ADMINISTRATIVE APPEAL DECISION
CLEAN WATER ACT
SIERRA - FILE NO. 2006-1997-DJP
ST. PAUL DISTRICT

ADMINISTRATIVE APPEAL DECISION

SIERRA JURISDICTIONAL DETERMINATION APPEAL
FILE NO. 2006-1997-DJP, ST. PAUL DISTRICT

August 10, 2007

Review Officer: James B. Wiseman, Jr., U.S. Army Corps of Engineers, Mississippi Valley Division (MVD)

Appellant/Applicant: Mr. Carlos R. Sierra, Racine, Wisconsin

Authority: Section 404 of the Clean Water Act

Receipt of Request for Appeal: 25 April 2007

Approved JD Appeal Meeting and Site Visit: 20 June 2007

Background Information: By letter dated 7 July 2006, the Regulatory Branch of the U.S. Army Engineer District, St. Paul (MVP) provided Mr. Carlos R. Sierra (Appellant) with an approved jurisdictional determination (JD) for his residential lot in Carol Beach Estates subdivision, Village of Pleasant Prairie, Kenosha County, Wisconsin. The JD was based on site visits conducted on 27 April and 5 June 2006. The JD identified a wetland swale (north swale) subject to Section 404 of the Clean Water Act on Mr. Sierra's lot. Mr. Sierra disagreed with the JD, provided additional information to MVP, and requested a reconsideration of the JD, as allowed by administrative appeals regulations (§ 33 C.F.R. 331 et seq.). By letter dated 3 November 2006, MVP responded to Mr. Sierra's request and maintained their previous determination, providing a memorandum, also dated 3 November 2006, detailing the factors considered in the JD. Mr. Sierra continued to disagree with the JD, and submitted additional information on 2 January and 12 January 2007. Mr. Sierra informed MVP by electronic mail (email) on 17 January 2007, that he had retained the services of a consultant to evaluate his lot. By email dated 22 January 2007, MVP informed Mr. Sierra that it would evaluate any consultant information upon its submittal. No additional information was received and by email dated 13 March 2007, MVP provided Mr. Sierra with three options regarding his submission of additional information. Specifically, (1) MVP would provide a new JD based on information provided to date, (2) provide a new JD based on information provided to date plus Mr. Sierra's responses to a list of questions included in the email, or (3) that MVP would

defer action until it received information provided by Mr. Sierra's consultant. In a teleconference on 28 March 2007[1], Mr. Sierra told Colonel Michael F. Pfenning, MVP District Engineer, that he would not be sending any additional information. Col. Pfenning then informed Mr. Sierra that MVP would provide a final JD. By letter dated 16 April 2007, Col. Pfenning provided Mr. Sierra an approved JD. Col. Pfenning noted in his letter that

> "Although you submitted some additional information in January of 2007, that information cannot be validated given your lack of response to the questions posed to you. As the information you provided was conclusory in nature and did not include the scientific data necessary to support those conclusions, I find that the information submitted lacks scientific credibility. It is therefore insufficient to rebut (or even draw into question) the well documented scientific information already in the record. Therefore, I affirm and reissue the November 3, 2006, jurisdictional determination …"

Mr. Sierra submitted a completed Request for Appeal form (RFA) to the Mississippi Valley Division (MVD) Review Officer (RO) dated and received 25 April 2007. As documented by letter to Mr. Sierra dated 14 May 2007, the appeal was determined to be acceptable in accordance with administrative appeals regulations.

The RO conducted a site visit and JD appeals meeting on 20 June 2007 and prepared a memorandum dated 16 July 2007 for record (MFR) summarizing the meeting. Subsequent to the meeting, Mr. Sierra has provided twelve emails clarifying the location of information in the administrative record.

SUMMARY OF APPEAL DECISION: It is Mr. Sierra's position that MVP incorrectly asserted jurisdiction over his property, stating that MVP's determinations of hydric soils and wetland hydrology are "… not transparent, nor valid in light of the material facts." The administrative record for the JD contains substantial evidence that the area in question contains hydric soils and wetland hydrology. MVP correctly asserted jurisdiction based on procedures found in the 1987 Corps of

[1] Memorandum for the Record, Subject: Telephonic Meeting with Mr. Ron Sierra (AR0030-AR0031).

Engineers Wetland Delineation Manual[2] (1987 Manual) and related guidance.

INFORMATION RECEIVED AND ITS DISPOSITION DURING THE APPEAL:

33 C.F.R. 331.3(a)(2) sets the authority of the Division Engineer to hear the appeal of this JD. However, the Division Engineer does not have authority under the appeal process to make a final decision regarding JDs, as that authority remains with the District Engineer. Upon appeal of the District Engineer's decision, the Division Engineer or his RO conducts an independent review of the administrative record to address the reasons for appeal cited by the Appellant. The administrative record is limited to information contained in the record by the date of the Notification of Administrative Appeal Options and Process (NAP) form. Pursuant to 33 C.F.R. Section 331.2, no new information may be submitted on appeal. Neither the Appellant nor the District may present new information to MVD.

To assist the Division Engineer in making a decision on the appeal, the RO may allow the parties to interpret, clarify, or explain issues and information already contained in the administrative record. Such interpretation, clarification, or explanation does not become part of the administrative record because the District Engineer did not consider it in making the decision on the JD. However, in accordance with 33 C.F.R. 331.7(f), the Division Engineer may use such interpretation, clarification, or explanation in determining whether the administrative record provides an adequate and reasonable basis to support the District Engineer's decision.

1. MVP provided a copy of the administrative record to the RO and to Mr. Sierra. The administrative record is limited to information contained in the record by the date of the NAP form, in this case, 16 April 2007.

2. Mr. Sierra provided information clarifying the location of information in the administrative record by email received 5 May 2007 (with subsequent hard copy), and by twelve additional emails received from 21 June through 12 July 2007. Only the administrative record and clarifying information were considered in reaching this appeal decision.

[2] Environmental Laboratory. 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U.S. Army Waterways Experiment Station. Vicksburg, MS. Online edition.

3. In a letter sent to Mr. Sierra and MVP on 10 June 2007, the RO provided a set of possible questions for discussion at the approved JD meeting. These questions are shown as Exhibit 1 in the 16 July 2007 Memorandum for the Record (MFR) documenting the approved JD meeting and site visit. These questions and their answers are deemed clarifying information and were considered in reaching the appeal decision.

4. MVP and Mr. Sierra provided written responses to the questions. The written responses are deemed clarifying information and are contained in Exhibits 2 and 3 in the approved JD meeting MFR.

5. During the site visit, twelve digital photographs of the site were taken. The digital pictures are deemed clarifying information and are contained in Exhibit 4 of the approved JD meeting MFR.

Basis for Appeal as Presented by Appellant:

Appellant's First Verbatim Reason for Appeal:
1. The exact procedure used in the JD to determine hydric soils is not transparent, nor valid in light of the material facts.

FINDING: This reason for appeal does not have merit.

ACTION: No action is required.

DISCUSSION: The soils on the Appellant's lot, including the area determined to be wetland (north swale), were sampled and analyzed using standard procedures found in the 1987 Manual and related guidance.

Hydric soil characterization and analysis is found in the administrative record in several locations, including: (1) the soil section of field data forms from site visits on 27 April and 5 June 2006 (AR0026-AR0029), (2) MVP memorandum dated 6 July 2006 (AR0067), (3) MVP memorandum dated 3 November 2006 (AR0042), and (4) MVP memorandum dated 13 April 2007 (AR0011), all of which were provided to the Appellant. The Appellant has not provided any valid material facts to contradict MVP's findings (see Discussions below).

(a) The soils data of the USDA NRCS county soil survey has been nullified despite observable relevance and accuracy.

FINDING: This reason for appeal does not have merit.

ACTION: No action is required.

DISCUSSION: In memoranda dated 13 April 2007 (AR0013-AR0016) and 3 November 2006 (AR0045), MVP addressed the use and applicability of the NRCS soil survey in their analysis of soils found on the appellant's lot, particularly in the north swale. In both memos, MVP stated that the county soil survey is generalized mapping that does not supersede on-site examination of soil profiles and further stated the soil survey does not map inclusions smaller than 5 acres (citing a personal communication with Kevin Traastad of NRCS[3]). Since the north swale was much smaller than 5 acres, MVP stated that it would be not be mapped separately and would be "lumped" into the map unit for Granby, brown subsoil variant.

(i) The soils of this lot are known to be nonhydric except unless aquic or peraquic, per COE guidance.

FINDING: This reason for appeal does not have merit.

ACTION: No action is required.

DISCUSSION: The 1987 Manual identifies several categories of attributes potentially found in hydric soils, any one of which indicates that hydric soils are present.[4] These categories include soils with "aquic or peraquic moisture regimes". However, there is no requirement for a hydric soil to demonstrate a particular indicator provided at least one indicator is documented.

MVP identified two hydric soil indicators, "gleyed or low-chroma colors" and "organic streaking in sandy soils", in soil samples taken in the north swale during field trips to the appellant's lot on 27 April and 5 June 2006 (AR0026-AR0029).

(ii) The District has found the soils of the site to be neither aquic nor peraquic, per data sheets of 2006, a normal year.

FINDING: This reason for appeal does not have merit.

ACTION: No action is required.

[3] Resource Soil Scientist, Southeast Region, Wisconsin NRCS.
[4] Ibid., p. 24-28.

DISCUSSION: Although the soils on the Appellant's property were not classified as having an aquic or peraquic moisture regime, other indicators of hydric soils were found, as discussed above.

(b) The documentation of *low chroma colors and organic streaking* observed at the site is irrelevant. These COE indicators of hydric soils are reserved for *sandy soils*, a technical term for soils coarser than the soils on the site.

FINDING: This reason for appeal does not have merit.

ACTION: No action is required.

DISCUSSION: Data forms based on field notes taken by MVP during site visits on 27 April and 5 June 2006 (AR0026-AR0029) indicate that the soil profile in the north swale included sandy layers. On those data forms, MVP indicated the presence of "organic streaking in sandy soils" as an indicator of the presence of a sandy hydric soil. The 1987 Manual defines hydric soil indicators for sandy soils) to include "streaking of subsurface horizons by organic matter."[5]

(i) The soils of the site are Mollisols. More precisely the *taxonomic class* of the Granby Series is: sandy, mixed, mesic, Typic Endoaquolls. Low chroma colors in mollisols are not indicative of hydric soils, per the COE manual.

FINDING: This reason for appeal does not have merit.

ACTION: No action is required.

DISCUSSION: The soils of the site are mollisols, and soil colors may be used to characterize hydric mollisols. For example, the NRCS publication Field Indicators of Hydric Soils in the United States[6] may be used by the Corps as supplementary information when conducting a jurisdictional determination[7]. Although it is not used in this JD, indicator A-11 (Depleted Below Dark Surface)[8] in that publication utilizes soil colors and may be used for mollisols. MVP considered the A-11 indicator, noting that "sample point 1-6a would meet A-11 … if at least 70

[5] Environmental Laboratory, p. 27
[6] USDA. Natural Resources Conservation Service. 2006. Field Indicators of Hydric Soils of the United States, Version 6.0, G.W. Hurt and L.M. Vasilas (eds.). USDA, NRCS in cooperation with the National Technical Committee for Hydric Soils.
[7] Headquarters, U.S. Army Corps of Engineers. 1997. "NRCS Field Indicators of Hydric Soils," memorandum from John F. Studt dated 21 March 1997.
[8] USDA, p. 10-11.

percent of the visible soils particles were covered, coated or similarly masked with organic material". MVP stated that they observed organic coating of sand particles in the soil samples taken in the field, "but 70 percent or greater was not confirmed."

The only mention of mollisols in the 1987 Manual is in Appendix D (page D3), which lists "gray mottles within 10 inches of the soil surface" as an indicator of nonsandy hydric mollisols, though this indicator is not applicable for the Appellant's site.

(ii) The soils of the site are sandy loam in at least one layer in the upper 12", a finer class of soils than *sandy soils*.

FINDING: This reason for appeal does not have merit.

ACTION: No action is required.

DISCUSSION: See discussion at 1(b) above.

(c) A material fact was concealed, falsified or covered up, namely, that the USDA NRCS has documented that the soils of the site are not hydric. See the NRCS letter dated March 1, 2006, interpreting the soil mapping unit to the site.

FINDING: This reason for appeal does not have merit.

ACTION: No action is required.

DISCUSSION: Nothing in the administrative record indicates that MVP concealed, falsified or covered up information contained in the NRCS letter.

By letter to Mr. Sierra dated 1 March 2006, Mr. Gerald Hebard, NRCS District Conservationist, indicated that the soils on the lot were "Granby Fine Sandy Loam" with a map symbol of GnA and provided a copy of the pertinent soil map. Per the letter, Mr. Hebard also indicated that Granby is not a hydric soil. However, the symbol GnA more correctly refers to Granby fine sandy loam, brown subsoil variant, as shown in the soil survey for Kenosha and Racine counties, Wisconsin (AR0786-AR0787) and cited on MVP data sheets (AR0026-AR0029). Though not a hydric soil itself, GnA is listed on the Hydric Soil List for Kenosha and Racine Counties Wisconsin (AR0782), since it may have unmapped hydric inclusions of wetter soils in depressions.

MVP discussed Mr. Hebard's letter in their memorandum dated 13 April 2007 (AR0016), pointing out that Mr. Hebard's analysis was not based on an on-site investigation of Mr. Sierra's lot (personal communication cited in the memorandum, AR0016). MVP's assessment of soils on Mr. Sierra's lot was based on their on-site examination of soil profiles during site inspections on 27 April 2006 and 5 June 2006. They concluded that the soil in the north swale was an unmapped hydric inclusion within the mapped GnA unit.

(d) The assertion that the soils of the site are *problem soils* is false, since no definition of problem soils matches site soils.

FINDING: This reason for appeal does not have merit.

ACTION: No action is required.

DISCUSSION: MVP data forms (AR0026-AR0029) indicate that the soil in the north swale includes layers of sandy loam, loamy sand, and medium sand. The following user note appears on page 28 of the 1987 Manual:

> The NRCS has developed regional lists of "Field Indicators of Hydric Soils in the United States" (Version 3.2, July 1996, or later[9]). Until approved, these indicators do not supersede those given in the 1987 Corps Manual and supplemental guidance but may be used as supplementary information. Several of the NRCS indicators were developed specifically to help in identifying hydric soils in certain problem soil types (e.g., sandy soils, soils derived from red parent materials, soils with thick, dark surfaces). These indicators may be used under procedures given in the Problem Area section of the 1987 Manual. (HQUSACE, 21 Mar 97).

Since MVP identified sandy layers in soils on the Appellant's lot, they correctly asserted that the soils are problem soils.

(e) The record shows the Appellant classified the soils of the mapping unit to the site.

FINDING: This reason for appeal does not have merit.

[9] Ibid.

ACTION: No action is required.

DISCUSSION: By letter dated 2 January 2007 (AR0508), the Appellant provided data forms, dated 28 December 2006, which he had completed for three sample locations on his lot. These locations were identified as ridge top, swale, and depression (AR0513-AR0519). Based on the map found at AR0512, the location identified by the Appellant as depression corresponds to the north swale determined to be wetland by MVP.

The soil profile description on the data form for the north swale/depression provided by the Appellant (AR0518-AR0519) is identical to the description on the MVP data form dated 27 April 2006 (AR0026-AR0027). Both data forms identify "Granby fine sandy loam, brown subsoil variant" as the mapped soil unit. However, where the Appellant indicates that the mapped unit is confirmed, MVP does not confirm the mapped type.

In the Remarks section of his data form (AR0519), the Appellant states:

> … No approved field indicators of hydric soils were observed nor documented at this observation site (OS). Soils not normally wet, neither aquic nor peraquic. Extreme conditions of SEWRPC CA-106-266 documented and its significance for this OS was considered. Soils undisturbed problem soils definitions not met. This OS has nonhydric soils.

MVP addressed the data forms supplied by the Appellant in their memorandum dated 13 April 2007 (AR0011).

In his email dated 3 January 2007 (AR0154), the Appellant referenced soil samples taken by Hey & Associates, Inc (Hey). In an email dated 13 March 2007, MVP requested copies of all data sheets, boring logs or other field data gathered by Hey (AR0130). In that email, MVP also requested any other data from other on-site inspections by soil scientists as noted in the Appellant's email dated 28 November 2006. Nothing in the administrative record indicates that the Appellant provided any of the requested information.

There is nothing in the administrative record to indicate that Mr. Sierra has any education, training or experience in the identification of hydric soils.

(2) The record shows ample evidence that the site contains nonhydric soils at all observed sites; therefore the RO should conclude that the District erred in its JD. This fact alone warrants a new determination, determining that the entire *site is not wetland*.

FINDING: This reason for appeal does not have merit.

ACTION: No action is required.

DISCUSSION: The administrative record includes MVP's analysis of soils found in the north swale (See Remarks sections of the 27 April 2006 and 5 June 2006 data forms; AR0027, AR0029). There is further discussion of soils in a memorandum dated 13 April 2007 (AR0013-AR0016)). MVP notes that the concave landscape position and dominance of hydrophytic vegetation also suggests the presence of hydric soils. MVP cites the concurrence of three experts, including a member of the National Technical Committee for Hydric Soils (AR0014), that the soils in the north swale are hydric. Additional soils discussion may be found in memoranda dated 6 July 2006 (AR0067) and 3 November 2006 (AR0045).

While the soil profile description (AR0029) found on the data form completed by MVP from data collected during their 5 June 2006 site visit is not identical to the profile described from the 27 April 2006 visit, MVP identified the same two hydric soil indicators, "Gleyed or Low-Chroma Colors" and "Organic Streaking in Sandy Soils". The administrative record includes a discussion of the applicability of the hydric soil field indicators (AR0013).

(3) The exact procedure followed in the JD to determine wetland hydrology is not transparent, nor valid in light of all material facts.

FINDING: This reason for appeal does not have merit.

ACTION: No action is required.

DISCUSSION: The hydrology for the Appellant's lot, including the area determined to be wetland, was analyzed using standard procedures found in the 1987 Manual and related guidance.

(a) There is inadequate documentation in the administrative record of wetland hydrology occurring at the site to justify the JD.

FINDING: This reason for appeal does not have merit.

ACTION: No action is required.

DISCUSSION: Wetland hydrology characterization and analysis is found in the administrative record in several places, primarily: (1) the hydrology section of field data forms from site visits on 27 April and 5 June 2006 (AR0026-AR0029), (2) MVP memorandum dated 6 July 2006 (AR0067), (3) MVP memorandum dated 3 November 2006 (AR0042) and (4) MVP memorandum dated 13 April 2007 (AR0011). A further discussion of hydrology can be found in (4) below. The administrative record supports the conclusion by MVP that the north swale has wetland hydrology.

(b) The record documents 2006 as a normal year, and that the normal water regime of the site is one lacking wetland hydrology. This is a fact consistent with the NRCS soil mapping unit hydrology data. (see NRCS guidance and NRCS letter of March 1, 2006).

FINDING: This reason for appeal does not have merit.

ACTION: No action is required.

DISCUSSION: Low lake levels and drought conditions leading up to MVP site visits in April and June 2006 are documented in the MVP memorandum dated 3 November 2006 (AR0042).

The NRCS letter dated 1 March 2006 refers to the mapped soil unit and its associated hydrology and is not based on a field investigation. The letter makes no statement about whether 2006 is a normal year. (see Discussion in 1(c) above).

(c) A material fact was concealed, falsified or covered up, namely, that the USDA NRCS has documented that the groundwater table underneath the site, a residential single-family lot, is known not to rise above 2 feet below the surface under normal conditions.

FINDING: This reason for appeal does not have merit.

ACTION: No action is required.

DISCUSSION: There is nothing in the administrative record to suggest that MVP “concealed, falsified or covered up” any

material fact, and the Appellant has not provided any evidence to support such a conclusion.

The NRCS letter dated 1 March 2006 refers to the mapped soil unit GnA (Granby, brown subsoil variant) and its associated hydrology and is not based on a confirmation of the mapped type from a field investigation (see Discussion in 1(c) above).

In their memorandum dated 13 April 2007 (AR0011-AR0021), MVP stated that the hydric inclusion found in the north swale is similar to the typical Granby, "a hydric soil with a seasonal high water table between +1 foot to -1 foot of the surface in normal years." MVP also provides a comparison of soil profiles (AR0015) to support their conclusion that the soil in the north swale is hydric and similar to the typical Granby.

(d) A material fact was concealed, falsified or covered up, namely, that the record of standing water in a soils pit during the delineation of June 1, 2000 (CA-106-266), proves by extrapolation that the area on the Appellant's site, alleged to be wetland, was observed to be devoid of wetland hydrology under the most extreme conditions expected to occur every 100 years. The comparison of relative elevations as documented by the Appellant and provided to the District demonstrates that the site was devoid of wetland hydrology under the conditions of a 100-year localized flood event. By extrapolation of the observation means that wetland hydrology is always lacking at the site, at least 499 out of 500 years (See NRCS guidance RE: definition of *ponding, never*).

FINDING: This reason for appeal does not have merit.

ACTION: No action is required.

DISCUSSION: There is nothing in the administrative record to suggest that MVP "concealed, falsified or covered up" any material fact, and the Appellant has not provided any evidence to support such a conclusion.

Ponding is not the only primary indicator of wetland hydrology. Soil saturation within a major portion of the root zone (within 12 inches of the surface) is an equally valid primary indicator[10]. The administrative record supports MVP's assertion that the north swale has saturated soils within 12 inches of the surface in a normal year.

[10] Environmental Laboratory, p. 32.

See Discussion in 3(e) below.

(e) A material fact was concealed, falsified or covered up, namely, that the soil pit referred to above likely collected the rain of the preceding 12-hour period and had not intercepted the actual groundwater table, whose apparent elevation would have been demonstrated by flood waters prevailing in the area on June 1, 2000. The approximate height of open flood waters documented by the Village of Pleasant Prairie Public Works department on that date would have been about 584.6' NGVD 1929. This is 1 foot lower than the apparent elevation (585.5' NGVD 1929) of the recorded elevation of water in the soil pit. These facts disprove the District contention that CA-106-266 documents an incidence of wetland hydrology at the subject site.

FINDING: This reason for appeal does not have merit.

ACTION: No action is required.

DISCUSSION: There is nothing in the administrative record to suggest that MVP "concealed, falsified or covered up" any material fact, and the Appellant has not provided any evidence to support such a conclusion.

Wetland delineations were conducted on the Appellant's and/or adjacent lots by representatives of the Southeastern Wisconsin Regional Planning Commission (SEWRPC) in 1998 and 2000. The administrative record contains MVP's analysis of hydrology observed during these previous delineations (AR0048).

(4) The record shows that the District lacks adequate documentation of sufficient occurrences with sufficient durations of wetland hydrology at the site, under the normal circumstances to meet COE standards of proof of normal wetland hydrology. Therefore the RO should conclude that the District erred in its JD. The record supports a necessary conclusion of *wetlands hydrology, no* at all observation sites of 2006; this fact alone warrants a new determination, determining that the entire *site is not wetland*.

FINDING: This reason for appeal does not have merit.

ACTION: No action is required.

DISCUSSION: A positive determination of wetland hydrology, under normal environmental conditions, requires the presence of one

primary or two secondary field indicators[11]. On their 27 April 2006 and 5 June 2006 data forms, MVP did not identify a primary indicator, and identified only one secondary indicator (FAC-neutral test).

MVP stated that they recognized difficulties in performing a jurisdictional determination on the Appellant's lot. Their evaluation considered "multiple factors including cyclical lake levels, vegetation responses to varying water levels, disturbed areas, normal circumstances, seasonal wetlands, problem soils, elevations, antecedent drought conditions, previous delineations conducted during wetter than normal conditions, and lack of hydrology data reflecting normal antecedent conditions." (AR0050).

Data forms show that MVP determined that "normal circumstances" do not exist, that the site is a "problem area" and that "atypical" conditions existed on the Appellant's lot at the time of the site visits. The Appellant disagreed with these three determinations, as evidenced by the data forms he supplied dated 28 December 2006 in which he indicated that "normal circumstances" do exist and that "problem area" and "atypical situation" do not exist (AR0518-AR0519).

MVP determined that the site was a "problem area" due to the presence of sandy soils and to the occurrence of seasonal wetlands in the Chiwaukee Prairie/Carol Beach area. See (2) above for a discussion of problem soils.

The 1987 Manual recognizes that wetland determinations on some sites may be difficult when wetland indicators may be present only at certain times of the year or during certain years in a multi-year cycle. The "Atypical Situations" methodology described in the 1987 Manual is used when "positive indicators of hydrophytic vegetation, hydric soils, and/or wetland hydrology could not be found due to effects of recent human activities or natural events." [12]

Noting that the two previous wetland delineations by SEWRPC in 1998 and 2000 documented primary indicators of wetland hydrology, MVP stated that the lack of a primary indicator during their two site visits was "not unexpected" given the antecedent conditions of low lake levels and drought.

[11] Environmental Laboratory, User Note, p. 34
[12] Environmental Laboratory, p. 73

In their 13 April 2007 memorandum, MVP stated that "low lake levels for more than 7 consecutive years have affected the hydrology of the interdunal swales in Chiwaukee Prairie/Carol Beach by creating drier conditions" (AR0017). MVP determined that Lake Michigan was about 1.3 feet below average water levels during both the April and June 2006 site visits (AR0760). MVP cited a personal communication from Dr. Randy Hunt of USGS stating that "Chiwaukee Prairie/Carol Beach interdunal swales similar to the subject swale are driven by surface water with a dynamic connection to the underlying groundwater system" (AR0016).

In a letter to the Appellant after their April 2006 site visit (AR0104), MVP cites the U.S. Drought Monitor (AR0689-AR0705), stating that:

> … the 49 consecutive weeks leading up to the site inspection had conditions of abnormally dry (8 weeks), moderate drought (9 weeks), severe drought (25 weeks) or extreme drought (7 weeks). The drought conditions that began in May 2005 and continued up to the April 2006 site inspection are not considered "normal circumstances" per the 1987 Manual and guidance. The lack of hydrology indicators observed during the April 2006 site visit could be due to the drought conditions. It would likely take a year or more of normal or above normal precipitation to recharge the groundwater system and restore the normal circumstances of the site.

The Appellant challenged the use of the U.S. Drought Monitor and suggested the use of the Palmer Drought Severity Index. In their memorandum dated 3 November 2006, MVP addressed the use of the two indices (AR0047). Both are considered appropriate hydrology tools by Engineering Research and Development Center (ERDC, AR0595).

MVP requested a WRAP[13] evaluation to assist in "determining normal circumstances for purposes of conducting wetland delineations of ridge and swale complexes adjacent to Lake Michigan" (AR0599). ERDC concluded that "it is not possible to assume a direct connection between the lake level and nearby wetland hydrology without verification of a direct connection. The only way to verify this connection and make an informed decision related to a change in normal circumstances in

[13] Wetlands Regulatory Assistance Program administered by the Environmental Laboratory, ERDC, Vicksburg, MS.

interdunal swales is to conduct long term hydrologic monitoring (ten or more years)."

Since a ten-year study of hydrology is not practicable within the time constraints of the day-to-day operation of the Corps' regulatory program, MVP sought evidence of hydrology from other sources, as allowed by 1987 Manual "Atypical" methodology. In their memorandum dated 3 November 2006, MVP cites monitoring well data[14].

Prior to the MVP field investigation, two wetland determinations were conducted by SEWRPC in 1998 and 2000. Both determinations found a primary indicator of hydrology (saturated soils at five inches). MVP reviewed precipitation data for the three months prior to the site visits. MVP concluded that both SEWRPC delineations were conducted in conditions of wetter than normal antecedent precipitation (AR0679, AR0682). MVP discusses the hydrology of these previous delineations and the relationship to normal conditions in their memorandum dated 3 November 2006 (AR0048).

CONCLUSION: The 1987 Manual should be implemented with flexibility. Use of the manual is not meant to substitute for an investigator's experience and good judgment. Year-round experience with wetlands in local areas is important for accurate results, and use of the manual as a cookbook can produce erroneous results, particularly in problem areas[15].

MVP concluded, using the best available data, approved methods from the 1987 Manual tempered by experience and professional judgment, that the north swale on the Appellant's property is composed of wetlands. That conclusion is based on the presence of hydric soils, dominance by hydrophytes, concave landscape position and analysis of historical hydrology data (AR0049).

[14] SEWRPC. 2004. Identifying and delineating problem wetlands in the Lake Michigan basdin using an integrated approach: a case study of two seasonal wetland types in Kenosha County, Wisconsin. Memorandum Report 142, Southeastern Wisconsin Regional Planning Commision, Waukesha, Wisconsin. 77pp.

[15] Regulatory IV, Wetland Delineation. Lecture notes. 1987 Corps of Engineers Wetland Delineation Manual training course administered by Environmental Research and Development Center (ERDC), Vicksburg, MS.

For the reasons stated above, I conclude that Mr. Sierra's request for appeal does not have merit. The final Corps decision will be the MVP jurisdictional determination letter dated 16 April 2007.

Robert Crear
Brigadier General, U.S. Army

Date: 10 Aug 07