

URS CORPORATION GROUP CONSULTANTS

282 Delaware Avenue
Buffalo, New York 14202 (716)-856-5636 FAX: (716) 856-2545

Letter of Transmittal

To: Greg Handly
NYSDEC – Region 5
Route 86, P.O. Box 296
Ray Brook, NY 12977-0296

Date: 8/6/01 Job No.: 05-00035629.01
Re: Fort Edward Landfill, Site No. 5-58-001
W.A. D003825-14

PLEASE REFER TO THE TRANSMITTAL NUMBER ON ALL FUTURE CORRESPONDENCE _____

We are sending you Attached Under Separate Cover the following items:

- Shop Drawings
- Prints
- Plans
- Specifications
- Copy of letter
- Change Order
-


COPIES	DRAWING NO.	DATE	DESCRIPTION
1		July 2001	Final Evaluation and Assessment Report

THESE ARE TRANSMITTED as checked below:

- For approval
- For your use
- As requested
- For review and comment
- FOR BIDS DUE _____ 19 ____
- No Exceptions Taken
- Revise as Noted
- Amend and Resubmit
- Rejected - See Remarks
- Resubmit ___ copies for approval
- Submit ___ copies for distribution
- Return ___ corrected prints
- _____
- PRINTS RETURNED AFTER LOAN TO US

Remarks: Per John Strang's request, here is a copy of the Final Evaluation and Assessment Report for your use.

Copies to: John R. Strang, P.E., NYSDEC
File: 35629 (C-1)

11/2/01


Charles Dusel
Project Manager

FINAL EVALUATION AND ASSESSMENT REPORT

NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION

WORK ASSIGNMENT NO. D003825-14

FORT EDWARD LANDFILL

NYSDEC SITE NO. 5-58-001

FORT EDWARD (T), WASHINGTON (C), NEW YORK

SUBMITTED BY:

URS CORPORATION GROUP CONSULTANTS

282 DELAWARE AVENUE

BUFFALO, NEW YORK 14202

JULY 2001

TABLE OF CONTENTS

		<u>Page No.</u>
1.0	INTRODUCTION	1-1
1.1	Purpose	1-1
1.2	Database	1-1
1.3	Operational History	1-2
2.0	EVALUATION OF REMEDY	2-1
2.1	Basis of Evaluation	2-1
2.2	Groundwater/Leachate Contaminant Mitigation	2-1
2.3	Treatment System Performance	2-3
3.0	CONCLUSIONS AND RECOMMENDATIONS	3-1

REFERENCES

TABLES

		<u>Following Page No.</u>
2-1	Summary of Groundwater Results for VOCs Detected Above Groundwater Criteria	R-1
2-2	Summary of Groundwater Results for Metals Detected Consistently Above Groundwater Criteria	R-1
2-3	Background Levels for Four Meals in Upgradient Wells	R-1
2-4	Summary of Groundwater Monitoring Results for Metals Infrequently Detected Above Groundwater Criteria	R-1
2-5	Groundwater Monitoring Results for Four Metals in Monitoring Wells MW-02 and MW-02A	R-1
2-6	Summary of Surface Water Monitoring Results Exceeding Criteria	R-1
2-7	Summary of Effluent Results Above Discharge Criteria - April through December 1999	R-1
2-8	Summary of Effluent Results Above Discharge Criteria - January through September 2000	R-1
2-9	Treatment System Iron Data	R-1

FIGURES

Following
Page No.

2-1 Groundwater and Surface Water Monitoring Locations R-1
2-2 Sample Locations R-1

ATTACHMENT

Attachment A - Discharge Limitations

1.0 INTRODUCTION

1.1 Purpose

This Final Evaluation and Assessment report was prepared for the remedial action at the Fort Edward Landfill site under Task 3 of Work Assignment D003825-14. The objectives of this report are to 1) evaluate remediation system performance based on analytical results; and 2) recommend remediation system modifications, as necessary, based on the performance evaluation.

1.2 Database

The reporting period for this report is April 5, 1999 to September 4, 2000. Data used in the evaluation is summarized below.

- System influent and effluent data collected in the period from April 1999 to September 2000.
- Groundwater monitoring well data collected (before system startup) in May and August 1995.
- Groundwater monitoring well data collected (after system startup) in May 1999, October 1999 and May 2000.
- Surface water monitoring data collected (after system startup) in May 1999, October 1999 and May 2000.

All data is included in the six quarterly reports issued under Task 2 of Work Assignment D003825-14 except groundwater monitoring well data collected before remediation in 1995. Well data from 1995 is included in the Final Engineering Report (URS 1995). Data is summarized in this Final Evaluation and Assessment report; however, complete data is included only in the referenced reports.

1.3 Operational History

Remedial system construction was completed by Kubricky Construction Corporation in September 1998. A schematic of the remediation treatment system is presented in Figure 2-2.

Kubricky was responsible for system startup which was completed in the period from September 29, 1998 to February 10, 1999. Data collected from the treatment system during the startup was submitted to URS. This data was evaluated and presented to NYSDEC in the Final Startup Completion Letter Report dated August 12, 1999. During the startup period, the discharge criteria for eight parameters were exceeded. The parameters included seven metals (cobalt, copper, iron, lead, mercury, nickel, and zinc) and total dissolved solids (TDS). Only five parameters (copper, iron, lead, zinc, and TDS) were detected often or consistently above the discharge criteria. Groundwater and surface water monitoring was not performed during startup.

After completion of startup (on February 10, 1999) Kubricky continued to operate the system until April 4, 1999. No samples were collected during this period.

URS was responsible for system O&M from April 5, 1999 until September 4, 2000 which is the period covered by this report. During the period, URS collected samples from the treatment system, groundwater monitoring wells, and surface water locations.

2.0 EVALUATION OF REMEDY

2.1 Basis of Evaluation

The objective of ongoing remediation at the Fort Edward Landfill site is to protect downgradient resources by mitigating groundwater/leachate contamination migrating offsite. A second and related objective is to reduce contaminant levels in collected groundwater/leachate to levels that meet discharge limitations.

Section 2.0 evaluates the performance of remediation components in meeting these objectives as follows:

- Section 2.2 evaluates groundwater/leachate mitigation (Objective 1) using groundwater and surface water monitoring data.
- Section 2.3 evaluates treatment system performance (Objective 2) using influent and effluent data from the treatment system.

2.2 Groundwater/Leachate Contaminant Mitigation

Eleven groundwater monitoring wells were sampled during the reporting period (see Figure 2-1). They were sampled in May 1999, October 1999, and May 2000. Analytical parameters included target compound list (TCL) volatile organic compounds (VOCs) and target analyte list (TAL) metals. The eleven monitoring wells include four upgradient wells (MW-01, MW-01A, MW-01D, and MW-08), three downgradient wells located south of the landfill (MW-02, MW-02A, and New Monitoring Well [NW]), and four downgradient wells located north of the landfill (MW-06, MW-06A, MW-06D, and MW-07). Most of the groundwater/leachate flow migrates toward the northeast where it is collected by three extraction wells. There is a smaller flow toward the south which collected by a trench.

Prior to remediation, six VOCs were detected above New York State groundwater criteria in northern downgradient wells MW-06, MW-06A and MW-06B (VOCs were not detected above criteria in MW-07). These VOCs included benzene, chlorobenzene, chloroform, toluene, xylene, and vinyl chloride. Table 2-1 compares the monitoring well results before remediation with those from this reporting period for the six VOCs. As shown, the VOC concentrations were substantially reduced after remediation. Concentrations of all six VOCs were below the groundwater criteria in the northern downgradient wells in May 2000, the most recent sampling event in the reporting period. The results indicate that remediation is effectively mitigating VOC contamination.

Four metals (iron, magnesium, manganese, and sodium) have been frequently detected above groundwater criteria in the northern downgradient wells. Table 2-2 compares the monitoring well results before remediation with those from this reporting period for the four metals. The results appear to indicate that groundwater/leachate remediation (extraction) is not having an impact on the concentrations of these metals immediately downgradient of the landfill. However, it should be noted that significant concentrations of these metals exist upgradient of the landfill, and consequently downgradient groundwater quality is impacted by background levels of these metals. Data for these metals in upgradient wells are summarized in Table 2-3. Table 2-3 is based on data from 1995 and the reporting period. As shown, concentrations of the four metals in some upgradient wells are the same order of magnitude as the northern downgradient wells. Although the landfill may be contributing to the levels of the four metals in the northern downgradient wells, the levels may largely be attributable to background groundwater quality. In addition, Table 2-3 shows that background (upgradient) groundwater exceeds criteria for the four metals, so the landfill alone does not cause downgradient exceedances, although it may cause levels to increase.

Five other metals (antimony, arsenic, cadmium, chromium, and thallium) have been detected above groundwater criteria in northern downgradient wells. As shown in Table 2-4, these metals have been detected infrequently. Only antimony and cadmium were detected significantly above criteria. On this basis, these contaminants are not considered significant at this time. However, these contaminants should be monitored closely in the future.

Contamination in southern downgradient wells is much less than in northern downgradient wells. VOCs have been detected infrequently and at low (less than 10 $\mu\text{g/l}$) concentrations. VOC concentrations in the southern downgradient wells have never exceeded groundwater criteria. Only four metals (iron, magnesium, manganese, and sodium) have exceeded groundwater criteria. Data for the four metals in southern downgradient wells is presented in Table 2-5. As shown, concentrations of these metals, before and after remediation, are comparable. However, as with the northern downgradient wells, the concentrations are comparable to background (upgradient) concentrations, so the landfill does not cause the exceedances although it may cause levels to increase.

Downgradient surface water was sampled at two locations (SW-2 and SW-3 as shown on Figure 2-1) during the reporting period. These locations were sampled in May 1999, October 1999, and May 2000. Analytical parameters included the target analyte list (TAL) metals. Three metals (aluminum, iron and silver) exceeded surface water criteria during the reporting period; however, only iron consistently exceeded the criteria (see Table 2-6). The impact of remediation on surface water quality cannot be evaluated, however, since there is no data for these locations before remediation and no background data.

2.3 Treatment System Performance

Samples were collected from the treatment system influent (SL-1 on Figure 2-2) and effluent (SL-6 or SL-7 on Figure 2-2) on weekly basis from April 1999 through the end of July 1999. Sampling frequency was reduced beginning in August 1999. Samples were collected monthly from August 1999 until September 2000 (the end of the reporting period). Sampling parameters included target compound list (TCL) volatile organic compounds (VOCs), target analyte list (TAL) metals, total dissolved solids (TDS), total suspended solids (TSS), total phenols, and pH.

Treatment system discharge limitations were established by NYSDEC prior to startup (see Attachment A). Exceedances of these limitations during the reporting period are summarized in Tables 2-7 (data from 1999) and 2-8 (data from 2000).

A comparison of Tables 2-7 and 2-8 shows that the number of parameters detected above discharge criteria and the frequency of detection decreased in 2000. This is likely attributable to the completion of plant growth and stabilization in the constructed wetland treatment system cells.

The only parameter that persisted in the effluent and consistently exceeded its discharge limitation was iron. Data for iron is summarized in Table 2-9. As shown in Table 2-9, the treatment system influent iron concentration has remained relatively consistent; however, the effluent concentration, and subsequently the amount of iron removed, has varied greatly.

There is no apparent trend in the effluent data for iron and it appears that consistent compliance with the iron discharge limitation (300 $\mu\text{g/l}$) may not be achievable in the immediate future.

3.0 CONCLUSIONS AND RECOMMENDATIONS

Evaluation of analytical data for the reporting period leads to three conclusions as follows:

- 1.) Remedial components are successfully mitigating VOC migration in groundwater/leachate.
- 2.) Downgradient groundwater is significantly contaminated by iron, magnesium, manganese, and sodium; however, upgradient (background) levels of these contaminants are greatly impacting downgradient levels. Although the landfill may be causing levels of these contaminants to increase, it is not the cause of exceedances of groundwater criteria since background levels are well above the criteria.
- 3.) Performance of the treatment system, as measured by contaminant levels in the effluent, has improved over time. Iron has been the most persistent parameter above discharge criteria. It was above the criterion in 80% of the effluent samples. Based on data collected during the reporting period, consistent compliance with the iron discharge limitation may not be achievable in the near future.

In general, the remediation system performed well during the reporting period. No system modifications are recommended. It is known that solids (largely composed of iron) accumulate in the system in pipes and manholes. It may be possible to improve system performance with respect to the iron limitation, by cleaning the pipes, manholes, and equipment on a more frequent basis.

REFERENCES

URS Consultants, Inc. (URS). 1995. *Final Engineering Report, Fort Edward Landfill DEC Site No. 5-58-001 (T) Fort Edward, (C), Washington County, New York*. November. Prepared for New York State Department of Environmental Conservation.

TABLE 2-1
SUMMARY OF GROUNDWATER MONITORING RESULTS FOR VOCS DETECTED
ABOVE GROUNDWATER CRITERIA

Parameter	Well ID	Groundwater Criteria ($\mu\text{g/l}$)	Conc. Before Remediation ($\mu\text{g/l}$)		Concentration After Remediation		
			5/95	8/95	5/99	10/99	5/00
Benzene	MW-06	1	13	14	2	4	ND
	MW-06A	1	ND	ND	ND	2	ND
Chlorobenzene	MW-06	5	24	29	24	34	ND
Chloroform	MW-06A	5	30	ND	ND	ND	ND
Toluene	MW-06B	5	ND	30	8	ND	ND
Xylene	MW-06	5	68	40	ND	ND	ND
Vinyl Chloride	MW-06	2	7	ND	ND	ND	ND

ND - Not Detected

TABLE 2-2

SUMMARY OF GROUNDWATER MONITORING RESULTS FOR FOUR METALS DETECTED CONSISTENTLY ABOVE GROUNDWATER CRITERIA

Parameter	Groundwater ($\mu\text{g/l}$)	Well ID	Conc. Before Remediation ($\mu\text{g/l}$)		Conc. After Remediation ($\mu\text{g/l}$)		
			5/95	8/95	5/99	10/99	5/00
Iron	300	MW-06	37,400	63,700	49,300	80,000	84,000
		MW-06A	404	428	388	2,600	35,000
		MW-06B	8,130	19,900	49,000	1,200	17,000
		MW-07	23,600	30,800	8,060	2,200	17,000
Magnesium	35,000	MW-06	40,700	46,700	45,000	28,000	51,000
		MW-06A	10,100	40,900	48,100	42,000	50,000
		MW-06B	4,610	19,900	25,100	1,800	15,000
		MW-07	16,400	17,800	26,000	24,000	32,000
Manganese	300	MW-06	651	499	1,930	2,300	2,300
		MW-06A	214	4,910	2,410	3,200	5,200
		MW-06B	213	419	1,600	60	640
		MW-07	1,080	1,000	4,040	4,900	15,000
Sodium	20,000	MW-06	199,000	283,000	71,100	100,000	84,000
		MW-06A	31,700	36,600	90,300	87,000	130,000
		MW-06B	44,600	44,700	42,700	39,000	47,000
		MW-07	4,830	4,650	6,260	8,400	8,900

TABLE 2-3

BACKGROUND LEVELS FOR FOUR METALS IN UPGRADIENT WELLS

Parameter	Well ID	Range (µg/l)	Average (µg/l)
Iron	MW-01	498 - 45,400	12,440
	MW-01A	331 - 2,600	1,322
	MW-01D	140 - 3,300	1,990
	MW-08	195 - 1,400	658
Magnesium	MW-01	8,200 - 22,900	13,968
	MW-01A	1,510 - 40,900	11,482
	MW-01D	5,600 - 7,900	6,903
	MW-08	6,390 - 13,000	8,738
Maganese	MW-01	54.3 - 798	249
	MW-01A	8 - 91	43
	MW-01D	8.9 - 77	44
	MW-08	1,000 - 15,000	5,204
Sodium	MW-01	36,000 - 46,300	39,360
	MW-01A	19,100 - 24,000	21,840
	MW-01D	46,300 - 54,000	49,433
	MW-07	4,650 - 8,900	6,608

TABLE 2-4

**SUMMARY OF NORTHERN DOWNGRAIDENT GROUNDWATER
MONITORING RESULTS FOR METALS INFREQUENTLY DETECTED
ABOVE GROUNDWATER CRITERIA**

Parameter	Number of Analyses ¹	Detections Above Criteria
Antimony	20	1
Arsenic	20	2
Cadmium	20	4
Chromium	20	1
Thallium	20	3

Note ¹: Results used include MW-06, 06A, 06B, and 07 from 5/95, 8/95, 5/99, 10/99 and 5/00.

TABLE 2-5

**SUMMARY OF SOUTHERN DOWNGRADIENT GROUNDWATER
MONITORING RESULTS FOR FOUR METALS IN MONITORING WELLS
MW-02 AND MW-02A**

Parameter	Groundwater Criteria ($\mu\text{g/l}$)	Well ID	Conc. Before Remediation ($\mu\text{g/l}$)		Conc. After Remedial		
			5/95	8/95	5/99	10/99	5/00
Iron	300	MW-02 MW-02A	1,270	8,030	7,620	2,900	15,000
			4,620	4,890	4,830	8,600	13,000
Magnesium	35,000	MW-02 MW-02A	62,300	71,400	31,800	31,000	25,000
			16,900	21,500	22,300	24,000	24,000
Manganese	300	MW-02 MW-02A	1,350	2,320	1,940	1,300	500
			414	492	505	430	700
Sodium	20,000	MW-02 MW-02A	76,100	106,000	37,700	51,000	28,000
			18,700	27,000	23,000	26,000	28,000

TABLE 2-6

**SUMMARY OF SURFACE WATER MONITORING RESULTS EXCEEDING
CRITERIA**

Parameter	Criteria ($\mu\text{g/l}$)	Location	Water Conc. ($\mu\text{g/l}$)		
			5/99	10/99	5/00
Iron	300	SW-2	38,800	490,000	18,000
Aluminum	100	SW-3	ND	570	DBC
Iron	300	SW-3	817	7,300	1,600
Silver	0.1	SW-3	1.2	ND	ND

ND - Not Detected

DBC - Detected Below Criteria

TABLE 2-7

SUMMARY OF EFFLUENT RESULTS ABOVE DISCHARGE CRITERIA
APRIL THROUGH DECEMBER 1999

Parameter	Class	Discharge Criteria	Number of Analyses	Number of Detections Above Criteria	Concentrations of Detections Above Criteria ¹
Cobalt	Metal	5 ($\mu\text{g/l}$)	22	6	6, 13.8, 14.1, 14.4, 15, 15.2
Iron	Metal	300 ($\mu\text{g/l}$)	22	16	389, 476, 520, 529, 766, 1,090, 1,150, 4,500, 5,400, 7,470, 17,200, 19,100, 19,400, 20,200, 24,000, 24,200
Lead	Metal	3.2 ($\mu\text{g/l}$)	22	8	5.2, 7.1, 7.3, 7.5, 7.7, 8.1, 9.6, 11.4
Nickel	Metal	9.6 ($\mu\text{g/l}$)	22	7	11, 11.4, 13.9, 15.5, 16.4, 17.6, 17.9
TDS	Miscellaneous	500 mg/l	22	19	501, 541, 547, 550, 564, 580, 617, 620, 622, 643, 663, 666, 670, 676, 700, 702, 730, 730, 747
TSS	Miscellaneous	50 mg/l	22	2	68, 74
Total Phenols	Miscellaneous	.008 mg/l	21	1	.009

¹ Concentrations given in some units as discharge criteria.

TABLE 2-8

**SUMMARY OF EFFLUENT RESULTS ABOVE DISCHARGE CRITERIA
JANUARY THROUGH SEPTEMBER 2000**

Parameter	Class	Discharge Criteria	Number of Analyses	Number of Detections Above Criteria	Concentrations of Detections Above Criteria ¹
Cobalt	Metal	5 ($\mu\text{g/l}$)	8	1	8
Iron	Metal	300 ($\mu\text{g/l}$)	8	8	339, 467, 1,100, 5,300, 7,200, 7,690, 11,600, 39,600
Zinc	Metal	170 ($\mu\text{g/l}$)	8	1	201
TDS	Miscellaneous	500 mg/l	8	2	516, 604

¹ Concentration given in same units as discharge criteria.

TABLE 2-9

TREATMENT SYSTEM IRON DATA

Date	Influent Concentration (mg/l)	Effluent Concentration (mg/l)	% Removal
4/8/99	38.6	5.4	86
4/14/99	29.5	20.2	32
4/21/99	34.8	17.2	51
4/28/99	20.0	19.4	3
5/5/99	46.9	19.1	59
5/12/99	53.8	24.4	55
5/20/99	35.9	0.520	99
5/25/99	34.9	0.529	98
6/2/99	NA	0.389	NV
6/10/99	23.1	1.090	95
6/16/99	NA	0.766	NV
6/23/99	NA	0.280	NV
6/30/99	NA	0.476	NV
7/7/99	NA	7.47	NV
7/14/99	32.9	0.980	97
7/22/99	NA	24.0	NV
7/28/99	NA	4.5	NV
8/18/99	32.7	0.210	99
9/23/99	105	1.150	99
10/20/99	30.6	0.390	99
11/16/99	34.1	27.2	20
12/15/99	31.1	29.1	6
1/12/00	15.4	7.69	50
2/22/00	41.6	0.339	99

TABLE 2-9 (Continued)
TREATMENT SYSTEM IRON DATA

Date	Influent Concentration (mg/l)	Effluent Concentration (mg/l)	% Removal
3/28/00	31.0	0.467	98
4/11/00	22.4	1.1	95
5/10/00	29.0	11.6	60
6/14/00	NS	7.2	NV
8/16/00	33.3	39.6	NV ¹
9/20/00	29.5	5.3	82
Average	35.7	9.3	74 ²

NV = No Value
NS = Not Sampled

¹ No value because concentration increased

² Average percent removal based on average influent and effluent concentrations

ATTACHMENT A
DISCHARGE CRITERIA

EFFLUENT LIMITATIONS AND MONITORING REQUIREMENTS

During the period beginning February 24, 1997and lasting until February 24, 2002

the discharges from the treatment facility to the Glens Falls Feeder Canal shall be limited and monitored by the operator as specified below:

Outfall Number & Effluent Parameter	Discharge Limitations		Units	Minimum Monitoring Requirements	
	Daily Avg.	Daily Max.		Measurement Frequency	Sample Type
<u>001: Discharge from Remedial Treatment System</u>					
Flow	Monitor	Monitor	GPM	Weekly	
Instantaneous pH (Range)	Monitor	(5.0 - 9.0)	SU	Weekly	Grab
Solids, Total Dissolved	Monitor	500	mg/l	Weekly	Grab
Solids, Total Suspended	Monitor	50	mg/l	Weekly	Grab
Arsenic, Total	Monitor	0.15	mg/l	Weekly	Grab
Barium, Total	3.5	Monitor	mg/l	Weekly	Grab
Cadmium, Total	Monitor	0.001	mg/l	Weekly	Grab
Chromium, Total	Monitor	0.21	mg/l	Weekly	Grab
Cobalt, Total	Monitor	0.005	mg/l	Weekly	Grab
Copper, Total	Monitor	0.024	mg/l	Weekly	Grab
Iron, Total	Monitor	0.3	mg/l	Weekly	Grab
Lead, Total	Monitor	0.0032	mg/l	Weekly	Grab
Mercury, Total	Monitor	0.0008	mg/l	Weekly	Grab
Nickel, Total	Monitor	0.0096	mg/l	Weekly	Grab
Vanadium, Total	Monitor	0.014	mg/l	Weekly	Grab
Zinc, Total	Monitor	0.17	mg/l	Weekly	Grab
Vinyl Chloride	Monitor	0.05	mg/l	Weekly	Grab
Chloroethane	Monitor	0.02	mg/l	Weekly	Grab
Methylene Chloride	Monitor	0.05	mg/l	Weekly	Grab
1,1-Dichloroethane	Monitor	0.03	mg/l	Weekly	Grab
1,2-Dichloroethane (Total)	Monitor	0.03	mg/l	Weekly	Grab
Chloroform	Monitor	0.15	mg/l	Weekly	Grab
Bromodichloromethane	Monitor	0.03	mg/l	Weekly	Grab
Benzene	0.008	0.01	mg/l	Weekly	Grab
Toluene	Monitor	0.01	mg/l	Weekly	Grab
Chlorobenzene	0.005	0.01	mg/l	Weekly	Grab
Ethylbenzene	Monitor	0.01	mg/l	Weekly	Grab
Xylenes, Total	Monitor	0.01	mg/l	Weekly	Grab
Phenols, Total Phenolics	0.008	Monitor	mg/l	Weekly	Grab
Arsenic, Total	Monitor	0.15	mg/l	Weekly	Grab
PCB, Aroclor 1016	Monitor	ND ₁	ug/l	Quarterly	Grab
PCB, Aroclor 1221	Monitor	ND ₁	ug/l	Quarterly	Grab
PCB, Aroclor 1242	Monitor	ND	ug/l	Quarterly	Grab

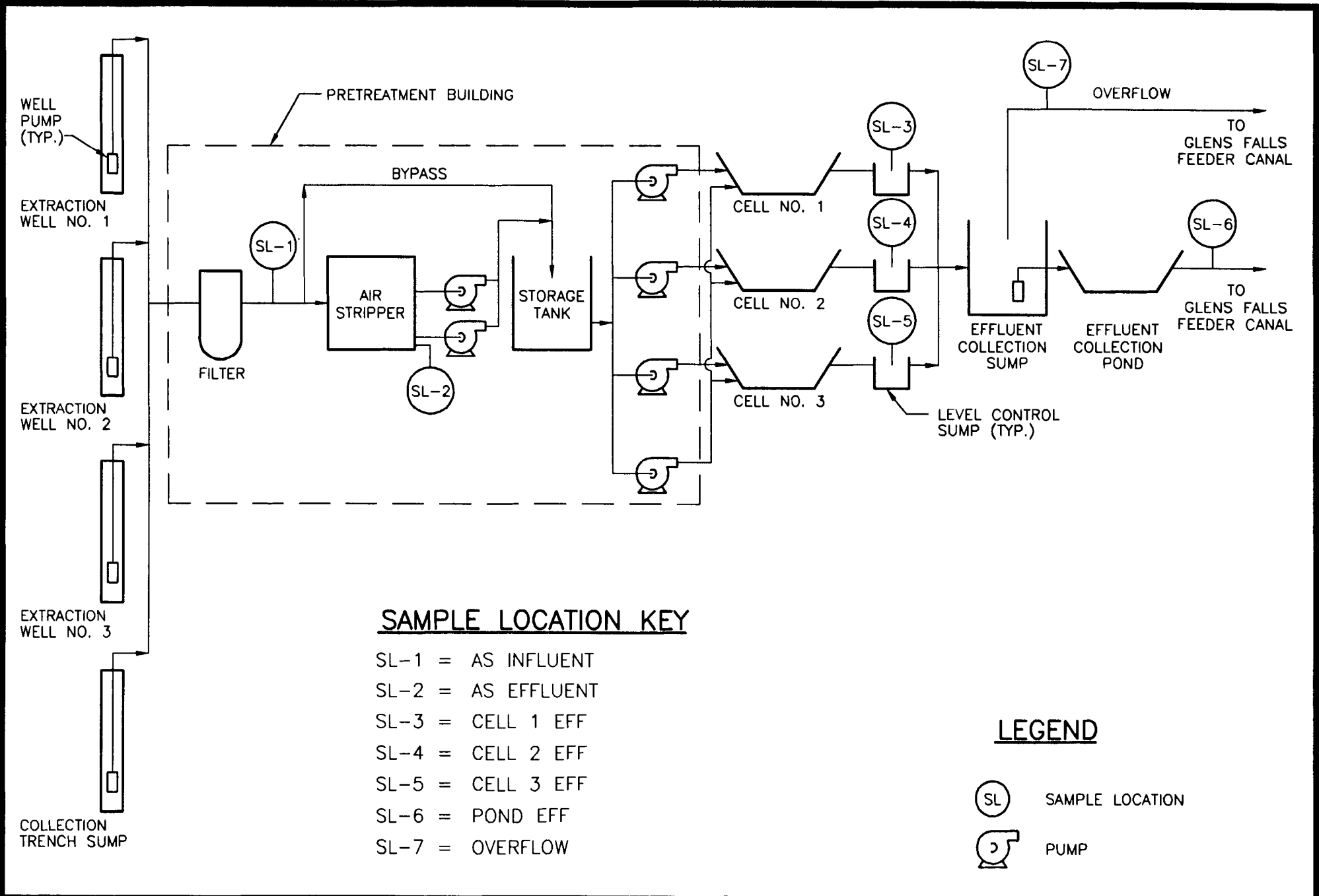
See Special Conditions on following page.

Special Conditions:

- (1) Non-detect at the Minimum Detection Level (MDL) is the discharge goal. The treatment plant operator shall report all values above the MDL of 0.065 µg/l per Aroclor. If the level of any Aroclor is above the MDL, a short term high intensity monitoring (STHIM) program consisting of daily samples for each of the limited Aroclors for three consecutive days shall be performed. If the results of the STHIM program show detectable levels of any Aroclor above the MDL, the treatment plant operator must evaluate the treatment system and identify the cause of the detectable level of PCBs in the discharge, and prepare a report identifying the cause of the discharge and outlining measures undertaken to eliminate a recurrence of the discharge. If the results of the STHIM program do not show detectable levels of any Aroclor above the MDL, the quarterly monitoring frequency shall again be in effect.
- (2) Discharge is not authorized until such time as an engineering submission showing the method of treatment is approved by the Department. The discharge rate may not exceed the effective treatment system capacity. All monitoring data, engineering submissions and modification requests must be submitted to the following DHWR contact person:

- (3) Only site generated wastewater is authorized for treatment and discharge.
- (4) Authorization to discharge is valid only for the period noted above but may be renewed if appropriate. A request for renewal must be received 6 months prior to the expiration date to allow for a review of monitoring data and reassessment of monitoring requirements.
- (5) Both concentration (mg/l or µg/l) and mass loadings (lbs/day) must be reported to the Department for all parameters except Flow and pH.
- (5) Samples and measurements, to comply with the monitoring requirements specified above, shall be taken from the effluent of the polishing pond prior to discharge to the Glens Falls Feeder Canal.
- (7) The minimum measurement frequency for all the parameters (except flow and PCBs) shall be monthly following a period of 24 consecutive weekly sampling events showing no exceedances of the stated discharge limitations. If a discharge limitation for any parameter is exceeded the measurement frequency for all parameters shall again be weekly, until a period of 8 consecutive sampling events shows no exceedances at which point monthly monitoring may resume.



* * * * *

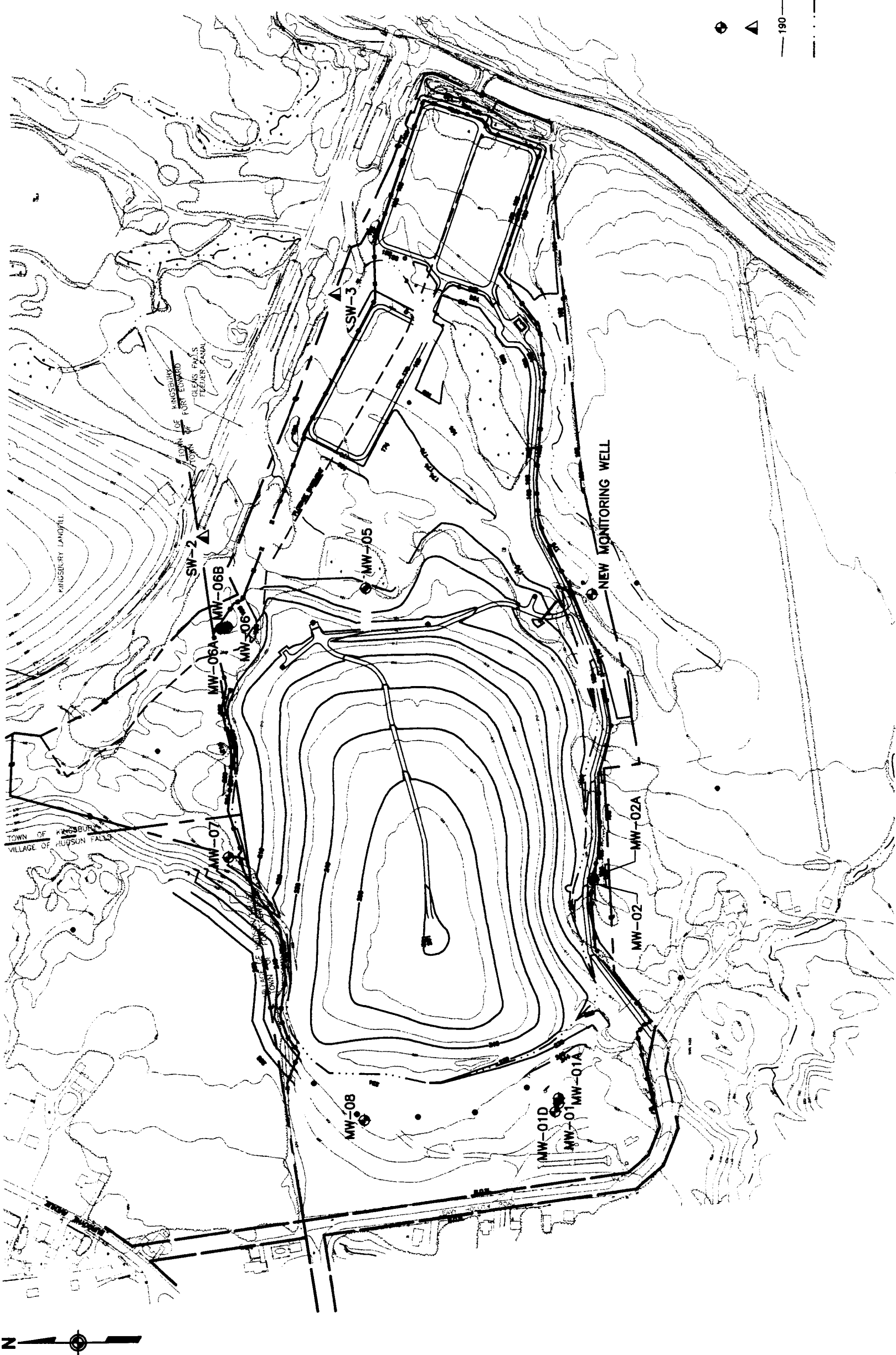


SAMPLE LOCATION KEY

- SL-1 = AS INFLUENT
- SL-2 = AS EFFLUENT
- SL-3 = CELL 1 EFF
- SL-4 = CELL 2 EFF
- SL-5 = CELL 3 EFF
- SL-6 = POND EFF
- SL-7 = OVERFLOW

LEGEND

-  SAMPLE LOCATION
-  PUMP



LEGEND

- MONITORING WELL
- ▲ SURFACE WATER SAMPLING LOCATION
- 190 TOPOGRAPHIC CONTOUR
- - - - - STREAM/DRAINAGE CHANNEL/POND



NOTE:
 BASE MAPPING FOR THIS DRAWING WAS TAKEN FROM DRAWING NO.5, FINAL SITE PLAN, OF THE
 FORT EDWARD LANDFILL REMEDIAL ACTION RECORD DRAWINGS, ISSUED SEPTEMBER 1999.

**GROUNDWATER AND SURFACE WATER
 MONITORING LOCATIONS**

URS
 CONSULTANTS, INC.

FIGURE 2-1