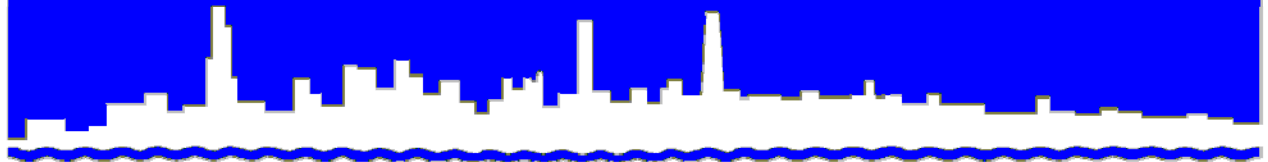


Protecting Our Water Environment



Metropolitan Water Reclamation District of Greater Chicago

*MONITORING AND RESEARCH
DEPARTMENT*

REPORT NO. 16-15

HANOVER PARK WATER RECLAMATION PLANT

FISCHER FARM MONITORING REPORT FOR

FIRST QUARTER 2016

May 2016

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Director of Monitoring and Research

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May 20, 2016

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. 2012-SC-2255, Monitoring Report for January, February, and March 2016

The attached tables contain the monitoring data for the Hanover Park Water Reclamation Plant (WRP) Fischer Farm site for January, February, and March 2016 as required by Illinois Environmental Protection Agency (IEPA) Operating Permit No. 2012-SC-2255. Analytical data for well water 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 in January, February, and March 2016, and data for these samples are presented in Table 3. The volumes of drainage water returned to the WRP during the first quarter were estimated as 2.2, 8.6, and 7.8 million gallons in January, February, and March, respectively. No lagoon supernatant or biosolids were applied to the Fischer Farm fields during January, February, and March 2016. Field and water monitoring locations are presented in Figure 1. The data reported are as follows:

Table 1 Analysis of Water From Monitoring Well W-7 at the Hanover Park Fischer Farm Site Sampled during February and March 2016.

Table 2 Analysis of Water From Monitoring Wells W-3, W-5, W-6, and W-8 at the Hanover Park Fischer Farm Site Sampled on March 22, 2016.

Table 3 Analysis of Combined Surface and Subsurface Drainage From the Fischer Farm Site Returned to the Hanover Park Water Reclamation Plant During January, February, and March 2016.

Subject: Hanover Park Water Reclamation Plant - Illinois Environmental Protection Agency Permit No. 2012-SC-2255, Monitoring Report for January, February, and March 2016

Figure 1 Map of Fields and Wells at the Hanover Park Fischer Farm Site of the Metropolitan Water Reclamation District of Greater Chicago.

Very truly yours,

Thomas C. Granato, Ph.D., BCES
Director
Monitoring and Research

TCG:HZ:DB:cm

Attachments

cc/att: Mr. J. Patel, Manager, IEPA – Des Plaines
Mr. V. Aistars, USEPA, Region 5
Mr. P. Kuefler, USEPA, Region 5
Ms. D. Coolidge
Dr. H. Zhang
Dr. A. Cox
Dr. L. Hundal
Dr. D. Brose

TABLE 1: ANALYSIS OF WATER FROM MONITORING WELL
W-7 AT THE HANOVER PARK FISCHER FARM SITE SAMPLED
DURING FEBRUARY AND MARCH 2016

Parameter	Unit	Date Sampled ¹			
		2/1/16	2/23/16	3/22/16	3/29/16
pH ²		7.2	7.3	7.3	7.2
EC	mS m ⁻¹	157	168	171	166
Cl ⁻	mg L ⁻¹	48	50	49	52
SO ₄ ²⁻	"	253	232	246	243
Alkalinity as CaCO ₃	"	695	721	738	743
TKN	"	41	42	40	40
NH ₃ -N	"	39	39	41	40
NO ₂ +NO ₃ -N	"	<0.15	<0.15	<0.15	<0.15
Total P	"	0.42	0.45	0.34	0.49
Cd	"	<0.001	<0.001	<0.001	0.001
Cr	"	0.005	<0.005	<0.005	<0.005
Cu	"	<0.005	<0.005	<0.005	<0.005
Fe	"	4.2	4.7	4.4	4.4
Mn	"	0.05	0.06	0.05	0.05
Ni	"	<0.005	<0.005	<0.005	<0.005
Zn	"	0.06	0.30	0.09	0.08

¹Well 7 was dry in January and did not generate any sample.

²pH analyzed beyond recommended holding time of 15 minutes.

TABLE 2: ANALYSIS OF WATER FROM MONITORING WELLS W-3, W-5, W-6,
AND W-8 AT THE HANOVER PARK FISCHER FARM SITE SAMPLED
ON MARCH 22, 2016

Parameter	Unit	Monitoring Well No.			
		W-3	W-5	W-6	W-8
pH ¹		7.7	7.7	7.6	8.0
EC	mS m ⁻¹	84	74	81	57
Cl ⁻	mg L ⁻¹	14	17	28	<10
SO ₄ ²⁻	"	130	100	121	51
Alkalinity as CaCO ₃	"	367	318	311	257
TKN	"	1.4	<1.0	<1.0	<1.0
NH ₃ -N	"	<0.10	0.29	0.20	0.49
NO ₂ +NO ₃ -N	"	<0.15	<0.15	<0.15	<0.15
Total P	"	0.25	<0.10	<0.10	<0.10
Cd	"	<0.001	<0.001	<0.001	<0.001
Cr	"	<0.005	<0.005	<0.005	<0.005
Cu	"	0.008	0.007	0.006	<0.005
Fe	"	5.4	3.0	2.1	0.87
Mn	"	0.24	0.03	0.04	0.02
Ni	"	<0.005	<0.005	<0.005	<0.005
Zn	"	0.02	<0.01	<0.01	<0.01

¹pH analyzed beyond recommended holding time of 15 minutes.

TABLE 3: ANALYSIS OF COMBINED SURFACE AND SUBSURFACE DRAINAGE FROM THE FISCHER FARM SITE RETURNED TO THE HANOVER PARK WATER RECLAMATION PLANT DURING JANUARY, FEBRUARY, AND MARCH 2016

Date ¹	Sump	NH ₃ -N	TSS ²	BOD ₅
		----- mg L ⁻¹ -----		
01/26/2016	East	152	13	14
01/26/2016	West	0.5	<4.0	<2.0
02/01/2016	East	79	10	13
02/01/2016	West	0.72	6.0	10
02/23/2016	East	22	12	9.0
02/23/2016	West	3.5	4.0	6.0
03/22/2016	East	7.8	5.0	4.0
03/22/2016	West	0.34	<4.0	<2.0
03/29/2016	East	3.8	10	8.0
03/29/2016	West	0.8	<4.0	<2.0

¹Only one sampling date was available for January.

²Total suspended solids.

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

