

BEFORE THE ILLINOIS POLLUTION CONTROL BOARD

IN THE MATTER OF: )  
 ) R12-23  
CONCENTRATED ANIMAL FEEDING )  
OPERATIONS (CAFOs): PROPOSED ) (Rulemaking- Water)  
AMENDMENTS TO 35 ILL. ADM. CODE )  
PARTS 501, 502, AND 504 )

**NOTICE OF FILING**

PLEASE TAKE NOTICE that I have filed today with the Illinois Pollution Control Board ILLINOIS EPA'S FIRST NOTICE COMMENTS, a copy of which is herewith served upon you.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL  
PROTECTION AGENCY

By: /s/Joanne M. Olson  
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Division of Legal Counsel

Date: February 21, 2014

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**ILLINOIS EPA'S ADDITIONAL FIRST NOTICE COMMENTS**

NOW COMES the Illinois Environmental Protection Agency, ("Illinois EPA" or "Agency") by and through its counsel, and hereby submits its Additional First Notice Comments in the above captioned rulemaking.

On February 7, 2014, the Hearing Officer entered an order directing the Agency to respond to three issues. Additionally, the Hearing Officer provided all participants with the opportunity to respond to any of the 1,900 First Notice comments received by the Illinois Pollution Control Board ("Board").

**I. The Board's First Issue:**

1. Section 501.405, 502. 500 and 502.600

In its first notice comment (PC3030), the Agricultural Coalition proposed changes to these three sections as they apply to Unpermitted Large CAFOs claiming an agricultural stormwater exemption. Such CAFOs claiming the exemption for field application would be required to keep records consistent with—rather than comply with—Section 502.102 and 502.510(b). PC 3030 at 16. The Agricultural Coalition also proposed language providing that CAFOs claiming an agricultural stormwater exemption for areas that are not production areas or land application areas may do so without keeping records meeting the intent of Section 501.102 and 502.510(b). *Id.* at 17.

The Agency recommends the Board reject the language proposed by the Agricultural Coalition on pages 17 and 18 of PC3030. If the Board adopts this proposed language, the rules will be less stringent than the federal rule, and therefore, the rules may not be approved by the United States Environmental Protection Agency. Under the federal rule, a large

unpermitted CAFO claiming the agricultural stormwater exemption must comply with all the requirements listed in 40 C.F.R. §122.42(e)(1)(vi)-(ix) and not just the record keeping requirements in that section. The Agency believes the Agricultural Coalition's concern with the Board's proposed language is that it might require an unpermitted large CAFO to have a nutrient management plan. This is not the Agency's position. The Agency agrees with the Agricultural Coalition that unpermitted large CAFOs should have flexibility in meeting the requirements of Section 502.102 and 502.510(b) to claim the agricultural stormwater exemption.

The Agency believes new language could alleviate both the Illinois EPA's and the Agricultural Coalition's concerns. In Section 502.500, the Agency proposes the following change to the Board's First Notice language:

**Section 502.500 Purpose, Scope and Applicability**

The requirements in this Subpart are intended to minimize the transport of nitrogen and phosphorus to waters of the United States in compliance with the nutrient management plan.

- a) The requirements in this Subpart apply to CAFOs required to obtain an NPDES permit. Unpermitted Large CAFOs claiming an agricultural stormwater exemption pursuant to Section 502.102 are not required to have a nutrient management plan, but must comply with the requirements listed in Section 502.102 and 502.510(b).
- b) The CAFO owner or operator shall develop, submit and implement a site specific nutrient management plan. This plan shall specifically identify and describe practices that will be implemented to assure compliance with this Subpart and the livestock waste discharge limitations and technical standards of Subparts F, G, and H.

In Section 501.405(a), the Agency proposes the following change to the Board's First Notice language:

**Section 501.405 Field Application of Livestock Waste**

- a) For livestock management facilities and livestock waste handling facilities that are not required to obtain an NPDES permit, the quantity of livestock waste applied on soils shall not exceed a practical limit as determined by soil type, especially its permeability, the condition (frozen or unfrozen) of the soil, the percent slope of the land, cover mulch, proximity to surface waters and likelihood of reaching groundwater, and other relevant considerations. These livestock waste application guidelines will be adopted pursuant to Section 502.305, unless otherwise provided for by Board regulations. Facilities required to obtain an NPDES permit are subject to the requirements in Subpart F of Part 502. Unpermitted Large CAFOs claiming an agricultural stormwater exemption must comply with Sections 502.102 and the requirements listed in Section 502.510(b).

In Section 502.600, the Agency proposes the following change to the Board's First Notice language:

#### **Section 502.600 Applicability**

This Subpart provides livestock waste discharge limitations and technical standards for permitted CAFOs. Permitted CAFOs must achieve the livestock waste discharge limitations and technical standards in this Subpart as of the date of permit coverage. Unpermitted Large CAFOs claiming an agricultural stormwater, while not required to have a nutrient management plan, may be subject to portions of this Subpart as specified in Section 502.510(b)~~exemption must comply with Sections 502.102 and 502.510(b) and are subject to portions of this Subpart to the extent required by Section 502.510(b)~~. This Subpart does not apply to CAFOs that stable or confine Horses, Sheep or Ducks. CAFOs that stable or confine Horses or Sheep are subject to applicable production area livestock waste discharge limitations and technical standards found in Section 502.720. CAFOs that confine Ducks in either a Dry Lot or Wet Lot are subject to applicable production area livestock waste discharge limitations and technical standards found in Section 502.730.

The Agency recommends the Board adopt the above language, and decline to adopt the Agricultural Coalition's language allowing an unpermitted large CAFO to claim the agricultural stormwater exemption by keeping records consistent with Section 502.510(b).

The Board also asked the Agency to comment on the Agricultural Coalition's proposed language providing that CAFOs claiming the agricultural stormwater exemption for areas that are not production areas or land application areas may do so without complying with Sections 502.102 and 502.510(b). The Agency recommends against the addition of the

language proposed by the Agricultural Coalition because it is based on unsettled case law. In support of their request to add language allowing the agricultural stormwater exemption to areas that are not the production area or the land application area, the Agricultural Coalition cites to the *Alt v. United States Environmental Protection Agency*, No. 2:12-CV-42, (N.D.W.Va. April 22, 2013). This case, however, has been appealed to the Fourth Circuit, Court of Appeals, on December 20, 2013. *Alt v. USEPA*, No. 13-2534, (4<sup>th</sup> Cir. December 23, 2013). On February 6, 2014, the Fourth Circuit ordered this case be held in abeyance until the resolution of *Chesapeake Bay Foundation v. Alt*, No 13-2200, (4<sup>th</sup> Cir, filed September 27, 2013). The *Chesapeake Bay* appeal addresses whether the district court erred in denying Chesapeake Bay's motion to intervene in the *Alt* case. The resolution of the Chesapeake Bay case will not be dispositive of the issues on appeal in the *Alt* case.

Given the case law that forms the basis of the Agricultural Coalition's request is currently unsettled, the Agency recommends the Board not change its proposed rule. If the Board remains silent, Part 502 can be carried out in accordance with the eventual holding in the *Alt* case. If, however, the Board includes the Agricultural Coalition's proposed language, and the Fourth Circuit Court of Appeals reverses the district court, the Board's regulation will contradict the federal law.

## II. The Board's Second Issue

### 2. Section 502.620(f)

In its first notice comment, the Agricultural Coalition recommended revising subsection (f) to require that the soil type considered for the limiting erosion factor should be the "dominant soil type." The Agricultural Coalition indicated that this soil type is determined through Agronomy Technical Note IL -3, available in Section 1 of the Illinois Natural Resources Conservation Service (NRCS) Field Office Technical Guide. PC 3030.

The Agency agrees with the Agricultural Coalition comments and the United States Department of Agriculture Natural Resources Conservation Service (USDA-NRCS) Agronomy Technical Note. No. IL-3 (Attachment 1) that steep slopes on portions of the fields in livestock waste land application areas should be evaluated with regard to determining erosion rates calculated using RUSLE 2 and also with regard to whether these areas are suitable for land application of livestock waste or should be planted in a permanent cover for wildlife and recreation. The method outlined in the USDA-NRCS's - Agronomy Technical Note No. IL-3 describes a method for on-site field assessment and measurement for determination of "dominant critical area" to be used in the RUSLE 2 calculation of estimated soil erosion. USDA-NRCS soil maps and soil surveys provide information on various soil types and associated slopes for each soil type. Typical ranges of slopes are commonly shown as 0-2 percent or 2-5 percent, etc., for each of the mapped soil type areas in these soil surveys and on the soil survey maps. The Agency believes that if the soil maps and topographic maps or other available data represents the steepest slopes to receive livestock waste then this information can be used in the RUSLE 2 calculation. If the nutrient management planner or livestock producer determines this available data does not represent the steepest slopes then additional data should be obtained to verify slopes or the areas of steep slopes avoided for land application using a method such as that outlined in Agronomy Technical Note No. IL-3. The Agricultural Coalition comments also indicate that a single dominant critical area would be determined for an entire field. However, the RUSLE 2 calculation may need to be used separately on several areas of a field if different slope ranges for different soil types on soil maps exist, or the slopes shown from other data in the livestock waste application field application area are 5 percent or greater, in order to meet the Board's proposed Section

502.620(f) and 502.615(c)(3) and other proposed Sections of the rule that use RUSLE 2 to determine estimated soil erosion rates.

The example shown in the Agronomy Technical Note No. IL-3 illustrated in figures 1, 2 and 3 show situations where erosion control practices or land application practices to minimize runoff of livestock waste would be required such as injection or incorporation of wastes and conservation practices such as terracing, contour farming and strip cropping. However, these figures show areas with slopes of 50-100 percent. These areas are also adjacent to or terminate at either conduits to surface water, surface waters or relatively flat areas near surface waters that are flood plains. These areas would not meet provisions of the proposed regulations if they are within prohibited setbacks or are not allowed in flood plains for a portion of the area. These are areas that should not be used for land application of livestock waste as runoff of livestock wastes may occur to the flood plain or to conduits to surface water or surface waters. In addition, land application with injection or incorporation of livestock waste on these steep slopes may not meet conservation practices for farming on the contour, or may not be practical or safe for equipment operation due to rollovers. To avoid rollovers the operator may apply the wastes and incorporate the wastes up and down the slope. This will cause greater erosion and promote development of gullies in the land forming new conduits to surface waters with erosion and discharge of the livestock waste to surface waters. The Agency notes that using this document as guidance or a requirement may imply that such areas may be acceptable for livestock waste application, which is erroneous. Based on these reasons the language proposed by the Agricultural Coalition requiring determination of dominant critical soil type in the field may cause unnecessary restrictions on portions of a field that have relatively flat slopes unless those areas are managed separately with a separate

determination of soil loss estimates using RUSLE 2. For these reasons the Agency does not support limitation of the RUSLE2 calculation to a single “dominant critical soil type in the field” as proposed by the Agricultural Coalition. A clarifying statement could be added to the Board’s proposed rule that fields with varying or steep slopes may need to be divided into separate areas for determination of soil erosion estimates using RUSLE 2 and compliance with 502.620(f).

**III. The Board’s Third Issue**

3. Section 502.620(g):

In its first notice comment, the Agricultural Coalition requested that the Board delete subsection (g), which prohibits land application of livestock waste on slopes greater than 15%.

The Agricultural Coalition proposes that land application by injection or incorporation be allowed on slopes greater than 15 percent as is now allowed in the December 2013 USDA-NRCS Illinois 590 Nutrient Management Standard. The Agricultural Coalition’s comments assert that the other provisions and particularly the limitation on soil erosion calculated using RUSLE 2 in the proposed rule would be sufficient to protect waters of the State from livestock waste runoff. The Agency notes that page 310 of the USDA-NRCS’s draft User’s Reference Guide Revised Universal Soil Loss Equation 2<sup>1</sup> indicates that RUSLE 2 does not estimate gully erosion and that gully erosion can be a significant portion, up to one half or more of the total sediment eroded on a field. The USDA-NRCS’s Agronomy Technical Note No. IL-3 also indicates that RUSLE 2 does not estimate gully erosion. As noted above in the comments regarding proposed Section 502.620(f), gully erosion may be induced by the injection or incorporation of livestock waste up and down the slopes of livestock waste land application sites and this will cause poor soil erosion control and poor conservation practice

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<sup>1</sup> Available at [http://www.ars.usda.gov/sp2UserFiles/Place/64080510/RUSLE/RUSLE2\\_User\\_Ref\\_Guide.pdf](http://www.ars.usda.gov/sp2UserFiles/Place/64080510/RUSLE/RUSLE2_User_Ref_Guide.pdf)



on the field. In addition, this practice of injecting or incorporation of livestock waste up and down the slope will increase sheet and rill erosion compared to injection and incorporation on the contour. The Agricultural Coalition has not indicated what provisions in the new Illinois NRCS standard 590, issued in December 2013, offsets the prohibition to land apply by injection or incorporation on slopes of greater than 15 percent of the previous Illinois NRCS Standard 633. The Agricultural Coalition has not provided the reasons the prohibition to land apply on slopes greater than 15 percent was modified in the USDA-NRCS standard. For these reasons the Agency believes the record inadequately supports the Agricultural Coalition's proposed revision to Section 502.620(g) of the Board's proposed rule.

The Illinois EPA strongly recommends the Board adopt the language it proposed in First Notice. The Agency believes that prohibiting land application of livestock waste on slopes of 15 percent or greater will prevent livestock waste runoff to waters of the State via gullies or by overland flow, prevent erosion, and prevent the creation of additional conduits to surface waters on the land, therefore minimizing the transport of livestock waste, nitrogen and phosphorous to waters of the State.

#### **IV. The Illinois EPA's Comment on the Agricultural Coalition's First Notice Comments**

##### **Section 501.101(b)**

In their First Notice Comments, the Agricultural Coalition proposes language to be included in Section 502.510(b). PC3030 at 24. The Agency acknowledges that this language is nearly identical to the language proposed by the Agency in its initial rulemaking proposal. However, in its First Notice comments, PC 3027, the Agency recommended the Board adopt the following:

- b) The owner or operator of a CAFO must seek coverage under an NPDES permit if the CAFO discharges.
- c) A CAFO that has had a past discharge is not required to seek coverage under an NPDES permit if the Agency determines that the conditions that gave rise to the discharge have been corrected and that the design, construction, operation or maintenance of the CAFO has been modified in such a way as to prevent discharges from occurring in the future. This subsection does not apply to repeated, sporadic or intermittent discharges.
- d) No permit shall be required under this Part for any discharge for which a permit is not required under the CWA, and regulations pursuant thereto. (Section 12(f) of the Act).

The Agency strongly urges the Board to include the language the Agency proposed in its First Notice comments for the reasons stated therein.

Section 502.510(b)(13)

The Board's Section 502.510(b)(13) requires inspection of subsurface drainage systems at livestock waste application sites, including visual inspection prior to, during, and after land application. The Agricultural Coalition proposes adding: "Inspection of subsurface drainage system shall include visual inspections at least annually if the field is documented to contain such a system." The Illinois EPA recommends the Board not include this sentence, as it believes the inspections must be done every time livestock waste is applied to the field, not once a year. The Agency also recommends that the Board not include the following language proposed by the Agricultural Coalition to qualify when the visual inspections must be done: "When allowed by land surface cover or otherwise practicable."

Section 502.615(c)(6)

The Agricultural Coalition comments that Section 502.615(c)(6) should be revised to allow land application within 200 feet of surface water if the livestock waste is incorporated within 24 hours of application or injected. The Board's proposed Section 502.645 prohibits

land application of livestock waste within 200 feet of surface waters. The federal rules require a minimum 100 feet setback from surface waters or a 35 feet vegetative buffer between the land application area and surface waters unless alternative conservation practices provide equivalent pollution reduction to the 100 feet setback as demonstrated by the CAFO. In addition, the 200 feet setback from surface waters is derived from Section 20(f) of the Illinois' Livestock Management Facilities Act, 510 ILCS 77/20 (2013). See TSD at 55-56. For the above reasons, the Agency does not support the Agricultural Coalition's proposed changes to allow land application within 200 feet of surface waters and recommends that the Board not adopt the Agricultural Coalition's proposed changes.

Section 502.615 (d) (3)

The Agricultural Coalition proposes to revise the Board's propose rule at Section 502.615(d)(3) by replacing the criteria of 50 pounds of available phosphorus per acre with "the agronomic optimum of available phosphorus" for determining application rates of phosphorus applied to livestock waste land application areas. The Agricultural Coalition's proposal refers to the Illinois Agronomy Handbook ("Handbook") for determination of the agronomic optimum of available phosphorus. It is not clear in the Handbook how "agronomic optimum of available phosphorus" is defined or determined and the term is not defined by the proposed rule. Additionally, the Handbook shows various levels of available soil test phosphorus recommended that are dependent on the crop grown. Since crops are grown in rotation on the same sites this may create a fluctuating criteria for application of these requirements in Section 502.615 to a particular site that will vary from crop to crop. The Illinois EPA proposed 50 pounds per acre as the criteria for the reasons stated in the Technical Support Document submitted by the Agency in this proceeding (TSD p 23-24). Due to these

reasons the Agency does not support the Agricultural Coalition's proposed change to Section 502.615(d)(3).

WHEREFORE, The Illinois EPA respectfully submits these comments, and requests the Board to proceed expeditiously to Second Notice.

Respectfully submitted,

ILLINOIS ENVIRONMENTAL  
PROTECTION AGENCY

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**THIS FILING IS SUBMITTED ELECTRONICALLY AND SERVED ON RECYCLED PAPER**

**CERTIFICATE OF SERVICE**

Joanne M. Olson, Assistant Counsel for the Illinois EPA, herein certifies that she has served a copy of the foregoing NOTICE OF FILING and ILLINOIS EPA'S FIRST NOTICE COMMENTS upon persons listed on the Service List by mailing, unless otherwise noted on the Service List, a true copy thereof in an envelope duly addressed bearing proper first class postage and deposited in the United States mail at Springfield, Illinois on February 21, 2014.

By:     /s/Joanne M. Olson    

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## GUIDELINES FOR SELECTING THE DOMINANT CRITICAL

**AGRONOMY TECHNICAL NOTE NO. IL-3**

**May 2005**

### CHOOSING THE PLANNING AREA OF A FIELD

NRCS requires the use of the Revised Universal Soil Loss Equation- Version 2 (RUSLE 2) to estimate sheet and rill erosion rates on fields or on conservation treatment units and to compare erosion rates of alternative treatment systems to a target soil loss tolerance value.

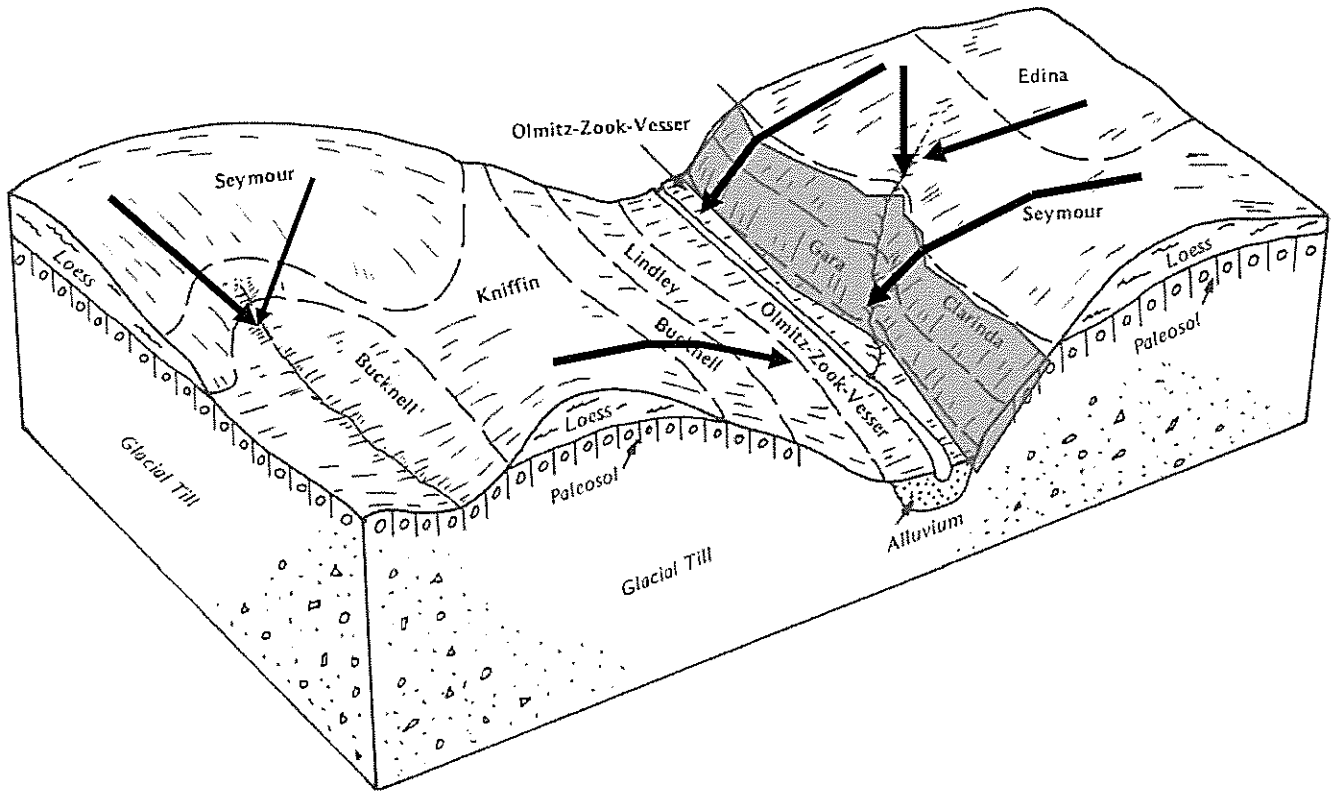
Producers typically desire to farm a whole field to the same cropping sequence (rotation) and residue management (tillage) system. As a consequence, NRCS often plans the treatment for the whole field rather than splitting it into smaller units with different treatments. Whole fields often have areas that are more erosive than the majority of the field. Since these areas are usually not dominant, it would be impractical to plan a treatment system for these areas and apply the system to the whole field. Supporting practices such as terraces, contouring, or contour buffer strips; however, should be planned for specific parts of the field to supplement the crop rotation and tillage system applied to the whole field. Opportunities to split out the severely erosive field portions and develop wildlife or recreation areas with permanent cover should be considered.

Fields rarely are comprised of a single soil map unit with uniform topography. There can be flat, upland, sloping, and bottomland areas all in the same field. Since the erosion rates will differ in each of these landscape areas, the planning decisions need to address the quality criteria or soil loss tolerance "T" value for the eroding areas. It is improper to plan the treatment for the largest common landscape in cases where it is the flattest and least erosive resulting in inadequate treatment of the erosive parts of the field.

Thus, a method is needed to choose a "dominant critical area" of a field for which erosion calculations and conservation treatment alternatives will be based. There are no specific criteria established to decide which slope profiles (Figure 1), in a particular field to select, as there are literally an infinite number of slope profiles in a field. The following guidelines will aid planners in selecting appropriate areas of a field on which to base conservation planning alternatives.

Observe a field from a prominent location. Together with the soil map, mentally divide the field into several landscapes and estimate the size of each or the percentage each comprises of the total field. Once the variation in topography is characterized, the most erosive portions of the field need to be identified. Erosion rate increases as the slope length increases. Since soil loss increases more sharply with small increases in slope percent, the most erosive portions of the field are where the slopes are steeper. Next, take several slope percent and length measurements until judgment determines that a common length and grade is representative of the landscape in question. Techniques to determine percent slope and slope length are described in the next section.

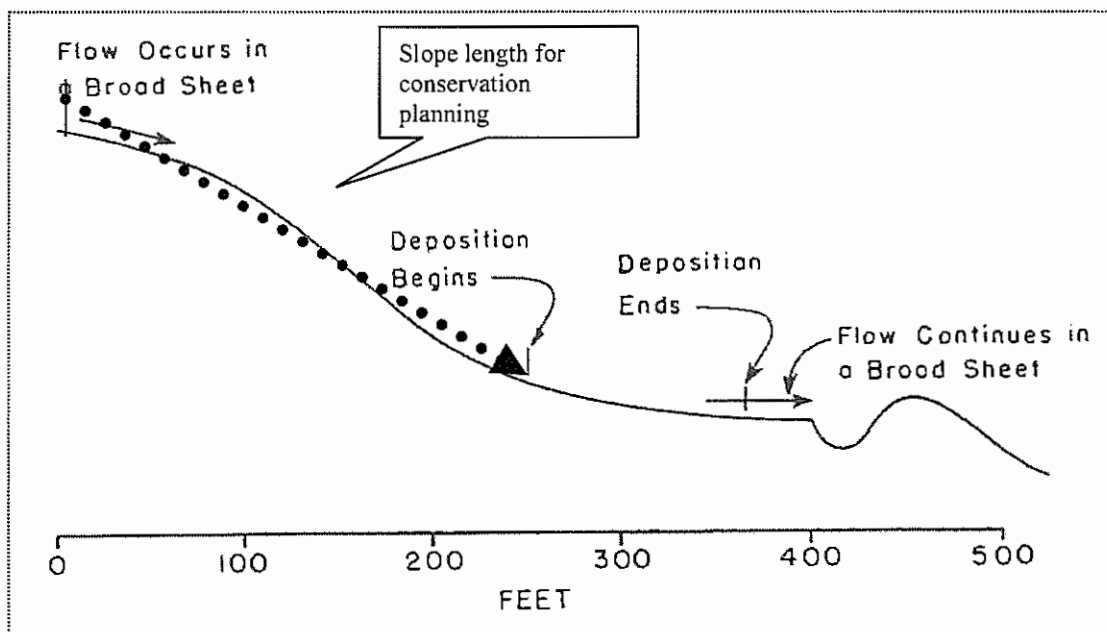
Figure 1. Example selection of a dominant critical area.



### Determining slope lengths and grades.

Using RUSLE2 to determine the erosion rates for the sloping areas of the field involves determining slope lengths and grades, best done by an onsite evaluation. The accuracy of most topographic maps is not adequate to determine slope grades or lengths. Slope grades and lengths contained in soils databases are not site specific and may vary considerably from specific sites due to the nature and methods used in making soil surveys

Figure 2. Slope Profile



### Determining slope grade

Percent slope is always measured perpendicular to the contour or directly up and down the slope in the direction that gravity forces the water to run. Slope grades can be measured using a hand level, clinometer or Abney level. Typically, the slope is measured using a 50 to 100 foot section in the middle of the slope. A grade rod or another person will be needed to establish “eye height” for the person using a hand level, clinometer or Abney level. When using a hand level, a sighting is made from a measured or paced distance such as 50 or 100 feet up or down from the grade rod or helper and the difference in elevation recorded and converted into percent slope. When using the clinometer or Abney level, the cross hair is lined up with the “eye height” on the distant grade rod or another person and the % slope is read directly.

### Determining slope length

Slope lengths for RUSLE2 are measured perpendicular to the contour line starting at the origin of overland flow near the top of the hill slope and terminate at either significant deposition where the slope flattens significantly or at the point where flow concentrates in a larger channel, ephemeral gully or gully. Figures 1, 2, and 3 illustrate the concept of a slope length.

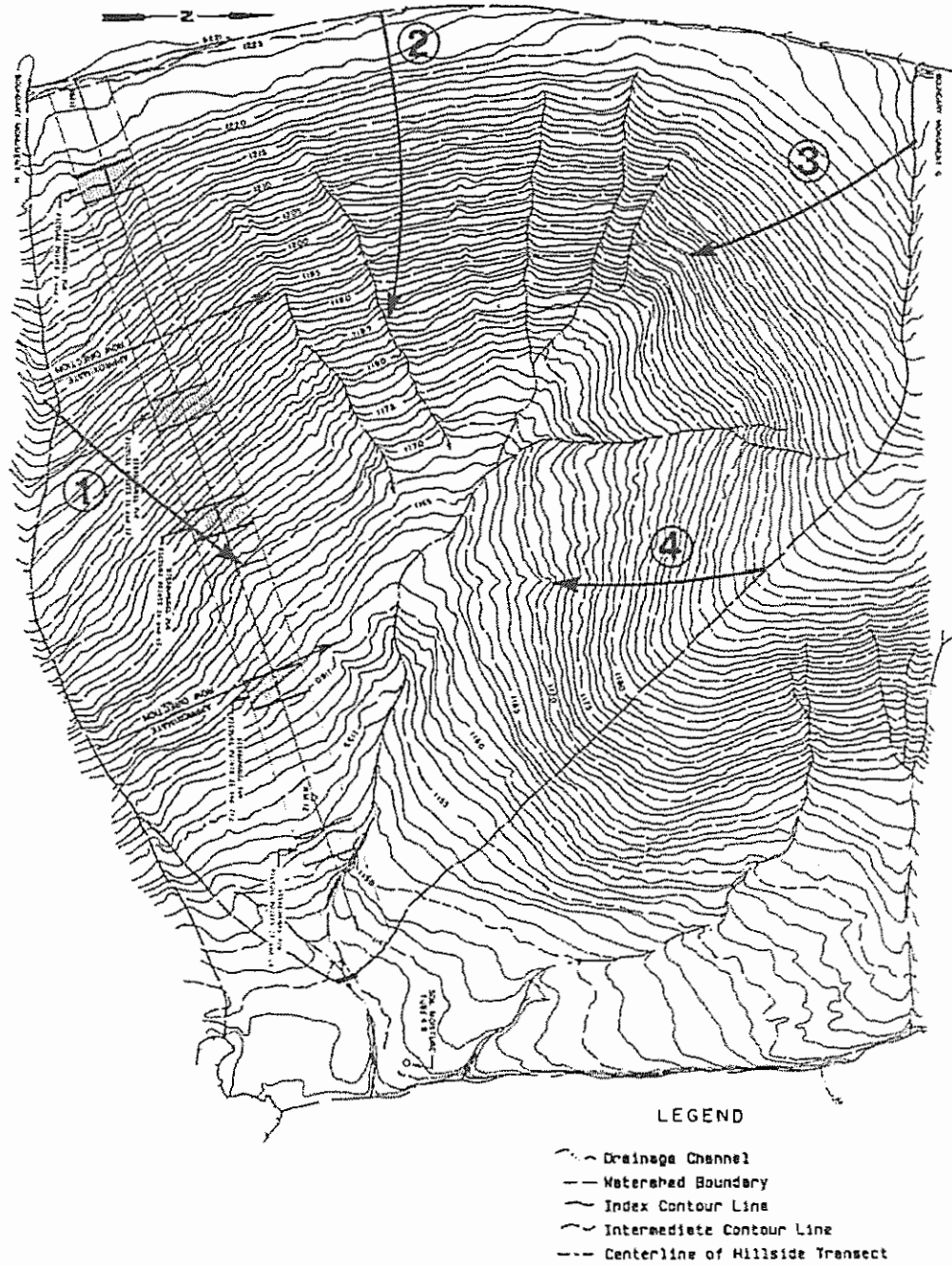
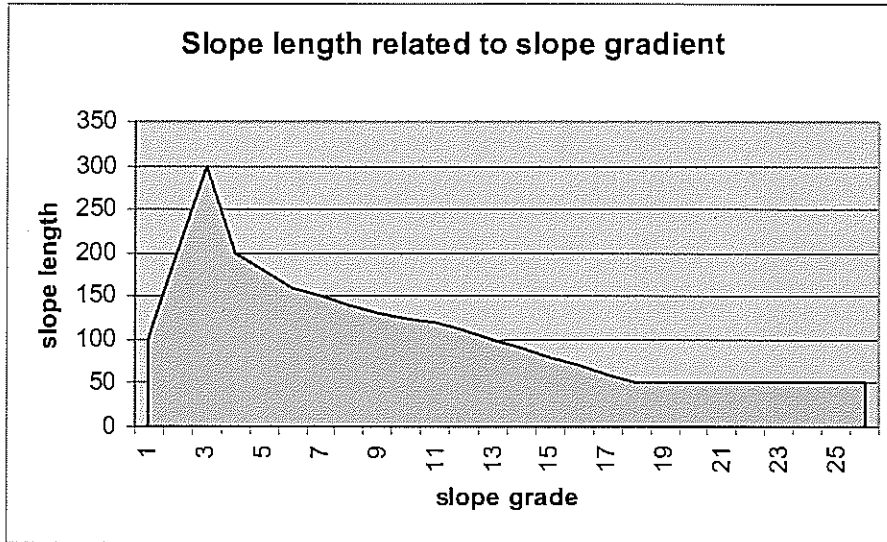


Figure 3. Slopes 2, 3, and 4 end at concentrated flow. Slope 1 ends at deposition.

Slope lengths are generally shorter on low gradients, longer at moderate gradients, and shorter again on steeper gradients (Figure 4). Most slope lengths are less than 250 feet. Slope lengths of 400 feet are rare. The longest plot used for deriving experimental data for RUSLE 2 was approximately 650 feet. Slope lengths longer than 650 feet should not be used in RUSLE 2.

**Figure 4.** Typical slope length depends on slope gradient.



Flow tends to spread out and be more diffuse at low gradients and tends to become more concentrated at steeper gradients. Concentrated flow channels tend to form higher on the slope as gradients increase, thus slope lengths tend to be shorter since they terminate at these concentrated flow channels rather than at depositional areas. RUSLE 2 currently does not estimate gully or ephemeral gully erosion and is confined to sheet and rill erosion. Thus, slope lengths are restricted to the erosion processes modeled by the program.

