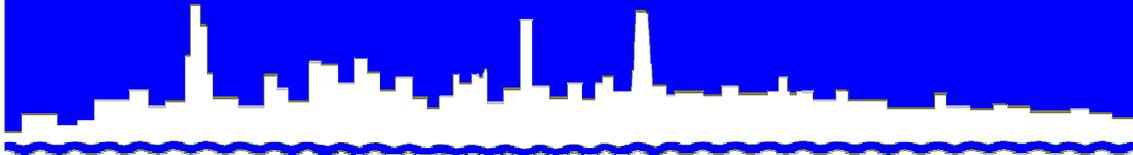


Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

***MONITORING AND RESEARCH
DEPARTMENT***

REPORT NO. 10-58

HANOVER PARK WATER RECLAMATION PLANT

FISCHER FARM MONITORING REPORT FOR

THIRD QUARTER 2010

DECEMBER 2010

Protecting Our Water Environment

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December 3, 2010

Mr. S. Alan Keller, P.E.
Manager, Permit Section
Illinois Environmental Protection Agency
1021 North Grand Avenue East
P.O. Box 19276
Springfield, IL 62794-9276

Dear Mr. Keller:

Subject: Hanover Park Water Reclamation Plant - Illinois Environmental Protection Agency Permit No. 2007-SC-2951, Monitoring Report for July, August, and September 2010

The attached report includes five tables of the monitoring results for the Hanover Park Fischer Farm site for the third quarter of 2010.

Very truly yours,

Louis Kollias
Director
Monitoring and Research

LK:PL:kq

Enclosures

cc: Mr. Jay Patel, Manager, IEPA Region 2 - Des Plaines
Mr. Valdis Aistars, USEPA Region 5
Mr. Ash Sajjad, USEPA Region 5
Liston
O'Connor

TABLE OF CONTENTS

	<u>Page</u>
FOREWORD	ii
LIST OF FIGURES	iii
LIST OF TABLES	iv
ACKNOWLEDGEMENT	v
DISCLAIMER	v
HANOVER PARK WATER RECLAMATION PLANT FISCHER FARM REPORT FOR THIRD QUARTER OF 2010	1

FOREWORD

The data and information in this report fulfill the frequency of monitoring and the reporting requirements for the Hanover Park Fischer Farm Site as specified in the Illinois Environmental Protection Agency Permit No. 2007-SC-2951-1 for the third quarter of 2010.

LIST OF FIGURES

<u>Figure No.</u>		<u>Page</u>
1	Fields and Wells at the Hanover Park Fischer Farm Site of the Metropolitan Water Reclamation District of Greater Chicago	2

LIST OF TABLES

<u>Table No.</u>		<u>Page</u>
1	Analysis of Water from Monitoring Well W-7 at the Hanover Park Fischer Farm Site Sampled During July, August, and September 2010	3
2	Analysis of Water from Monitoring Wells W-3 Through W-8 at the Hanover Park Fischer Farm Site Sampled on September 21, 2010	5
3	Analysis of Combined Surface and Subsurface Drainage from the Fischer Farm Site Returned to the Hanover Park Water Reclamation Plant During July, August, and September 2010	6
4	Analysis of Lagoon Supernatant Applied to Fields at the Hanover Park Fischer Farm Site During September 2010	7
5	Volumes and Dry Weights of Lagoon Supernatant Applied to Fields at the Hanover Park Fischer Farm Site During August and September 2010	8

ACKNOWLEDGEMENT

The assistance given by Ms. Minaxi Patel, Assistant Environmental Chemist, of the Environmental Monitoring and Research Division, and Mr. John Chavich, Supervisory Environmental Chemist, of the John E. Egan Analytical Laboratory Section, is greatly appreciated.

DISCLAIMER

Mention of proprietary equipment and chemicals in this report does not constitute endorsement by the Metropolitan Water Reclamation District of Greater Chicago.

HANOVER PARK WATER RECLAMATION PLANT FISCHER FARM REPORT FOR THIRD QUARTER OF 2010

During July, August, and September 2010, activities at the Hanover Park Water Reclamation Plant (WRP) Fischer Farm included well and field drainage water sampling, and flow measurements. These monitoring activities are required by the Illinois Environmental Protection Agency Operating Permit No. 2007-SC-2951-1. Fields and water monitoring locations are presented in Figure 1.

Analytical data for samples collected during the quarter are presented in Tables 1 and 2.

Drainage water (combined surface and subsurface) returned to the Hanover Park WRP from the farm fields was sampled twice per month in July, August, and September. Analytical data for these samples are presented in Table 3. The volumes of drainage water returned to the WRP during the third quarter were estimated as 13.5, 7.59, and 3.70 million gallons in July, August, and September, respectively. The analytical data for the lagoon supernatant applied to Fischer Farm fields during the quarter are presented in Table 4. The volumes and dry weights applied are reported in Table 5.

FIGURE 1: FIELDS AND WELLS AT THE HANOVER PARK FISCHER FARM SITE OF THE METROPOLITAN WATER RECLAMATION DISTRICT OF GREATER CHICAGO

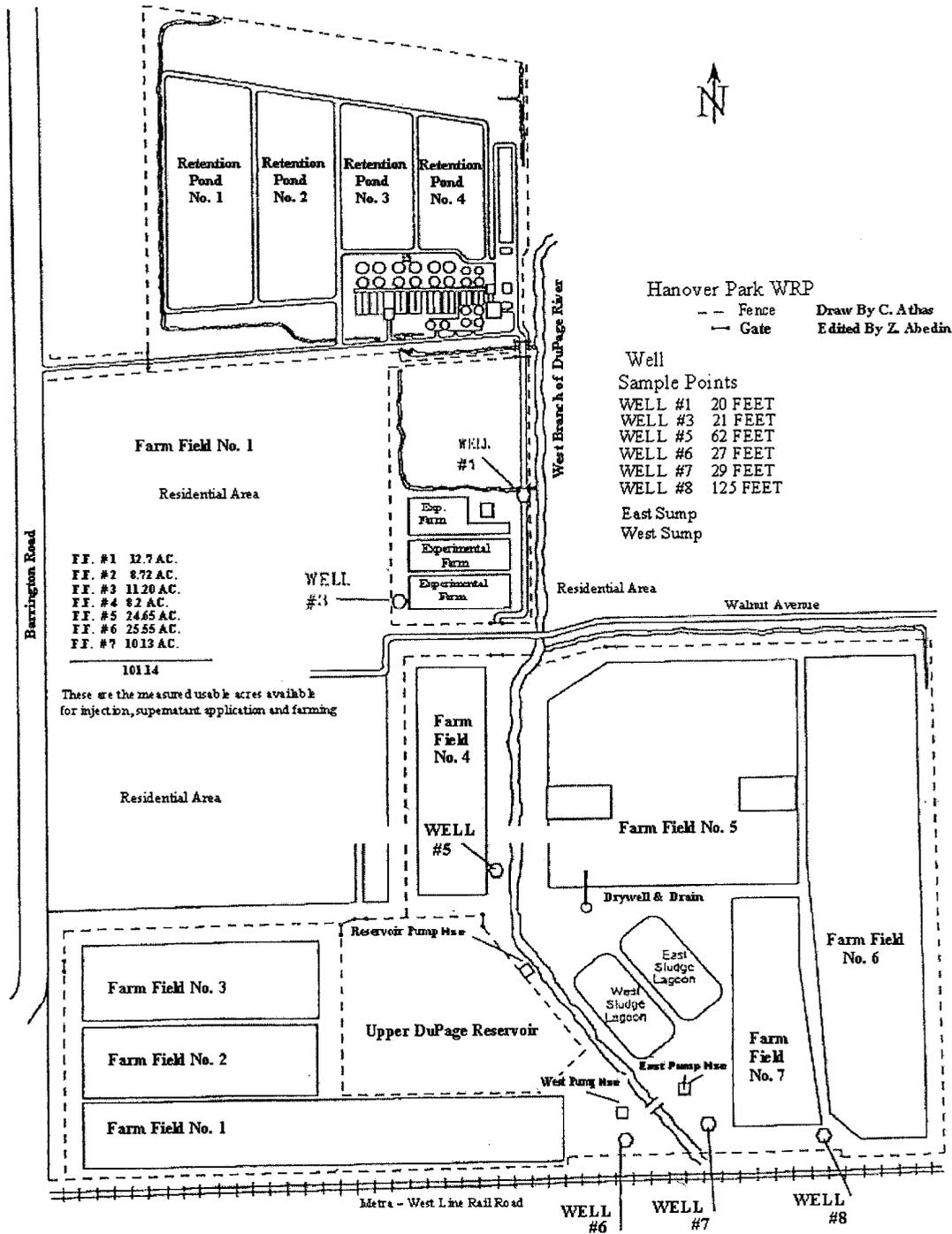


TABLE 1: ANALYSIS OF WATER FROM MONITORING WELL W-7
 AT THE HANOVER PARK FISCHER FARM SITE
 SAMPLED DURING JULY, AUGUST, AND SEPTEMBER 2010

Parameter	Unit	Date Sampled			
		07/20/10	07/27/10	08/10/10	08/24/10
pH ¹		7.1	7.2	7.2	7.2
EC	mS/m	163	159	169	164
Cl ⁻	mg/L	58	56	55	52
SO ₄ ⁼	"	214	217	219	234
Alkalinity as CaCO ₃	"	671	650	676	683
TKN	"	15	17	17	19
NH ₃ -N	"	14	16	14	17
NO ₂ + NO ₃ -N	"	< 0.135	< 0.135	< 0.135	< 0.135
Total P	"	< 0.1	< 0.1	< 0.1	< 0.1
Cd	"	< 0.001	< 0.001	< 0.001	< 0.001
Cr	"	< 0.01	< 0.01	< 0.01	< 0.01
Cu	"	< 0.004	< 0.004	< 0.004	0.005
Fe	"	5.4	5.5	6.0	5.2
Mn	"	0.06	0.06	0.07	0.06
Ni	"	< 0.004	< 0.004	< 0.004	< 0.004
Zn	"	0.09	0.05	0.11	0.05
Fecal coliform	MPN ²	1	5	4	1

TABLE 1 (Continued): ANALYSIS OF WATER FROM MONITORING WELL W-7
 AT THE HANOVER PARK FISCHER FARM SITE
 SAMPLED DURING JULY, AUGUST, AND SEPTEMBER 2010

Parameter	Unit	Date Sampled	
		09/07/10	09/21/10
pH ¹		7.2	7.1
EC	mS/m	152	169
Cl ⁻	mg/L	53	52
SO ₄ ⁼	"	233	239
Alkalinity as CaCO ₃	"	701	708
TKN	"	19	22
NH ₃ -N	"	17	19
NO ₂ + NO ₃ -N	"	< 0.135	< 0.135
Total P	"	< 0.1	< 0.1
Cd	"	< 0.001	< 0.001
Cr	"	< 0.01	< 0.01
Cu	"	< 0.004	0.012
Fe	"	5.7	5.4
Mn	"	0.06	0.05
Ni	"	< 0.004	< 0.004
Zn	"	0.08	0.05
Fecal coliform	MPN ²	1	1

¹pH analyzed beyond recommended holding time of 15 minutes.

²Most probable number.

TABLE 2: ANALYSIS OF WATER FROM MONITORING WELLS W-3
THROUGH W-8 AT THE HANOVER PARK FISCHER FARM SITE
SAMPLED ON SEPTEMBER 21, 2010

Parameter	Unit	Monitoring Well No.			
		W-3	W-5	W-6	W-8
pH ¹		7.3	7.7	7.5	8.3
EC	mS/m	97	77	92	57
Cl ⁻	mg/L	21	15	37	7
SO ₄ ⁼	"	155	94	136	43
Alkalinity as CaCO ₃	"	349	318	313	264
TKN	"	0.5	0.4	< 0.3	0.5
NH ₃ -N	"	0.15	0.29	0.21	0.44
NO ₂ + NO ₃ -N	"	< 0.135	< 0.135	< 0.135	< 0.135
Total P	"	< 0.1	< 0.1	< 0.1	< 0.1
Cd	"	< 0.001	< 0.001	< 0.001	< 0.001
Cr	"	< 0.01	< 0.01	< 0.01	< 0.01
Cu	"	< 0.004	0.026	0.022	0.017
Fe	"	24	2.4	3.4	0.68
Mn	"	0.31	< 0.03	0.04	< 0.03
Ni	"	< 0.004	< 0.004	< 0.004	< 0.004
Zn	"	0.03	< 0.01	< 0.01	< 0.01
Fecal coliform	MPN ²	1	1	1	1

¹pH analyzed beyond recommended holding time of 15 minutes.

²Most probable number.

TABLE 3: ANALYSIS OF COMBINED SURFACE AND SUBSURFACE DRAINAGE FROM THE FISCHER FARM SITE RETURNED TO THE HANOVER PARK WATER RECLAMATION PLANT DURING JULY, AUGUST, AND SEPTEMBER 2010

Date	Sump	NH ₃ -N	TSS ¹	BOD ₅
	 mg/L		
07/20/10	East	18	9	6
07/20/10	West	<0.10	5	<2
07/27/10	East	18	24	49
07/27/10	West	0.56	14	41
08/10/10	East	4.8	16	6
08/10/10	West	<0.10	8	4
08/24/10	East	35	4	3
08/24/10	West	1.6	11	4
09/07/10	East	5.9	16	8
09/07/10	West	4.8	5	4
09/21/10	East	147	286	178
09/21/10	West	191	232	179

¹Total suspended solids.

TABLE 4: ANALYSIS OF LAGOON SUPERNATANT APPLIED TO FIELDS
AT THE HANOVER PARK FISCHER FARM SITE
DURING SEPTEMBER 2010

Parameter	Unit	Concentration ¹
pH		7.8
Total Solids	%	0.1
Total Volatile Solids ²	"	54.3
Volatile Acids ³	mg/kg	2,256
TKN	"	226,239
NH ₃ -N	"	203,901
Total P	"	38,753
As	"	27
Cd	"	< 2
Cr	"	7
Cu	"	41
Hg	"	< 0.25
Mn	"	219
Mo	"	4
Ni	"	19
Pb	"	14
Se	"	11
Zn	"	64

¹Values are the means of five samples.

²Total volatile solids as a percentage of total solids.

³As acetic acid.

TABLE 5: VOLUMES AND DRY WEIGHTS OF LAGOON SUPERNATANT
 APPLIED TO FIELDS AT THE HANOVER PARK FISCHER FARM SITE
 DURING AUGUST AND SEPTEMBER 2010

Field	Date	Biosolids Type	Volume (Gallons)	Dry Weight (Tons)
1	08/26/10	Supernatant	140,000	0.76
1	09/09/10	"	160,000	0.93
1	09/28/10	"	100,000	0.58
2	08/26/10	"	150,000	0.81
2	09/15/10	"	190,000	1.03
2	09/28/10	"	130,000	0.76
5	08/26/10	"	600,000	3.25
5	08/31/10	"	190,000	1.19
5	09/20/10	"	460,000	2.69
5	09/28/10	"	500,000	2.92
Total			2,620,000	14.92