd ADV(L)	Warwick (UT) Warwick (V)	\$0	\$0	\$0	\$0	\$0	\$0	\$9,000	\$540	\$890	\$9,000	\$540	\$890
Central 1a.	<u>Pipelines Routes:</u> 1.1, 2.2, 1.2, 2.3, 1.3, 2.3, 3.3 <u>Pumping Stations:</u> 1.1, 2.1, 3.1, 3.3 New 11.1 mgd SEC Kusdon R. STP	OCSD#1 MSR Washingtonville Greenwood Lake	\$35,600	\$44	\$54	\$11,300	\$186	\$337	\$31,600	\$1,500	\$2810	\$78,500	\$1,750	\$3,200

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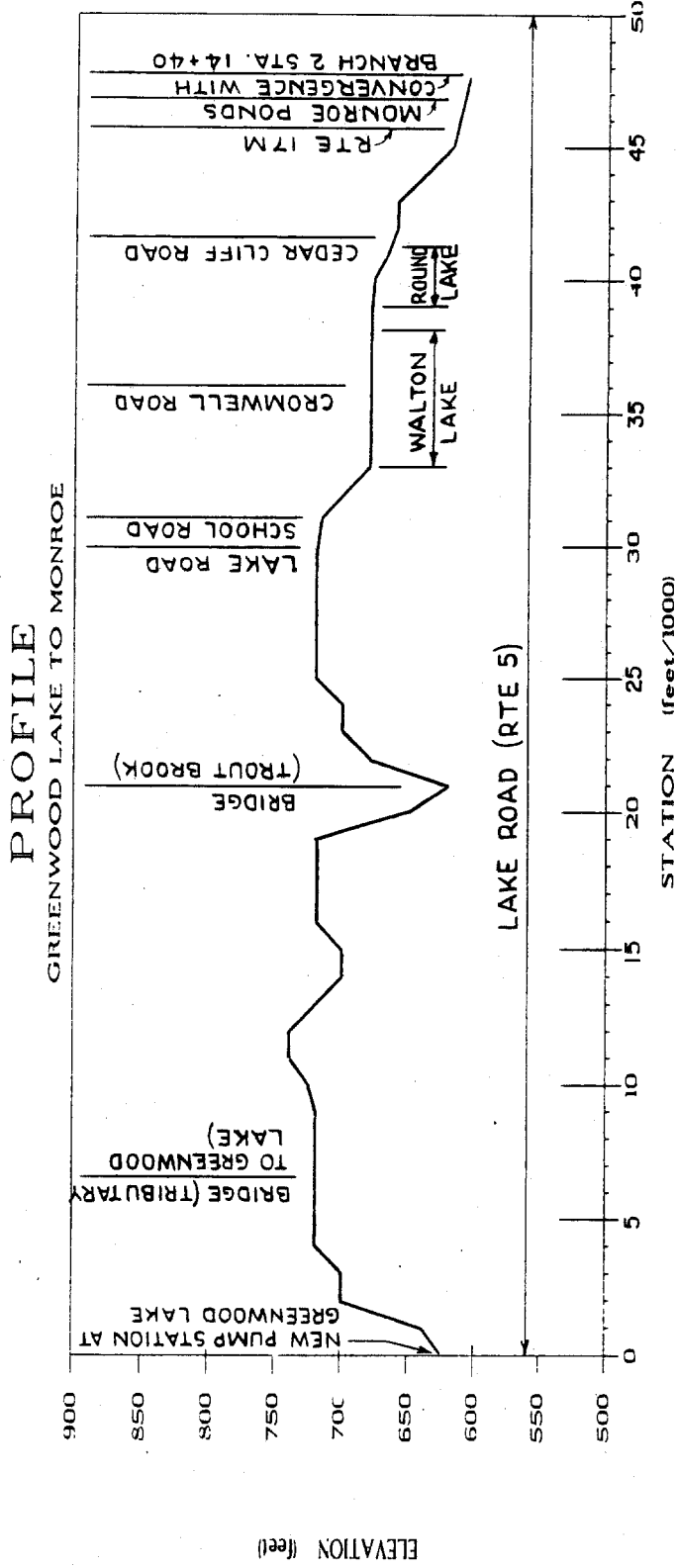
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Central 1b.	Pipelines Routes: 1.1,1.2,2.1,2.2,3.1,3.2,3.3,3.5,1 Pumping Stations: 1.1,2.1,3.1,3.3,5.1 New 12.0 mgd SEC Kusdon R. STP	OCSO#1 MBSR Washingtonville Greenwood Lake Goshen (UT)	\$37,300	\$46	\$58	\$12,900	\$210	\$375	\$83,400	\$1,860	\$3,490
Central 2a.	Pipelines Routes: 1.1,1.2,2A.1,2A.2,4.1 Pumping Stations: 1.1,2A.1,4.1 New 10.2 mgd SEC Kusdon R. STP	OCSO#1 MBSR Greenwood Lake	\$38,800	\$34	\$35	\$9,200	\$189	\$465	\$78,600	\$1,620	\$3,150
Central 2b.	Pipelines Routes: 1.1,1.2,2A.1,2A.2,4.1,5.1 Pumping Stations: 1.1,2A.1,4.1,5.1 New 11.1 mgd SEC Kusdon R. STP	OCSO#1 MBSR Greenwood Lake Goshen (UT)	\$40,400	\$37	\$38	\$10,700	\$213	\$504	\$82,700	\$1,750	\$3,350
Central 3a.	Pipelines Routes: 1.1,1.2,2A.1,2A.2,4.1 Pumping Stations: 1.1,2A.1,4.1 w/re-aer & disinf Expand OCSO#1 STP from 4 to 10.2 mgd SEC	OCSO#1 MBSR Greenwood Lake	\$38,800	\$34	\$35	\$11,600	\$318	\$660	\$70,500	\$1,750	\$3,350
Central 3b.	Pipelines Routes: 1.1,1.2,2A.1,2A.2,4.1,5.1 Pumping Stations: 1.1,2A.1,4.1,5.1 w/re-aer & disinf Expand OCSO#1 STP from 4 to 11.1 mgd SEC	OCSO#1 MBSR Greenwood Lake Goshen (UT)	\$40,400	\$37	\$38	\$13,500	\$343	\$699	\$73,400	\$1,880	\$3,550

APPENDIX E

FIGURE E-1

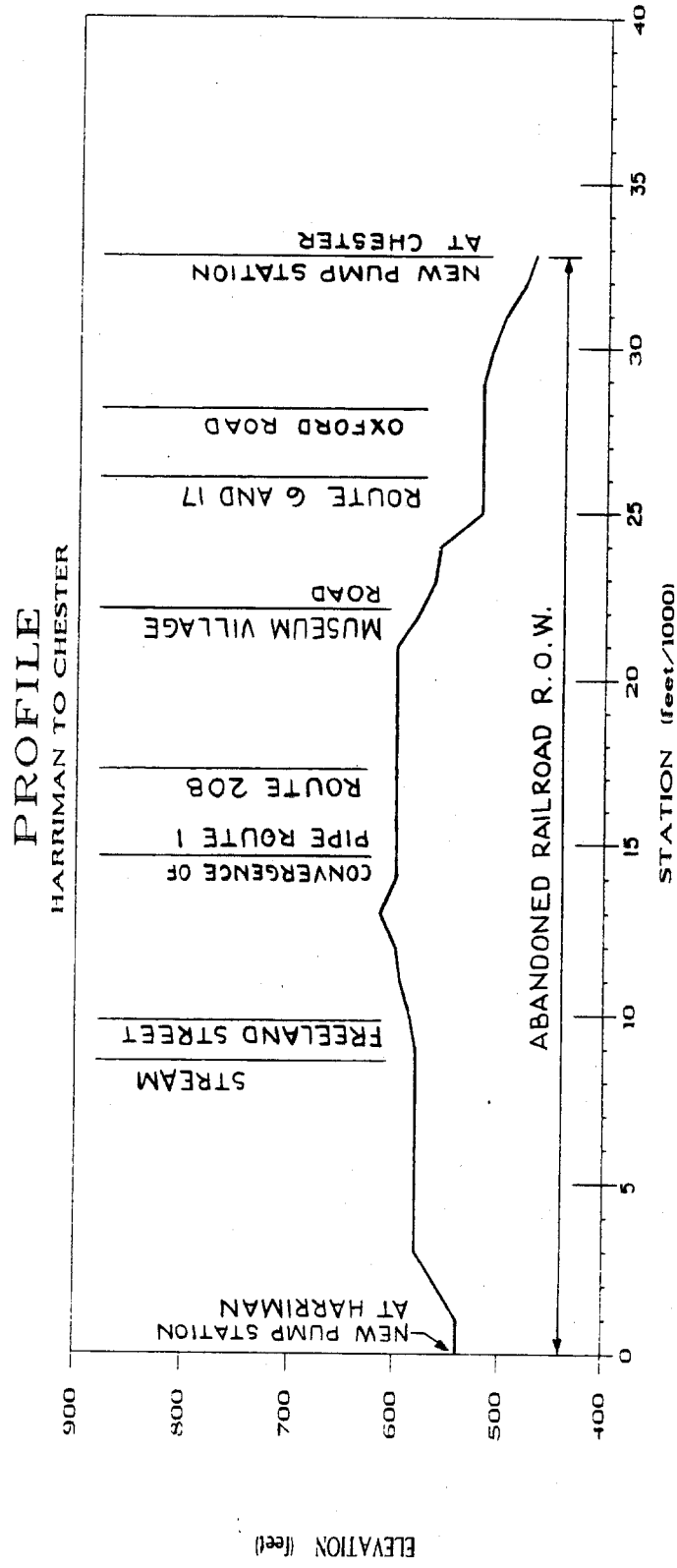


ORANGE COUNTY, N.Y.
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PIPE ROUTE I

HAZEN AND SAWYER, P.C.
Engineers

FIGURE E-2

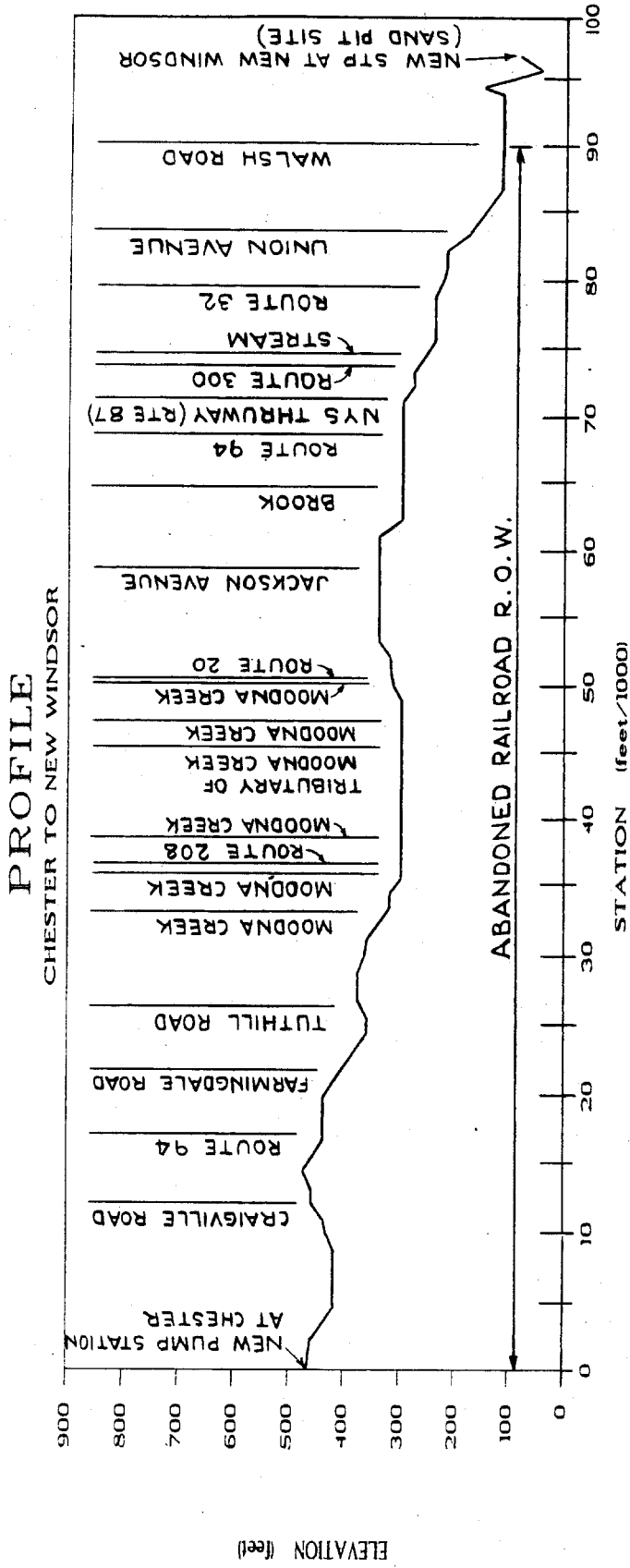


ORANGE COUNTY, N.Y.
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PIPE ROUTE 2

HAZEN AND SAWYER, P.C.
Engineers

FIGURE E-3



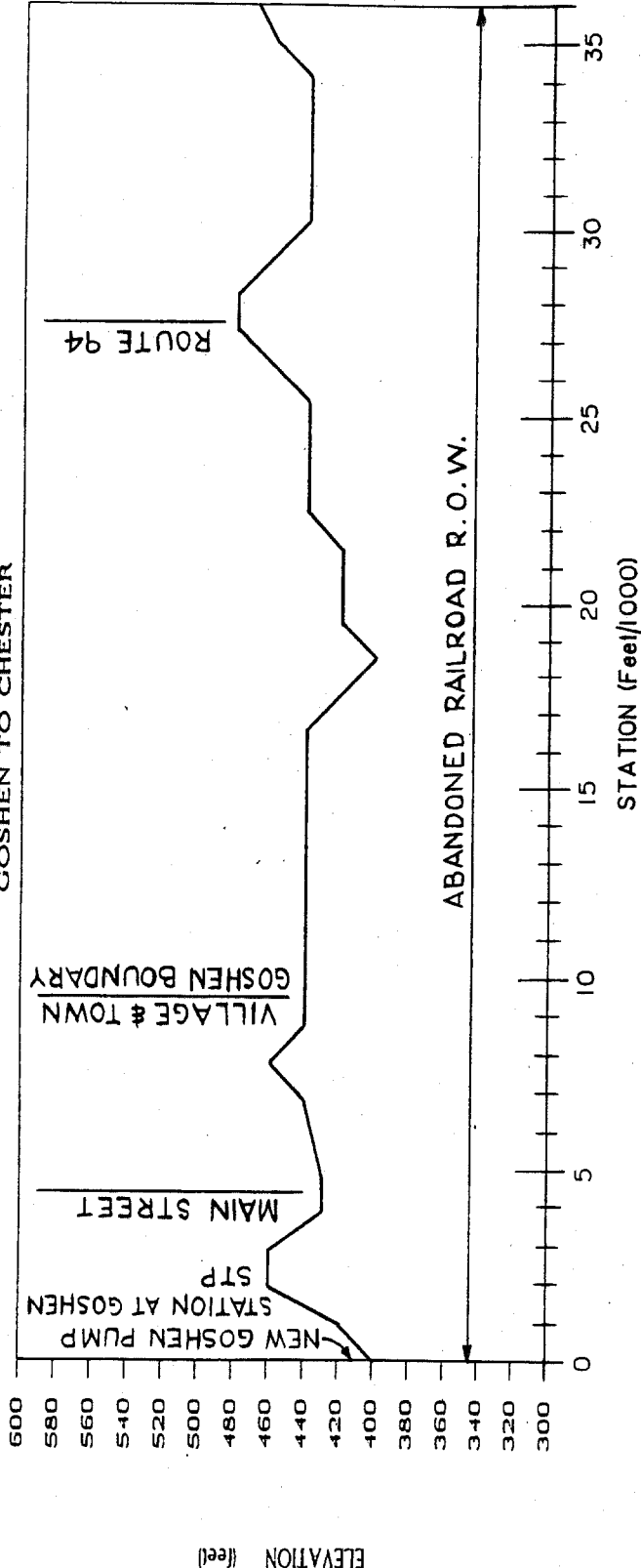
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PIPE ROUTE 3

HAZEN AND SAWYER, P.C.
 Engineers

FIGURE E-4

PROFILE
GOSHEN TO CHESTER



ORANGE COUNTY, N.Y.
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PIPE ROUTE 5

HAZEN AND SAWYER, P.C.
Engineers