GRAEF ANHALT SCHLOEMER

Milwaukee Chicago Green Bay Madison

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June 8, 1998

Dr. Thomas Graan Roy F. Weston, Inc. 3 Hawthorne Parkway, Suite 400 Vernon Hills. IL 60061-1450

SUBJECT: Wetland Investigation

Moss-American Superfund Site

Northeast Quarter of Section 8, T8N, R21E City of Milwaukee, Milwaukee County, WI

Dear Dr. Graan:

Graef, Anhalt, Schloemer & Associates, Inc. (GAS) conducted a wetland investigation on the subject property on May 14th and 15th, 1998. The study area is shown on Figure 1 (enclosed) and consists of the portion of the Moss-American Superfund site that lies to the west of the Little Menomonee River. The purpose of the investigation was to identify, delineate, and collect data on all jurisdictional wetlands in the study area.

Three wetlands, W-1, W-2, and W-3 were observed in the study area (Figure 2). Methods outlined in the 1989 Federal Manual for Identifying and Delineating Jurisdictional Wetlands (Federal Manual) was used to mark wetland W-1's boundaries which exist within a shoreland zone (proximate to navigable waters of the State of Wisconsin). The 1987 Corps of Engineers Wetlands Delineation Manual (Corps Manual) was used to mark wetland W-2 and W-3's boundaries which exist outside of a shoreland zone. The boundaries of W-1 through W-3 were marked with 132, 38, and 40 sequentially numbered blue wire flags, respectively.

Data forms for sample points representing wetland and upland conditions within and proximate to wetlands W-1, W-2 and W-3 were completed (enclosed). Plant lists for wetlands W-1, W-2, and W-3 were prepared during field investigations. For the purposes of preparing the plant lists, W-1 was divided into two separate wetlands identified as W-1 and W-1A. This was due to the difference in plant communities encountered within W-1. The plant lists are provided as an attachment to this report. One portion of Wetland W-1 may be classified as fresh (wet) meadow / shallow marsh, while the other (W-1A) may be classified as floodplain forest. These classifications are based on the system outlined in Wetland Plants and Plant Communities of Minnesota and Wisconsin by Eggers and Reed, 1987. Wetland W-2 may be classified as fresh (wet) meadow / shallow marsh, and wetland W-3 may be classified as a fresh (wet) meadow using the same classification system.

According to the *Wisconsin Wetland Inventory* (WWI) map for Milwaukee County (Figure 3), W-1 is classified as a forested, broad-leaved deciduous, wet soil palustrine (T3K) wetland. Wetlands W-2 and W-3 are not shown on the WWI. The discrepancies between results of field investigations performed by GAS and what is shown on the WWI can be explained by the methods used to delineate wetlands. Wetland boundaries depicted on the WWI are based

Engineers & Scientists



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upon aerial photograph interpretation. Those boundaries shown for wetlands W-1, W-2 and W-3 on Figure 2 are based upon the application of the aforementioned methods directly in the field.

The Soil Survey of Milwaukee and Waukesha Counties, Wisconsin (Steingraeger and Reynolds, 1971) shows the Colwood silt loam (Cw), Matherton silt loam (MmA), and Loamy land (Lu) soil mapping units within the area of wetlands W-1 through W-3 (Figure 4). The Colwood mapping unit is listed on the County hydric soils list as "whole soil unit", while the Matherton mapping unit is listed as "wetter soils as inclusions." Only the Colwood mapping unit is listed on the state and federal hydric soils lists.

Aerial photographs of the site from the years 1963, 1967, 1970, 1975, 1980, 1985, 1990, 1995, are included (Figures 5 through 12). Specifically, the aerial photograph taken in 1990 shows the Southeastern Wisconsin Regional Planning Commission (SEWRPC) designations of primary environmental corridor and wetland boundaries. It can be seen from this aerial photograph that the SEWRPC designation of wetland boundaries varies significantly from what was determined as a result of the GAS field investigation. Again, this discrepancy can be explained by the methods used to delineate wetlands. The wetland delineation depicted on Figure 11 was derived from aerial photograph interpretation. To our knowledge, a field check was not performed by representatives of SEWRPC to validate this interpretation.

Sample points described adjacent to and within wetlands W-1 through W-3 included observations regarding vegetation and hydrology but did not include soils. Soils were composed of various fill materials. Redoximorphic features that may be associated with poor drainage conditions would be difficult to distinguish from colors encountered within the fill. The fill was comprised of material which gave a very "rusty" appearance to the observer. Sample points described in the field are included with this report.

Each wetland existing on the Moss-American site was assessed using the Wisconsin Department of Natural Resources' *Rapid Assessment Method for Evaluating Wetland Functional Values*. These assessments are also included with this report. Wetland W-1 was determined to possess low functional significance in fishery habitat and shoreline protection; medium functional significance in floral diversity, groundwater and aesthetics / recreation / education; and high functional significance in wildlife habitat, flood / stormwater attenuation and water quality protection. Wetlands W-2 and W-3 possessed low significance for all rated functions except flood / stormwater attenuation which was rated medium.

The Swink-Wilhelm Floristic Quality Index (FQI) was used to quantitatively determine the floristic quality of plant communities described within wetlands W-1, W-2, and W-3. The FQI is derived from lists of observed plants within each wetland plant community type within W-1, W-2 and W-3 (Appendix C).

The authors of this method have assigned each plant species a number between 0 and 10 based upon the estimated probability that plant was obtained in a relatively intact and undisturbed plant community indigenous to the region. The FQI value that is obtained is related to the diversity of plants present at a site today and their relative fidelity to native plant communities in this region prior to the European settlement in the early 1800's. Generally, an FQI lower than 20 is considered a highly disturbed plant community that is not significant by most standards. An FQI value above 20 indicates that a plant community may be relatively undisturbed, possess high floristic quality, but may not necessarily be ecologically significant.



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According to the authors of the method, an FQI above 35 is rare and indicates a plant community with regional ecological significance.

Wetland plant communities for W-1, W-1A (floodplain forest), W-2, and W-3 had FQI's of 20.3, 17.9, 11.8, and 8.49. Based upon knowledge of site history combined with the results of the FQI's, it can be deduced that the wetland plant communities described above are highly disturbed and are not significant by most standards.

Filling or excavating in wetlands W-1, W-2 or W-3 would require a Section 404 permit from the U.S. Army Corps of Engineers and Section 401 certification from the Wisconsin Department of Natural Resources (WDNR). Under some types of Section 404 nationwide permits, the WDNR would require that an extensive alternatives analysis under section NR 103 of Wis. Adm. Code be performed prior to certifying the proposed filling or excavation. A copy of the NR103 alternatives analysis form is included with this report. If impacts are associated with a federal or state mandated cleanup, nationwide permit 38 may apply. If this permit applies, state certification review would be expedited.

GAS appreciates the opportunity to conduct this wetland investigation for you. If you have any further questions, please feel free to call us at (414) 259-1500.

Sincerely,

GRAEF, ANHALT, SCHLOEMER & Associates, Inc.

Brian J. Karczewski

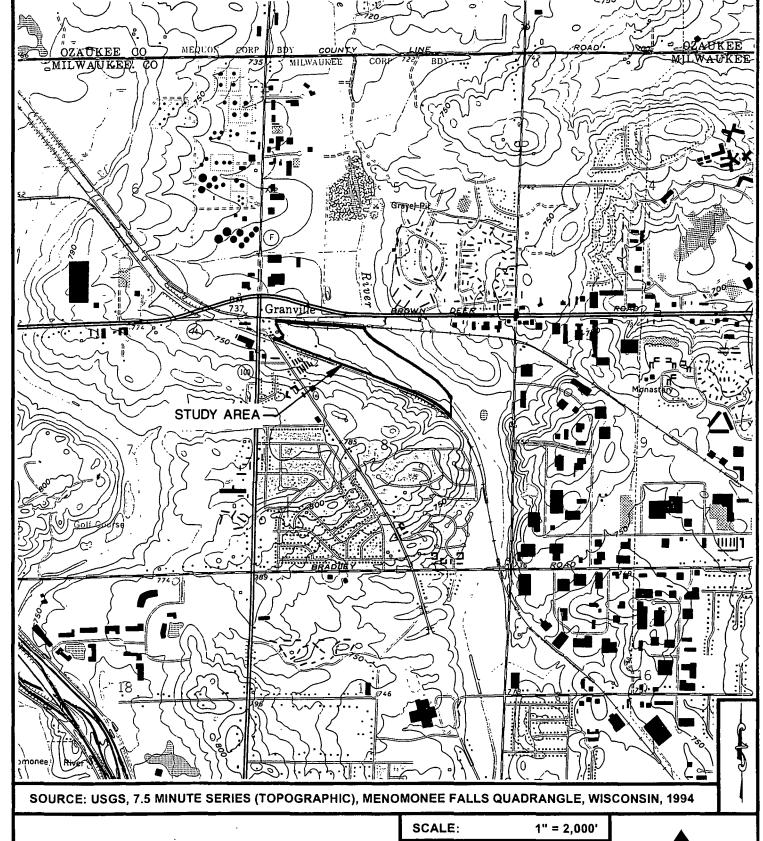
Soil Scientist

Eric C. Parker, P.W.S. Wetland Scientist

980187WetRpt

BJK:bjk Envshare2/980187/RPT/980187WeiRpt enclosures

FIGURES



SITE LOCATION MAP

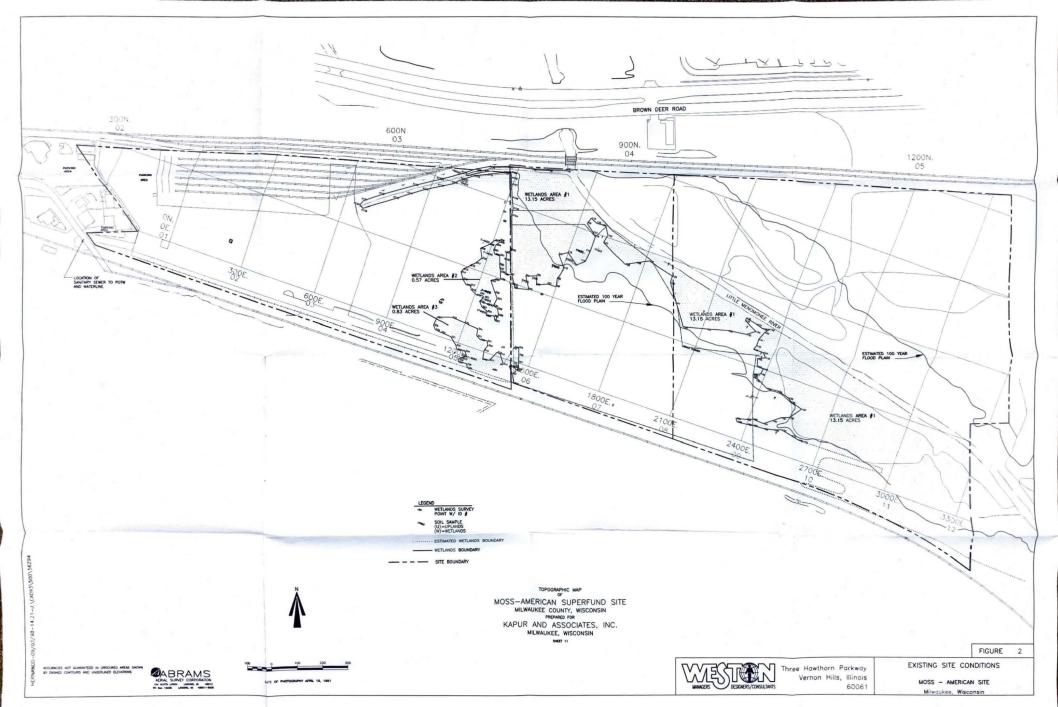
MOSS-AMERICAN SUPERFUND SITE
WETLAND INVESTIGATION
CITY OF MILWAUKEE
MILWAUKEE COUNTY, WISCONSIN

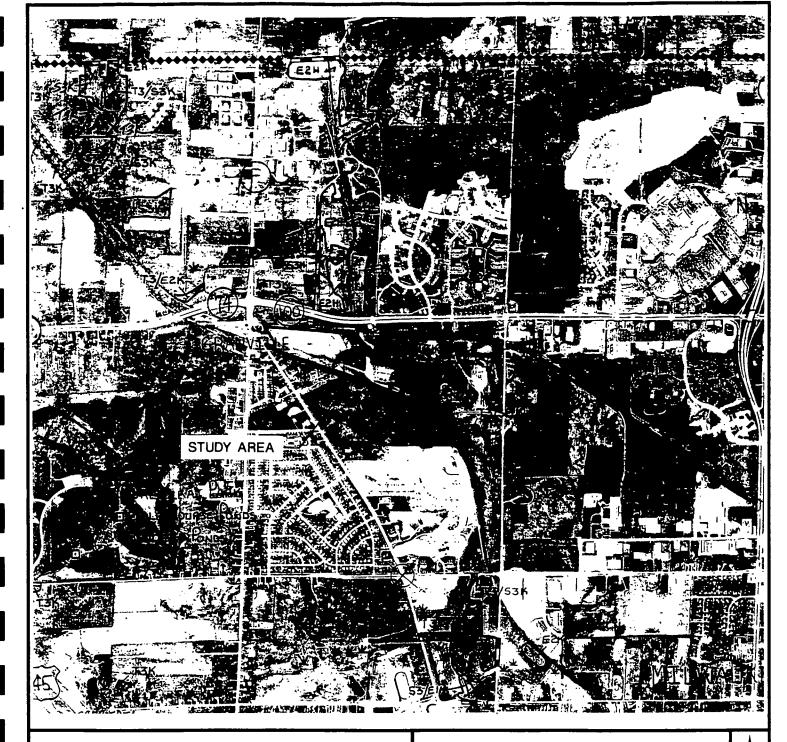
SCALE:	1" = 2,000'
DATE:	05-18-98
PROJECT MGR:	ECP
DRAWN BY:	JZ
JOB NUMBER:	980187
REVISION DATE:	



GRAEF ANHALT SCHLOEMER and Associates Inc.

ENGINEERS AND SCIENTISTS





SOURCE:

WDNR, WISCONSIN WETLAND INVENTORY, MILWAUKEE COUNTY; T8N, R21E; LAST REVISION 2-27-89

WDNR WISCONSIN WETLAND INVENTORY MAP

MOSS-AMERICAN SUPERFUND SITE
WETLAND INVESTIGATION
CITY OF MILWAUKEE
MILWAUKEE COUNTY, WISCONSIN

KEY:

T3K = Forested; Broad-leaved deciduous Wet soil; Palustrine

SCALE: 1" = 2,000'

DATE: 05-18-98

PROJECT MGR: ECP

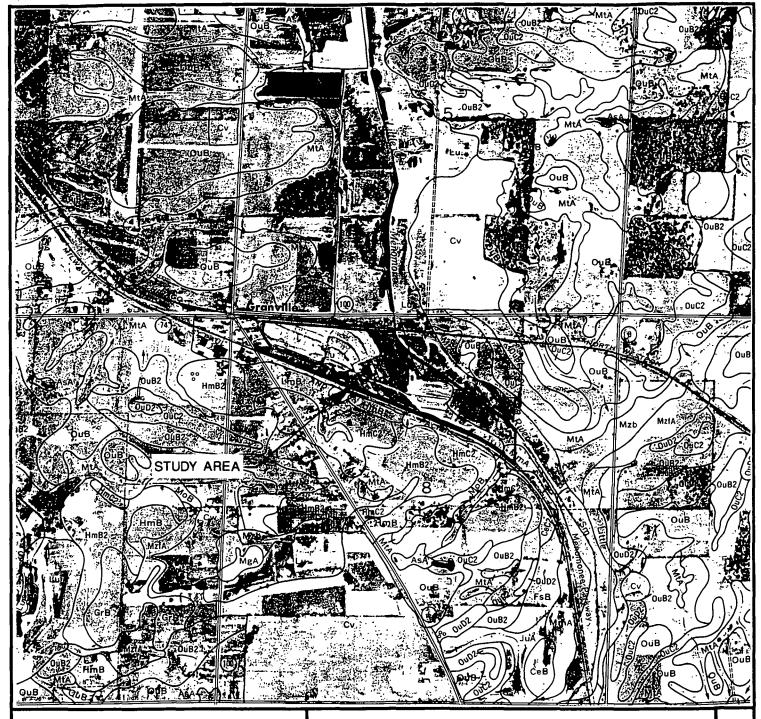
DRAWN BY: JZ

JOB NUMBER: 980187

REVISION DATE:

GRAEF ANHALT SCHLOEMER and Associates Inc.

ENGINEERS & SCIENTISTS



SOURCE:

USDA, NRCS SOIL SURVEY OF MILWAUKEE COUNTY, WISCONSIN, 1971

LEGEND:

Cw = Colwood silt loam, Hydric = Loamy land, Non-hydric Lu

= Matherton silt loam, 1 to 3 percent slopes, MmA

Wetter soils as inclusions

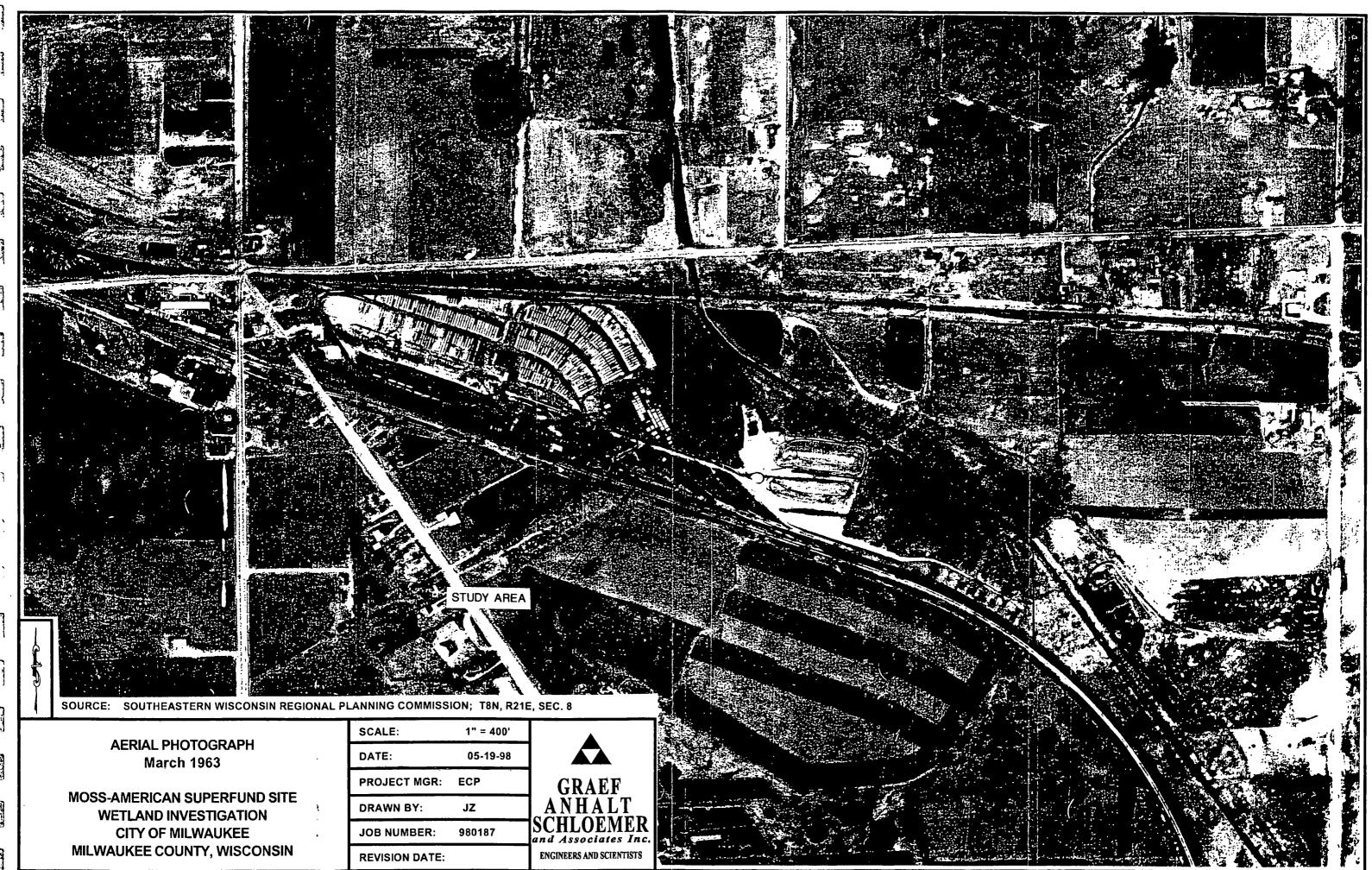
NRCS SOILS MAP

MOSS-AMERICAN SUPERFUND SITE WETLAND INVESTIGATION CITY OF MILWAUKEE MILWAUKEE COUNTY, WISCONSIN

SCALE:	1" = 1,320'
DATE:	05-18-98
PROJECT MGR:	ECP
DRAWN BY:	JZ
JOB NUMBER:	980187
REVISION DATE:	

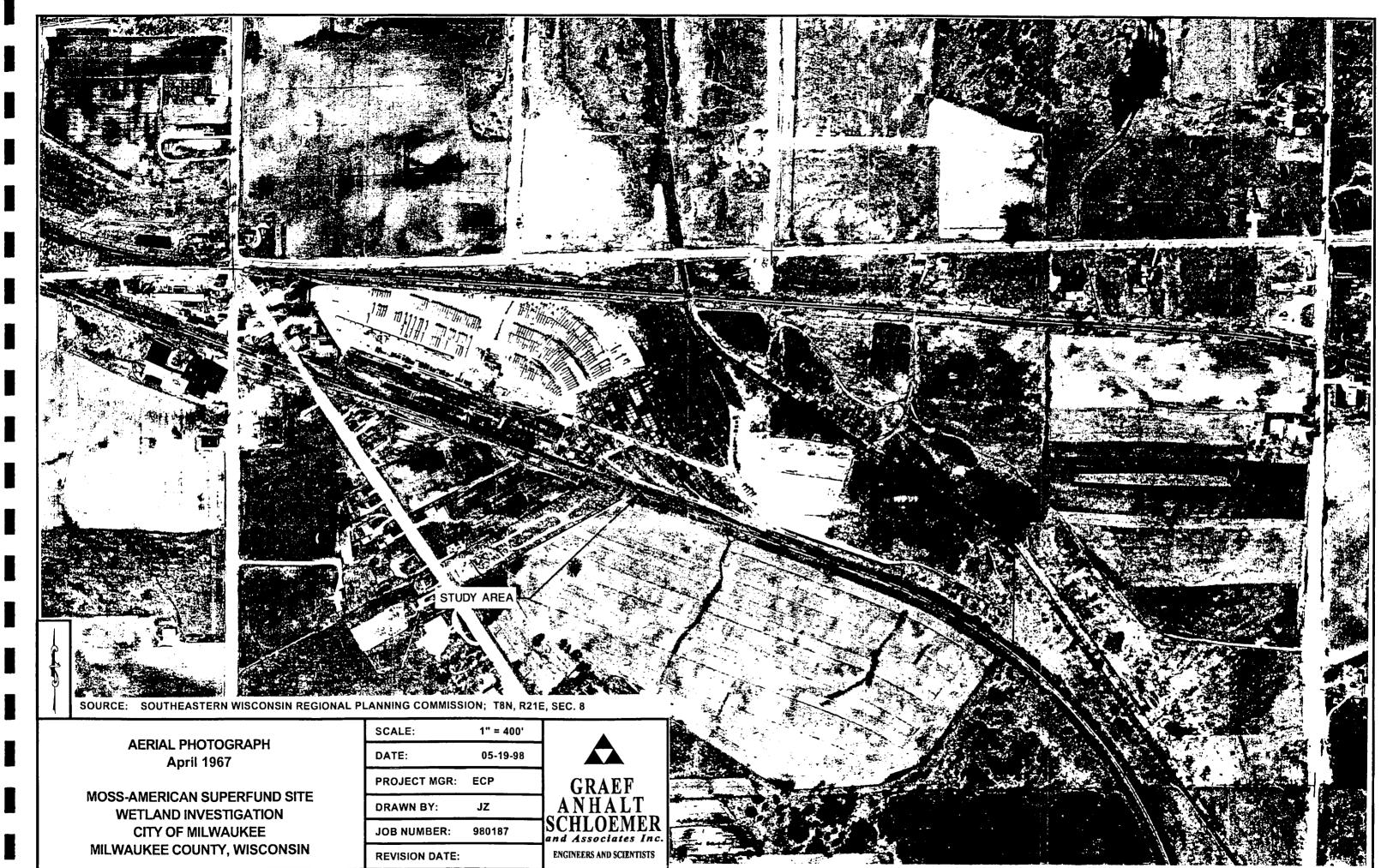


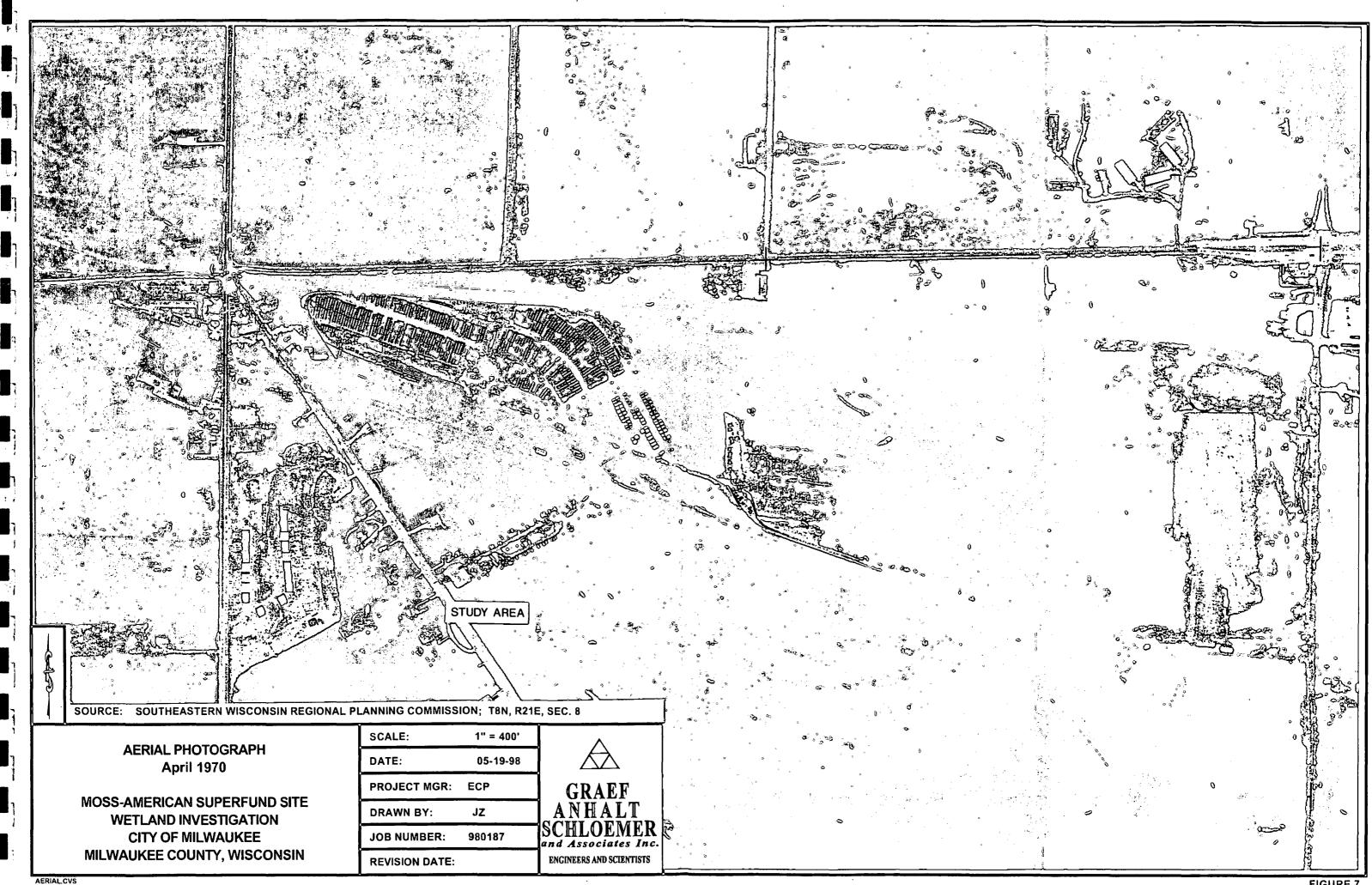
SOILS.CVS

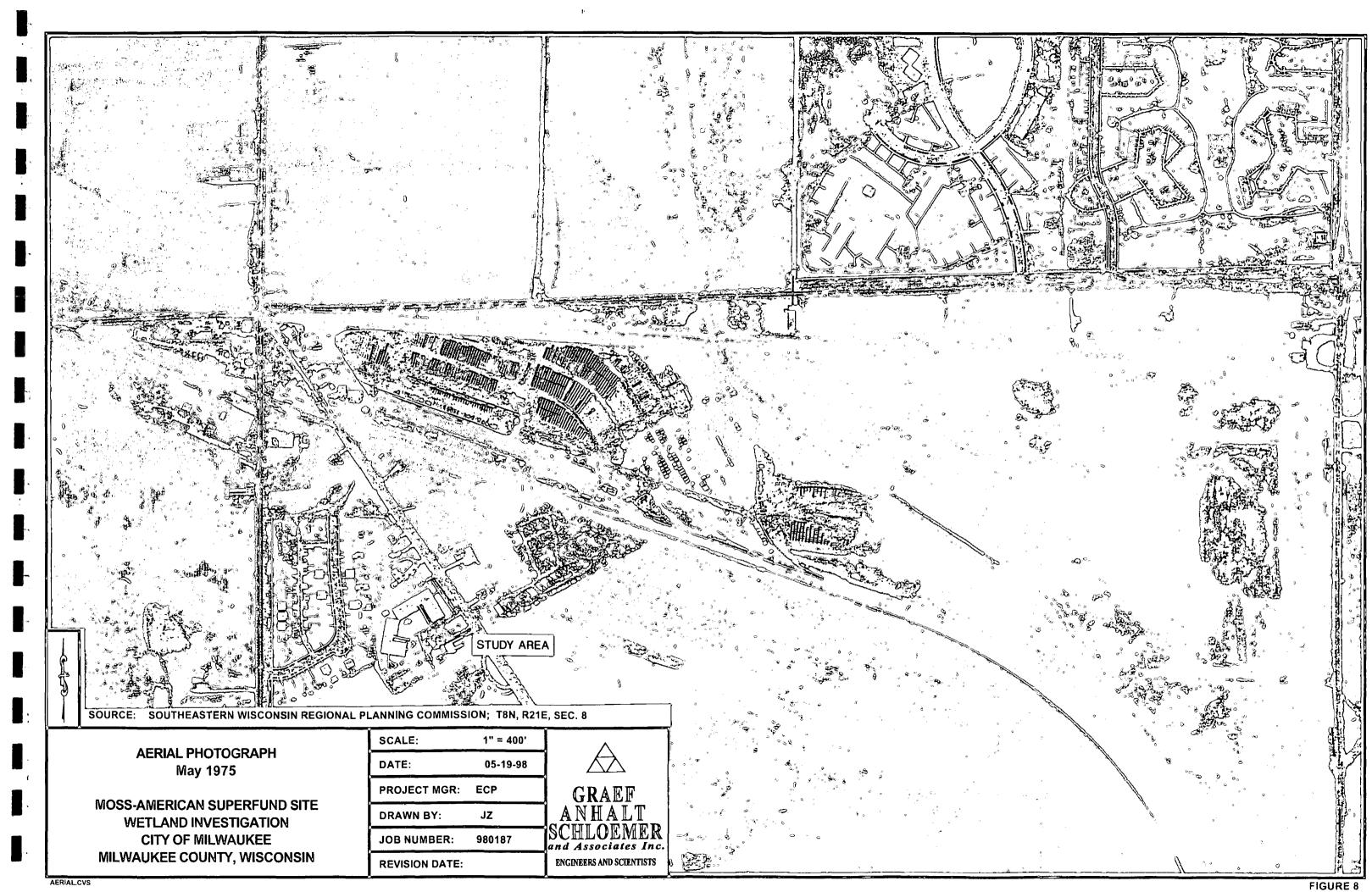


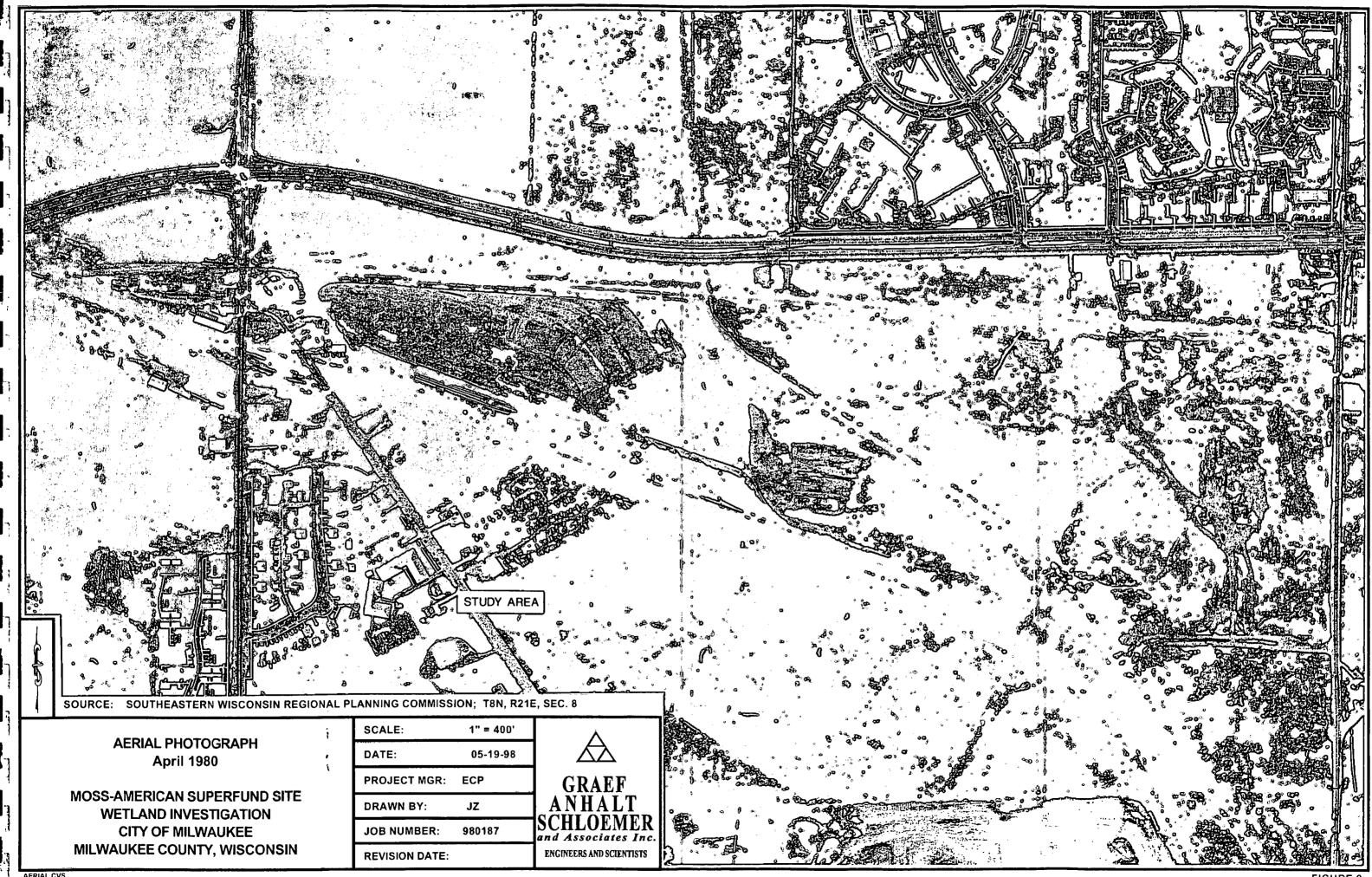
AFRIAL CV

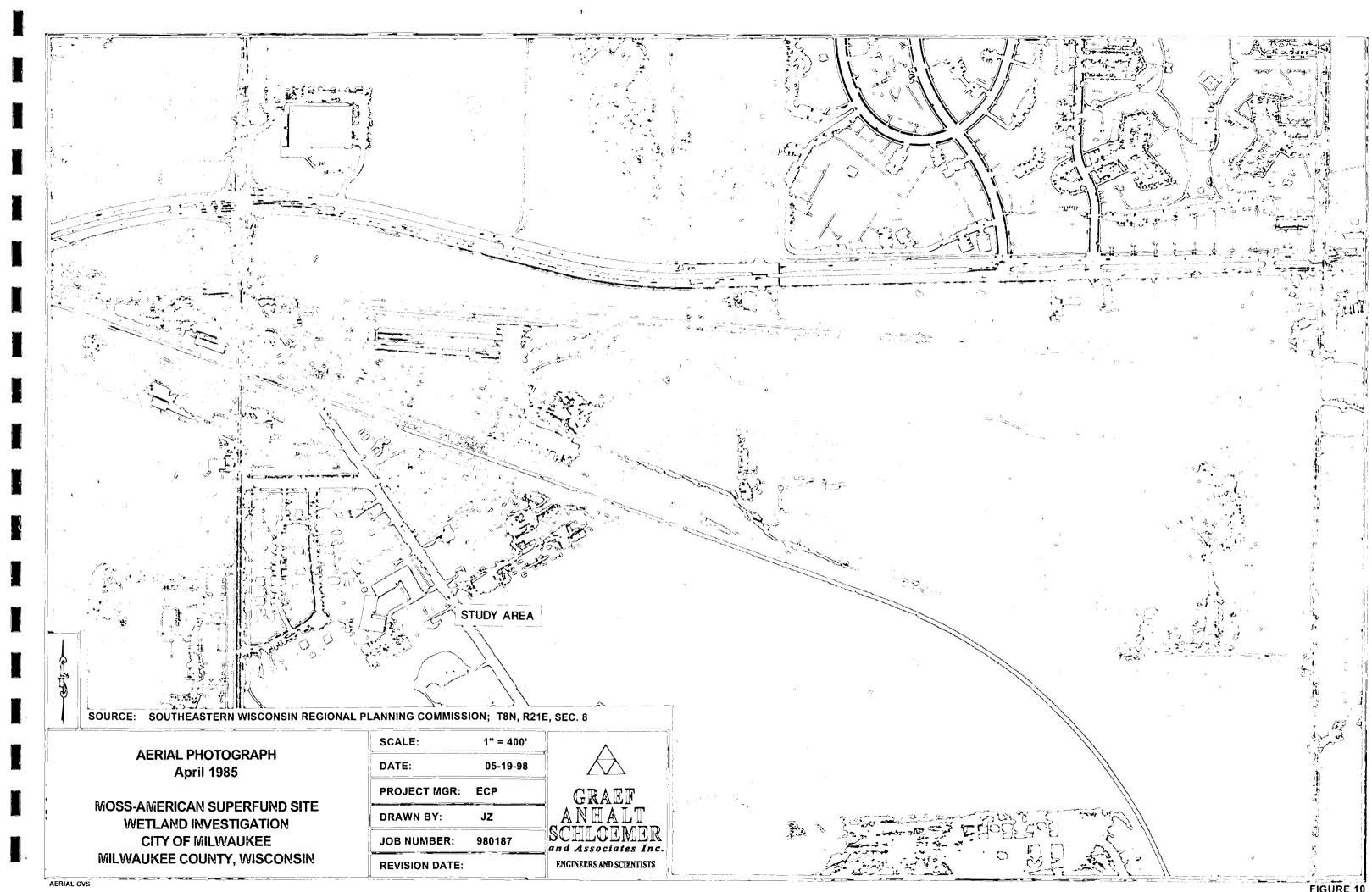
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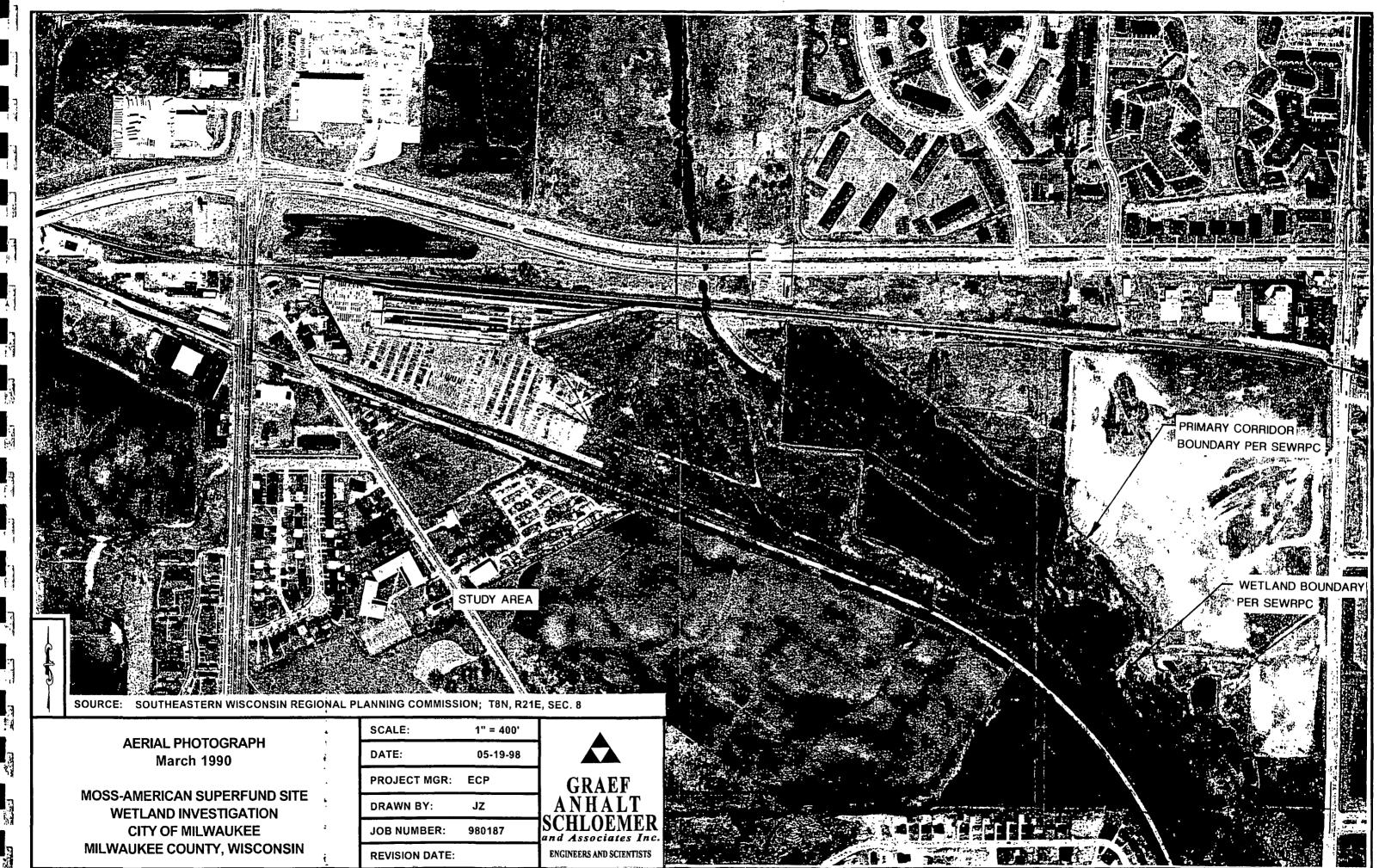




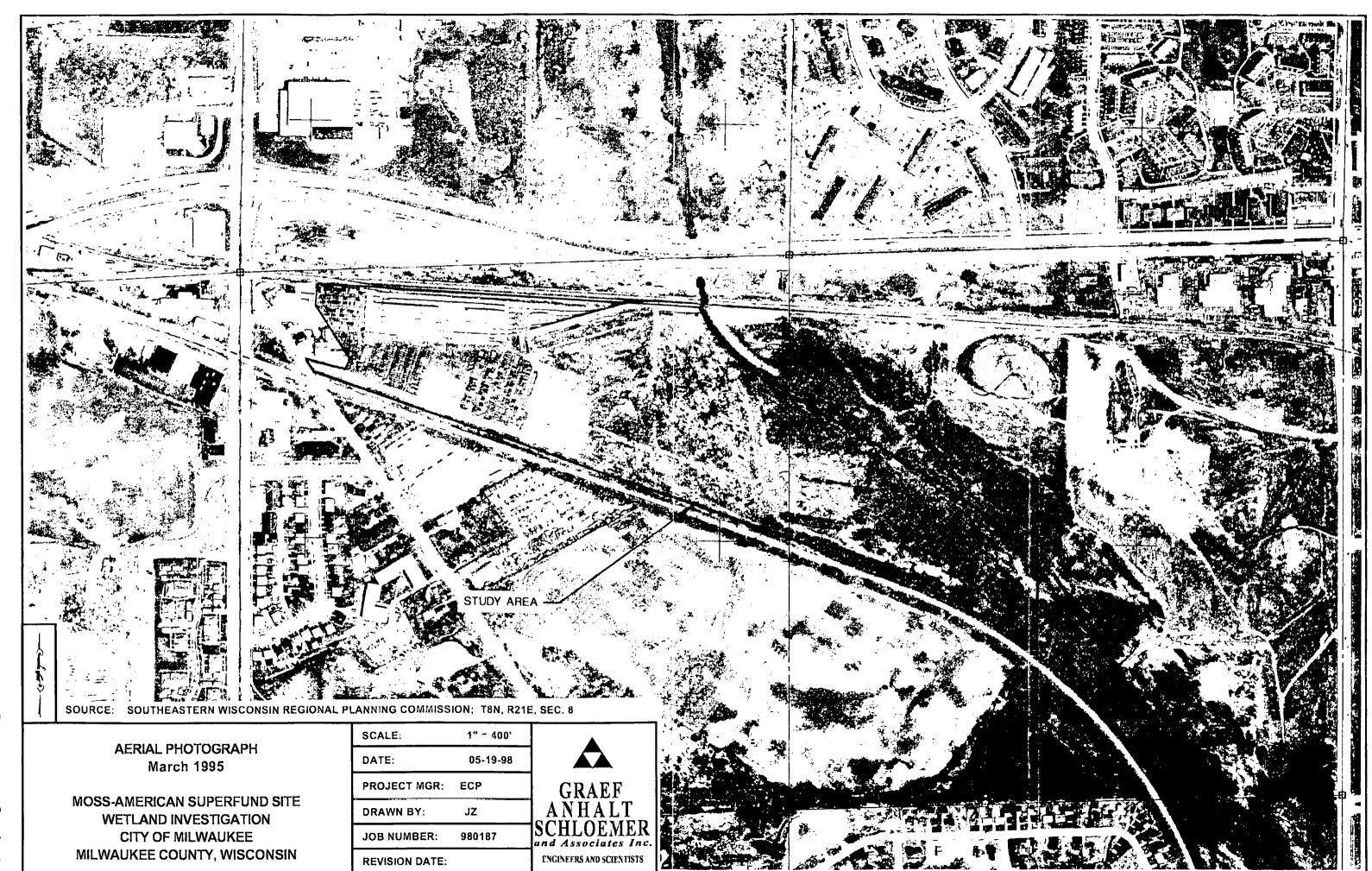








AERIAL.CV



Wetland Determination Data Forms

(Indicate Method)		
Routine	X	
Intermediate		
Comprehensive	-	

Project/Site:	Moss America	n Superfund S	ite	Date:	5/15/98	
Applicant/Owner:				County:	Milwaukee	
Investigator:	ECP/BJK - Graef, Ar	nhalt, Schloem	er & Assoc., Inc.	State:	WI	
	ental conditions exist					
at the plant commun	=	Yes	No	Plant Community		
s the site significant	ly disturbed?	Yes	<u>No</u>	Transect I.D.:	T-5	
s the area a potentia		Yes	No	Plot I.D.:	T-5 A(u)	
lf needed, explain o	•					
VEGETATION				_		
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	S Stratum	Indicator	
Elytrigia repens	ground	FACU	9.			
2. Daucus carota	ground	UPL				
3. Hypericum perforatu		UPL	11.			
4. Rhamnus cathartica		FACU				
5.			13.			
6.			14.			
7.			15			
·· 						
8. Percent of Dominant	t Species that are OBL,	FACW and/or F	16			
8. Percent of Dominant Remarks:		FACW and/or F	16			
8. Percent of Dominant Remarks: HYDROLOGY	t Species that are OBL,): N	16	ırface inundation or soil satur	ation below:	
8. Percent of Dominant Remarks: HYDROLOGY X Recor	t Species that are OBL, rded Data (describe in remarks) Stream or Lake Gaug): M	16			
8. Percent of Dominant Remarks: HYDROLOGY	rded Data (describe in remarks) Stream or Lake Gaug Aerial Photographs/S): M	16	idized root zones - living roots		
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8	rded Data (describe in remarks) Stream or Lake Gaug Aerial Photographs/S Other): M	fark other field indicators of su Oxi Wa Drift Wa Sur	idized root zones - living roots ater marks tt lines ater - borne sediment deposits ater - stained leaves	s	
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[†] This data form can be used for all methods when assessing soils, hydrology and the plant community. When site conditions require more intensive vegetative sampling, the appropriate form should be attached.

							
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(inches)	Horizon	(Munsell Moist)	(Munsell Mois	SI) Abu	ndance/Contras	<u> </u>	icretions, etc.
							
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		on and Manganese Concr		Other (Evole	in in Remarks)		
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LANDSCAP Draw a diagr WETLAND E	E POSITION ram showing loca DETERMINATION Vegetation Prese	leted. This sample p tion of sampling point nt? Yes No	oint is on the side s	slope of a wetlan	d ditch.		ale, floodplain)
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(Indicate Method)	
Routine	X
Intermediate	
Comprehensive	

Project/Site:	Moss America	n Superfund S	ite	Date: _	5/15/98	
Applicant/Owner:	FORIN IV Creek A	mhalt Cablean	ar 9 Assas Inc	County:	Milwaukee	
nvestigator:			er & Assoc., Inc.	State:	WI	
	ental conditions exist				·	
at the plant commun	=	Yes	No	Plant Community		
s the site significant		Yes	No	Transect I.D.:	T-5	
s the area a potenti	•	Yes	No	- Plot I.D.:	T-5 B(w)	
If needed, explain o	n reverse.)					
/EGETATION				٠		
Dominant Plant Species	Stratum	Indicator	Dominant Plant Spec	ies Stratum	Indicator	
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 Typha angustifolia Rhamnus cathartica 	ground shrub	FACU	9			
3.		PAGO	11			
4.			11. 12.			
5.						
6.			14.			
7			15.			
			16.			
	Species that are OBL,	, FACW and/or F				
Percent of Dominan	Species that are OBL,	, FACW and/or F				
Percent of Dominant Remarks:						
Percent of Dominant Remarks:	ded Data (describe in remarks	s): N	FAC: 100%	f surface inundation or soil satu	oration below:	
Percent of Dominant Remarks: HYDROLOGY X Record	ded Data (describe in remarks Stream or Lake Gau	s): M	FAC: 100%			
Percent of Dominant Remarks:	ded Data (describe in remarks Stream or Lake Gau	s): M	AC: 100%	Oxidized root zones - living roo		
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[†] This data form can be used for all methods when assessing soils, hydrology and the plant community. When site conditions require more intensive vegetative sampling, the appropriate form should be attached.

SOILS Map Unit Na	me						
(Series and I		Loamy Land (Lu	u)	Drainage C		N/A	
	٠ - است	NI/ A		Field Obse		V Voc	No
Taxonomy (S		N/A		Confirm wa	apped Type?	X Yes	No
Profile Descr	<u>iption:</u>						
Depth		Matrix Color	Mottle	e Colors	Mottle	Т	exture, Structure
(inches)	Horizon	(Munsell Moi	st) (Muns	sell Moist)	Abundance/Co	ntrast C	oncretions, etc.
				•			
Hydric Soil Indi	icators (mark all the	at are present):					
	(Organic Soils		High O	rganic Contents in	Surface Laye	er in Sandy Soils
		Histic Epipedons			-		s of Sandy Soils
		Sulfidic Material	4-istura Basima	······································	ng Conditions (Co		
		Aquic or Peraquic N Iron and Manganes	-		, Low-Chroma, an Explain in Remark		a/Mottled Solis
Remarks:							
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"	10uStriai iaciiit	y. Sulls wele of	DServed to be stor	ny, and were potentia	ally contamine	itea.	
- ANDSCAP	E POSITION						-
		ration of sampling	noint on landscan	e (e.g. foot slope, dep	ression side sl	one knoll s	wale floodplain)
Diaw a diay.	dili showing los	auun oi sampiing) point on ianacoup.	3 (8.y. 1001 310pg, 40p	/655IUH, 3145 5.	ope, knon, c	Wale, Ilouapiani,
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WETLAND (DETERMINATIO	ON					
	Vegetation Pres		No .(Circle)	Is this Sampling Po	oint with a Wetl	and? Yes	No (Circle)
	drology Present?		No	10 11 11 C C C C C C C C C C C C C C C C	7 11.11.11.11.11.11.11.11.11.11.11.11.11.	w/	(,
Hydric Soils		Yes	No				
Remarks:							
Hemans.							
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1							

(Indicate Method)	
Routine	Χ
Intermediate	
Comprehensive	

Average and the properties of the state significantly disturbed? Some and the plant community? In the site significantly disturbed? In the significantly disturbed? In the site sign	Project/Site:	Moss American	1 Superfund S	ite	Date:	5/15/98
Do normal environmental conditions exist at the plant community? at the plant community? by the significantly disturbed? Yes No Transect I.D.: T-5 the site significantly disturbed? Yes No Transect I.D.: T-5 The plot I.D.: T-5 C(u) The plot I.D.: The plot I.D.: T-5 C(u) The plot I.D.: The plot I.D.	Applicant/Owner:				County:	Milwaukee
Is the site significantly disturbed? Is the area a potential problem area? Yes No Plot I.D.: T-5 C(u) It needed, explain on reverse. VEGETATION Dominant Plant Species Stratum Indicator Dominant Plant Species Stratum Indicator 1. Poa pratensis ground* FAC- 9. 2. Cenothera blennis ground* FACU 10. 3. Elytrigia repens ground FACU 11. 5. 13. 6. 14. 7. 15. 8. Percent of Dominant Species that are OBL, FACW and/or FAC; 33% Remarks: HYDROLOGY X Recorded Data (describe in remarks): Mark other field indicators of surface inundation or soil saturation below: HYDROLOGY X Recorded Data (describe in remarks): Mark other field indicators of surface inundation or soil saturation below: HYDROLOGY X Recorded Data (describe in remarks): Mark other field indicators of surface inundation or soil saturation below: HYDROLOGY X Recorded Data (describe in remarks): Mark other field indicators of surface inundation or soil saturation below: Water stained in the surface inundation or soil saturation below: Water stained in the surface inundation or soil saturation below: Surface scoured areas Welland drainage patterns Hydric soil charateristics **Eleid Observations/Measurements:** **Surface scoured areas Welland drainage patterns Welland drainage	nvestigator:	ECP/BJK - Graef, An	halt, Schloem	er & Assoc., Inc.	State:	WI
s the site significantly disturbed? S the area a potential problem area? Yes No Plot I.D.: T-5 C(u) If needed, explain on reverse.) VEGETATION Dominant Plant Species Stratum Indicator Dominant Plant Species Stratum Indicator 1. Poa pratensis ground* FAC- 9. 2. Cenothera blennis ground* FACU 10. 3. Elytrigia repens ground* FACU 11. 5. 13. 6. 14. 7. 15. 8. Percent of Dominant Species that are OBL, FACW and/or FAC: 33% Remarks: HYDROLOGY X Recorded Data (describe in remarks): Mark other field indicators of surface inundation or soil saturation below: HYDROLOGY X Recorded Data (describe in remarks): Mark other field indicators of surface inundation or soil saturation below: HYDROLOGY No Recorded Data Available Water borne sediment deposits Water marks Field Observations/Measurements: st he ground surface inundated? Yes No X Surface water depth: NA inches inches st he soil saturation; NA inches inches st he soil saturation; NA inches inches	 Do normal environm	ental conditions exist				
If needed, explain on reverse.) VEGETATION Dominant Plant Species Stratum Indicator Dominant Plant Species Stratum Indicator 1. Poa pratensis ground* FAC* 9. 2. Oenothera blennis ground* FACU 11. 3. Elytrigia repens ground* FACU 11. 4. 12. 5. 13. 6. 144. 7. 15. 8. 15. 8. 16. Percent of Dominant Species that are OBL, FACW and/or FAC* 33% Remarks: HYDROLOGY X Recorded Data (describe in remarks): Stream or Lake Gauge X Aerial Photographs/Slides Orther Dominant Species that are OBL, FACW and/or FAC* 33% HYDROLOGY No Recorded Data Available Drift lines Water - stained leaves Surface sourced areas Water - stained leaves Surface sourced areas Morphological plant adaptations Hydric soil charateristics Fleid Observations/Measurements: s the ground surface inundated? Yes No X Surface water depth: N/A inches inches she soil saturation? N/A inches inches	at the plant commun	ity?	Yes	No		
Is the area a potential problem area? Yes No Plot I.D.: T-5 C(u) (If needed, explain on reverse.) VEGETATION Deminant Plant Species Stratum Indicator Dominant Plant Species Stratum Indicator 1	ls the site significant	ly disturbed?	Yes	No	Transect I.D.:	T-5.
VEGETATION Dominant Plant Species Stratum Indicator Dominant Plant Species Stratum Indicator 1. Poa pratensis ground FAC. 9. 2. Denothera blennis ground FACU 10. 3. Etytinja repens ground FACU 11. 4. 12. 5. 13. 6. 14. 7. 15. 8. 16. 9. 9. 12. 18. 8. 16. 9. 19. 19. 19. 19. 19. 19. 19. 19. 19.	is the area a potentia	al problem area?	Yes	No	Plot I.D.:	· T-5 C(u)
Pop pratensis ground FAC 9	•	•			···	
1. Poa pratensis	VEGETATION					
Peace Peac	Dominant Plant Species		Indicator	Dominant Plant Specie:	s Stratum	Indicator
2. Oenothera blennis ground FACU 10		£ 300 1				
Second Facu 11.		ground*				
12						
13			FACU			
14 15 16	<i>-</i>	i i		40		
### Test						
Remarks: HYDROLOGY X Recorded Data (describe in remarks): Stream or Lake Gauge X Aerial Photographs/Slides Other No Recorded Data Available Water - stained leaves Surface soured areas Water - stained leaves Surface soured areas Wetland drainage patterns Morphological plant adaptations Hydric soil charateristics Field Observations/Measurements: Is the ground surface inundation? Yes No X Surface water depth: N/A inches in the soil saturation? Yes No X Depth to saturation: N/A inches inches inches				4.5		
Percent of Dominant Species that are OBL, FACW and/or FAC: 33% Remarks: HYDROLOGY						
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Stream or Lake Gauge X		Species that are OBL, F	FACW and/or I	FAC: 33%		
X Aerial Photographs/Slides Oxidized root zones - living roots Water marks Drift lines Water - borne sediment deposits Water - stained leaves Surface scoured areas Wetland drainage patterns Morphological plant adaptations Hydric soil charateristics Striage of the provided of th	Remarks:					
Other No Recorded Data Available Drift lines	Remarks:	ded Data (describe in remarks):			urface inundation or soil sa	turation below:
No Recorded Data Available Drift lines Water - borne sediment deposits Water - stained leaves Surface scoured areas Wetland drainage patterns Morphological plant adaptations Hydric soil charateristics	Remarks:	ded Data (describe in remarks): Stream or Lake Gaug	. N	Mark other field indicators of s		
Water - borne sediment deposits Water - stained leaves Surface scoured areas Wetland drainage patterns Morphological plant adaptations Hydric soil charateristics s the ground surface inundated? Yes No X Surface water depth: N/A inches s the soil saturated? Yes No X Depth to saturation: N/A Inches Depth to free-standing water in pit/soil probe hole: inches	Remarks:	ded Data (describe in remarks): Stream or Lake Gaug Aerial Photographs/Sl	. N	Mark other field indicators of s	xidized root zones - living ro	
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Morphological plant adaptations Hydric soil charateristics	HYDROLOGY X Record	ded Data (describe in remarks): Stream or Lake Gaug Aerial Photographs/Sl Other	. N	Mark other field indicators of s Ox Ware Dri	xidized root zones - living ro ater marks rift lines ater - borne sediment depo	oots
Hydric soil charateristics Field Observations/Measurements: Is the ground surface inundated? Yes No X Surface water depth: Depth to saturation: N/A Inches Depth to free-standing water in pit/soil probe hole: - inches	HYDROLOGY X Record	ded Data (describe in remarks): Stream or Lake Gaug Aerial Photographs/Sl Other	. N	Mark other field indicators of s Ox W: Dri	xidized root zones - living ro ater marks ift lines ater - borne sediment depo ater - stained leaves	oots
Field Observations/Measurements: Is the ground surface inundated? Yes No X Surface water depth: N/A Inches Depth to free-standing water in pit/soil probe hole: - inches	HYDROLOGY X Record	ded Data (describe in remarks): Stream or Lake Gaug Aerial Photographs/Sl Other	. N	Mark other field indicators of s Ox W: Dri W: Su	xidized root zones - living ro ater marks ift lines ater - borne sediment depo ater - stained leaves urface scoured areas	oots
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Is the soil saturated? Yes No X Depth to saturation: N/A Inches Depth to free-standing water in pit/soil probe hole: - Inches	HYDROLOGY X Record X No Re	ded Data (describe in remarks): Stream or Lake Gaug Aerial Photographs/SI Other corded Data Available	. N	Mark other field indicators of s Ox Warting Drivers Warting	xidized root zones - living ro ater marks ift lines ater - borne sediment depo ater - stained leaves urface scoured areas etland drainage patterns orphological plant adaptatio	oots
Depth to free-standing water in pit/soil probe hole: - inches	HYDROLOGY X Record X No Re	ded Data (describe in remarks): Stream or Lake Gaug Aerial Photographs/SI Other corded Data Available	. N	Mark other field indicators of s Ox Warting Drivers Warting	xidized root zones - living ro ater marks ift lines ater - borne sediment depo ater - stained leaves urface scoured areas etland drainage patterns orphological plant adaptatio	oots
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[†] This data form can be used for all methods when assessing soils, hydrology and the plant community. When site conditions require more intensive vegetative sampling, the appropriate form should be attached.

(Series and	ame							
,00,100 and	l Phase):	Loamy Land (Lu)		_	ige Class:	N/A		
Taxonomy (Subgroup): N/A					Observations	.n v	V	N _a
		IVA	_ Confirm	m Mapped Type	<u> </u>	Yes	No	
Profile Desc	cription;							
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle (Munse	Colors ell Moist)	Mottle Abundance	e/Contrast		cture, Structure
	<u> </u>				<u> </u>			
Hydric Soil Inc	dicators (mark all th	nat are present):						
		Organic Soils Histic Epipedons Sulfidic Material Aquic or Peraquic Moi Iron and Manganese C	-	Or Re	gh Organic Conter ganic Streaking in educing Conditions eyed, Low-Chrom her (Explain in Re	Subsurface (Confirmed a, and Low-0	Layers of by Meas	of Sandy Soils surement)
Remarks:								
Remarks:	•	completed. Soils vacility. Soils were	_	•				ard and
Remarks:	•	•	_	•				ard and
LANDSCAF	industrial for	•	observed to be s	tony, and were	potentially co	ntaminate	ed.	
LANDSCAF	industrial for	acility. Solls were	observed to be s	tony, and were	potentially co	ntaminate	ed.	
LANDSCAF	industrial for	acility. Solls were	observed to be s	tony, and were	potentially co	ntaminate	ed.	
LANDSCAF Draw a diag	industrial for	acility. Solls were	observed to be s	tony, and were	potentially co	ntaminate	ed.	
LANDSCAF Draw a diag	PE POSITION gram showing loc DETERMINATIO Vegetation Present	cation of sampling p ON sent? Yes ? Yes	observed to be s	tony, and were	potentially co	e slope, kr	ed.	

(Indicate Method)		
Routine	X	
Intermediate		
Comprehensive		

County: State: ant Community I. ansect I.D.: ot I.D.:	Milwaukee WI D.: W-1 T-7 T-7 A(u)
ant Community I. ansect I.D.: ot I.D.:	T-7 · T-7 A(u)
	Indicator
-dation or soit satural	ion holaw
ot zones - living roots s ne sediment deposits ned leaves ured areas inage patterns al plant adaptations	OII DEIGW.
M. W. C.	
N/A N/A	inches inches inches
o s	N/A

[†] This data form can be used for all methods when assessing soils, hydrology and the plant community. When site conditions require more intensive vegetative sampling, the appropriate form should be attached.

NA 11:1: N							
Map Unit Na (Series and		Loamy Land (Lu)		Drainage Class:	N/A		
(00,100 0,100				Field Observations			
Taxonomy ((Subgroup):	N/A		Confirm Mapped Type? X Yes No			
Profile Desc	ription:						
		Mark to Oak	M. W. Oalawa	9.4 - 441 -		Tanduna Chrunduna	
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/	Contrast	Texture, Structure Concretions, etc.	
inches)	110112011	(IVIUIISEII IVIOISI)	(Wildinsell World)	Abditables	Contrast	Concretions, etc.	
						<u> </u>	
							
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	dicators (mark all th	nat are present).			 		
.,		,					
		Organic Soils		High Organic Content		•	
		Histic Epipedons		Organic Streaking in S Reducing Conditions (
		Sulfidic Material Aquic or Peraquic Moisture F		Gleyed, Low-Chroma,			
				•			
		Iron and Manganese Concret	tions	Other (Explain in Rem	ıarks)		
Remarks:		Iron and Manganese Concre		Other (Explain in Rem	arks)		
ı	-	pleted. Soils were grad	ed in the past in as	sociation with a former	railroad ya	ard and	
! i	-	pleted. Soils were grad	ed in the past in as	sociation with a former	railroad ya	ard and	
i i LANDSCAF	industrial facili	pleted. Soils were grad ty. Soils were observed	ed in the past in as: I to be stony, and w	sociation with a former ere potentially contam	railroad ya	·	
I	industrial facili	pleted. Soils were grad	ed in the past in as: I to be stony, and w	sociation with a former ere potentially contam	railroad ya	·	
i i LANDSCAF	industrial facili	pleted. Soils were grad ty. Soils were observed	ed in the past in as: I to be stony, and w	sociation with a former ere potentially contam	railroad ya	·	
i i LANDSCAF	industrial facili	pleted. Soils were grad ty. Soils were observed	ed in the past in as: I to be stony, and w	sociation with a former ere potentially contam	railroad ya	·	
i i LANDSCAF	industrial facili	pleted. Soils were grad ty. Soils were observed	ed in the past in as: I to be stony, and w	sociation with a former ere potentially contam	railroad ya	·	
i i LANDSCAF	industrial facili	pleted. Soils were grad ty. Soils were observed	ed in the past in as: I to be stony, and w	sociation with a former ere potentially contam	railroad ya	·	
i i LANDSCAF	industrial facili	pleted. Soils were grad ty. Soils were observed	ed in the past in as: I to be stony, and w	sociation with a former ere potentially contam	railroad ya	·	
i i LANDSCAF	industrial facili	pleted. Soils were grad ty. Soils were observed	ed in the past in as: I to be stony, and w	sociation with a former ere potentially contam	railroad ya	·	
i i LANDSCAF	industrial facili	pleted. Soils were grad ty. Soils were observed	ed in the past in as: I to be stony, and w	sociation with a former ere potentially contam	railroad ya	·	
LANDSCAF	industrial facili	pleted. Soils were grad ty. Soils were observed cation of sampling point or	ed in the past in as: I to be stony, and w	sociation with a former ere potentially contam	railroad ya	·	
LANDSCAF Draw a diag	PE POSITION Iram showing loc	pleted. Soils were grad ty. Soils were observed cation of sampling point or	led in the past in asa I to be stony, and w	sociation with a former ere potentially contam t slope, depression, side	railroad ya inated. slope, knoll	, swale, floodplain)	
LANDSCAF Draw a diag WETLAND Hydrophytic Wetland Hyd	PE POSITION Iram showing loc DETERMINATION Vegetation Present	pleted. Soils were grad ty. Soils were observed cation of sampling point or point or	led in the past in asa I to be stony, and w	sociation with a former ere potentially contam	railroad ya inated. slope, knoll	, swale, floodplain)	
LANDSCAF Draw a diag WETLAND Hydrophytic Wetland Hyd	PE POSITION Iram showing loc DETERMINATION Vegetation Present	pleted. Soils were grad ty. Soils were observed cation of sampling point of	led in the past in asa I to be stony, and w	sociation with a former ere potentially contam t slope, depression, side	railroad ya inated. slope, knoll	, swale, floodplain)	
LANDSCAF Draw a diag	PE POSITION Iram showing loc DETERMINATION Vegetation Present	pleted. Soils were grad ty. Soils were observed cation of sampling point or point or	led in the past in asa I to be stony, and w	sociation with a former ere potentially contam t slope, depression, side	railroad ya inated. slope, knoll	, swale, floodplain)	

(Indicate Method)		
Routine	X	
Intermediate		
Comprehensive		

Project/Site: Applicant/Owner: nvestigator:	Moss American			Date: County: State:	5/15/98 Milwaukee WI
Do normal environm at the plant commur Is the site significant Is the area a potenti (If needed, explain c	ly disturbed? al problem area?	Plant Community Transect I.D.: Plot I.D.:	i.D.: W-1 T-7. T-7 B(w)		
VEGETATION					
6.		FACW FAC FACW	9. 10. 11. 12. 13. 14. 15. 16.		Indicator
8 Percent of Dominan Remarks:	Species that are OBL, I	FACW and/or F			
8 Percent of Dominan Remarks: HYDROLOGY	t Species that are OBL, I		AC: 100%	surface inundation or soil satur	ation below:
8	ded Data (describe in remarks): Stream or Lake Gaug	: Ma	ark other field indicators of s	surface inundation or soil satur oxidized root zones - living roots Vater marks orift lines Vater - borne sediment deposits Vater - stained leaves urface scoured areas Vetland drainage patterns lorphological plant adaptations	s
8	ded Data (describe in remarks): Stream or Lake Gaug Aerial Photographs/Sl Other ecorded Data Available	: Ma	ark other field indicators of s	surface inundation or soil satur oxidized root zones - living roots Vater marks orift lines Vater - borne sediment deposits Vater - stained leaves urface scoured areas Vetland drainage patterns	s

[†] This data form can be used for all methods when assessing soils, hydrology and the plant community. When site conditions require more intensive vegetative sampling, the appropriate form should be attached.

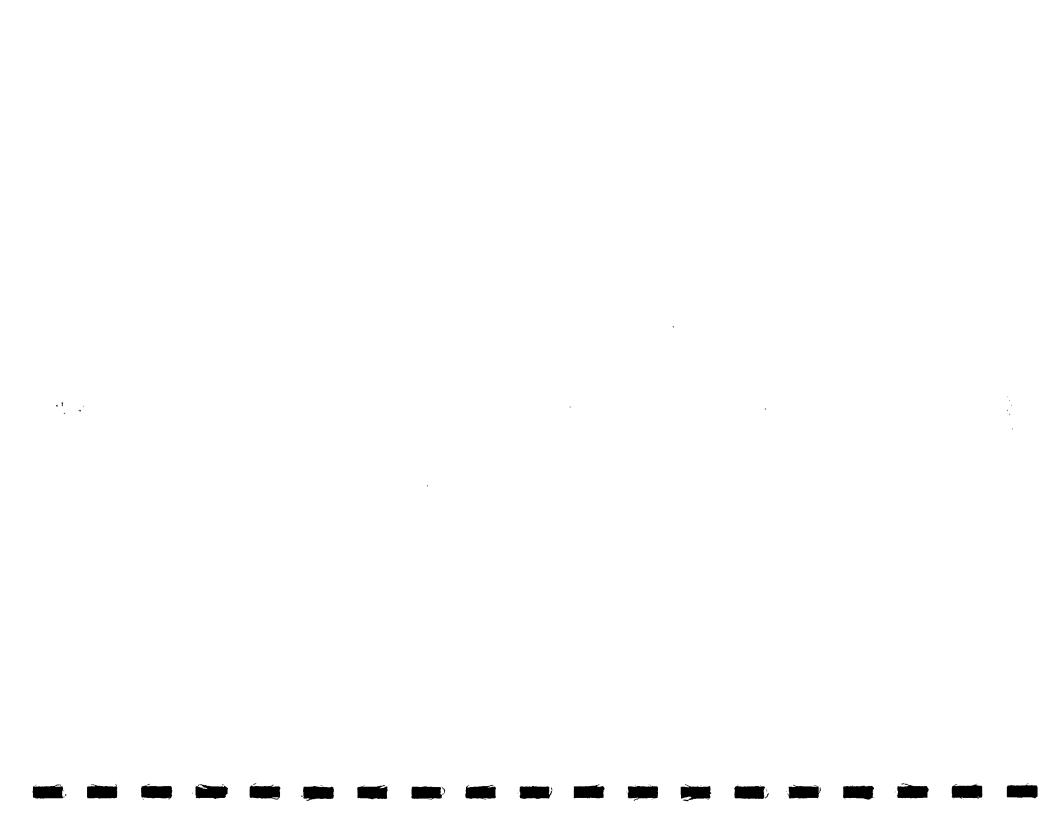
SOILS								
Map Unit Na	Init Name s and Phase): Loamy Land (Lu)			Drainage Class:				
(Series and	Phase):	Loamy Land (Lu)		_		N/A	
Taxonomy (Subgroup <u>):</u>	N/A	·		Field Observations Confirm Mapped Type? X Ye			sNo
Profile Desc	ription:							
Depth		Matrix Color		Mottle Colors		Mottle		Texture, Structure
(inches)	Horizon	(Munsell Moist		(Munsell Moist)	J	Abundance/	Contrast	Concretions, etc.
				<u> </u>		•		
			 -					
		· ·						
				<u></u>				
Hydric Soil Inc	dicators (mark all th	hat are present):						
iriyano con	·							
		Organic Soils				-		ayer in Sandy Soils
		Histic Epipedons Sulfidic Material			_	ic Streaking in S sing Conditions (-	yers of Sandy Soils. Measurement)
		Aquic or Peraquic Mo			Gleyed	d, Low-Chroma,	, and Low-Chro	oma/Mottled Soils
		Iron and Manganese	Concretions		Other ((Explain in Rem	arks)	
Remarks:			•					
	•	completed. Soils acility. Soils were	_	-				d yard and
LANDSCAP	PE POSITION	and the series of the series o						
		cation of sampling p	point on land	dscape (e.g. foc	ot slope, der	oression, side	slope, knoll,	swale, floodplain)
	<u>.</u>			See 1 . ()				, , , , , , , , , , , , , , , , , , ,
								•
		•						
WETLAND (DETERMINATIO	ON						
F	Vegetation Pres		No (Circle	e) Is this	Sampling P	oint with a We	etland? Yes	No (Circle)
Wetland Hyd	drology Present?	? Yes	No	-,	, _			
Hydric Soils	Present?	Yes	No					
Remarks:								
			•					

(Indicate Method)		
Routine	X	_
Intermediate		
Comprehensive		

Project/Site: Applicant/Owner:	Moss America	in Superfund Si	te	-	Date: Dounty:	5/15/98 Milwaukee
nvestigator:	ECP/BJK - Graef, Ar	nhalt Schloeme	or & Assoc., Inc.	-	State:	WI
		max, comocine				
	ental conditions exist	IV.	NI_	Diant (`. `inital	. w.
at the plant commun		Yes	No		Community I	
s the site significant		Yes	No		ect I.D.:	T-7
s the area a potenti		Yes	No	Plot I.).:	T-7 C(u)
If needed, explain o	n reverse.)					
/EGETATION						
Dominant Plant Species	Stratum	Indicator	Dominant Plant Spe	cies	Stratum	Indicator
	5.1	1				
Solidago canadensis		FACU				-
2. Phalaris arundinaces		FACW+	10.		•	
3. Fragaria virginiana	ground	FAC-	11			
4. 5.			12. 13.			
					. —	
7			14 15			
8			16.			
	t Species that are OBL,	FACW and/or F	AC: 66%	-		
Percent of Dominant Remarks:	t Species that are OBL,	FACW and/or F	AC: 66%			
Remarks:	t Species that are OBL,	FACW and/or F	AC: 66%			
Remarks:	ded Data (describe in remarks)): Ma	AC: 66%	of surface inundation	on or soil satura	tion below:
HYDROLOGY X Recor	ded Data (describe In remarks) Stream or Lake Gauç): Ma ge				
Remarks:	ded Data (describe in remarks) Stream or Lake Gauç Aerial Photographs/S): Ma ge		Oxidized root zon		
HYDROLOGY X Recor	ded Data (describe In remarks) Stream or Lake Gauç Aerial Photographs/S Other): Ma ge		Oxidized root zon Water marks		
HYDROLOGY X Recor	ded Data (describe in remarks) Stream or Lake Gauç Aerial Photographs/S): Ma ge	ark other field indicators o	Oxidized root zon Water marks Drift lines	es - living roots	
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HYDROLOGY X Recor	ded Data (describe In remarks) Stream or Lake Gauç Aerial Photographs/S Other): Ma ge	ark other field indicators o	Oxidized root zon Water marks Drift lines Water - borne sec Water - stained le	es - living roots liment deposits aves	
HYDROLOGY X Recor	ded Data (describe In remarks) Stream or Lake Gauç Aerial Photographs/S Other): Ma ge	ark other field indicators o	Oxidized root zon Water marks Drift lines Water - borne sec Water - stained le Surface scoured a	es - living roots liment deposits aves areas	
HYDROLOGY X Recor	ded Data (describe In remarks) Stream or Lake Gauç Aerial Photographs/S Other): Ma ge	ark other field indicators o	Oxidized root zon Water marks Drift lines Water - borne sec Water - stained le Surface scoured a Wetland drainage	es - living roots liment deposits aves areas patterns	
HYDROLOGY X Recor	ded Data (describe In remarks) Stream or Lake Gauç Aerial Photographs/S Other): Ma ge	ark other field indicators o	Oxidized root zon Water marks Drift lines Water - borne sec Water - stained le Surface scoured a	es - living roots liment deposits aves areas patterns nt adaptations	
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HYDROLOGY X Recor No Re	rded Data (describe in remarks) Stream or Lake Gaug Aerial Photographs/S Other ecorded Data Available): Ma ge Slides	ark other field indicators o	Oxidized root zon Water marks Drift lines Water - borne sec Water - stained le Surface scoured a Wetland drainage Morphological pla	es - living roots liment deposits aves areas patterns nt adaptations eristics	
HYDROLOGY X Recor X No Re	ded Data (describe in remarks) Stream or Lake Gaug Aerial Photographs/S Other ecorded Data Available ements:): Ma ge Slides No X	ark other field indicators of the state of t	Oxidized root zon Water marks Drift lines Water - borne sec Water - stained le Surface scoured a Wetland drainage Morphological pla	es - living roots liment deposits aves areas patterns nt adaptations eristics	inches
HYDROLOGY X Recor X No Re Tield Observations/Measur as the ground surface inunds the soil saturated?	ded Data (describe in remarks) Stream or Lake Gaug Aerial Photographs/S Other ecorded Data Available ements:): Ma ge Slides No X	ark other field indicators of the state of t	Oxidized root zon Water marks Drift lines Water - borne sec Water - stained le Surface scoured a Wetland drainage Morphological pla	es - living roots liment deposits aves areas patterns nt adaptations eristics N/A N/A	inches inches
HYDROLOGY X Recor X No Re Tield Observations/Measur as the ground surface inunds the soil saturated?	ded Data (describe in remarks) Stream or Lake Gaug Aerial Photographs/S Other ecorded Data Available ements:): Ma ge Slides No X	ark other field indicators of the state of t	Oxidized root zon Water marks Drift lines Water - borne sec Water - stained le Surface scoured a Wetland drainage Morphological pla	es - living roots liment deposits aves areas patterns nt adaptations eristics N/A N/A	inches inches

[†] This data form can be used for all methods when assessing soils, hydrology and the plant community. When site conditions require more intensive vegetative sampling, the appropriate form should be attached.

SOILS	<u> </u>								
Map Unit Na (Series and	Unit Name es and Phase): Loamy Land (Lu)			Drainage Cl	lass:	N/A			
•				Field Obser	vations				
Taxonomy (Subgroup <u>):</u>		N/A			Confirm Ma	pped Type?	<u>_x</u>	Yes	No
Profile Desci	ription:								
Depth (inches)	Horizon	Matrix Color (Munsell Mois		fottle Colors Munsell Moist)		Mottle Abundance/G	Contras		Texture, Structure Concretions, etc.
					— , - — - — -			 	
Hydric Soil Ind	licators (mark all	I that are present):							
		Organic Soils Histic Epipedons Sulfidic Material Aquic or Peraquic M Iron and Manganese			Organic Reducing Gleyed,	Streaking in S g Conditions (Subsurfac (Confirme and Low	e Laye	yer in Sandy Soils ers of Sandy Soils Measurement) ma/Mottled Soils
	industrial	it completed. Soils I facility. Soils wer							
	PE POSITION ram showing lo	ocation of sampling	point on lands	cape (e.g. foot	t slope, depr	ession, side	slope, l	knoll,	swale, floodplain)
					* ** **				
WETLAND [DETERMINAT	ion						<u></u>	
Hydrophytic '	Vegetation Predrology Presen	esent? Yes	No No No	Is this S	Sampling Poi	nt with a We		Yes	No (Circle)
Remarks:									



(Indicate Method)	,
Routine	X
Intermediate	
Comprehensive	

Project/Site: Applicant/Owner:	Moss America	an Superfund Sit	te	Date: County:	5/15/98 Milwaukee
Investigator:	ECP/BJK - Graef, A	nhalt, Schloeme	er & Assoc., Inc.	State:	WI
Do normal environmat the plant community the site significant is the area a potential (If needed, explain control of the site	tly disturbed? ial problem area?	No No No	Plant Community I Transect I.D.: Plot I.D.:	I.D.: W-1 T-7 T-7 D(w)	
VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
Typha latifolia Phalarls arundinace Cornus sericea Aster simplex Salix sp. (cut)	shrub ground ground	FACW FACW FACW FACH	12. 13. 14.		
7			15		
8. Percent of Dominan	t Species that are OBL,	FACW and/or FA	16		
8. Percent of Dominan	t Species that are OBL,	FACW and/or FA	16		
8. Percent of Dominan Remarks: HYDROLOGY			16		
8. Percent of Dominan Remarks: HYDROLOGY X Record X	rded Data (describe in remarks Stream or Lake Gau	s): Ma	AC: 100% Ark other field indicators of surface in the surface ind	ace inundation or soil satural zed root zones - living roots r marks ines r - borne sediment deposits r - stained leaves ce scoured areas and drainage patterns hological plant adaptations	
8. Percent of Dominan Remarks: HYDROLOGY X Record X	rded Data (describe in remarks Stream or Lake Gau Aerial Photographs/S Other ecorded Data Available	s): Ma	AC: 100% Ark other field indicators of surface in the surface ind	ace inundation or soil satural zed root zones - living roots r marks ines r - borne sediment deposits r - stained leaves ce scoured areas and drainage patterns	
8. Percent of Dominan Remarks: HYDROLOGY X Record X No Re	rded Data (describe in remarks Stream or Lake Gau Aerial Photographs/s Other ecorded Data Available rements:	s): Ma	AC: 100% Ark other field indicators of surface in the surface ind	ace inundation or soil satural zed root zones - living roots r marks ines r - borne sediment deposits r - stained leaves ce scoured areas and drainage patterns hological plant adaptations	A inches

[†] This data form can be used for all methods when assessing soils, hydrology and the plant community. When site conditions require more intensive vegetative sampling, the appropriate form should be attached.

	ame										
(Series and	Phase):	Phase): Loamy Land (Lu)			Drainage (N/A				
Taxonomy (my (Subgroup): N/A			Field Observations Confirm Mapped Type? X Yes			No				
Profile Desc	ription:										
Depth (inches)	Horizon	Matrix Color (Munsell Moi	st)		Colors ell Moist)		Mottle Abundance	Contras	<u>t</u>		, Structure tions, etc.
	····	-				·			-		
									- -		
Hvdric Soil Inc	dicators (mark all	that are present):									
riyano con me	zioatoro (mant an				•						
		Organic Soils Histic Epipedons Sulfidic Material				Organi Reduci	rganic Content c Streaking in t ng Conditíons	Subsurfac (Confirme	e Laye d by M	ers of Sand leasureme	dy Soils ent)
		Aquic or Peraquic M	loisture Re	egime		Gleyed	, Low-Chroma		-Chron	na/Mottled	Soils
Remarks:		Iron and Manganese	e Concreti	ons		· · · · ·	Explain in Ren				
Remarks:	•	t completed. Soils	e Concretions	raded in ti	-	associati	on with a fo	rmer rai		yard an	d
	•	t completed. Soil	e Concretions	raded in ti	-	associati	on with a fo	rmer rai		yard an	d
LANDSCAP	industrial PE POSITION	t completed. Soil	e Concretions were green	raded in ti	stony, and	associati I were po	on with a fo	rmer rai	ed.		
LANDSCAP Draw a diag	industrial PE POSITION ram showing k	t completed. Soils facility. Soils we	e Concretions were green	raded in ti	stony, and	associati I were po	on with a fo	rmer rai	ed.		
LANDSCAP Draw a diag WETLAND I	PE POSITION ram showing to the position of th	t completed. Soils facility. Soils we consider the soils will be soils with the soils we consider the soils we consider the soils will be soils with the soils we consider the soils will be soils with the soils we consider the soils we consider the soils will be soils with the soil of the soil of the soils we consider the soil of the soils we consider the soil of t	s were gre obser	raded in ti	(e.g. foot	associati d were pot	on with a fo	rmer rai	noll, s	swale, flo	
LANDSCAP Draw a diag WETLAND I Hydrophytic Wetland Hyd	PE POSITION ram showing to the position of th	t completed. Soils facility. Soils we consider the second of sampling to the second of sampling	s were gre obser	raded in the second sec	(e.g. foot	associati d were pot	on with a fo	rmer rai	noll, s	swale, flo	odplain)



(Indicate Method)		
Routine	X	
Intermediate		
Comprehensive		

Project/Site:	Moss American Superfund Site ECP/BJK - Graef, Anhalt, Schloemer & Assoc., Inc.			Date:	5/15/98	
Applicant/Owner:				County: State:	Milwaukee WI	
Investigator:		mait, Schloeni	er & Assoc., mc.	Jiaie.	441	
Do normal environme at the plant communi Is the site significantly Is the area a potentia (If needed, explain or	ly disturbed? al problem area?	Yes Yes Yes	No No No	Plant Community Transect I.D.: Plot I.D.:	7 I.D.: W-1 T-7 T-7 E(u)	
VEGETATION						
Dominant Plant Species	Stratum	Indicator	Dominant Plant Spec	cies Stratum	Indicator	
1. Fragaria virginiana 2. Solidago canadensis 3. Poa compressa 4. 5. 6. 7. 8. Percent of Dominant Remarks:	ground	FACU FACU+ FACW and/or F	10. 11. 12. 13. 14. 15. 16.			
	ded Data (describe in remarks):	V- N	Mark other field indicators o	of surface inundation or soil satur	ration below:	
	Stream or Lake Gaug Aerial Photographs/Si Other corded Data Available	ge		Oxidized root zones - living root Water marks Drift lines Water - borne sediment deposit: Water - stained leaves Surface scoured areas Wetland drainage patterns Morphological plant adaptations Hydric soil charateristics	ts	
Field Observations/Measure	ements:			Tydno och characterione		
is the ground surface inunda Is the soil saturated? Depth to free-standing water	Yes	No X No X	Surface water depth: _ Depth to saturation: _	N/A N/A	A inches	
Remarks:						

[†] This data form can be used for all methods when assessing soils, hydrology and the plant community. When site conditions require more intensive vegetative sampling, the appropriate form should be attached.

(Series and	me Phase)· i	oamy Land (Lu)	Drai	nage Class: N	/A	
(Series and Phase): Loamy Land (Lu)		Field	Field Observations			
Taxonomy (Subgroup <u>):</u> N	N/A		Confirm Mapped Type? X Yes No		
Profile Desci	ription:					
Depth (inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contr	Texture, Structure ast Concretions, etc.	
		· · · · · · · · · · · · · · · · · · ·				
Hydric Soil Ind	icators (mark all tha	t are present):				
	H	organic Soils iistic Epipedons ulfidic Material quic or Peraquic Moisture on and Manganese Concre	Regime	High Organic Contents in Su Organic Streaking in Subsur Reducing Conditions (Confir Gleyed, Low-Chroma, and L Other (Explain in Remarks)	face Layers of Sandy Soils med by Measurement)	
			graded in the past in asso erved to be stony, and we			
LANDCOAD	E POSITION					
LANDSCAP		tion of sampling point o	on landecane (e.g. foot slong	e, depression, side slope	knoll swale floodplain)	
	am showing loca	, 3,	on landscape (e.g. 100t slopt		, know, swate, hoodplain,	
	am showing loca		on randscape (e.g. 1000 stope		, knoi, swale, hoodplain	
	am showing loca		on randscape (e.g. 1000 stope	·		
	am showing loca		e.g. 100t stope		, knoi, swale, noodplain)	
Draw a diagr	am showing loca		on randscape (e.g. 100t stope		, knoi, swale, noodplain)	
Draw a diagr WETLAND D Hydrophytic \	DETERMINATION Vegetation Prese rology Present?	V		ling Point with a Wetland		

(Indicate Method)	
Routine	X
Intermediate	
Comprehensive	

Applicant/Owner: Investigator: Do normal environment at the plant community'		an Superfund Si	<u>te</u>	Date:	5/15/98	
Do normal environment				County:	Milwaukee	
	ECP/BJK - Graef, Ai	nhalt, Schloeme	er & Assoc., Inc.	State:	<u> </u>	
at the plant community						
		Yes	No	Plant Community		
Is the site significantly o		Yes	No	Transect I.D.:	T-7	
Is the area a potential p	roblem area?	Yes	No	Plot I.D.:	T-7 F(w)	
(If needed, explain on r						
VEGETATION						
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	es Stratum	Indicator	
	aharih	FAOW	^			
1. Cornus sericea	shrub	FACW	9			
2. Salix sp.	shrub	FAC-FACW FAC-FACW	10.			
Salix sp. Phalaris arundinacea	ground	FAC-FACW FACW+	11.			
Pnaiaris arundinacea 5.	ground	PACVIT	12. 13.		·	
. ————				•		
6. 7.						
8.			16.			
Percent of Dominant Sp						
HYDROLOGY						
X Recorded	Data (describe in remarks)		ark other field indicators of s	surface inundation or soil satura	ation below:	
	Stream or Lake Gaug	_	0	· · · · · · · · · · · · · · · · · · ·		
<u> </u>	Aerial Photographs/S Other	ilides		oxidized root zones - living roots Vater marks	;	
No Recor	Other ded Data Available			vater marks Prift lines		
110 / 100011	/80 Data Avallable			rni lines Vater - borne sediment deposits	•	
				vater - borne sediment deposits Vater - stained leaves		
				alor 5.4		
				urlace scoured areas		
			X	urlace scoured areas /etland drainage patterns		
			X Su We			
·			X Su We	etland drainage patterns		
Field Observations/Measureme	nts:	,	X Su We	/etland drainage patterns lorphological plant adaptations		
Field Observations/Measureme		No_X_	X Su We Mo Hy	/etland drainage patterns lorphological plant adaptations	/A inches	
Field Observations/Measurements Is the ground surface inundated in the soil saturated?	d? Yes X	NoX No	X Su We Mo Hy	/etland drainage patterns lorphological plant adaptations ydric soil charateristics N/	/A inches face inches	
Field Observations/Measureme	d? Yes X		X Su We Mo Hy	Vetland drainage patterns lorphological plant adaptations ydric soil charateristics N/ surf		
Field Observations/Measurements Is the ground surface inundated in the soil saturated?	d? Yes X		X Su We Mo Hy	Vetland drainage patterns lorphological plant adaptations ydric soil charateristics N/ surf	face inches	

[†] This data form can be used for all methods when assessing soils, hydrology and the plant community. When site conditions require more intensive vegetative sampling, the appropriate form should be attached.

SOILS						
Map Unit Na (Series and		Loamy Land (Lu)		Drainage Class:	N/A	
				Field Observations		
Taxonomy (N/A		Confirm Mapped Typ	pe? X Yes	s No
Profile Desci	<u>ription:</u>					
Depth		Matrix Color	Mottle Colors			Texture, Structure
(inches)	Horizon	(Munsell Moist)	(Munsell Mois	st) Abundanc	ce/Contrast	Concretions, etc.
						·
	~					
		• ———				
Hydric Soil Ind	dicators (mark all th	hat are present):				
				Web Organic Cont	· in Surface Is	the Condu Soile
		Organic Soils Histic Epipedons		High Organic Conte Organic Streaking in		ayer in Sandy Soils yers of Sandy Soils
		Sulfidic Material			ns (Confirmed by N	Measurement)
		Aquic or Peraquic Moisture		Gleyed, Low-Chrom		ma/Mottled Soils
	 	Iron and Manganese Conc	retions	Other (Explain in Re	emarks)	
LANDSCAP	PE POSITION					
Draw a diagr	ram showing loc	cation of sampling point	on landscape (e.g. fo	oot slope, depression, sid	de slope, knoll,	swale, floodplain)
		· ·				
	DETERMINATION DESCRIPTION		L. Abi		- IV.	7
	Vegetation Pres drology Present?		•	is Sampling Point with a \	Wetland? [Yes	No (Circle)
Hydric Soils		Yes No				
						•
Remarks:						

G.L. (6/94)

DATA FORM WETLAND DETERMINATION† (1989 Interagency Delineation Manual)

(indicate Metho	a)
Routine	_X
Intermediate	
Comprehensive	

Project/Site:	Moss America	n Superfund S	ite	Date:	5/15/98
Applicant/Owner:	500/0 W 0 4 A	1 de Cablacas	2 2 - 1	County:	Milwaukee
Investigator:	ECP/BJK - Graef, An	nait, Schloem	er & Assoc., Inc.	State:	WI
Do normal environme at the plant communit ls the site significantly ls the area a potential (If needed, explain on	ty? / disturbed? I problem area?	Yes Yes Yes	No No No	Plant Community Transect I.D.: Plot I.D.:	I.D.: W-1 T-7 T-7 G(u)
VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Spec	cies Stratum	Indicator
Poa compressa Fragaria virginiana Poa pratensis Daucus carota C T R		FAC- FAC- UPL	12. 13.		
	Species that are OBL, I				
HYDROLOGY					
<u> </u>	ed Data (describe in remarks): Stream or Lake Gaug Aerial Photographs/SI Other orded Data Available	je		Or surface inundation or soil satural Oxidized root zones - living roots Water marks Drift lines Water - borne sediment deposits Water - stained leaves Surface scoured areas Wetland drainage patterns Morphological plant adaptations Hydric soil charateristics	3
is the ground surface inundate is the soil saturated? Depth to free-standing water i	Yes	No X No X	Surface water depth: Depth to saturation:	N/A N/A	
Remarks:					

[†] This data form can be used for all methods when assessing soils, hydrology and the plant community. When site conditions require more intensive vegetative sampling, the appropriate form should be attached.

	me	•				
(Series and		Loamy Land (Lu)		Drainage Class:	N/A	
				Field Observations	o v v.	- N.
Taxonomy (Subgroup):	N/A		Confirm Mapped Type	? <u>X</u> Ye	s No
Profile Desci	ription:					
Depth		Matrix Color	Mottle Colors	Mottle		Texture, Structure
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Abundance	/Contrast	Concretions, etc.
						-
		.				
			·			
Hydric Soil Ind	icators (mark all ti	hat are present):			,	
		Organic Soils		High Organic Conten	ts in Surface L	ayer in Sandy Soils
		Histic Epipedons		Organic Streaking in		•
		Sulfidic Material		Reducing Conditions		
		Aquic or Peraquic Moisture F Iron and Manganese Concre		Gleyed, Low-Chroma Other (Explain in Rer		oma/Mottled Soils
	``	non and Manganese Concre		Other (Explain in Fiel	narkoj	
Remarks:		· · · · · · · · · · · · · · · · · · ·				·
Remarks:	•	completed. Soils were	graded in the past in	association with a fo	rmer railroa	nd yard and
Remarks:	•	· · · · · · · · · · · · · · · · · · ·	graded in the past in	association with a fo	rmer railroa	id yard and
Remarks:	•	completed. Soils were	graded in the past in	association with a fo	rmer railroa	nd yard and
	industrial f	completed. Soils were	graded in the past in	association with a fo	rmer railroa	nd yard and
Remarks:	industrial f	completed. Soils were acility. Soils were obse	graded in the past in rived to be stony, and	association with a fo	rmer railroa ntaminated.	
LANDSCAP	industrial f	completed. Soils were	graded in the past in rived to be stony, and	association with a fo	rmer railroa ntaminated.	
LANDSCAP	industrial f	completed. Soils were acility. Soils were obse	graded in the past in rived to be stony, and	association with a fo	rmer railroa ntaminated.	
LANDSCAP	industrial f	completed. Soils were acility. Soils were obse	graded in the past in rived to be stony, and	association with a fo	rmer railroa ntaminated.	
LANDSCAP	industrial f	completed. Soils were acility. Soils were obse	graded in the past in rived to be stony, and	association with a fo	rmer railroa ntaminated.	
LANDSCAP	industrial f	completed. Soils were acility. Soils were obse	graded in the past in rived to be stony, and	association with a fo	rmer railroa ntaminated.	
LANDSCAP	industrial f	completed. Soils were acility. Soils were obse	graded in the past in rived to be stony, and	association with a fo	rmer railroa ntaminated.	
LANDSCAP	industrial f	completed. Soils were acility. Soils were obse	graded in the past in rived to be stony, and	association with a fo	rmer railroa ntaminated.	
LANDSCAP	industrial f	completed. Soils were acility. Soils were obse	graded in the past in rived to be stony, and	association with a fo	rmer railroa ntaminated.	
LANDSCAP Draw a diagr	industrial f E POSITION am showing loo	completed. Soils were facility. Soils were obse	graded in the past in rived to be stony, and	association with a fo	rmer railroa ntaminated.	
LANDSCAP Draw a diagr	E POSITION am showing loc	completed. Soils were facility. Solls were observed to the control of sampling point	graded in the past in rved to be stony, and	association with a followere potentially consistency	ermer railroa ntaminated.	, swale, floodplain)
LANDSCAP Draw a diagr WETLAND E	E POSITION am showing loc DETERMINATION Vegetation Pres	completed. Soils were facility. Solls were observed. cation of sampling point of sa	graded in the past in rved to be stony, and	association with a fo	ermer railroa ntaminated.	, swale, floodplain)
LANDSCAP Draw a diagr WETLAND E	E POSITION am showing loc DETERMINATION Vegetation Present	completed. Soils were facility. Solls were observed. cation of sampling point of sa	graded in the past in rved to be stony, and	association with a followere potentially consistency	ermer railroa ntaminated.	, swale, floodplain)

G.L. (6/94)

DATA FORM ROUTINE WETLAND DETERMINATION† (1987 COE Wetlands Delineation Manual)

Project/Site:	Moss Ame	rican Super	fund Site	Date:	5/15/98 y: Milwaukee
Applicant/Owner: Investigator:	FCP/BJK - Gra	ef Anhalt, §	Schloemer & Assoc., Inc.	County State:	y: Milwaukee WI
		21, Parities, _			
Do Normal Conditions			Yes No		nunity I.D.: W-2
Is the site significantly		Situation)	Yes No	1	ect I.D.: T-4
Is the area a potential			Yes No	Plot I.D	D.:T-4 A(u)
(If needed, explain on	reverse.)				
VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	. Indicator
Elytrigia repens	ground	FACU	9.		
2. Daucus carota	ground	UPL	10.		
3. Trifolium pratense	ground	FACU+	11.		
4.	·.		12.		
5 6.			13.		
7.			15.		
8.			16.		
Percent of Dominant Spe	ecies that are OBL_FA	CW or FAC			
(excluding FAC-).	icles mar are obe,	JW 0117.0	0%		
Remarks:					
ı					
HYDROLOGY X Recorded Da	ata (describe in remarks): Stream or Lake Ga		Wetland Hydrology Indicators: Primary Indicators:		

X Recorded Data (describe in remarks):	Wetland Hydrology Indicators:
Stream or Lake Gauge	Primary Indicators:
X . Aerial Photographs/Slides	inundated
Other	Saturated in Upper 12 inches
No Recorded Data Available	Water Marks
	Drift Lines
	Sediment Deposits
Field Observations:*	Drainage Patterns in Wetlands
	Secondary Indicators (2 or more required):
Depth to Surface Water: N/A (inches)	Oxidized Root Channels in Upper 12 inches
<u> </u>	Water-Stained Leaves
Depth to Free Water in Pit: N/A (inches)	Local Soil Survey Data
	FAC-Neutral Test
Depth to Saturated Soil: N/A (inches)	Other (Explain in Remarks)
Remarks:	

Map Unit	Name						
(Series ar	nd Phase):	Loamy Land (L	Lu)	D	rainage Clas <u>s:</u>	N/A	
				F	ield Observations		•
Taxonom	ny (Subgroup): _	N/A		c	onfirm Mapped Type?	X Ye	s No
Profile De	escription:						
İ				OXIMORP	PHIC FEATURES	-	
Depth		Matrix Color	Color		Abundance/Size/		xture, Structure
(inches)	Horizon	(Munsell Moist)	(Munsell Mo	pist)	Contrast	Con	ncretions, etc.
<u> </u>							
<u> </u>		<u> </u>					
<u> </u>	 _	-	-				
		-					
<u> </u>							
							
Hydric Soil	Indicators:						
l							
ı _	Histosol			_	Concretions		
ı _	Histic Epipedon			_	High Organic Content in	n Surface	Layer in Sandy Soils
ı _	Sulfidic Odor			_	Organic Streaking in Sa	andy Soils	s
i _	Aquic Moisture F	-		_	Listed on Local Hydric S		
ı _	Reducing Condit	itions		_	Listed on National Hydri	ic Soils L	_lst
. –	Gleyed or Low-C	Chroma Colors		_	_Other (Explain in Remai	rks)	
Remarks:							
i		•	-	=	n association with a fe		-
i	and industrial	I facility. Soils we	re observed t	to be ston	y, and were potential	ly conta	aminated.
i							
A&I							
WETLANI	D DETERMINATION	ON					
i :				ŧ			
	tic Vegetation Pre		<u>X</u> No				
	Hydrology Present	-	XNo				
Hydric Soi	ils Present?	Yes	X No	Is this San	mpling Point Within a Wetl	land?	Yes _ X No
Remarks:							

DATA FORM ROUTINE WETLAND DETERMINATION† (1987 COE Wetlands Delineation Manual)

1	Moss Ame	erican Super	fund Site	Date:	5/15/98
Applicant/Owner:				County:	Milwaukee
Investigator:	ECP/BJK - Gra	ef, Anhalt, S	Schloemer & Assoc., Inc.	State:	WI
Do Normal Conditions	exist on the site?	-	Yes No	Community	I.D.: <u>W-2</u>
Is the site significantly	disturbed (Atypical	l Situation)	Yes No	Transect I.D).: T-4
Is the area a potential l			Yes No	Plot I.D.:	T-4 B(w)
(If needed, explain on	reverse.)				
VEGETATION Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum In	ndicator
Dominant Ріаін оресіоз	- Stratum -	Indicator	Dominant Flant Openios	Stratum	idicator
1. Phalaris arundinacea		FACW+	9.		
2. Scirpus validus	ground	OBL	10.		
3.	<u> </u>		11.		
4.			12.		
5.			13.		
6.			14.		
7			15.		
8.			16.		
(excluding FAC-).	cies that are OBL, F/	ACW or FAC	100%	W	
(excluding FAC-).	cies that are OBL, F/	ACW or FAC	100%		
(excluding FAC-). Remarks: HYDROLOGY					
Remarks:	ta (describe in remarks):		Wetland Hydrology Indicators:		
(excluding FAC-). Remarks: HYDROLOGY		auge			
(excluding FAC-). Remarks: HYDROLOGY X Recorded Data	ta (describe in remarks): Stream or Lake G	auge	Wetland Hydrology Indicators: Primary Indicators: Inundated	Upper 12 inches	
(excluding FAC-). Remarks: HYDROLOGY X Recorded Date X	ta (describe in remarks): Stream or Lake G Aerial Photograph	auge	Wetland Hydrology Indicators: Primary Indicators: Inundated Saturated in X Water Marks		
(excluding FAC-). Remarks: HYDROLOGY X Recorded Date X	ta (describe in remarks): Stream or Lake G Aerial Photograph Other	auge	Wetland Hydrology Indicators: Primary Indicators: Inundated Saturated in X Water Marks Drift Lines	3	
(excluding FAC-). Remarks: HYDROLOGY X Recorded Date X	ta (describe in remarks): Stream or Lake G Aerial Photograph Other	auge	Wetland Hydrology Indicators: Primary Indicators: Inundated Saturated in X Water Marks Drift Lines X Sediment De	eposits Itterns in Wetlands	
(excluding FAC-). Remarks: HYDROLOGY X Recorded Data X No Recorded	ta (describe in remarks): Stream or Lake G Aerial Photograph Other	hauge ns/Slides	Wetland Hydrology Indicators: Primary Indicators: Inundated Saturated in X Water Marks Drift Lines X Sediment De X Drainage Pat Secondary Indicators (2 or	eposits ltterns in Wetlands r more required): ot Channels in Upper 12 in	nches
(excluding FAC-). Remarks: HYDROLOGY X Recorded Data X No Recorded Field Observations:*	ta (describe in remarks): Stream or Lake G Aerial Photograph Other Data Available	sauge ns/Slides	Wetland Hydrology Indicators: Primary Indicators: Inundated Saturated in X Water Marks Drift Lines X Sediment De X Drainage Pal Secondary Indicators (2 or	eposits ltterns in Wetlands r more required): ot Channels in Upper 12 in ed Leaves urvey Data	nches

Map Unit	Name					
(Series and Phase):		Loamy Land (L	_u)	Drainage Class:	N/A	
				Field Observations		
Taxonom	y (Subgroup): _	N/A		Confirm Mapped Type?	<u>X</u> YesNo	
Profile De	scription:		=====			
		Matrix Color		MORPHIC FEATURES	Texture, Structure	
Depth	Hadaaa	Matrix Color (Munsell Moist)	Color (Munsell Moist)	Abundance/Size/	Concretions, etc.	
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Contrast	Concretions, etc.	
						
ı					·	
Hydric Soil						
nyunc son	indicators.					
	Chatanal			Concretions		
_	— Histosol				' O dean Laura in Condu Coile	
_	Histic Epipedon				in Surface Layer in Sandy Soils	
_	Sulfidic Odor			Organic Streaking in S	•	
_	Aquic Moisture F			Listed on Local Hydric		
_	Reducing Condi			Listed on National Hyd		
_	Gleyed or Low-C	Ohroma Colors		Other (Explain in Rema	arks)	
Remarks:						
l	No soil pit co	mpleted. Gravelly	soil with potenti	al contamination.		
l						
	<u>.</u>			<u></u>		
WETLAN	D DETERMINATI	ION		<u> </u>		
Hydrophy	tic Vegetation Pre	esent? X Yes	No			
	lydrology Present		No No			
	ils Present?	X Yes		tis Complian Daint Within a We	nondo V Vos No	
Hyanc 50.	IS Present:		No Is t	his Sampling Point Within a We	etland? X Yes No	
			L_			
Remarks:						

DATA FORM ROUTINE WETLAND DETERMINATION† (1987 COE Wetlands Delineation Manual)

Project/Site:	Moss American Super	fund Site		Date:	5/15/98
Applicant/Owner: Investigator:	ECP/BJK - Graef, Anhalt, S	chloomo	r & Assoc Inc	County: State:	Milwaukee WI
Do Normal Conditions	s exist on the site? / disturbed (Atypical Situation) Problem Area?	Yes Yes Yes	No No No	Community Transect I.D.:	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	. Indicator	
1. Fragaria virginiana	ground	FAC-	9.			
2. Poa compressa	ground	FACU	10.			•
3. Hypericum perforatum	ground	UPL	11.			•
4. Daucus carota	ground	UPL	12.			-
5. Geum candense	ground	FAC	13.			•
6.			14.			
7.			15.			
8.			16.			
Percent of Dominant Species	that are OBL, FA	CW or FAC				
(excluding FAC-).			40%			
Remarks:					·	
(

HYDROLOGY

X Recorded (Data (describe in remarks):	Wetland Hydrology Indicators:
	Stream or Lake Gauge	Primary Indicators:
X	Aerial Photographs/Slides	Inundated
	Other	Saturated in Upper 12 inches
No Record	ed Data Available	Water Marks
<u> </u>		Drift Lines
		Sediment Deposits
Field Observations:		Drainage Patterns in Wetlands
		Secondary Indicators (2 or more required):
Depth to Surface Water:	N/A (inches)	Oxidized Root Channels in Upper 12 inches
		Water-Stained Leaves
Depth to Free Water in P	Pit: N/A (inches)	Local Soil Survey Data
		FAC-Neutral Test
Depth to Saturated Soil:	N/A (inches)	Other (Explain in Remarks)
<u></u>	-	_
Remarks:		

(Series and					•	
•	d Phase):	Loamy Land (L	_u)	Drainage Class:	N/A	
				Field Observations		
Taxonomy	(Subgroup):	N/A		Confirm Mapped Type?	<u>X</u> Yes	No_
Profile Des	scription:					<u> </u>
<u> </u>				MORPHIC FEATURES	= : 01=:=1	
Depth	• •	Matrix Color	Color (Munsell Moist)	Abundance/Size/	Texture, Structu	
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Contrast	Concretions, etc	
						
					 	
<u></u>						
Coll I	•					
Hydric Soil I	ndicators:					
	Litatanal			Oppositions		
_	_ Histosol			Concretions High Organic Contact	· • • • • • • • • • • • • • • • • • • •	1 Oalla
_	_ Histic Epipedon			High Organic Content in		ndy Sons
_	_ Sulfidic Odor			Organic Streaking in S	-	
•	Aquic Moisture Ro	egime		Listed on Local Hydric		
	-			Listed on National Hyd	ric Soile Liet	
	Reducing Condition					
_	-			Other (Explain in Rema		
	Reducing Condition					
Remarks:	Reducing Condition	hroma Colors		Other (Explain in Rema	arks)	
Remarks:	Reducing Condition Gleyed or Low-Ch	npleted. Soils we		Other (Explain in Rema	arks) former railroad ya	rd
Remarks:	Reducing Condition Gleyed or Low-Ch	npleted. Soils we		Other (Explain in Rema	arks) former railroad ya	rd
Remarks:	Reducing Condition Gleyed or Low-Ch	npleted. Soils we		Other (Explain in Rema	arks) former railroad ya	rd
Remarks:	Reducing Condition Gleyed or Low-Ch	npleted. Soils we		Other (Explain in Rema	arks) former railroad ya	rd
	Reducing Condition Gleyed or Low-Che No soil pit come and industrial	npleted. Soils wer		Other (Explain in Rema	arks) former railroad ya	rd
	Reducing Condition Gleyed or Low-Ch	npleted. Soils wer		Other (Explain in Rema	arks) former railroad ya	rd
WETLAND	Reducing Condition Gleyed or Low-Che No soil pit come and industrial	hroma Colors npleted. Soils wer facility. Soils wer	re observed to be	Other (Explain in Rema	arks) former railroad ya	rd
WETLAND Hydrophytic	Reducing Condition Gleyed or Low-Che No soil pit come and industrial of DETERMINATION C Vegetation Pres	npleted. Soils wer facility. Soils wer	re observed to be	Other (Explain in Rema	arks) former railroad ya	rd
WETLAND Hydrophyti Wetland Hy	Reducing Condition Gleyed or Low-Chemology No soil pit come and industrial in	npleted. Soils wer facility. Soils wer ON Sent?Yes ?Yes	x No X No	Other (Explain in Rema	arks) former railroad ya Ily contaminated.	
WETLAND Hydrophytic	Reducing Condition Gleyed or Low-Chemology No soil pit come and industrial in	npleted. Soils wer facility. Soils wer	x No X No	Other (Explain in Rema	arks) former railroad ya Ily contaminated.	
WETLAND Hydrophytic Wetland Hy Hydric Soils	Reducing Condition Gleyed or Low-Che No soil pit come and industrial industri	npleted. Soils wer facility. Soils wer ON Sent?Yes ?Yes	x No X No	Other (Explain in Rema	arks) former railroad ya Ily contaminated.	
WETLAND Hydrophyti Wetland Hy	Reducing Condition Gleyed or Low-Chemology No soil pit come and industrial in	npleted. Soils wer facility. Soils wer ON Sent?Yes ?Yes	x No X No	Other (Explain in Rema	arks) former railroad ya Ily contaminated.	
WETLAND Hydrophytic Wetland Hy Hydric Soils	Reducing Condition Gleyed or Low-Chemology No soil pit come and industrial in	npleted. Soils wer facility. Soils wer ON Sent?Yes ?Yes	x No X No	Other (Explain in Rema	arks) former railroad ya Ily contaminated.	
WETLAND Hydrophytic Wetland Hy Hydric Soils	Reducing Condition Gleyed or Low-Chemology No soil pit come and industrial in	npleted. Soils wer facility. Soils wer ON Sent?Yes ?Yes	x No X No	Other (Explain in Rema	arks) former railroad ya Ily contaminated.	

DATA FORM

ROUTINE WETLAND DETERMINATION†

(1987 COE Wetlands Delineation Manual)

Project/Site:	Moss Ame	rican Super	rfund Site	Date:	5/15/98
Applicant/Owner:				Count	y: Milwaukee
Investigator:	ECP/BJK - Grad	ef, Anhalt, S	Schloemer & Assoc., Inc.	State:	· WI
Do Normal Conditions ex	dist on the site?		Yes No	Comm	nunity I.D.: W-2
Is the site significantly dis	sturbed (Atypical	Situation)	Yes No	Transe	ect I.D.: T-6
Is the area a potential Pro	oblem Area?		Yes No	Plot I.I	D.: T-6 B(w)
(If needed, explain on rev	verse.)			·	
VEGETATION					
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	. Indicator
 	ground	FACW+	9.		
2. Fragaria virginana	ground	FAC-	- ^{9.}		
3. Juncus tenuis	ground	FAC	11.		
4.		-	12.		
5.			13.		
6.			14.		
7			15.		
8			16.		
HYDROLOGY					
X Recorded Data (c	describe in remarks):		Wetland Hydrology Indicators:		
_ x	Stream or Lake Ga Aerial Photographs	٠ .	Primary Indicators: Inundated	•	
	Other	#Sildes		Upper 12 inches	
No Recorded Date			Water Marks	• •	
			Drift Lines		
Field Observations:"			X Sediment De		
Field Observations:			X Drainage Pat Secondary Indicators (2 or		
Depth to Surface Water:	(inches)		Oxidized Roc	ot Channels in Up	per 12 inches
D. O. Frankling Blue			Water-Staine		
Depth to Free Water in Pit:	(inches)	1	Local Soil Su FAC-Neutral	•	
Depth to Saturated Soil:	(inches)			n in Remarks)	
Remarks:					
	==				

SOILS							
Map Unit N	Name				•		 _
(Series and	d Phase):	Loamy Land (L	_u)	Drainage Class:	N	I/A	
				Field Observation			
Taxonomy	(Subgroup):	N/A		Confirm Mapped	Type? X	Yes _	No
Profile Des	scription:						
				OXIMORPHIC FEATURE			
Depth	-	Matrix Color	Color	Abundance/Siz	ze/	Texture, Structi	
(inches)	Horizon	(Munsell Moist)	(Munsell Moi	ist) Contrast	—	Concretions, et	c.
			· .				
					_		
-					_	·	
<u></u> _							
			-			 -	
 					_		
			-			<u> </u>	
Hydric Soil I	ndicators:						
	Histosol			Concretions			
_	Histic Epipedon				Content in S	urface Layer in Sa	andv Soils
_	Sulfidic Odor			Organic Streak			,
	Aquic Moisture Re	enime		Listed on Local			
	Reducing Condition	-		Listed on Natio			
	Gleyed or Low-Ch			Other (Explain	-		
	_ dieyed or com on	IOIIIa Ooiois		Outer (III Hemanie	o)	
Remarks:							
nemano.	Ma sail nit com	lated Spile wa	aradad in	the past in association v	with a for	roilroad va	ا ــــ
		·	_	•		-	ra
	ลกัด เกิดนระกละ เ	acility. Sons wei	e observed t	to be stony, and were po	Steritiany	contaminated.	
							İ
							
WEILAND	DETERMINATIO	IN .					
l	_			1			
· ·	c Vegetation Pres		No				
_	ydrology Present?		.—No				
Hydric Soils	s Present?	X Yes	No	Is this Sampling Point With	in a Wetlan	d? X Yes _	No
Remarks:		_	_	_	_		<u> </u>

DATA FORM ROUTINE WETLAND DETERMINATION† (1987 COE Wetlands Delineation Manual)

Project/Site:	Moss American Super	fund Site	Date:	5/15/98
Applicant/Owner:			County:	Milwaukee
Investigator:	ECP/BJK - Graef, Anhalt, S	State:	WI	
Do Normal Condition	ns exist on the site?	Yes No	Community	I.D.: W-2
ls the site significant	ly disturbed (Atypical Situation)	Yes No	Transect I.D).: T-6
ls the area a potenti	is the area a potential Problem Area?		Plot I.D.:	T-6 C(u)
(If needed, explain o	n reverse.)			

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Poa compressa	ground	FACU	9.		
2. Solidago canadensis	ground	FACU	10.		
3. Fragaria virginiana	ground	FAC-	11.		
4.			12.		
5.			13.		
6.			14.		
7			15.		
8			16.		
Percent of Dominant Species	that are OBL, FA	ACW or FAC			
(excluding FAC-).			33%		
Remarks:	<u> </u>				· · · · · · · · · · · · · · · · · · ·

HYDROLOGY

X Recorded Data (des	scribe in remarks):	Wetland Hydrology Indicators:
i	Stream or Lake Gauge	Primary Indicators:
li ————	Aerial Photographs/Slides	Inundated
	Other	Saturated in Upper 12 inches
No Recorded Data		Water Marks
		Drift Lines
<u> </u>	- · · · · · · · · · · · · · · · · · · ·	Sediment Deposits
Field Observations:		Drainage Patterns in Wetlands
1000 02221121121		Secondary Indicators (2 or more required):
Depth to Surface Water.	(inches)	Oxidized Root Channels in Upper 12 inches
	(Water-Stained Leaves
Depth to Free Water in Pit:	(inches)	Local Soil Survey Data
		FAC-Neutral Test
Depth to Saturated Soil:	(inches)	Other (Explain in Remarks)
Bopin to Galarates Sem	(\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	
Remarks:		
memarks.		
Į.		

(Jenes a.	Name nd Phase):	Loamy Land (L	i •• \	Drainage Class:	N/	/ A	
. –	<u> </u>	Loaniy Lanz 1	<u>.u,</u>	Field Observations			
Taxonom	y (Subgroup):	N/A		Confirm Mapped Type?	, X	Yes	No
		IVA		, , , , , , , , , , , , , , , , , , ,	<u> </u>		
Profile De	scription:		REDOXII	MORPHIC FEATURES			
Depth		Matrix Color	Color	Abundance/Size/		Texture, Structure	e
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Contrast		Concretions, etc.	
·			 .	•			
		·					
-							
Hydric Soil	Indicators:						
_	Histosol			Concretions			
_	Histic Epipedon			High Organic Content			dy Soi
_	Sulfidic Odor			Organic Streaking in S			
_	Aquic Moisture R	tegime		Listed on Local Hydric	; Soils	s List	
_	Reducing Condition	ions		Listed on National Hyd	2 oirt	ioils List	
_	 Gleyed or Low-Ch	hroma Colors		Other (Explain in Rem	ıarks))	
·						— — <u>——</u>	
Remarks:							
	No soil pit con	npleted. Soils we	re graded in the	past in association with a	form	ner railroad yard	d
		=	-	e stony, and were potentia		-	,
			.0 0101	, 0.0, ,	*****		
METI AN	D DETERMINATIO	ONI					
/V E Em	/ DETERMINATION	<u> </u>					
	1 11 tollow Dro	:5 V					
·	ic Vegetation Pres		X No				
		2 22-	X No				
Wetland H	lydrology Present?						
Wetland H	lydrology Present? Is Present?	Yes Yes		his Sampling Point Within a We	etlanc	1?Yes _X	_No

DATA FORM ROUTINE WETLAND DETERMINATION† (1987 COE Wetlands Delineation Manual)

Project/Site:	Moss American Superfund Site			Date:	5/15/98	
Applicant/Owner:				County:	Milwaukee	
Investigator:	ECP/BJK - Graef, Anhalt, S	State:	WI			
Do Normal Condition	s exist on the site?	Yes N	0	Community	I.D.: W-2	
ls the site significantl	y disturbed (Atypical Situation)	Yes N	<u> </u>	Transect I.D).: T-6	
Is the area a potentia	Il Problem Area?	Yes N		Plot I.D.:	T-6 D(w)	
(If needed, explain o	n reverse.)					

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator
1. Phalaris arundinacea	ground	FACW+	9.		
2.			10.		
3.			11.		
4			12.		
5			. 13		
6	-		. 14	_	
7. 8.			15.		-
0			.] 10		
Percent of Dominant Species	that are OBL, FA	ACW or FAC			
(excluding FAC-).					
Remarks:					
					,

HYDROLOGY

X Recorded Data (d	escribe in remarks):	Wetland Hydrology Indicators:
	Stream or Lake Gauge	Primary Indicators:
<u> </u>	Aerial Photographs/Slides	Inundated
	Other	Saturated in Upper 12 inches
No Recorded Data	a Available	Water Marks
		Drift Lines
		X Sediment Deposits
Field Observations:"		X Drainage Patterns in Wetlands
		Secondary Indicators (2 or more required):
Depth to Surface Water:	(inches)	Oxidized Root Channels in Upper 12 inches
		Water-Stained Leaves
Depth to Free Water in Pit:	(inches)	Local Soil Survey Data
		FAC-Neutral Test
Depth to Saturated Soil:	(inches)	Other (Explain in Remarks)
		<u> </u>
Remarks:		

Unit	A1				
Map Unit (Series ar	Name nd Phase): _	Loamy Land (L	•••	Drainage Class:	N/A
(361163 4.	10 Filase).	Loaning Lune 1	.uj	Field Observations	IVA
Tayonom:	ıy (Subgroup): _	N/A		Confirm Mapped Type	? X Yes No
		IV/A		Committe Mapped 1390	<u> </u>
Profile De	escription:		BEDOX	IMORPHIC FEATURES	
Depth		Matrix Color	Color	Abundance/Size/	Texture, Structure
(inches)_	Horizon	(Munsell Moist)	(Munsell Moist)	Contrast	Concretions, etc.
		_			
					,
				·	
					
		litions Chroma Colors	ere graded in the	Organic Streaking in S Listed on Local Hydric Listed on National Hyd Other (Explain in Rem	c Soils List dric Soils LIst narks)
	and industria	I facility. Soils wer	re observed to b	e stony, and were potentia	ally contaminated.
WETLAN	D DETERMINAT	ION			
· •					
	tic Vegetation Pre		No		
	Hydrology Presen		No		** **
Ludria Sa	ils Present?	<u>X</u> Yes	No Is	this Sampling Point Within a We	retland? X Yes No
Hyanc 30			1		
Remarks:				· · · · · · · · · · · · · · · · · · ·	

DATA FORM ROUTINE WETLAND DETERMINATION† (1987 COE Wetlands Delineation Manual)

Project/Site: Applicant/Owner:	Moss American Super	fund Site		Date:	05/15/98 Milwaukee
Investigator:	ECP/BJK - Graef, Anhalt, S	State:	WI		
Do Normal Conditions Is the site significantly Is the area a potential (If needed, explain on	y disturbed (Atypical Situation) I Problem Area?	Yes Yes Yes	No No No	Community Transect I.D. Plot I.D.:	

VEGETATION

Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum	Indicator	
Melilotus sp. Elytrigia repens Daucus carota	ground ground ground	FACU FACU UPL	9. 10. 11. 12.			- - -
5. 6. 7. 8.			13. 14. 15. 16.			· · ·
Percent of Dominant Species (excluding FAC-).	that are OBL, FA	ACW or FAC		<u> </u>	·	
Remarks: Associates of Equisetum arve Oenothera bieni Cirsium vulgare Solidago altissi	nse nis					

HYDROLOGY

X Records	ed Data (describe in remarks):	Wetland Hydrology Indicators:
	Stream or Lake Gauge	Primary Indicators:
<u> </u>	Aerial Photographs/Slides	Inundated
	Other	Saturated in Upper 12 inches
No Recr	orded Data Available	Water Marks
		Drift Lines
		Sediment Deposits
Field Observations:		Drainage Patterns in Wetlands
		Secondary Indicators (2 or more required):
Depth to Surface Water	ter: N/A (inches)	Oxidized Root Channels in Upper 12 inches
	 '	Water-Stained Leaves
Depth to Free Water in	in Pit: (inches)	Local Soil Survey Data
	· · · · · · · · · · · · · · · · · · ·	FAC-Neutral Test
Depth to Saturated Sc	oil: (inches)	Other (Explain in Remarks)
	·	
Remarks:		
	t dug - cinder slag brick stone	fill present on the entirety of the site - lack of
1	_	
liyuro.	ophytic vegetation suggests a we	Al drained condition.
4		

Map Unit	Name						
	nd Phase):	Loamy Land (L	∟u)	Drainage Class:	N/A	A	
(00				Field Observations		<u></u>	
Taxonom	ny (Subgroup):	N/A		Confirm Mapped Type?	? <u>X</u>	Yes	No
	escription:						
Pione v.	<u>iscription.</u>		REDOX	IMORPHIC FEATURES			
Depth		Matrix Color	Color	Abundance/Size/		Texture, Stru	ucture
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Contrast		Concretions	, etc.
	cinder, slag, b	orick, stone fill					
					-		
							
			·		-		
					•		
		· <u></u>				-	
2 - 11						-	
tyuno oc	I Indicators:						
	Histosol			Concretions			
-	Histic Epipedon			High Organic Content i	in Sur	rface Laver in	Sandy Sc
_	Sulfidic Odor			Organic Streaking in S			ouncy
_	Aquic Moisture Re	tenime		Listed on Local Hydric	-		
_	Reducing Condition	_		Listed on National Hyd			
_	Gleyed or Low-Ch			Other (Explain in Rema		NO E.C.	•
_		nome so			Ar,		
Remarks:	·						
IO		of described - cinc	der slag, brick, t	stone fill materials present	acro	es the site	
			101y 41g,	,		30 0.12	
WET <u>LAN</u>	D DETERMINATIO	ON		·		· 	
Hvdrophyt	tic Vegetation Pres	sent? Yes	X No				
• • •	Hydrology Present?		X No				
wetiano r	ils Present?	Yes		this Sampling Point Within a Wei	etland?	[?] Yes	X No
				And Sample grant			
							
							

DATA FORM ROUTINE WETLAND DETERMINATION† (1987 COE Wetlands Delineation Manual)

Project/Site:	Moss Ame	rican Supe	rfund Site	Date:05/15/98
Applicant/Owner:			County: Milwaukee	
Investigator:	nvestigator: ECP/BJK - Graef, Anhalt, Schloemer & Assoc. Inc.			State: WI
Do Normal Conditions	exist on the site?		Yes No	Community I.D.: W-3
Is the site significantly o	disturbed (Atypical	Situation)	Yes No	Transect I.D.: T-3
Is the area a potential F		,	Yes No	Plot I.D.: T-3B(w)
(If needed, explain on re				
VEGETATION	·			
Dominant Plant Species	Stratum	Indicator	Dominant Plant Species	Stratum . Indicator
1. Equisetum arvense	ground	FAC	9.	
2. Juncus tenuis	ground	FAC	10.	
3.			11.	
4.			12.	
5.			13.	
6			14	<u> </u>
7			15.	
8.			16	
Percent of Dominant Speci	ies that are OBL, FAC	CW or FAC		
(excluding FAC-).	·		100%	
Remarks:				
i iciiano.				
HYDROLOGY				
	(describe in remarks):		Wetland Hydrology Indicators	
- A Recorded Data	Stream or Lake Ga	uae	Primary Indicators:	
- X	Aerial Photographs	-	X Inundated	•
	Other		X Saturated	in Upper 12 inches
No Recorded D	Data Available	,	Water Mar	
			Drift Lines	
Field Observations:*			Sediment	
Field Observations:"			Secondary Indicators (2	Patterns in Wetlands
Depth to Surface Water:	2 (inches)		,	Root Channels in Upper 12 inches
	(ined Leaves
Depth to Free Water in Pit:	(inches)			Survey Data
			FAC-Neutr	ral Test

Other (Explain in Remarks)

(inches)

Depth to Saturated Soil:

*Soil pit not described.

Remarks:

Map Unit	Name				
(Series ar	nd Phase):	Loamy Land (L	_u)	Drainage Class: N/A	
				Field Observations	• .
Taxonom	y (Subgroup): _	N/A		Confirm Mapped Type?	<u>X</u> Yes No
Profile De	escription:				
ı				ORPHIC FEATURES	
Depth	A Francisco	Matrix Color	Color	Abundance/Size/	Texture, Structure
(inches)	Horizon	(Munsell Moist)	(Munsell Moist)	Contrast	Concretions, etc.
	cinder, stone	e, sl <u>ag, brick fill</u>			
	~~~~				
: !				<u></u>	
		N 449-214-11-11-11-11-11-11-11-11-11-11-11-11-1			
		-			
				=	
Hydric Soil	Indicators:				
	Histosol			Concretions	
	Histic Epipedon				n Surface Layer in Sandy Soi
	Sulfidic Odor			Organic Streaking in Sa	•
_	Aquic Moisture F	_		Listed on Local Hydric S	
_	Reducing Condit			Listed on National Hydr	
<u> </u>	Gleyed or Low-C	Chroma Colors		Other (Explain in Rema	ırks)
Remarks:					
	Soil pit not du	ug - cinder, stone, l	brick, slag fill mat	erial present across the e	ntire site.
					
WETLAND	D DETERMINATI	ION			
Hydrophyt	tic Vegetation Pre	esent? X Yes	No		
	lydrology Present		No		•
	ils Present?	*X Yes		is Sampling Point Within a Wetl	tland? X Yes No
_		· 			
Remarks:					
10	Soil not check	ked but due to the	dominance of hy	drophytic vegetation, it is	consumed to
	OUII HOLDINGE	icu, pui uuo io	QUIIIII and J,	alophytic regulation,	doounieu to

Plant Lists

INDICATOR CATEGORY INFORMATION

The representative vascular plant species for both the wetland and the adjacent proximate uplands are listed in the following tables, along with their indicator categories. The indicator category information was obtained from the <u>National List of Plant Species That Occur in Wetlands: North Central (Region 3)</u>. The indicator category designates the expected frequency of occurrence of a given plant species in wetlands of the North Central Region of the United States. The following is an explanation of the indicator category designation:

Indicator Category	Expected Frequency of Occurrence
OBL (Obligate)	Greater than 99%
FACW (Facultative Wetland)	Greater than 66% Less than 99%
FAC (Facultative)	33% - 66%
FACU (Facultative Upland)	1% - less than 33%
UPL (Upland)	Less than 1%

A "plus" following an indicator category denotes that the species generally has a greater estimated probability of occurring in wetlands than species having the general indicator category, but a lesser estimated probability of occurring in wetlands than those having the next highest general indicator. The converse is true for those having a "minus" following the indicator category.

TABLE W-1

REPRESENTATIVE PLANT LIST WITH INDICATOR CATEGORIES WETLAND W-1/ Fresh (Wet) Meadow / Shallow Marsh

Moss American Superfund Site Milwaukee, Wisconsin

Date of Observation: 5/14/98 Observed By: E. Parker & B. Karczewski—G.A.S.

	SCIENTIFIC N	AME SPECIES	COMMON NAME	INDICATOR A	<u>C_VALUE</u>
1	Alisma	subcordatum	southern water-plantain	OBL	4
2	Asclepias	incarnata ssp. incarnata	marsh milkweed	OBL ·	4
3	<u>Carex</u>	<u>lacustris</u>	common lake sedge	OBL	6
4	<u>Carex</u>	stricta var. stricta	common hummock sedge	OBL	5
5	<u>Carex</u>	vulpinoidea var, vulpinoidea	brown fox sedge	OBL	2
6	Eleocharis	acicularis var. acicularis	least spikerush	OBL	2
7	<u>Epilobium</u>	coloratum	cinnamon willow-herb	OBL	3
8	Polygonum	hydropiper	water pepper	OBL	. 2
9	Ranunculus	sceleratus var. sceleratus	cursed crowfoot	OBL	6
10	Salix	nigra	black willow	OBL	4
11	Scirpus	atrovirens .	green bulrush	OBL	. 4
1 2	Scirpus	<u>validus</u>	soft-stem bulrush	OBL	5
13	Typha	angustifolia	narrow-leaf cattail	OBL	1

[★] Dominant or Co-dominant Plant Species

[∧] See INDICATOR CATEGORY INFORMATION (ATTACHED)

⁽No Indicator) - Sufficient information was not available when the publication mentioned in "Indicator Category Information" was written to determine an indicator category.

CBD Value cannot be determined.

TABLE W-1 (CONTINUED)

	SCIENTIFIC N	AME <u>SPECIES</u>	COMMON NAME	INDICATOR A CATEGORY	C VALUE
1 4	<u>Typha</u>	latifolia	broad-leaf cattail	OBL	1
1 5	<u>Aster</u>	firmus	swamp aster	FACW plus	7
1 6	<u>Eupatorium</u>	perfoliatum var. perfoliatum	common boneset	FACW plus	4
1 7	Lycopus	americanus	American bugleweed	FACW plus	5
1 8	<u>Phalaris</u>	arundinacea	reed canary grass	FACW plus	n/a
19	<u>Phragmites</u>	australis	giant reed grass	FACW plus	1
20	Polygonum	lapathifolium var, lapathifolium	nodding smartweed	FACW plus	0
2 1	Rudbeckia	laciniata var. laciniata	cut-leaf coneflower	FACW plus	5
2 2	2 <u>Verbena</u>	hastata var. hastata	blue vervain	FACW plus	4
23	3 Aster	novae-angliae	New England aster	FACW	4
2 4	4 Aster	simplex var. simplex	panicled aster	FACW	3
2 9	5 <u>Bidens</u>	frondosa	common beggar's ticks	FACW	1
2 (6 <u>Cornus</u>	sericea ssp. sericea	red-osier dogwood	FACW	6
2	7 Echinocystis	lobata .	wild cucumber	FACW	5
2	8 Fraxinus	<u>pennsylvanica</u>	green ash	FACW	1
2	9 <u>Juncus</u>	<u>torreyi</u>	Torrey's rush	FACW	4

[★] Dominant or Co-dominant Plant Species

[∧] See INDICATOR CATEGORY INFORMATION (ATTACHED)

⁽No Indicator) - Sufficient information was not available when the publication mentioned in "Indicator Category Information" was written to determine an indicator category.

CBD Value cannot be determined.

TABLE W-1 (CONTINUED)

	SCIENTIFIC N	AME SPECIES	COMMON NAME	INDICATOR A	C VALUE
3 0	Muhlenbergia	mexicana	leafy satin grass	FACW	5
3 1	Ribes	americanum	wild black currant	FACW	7
3 2	Salix	amygdaloides	peach-leaved willow	FACW	5
3 3	Solidago	gigantea	giant goldenrod	FACW	4
3 4	Cornus	foemina ssp. racemosa	gray dogwood	FACW minus	1
3 5	Equisetum	hyemale var, affine	rough horsetail	FACW minus	3
3 6	<u>Euthamia</u>	graminifolia var. nuttallii	hairy grass-leaved goldenrod	FACW minus	3
37	Helianthus	grosseserratus	sawtooth sunflower	FACW minus	2
38	Sambucus	<u>canadensis</u>	common elderberry	FACW minus	1
39	Apocynum	cannabinum var, hypericifolium	prairie dogbane	FAC plus	2
4 0	Rumex	crispus	curled dock	FAC plus	n/a
4 1	Salix	fragilis	crack willow	FAC plus	n/a
4 2	<u>Urtica</u>	dioica ssp. gracilis var. gracilis	American stinging nettle	FAC plus	2
4 3	<u>Carex</u>	<u>blanda</u> .	common wood sedge	FAC	1
4 4	Equisetum	arvense	field horsetail	FAC	0
4 5	<u>Geum</u>	canadense var. canadense	white avens	FAC	1

[★] Dominant or Co-dominant Plant Species

 $[\]bigwedge$ See INDICATOR CATEGORY INFORMATION (ATTACHED)

NI (No Indicator) - Sufficient information was not available when the publication mentioned in "Indicator Category Information" was written to determine an indicator category.

CBD Value cannot be determined.

TABLE W-1 (CONTINUED)

_	CIENTIFIC N	AME SPECIES	COMMON NAME	INDICATOR A CATEGORY	C VALUE
<u>ئ</u> 46	uncus	tenuis	path rush	FAC	0
47 <u>P</u>	Potentilla	norvegica ssp. hirsuta	rough cinquefoil	FAC	0
48 <u>S</u>	Solanum	dulcamara var. villosissimum	bittersweet nightshade	FAC	n/a
49 <u>F</u>	ragaria	virginiana ssp. virginiana	wild strawberry	FAC minus	1
50 <u>P</u>	<u>Poa</u>	pratensis	Kentucky bluegrass	FAC minus	n/a
51 <u>A</u>	<u>Alliaria</u>	petiolata	garlic mustard	FACU plus	n/a
52 <u>P</u>	Parthenocissus	<u>vitacea</u>	thicket creeper	FACU	1
53 <u>F</u>	laeagnus	angustifolia	Russian olive	FACU minus	n/a

Dominant or Co-dominant Plant Species

∧ See INDICATOR CATEGORY INFORMATION (ATTACHED)

(No Indicator) - Sufficient information was not available when the publication mentioned in "Indicator Category Information" was written to determine an indicator category.

CBD Value cannot be determined.

I.D. Code: 8n21e8aw1

6/3/98

TABLE U-1

REPRESENTATIVE PLANT LIST WITH INDICATOR CATEGORIES [UPLANDS ADJACENT TO WETLAND W-1]

Moss American Superfund Site Milwaukee, Wisconsin

Date of Observation: 5/14/98 Observed By: E. Parker & B. Karczewski—G.A.S.

SCIENTIFIC NA	ME SPECIES	COMMON NAME	INDICATOR A	C VALUE
1 Erigeron	philadelphicus	common fleabane	FACW	4
2 Cornus	foemina ssp. racemosa	gray dogwood	FACW minus	1
3 Ranunculus	abortivus	small-flowered crowfoot	FACW minus	0 .
4 Rubus	idaeus ssp. strigosus	wild red raspberry	FACW minus	3
5 Populus	deltoides ssp. deltoides	eastern cottonwood	FAC plus	2
6 Equisetum	arvense	field horsetail	FAC	0
7 Erigeron	<u>annuus</u>	white-top fleabane	FAC minus	0
8 <u>Fragaria</u>	virginiana ssp. virginiana	wild strawberry	FAC minus	1
9 Nepeta	cataria	catnip	FAC minus	n/a
1 0 <u>Poa</u>	pratensis	Kentucky bluegrass	FAC minus	n/a
11 Prunus	virginiana var. virginiana	choke cherry	FAC minus	3
12 Rhamnus	cathartica	common buckthorn	FAC minus	n/a
1 3 Alliaria	<u>petiolata</u>	garlic mustard	FACU plus	n/a
1 4 Allium	tricoccum var. tricoccum	small wild leek	FACU plus	7
1 5 Festuca	elatior	tall fescue	FACU plus	n/a
1 6 <u>Poa</u>	<u>compressa</u>	Canada bluegrass	FACU plus	n/a

^{*} Dominant or Co-dominant Plant Species

I.D. Code:

8n21e8au1

[∧] See INDICATOR CATEGORY INFORMATION (ATTACHED)

NI (No Indicator) - Sufficient information was not available when the publication mentioned in "Indicator Category Information" was written to determine an indicator category.

CBD Indicator category cannot be determined.

TABLE U-1 (CONTINUED)

SCIENTIFIC I	NAME SPECIES	COMMON NAME	INDICATOR A	C VALUE
17 Trifolium	<u>pratense</u>	red clover	FACU plus	n/a
1 8 <u>Allium</u>	canadense var. canadense	wild garlic	FACU	2
1 9 Circaea	lutetiana ssp. canadensis	common enchanter's nightshade	FACU .	1
20 Geranium	maculatum	wild cranesbill	FACU	4 .
21 Maianthemum	racemosum ssp. racemosum	feathery false Solomon's seal	FACU	3 .
22 <u>Oenothera</u>	<u>biennis</u>	common evening primrose	FACU	0
23 <u>Podophyllum</u>	peltatum	May apple	FACU	4
24 Solidago	canadensis var. scabra	tall goldenrod	FACU	1
25 Taraxacum	<u>officinale</u>	common dandelion	FACU	n/a
2 6 <u>Cirsium</u>	<u>vulgare</u>	bull thistle	FACU minus	n/a
27 Robinia	pseudoacacia var.	black locust	FACU minus	n/a
28 Scrophularia	marilandica	late figwort	FACU minus	4
29 Solidago	<u>rigida ssp. rigida</u>	stiff goldenrod	FACU minus	4
3 0 Arctium	minus	common burdock	UPL	n/a
3 1 Centaurea	maculosa	spotted knapweed	UPL	n/a
3 2 <u>Daucus</u>	<u>carota</u>	Queen Anne's lace	UPL	n/a
33 Erythronium	<u>albidum var. albidum</u>	white trout-lily	UPL	5
3 4 Hypericum	perforatum	common St. Johnswort	UPL	n/a

[★] Dominant or Co-dominant Plant Species

[∧] See INDICATOR CATEGORY INFORMATION (ATTACHED)

NI (No Indicator) - Sufficient information was not available when the publication mentioned in "Indicator Category Information" was written to determine an indicator category.

CBD Indicator category cannot be determined.

TABLE U-1 (CONTINUED)

SCIENTIFIC I	NAME SPECIES	COMMON NAME	INDICATOR A	C VALUE
35 Pastinaca	sativa var. sativa	wild parsnip	UPL	n/a
3 6 Populus	<u>alba</u>	white poplar	UPL	n/a
37 <u>Ulmus</u>	pumila	Siberian elm	UPL	n/a
38 <u>Verbascum</u>	<u>thapsus</u>	common mullein	UPL	n/a
39 Lonicera	<u>x bella</u>	hybrid bush honeysuckle	NI	n/a
4 0 <u>Viola</u>	sp.	wild violet	CBD	CBD
		I = C VN Where: I = Rating Index C = Mean C Value N = Number of recorded †Following Swink & Wilhelm, Plants of Region—4th Ed., Indiana Acadamy	the Chicago FQI:	= 21 = 2.33

∧ See INDICATOR CATEGORY INFORMATION (ATTACHED)

[★] Dominant or Co-dominant Plant Species

NI (No Indicator) - Sufficient information was not available when the publication mentioned in "Indicator Category Information" was written to determine an indicator category.

CBD Indicator category cannot be determined.

TABLE W-1A

REPRESENTATIVE PLANT LIST WITH INDICATOR CATEGORIES WETLAND W-1A/ Floodplain Forest

Moss American Superfund Site Milwaukee, Wisconsin

Date of Observation: 5/14/98
Observed By: E. Parker & B. Karczewski—G.A.S.

	SCIENTIFIC N	AME SPECIES	COMMON NAME	INDICATOR A CATEGORY	C VALUE
1	Angelica	atropurpurea	great angelica	OBL	7
2	Caltha	palustris var. palustris	common marsh marigold	OBL	5 .
3	Cardamine	bulbosa	spring cress	OBL	6
4	Carex	stricta var. stricta	common hummock sedge	ÖBL	5
5	Chelone	glabra var. glabra	broad-leaf turtlehead	OBL	8
6	Glyceria	<u>striata</u>	fowl manna grass	OBL	4
7	Iris	virginica var. shrevei	southern blue flag	OBL	5
8	Symplocarpus	foetidus	skunk cabbage	OBL	8
9	<u>Phalaris</u>	<u>arundinacea</u>	reed canary grass	FACW plus	n/a
10	Salix	x rubens	hybrid crack willow	FACW plus	n/a
11	<u>Fraxinus</u>	<u>pennsylvanica</u>	green ash	FACW	1
1 2	<u>Impatiens</u>	capensis	orange jewelweed	FACW	3
13	Lysimachia	ciliata	fringed loosestrife	FACW	4
14	Hydrhyhophyllum	<u>virginianum</u>	Virginia waterleaf	FACW minus	5
1 5	<u>Thalictrum</u>	dasycarpum var. dasycarpum	tall meadow rue	FACW minus	5

[★] Dominant or Co-dominant Plant Species

[∧] See INDICATOR CATEGORY INFORMATION (ATTACHED)

NI (No Indicator) - Sufficient information was not available when the publication mentioned in "Indicator Category Information" was written to determine an indicator category.

CBD Value cannot be determined.

TABLE W-1A (CONTINUED)

SCIENTIFIC GENUS	NAME <u>Species</u>	COMMON NAME	INDICATOR A CATEGORY	C VALUE
16 <u>Ulmus</u>	americana	American elm	FACW minus	3
17 <u>Salix</u>	fragilis -	crack willow	FAC plus	n/a
18 <u>Viburnum</u>	lentago	nannyberry	FAC plus	5
19 Equisetum	arvense	field horsetail	FAC	0
20 Geum	canadense var. canadense	white avens	FAC	1
21 Helianthus	tuberosus	Jerusalem artichoke	FAC	3
22 Solanum	dulcamara var. villosissimum	bittersweet nightshade	FAC	n/a
2 3 Majanthemum	stellatum	starry false Solomon's seal	FAC minus	5
24 Prunus	virginiana var. virginiana	choke cherry	FAC minus	3
25 Rhamnus	cathartica	common buckthorn	FAC minus	n/a
26 <u>Alliaria</u>	petiolata	garlic mustard	FACU plus	n/a
27 Carex	spp.	sedges	CBD	CBD
28 Crataegus	sp.	hawthorne	CBD	CBD
29 <u>Viola</u>	sp.	wild violet	CBD	CBD

TOTAL = 86 23 I = Rating Index C = Mean C Value N = Number of recorded taxa Where: 3.74 <u>c</u> = 17.9

†Following Swink & Wilhelm, <u>Plants of the Chicago</u>
<u>Region</u>—4th Ed., Indiana Acadamy of Science,1994

Dominant or Co-dominant Plant Species

GAS Job No.: 980187

See INDICATOR CATEGORY INFORMATION (ATTACHED)

(No Indicator) - Sufficient information was not available when the publication mentioned in "Indicator Category Information" was written to determine an indicator category.

Value cannot be determined.

I.D. Code: 8n21e8bw1

FQI =

NI

TABLE W-2

REPRESENTATIVE PLANT LIST WITH INDICATOR CATEGORIES WETLAND W-2/ Fresh (Wet) Meadow / Shallow Marsh

Moss American Superfund Site Milwaukee, Wisconsin

Date of Observation: 5/14/98 Observed By: E. Parker & B. Karczewski—G.A.S.

	SCIENTIFIC N	AME SPECIES	COMMON NAME	INDICATOR A	C VALUE
1	Carex	stipata var. stipata	common fox sedge	OBL	3
2	<u>Eleocharis</u>	acicularis var. acicularis	least spikerush	OBL ·	2
3	Epilobium	coloratum	cinnamon willow-herb	OBL	3
4	Mentha	x piperita	peppermint	OBL	n/a
5	Ranunculus	sceleratus var. sceleratus	cursed crowfoot	OBL	6
6	<u>Scirpus</u>	atrovirens	green bulrush	OBL	4
7	Scirpus	validus	soft-stem bulrush	OBL	5
8	<u>Typha</u>	angustifolia	narrow-leaf cattail	OBL	1
9	Typha	latifolia	broad-leaf cattail	OBL	1
10	<u>Phalaris</u>	arundinacea	reed canary grass	FACW plus	n/a
11	<u>Verbena</u>	hastata var. hastata	blue vervain	FACW plus	. 4
1 2	Aster	novae-angliae	New England aster	FACW	4
13	Aster	simplex var. simplex	panicled aster	FACW	3

[★] Dominant or Co-dominant Plant Species

CBD Value cannot be determined.

I.D. Code: 8n21e8aw2

by: SLT

[∧] See INDICATOR CATEGORY INFORMATION (ATTACHED)

⁽No Indicator) - Sufficient information was not available when the publication mentioned in "Indicator Category Information" was written to determine an indicator category.

TABLE W-2 (CONTINUED)

SCIENTIFIC 1 GENUS	NAME <u>Species</u>	COMMON NAME	INDICATOR A CATEGORY	C VALUE
14 Cornus	sericea ssp. sericea	red-osier dogwood	FACW .	6
1 5 Erigeron	philadelphicus	common fleabane	FACW	4
1 6 Euthamia	graminifolia var. nuttallii	hairy grass-leaved goldenrod	FACW minus	3
17 <u>Rumex</u>	crispus	curled dock	FAC plus	n/a
18 Equisetum	arvense	field horsetail	FAC	0
1 9 <u>Setaria</u>	glauca	yellow foxtail	FAC	n/a
20 Fragaria	virginiana ssp. virginiana	wild strawberry	FAC minus	1
21 <u>Oenothera</u>	<u>biennis</u>	common evening primrose	FACU	Ó
2 2 <u>Cirsium</u>	<u>vulgare</u>	bull thistle	FACU minus	n/a
23 Agrostis	<u>gigantea</u>	redtop grass	NI	n/a
24 Salix	sp.	willow	CBD	CBD

Where:

I = Rating Index C = Mean C Value N = Number of recorded taxa

†Following Swink & Wilhelm, <u>Plants of the Chicago</u>
<u>Region</u>—4th Ed., Indiana Acadamy of Science, 1994

TOTAL = 50

> 18 N =

<u>C</u> = 2.78

11.8 FQI =

Dominant or Co-dominant Plant Species

٨ See INDICATOR CATEGORY INFORMATION (ATTACHED)

(No Indicator) - Sufficient information was not available when the publication mentioned in "Indicator Category Information" was written to determine an indicator category. NI

CBD Value cannot be determined.

I.D. Code: 8n21e8aw2

PAGE 2 OF 2

6/3/98

TABLE U-2

REPRESENTATIVE PLANT LIST WITH INDICATOR CATEGORIES [UPLANDS ADJACENT TO WETLAND W-2]

Moss American Superfund Site Milwaukee, Wisconsin

Date of Observation: 5/14/98 Observed By: E. Parker & B. Karczewski—G.A.S.

SCIENTIFIC	NI A AAF		INDICATOR A	
GENUS	NAME <u>Species</u>	COMMON NAME	CATEGORY	C VALUE
1 <u>Erigeron</u>	philadelphicus	common fleabane	FACW	4
2 Rumex	crispus	curied dock	FAC plus	n/a
3 Barbarea	vulgaris var. arcuata	bow-like common winter cress	FAC	n/a
4 Juncus	tenuis	path rush	FAC	0
5 <u>Setaria</u>	<u>glauca</u>	yellow foxtail	FAC	n/a
6 <u>Fragaria</u>	virginiana ssp. virginiana	wild strawberry	FAC minus	1
7 Nepeta	<u>cataria</u>	catnip	FAC minus	n/a
8 <u>Poa</u>	<u>pratensis</u>	Kentucky bluegrass	FAC minus	n/a
9 Festuca	elatior	tall fescue	FACU plus	n/a
1 0 <u>Poa</u>	compressa	Canada bluegrass	FACU plus	n/a
1 1 Trifolium	pratense	red clover	FACU plus	n/a
1 2 Oenothera	<u>biennis</u>	common evening primrose	FACU	0
13 Solidago	canadensis var. scabra	tall goldenrod	FACU	1
1 4 Taraxacum	<u>officinale</u>	common dandelion	FACU	n/a
15 <u>Cirsium</u>	yulgare	bull thistle	FACU minus	n/a

[★] Dominant or Co-dominant Plant Species

 $[\]bigwedge$ See INDICATOR CATEGORY INFORMATION (ATTACHED)

⁽No Indicator) - Sufficient information was not available when the publication mentioned in "Indicator Category Information" was written to determine an indicator category.

CBD Indicator category cannot be determined.

TABLE U-2 (CONTINUED)

SCIENTIFIC GENUS	NAME <u>Species</u>	COMMON NAME	INDICATOR A CATEGORY	C VALUE
1 6 Verbascum	blattaria	moth mullein	FACU minus	n/a
17 Asclepias	verticillata	whorled milkweed	UPL	• 1
18 Carduus	nutans ssp. leiophyllus	nodding thistle	UPL	n/a
19 <u>Centaurea</u>	<u>maculosa</u>	spotted knapweed	UPL	n/a
20 <u>Daucus</u>	carota	Queen Anne's lace	UPL	n/a
21 Hypericum	perforatum	common St. Johnswort	UPL	n/a
22 <u>Linaria</u>	<u>vulgaris</u>	butter-and-eggs	UPL	n/a
		I = C V N Where: I = Rating Index C = Mean C Value N = Number of recorded	TOTAL = N = C =	6

†Following Swink & Wilhelm, <u>Plants of the Chicago</u>
<u>Region</u>—4th Ed., Indiana Acadamy of Science, 1994

↑ See INDICATOR CATEGORY INFORMATION (ATTACHED)

NI (No Indicator) - Sufficient information was not available when the publication mentioned in "Indicator Category Information" was written to determine an indicator category.

CBD Indicator category cannot be determined.

I.D. Code: 8n21e8au2

FQI = 2.87

[★] Dominant or Co-dominant Plant Species

TABLE W-3

REPRESENTATIVE PLANT LIST WITH INDICATOR CATEGORIES WETLAND W-3/ Fresh (Wet) Meadow

Moss American Superfund Site Milwaukee, Wisconsin

Date of Observation: 5/14/98 Observed By: E. Parker & B. Karczewski—G.A.S.

	SCIENTIFIC N	AME SPECIES	COMMON NAME	INDICATOR A CATEGORY	C VALUE
1	Eleocharis	acicularis var. acicularis	least spikerush	OBL	2
2	<u>Epilobium</u>	coloratum	cinnamon willow-herb	OBL .	3
3	Lythrum	salicaria	purple loosestrife	OBL	n/a
4	Scirpus	<u>atrovirens</u>	green bulrush	OBL	4
5	Typha	angustifolia	narrow-leaf cattail	OBL	1
6	<u>Phalaris</u>	<u>arundinacea</u>	reed canary grass	FACW plus	n/a
7	Aster	simplex var. simplex	panicled aster	FACW	3
8	Cornus	sericea ssp. sericea	red-osier dogwood	FACW	6
9	<u>Erigeron</u>	philadelphicus	common fleabane	FACW	4
10	<u>Fraxinus</u>	<u>pennsylvanica</u>	green ash	FACW	1
11	Juncus	torreyi	Torrey's rush	FACW	4
1 2	Solidago	gigantea	giant goldenrod	FACW	4
1 3	Acer	negundo var. negundo	common box elder	FACW minus	0

Dominant or Co-dominant Plant Species

GAS Job No.: 980187

See INDICATOR CATEGORY INFORMATION (ATTACHED)

⁽No Indicator) - Sufficient information was not available when the publication mentioned in "Indicator Category Information" was written to determine an indicator category.

CBD Value cannot be determined.

TABLE W-3 (CONTINUED)

SCIENTIFIC <u>GENUS</u>	NAME <u>Species</u>	COMMON NAME	INDICATOR A Category	C VALUE
1 4 Populus	deltoides ssp. deltoides	eastern cottonwood	FAC plus	2
1 5 <u>Carex</u>	blanda	common wood sedge	FAC	1
16 Equisetum	arvense	field horsetail	FAC	0
17 Juncus	<u>tenuis</u>	path rush	FAC	0 .
18 <u>Fragaria</u>	virginiana ssp. virginiana	wild strawberry	FAC minus	.1
19 Sonchus	arvensis ssp. uliginosus	common sow thistle	FAC minus	n/a
20 Oenothera	<u>biennis</u>	∞mmon evening primrose	FACU	0
21 <u>Salix</u>	<u>sp.</u>	willow	CBD	CBD

TOTAL = N = I = Rating Index C = Mean C Value N = Number of recorded taxa Where: <u>c</u> = FQI =

†Following Swink & Wilhelm, <u>Plants of the Chicago</u>
<u>Region</u>—4th Ed., Indiana Acadamy of Science, 1994

Dominant or Co-dominant Plant Species

٨ See INDICATOR CATEGORY INFORMATION (ATTACHED)

(No Indicator) - Sufficient information was not available when the publication mentioned in "Indicator Category Information" was written to determine an indicator category.

CBD Value cannot be determined.

I.D. Code: 8n21e8aw3

36 18

2.00

8.49

TABLE U-3

REPRESENTATIVE PLANT LIST WITH INDICATOR CATEGORIES [UPLANDS ADJACENT TO WETLAND W-3]

Moss American Superfund Site Milwaukee, Wisconsin

Date of Observation: 5/14/98 Observed By: E. Parker & B. Karczewski—G.A.S.

		•		
SCIENTIFIC GENUS	NAME <u>Species</u>	COMMON NAME	INDICATOR A CATEGORY	C VALUE
1 Vitis	<u>riparia</u>	riverbank grape	FACW minus	2
2 Geum	aleppicum	yellow avens	FAC plus	7
3 Rumex	<u>crispus</u>	curled dock	FAC plus	n/a
4 Potentilla	norvegica ssp. hirsuta	rough cinquefoil	FAC	0
5 <u>Fragaria</u>	virginiana ssp. virginiana	wild strawberry	FAC minus	1
6 Poa	pratensis	Kentucky bluegrass	FAC minus	n/a
7 Sonchus	arvensis ssp. uliginosus	common sow thistle	FAC minus	n/a
8 Aster	pilosus var. pilosus	hairy aster	FACU plus	0
9 <u>Cirsium</u>	arvense var, arvense	Canada thistle	FACU	n/a
10 Melilotus	officinalis	yellow sweetclover	FACU	n/a
11 Oenothera	<u>biennis</u>	common evening primrose	FACU	0
12 Solidago	canadensis var, scabra	tall goldenrod	FACU	1
13 Taraxacum	<u>officinale</u>	common dandelion	FACU	n/a
14 Cichorium	intybus	chichory	UPL	n/a
15 Daucus	<u>carota</u>	Queen Anne's lace	UPL.	n/a
		I = C V N Where: I = Rating inc C = Mean C Vali N = Number of r	TOTAL lex ue eccorded taxa TOTAL	= 7

★ Dominant or Co-dominant Plant Species

∧ See INDICATOR CATEGORY INFORMATION (ATTACHED)

(No Indicator) - Sufficient information was not available when the publication mentioned in "Indicator Category Information" was written to determine an indicator category.

CBD Indicator category cannot be determined.

I.D. Code: 8n21e8au3

FQI = 4.15

†Following Swink & Wilhelm, <u>Plants of the Chicago</u> <u>Region</u>—4th Ed., Indiana Acadamy of Science,1994

Rapid Assessment Methodology Forms

• W-1 • W-2/3

Wisconsin Department of Natural Resources

Page 1

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetlan	nd/Owner:	W-1						
Location: Coun	ty Milwaukee	;	1/4,	NE 1/4, Section	8	, Township	8N	, Range 21E
Project Name	Moss Ame	rican Superfun	d Site	Wetland Investiga	ation			
Evaluator(s):	Eric C. Par	ker and Brian	J. Karc	zewski of G.A.S.,	Inc.			
Date(s) of Site V	isit(s):	5/14-15/98						

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration):

"Normal" climatologic and hydrologic conditions existed prior to and during the site evaluation. That is, no heavy rains or periods of drought took place immediately before or during the evaluation.

WETLAND DESCRIPTION

Wetland Type:	shallow open water	deep marsh	shallow marsh	seas. flooded basin	bog
	floodplain forest	alder thicket	sedge meadow	coniferous swamp	fen
	wet meadow	shrub-carr	low prairie	hardwood swamp	

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

FUNCTION	SIGNIFICANCE						
	Low	Medium	High	Exceptional	N/A		
Floral Diversity		х					
Wildlife Habitat			х				
Fishery Habitat	х	<u>.</u>					
Flood/Stormwater Attenuation			x				
Water Quality Protection			х				
Shoreline Protection	х						
Groundwater		×					
Aesthetics/Recreation/Education		х					

List any Special Features/"Red Flags": Primary Environmental Corridor

I. HYDROLOGIC SETTING

	epressional	(wet meadow portion)
	verine	(floodplain forest portion)
	ke Fringe	
Ex	tensive Peatla	and
pumpii		wetland hydrology been altered by <u>ditching</u> , tiles, dams, <u>culverts</u> , well of surface flow, or <u>changes to runoff within the watershed</u> (underline
straight	ened/dredged p	e floodplain of the Little Menomonee River. The river appears to have been prior to the earliest air photo in this study (1963). Air photos also show that mucong history of railroad and industrial use.
C. <u>Y</u>	N Does the	wetland have an inlet, outlet, or both (underline those that apply)?
		River provides both an inlet and outlet for most of wetland W-1. Small ite also provide inlets.
D V	N Is there s	any field evidence of wetland hydrology such as buttressed tree trunks,
advent	<u>itious roots</u> , <u>d</u>	rift lines, water marks, water stained leaves, soil mottling/gleying, oxidized rhizospheres (underline those that apply)?
		wetland have standing water, and if so what is the average depth in
inches?	2-6 Approx	simately how much of the wetland is inundated? 15%
inches?	2-6 Approx	
nches? Hov	2-6 Approx w is the hydro rmanently Flo	operiod (seasonal water level pattern) of the wetland classified?
inches? F. Hov Pe X Se	w is the hydro rmanently Floor	operiod (seasonal water level pattern) of the wetland classified? ooded ded (water absent at end of growing season)
F. Hov Pe X Se X Sa	w is the hydro rmanently Floasonally Floas turated (surfa	operiod (seasonal water level pattern) of the wetland classified? coded ded (water absent at end of growing season) ace water seldom present)
F. How Pe X Se X Sa Ar	w is the hydro rmanently Floo asonally Floo turated (surfa	operiod (seasonal water level pattern) of the wetland classified? coded ded (water absent at end of growing season) ace water seldom present) ded
F. How Pe X Se X Sa Ar	w is the hydro rmanently Floasonally Floas turated (surfa	operiod (seasonal water level pattern) of the wetland classified? coded ded (water absent at end of growing season) ace water seldom present) ded

Wetland W-1 is partially within the floodplain of the Little Menomonee River. Therefore, a surface water connection exists between it and all other wetlands in the floodplain.

	floating leaved community dominated by :	
	submerged aquatic community dominated by:	
X	emergent community dominated by: Solidago gigantea	
X	shrub community dominated by: Salix spp.	
Х	deciduous broad-leaved tree community dominated by: Fraxinus pennsylvanica, Salix fragilis,	
	coniferous tree community dominated by: Ulmus americana and Populus deltoides	
	open sphagnum mat or bog:	
	sedge meadow/wet prairie community dominated by:	
	other (explain)	
	Please refer to the following tables (attached):	
	Table W-1 (Non-forested portion of W-1)	
	Table W-1A (Floodplain Forested portion of W-1)	•
	Table 11.4 / limbard areas adias and As ML4)	
	Table U-1 (Upland areas adjacent to W-1)	
	NRCS Soils Map Classification: Colwood silt loam (Cw)	
4.]	NRCS Soils Map Classification: Colwood silt loam (Cw)	
4.]	SOILS	
A.]	NRCS Soils Map Classification: Colwood silt loam (Cw) Field description:	
A.]	NRCS Soils Map Classification: Colwood silt loam (Cw) Field description: Organic (histosol)? If so, is it a muck or a peat?	
4.]	NRCS Soils Map Classification: Colwood silt loam (Cw) Field description: Organic (histosol)? If so, is it a muck or a peat? X Mineral soil? • Mottling, gleying, sulfidic materials, iron or manganese concretions,	5.
A.]	NRCS Soils Map Classification: Colwood silt loam (Cw) Field description: Organic (histosol)? If so, is it a muck or a peat? X Mineral soil? • Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (underline those that apply)?	
A.]	NRCS Soils Map Classification: Colwood silt loam (Cw) Field description: Organic (histosol)? If so, is it a muck or a peat? X Mineral soil? • Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (underline those that apply)? • Soil Description: Most soils in the floodplain area were wet or saturated on 5/1	
A.]	NRCS Soils Map Classification: Colwood silt loam (Cw) Field description: Organic (histosol)? If so, is it a muck or a peat? X Mineral soil? • Mottling, gleying, sulfidic materials, iron or manganese concretions, organic streaking (underline those that apply)? • Soil Description: Most soils in the floodplain area were wet or saturated on 5/1: • Depth of mottling/gleying: No soil pits were dug due to potential contamination.	

A horizon (25cm depth):

- Mottles:

W-1

A. What is the estimated area of the wetland watershed in acres?

~2,500 acres

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B. What are the surrounding land uses?

LAND-USE	ESTIMATED % OF WETLAND WATERSHED
Developed (Industrial/Commercial/Residential)	50%
Agricultural/cropland	30%
Agricultural/grazing	1%
Forested	8%
Grassed recreation areas/parks	1%
Old field	5%
Highways or roads	5%
Other (specify)	

VI. SITE SKETCH

Please refer to the attached plot of the wetland boundary flags (Figure 2).

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.

Special Features/RED FLAGS
1. $\underline{\mathbf{Y}}$ N Is the wetland in or adjacent to an area of special natural resource interest? If so, check those that apply:
a. Cold water community (including trout streams, their tributaries, and trout lakes);
b. Lake Michigan or the Mississippi River;
c. State or federal designated wild and scenic river;
d. Designated state riverway;
e. Designated state scenic urban waterway;
f. Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advance delineation and identification study;
g. Calcareous fen;
h. State park, forest, trail or recreation area;
i. State or federal fish and wildlife refuges and fish and wildlife management areas;
j. State or federal designated wilderness area;
k. Designated or dedicated state natural area;
l. Wild rice water;
m. Outstanding or exceptional surface resource water
2. Y N According to the applicable state agency or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern:
No federal or state endangered or threatened plant or animal species were observed during GAS's field

3. Y N Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination.

- 1. $\underline{\mathbf{Y}}$ N Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?
- 2. $\underline{\mathbf{Y}}$ N Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrows, calls), or expected to utilize the wetland:

White tail deer, raccoon, gray squirrel, common grackle, brown-headed cowbird, red-winged blackbird, mallard, flicker, robin, blue jay.

- 2. $\underline{\mathbf{Y}}$ N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?
- 3. Y N Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 40 %
- 4. Y N Does the surrounding upland habitat likely support a variety of animal species?
- 5. Y N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?
- 6. $\underline{\mathbf{Y}}$ N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that require large home ranges (e.g. bear, woodland passerines)?
- 7. $\underline{\mathbf{Y}}$ N Is the surrounding habitat and/or the wetland a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?
- 8. Y N Are there other wetland areas near the subject wetland that may be important to wildlife?
- 9. Y N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?
- 10. Y N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?
- 11. Y \underline{N} Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?
- 12. $\underline{\mathbf{Y}}$ N Is the wetland providing habitat that is scarce to the region?

- 1. Y N Are there steep slopes, <u>large impervious areas</u>, <u>moderate slopes with row cropping</u>, or areas with severe overgrazing within the watershed (underline those that apply)?
- 2. $\underline{\mathbf{Y}}$ N Does the wetland significantly reduce run-off velocity due to its size, configurations, braided flow patterns, or vegetation type and density?
- 3. Y N Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?
- 4. Y N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions?
- 5. Y N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]
- 6. Y N Considering the location of the wetland in relation to the associated surface water watershed, is the wetland important for attenuating or storing flood or stormwater peaks (i.e. is the wetland located in the mid or lower reaches of the watershed)?

Water Quality Protection

- 1. Y N Does the wetland receive overland flow or direct discharge of stormwater as a primary source of water (underline that which applies)?
- 2. $\underline{\mathbf{Y}}$ N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland?
- 3. Y N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?
- 4. Y N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?
- 5. $\underline{\mathbf{Y}}$ N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?
- 6. Y N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

1. $\underline{\mathbf{Y}}$ N Is the wetland in a lake fringe or riverine setting. If NO, STOP and enter "not applicable for this function. If YES, then answer the applicable questions.

Wetland W-1 is associated with the Little Menomonee River.

- 2. Y N Is the shoreline exposed to constant wave action caused by a long wind fetch or boat traffic?
- 3. Y N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decreases wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?
- 4. $\underline{\mathbf{Y}}$ N Is the stream bank prone to erosion due to unstable soils, land uses, or ice flows?
- 5. Y N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

Groundwater Recharge and Discharge

- 1. $\underline{\mathbf{Y}}$ N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as water cress or marsh marigold present that tend to indicate the presence of groundwater springs?
- 2. $\underline{\mathbf{Y}}$ N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?
- 3. Y N Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)?

Aesthetics/Recreation/Education and Science

- 1. Y \underline{N} Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses (underline all that apply)?
- 2. $\underline{\mathbf{Y}}$ N Is the wetland in or near any population centers?
- 3. Y $\underline{\mathbf{N}}$ Is any part of the wetland in public or conservation ownership?
- 4. Y N Does the public have direct access to the wetland from public roads or waterways (underline all that apply)?

5. Is the wetland iteself relatively free of obvious human influences, such as:

Page 9

a. Y N Buildings?

e. Y N Pollution?

b. Y N Roads?

- f. Y N Filling?
- c. Y N Other structures?
- g. Y N Dredging/draining?

d. Y N Trash?

- h. Y N Domination by non-native vegetation?
- 6. Is the surrounding viewshed relatively free of obvious human influences, such as:
 - a. Y N Buildings?
 - b. Y N Roads?
 - c. Y N Other structures?
- 7. $\underline{\mathbf{Y}}$ N Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?
- 8. \underline{Y} N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?
- 9. Does the wetland encourage exploration because any of the following factors are present:
 - a. $\underline{\mathbf{Y}}$ N Long views within the wetland?
 - b. Y N Long views in the viewshed adjacent to the wetland?
 - c. \underline{Y} N Convoluted edges within and/or around the wetland border?
 - d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?
- 10. \underline{Y} N Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

ACTIVITY	CURRENT USE	POTENTIAL USE
Nature study/photography	?	X
Hiking/biking/skiing	X	
Hunting/fishing/trapping	?	X
Boating/canoeing	X	
Food harvesting		
Other (list)		

11. Y N Is the wetland currently being used, and/or does it have the <u>potential for use</u> for <u>educational or scientific study</u> purposes (underline that which applies)?

Wisconsin Department of Natural Resources

RAPID ASSESSMENT METHODOLOGY FOR EVALUATING WETLAND FUNCTIONAL VALUES

GENERAL INFORMATION

Name of Wetland	/Owner: V	V-2 / W-3							
Location: County	Milwaukee	;	1/4,	NE 1/4, Section	8	, Township	8N	, Range 21E	
Project Name Moss-American Superfund Site Wetland Investigation									
Evaluator(s):	Eric C. Parker a	and Brian J.	Karca	zewski of Graef, /	<u>Anha</u>	lt, Schloemer &	Asso	c. Inc.	
Date(s) of Site Vis	it(s): 5/14/98	and 5/15/98	3						

Description of seasonality limitations of this inspection due to time of year of the evaluation and/or current hydrologic and climatologic conditions (e.g. after heavy rains, snow or ice cover, during drought year, during spring flood, during bird migration):

"Normal" climatologic and hydrologic conditions existed prior to and during the site evaluation. That is, no heavy rains or periods of drought took place immediately before or during the evaluation.

WETLAND DESCRIPTION

Wetland Type:	shallow open water floodplain forest <u>wet meadow</u>	deep marsh alder thicket shrub-carr	shallow marsh sedge meadow low prairie	seas. flooded basin coniferous swamp hardwood swamp	bog fen
Estimated size o	of wetland in acres:	0.5 and 0.8 acres, respectively			

SUMMARY OF FUNCTIONAL VALUES

Based on the results of the attached functional assessment, rate the significance of each of the functional values for the subject wetland and check the appropriate box. Complete the table as a summary.

FUNCTION		SI	GNIFI	CANCE	,
	Low	Medium	High	Exceptional	N/A
Floral Diversity	Х				
Wildlife Habitat	х				
Fishery Habitat					x
Flood/Stormwater Attenuation		x			
Water Quality Protection	х	ļ			
Shoreline Protection					x
Groundwater	х				
Aesthetics/Recreation/Education	Х				

List any Special Features/"Red Flags": None

I. HYDROLOGIC SETTING

 A. Describe the geomorphology of the wetland: X Depressional (includes slopes, potholes, small lakes, kettles, etc.) Riverine
Lake Fringe Extensive Peatland
Extensive realiand
B. Y N Has the wetland hydrology been altered by ditching, tiles, dams, culverts, well pumping, diversion of surface flow, or changes to runoff within the watershed (underline those that apply)?
C. Y \underline{N} Does the wetland have an inlet, outlet, or both (underline those that apply)?
D. Y \underline{N} Is there any field evidence of wetland hydrology such as buttressed tree trunks, adventitious roots, drift lines, water marks, water stained leaves, soil mottling/gleying, organic soil layer, or pore linings (underline those that apply)?
Some standing water and soil saturation was observed within each wetland.
E. Y N Does the wetland have standing water, and if so what is the average depth in inches? one inch Approximately how much of the wetland is inundated? 25% for wetland W-2, 40% for W-3.
F. How is the hydroperiod (seasonal water level pattern) of the wetland classified?
Permanently Flooded
Seasonally Flooded (water absent at end of growing season)
X Saturated (surface water seldom present) (some ponding)
Artifically Flooded
Artifically Drained
G. Y N Is the wetland a navigable body of water or is a portion of the wetland below the ordinary high water mark of a navigable water body? List any surface waters associated with the wetland or in proximity to the wetland (note approximate distance from the wetland and navigability determination). Note if there is a surface water connection to other wetlands.

A. Identify the vegetation communities present and the dominant species.	W-2/3 Page 3				
floating leaved community dominated by :					
submerged aquatic community dominated by:					
X emergent community dominated by: Phalaris arundinacea					
shrub community dominated by:					
deciduous broad-leaved tree community dominated by:					
coniferous tree community dominated by:					
open sphagnum mat or bog:					
sedge meadow/wet prairie community dominated by:					
other (explain)					
Please refer to Tables W-2, U-2, W-3, and U-3, for complete plant lists.					
III. SOILS					
A. SCS Soil Map Classification: Loamy Land (Lu)					
B. Field description:					
Organic (histosol)? If so, is it a muck or a peat?					
X Mineral soil?					
 Mottling, gleying, sulfidic materials, iron or manganese concretions organic streaking (underline those that apply)? 	,				
Soil Description: Soils were saturated at the time of field visit, but no se	oil pits				
Depth of mottling/gleying: were dug due to stony conditions and potentials.	ential				
Depth of A Horizon contamination.	-				
Munsell Color of matrix and mottles					
- Matrix below the					

A horizon (25cm depth):

- Mottles:

V. SURROUNDING LAND USES

W-2/3

A. What is the estimated area of the wetland watershed in acres?

5 acres

Page 4

B. What are the surrounding land uses?

LAND-USE	ESTIMATED % OF WETLAND WATERSHED
Developed (Industrial/Commercial/Residential)	50%
Agricultural/cropland	
Agricultural/grazing	
Forested ·	5%
Grassed recreation areas/parks	
Old field	40%
Highways or roads	5%
Other (specify)	

VI. SITE SKETCH

Refer to the wetland boundary map, which is a surveyed plot of wetland delineation flags GAS placed on May 14/15, 1998.

The following assessment requires the evaluator to examine site conditions that provide evidence that a given functional value is present and to assess the significance of the wetland to perform those functions. Positive answers to questions indicate the presence of factors important for the function. The questions are not definitive and are only provided to guide the evaluation. After completing each section, the evaluator should consider the factors observed and use best professional judgement to rate the significance. The ratings should be recorded on page 1 of the assessment.

Special Features/RED FLAGS
1. Y \underline{N} Is the wetland in or adjacent to an area of special natural resource interest (NR 103.04, Wis. Adm. Code)? If so, check those that apply:
a. Cold water community as defined in s. NR 102.04(3)(b), Wis. Adm. Code,
(including trout streams, their tributaries, and trout lakes);
b. Lakes Michigan and Superior and the Mississippi River;
c. State of federal designated wild and scenic river;
d. Designated state riverway;
e. Designated state scenic urban waterway;
e. Designated state scenic urban waterway; f. Environmentally sensitive area or environmental corridor identified in an area-wide water quality management plan, special area management plan, special wetland inventory study, or an advance delineation and identification study;
g. Calcareous fen;
h. State park, forest, trail or recreation area;
i. State or federal fish and wildlife refuges and fish and wildlife management areas;
j. State or federal designated wilderness area;
k. Designated or dedicated state natural area; l. Wild rice water listed in ch. NR 19.09, Wis. Adm. Code;
l. Wild rice water listed in ch. NR 19.09, Wis. Adm. Code;
m. Surface water identified as an outstanding or exceptional resource water in
ch. NR 102, Wis. Adm. Code.
2. Y N According to the Natural Heritage Inventory (Bureau of Endangered Resources) or direct observations, are there any rare, endangered, or threatened plant or animal species in, near, or using the wetland or adjacent lands? If so, list the species of concern:
No federal or state endangered or threatened plant or animal species were observed during the GAS field visit. (This consisted of two days of observations.)

3. $\underline{\mathbf{Y}}$ N Is the project located in an area that requires a State Coastal Zone Management Plan consistency determination.

- 1. \underline{Y} N Does the wetland support a variety of native plant species (i.e. not a monotypic stand of cattail or giant reed grass and/or not dominated by exotic species such as reed canary grass, brome grass, buckthorn, purple loosestrife, etc.)?
- 2. Y \underline{N} Is the wetland plant community regionally scarce or rare?

Wildlife and Fishery Habitat

1. List any species observed, evidenced (e.g. tracks, scat, nest/burrows, calls), or expected to utilize the wetland:

Ground nest w/ eggs (sparrow), killdeer, white-tail deer tracks, Canada geese, woodcock, gray squirrel, robin, cardinal, cottontail rabbit, chipping sparrow, starling, crayfish chimney in W-2.

- 2. Y N Does the wetland contain a number of diverse vegetative cover types and a high degree of interspersion of those vegetation types?
- 3. Y \underline{N} Is the estimated ratio of open water to cover between 30 and 70 percent? What is the estimated ratio? 0%
- 4. Y N Does the surrounding upland habitat likely support a variety of animal species?
- 5. Y N Is the wetland part of or associated with a wildlife corridor or designated environmental corridor?
- 6. Y N Is the surrounding habitat and/or the wetland itself a large tract of undeveloped land important for wildlife that require large home ranges (e.g. bear, woodland passerines)? Fences limit wildlife access for this use.
- 7. Y N Is the surrounding habitat and/or the wetland a relatively large tract of undeveloped land within an urbanized environment that is important for wildlife?
- 8. $\underline{\mathbf{Y}}$ N Are there other wetland areas near the subject wetland that may be important to wildlife?
- 9. Y N Is the wetland contiguous with a permanent waterbody or periodically inundated for sufficient periods of time to provide spawning/nursery habitat for fish?
- 10. Y N Can the wetland provide significant food base for fish and wildlife (e.g. insects, crustaceans, voles, forage fish, amphibians, reptiles, shrews, wild rice, wild celery, duckweed, pondweeds, watermeal, bulrushes, bur reeds, arrowhead, smartweeds, millets...)?
- 11. Y N Is the wetland located in a priority watershed/township as identified in the Upper Mississippi and Great Lakes Joint Venture of the North American Waterfowl Management Plan?
- 12. Y \underline{N} Is the wetland providing habitat that is scarce to the region?

- 1. Y N Are there <u>steep slopes</u>, <u>large impervious areas</u>, moderate slopes with row cropping, or areas with severe overgrazing within the watershed (underline those that apply)?
- 2. $\underline{\mathbf{Y}}$ N Does the wetland significantly reduce run-off velocity due to its size, configurations, braided flow patterns, or vegetation type and density?
- 3. Y N Does the wetland show evidence of flashy water level responses to storm events (debris marks, erosion lines, stormwater inputs, channelized inflow)?
- 4. \underline{Y} N Is there a natural feature or human-made structure impeding drainage from the wetland that causes backwater conditions? Past site grading.
- 5. Y N Considering the size of the wetland area in relation to the size of its watershed, at any time during the year is water likely to reach the wetland's storage capacity (i.e. the level of easily observable wetland vegetation)? [For some cases where greater documentation is required, one should determine if the wetland has capacity to hold 25% of the run-off from a 2 year-24 hour storm event.]

The wetland is located in the mid-reaches of this sub-watershed for the Little Menomonee River.

Water Quality Protection

- 1. Y N Does the wetland receive <u>overland flow</u> or direct discharge of stormwater as a primary source of water (underline that which applies)?
- 2. Y N Do the surrounding land uses have the potential to deliver significant nutrient and/or sediment loads to the wetland?
- 3. $\underline{\mathbf{Y}}$ N Based on your answers to the flood/stormwater section above, does the wetland perform significant flood/stormwater attenuation (residence time to allow settling)?
- 4. \underline{Y} N Does the wetland have significant vegetative density to decrease water energy and allow settling of suspended materials?
- 5. $\underline{\mathbf{Y}}$ N Is the position of the wetland in the landscape such that run-off is held or filtered before entering a surface water?
- 6. Y N Are algal blooms, heavy macrophyte growth, or other signs of excess nutrient loading to the wetland apparent (or historically reported)?

1. Y \underline{N} Is the wetland in a lake fringe or riverine setting. If NO, STOP and enter "not applicable for this function. If YES, then answer the applicable questions.

N/A

- 2. Y N Is the shoreline exposed to constant wave action caused by a long wind fetch or boat traffic?
- 3. Y N Is the shoreline and shallow littoral zone vegetated with submerged or emergent vegetation in the swash zone that decreases wave energy or perennial wetland species that form dense root mats and/or species that have strong stems that are resistant to erosive forces?
- 4. Y N Is the stream bank prone to erosion due to unstable soils, land uses, or ice flows?
- 5. Y N Is the stream bank vegetated with densely rooted shrubs that provide upper bank stability?

Groundwater Recharge and Discharge

- 1. Y N Related to discharge, are there observable (or reported) springs located in the wetland, physical indicators of springs such as marl soil, or vegetation indicators such as water cress or marsh marigold present that tend to indicate the presence of groundwater springs? Positions of these wetlands on shallow slopes indicates groundwater may be discharging in these wetlands.
- 2. $\underline{\mathbf{Y}}$ N Related to discharge, may the wetland contribute to the maintenance of base flow in a stream?
- 3. Y \underline{N} Related to recharge, is the wetland located on or near a groundwater divide (e.g. a topographic high)?

Aesthetics/Recreation/Education and Science

- 1. Y \underline{N} Is the wetland visible from any of the following kinds of vantage points: roads, public lands, houses, and/or businesses? (Underline all that apply.)
- 2. $\underline{\mathbf{Y}}$ N Is the wetland in or near any population centers?
- 3. Y \underline{N} Is any part of the wetland in public or conservation ownership?
- 4. Y \underline{N} Does the public have direct access to the wetland from public roads or waterways? (Underline those that apply.)

5. Is the wetland itself relatively free of obvious human influences, such as:

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a. Y N Buildings? e. Y N Pollution? b. Y N Roads? f. Y N Filling?

c. Y N Other structures? g. Y N Dredging/draining?

d. Y N Trash? h. Y N Domination by non-native vegetation?

6. Is the surrounding viewshed relatively free of obvious human influences, such as:

a. Y N Buildings?

b. Y N Roads?

c. Y N Other structures?

- 7. Y \underline{N} Is the wetland organized into a variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water)?
- 8. $\underline{\mathbf{Y}}$ N Does the wetland add to the variety of visibly separate areas of similar vegetation, color, and/or texture (including areas of open water) within the landscape as a whole?
- 9. Does the wetland encourage exploration because any of the following factors are present:

a. Y N Long views within the wetland?

b. Y $\underline{\mathbf{N}}$ Long views in the viewshed adjacent to the wetland?

c. Y N Convoluted edges within and/or around the wetland border?

d. Y N The wetland provides a different (and perhaps more natural/complex) kind of environment from the surrounding land covers?

10. Y \underline{N} Is the wetland currently being used for (or does it have the potential to be used for) the following recreational activities? (Check all that apply.)

ACTIVITY	CURRENT USE	POTENTIAL USE
Nature study/photography		
Hiking/biking/skiing		
Hunting/fishing/trapping		
Boating/canoeing		
Food harvesting		
Other (list)		

11. Y N Is the wetland currently being used, and/or does it have the potential for use for educational or scientific study purposes (underline that which applies)?

NR 103 Alternatives Analysis

ALTERNATIVE ANALYSIS FOR NR 103 COMPLIANCE

Project Name: Project Location: Application: Date:		
PART I		WETLAND IMPACTS
A.	Does	this project have the potential to affect wetlands?
PART II		WETLAND DEPENDENCY
A.	Does	this project require a wetland to complete its function?
PART III		PRACTICABLE ALTERNATIVE ANALYSIS
A.	Backg	round of the Project
	1.	Describe the project and its purpose in detail. Include any pertinent construction plans.
	2.	Is this project an expansion of an existing work or is it new construction?
	3.	When did you start to develop the plan for this project?
	4.	Explain why this project <u>must</u> be located in or adjacent to the wetland to achieve its purpose.

B.	Possib	Possible Alternatives			
	1.	What are all the possible ways you can get the same results other than your proposed project?			
	2.	How can your project be redesigned for this site without affecting the wetlands?			
	3.	Can you make this project smaller and still meet your needs?			
	4.	What other sites were considered?			
		a. What geographical area was searched for alternative sites?			
		b. Are there other, non-wetland sites available for development in the area?			
		c. Have you sold any lands in recent years that would have been suitable for the project?			
C.	Comparison of Alternatives				
	1.	How do the expenses compare between your original plan and the alternatives considered in Part III, B. Possible Alternatives above?			
	2.	Are there logistical reasons that limit the alternatives considered?			

Are there technological reasons limiting the alternatives considered?

3.

		4.	Are the	ere any other reasons the alternatives are not feasible?
		5.	What v	will happen if you cannot proceed with your project at all?
	D.	Choice	of Proj	ect Plan
		1.	=	have not chosen any of the alternatives (listed in Part III, B. Possible atives) which would avoid wetland impacts, explain why your plan was ed.
	PART	IV	WETL	AND FUNCTIONAL ASSESSMENT
	A.			etail the wetland at the site which will be affected (include topography, hydrology, soils, etc.).
	В.	Descri	be in de	etail all potential impacts to the wetland.
		1.	Descri	be impacts to the following functional values of the wetland:
			a .	Storm and flood water storage
			b.	Hydrologic functions
			C.	Filtration and storage of sediments, nutrients, or toxic substances
•			d.	Shoreline protection against erosion
				•

	e. Habitat for aquatic organisms
	f. Habitat for wildlife
	g. Human use functional values
2.	Impacts to wetland criteria (see NR 103.03(2)).
3.	Any other possible cumulative impacts?
4 .	Any other possible secondary impacts?
5.	Any impacts to Areas of Special Natural Resource Interest (see NR 103.04 for list of areas)?
	• .