

ILLINOIS POLLUTION CONTROL BOARD

June 7, 2012

IN THE MATTER OF: )  
)  
PROPOSED AMENDMENTS TO CLEAN ) R12-9  
CONSTRUCTION OR DEMOLITION ) (Rulemaking - Land)  
DEBRIS FILL OPERATIONS (CCDD): )  
PROPOSED AMENDMENTS TO 35 Ill. )  
Adm. Code 1100 )

Proposed Rule. Second Notice.

OPINION AND ORDER OF THE BOARD (by D. Glosser):

On July 29, 2011, the Illinois Environmental Protection Agency (IEPA) filed a proposal pursuant to Sections 22.51 and 22.51a of the Environmental Protection Act (Act) (415 ILCS 5/22.51 and 22.51a (2010)). The proposal will amend the Board's rules for Clean Construction or Demolition Debris Fill Operations to allow for use of uncontaminated clean construction or demolition debris (CCDD) and uncontaminated soil to be used as fill at quarries, mines and other excavations. The Board has held two hearings in this matter prior to first notice under the Illinois Administrative Procedure Act (IAPA) (5 ILCS 100/5 *et. seq.* 2010)), which the Board adopted on February 2, 2012. The Board held an additional two days of hearing during first notice and today adopts the proposal with amendments suggested by participants for second notice.

**SUMMARY OF TODAY'S ACTION**

After reviewing the record in this proceeding and in consideration of the comments and testimony, the Board has made changes to the first-notice proposal. Specifically, the Board has accepted comments from participants and will no longer require the use of ASTM standards for determining if a site is a potentially impacted property (PIP) or if the soil is uncontaminated. Rather, the Board provides the ASTM and other methods as guidance to be used by the source site owner, or a licensed professional engineer (LPE) or licensed professional geologist (LPG) in evaluating the site. The Board is also requiring IEPA to add additional items to the certification forms to better document the evaluation process.

The rule is also changed to require pH testing of soils from all source sites and establishes soil Maximum Allowable Concentrations (MAC) based on a soil pH range of 6.25 to 9.0 for pH dependent chemical constituents. Under the proposed revisions, the MACs for chemicals with pH sensitivity would be based on the lowest pH dependent values between Part 742, Appendix B, Table C column range 6.25 to 6.64 and column range 8.75 to 9.0. The rule prohibits fill operations from accepting soils with a pH below 6.25 or above 9.0 regardless of applicable MACs.

The Board declines to add exemptions or allowances for small unplanned projects and will not add a “grandfathering” clause to the rule for projects already in progress or that have been placed for bid. The Board remains unconvinced that site-specific Tiered Approach to Corrective Action Objectives (TACO) should be used in this rule. And after review of the comments, the Board is also unconvinced that groundwater monitoring should be required for CCDD and uncontaminated soil fill operations.

The Board finds that the rule as proposed for second notice is economically reasonable and technically feasible.

### **PRELIMINARY MATTERS**

IEPA, Public Building Commission of Chicago (PBC), and Illinois Department of Transportation (IDOT) filed motions to correct the transcript. The Board grants the motions to correct the transcript.

### **PROCEDURAL BACKGROUND**

IEPA filed a proposal on July 29, 2011, including a statement of reasons (SR) and a motion to waive filing requirements. IEPA was required by Section 22.51 of the Act to propose rules to the Board by July 30, 2011. 415 ILCS 4/22.51 (2010). The Board must adopt the rules no later than one year after receipt of IEPA’s proposal

On September 26, 2011, a hearing was held in Springfield, Illinois at which IEPA provided testimony. An additional hearing was held on October 25 and 26, 2011, during which several interested parties as well as IEPA offered testimony. The October 25, 2011 hearing also fulfilled the statutory obligation under Section 27(b) of the Environmental Protection Act (Act) (415 ILCS 5/27(b) (2010)). Section 27(b) of the Act requires the Board to request the Department of Commerce and Economic Opportunity (DCEO) to conduct an economic impact study (EcIS) on certain proposed rules prior to adoption of those rules. If DCEO chooses to conduct the EcIS, DCEO has 30 to 45 days after such request to produce a study of the economic impact of the proposed rules. The Board must then make the EcIS, or DCEO’s explanation for not conducting the study, available to the public at least 20 days before a public hearing on the economic impact of the proposed rules. The Board sent DCEO the request on August 4, 2011. On September 28, 2011, DCEO declined to perform an EcIS. The hearing officer sought comment on DCEO’s decision not to perform an EcIS.

On February 2, 2012, the Board adopted a first-notice proposal. During the first notice period the Board held an additional two days of hearings on March 13 and 14, 2012. The hearing officer again sought comment on DCEO’s decision not to perform an EcIS.

### **FIRST NOTICE PROPOSAL**

The proposal specified: 1) the use of CCDD and uncontaminated soil as fill material at CCDD fill operations (*see* 415 ILCS 5/22.51(f)(1) (2010)); 2) the use of uncontaminated soil as fill material at uncontaminated soil fill operations (*see* 415 ILCS 5/22.51a(d)(1) (2010)); and (3)

the maximum concentrations of contaminants that may be present in the uncontaminated soil component of construction or demolition debris (*see* 415 ILCS 5/3.1 60(c) (2010)). The proposed rules also included standards and procedures to protect groundwater.

The proposal reflected changes necessitated by P.A. 97-0137 (eff. July 14, 2011). The first change removes the benzo(a)pyrene restriction at Section 3.160(c)(1) of the Act (415 ILCS 5/3/160(c)(1) (2010)). This change allows the Board to consider TACO background levels for all carcinogens and not just for the one carcinogen, benzo(a)pyrene. The second amendment was made to Sections 22.51(f)(2)(B) and 22.51a(d)(2)(B) of the Act (415 ILCS 5/22.51(f)(2)(B) and 22.51a(d)(2)(B) (2010)) and allows LPGs, as well as LPEs to provide certifications under the interim soil certification requirements.

The following discussion will summarize the Board's findings at first notice on issues raised and detail the changes made to the IEPA's proposal. The areas that the Board addressed are: Groundwater Monitoring, Soil Certifications and Potentially Impacted Properties, Soil testing, Maximum Allowable Concentrations (MACs) in Soils, Load Checking at CCDD and Soil Fill Operations, Reporting and Registration Requirements, and the inclusion of LPG

### **Groundwater Monitoring**

The Board expressed that its first concern is that CCDD and uncontaminated soils that will be deposited into quarries, mines, and other excavations, be clean and uncontaminated as those terms are defined by the rules and the statute. The Board noted that if the regulations provide assurances that the materials being deposited are indeed clean and uncontaminated and are adhered to, protection will be provided to public health and the environment, including groundwater.

The Board noted that the record does not include evidence to demonstrate that CCDD or uncontaminated soil sites are a source of groundwater contamination. Further, the record indicated that requiring groundwater monitoring would impose potentially sizeable costs that may have adverse impacts on the fill operation. CCDD and uncontaminated soils are not classified as wastes, so do not require the stringent rules that exist for nonhazardous waste landfills. Therefore, the Board found that this record does not support groundwater monitoring.

The Board further noted that P.A. 96-1416 requires the Board to adopt rules to include "standards and procedures necessary to protect groundwater, which may include, but shall not be limited to" a list of twelve possible procedures or tools. One of these is "monitoring (including, but not limited to groundwater monitoring)". The Board found that, while groundwater protection is a legislative priority, this protection can be achieved without requiring groundwater monitoring. The Board's first-notice proposal strengthens the front-end screening process for soils and other provisions to help ensure that the soils legally deposited in quarries, mines, and other excavations are uncontaminated. Therefore, the Board found that its proposal will protect groundwater.

As a result of these concerns and other provisions included to protect groundwater, the Board deleted Subpart G of IEPA's proposal, standards for groundwater monitoring. The Board

also deleted several definitions pertaining to groundwater monitoring, and references to Subpart G in other parts of the proposed rules.

### **Soil Certification/Potentially Impacted Property**

IEPA proposed use of the phrase “potentially impacted properties” rather than “commercial and industrial”, with which the Board agreed and the Board proceeded to first notice with that phrase. The Board found that it has broad authority to adopt rules pursuant to Sections 27, 22.51 and 22.51a of the Act (415 ILCS 5/27, 22.51, and 22.51a (2010)). *See Granite City Division of National Steel Company v. IPCB*, 155 Ill. 2d 149, 181-82; 613 N.E.2d 719, 733-34 (1993). The phrase “potentially impacted properties” encompasses the terms “commercial and industrial”, and as defined, clarifies the legislative intent. The phrase “potentially impacted properties” is designed to ensure that properties that may have been touched by contamination are assessed more fully than properties that have little possibility of being contaminated. Furthermore, the Board was convinced that using the phrase “potentially impacted properties” avoids any confusion with zoning designations and is consistent with the statutory term “commercial or industrial”.

The Board further found that both IEPA and the regulated community rely on ASTM Standards for evaluating a property’s potential for contamination. Thus, the Board required soil certification under Section 1100.205 to be based upon source site evaluation conducted in accordance with the ASTM standards. The Board amended the source site owner or operator certification at Section 1100.205(a)(1)(A) to be based on ASTM Standard E1528-06, and LPE/LPG certification under Section 1100.205(a)(1)(B) to be based on ASTM Standard E1527-05.

The Board noted that concerns were raised regarding IEPA’s proposal not to require soil certification to be supported by soil testing data. The Board found that an uncontaminated soil certification would be credible when supported by analytical data that shows compliance with the soil MACs, particularly when the source site is a PIP. The Board added a requirement that the LPE/LPG certification under Section 1100.205(a)(1)(B) include analytical soil testing data.

### **Soil Testing**

The Board agreed with IEPA that when defining “uncontaminated soil” the rules must be based on the assumption that any exposure may be to the highest constituent concentration. As such, the rules should not allow compositing and averaging. Thus the Board found that the proposed prohibition against compositing soil samples and averaging results is appropriate for showing compliance with soil MACs. The Board found that this prohibition is reasonable since the rules require soil testing only for soil from sites determined to be a PIP in accordance with ASTM standards.

### **Maximum Allowable Concentrations (MACs) in Soils**

The Board proposed for first notice the MAC provisions proposed under Subpart F by IEPA without any changes. The Board found that the MACs for soil constituents must be based

on the TACO Tier 1 objectives. The Board noted that the record did not support proposing a definition of “uncontaminated” on a qualitative basis. The Board further found that the proposed uniform statewide approach for determining MACs was appropriate. Thus, the Board declined to amend the rules to allow for site-specific determination of MACs. The Board found that the record did not support participants’ recommendation to specify a pH range of 6.25-6.64 for determining MACs for certain pH-sensitive chemical constituents. Finally, the Board found that soil inhalation and ingestion pathways must be considered in the determination of MACs for uncontaminated soil. Such consideration will not be based on the depth of soil placement in a fill operation.

### **Load Checking at CCDD and Soil Fill Operations**

The IEPA’s proposal included pre-screening requirements that the Board found to be problematic. Therefore, the Board proposed steps to help ensure that the CCDD and soil fill deposited in quarries, mines or other excavations are not contaminated, thus providing protection for groundwater. The Board’s proposal included requiring analytical soil testing for all sites determined to be PIPs.

The Board recognized that photo ionization detectors (PID) have a propensity for false positives under certain environmental conditions, which would result in the rejection of loads that did not contain contaminants. However, the Board rejected the establishment of a minimum threshold to address the issue of false positives when using a PID because no information was provided to justify a specific threshold. To address the issue with the unnecessary rejection of loads due to false positive PID readings, the Board amended Section 1100.205(a)(4)(A)(iv) to clarify that soil in a rejected load may be tested or retested if it was previously tested to show that soil is uncontaminated. Further, the Board proposed that for all loads that are rejected using a PID, the site owner/operator’s notice under Section 1100.205(b)(4)(A)(ii) must state that the rejected material must not be taken to another fill operation, except as provided in subsection 1100.205(b)(4)(A)(iv), or the material must be handled as waste and deposited in a permitted landfill.

### **Self-Implementing Provisions and Reporting & Registration Requirements**

The Board also expressed concerns with the self-implementing nature of the proposed rules. The Board found that even though soil fill operations are not required to be permitted, requiring additional information from the owner or operator to be submitted to IEPA is appropriate. The Board, therefore, added requirements that soil fill operations submit annual operating reports similar to that required by CCDD operations in Section 1100.211. In addition to providing for increased IEPA oversight, these requirements allow for public access to facility information via the Freedom of Information Act (5 ILCS 140/1 *et. seq.* (2010)). The Board also noted that the Annual Report provisions for CCDD fill operations in Section 1100.211 require a summary of the number of loads accepted and rejected, the amount of CCDD and uncontaminated soil expected in the next calendar year, any modifications affecting the facility, the required signatures, and an annual facility map. The Board believes it is also important to include the amount of CCDD and uncontaminated soil accepted at the site in the calendar year. The Board proposed this requirement in Section 1100.211.

The Board also proposed that the soil fill operation registration form be expanded to include the information required for CCDD permits. This includes adding requirements for the submission of a site location map (Section 1100.304), facility plan maps (Section 1100.305), narrative description of the facility (Section 1100.306), and proof of ownership (Section 1100.307), surface water control (Section 1100.308), closure plan (Section 1100.309), and postclosure plan (Section 1100.310). The Board amended the registration requirements at Section 1100.515 to reflect the additional registration requirements.

### **Licensed Professional Geologists**

Because the Board proposed the elimination of the groundwater monitoring provision, the issue of giving LPGs the same responsibilities as LPEs, applies to the sections related to soil certification and load testing, assessing painted materials, and closure and post-closure procedures and sign-off. The Board found that the language of the Professional Geologist Act includes the expertise required for these activities. Administrative rules provide examples of the practice of professional geology, which includes “the planning, review, and supervision of data gathering activities and interpretation of data on regional or site specific geological characteristics affecting groundwater; and the conducting of environmental property audits.” The Board also found that the closure and post-closure requirements are far less stringent for CCDD sites than those for sanitary landfills, and therefore do not require the same engineering expertise; LPGs have the necessary expertise to provide these services. The Board therefore, proposed to add LPGs to Sections 1100.205, 1100.212, 1100.412, 1100.525, and 1100.530.

### **Miscellaneous Issues Raised**

In addition to the issues the Board discussed above there were several issues that the participants raised, and some issues the Board discovered in preparing the rule for first notice. The following paragraphs will highlight those issues and explain the Board’s actions on those issues.

### **MAC Table Not in Rules**

In Section 1100.605, IEPA proposed a methodology for determining MACs for chemical constituents in uncontaminated soil. IEPA indicated that they will develop MACs in accordance with the proposed methodology and publish a table on their website. *See* SR at 25; Exh. 4 at 4. Questions were raised as to whether or not this table is a rule. IEPA does not believe that the table constitutes a rule of general applicability under the IAPA. *Id.* The Board agreed and no changes were made to the rule.

### **Development of MACs for Chemicals not listed in TACO rules (Section 1100.605(c))**

In Section 1100.605(c), IEPA proposed language that allows for a request to be made to IEPA to obtain values for chemicals not listed in TACO. The proposed rule stated that IEPA will “develop objectives based upon Unites States Environmental Protection Agency (USEPA) toxicity value hierarchy” for such chemicals. This language is different than the language

proposed in subsections (a) and (b) where specific values are referenced. The Board found the language troublesome as it appeared that IEPA will develop a standard, outside the rulemaking process, with no recourse for the requestor. Specifically, the Board was concerned that if IEPA makes a decision the requestor does not agree with, the requestor has no opportunity to challenge the basis for the decision. Therefore, the Board added the following language:

- 3) If the person making the request of IEPA disagrees with IEPA's decision, the person who made the request may file an appeal of IEPA's decision with the Board pursuant to Section 40(a) of the Act (415 ILCS 5/40(a)) and 35 Ill. Adm. Code 105.

Pursuant to Section 5(d) of the Act (415 ILCS 5/5(d) (2010)), the Board is granted the authority to hear petitions for review of permit decisions by IEPA as well as other final determinations made pursuant to Board rules. Although soil fill operations are registered but not permitted, the Board finds that allowing for the appeal of IEPA's calculations is consistent with the Act. Absent an appeal to the Board, the requestor of a MAC for a chemical not included on the TACO lists has no opportunity to seek review of IEPA's calculations under Section 1100.605(c). Furthermore, the calculation performed under Section 1100.605(c) is unlike the MACs developed under subsections (a) and (b) because the subsection (c) calculation may require that IEPA use its discretion. Therefore, the Board proposed an appeal to the Board at first notice.

**Language Allowing "Other Agency Written Approval" (Sections 1100.205(b)(8)(C), 1100.205(c), 1100.209, and 1100.209(a))**

IEPA proposed adding the phrase "or other written Agency approval" in several subsections. IEPA offered no testimony and nothing in the statement of reasons to explain the use of the phrase. The phrase generally follows a reference to a permit and the Board assumed that IEPA was attempting to address soil fill operations that are not required to have a permit. The language as proposed is vague, and the Board was inclined to strike the language. However, the only proposed change to Section 1100.209 is to add this phrase and since the record is silent on this issue, the Board proposed the language for first notice. The Board expected IEPA to address this issue and invited other participants to comment on this during first notice.

**Certification Language in Rule**

As proposed, Section 1100.205(a) required that the source site owner or operator or a LPE/LPG provide certifications that the soil is uncontaminated. The rule required that these certifications be included on forms provided by IEPA. IEPA submitted two forms, one for the source site owner or operator to certify that the site has never been used for commercial or industrial purposes and one for the LPE/LPG to certify that the soil is uncontaminated. *See* Exh. 5 and 6. Both documents require the source site location, source site owner or operator, and the basis for the certification. The LPE/LPG form also asks for information such as the project name. *Id.*

A review of other Board regulations indicated that certifications are, at times, included in the rule itself. *See* 35 Ill. Adm. Code 740.410, 740.705. The Board found that adding the certification language to the rule in this instance is appropriate. Therefore, the Board included the language. In Section 1100.205(a)(1)(C), the Board added for the source site owner or operators certification:

In accordance with the Environmental Protection Act (415 ILCS 5/22.51 or 5/22.51a) and 35 Ill. Adm. Code 1100.205(a), I \_\_\_\_\_ [owner or operator of source site] certify that this site is not a potentially impacted property, as determined in accordance with ASTM E 1528-06 Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process, and the soil is presumed to be uncontaminated soil. I also certify that I am either the site owner or site operator or a duly authorized representative of the site owner or site operator and am authorized to sign this form. Furthermore, I certify that all information submitted, including but not limited to all attachments and other information is, to the best of my knowledge and belief, true, accurate and complete.

The Board added for LPE/LPG certifications:

I \_\_\_\_\_ [name of licensed professional engineer or geologist] certify under penalty of law that the information submitted, including but not limited to all attachments and other information, is, to the best of my knowledge and belief, true, accurate, and complete. In accordance with the Environmental Protection Act (415 ILCS 5/22.51 or 5/22.51a) and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil based on a site evaluation conducted in accordance with ASTM E 1527-05 Standard Practice for Environmental Site assessments: Phase I Environmental Site Assessment Process. All necessary documentation is attached.

### **SUMMARY OF TESTIMONY**

At the hearings held on March 13 and 14, 2012 in Chicago, IEPA presented testimony from Richard P. Cobb (Exh. 26) and Douglas W. Clay (Exh. 33). The Board also heard testimony from Steven Gobelman with the Illinois Department of Transportation (IDOT) (Exh. 34) and Stephen J. Sylvester with the Illinois Attorney General's Office (Exh. 35). The Illinois Association of Aggregate Producers (IAAP) presented testimony from Bret Hall (Exh. 36), Annick Maenhout (Exh. 37), Gregory Wilcox, PE (Exh. 38), and John Hock, PE (Exh. 39). Testimony was also offered by Pat Metz, PE with Springfield City Water, Light and Power (CWLP) (Exh. 43). On behalf of the Illinois Transportation Coalition, James E. Huff, PE (Exh. 45) and Dr. Fabián G. Fernández (Exh. 48) provided testimony. For Waste Management of Illinois, Inc. (Waste Management), testimony was provided by Kenneth Liss (Exh. 49). Representing the Public Building Commission of Chicago (PBC), Dr. William Roy (Exh. 50) and Claire A. Manning (Exh. 51) presented testimony. In addition, Christopher Getty, Mayor of



the Village of Lyons testified. The Board will summarize the testimony in order of its presentation below.

**Richard P. Cobb, IEPA (Exh. 26)**

Richard P. Cobb is a LPG and the Deputy Manager of the Division of Public Water Supplies of IEPA's Bureau of Water (BOW), including BOW's Groundwater Section. Exh. 26 at 1. The testimony and exhibits provided by Mr. Cobb were related to the Board's decision to remove the groundwater monitoring requirements from the proposed rules. Mr. Cobb urged the Board to reconsider this decision and adopt "IEPA's proposed certification procedures and groundwater monitoring requirements in Subpart B and G". Exh. 26 at 2.

Mr. Cobb provided three arguments for retaining IEPA's proposed groundwater monitoring requirements: 1) while certification and screening are important, they have limitations and cannot assure to protect against groundwater contamination; 2) despite the Board's assertion in its First Notice, "documented proof of groundwater contamination from fill operations is not prerequisite to adopting groundwater monitoring requirements"; and 3) the "Board has not fully considered the costs of groundwater contamination and the value of preventing contamination". Exh. 26 at 3.

Mr. Cobb stated that IEPA proposed groundwater monitoring because of "the statutory command to propose and adopt standards and procedures necessary to protect groundwater". Exh. 26 at 4. Based on this statutory language, Mr. Cobb stated IEPA believed "the legislature already concluded there is potential for groundwater contamination from facilities accepting large quantities of soil from nearly unlimited sources and locations that may contain concentrations of contaminants". *Id.* Mr. Cobb opined that the "only question remaining for the rulemaking is how groundwater protection will be accomplished". *Id.*

Mr. Cobb asserted that groundwater monitoring will serve as a "final check and preventive measure", reducing the reliance on "the effectiveness of certification and screening procedures for preventing groundwater contamination", which IEPA contends has severe limitations. Exh. 26 at 5. Mr. Cobb further asserted that the certification and screening procedures are "inherently flawed". Exh. 26 at 6. IEPA's interim rules require source site owners/ operators to determine if the property is commercial or industrial, which would require further analysis. Mr. Cobb opines that this approach is based "on an honor system where a combination of understanding of the requirements and motivation to achieve compliance is required and presumed, but little incentive is provided. Additional cost and delays are the "reward" for source-site owner/operations identifying a contaminated property". *Id.* Mr. Cobb further stated that non-commercial/industrial properties "are not without the potential for certain types of contamination, and many commercial/industrial properties do not pose a risk of contamination." *Id.*

Mr. Cobb summarized the Board's approach to overcoming the weaknesses of the certification and screening procedures. Source site owner/operators would be required to use ASTM standards and to conduct analytical testing to demonstrate compliance of soil from potentially impacted properties with MACs. Exh. 26 at 8. Mr. Cobb does not support ASTM

standards to be required because ASTM standards “may be too prescriptive and reduce flexibility”. He further stated that these standards are complex and will result in additional costs and significant delays for source site owner/operators. *Id.* Mr. Cobb stated that IEPA does not “share the confidence of the Board’s proposed revisions”, and explains that “IEPA’s position is that groundwater monitoring provides a level of certainty that no other protective tool approaches”. *Id.*

Mr. Cobb stated that IEPA did not agree with the Board’s assertion that “proof of groundwater contamination from CCDD or uncontaminated soil fill sites is prerequisite to the adoption of groundwater monitoring requirements for fill operations”. Exh. 26 at 9. IEPA believes that groundwater monitoring requirements are justified because “fill operations are potential sources of contamination”. *Id.* Mr. Cobb cited the Illinois Environmental Protection Act, Section 11(b) and the Illinois Groundwater Protection Act (415 ILCS 55 (2010)), both of which clearly define a policy of preserving groundwater and preventing contamination. Exh. 26 at 9 and 10. Mr. Cobb also cited a previous Board ruling, Arco Products Company v. IEPA, PCB 89-5 (Dec. 20, 1989), where the Board required groundwater monitoring “at certain facilities handling pesticides and fertilizers”. Exh. 26 at 11. Mr. Cobb also cited an Illinois Supreme Court case, Central Illinois Public Service Company v. Pollution Control Board, 116 Ill. 2d 397; 507 N.E.2d 819; 107 Ill. Dec. 666, (1987) “where the court agreed with the Board’s interpretation of the general scheme for the preservation and prevention under the Act”. This case concerned “groundwater contamination in fact rather than the potential for groundwater contamination.” Exh. 26 at 12.

Mr. Cobb stated that groundwater monitoring is necessary to ensure the protection of groundwater resources, particularly in northeastern Illinois where the population is denser, the demand for fresh water is the highest, and future shortages may exist. He also noted that IEPA was concerned about the health and economic costs of groundwater contamination to public and private wells. Exh. 26 at 15. Mr. Cobb acknowledged that it is difficult to quantify the value of preventing contamination, although it is “real and substantial”. *Id.* Mr. Cobb provided several examples of the costs associated with the remediation for contaminated groundwater. The costs to individual households ranged from \$1000 to \$5000 depending on the activity required to address groundwater contamination. Exh. 26 at 16 and 17.

Mr. Cobb provided maps for several counties in northeastern Illinois with currently operating CCDD and uncontaminated soil facilities. These maps illustrate the “physical relationships among the fill operations, public and private potable water supply wells, and the potential for aquifer recharge”. Exh. 26 at 18. Mr. Cobb “emphasized it is not suggesting with these maps that any individual facilities are currently, or will become, sources of groundwater contamination”. IEPA provided these maps to make the larger point that “CCDD and uncontaminated soil fill operations must be considered to have the potential to cause groundwater contamination”. *Id.*

Mr. Cobb addressed a justification provided by the Board to strike the groundwater monitoring requirements of IEPA’s proposed rules. The Board concluded that “CCDD and uncontaminated soils are not classified as wastes so do not require the stringent rules that exist for non-hazardous waste landfills.” Exh. 26 at 19. IEPA agrees that uncontaminated soils are not

classified as wastes when the conditions in Section 3.160 of the Act are met and did not require groundwater monitoring because it believed these materials were wastes. *Id.* IEPA is concerned that “waste is likely to be accepted at fill operations because of imperfect certification procedures, imperfect implementation of certification procedures, and the limitations of screening tools available to fill site owner/operators”. Exh. 26 at 20. These factors, combined with the volumes of soil to be accepted at these facilities, the lack of controls to prevent the migration of contaminants, such as liners, and the location of many facilities in geologically sensitive areas, led IEPA to propose groundwater monitoring requirements. *Id.* IEPA agreed “that fill operations do not require the same groundwater monitoring systems and requirements that are required for non-hazardous waste landfills”, which is why it proposed monitoring requirements that are less stringent than those that exist for non-hazardous waste solid waste landfills. *Id.*

### **Douglas W. Clay, IEPA (Exh. 33)**

Mr. Clay is the manager of the Division of Land Pollution Control with IEPA. He testified during the first set of hearings in support of the addition of Subpart F, Standards for Uncontaminated Soil Uses as Fill Material at Fill Operations Regulated by this Part. Exh. 33 at 1. Mr. Clay provided additional testimony in response to the Board’s first notice proposal at the March 2012 hearings. Specifically, Mr. Clay voiced serious concerns regarding the Board’s use of the ASTM standards as a part of the source site certifications under Section 1100.205(a). Mr. Clay also addressed issues concerning the use of X-Ray Fluorescence (XRF) at fill operations, IEPA’s approval process for alternate requirements, and the need for an appeal process for IEPA’s determination of MACs for chemical constituents not listed in the Tier 1 Tables at 35 Ill. Adm. Code 742.Appendix B, Tables A, B or C.

### **Use of ASTM Standards for Source Site Certifications**

Mr. Clay stated that the amendments to Section 1100.205(a) requiring source site certifications to be based on ASTM standards are “unworkable, unclear and prohibitively burdensome to the source site owners and operators.” Exh. 33 at 1. He argues that the new requirements would result in large quantities of presumably uncontaminated soil being sent to landfills, out of state, or being applied to farm fields and low lying areas not subject to regulation under Part 1100. *Id.* at 1-2. Regarding the source site certification under Section 1100.205(a)(1)(A), Mr. Clay maintained that the technical aspects of the ASTM due diligence standard (ASTM E 1528-06) would be confusing and beyond the capabilities of persons not having a technical background. *Id.* at 2.

Mr. Clay contended that the alternative of hiring an environmental professional to complete the ASTM evaluation would be economically unreasonable. Exh. 33 at 3. Mr. Clay estimated that the “cost could range from several hundred dollars to several thousand dollars per site.” 3/13/12Tr. at 28. In addition, he noted that since the ASTM standard is a copyrighted document, each source site owner or operator may have to purchase the standard at a cost of \$57 per copy. Exh. 33 at 2 and 3/13/12Tr. at 28.

Regarding the use of ASTM Phase 1 standard (ASTM E 1527-05) for the LPE/LPG determination under Section 1100.205(a)(1)(B), Mr. Clay argued that the Board's proposal is overly burdensome and costly, since certain elements of the ASTM standard may be too extreme for all PIPs. Exh. 33 at 4. He maintained that Phase 1 evaluation may be unnecessary because the Board's proposal require analytical testing for all PIPs. *Id.* Mr. Clay also contends that the analytical testing provision requires soil samples to be analyzed for all constituents on the MAC table. This provision, he argued, may be inconsistent with the provision at Section 1100.610(a) that allows a LPE/LPG to narrow the list to chemical constituents of concern. *Id.* at 5. However at hearing, Mr. Clay stated that IEPA will take another look at this issue and provide comments to the Board. 3/13/12Tr. at 34.

In summary, Mr. Clay urged the Board to adopt the ASTM standards as guidance only. Exh. 33 at 5 and 3/13/12Tr. at 27. By doing so, the regulations would provide guidance to an extremely diverse group of source site owners and operators. Further, the regulations would allow a LPE/LPG the discretion to develop a plan and procedure to determine if soil is uncontaminated on a site specific basis. Mr. Clay also asserted that the LPE/LPG should be allowed to evaluate whether soil testing is necessary on a site-specific basis. Exh. 33 at 5.

### **X-Ray Fluorescence (XRF)**

Mr. Clay responded to the Board's request for comments on the use of XRF as a screening device under the load checking program. He recommended that the Board not require the use of XRF due to its high cost in the range of \$30,000, and the extensive training needed to use and calibrate the instrument. Exh. 33 at 6-7. Mr. Clay also noted that the XRF is not suitable for load screening since it is designed for rapid assessment of site conditions. Other limitations associated with the XRF renders it impractical for screening loads at CCDD or soil fill sites. *Id.* at 7. Specifically, Mr. Clay noted that XRF is subject to interference associated with sample preparation, chemical spectrum, and chemical matrix. Also, the instrument's lack of sensitivity with respect to certain elements is a concern. *Id.* Mr. Clay stated that while IEPA is opposed to requiring the use of XRF for load screening, IEPA is not against fill site owners or operators using the XRF at their own discretion. *Id.* at 8.

### **Agency Approval of Alternate Requirements**

Mr. Clay clarified the intent of the phrase "or other Agency written approval" as used in Sections 1100.205(b)(8)(C), 1100.205(c), 1100.209, and 1100.209(a). These sections are intended to allow an owner or operator of a soil fill site to meet alternate standards only if they obtain written approval from IEPA. Mr. Clay explained that for CCDD sites the approvals for alternate requirements are done under the permit process. However, since soil fills sites do not require permits, IEPA added the phrase "or other Agency written approval" in the rules to provide a mechanism for soil fill site owners or operators for implementing alternate requirements. *Id.* at 8-9.

### **Appeal Provision**

Mr. Clay responded to Board's request for comments on the proposed appeal provision at Section 1100.605(c)(3), which authorizes IEPA to develop MACs for chemical constituents not listed in the Tier 1 Tables at 35 Ill. Adm. Code 742. Appendix B, Tables A, B or C. Mr. Clay states that the appeal provision proposed at first notice is appropriate and supports its inclusion in the rules. Exh. 33 at 9.

### **Other issues**

Mr. Clay also addressed a number questions raised at the March hearings. Regarding the possible comparison of the cost of soil certifications in accordance with ASTM standards and the cost of groundwater monitoring at CCDD and soil fill sites, Mr. Clay noted that the certification costs may vary from several hundred to several thousands of dollars per site. However, he stated that IEPA does not have information on the number of certifications received at fill sites to make any cost estimation. 3/13/12Tr. at 30. Further, Mr. Clay stated that IEPA would provide examples of groundwater monitoring costs in its post hearing comments. *Id.*

In response to questions on alternatives to groundwater monitoring, Mr. Clay testified that IEPA does not consider financial assurance and post-closure land use controls as alternatives. *Id.* at 31. He also stated that leachate monitoring is not a viable alternative because of the nature of the material being placed in the fill sites, and the probability that the wells would be damaged during the placement of the fill material. *Id.*

### **Steven Gobelman, IDOT (Exh. 34)**

Steven Gobelman is the Geologic and Waste Assessment Specialist within the Bureau of Design and Environment of the Illinois Department of Transportation (IDOT). Exh. 34 at 1. Mr. Gobelman testified to the Board's proposed changes to Section 1100.205 regarding load certification of CCDD and uncontaminated soil. Mr. Gobelman requested that the certification language in Section 1100.205 (a)(1) be replaced with the language that IEPA originally proposed in their regulatory language, rather than tying the certification process to ASTM standards as the Board has proposed. *Id.* An alternative Mr. Gobelman offered was to allow CCDD material to be certified using an equivalent alternative, such as "A Manual for Conducting Preliminary Environmental Site Assessments for IDOT Infrastructure Projects". Mr. Gobelman provided a copy of this manual for the record. Exh. 34 at Att. 4.

Mr. Gobelman explained that if the Board's proposal to tie ASTM standards to soil certification is included, "IDOT will not be able to certify any soil as uncontaminated soil because IDOT's Phase I process as conducted by the Illinois State Geological Survey (ISGS) does not completely follow the ASTM procedure. The ASTM E1527-05 is developed for a single parcel transaction and IDOT's projects include multiple parcels within a single project with most of the work being completed on existing right-of-way." Exh. 34 at 2.

Mr. Gobelman reported that "ASTM E1527-05 defines four components to a Phase I Environmental Site Assessment: records review; site reconnaissance, interviews, and report."

Exh. 34 at 2. Mr. Gobelman then provided a comparison between ASTM standards and IDOT's Phase I process. When conducting Phase I assessments on behalf of IDOT, ISGS reviews all records required by this ASTM standard, as well as other records such as the federal Toxics Release Inventory. Exh. 34 at 3. In the site reconnaissance phase, "ASTM E1527-05 requires both exterior and interior observations of the property and its structures. ISGS conducts as thorough an exterior investigation as is possible from publicly accessible areas; ISGS does not conduct any interior observations of structures on the property." *Id.* Interiors are only evaluated if IDOT is going to purchase the building. *Id.* Mr. Gobelman reported that "ASTM E1527-05 requires interviews with past and present occupants in all cases", whereas, "ISGS conducts interviews with present occupants only. In addition, site interviews are conducted only when unanswered questions remain regarding a property." *Id.* Differences exist in the reporting requirements as well. "ASTM E1527-05 requires that the environmental professional include his/her opinion of the impact on the property of conditions identified as findings. *Id.* IDOT's Phase I assessments do not require such opinions to be provided. *Id.*

Mr. Gobelman reported that differences exist between ASTM E1528-06 and IDOT's Phase I assessment requirements. Exh. 34 at 4. "ASTM E1528-06 defines a transaction screen that is less stringent than the requirements of ASTM E1527-05. The standard, like ASTM E1527-05, is designed to be used for a single parcel." *Id.* Specific differences include, ASTM E1528-06 not requiring that the assessment be conducted by an environmental professional, whereas, all of IDOT's Phase I Assessments are completed by environmental professionals. *Id.*

Mr. Gobelman stated "the goal of this regulation is to have uncontaminated soil or CCDD placed at the appropriate place that is protective of human health and the environment. The certification of the loads should be left to the person certifying the load and the facility accepting the material." Exh. 34 at 6. Mr. Gobelman provided language changes to that proposed by the Board. Exh. 34 at Att. 2.

Mr. Gobelman was asked if the language change to Section 1100.25 (a)(1)(B) proposed by Mr. Huff was acceptable to IDOT. This change clarifies which standards could be used in conducting environmental assessments. 3/13/12Tr. at 47. The change reads

based on a site evaluation conducted in accordance with ASTM E1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, Sections 7.2.1 Records Review and 7.2.2 Site Reconnaissance, incorporated by reference in Section 1100.10, or with policies developed by the Illinois Department of Transportation and Illinois Tollway consistent with ASTM 1527-05. Exh. 45 at 8.

Mr. Gobelman stated that the above language change would be acceptable to IDOT, although a similar change must be made to Sections 1100.25 (a)(1)(A), 1100.205(a)(2)(A), and 1100.205(a)(2)(B). 3/13/12Tr. at 48-49. Mr. Gobelman also stated that the original language proposed by IEPA provided IDOT the flexibility to allow the use of its current practices to do this work, but that if the Board wanted to connect this work to ASTM standards, he stated that "there has to be an ability to do something that is an equivalent alternative". 3/13/12Tr. at 53.

**Stephen J. Sylvester, People (Exh. 35)**

Mr. Sylvester began by noting that the Attorney General is the chief legal officer of the State and has an obligation to represent the interests of the people so as to ensure a healthful environment for all the citizens of the State. Exh. 35 at 1, citing Ill. Const. 1970, art. V, § 15; People v. NL Industries, 152 Ill.2d 82, 103 (1992); *see also* Pioneer Processing, Inc. v. IEPA, 102 Ill.2d 119, 137 (1984) (Attorney General is the chief legal officer of the State and its departments and agencies). Mr. Sylvester stated that the Attorney General's obligations include ensuring that waste and CCDD are disposed of properly in the State. *Id.*, citing 415 ILCS 5/21 and 22.51 (2010). Further, Mr. Sylvester stated that protection of groundwater is also an obligation of the Attorney General. *Id.*, citing 415 ILCS 5/12(a) and (d) (2010).

Mr. Sylvester provided testimony in response to the Board's first notice opinion and order and reiterated concerns from the People's public comment (PC 15). Exh. 35 at 2. Mr. Sylvester stated that these concerns "remain unaddressed" and include:

- 1) the Proposed Part 1100 CCDD Regulations must actually promote the purposes of the Act, as expressed in Section 2(b): to restore, protect and enhance the quality of the environment, and to assure that adverse effects upon the environment are fully considered and borne by those who cause them. 415 ILCS 5/2(b) (2010); Town & Country Utilities, Inc. v. IPCB, 225 Ill.2d 103, 107 (2007);
- 2) various classes of materials that pose the same or similar risks to public health, safety and the environment must be regulated in a consistent manner; these Proposed Part 1100 CCDD Regulations should be at least as comprehensive and protective as the regulations previously adopted by the Board for the disposal of inert wastes; and
- 3) the Part 1100 CCDD Regulations, which the Board ultimately adopts, must be enforceable to ensure that those persons who choose not to abide or comply with them, will be, in fact, held accountable for their actions.  
*Id.*

Mr. Sylvester points to several issues that the People believe the Board should address. First is groundwater monitoring, next is that CCDD is waste. Exh. 35 at 3. A third issue involves the Board's finding that the record contains no evidence of groundwater contamination. Exh. 35 at 4. The final issue is the "notion" that the regulations will keep unwanted materials out of CCDD fill sites, and there have been a number of enforcement actions that call in to question the ability to determine the nature of the fill accepted by a CCDD facility. *Id.* The Board will summarize each of these below.

**Groundwater Monitoring**

Mr. Sylvester indicated that the People agree with Mr. Cobb's testimony (Exh. 26). Mr. Sylvester opined that the Board's first-notice proposal fails to "effectively protect" the people

and environment of the State from the “inadvertent, negligent, or intentional misuse” of CCDD. Exh. 35 at 2. Mr. Sylvester further opined that the Board has failed to employ “longstanding, traditional checks and balances normally associated with regulating disposal operations.” *Id.* The People ask the Board to reconsider its decision not to require groundwater monitoring for CCDD and soil fill operations. *Id.*

Mr. Sylvester stated that the People believe that groundwater monitoring is supported by the “legislative directives” of the Act. Exh. 35 at 3. Mr. Sylvester points to the Illinois Constitution language that states it is “the public policy of the State . . . to provide and maintain a healthful environment.” Exh. 35 at 5, citing IL CONST. ART. XI, Sec. 1. Mr. Sylvester points to Sections 2, 11, 12, 20, and 22.51 of the Act (415 ILCS 5/2, 11, 12, 20, and 22.51 (2010)) and the Groundwater Protection Act as provisions that the legislature adopted to implement and enforce the constitution. Exh. 35 at 5. Mr. Sylvester noted that Section 22.51 of the Act when initially adopted in 2005 authorized IEPA to issue permits for CCDD fill sites. *Id.* Mr. Sylvester opined that the “General Assembly clearly recognized that there was a need for regulatory oversight” of CCDD fill sites and expressed concerns that non-CCDD was being disposed of at CCDD fill sites. Exh. 35 at 6. Mr. Sylvester testified that the General Assembly then amended Section 22.51 of the Act in 2010 to require that rules for CCDD fill sites include provisions to protect the groundwater. *Id.*, citing 415 ILCS 5/22.51(f)(1) (2010).

Mr. Sylvester stated that the General Assembly has consistently required protection of the State’s groundwater. Mr. Sylvester insisted that the General Assembly’s findings in Sections 2, 11, 12, and 20 “lead to the conclusion that the use of CCDD as fill . . . constitute a water pollution hazard or threaten water pollution of State groundwater.” Exh. 35 at 9. Given the language of the Act, Mr. Sylvester opines that groundwater monitoring and appropriate corrective action should be included in the regulations. *Id.*

### **CCDD is Waste**

Mr. Sylvester testified that CCDD is waste and should at a minimum be treated as an “inert waste” as defined in Section 810.103 of the Board rules (35 Ill. Adm. Code 810.103). Exh. 35 at 3. Mr. Sylvester quoted the Board’s first notice opinion and order and takes issue with the Board’s statement that CCDD and uncontaminated soils are by statutory definition clean and uncontaminated and not a waste. Exh. 35 at 10. Mr. Sylvester claimed that the Board’s contention is not supported by the applicable statutory provisions and that the General Assembly intended to increase protections. *Id.* Mr. Sylvester cited provisions of the Act to support his contention. Exh. 35 at 10-13.

Mr. Sylvester testified that federal law also supports a reading that CCDD is waste and notes that the statute in exempting types of CCDD from the definition of waste, limited the exemption “to the extent allowed by federal law.” Exh. 35 at 13-14, citing 415 ILCS 5/3.160(b)(2010). Mr. Sylvester opines that CCDD is a subset of general construction or demolition debris, which is a waste under federal law. Exh. 35 at 13-19.

At hearing, Mr. Sylvester stated that “depending on where the CCDD is placed, sometimes its waste, and sometimes the General Assembly decided it wasn’t.” 3/13/12Tr. at 59.



Mr. Sylvester also conceded that “in theory” the CCDD and uncontaminated soil being dealt with in this rulemaking was exempted from the definition of waste to the extent allowed by federal law. *Id.* at 58-59, 133.

### **Evidence of Groundwater Contamination**

Mr. Sylvester stated that the Board should not be surprised by the lack of evidence regarding groundwater contamination, as IEPA has not been directed to conduct a study on groundwater. Exh. 35 at 4. Mr. Sylvester noted that Mr. Cobb correctly pointed out in his testimony that the “record was supported with evidence of a threat and or actual groundwater contamination” from CCDD sites. Exh. 35 at 22, citing Exh. 26. Mr. Sylvester cited a case involving an unpermitted CCDD that “revealed actual contamination of soil and or groundwater.” Exh. 35 at 23, citing *People v. J.T Einoder, Inc. et al.*, (Cook County Cir.Ct. 00 CH 10635). Mr. Sylvester provided a chart indicating exceedances of Class I groundwater standards for lead and cadmium in monitoring wells. Exh. 35 at 24.

### **Non-CCDD in CCDD Fill Facilities**

Mr. Sylvester testified that examples of landfill accepting waste that the landfill is not permitted for easily “dispels” the “notion” that regulations can prevent unwanted materials from ending up in CCDD fill facilities. Exh. 35 at 4. Further, Mr. Sylvester stated that there have been a number of instances where enforcement actions were initiated for regulatory violations at CCDD fill facilities. *Id.* Mr. Sylvester provided citations to cases where landfill accepted waste for which the landfills were not permitted and to cases where CCDD fill facilities have been the subject of allegations of regulatory violations. Exh. 35 at 26.

### **Bret Hall, Illinois Association of Aggregate Producers (IAAP) (Exh. 36)**

Bret Hall is the Manager of CCDD Operations at Hanson Material Service, with primary responsibility for managing two permitted CCDD facilities and two registered Uncontaminated Soil Fill (uncontaminated soil fill) facilities in the Chicagoland area. Mr. Hall testified on behalf of IAAP. Mr. Hall cited his experience conducting thousands of due diligence audits on construction sites to determine the acceptability of material at either a CCDD or uncontaminated soil fill site. Mr. Hall testified that in his experience with CCDD, “Chicago area soils tend to have a neutral to slightly alkaline pH.” Exh. 36 at 1, 3/13/12Tr. at 66-67. To support his assertion, Mr. Hall submitted pH data from 53 separate construction projection locations throughout the Chicagoland area, ranging from north (Wheeling) to central (Hodgkins) to south (Oak Lawn) to west (Naperville) to east (downtown Chicago). Exh. 36 at 1, Tr. at 67-68. Mr. Hall obtained the pH data through attachments to the IEPA certifications forms, particularly LPC 663.<sup>1</sup> The average of the pH values from this data was 7.66.<sup>2</sup> Exh. 40, 3/13/12Tr. at 67-70.

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<sup>1</sup> All IAAP members testifying at the March 13, 2012 hearing indicated that the pH data presented represented the entirety of the LPC 663 forms that they received. 3/13/12Tr. at 80-81.

<sup>2</sup> IAAP’s average pH values presented in the prefiled testimonies were later recalculated per Dr. Roy’s method (Exh. 50 at 14) and presented at hearing as Exh. 40, 41, and 42. Dr. Roy

Based on this, Mr. Hall testified, “I therefore believe that using [MACs] based on the most acidic TACO pH based cleanup objectives is unrealistic and not indicative of soils material generated from construction projects in northeastern Illinois.” Exh. 36 at 1, 3/13/12Tr. at 68.

**Annick Maenhout, IAAP (Exh. 37)**

Annick Maenhout is currently the Lands Manager at VCNA Prairie, Inc., managing four permitted CCDD facilities in the greater Chicago area: one in McHenry County, one in Kankakee County, and two in Kane County. Ms. Maenhout testified on behalf of IAAP. Ms. Maenhout presented pH data from 103 separate data points in and around the Chicago Metropolitan Area. The data was received as attachments to IEPA Form LPC 663 “Uncontaminated Soil Certification Form by Licensed Professional Engineer or Licensed Professional Geologist for Use of Uncontaminated Soil a Fill in a CCDD or Uncontaminated Soil Fill Operation”. The data set covers the period August 2010 to December 2011. Exh. 37 at 1. The average of the pH values from the data was 7.97. Exh. 42, 3/13/12Tr. at 74-75.

**Gregory Wilcox, PE, IAAP (Exh. 38)**

Gregory Wilcox, PE, is the President of Winston Engineering in Bartlett, Illinois and the President of the Land Reclamation and Recycling Association. Winston Engineering performs reviews on permits and soil/CCDD information for several permitted CCDD sites in the Chicago Metropolitan Area, as well as work on IEPA Form LPC 663 for several contractors and governmental agencies. The Land Reclamation and Recycling Association represents permitted CCDD sites in Illinois. Mr. Wilcox testified on behalf of IAAP. Based on his experience in the Chicago Metropolitan area, Mr. Wilcox has found that soils there tend to have a neutral to alkaline pH. Mr. Wilcox provided 767 data points for pH from 218 separate construction project locations throughout the Chicago Metropolitan area, representing 60 suburban towns and the City of Chicago and covering the period July 2010 to February 2012. The site locations ranged from the northwest suburbs (Barrington and Niles) to Chicago commercial and industrial areas to the southwest suburbs (Naperville and Oak Lawn). Exh. 38, 41, 3/13/12Tr. at 72-81. The average of the pH values from the data was 7.80 for Bluff City Materials and 7.77 for Reliable Materials Lyons. Exh. 41, 3/13/12Tr. at 73-74. Mr. Wilcox indicated that the soils came from both farm areas in the suburbs and industrial areas in the City of Chicago. As such, Mr. Wilcox believes that the pH data is representative of most soils within the State of Illinois. Given the tendency toward a neutral to alkaline pH, Mr. Wilcox stated that using MACs based on the most acidic pH values under TACO is neither realistic nor indicative of the type of soils generated from construction projects in Illinois. Exh. 38.

As to why the pH data presented by IAAP generally exhibited more neutral or alkaline levels than the U.S. Department of Agriculture’s (USDA) National Resource Conservation Service’s (NRCS) State Soil Geographic (STATSGO) data, Mr. Wilcox offered one explanation. Referring to the testimony of Dr. Roy, Mr. Wilcox stated that organic soils or top soils tend to have a lower pH. Mr. Wilcox said that one thing he has noticed is that these are not the type of

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explained that to calculate an average pH, the pH values must be converted to the form of 10 to the negative power of the pH number (e.g. pH 5 =  $10^{-5}$ ) and then averaged. Exh. 50 at 14.

soils he sees going to CCDD sites. Mr. Wilcox explained that placing topsoil in a CCDD site would be an expensive option for construction contractors since topsoil is actually needed for site restoration at construction projects. Additionally, Mr. Wilcox indicated that organic soils also tend to register a false positive reading on PID, which under the current law, renders the load unacceptable at a CCDD site. 3/13/12Tr. at 71-72.

**John E. Hock, PE, IAAP (Exh. 39)**

John E. Hock is the Vice President of Civil & Environmental Consultants, Inc. (CEC) and the Office Lead in the Chicago Office. Mr. Hock has directed several environmental and waste management projects involving CCDD facilities. Mr. Hock testified on behalf of IAAP. PC 39 at 1. Mr. Hock expressed appreciation for the Board's consideration of IAAP's previous comments and modifications that were incorporated into the first notice proposal, particularly the omission of IEPA's proposed Subpart G for groundwater monitoring. Exh. 39 at 2.

Mr. Hock's testimony focused on the proposed MACs for parameters with pH specific soil remediation objectives under the first notice proposal for Subpart F: "Standards for Uncontaminated Soil Used as Fill Material at Fill Operations Regulated by this Part." Mr. Hock pointed out that both 1100.605(a)(2) and (a)(3)(A) would require the lowest pH-dependent values for the soil component of the Class I groundwater ingestion exposure route be used. Mr. Hock stated that basing MACs upon the lowest pH is not appropriate based upon pH information that he has examined for sites in the State of Illinois. Exh. 39 at 2.

Mr. Hock first referred to the pH data provided by Mr. Hall, Ms. Maenhout, and Mr. Wilcox. Exh. 39 at 1-3. Mr. Hock explained the pH data was garnered from certification forms provided by Hanson Material Service which operates two CCDD fill sites and two uncontaminated soil fill sites, VCNA Prairie, Inc. which operates four CCDD fill sites; Bluff City Materials which operates five CCDD fill sites; and Reliable Materials Lyons which operates one CCDD fill site. In all, the pH information for the fill material covered 973 data points and ranged from 6.7 to 11.1. Exh. 39 at 3.

Mr. Hock then pointed to evidence from multiple CCDD facilities where CEC has performed work, showing pH values were all above 7.3. Exh. 39 at 3 referring to Exh. 12 at 7. In addition, Mr. Hock discussed the database provided by First Environmental Laboratories, Inc., consisting of 8,500 solid samples (soil and non-soil) from January 2006 to September 2011. The data from First Environmental showed that over 97.6% of the samples had a pH of 6.25 or greater. Exh. 39 at 3 referring Exh. 12, Att. 3, 3/13/12Tr. at 77-78.

Mr. Hock noted the Board comments at first notice regarding the limitations of the data to Northern Illinois and the need for the rules to apply to the entire State. Exh. 39 at 3. Mr. Hock replied that the data presented above is from the northeastern and northwestern Illinois and is consistent with the location of the majority of CCDD fill sites. Based on IEPA's website<sup>3</sup>, Mr. Hock found 64 facilities with CCDD permits and noted that approximately 60% are located in

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<sup>3</sup> <http://epadata.epa.state.il.us/land/ccdd/index.asp>

northeastern Illinois, with approximately 90% being located in either the northeastern or northwestern part of the State. Exh. 39 at 3-4.

Mr. Hock discussed the soil pH measurements presented by IEPA from the USDA's NRCS' STATSGO database (Exh. 25, 10-26-11 Tr. at 71-76). The data provided a range of pH values for major soil types in 23 Illinois counties with permitted CCDD or registered uncontaminated soil fill facilities. Mr. Hock pointed out that IEPA did not discuss its relevance to potential soil that would be accepted at a CCDD or uncontaminated soil fill site. Mr. Hock noted that IEPA did not present evidence that soil with such pH levels was being used as fill at any CCDD or registered uncontaminated soil fill sites. In contrast to data provided by IAAP above, Mr. Hock asserted, "[T]he pH results from the STATSGO database have not been shown to be representative of soil typically accepted at CCDD fill sites or registered uncontaminated soil fill sites." Exh. 39 at 4.

Mr. Hock renewed his recommendation that the Board use a pH of 6.25 or greater to establish values for the pH-dependent MACs. Exh. 39 at 4, 3/13/12Tr. at 79-80.

At hearing, the IAAP agreed to examine the issue of the cost of groundwater monitoring versus the cost for certifications based on ASTM in dollars per ton or cubic yard for placement in a CCDD facility. 3/13/12Tr. at 78-79.

**Pat Metz, PE, (CWLP) (Exh. 43)**

Mr. Pat Metz is a LPE employed by City Water, Light and Power (CWLP), a municipal utility located in Springfield. Exh. 43 at 2. Mr. Metz testified that CWLP generates over 8,000 tons per year of CCDD, and that prior to enactment of Public Act 96-1416 this material had been placed in a quarry. *Id.* However, with the requirement to comply with IEPA's interim CCDD standards, this material has been disposed of in a landfill, which is very costly to CWLP. *Id.*

Mr. Metz focused his testimony on CCDD material excavated from the routine maintenance and repairs of water and electrical systems, which are common to similar utilities across the state. Exh. 43 at 3. Mr. Metz opined that the Board's proposed amendments to the CCDD regulations are "both unreasonable and unnecessary for the type of excavations conducted" by CWLP and similar utilities. *Id.* Mr. Metz stated that given the original requirements proposed by IEPA, as well as the Board's proposed rules, CWLP would have no choice but to conduct soil testing for each of CWLPs more than 80 annual excavations at a cost of \$1,500 for each analysis. Exh. 43 at 4. Mr. Metz identified additional problems with soil testing, such as delaying each project for at least two weeks, and the lack of a location to store the soils until the testing is completed. *Id.* Mr. Metz concluded that CWLP would have "no reasonable option but to take the material to the local municipal landfill". *Id.* Mr. Metz noted that disposing of the material in a landfill "is much more expensive than disposing of the CCDD material in the permitted CCDD facility, but less expensive than sampling each excavation site." *Id.*

In testimony, Mr. Metz offered suggested amendments to Section 1100-205 (Exh. 44) that includes a provision to "allow a utility representative sign off on the excavation site as being

uncontaminated CCDD material as opposed to the property owner”. 3/13/12Tr. at 85. Mr. Metz proposed this language change because “in most cases of utilities, the occupant or the owner of the street is not the person that's actually digging the excavation”. 3/13/12Tr. at 86. Mr. Metz further requested consideration of an “exemption for utility operations such as City Water Light and Power”. *Id.*

Mr. Metz supported use of the term “potentially impacted properties” and IEPA’s proposal to allow site owners and operators where CCDD materials are generated to determine if an excavation within a right-of-way would require analysis. Exh. 43 at 4. Mr. Metz opined that CWLP’s excavation crews have adequate training and experience to “assure the safety of the environment”. *Id.* He cites the additional safeguards in place since 2006 where every load is required to be tested with a PID before being deposited into a CCDD facility. *Id.*

Mr. Metz supports the Board’s decision not to require groundwater monitoring at fill sites. Exh. 43 at 4. However, Mr. Metz does not support the Board’s proposal of requiring site owners and operators to follow ASTM Standards 15427-05 for excavations common to utilities such as CWLP because there is no documented evidence of an adverse environmental effect of the placement of CCDD fill material in a permitted fill operation. *Id.* Mr. Metz recommended that exclusion be included “for CCDD material generated in association with water electrical utility maintenance and repair when no conditions exist that present an environmental risk”. *Id.*

Mr. Metz expressed concern with the Board’s statement in First Notice that the rule is “economically reasonable and technically feasible” when no cost estimates were provided by IEPA, the Board, or DCEO. Exh. 43 at 5. Mr. Metz opined that the impact to CWLP would be “drastic”. *Id.* He provided documentation to support this statement. Prior to passage of P.A. 96-1416, CWLP paid \$100 to dispose of one tandem truckload (15 tons) of CCDD material at a local quarry. *Id.* Under the interim rules in place after passage of P.A. 96-1416, CWLP believed its only option was to dispose of these materials in a landfill at a cost of \$420 per tandem truckload. This is a 320% increase in costs. *Id.* Mr. Metz estimated that CWLP generated 8,000 tons of CCDD material per year. Given the increased costs associated with disposing of CCDD materials in a landfill, the costs have increased from \$53,333 annually to \$224,000. Mr. Metz urged the Board to “prevent the least favorable option – actual disposal in a landfill. *Id.*

**James E. Huff, PE, Illinois Transportation Coalition (ITC) (Exh. 45)**

Mr. Huff, Senior Vice President of Huff & Huff, Inc., testified on behalf of the Illinois Transportation Coalition (ITC), which includes the Illinois State Toll Highway Authority (Illinois Tollway), Kane County Division of Transportation, Lake County Division of Transportation, DuPage County Division of Transportation, Will County Department of Highways, the Cities of Geneva and St. Charles, and the Villages of Hinsdale, Libertyville, New Lenox, Woodridge and Villa Park. He stated that the ITC supports the Board’s proposal to remove the groundwater monitoring requirement for CCDD and soil fill operations. However, Mr. Huff voiced serious concerns regarding the Board’s decision to retain the MACs proposed by IEPA for pH dependent constituents. Exh. 45 at 1 and 3/13/12Tr. at 98-99. His testimony focuses on the economic implications of the pH ranges used to set the MACs, the justification for

the pH dependent MACs, the use of ASTM standards for source site certification, and the use of grab samples for soil analysis. Exh. 45 at 2.

### **Economic Implications of the Proposed pH Dependent MACs**

Mr. Huff estimated the economic impact of adopting MACs based on soil pH range of 4.5 to 4.74 by using the volume of material accepted at CCDD and soil fill operations, landfilling costs, and the percentage of CCDD and soil that fail to meet the proposed MACs. He notes that the volume of CCDD material accepted at fill operations in 2011 was 3.4 million cubic yards. Exh. 45 at 2 citing 2/9/12 email from Chris Liebman. Further, the failure rate for material not meeting the proposed pH dependent MACs was 82 percent. *Id.* citing Exh. 12 at 4 and 10/25/11Tr. at 47. Finally, the landfilling cost for a cubic yard of CCDD material was \$28.75. Exh. 45 at 2. Using these numbers, Mr. Huff estimated that the incremental cost of adopting the proposed MACs including additional transportation costs would be approximately \$100 million per year. Exh. 45 at 2 and 3/13/12Tr. at 100.

Mr. Huff noted that the economic impact of the proposed regulations is significant and must be considered by the Board, particularly, since highway construction in Northern Illinois will be increasing with the Illinois Tollway's \$13 billion construction program slated to begin in 2012. He urged the Board to reconsider its decision regarding the MACs given the significant economic impact the proposed soil pH range would have on the management of CCDD.

### **Use of pH range 4.5 to 4.74 for establishing MACs**

Mr. Huff testified that the Ultisols, which are the lowest pH soils, occur predominantly in the swamps of Southern Illinois and comprise less than 1 percent of overall soil coverage in Illinois. Exh. 45 at 3-4 citing Attach. A and B. He asserts that Ultisols would never be expected to be transported to a CCDD or uncontaminated soil fill site. Exh. 45 at 3-4. Mr. Huff contends that the volume of low pH soils directed to CCDD or soil fill operations would be very small compared to other fill material because the removal of Ultisols is heavily regulated due to wetland restrictions. *Id.* at 4 and 3/13/12Tr. at 102.

Next, Mr. Huff asserted that the pH data presented by the participants at the first set of hearings is representative of the CCDD and soil fill sites. He notes that most of the CCDD and soil fill operations are located in the northern half of the state. *Id.* at 5 citing Attach. C. Mr. Huff stated that the majority of organic soils in Northern Illinois have pH values typically in the range of 6.5 to 7.0. *Id.* at 4. Further, the soil pH tends to increase below 3 feet from the surface due to increasing carbonate content. In this regard, Mr. Huff explained that because pH is measured on a logarithmic scale "even if some loads of low pH soil were to be introduced into a fill operation, the groundwater pH would be rapidly neutralized to the alkaline side due to the pH of the other material as well as the buffering capacity of the groundwater itself." *Id.* at 5. He maintains that the alkaline soil pH ranges reported by John Hock (pH 7.3-11.0) and Vulcan (pH 7.48 to 8.20) supports his assertions.

Mr. Huff argued that the proposed MACs based on pH range of 4.50 to 4.74 are more restrictive than soils in backyards of residential homes. 3/13/12Tr. at 103. He questioned the

one-size-fits-all approach taken by the Board for establishing MACs on the basis of soil pH existing in bogs and swamps. Exh. 45 at 6. Mr. Huff recommends that the Board review the technical basis for the use of pH range of 4.50 to 4.74 to establish MACs, and also consider the economic impact of adopting the proposed MACs. He urges the Board to establish MACs based upon a more representative pH range of 6.25 to 6.64. *Id.* at 7. Mr. Huff adds that any concerns of low pH soil entering fill sites may be addressed by requiring pH testing of soil. He noted that the soil pH could be measured onsite using a calibrated pH meter or sent to an analytical laboratory for analysis at an approximate cost of \$15 per sample. 3/13/12Tr. at 125-126. At hearing, Mr. Huff clarified that he was recommending only pH testing of soil for owner or operator certification of non-PIP sites. *Id.* at 126.

### **ASTM Standard for Source Site Certifications**

Mr. Huff testified that a full Phase I evaluation in Accordance with ASTM E 1527-05 is not warranted for linear projects, such as roadways and pipelines, where the project corridor can extend across hundreds of properties. Exh. 45 at 8. He stated that evaluation for linear projects typically include “both a records search (which includes historical research) and a site reconnaissance, two of four components of the ASTM Standard E1527-05.” *Id.* Further, interviews with property owners and interior building inspections are usually not done. Mr. Huff contends that requiring full-fledged Phase I evaluation for linear projects would result in delays and significant cost. Instead, Mr. Huff recommends that the Board allow site evaluation for linear projects to be conducted in accordance with the records review and site reconnaissance provisions of ASTM standard, or policies developed by IDOT or the Illinois Tollway. *Id.* at 8-9. He maintains that the rules should provide for similar flexibility in the application of the ASTM E 1528-06 Due Diligence standard for owner or operator certification. *Id.* at 9.

### **Grab versus Composite Samples**

Mr. Huff voiced concern regarding the first notice regulations for not allowing compositing of soil samples for analytical testing to show compliance with the MACs. He noted that approximately 5 percent of naturally occurring arsenic levels would be above the TACO background value because the background of 13 mg/kg is set at the 95<sup>th</sup> percentile of the upper confidence level of the mean state-wide value. Exh. 45 at 9. Thus, Mr. Huff contends that relying on grab samples to determine compliance “assures a 5 percent rejection rate for arsenic alone, due to naturally occurring arsenic levels in Illinois.” Exh. 45 at 9. He noted that the 5 percent rejection rate for arsenic translates to an economic impact of \$4.3 million per year. Further, Mr. Huff argued that using grab samples leads to unrepresentative samples, particularly for linear corridor projects at non-PIP sites where fewer samples would be taken. *Id.* at 10. Mr. Huff recommends that the Board amend the proposed rules to allow compositing of soil samples collected outside of PIPs. *Id.* and 3/13/12Tr. at 106.

### **Dr. Fabián G. Fernández, ITC (Exh. 48)**

Dr. Fabián G. Fernández is Assistant Professor of Soil Fertility at the University of Illinois at Urbana-Champaign. Dr. Fernández was retained by Huff & Huff, representing the ITC, to provide expert testimony specifically on the impact of pH of CCDD material placed in

quarries as well as the appropriateness of grab samples versus composite samples. Exh. 48 at 1, 3/13/12Tr. at 106.

Dr. Fernández questioned the validity of IEPA's proposal to use the lowest pH range in 35 Ill. Adm. Code 742 Appendix B, Table C of 4.5 to 4.74 to set MACs for the protection of groundwater near CCDD sites. Exh. 48 at 1, 3/13/12Tr. at 115-116. Dr. Fernández indicated that the potential for finding soils with such low pH values is very limited. 3/13/12Tr. at 106-107. Dr. Fernández went on to describe a 2012 study of 567 randomly selected commercial agriculture fields across 51 Illinois counties.<sup>4</sup> Dr. Fernández asserted that the random approach to sampling provided data representative of more than 23 million acres of agricultural land in Illinois. Soil was sampled to a depth of 7 inches, and the lowest pH found was 4.74, which occurred in only one sample. The mean pH value was 6.72 and median pH value was 6.71. Based on this distribution, Dr. Fernández found IEPA's reliance on a pH range of 4.5 to 4.74 would represent only 0.18% of agricultural land in Illinois. Exh. 48 at 1, 3/13/12Tr. at 107-108. Dr. Fernández added that based on data from the Illinois State Water Survey, soils within the low pH range (5.2 to 5.5) are found in extreme southern Illinois. Exh. 48 at 1-2. Dr. Fernández supported using a pH of 6.25 or higher as a more appropriate level in the proposed rules. 3/13/12Tr. at 110.

Dr. Fernández indicated that the values from the 2012 study represent worst case scenarios in terms of low soil pH since the samples were taken to a depth of only 7 inches while the pH in most Illinois soils increases with depth. Dr. Fernández explained that increasing depth below 3 feet results in increasing carbonate content in the soil, which in turn results in increasing pH. Exh. 48 at 1, 3/13/12Tr. at 108.

In a related issue, Dr. Fernández explained that CCDD sites themselves have a large potential to neutralize pH (also referred to as buffering capacity). For CCDD sites where quarries were mined for calcium carbonate and calcium-magnesium carbonate (dolomite), Dr. Fernández explained that a natural buffering capacity is inherently present. Additionally, materials already placed in a CCDD site possess a pH buffering capacity. Even if soils with a pH of 4.74 were placed in such a CCDD facility, Dr. Fernández found it unlikely that the pH of the groundwater would somehow be lowered. He noted "to increase soil pH by 0.1 units, it takes only 0.8 tons of agricultural limestone per 1,100 tons of soil." Exh. 48 at 2. Even if some ionized organic and inorganic compounds might be soluble in localized low-pH soil, Dr. Fernández explained that they would readily precipitate as they react with the surrounding higher pH solution. Exh. 48 at 2. 3/13/12Tr. at 109-110.

In response to questions from IEPA's Mr. Cobb regarding CCDD sites in former sand and gravel quarries, Dr. Fernández stated that even where principal aquifers are primarily overlain by sand and gravel deposits, the gravel will have a high pH and buffering capacity like a calcium carbonate quarry. Dr. Fernández indicated that sand, on the other hand, would not contribute much to the buffering capacity, however, sand deposits are not extremely common in

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<sup>4</sup> Fernández, F.G., B.S. Farmaha, and E.D. Nafziger. 2012. Soil fertility status of soils in Illinois. Communications in Soil Science and Plant Analysis. (Accepted for publication).



Illinois and materials placed in a CCDD facility will typically have higher pH levels. 3/13/12Tr. at 114-115.

Dr. Fernández also responded to questions from Dennis Wilt of Waste Management regarding consideration of data for pH levels in soils that have been landfilled. Dr. Fernández opined that if soil suitable to emplacement in a former quarry CCDD site were instead sent to a landfill facility, contaminants in the soil would present more issues. Dr. Fernández explained that the pH of soil in a landfill tends to be lower due to decomposition that takes place in the landfill, which produces acid. With the lower pH, the metals would be more soluble, and the landfill would lack the natural buffering capacity of a former quarry CCDD site. 3/13/12Tr. at 117-118.

Dr. Fernández also addressed the issue of grab samples versus composite samples, stating that analyzing only grab samples is technically questionable in terms of providing representative values for pH or other chemical parameters. When sampling for pH, for example, Dr. Fernández explained that the main focus should not be to identify the pH of a specific portion of a load of soil, but rather the pH of the load as a whole. Since the goal is to protect groundwater at the CCDD site, not at “microsites” within the CCDD site, composite sampling would better account for the way compounds would precipitate as they migrate into zones of higher pH soils. Exh. 48 at 2, 3/13/12Tr. at 110-112.

**Kenneth Liss, Waste Management of Illinois (Waste Management) (Exh. 49)**

Mr. Liss is the Vice President of Operations for Andrews Engineering, Inc. and testified on behalf of Waste Management of Illinois (Waste Management). He urged the Board to reconsider its decision not to require groundwater monitoring at CCDD and uncontaminated soil fill operations. Exh. 49 at 1. Mr. Liss reiterated his previous testimony that CCDD and soil fill operations are located in areas without any natural protection of the underlying aquifers that are highly susceptible to groundwater contamination. *Id.* He maintained that it is not appropriate to eliminate groundwater monitoring for the lack of evidence to demonstrate that CCDD or soil fill operations are a source of contamination because these sites have never installed groundwater monitoring systems. *Id.* at 1-2.

Mr. Liss agreed with IEPA’s rationale that the front-end screening process will not keep 100 percent of contamination out of the CCDD and soil fill operations. Thus, groundwater monitoring becomes an essential protection against contamination of underlying aquifer. *Id.* Further, based on an assumption of total annual groundwater monitoring cost of \$12,000 for a facility with four monitoring wells, Mr. Liss noted that the cost of groundwater monitoring would be eight cents per ton if the facility accepted 100,000 tons of tainted soil, or sixteen cents per ton if the facility accepted 50,000 tons. These costs, he argued, are not an unreasonable price to pay for environmental protection. *Id.*

Finally, Mr. Liss stated that if the Board decides to proceed without groundwater monitoring, he would recommend that location standards be established to avoid the placement of contaminated material from being placed near or directly in the aquifer and/or that liners be required to provide protection. *Id.* at 3.

**Dr. William Roy, Public Building Commission (PBC) (Exh. 50)**

Dr. William Roy is a Senior Geochemist with the Illinois State Geological Survey (ISGS) and Professor at the University of Illinois at Urbana-Champaign. Exh. 50 at 1. Dr. Roy presented expert testimony on behalf of the PBC regarding the proposed rules in relation to the definition of “uncontaminated soil” set forth in P.A. 96-1416, and the concept of “uncontaminated” in the context of placing soil and CCDD into quarries.

Dr. Roy explained that soil pH controls the environmental chemistry of potential groundwater contaminants in porous media, such as soil and CCDD. Exh. 50 at 4-5. Dr. Roy stated, “[i]n part, pH is often the ‘master variable’ that controls the environmental fate of potential groundwater contaminants.” Exh. 50 at 7.

Dr. Roy stated that soil pH can vary from less than pH 2.0 for some coal strip mine piles to more than pH 10.0 for sodic soils. Humid-region soils subject to long periods of leaching have pH values of 4.5 to 7.2, whereas soils with carbonate minerals have alkaline pH values. Exh. 50 at 4-5, 3/13/12Tr. at 14. Dr. Roy noted that if a soil or CCDD sample contains calcite or crushed concrete, pH will range from 7.2 to 8.5. Exh. 50 at 5. For CCDD derived from the demolition of buildings, Dr. Roy explained that the presence of concrete may explain the relatively basic pH levels. Exh. 50 at 7.

Dr. Roy discussed an ISGS State-wide assessment of 137 soil cores and 820 soil samples that found a pH range from 3.6 to 8.7, with a median value of 6.64.<sup>5</sup> Exh. 50 at 6. Dr. Roy indicated that soils tend to be more acidic in the southern part of the State. 3/14/12Tr. at 44. Dr. Roy noted that 79% of the samples fell into a pH range of 5 to 8. Exh. 50 at 6. Dr. Roy added that Illinois has very few low-pH soils that contain organic acid concentrations typical of bogs and fens, and that such soils aren’t really the type of soil that would be considered for emplacement in a CCDD facility. 3/14/12Tr. at 14-15. Dr. Roy also noted that surface samples tend to be more acidic than deeper samples because the occurrence of carbonate increases with depth. Exh. 50 at 6, 3/14/12Tr. at 17. In comparing the ISGS data to the NRCS data, Dr. Roy indicated the NRCS was interested in surface soils, stating that different databases are intended for different applications. 3/14/12Tr. at 47-49. Dr. Roy pointed out that while an agronomist would be interested in the pH of surface soils for agricultural purposes, an engineer would be looking at excavating deeper soils for construction projects. 3/14/12Tr. at 16-17.

Dr. Roy also described the chemical composition of urban soils, explaining that urban soils serve as sinks for emissions of gases, particulates, and urban runoff from non-point sources that range from garden chemicals to large factories. Dr. Roy cited two studies<sup>6,7</sup>, including one

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<sup>5</sup> Cahill, R. Chemical Composition of Soils in Illinois. Illinois State Geological Survey. Open File Report (in review) 2012. Exh. 50 at 6.

<sup>6</sup> Pouyat, R. V., K. Szlavecz, I. D. Yesilonis, P. M. Groffman, and K. Schwarz. 2010. Chemical, Physical, and Biological Characteristics of Urban Soils in Aitkenhead-Peterson, J. and A. Volder (eds), Urban Ecosystem Ecology, Agronomy Monograph 55, American Society of Agronomy.

in Chicago, demonstrating that urban soils almost “universally” have elevated levels of heavy metals (lead, arsenic, mercury, copper, molybdenum, selenium, and zinc) and polynuclear aromatic hydrocarbons (PAH) when compared to rural, non-agricultural environments. Dr. Roy recommended that the definition of “uncontaminated soil” in Illinois take into account these non-point source anthropogenic additions. Dr. Roy emphasized, “These [anthropogenic] additions should not lead the Board to conclude that the presence of such [constituents] in soils make the soil a ready source of contamination.” Exh. 50 at 14-15, 3/14/12Tr. at 25-26.

Dr. Roy addressed the potential for contaminants from soil and CCDD to leach into the groundwater after emplacement. For leaching of contaminants to occur, Dr. Roy identified two ways potential contaminants can be mobilized when water flows through CCDD or soil: dissolution and desorption. Dissolution occurs with solid phases to mobilize contaminants in water. Desorption occurs when ions sorbed onto the surface of soil particles are desorbed. Both processes are influenced by pH. With desorption, Dr. Roy explained that not all of the ions sorbed to a particle surface will desorb. This lack of reversibility tends to increase with time and may be due to the formation of chemical bonds or diffusion of ions into the soil particle itself. Exh. 50 at 7-8, 3/14/12Tr. at 18-19. Dr. Roy also pointed out that the organic matter content of soil is also an important property to consider, since organic matter can sorb both inorganic and organic solutes. Exh. 50 at 14. Dr. Roy stated, “The overall impact of these soil chemical processes is that not all of the mass of a given contaminant in soil is available to leach into groundwater.” Exh. 50 at 7-8. On the other hand, Dr. Roy pointed out that the TACO assumes 100 percent of the contaminant mass would be available, which makes reliance on TACO values inherently conservative. 3/14/12Tr. at 20.

In addition, Dr. Roy explained that the pH buffering capacity of former quarry CCDD facilities themselves. Dr. Roy stated, “The equilibrium pH of calcium carbonate (the major component of limestone [quarries]) is 8.2. Therefore any transient acidity created by surface soils mixed with deeper, less acidic material [would be] neutralized and eventually buffered by the limestone remaining in the quarry.” Exh. 50 at 13-14, 3/13/12Tr. at 23, 42-43.

To illustrate the mobility of potential groundwater contaminants in CCDD and soil, Dr. Roy discussed three constituents with different chemical and physical properties: arsenic (anion), lead (cation), and benzopyrene (hydrophobic). For arsenic, sorption onto soil particles increases with decreasing pH and might not be completely reversible. For lead, sorption increases with increasing pH and might also not be completely reversible. For benzopyrene, its hydrophobic (“water-fearing”) properties will drive it to sorb onto hydrophobic surfaces of soil so that it tends to be immobile in water-saturated soil systems. As such, Dr. Roy cited to several studies showing that not all of the arsenic, lead, or benzopyrene detected in a soil sample would be available to leach into groundwater. Exh. 50 at 9-11, 3/14/12Tr. at 18.

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<sup>7</sup> Kay, R. T., T. L. Arnold, W. F. Cannon, D. Graham, E. Morton, and R. Bienert. 2003. Concentration of polynuclear aromatic hydrocarbons and inorganic constituents in ambient surface soils, Chicago, Illinois: 2001-02. Water-Resources Investigations Report 03-4105. U.S. Geological Survey.

Dr. Roy cited to several studies where the leachability of arsenic, lead, and pyrene was measured in CCDD (referred to as C&D in other states). For pyrene, only 0 to 0.5% leached into solution, leading the authors of a 1985 study (Roy and Griffin 1985<sup>8</sup>) to conclude that “organic chemicals in the recovered fine fraction of C&D debris did not pose significant risk to groundwater quality.” Exh. 50 at 12, 3/14/12Tr. at 22.

For lead and arsenic, laboratory extractions of C&D from 13 facilities in Florida were done in a 2004 study (Townsend et al. 2004<sup>9</sup>) with a Synthetic Precipitation Leaching Procedure (SPLP). With an SPLP solution at pH 4.2, the resulting leachate exhibited pH values ranging from 6.4 to 10.4. The 2004 Florida study authors attributed the increase in pH with the presence of unreacted cement or concrete dust in the CCDD samples that would neutralize the acidity of the SPLP solution. Exh. 50 at 12-13, 3/14/12Tr. at 22-23. Dr. Roy cited several other studies<sup>10</sup> where pH values were measured from the leaching of CCDD. The pH values of the leachate ranged from 6.45 to 7.6. Exh. 50 at 7. Dr. Roy noted that at these pH levels, metals are less soluble. As a result, the 2004 Florida study found that lead was not soluble in solution although concentrations in the C&D samples themselves were as high as 1,000 mg/kg. Exh. 50 at 12-13, 3/14/12Tr. at 23. Arsenic, on the other hand, was found at levels of 10 mg/L and considered the constituent that most frequently exceeded a risk-based target in Florida. The authors of the 2004 Florida study found that arsenic might be the only element “most likely to limit reuse [of C&D fines].” Exh. 50 at 13. However, in another Florida study (Wang et al. 2012<sup>11</sup>), arsenic concentrations in leachate from synthetic C&D samples were found to be less than 4 g/L. Exh. 50 at 13.

Dr Roy suggested that the Board consider the possibility of using standards based on TACO differently for sites that have Class I and II groundwaters. In particular, Dr. Roy suggested considering standards for CCDD facilities that are reflective of urban or rural soils and Class I or II groundwater. 3/14/12Tr. at 28. Dr. Roy also questioned why many of the options available under TACO are missing from the CCDD proposal. 3/14/12Tr. at 30.

Dr. Roy concluded by stating, “A soil pH that is less than 5.0 is not typical for the soils in Illinois . . . [MACs] should reflect realistic soil pH values.” Exh. 50 at 16, 3/14/12Tr. at 14-15, 26-27. Dr. Roy suggested realistic soil pH values would be on the order of 6.2 to 6.3. 3/14/12Tr. at 33. Dr. Roy noted, “While the use of pH values [in the proposed rule] based on surface soils (which tend to be the most acidic in soil profile)[] may be most environmentally conservative, they may over predict both the solubility and mobility of heavy metals from CCDD

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<sup>8</sup> Roy, W. R. and R. A. Griffin. 1985. Mobility of organic solvents in water-saturated soil materials. *Environmental Geology and Water Sciences*, vol. 7, p. 241-247.

<sup>9</sup> Townsend, T., T. Tolaymat, K. Leo, and J. Jambeck. 2004. Heavy metals in recovered fines from construction and demolition debris recycling facilities in Florida. *Science of Total Environment*, 332, 1-11.

<sup>10</sup> Delay, M., T. Lager, H. D. Schulz, and F. H. Frimmel. 2007. Comparison of leaching tests to determine and quantify the release of inorganic contaminants in demolition waste. *Waste Management*, 27, 248-255.

<sup>11</sup> Wang, W., S. Sikora, H. Kim, B. Dubey, and T. Townsend. 2012. Mobilization of iron and arsenic from soil by soil and demolition debris landfill leachate. *Waste Management* (in press).

collected [at] deeper depths.” Exh. 50 at 13. Even though urban soils will contain anthropogenic constituents, such as heavy metals and PAHs, not all of the mass of these constituents is available to leach into groundwater. As Dr. Roy explained, this is due to the pH buffering capacity of former limestone quarry CCDD sites and fill material along with the presence of organic and hydrophobic soil properties. Exh. 50 at 13-14, 16.

**Claire A. Manning, PBC (Exh. 51)**

Ms. Manning testified to provide the Board with information based on her experience as well as a representative of the PBC. Exh. 51 at 1. Ms. Manning stated that the principles driving IEPA’s proposal should not be equated with the principles that drove the revisions to the Act. *Id.* Ms. Manning offered that she is uniquely aware of the Board and IEPA responsibilities and was “a key participant in the legislative initiative.” *Id.* Ms. Manning provided her perspective on the reasons for the legislative change. *Id.*

Ms. Manning noted that the legislation was not driven by a concern, or even evidence of, CCDD fill or uncontaminated soil causing any environmental or groundwater pollution. Exh. 51 at 1. Ms. Manning stated that the legislation was a result of a three-year initiative motivated by “problems” public construction and CCDD fill operations had with IEPA’s definition of uncontaminated soil. Exh. 51 at 2. Ms. Manning stated that IEPA’s definition of uncontaminated soil was known as “from God and the Glaciers” meaning that there could be no non-naturally occurring compounds or elements present in the soil. *Id.* Ms. Manning opined that “virtually all soil” in Chicago and other urban areas contain non-naturally occurring compounds or elements due to anthropogenic conditions. *Id.* IEPA’s definition of uncontaminated soil led to enforcement by IEPA whenever analytical testing established the presence of non-naturally occurring compounds or elements. *Id.*

Ms. Manning testified that the three year initiative resulted in legislation that:

- 1) Enhanced regulatory requirements applicable to CCDD operations and site excavation owners and contractors;
- 2) Brought “soil only” fill operations (clean soil fill operations) into the regulatory scheme;
- 3) Allowed for fees and fines to the IEPA and delegated counties;
- 4) Importantly, required the Board to develop, through its broad statutory rulemaking authority and public rulemaking process, a definition of uncontaminated soil for use as fill in CCDD fill operations that: “*does not contain contaminants in concentrations that pose a threat to human health and safety and the environment.*” 415 ILCS 5/3.160. Exh. 51 at 3.

Ms. Manning stated that the Board is given the responsibility to use its technical expertise and the record to develop a regulation. Exh. 51 at 3. Ms. Manning opined that a major issue with the Board’s proposal is the “wholesale acceptance” of IEPA’s definition of uncontaminated soil. *Id.* Ms. Manning claimed that there is no technical justification, and that is supported by the legislative mandate. Exh. 51 at 3 - 4. Ms. Manning believes that the Board’s proposal is wrong for not considering a qualitative approach to the definition of uncontaminated soil and

such an approach is supported by the legislation. Exh. 51 at 4. Ms. Manning opined that site-specific considerations are mandated by the legislation. *Id.*

Ms. Manning testified that the costs associated with site investigation where warranted are acceptable to PBC. Exh. 51 at 5. Ms. Manning seeks clarification as to how testing would be designed if a recognized environmental condition is found and as to the Board's decision not to allow commingling of soils. *Id.* Ms. Manning stated that PBC "strongly objects" to the one-size-fits-all MACs approach and does not believe that such an approach is supported by the statute. *Id.* Ms. Manning opined that the costs for landfilling soils is approximately \$20.6 million while disposal at a CCDD fill facility would be \$5.7 million. *Id.*

### **Christopher Getty, Village of Lyons**

Christopher Getty is the Mayor of the Village of Lyons, which is located west of Chicago in Cook County. Mayor Getty testified regarding the Village of Lyons' experience with a park development next to their new town hall site. Mayor Getty stated that during construction, excess dirt was excavated that did not meet residential TACO standards for soil and was considered "too dirty" to remain on the future park site. The Village enrolled in the Site Remediation Program (SRP) and hired a professional soil consultant. The consultant proposed taking the soil to the Reliable Materials Lyons Quarry CCDD site adjacent to the park and new town hall, however, IEPA indicated the soil did not meet the levels in the proposed CCDD rules for emplacement in a CCDD site. 3/14/12Tr. at 59-61.

In response, the Village of Lyons then decided to test the soils in order to separate those that passed the CCDD standards from those that did not. The soil that met the CCDD standards was to be sent to the quarry while the other soil was designated for a landfill. Mayor Getty testified that the Village of Lyons spent a significant amount on soil testing, which pushed their budget to the limit, but only about half of the soil was found to be suitable to be taken to the CCDD facility. The other half was designated for landfill disposal at a projected cost of \$1.5 million. 3/14/12Tr. at 61.

Mayor Getty testified that the \$1.5 million disposal cost would have caused a "tremendous, financial hardship to our village . . ." 3/14/12Tr. at 61. In consultation with their consultant and IEPA, the Village of Lyons developed a plan to construct a berm on the park with the soil that could not be deposited in the CCDD facility. To "render the material harmless to humans", the Village was instructed to cover the berm with a three-foot cap of clean soil to act as a barrier. Mayor Getty testified that the construction of the berm cost \$150,000, which he characterized as "not cheap" but within their budget. 3/14/12Tr. at 62.

Since the Village of Lyons would take ownership of the Reliable Materials Lyons Quarry and CCDD fill operations upon closure, Mayor Getty asked, "Why can we bury soil with the Illinois EPA approval under a three foot cap in a park site adjacent to a CCDD operation, but the same material [cannot] be disposed of in a quarry located right next to the park a hundred [feet] under a clean soil cap?" 3/14/12Tr. at 62-63. Mayor Getty opined that the proposed CCDD standards appeared to be arbitrary and that the public would be safer if this soil was in an area where no inadvertent excavation would possibly release it into the environment. Mayor Getty

asked the Board to review the matter carefully so that municipalities will not encounter a similar situation. 3/14/12Tr. at 63.

### **SUMMARY OF PUBLIC COMMENTS**

The Board has received an additional 27 public comments during first notice. The comments are from:

Jane L. Collins (PC 22)  
 Land Reclamation & Recycling Association (PC 23 and 44)  
 McHenry County Department of Health and Department of Planning and Development (PC 24)  
 Michael Stanczak, Materials Midwest, Hanson Aggregates (PC 25)  
 Michael F. McClain, Awerkamp & McClain, P.C. (PC 26)  
 Edward J. Zabroki, Mayor, Village of Tinley Park (PC 27)  
 Metropolitan Water Reclamation District of Greater Chicago (PC 28)  
 Michael Rapps on behalf of Iron Hustler Excavating (PC 29)  
 Vulcan (PC 30)  
 Citizens Against Ruining the Environment (CARE) (PC 31)  
 Steve Gobelman/IDOT Comments (PC 32)  
 Waste Management of Illinois, Inc. (PC 33, 33a)  
 Illinois Association of Aggregate Producers (PC 34)  
 City of Chicago (PC 35)  
 The Illinois Environmental Council (IEC) (PC 36)  
 Illinois Transportation Coalition (PC 37 and 45)  
 People of the State of Illinois Comment (PC 38)  
 Illinois Environmental Protection Agency (PC 39 and 47)  
 Will County Land Use Department (PC 40)  
 Land Reclamation & Recycling Association (PC 41)  
 Public Building Commission of Chicago (PC 42 and 46)  
 Heather Jorna (PC 44)

The Board will summarize each comment below.

#### **Jane L. Collins (PC 22)**

Jane Collins of Woodstock commented that McHenry County's groundwater supply was found to be "the second most vulnerable to contamination in Illinois." Ms. Collins indicated that the groundwater supply is the sole source of water in her area. Ms. Collins feels allowing "tainted soils" to be placed in unlined sites under the first notice proposal would be unacceptable given the vulnerability of her area. Ms. Collins voiced her support for including IEPA's proposed Subpart G to require monitoring systems in the rules so that problems could be identified and corrected at an early stage. PC 22.

**Land Reclamation & Recycling Association (LRRRA) (PC 23)**

The Land Reclamation & Recycling Association (LRRRA) commented on the appropriateness of using MACs based on the TACO Tier 1 residential vs. construction worker remediation objectives for the inhalation and ingestion pathways as well as the issue of grab vs. composite sampling. PC 23.

LRRRA believes that applying Tier 1 residential remediation objectives for ingestion and inhalation to the MACs for CCDD is impractical. LRRRA is concerned that this approach would “dramatically increase soil and CCDD disposal costs” and “unduly burden the IEPA.” PC 23 at 1. Not only would the increase in disposal costs restrict the number of projects that could be completed, but LRRRA believes it would also increase the likelihood that unregulated means will be used for disposal of soil. PC 23 at 1. LRRRA suggested that the proposed rules provide IEPA with the authority to develop MACs based on construction worker rather than residential standards for ingestion and inhalation. LRRRA proposed that CCDD sites be allowed to accept soil meeting the construction worker standards for ingestion and inhalation if a closure plan is submitted that includes a cap of clean soil and a commitment to record deed restrictions. PC 23 at 1-2.

As to the issue of sampling, LRRRA agreed with the first notice proposal that sample data should not be averaged. In this way, soil with a high contaminant concentration in one area would not be averaged with “clean soil” and would be identified for separate disposal. However, LRRRA did not agree with the elimination of composite sampling at first notice. LRRRA indicated that composite sampling is a useful tool for characterizing large quantities of soil in a cost-effective manner. LRRRA explained that composite sampling allows numerous areas within a site to be sampled, providing a more accurate characterization of soil than collecting fewer grab samples. LRRRA requested the Board provide for compositing in accordance with TACO Section 742.225, which allows composite sampling for certain compounds under certain situations. PC 23 at 2-3.

**McHenry County Department of Health and  
Department of Planning and Development (PC 24)**

The McHenry County Department of Health and the McHenry County Planning and Development Department (McHenry County) commented on the issues of groundwater monitoring and soil certifications, and made a number of suggestions for the proposed rules.

McHenry County observed that CCDD or uncontaminated soil fill sites are often located where there is direct contact with an aquifer. Completely reliant upon groundwater for its drinking water supply, McHenry County recommended the Board adopt a groundwater monitoring program for CCDD sites in the final rule. McHenry County asserted that groundwater monitoring would provide for early detection and corrective action of contamination. With no liner or containment systems for these sites, McHenry County is concerned that there is no guarantee that contamination will not be introduced into the surrounding environments. McHenry County recommended a schedule of quarterly groundwater sampling and indicated a similar groundwater monitoring program has been used in the county



for earth extraction sites over the last 20 years. When comparing costs, McHenry County noted that the costs associated with a reactive approach would far exceed those associated with a preventive approach. McHenry County stated, “Any degradation to our drinking water supply would represent a significant health and financial burden to the residents and local governments to treat contaminated groundwater and/or install new potable water wells.” PC 24 at 1.

With regard to the proposal’s reliance on TACO for developing the MACs, McHenry County stated, “TACO objectives were developed to ensure contaminated properties can be returned to safe and productive uses and were not intended to define uncontaminated soils.” PC 24 at 2. McHenry County suggested that MACs be developed specifically for CCDD sites. PC 24 at 2.

McHenry County believes that soil certification by a site owner is inappropriate and should only be done by an objective and qualified third party, such as an LPE/LPG. McHenry County suggested the Board establish a sampling protocol for incoming loads to ensure consistency throughout the industry, such as a Quality Assurance Project Plan using USEPA SW-846. Along these lines, McHenry County does not consider use of a PID as adequate. PC 24 at 1.

McHenry County also made suggestions concerning border states, recordkeeping, and financial assurance. McHenry County recommended reaching out to adjacent states to help deter generators from sending loads to less restrictive jurisdictions. In terms of post closure care, McHenry County also suggested that the Board consider requiring some sort of financial assurance and recordkeeping for an established period of time after closure to assist with identifying and remediating any post-closure care issues. PC 24 at 2.

**Michael Stanczak, Materials Midwest, Hanson Aggregates (PC 25)**

Michael Stanczak commended the Board for not including IEPA’s proposed groundwater monitoring requirement at first notice, but also expressed concern over the proposed pH levels for the determination of the MACs. Based on his experience with CCDD projects in Chicago, excavated soils in the Chicago area tend to be pH neutral to slightly alkaline. If the Board adopts the pH levels proposed at first notice, Mr. Stanczak predicted much of this material will need to be turned away and sent to sanitary landfills, unregulated fill sites, or out of state. Mr. Stanczak stated that with the currently proposed pH levels, “[i]t is still quite likely . . . Hanson Material Service will be forced to opt out of the CCDD and Uncontaminated Soil Fill operations business due to increased costs, liability, and a substantial decrease in business.” PC 24. Mr. Stanczak requested the Board reconsider the pH issue and the potential negative economic impact on our State. PC 25.

**Michael F. McClain, Awerkamp & McClain, P.C. (PC 26)**

Michael McClain’s public comment echoed the testimony of Christopher Getty, Mayor of the Village of Lyons regarding a park development next to the Village’s new town hall. PC 26, 3-14-12 Tr. at 59-63. The Village’s soil consultant proposed taking soil excavated during the park construction to the Reliable Materials Lyons quarry/CCDD site adjacent to the park.

However, the soil did not meet the TACO residential soil standards for inhalation and ingestion, and IEPA indicated the soil did not meet the levels in the proposed CCDD rules for emplacement in a CCDD site. PC 26 at 1, 3-14-12 Tr. at 60-61.

In this regard, Mr. McClain commented that there would be no residential inhalation exposure at the Reliable Materials Lyons CCDD site, only construction worker. Mr. McClain recommend that the rules include a degree of flexibility such that a more relaxed inhalation standard could be used for sites that would be restricted to industrial or commercial use. Mr. McClain suggested that if such a site were slated for a golf course, then IEPA should have the flexibility to require a stricter standard under those circumstances. Mr. McClain closed by saying, “The [IEPA] should not be bound to one solution for an infinite number of problems.” PC 26 at 2.

**Edward J. Zabrocki, Mayor, Village of Tinley Park (PC 27)**

Mr. Edward Zabrocki, Mayor of the Village of Tinley Park, commented on the use of a PID to screen incoming loads at a CCDD site. Mayor Zabrocki stated that the Village of Tinley Park generates soils excavated primarily from maintenance of underground utilities and related infrastructure, as well as other capital improvement projects. Each year, the Village of Tinley Park budgets around \$30,000 extra for CCDD testing and certification for the maintenance projects alone. PC 27.

Based on the experience at the Village of Tinley Park and several other communities, Mayor Zabrocki stated that PIDs tend to produce false positive results in 10 percent of the samples read. Because the rules require CCDD sites to reject any load with a PID reading in excess of background levels, the Village incurs costs for additional hauling and disposal of the rejected loads that are 10 times the cost for emplacement in a CCDD site. Mr. Zabrocki estimated the false positive results cost the Village of Tinley Park about \$6,000 per year, a 20% increase based on the average annual volume of clean fill. Mayor Zabrocki stated, “[T]he additional cost brought about by unreliable testing equipment / methods is not reasonable.” Instead, Mayor Zabrocki suggested that licensed professionals govern the certification process. PC 27.

**Metropolitan Water Reclamation District of Greater Chicago (MWRD) (PC 28)**

The Metropolitan Water Reclamation District of Greater Chicago (MWRD) provided public comment, agreeing with the Board’s first notice on several issues and making suggestions for others.

MWRD agrees with the first notice proposal not to require groundwater monitoring and not to require permitting of uncontaminated soil fill operations. MWRD owns land (former quarries, mines, large excavations, and other potential soil fill locations) that it might someday elect to fill with CCDD and/or uncontaminated soils. If groundwater monitoring and permitting were required at uncontaminated soil fill operations, MWRD indicated this would place “onerous regulatory and financial constraints on the MWRD when filling large excavations on its property.” PC 28 at 1.

MWRD also agrees with the use of the phrase “potentially impacted properties” over “commercial or industrial” in the first notice proposal, indicating this will help to avoid confusion with zoning designations. PC 28 at 1-2.

Although MWRD agrees with the use of TACO Tier 1 objectives for the MACs as a means for determining whether soils are uncontaminated, MWRD suggested that the rules specify an incidental volume of soil in CCDD below which certifications would not be required. Since most construction activity results in some commingling of soil with CCDD, MWRD is concerned that not recognizing the extent to which an incidental amount of soil may be involved is unreasonable. PC 28 at 2. Further, MWRD pointed out that for CCDD from below-grade operations, some soil is likely to be commingled with the CCDD. MWRD recommended that the rule clarify whether above-grade and below-grade CCDD can be separated to minimize the volume of CCDD requiring certification and/or testing. PC 28 at 3.

As to the certifications, MWRD suggested that the rule incorporate a required sampling protocol. MWRD indicated that the currently proposed soil sampling protocol is vague, leaving the number and location of samples to the discretion of the LPE/LPG. For sites that are not PIPs, MWRD suggested that a source site owner or operator be allowed to obtain a certification through an LPE/LPG that the site is not a PIP without soil testing. PC 28 at 2. Additionally, MWRD requested that the rules clarify the terms “site” and “site of origin” as to whether a construction site, particularly a large site, could be segregated into distinct parcels for the purposes of site certifications. PC 28 at 3.

#### **Michael Rapps on behalf of Iron Hustler Excavating (PC 29)**

Michael Rapps is a graduate of the University of Illinois in Champaign-Urbana and is a Registered Professional Engineer. 12-2-11 Exh. At 1. Mr. Rapps provides comments on behalf of Iron Hustler Excavating, Inc. Mr. Rapps’ comments relate to the “Board’s proposal to rely upon the most conservative TACO Tier 1 concentrations of chemical constituents as a method for determining Maximum Allowable Concentrations (MACs)”. PC 29 at 1. He opines that the statute that directs the Board to develop MACs is “ambiguous”, requiring MACs that do not pose a threat to public health and the environment, and yet not exceed local background levels. He asserts that TACO Tier 1 does neither. Mr. Rapps makes the point that a single set of MACs as proposed can only work if there are uniform background levels across the state. PC 29 at 1.

Mr. Rapps contends that TACO Tier 1 works within the context of TACO, but it does not work where it will label as “contaminated many materials that are essentially harmless”. Mr. Rapps states that this is particularly true of “compounds that are randomly distributed as particulate matter such as PAHs and certain heavy metals, e.g. lead oxides”. PC 29 at 2. He notes the testimony by Dr. William Roy who asserted that many such compounds “have little to no water solubility and are readily attenuated in soil”. He notes that the fact that these compounds are distributed as particulates rather than as a liquid or gaseous fluid makes it difficult to establish background conditions. Mr. Rapps provided a series of graphs that illustrate the “very broad distribution of the PAHs and metals that play havoc with the prospect of establishing a meaningful background”. PC 29 at 2.

Mr. Rapps opines that soils cannot be properly characterized with a single sample. Larger sites will require many samples, which is costly. The price for a commercial laboratory soil analysis for all of the parameters in the MAC list is \$1,500 per sample. Mr. Rapp suggests that Board consider “focused analyses that limit test parameters to those most likely to be of concern.” PC 29 at 2.

### **Vulcan (PC 30)**

Vulcan is the nation’s largest producer of construction aggregates and is a major producer of other construction materials including asphalt and concrete. Vulcan operates two permitted CCDD facilities and has three registered uncontaminated soil fill operations. PC 30 at 1. Vulcan supports the Board’s decision to remove Subpart G: Groundwater Monitoring. Vulcan cites two reasons for supporting this decision. First, the materials are uncontaminated and therefore pose little risk of groundwater contamination. Second, industry has instituted controls on their own to reduce the risk of a CCDD facility or an uncontaminated soil fill operation from receiving contaminated materials. Vulcan opines that groundwater monitoring is unnecessary and that it would be “excessively burdensome to industry”. PC 30 at 1.

Vulcan also contends that the approach proposed by IEPA in establishing MAC criteria would “result in overly conservative and restrictive concentration values”. Vulcan recommends that based on the data and testimony presented, “establishing MAC criteria on the lowest specific soil remediation objectives from pH 6.25 and above is preferred. PC 30 at 1.

### **Citizens Against Ruining the Environment (CARE) (PC 31)**

The Citizens Against Ruining the Environment (CARE) is an environmental organization based in Will County. CARE is concerned about the Board’s decision in the February 2, 2012 First Notice Proposed Rule to not require groundwater monitoring at CCDD and uncontaminated soil fill operations. PC 31 at 1. CARE strongly urges the Board to reconsider its decision and to reinstate the groundwater monitoring requirement. CARE raises three arguments to support groundwater monitoring requirements at CCDD sites. The first is that the elimination of groundwater monitoring is contrary to the legislative mandate. CARE contends that the legislature “unconditionally mandated” the protection of groundwater resources, which should include using the “full arsenal of regulatory requirements” including groundwater monitoring. PC 31 at 2.

Second, CARE argues that the elimination of groundwater monitoring is contrary to the “manifest weight of the evidence”. PC 31 at 3. This evidence includes the location of “398 potential private wells, 31 non-community wells and 2 community supply wells within 2,500 feet of the existing CCDD and uncontaminated soil fill sites”. Also cited as evidence is the fact that 350,000 people are served by groundwater in Will County, and the demands for groundwater will only increase. In addition, the facilities that will receive these materials have no liners, and the front end screening process cannot guarantee that contamination will be kept out of these operations. PC 31 at 5 and 6.

Lastly, CARE argues that the elimination of groundwater monitoring is contrary to the positions taken by IEPA, the Attorney General, and Will County. CARE suggests the Board is “acting in isolation from other units of government in Illinois which are invested with statutory authority to protect public health, safety and welfare”. PC 31 at 8. CARE urges the Board to reconsider its decision and reinstate Subpart G: Groundwater Monitoring. PC 31 at 9.

**Steve Gobelman, Illinois Department of Transportation (IDOT) (PC 32)**

Steven Gobelman is the Geologic and Waste Assessment Specialist within the Bureau of Design and Environment of IDOT. Exh. 34 at 1. Mr. Gobelman provides comments on behalf of IDOT. IDOT supports raising the minimum pH from 4.5 to 6.25. IDOT also supports not allowing a soil with a pH of less than 6.25 to be deposited in a non-limestone fill operation in order to provide assurance that acidic soils are not deposited into these facilities. PC 32 at 1). Mr. Gobelman states that it is IDOT’s experience that the average soil pH throughout the state is typically greater than 6.0. IDOT has analyzed over 13,000 pH values from state road rights of way and found that of the 48 counties tested, only 9 of these counties had an average pH of less than 6.25. None of these nine counties currently contain a CCDD facility or an uncontaminated soil fill operation. Mr. Gobelman provided a copy of all of the pH values collected by IEPA, broken down by County. PC 32 at 1.

**Waste Management of Illinois, Inc. (Waste Management) (PC 33, 33a)**

In its second public comment, Waste Management of Illinois (Waste Management) addressed the issues of pH and groundwater monitoring.

Noting information already in the record provided by others regarding pH, Waste Management supplemented the record with copies of its own reports from analysis of contaminated soils received by Waste Management in late 2011. The pH of the soils received ranged from 5.2 to 6.0. Waste Management observed information submitted by others with higher pH values were from northeastern Illinois, while the testimony of Dr. Fernández and Dr. Roy showed statewide values as low as 4.74 to 3.8. Waste Management expressed concern about the use of less conservative pH values for soils being disposed of in unlined facilities located in vulnerable geologic settings. Waste Management cited to the Board’s First Notice Opinion where the Board found, “Since the proposed rules are applicable statewide, without any limitation on the location of source site, the Board finds that the proposed use of the lowest pH-dependent value for the soil component of the Class I groundwater ingestion exposure route in 35 Ill. Adm. Code 742 Appendix B, Table C for certain inorganic and ionizing organic constituents is appropriate.” PC 33 at 2, R12-9 slip op. at 69 (Feb. 2, 2012). Waste Management argued that the record lacks credible evidence to support a revision to the pH parameters in the Board’s First Notice as to a statewide approach for determining MACs for certain pH-sensitive chemical constituents. PC 33 at 1-3.

As to the issue of groundwater monitoring, Waste Management believes Mr. Cobb’s testimony was persuasive and punctuated the risks of not requiring groundwater monitoring. Waste Management reiterated Mr. Liss’s testimony that the cost per ton for groundwater monitoring could be as low as 8 to 16 cents per ton. PC 33 at 3. At the request of IEPA, Mr.

Liss elaborated on the cost issue, estimating the total installation cost of a simple groundwater monitoring system with four thirty-foot wells (three upgradient and one downgradient) would be between \$5,400 and \$12,000. Waste Management stated, “When extrapolated over many tons of soil over many years, the cost per ton is insignificant, being a few pennies per ton.” PC 33a.

**Illinois Association of Aggregate Producers (IAAP) (PC 34)**

Following the March 9, 2012 hearing, Illinois Association of Aggregate Producers (IAAP) provided information on site certifications, groundwater monitoring costs, and soil pH considerations.

Responding to questions regarding the type and number of site certifications, IAAP members listed the number of source site owner certifications (IEPA Form 662) vs. LPE/LPG certifications (IEPA Form 663) filed at their sites during the 2010 to 2012 timeframe<sup>12</sup>.

| <b><u>SITES</u></b>      | <b><u>662's accepted</u></b> | <b><u>663's accepted</u></b> |
|--------------------------|------------------------------|------------------------------|
| Prairie Materials        | 323                          | 97                           |
| Hanson Material Service  | 457                          | 177                          |
| Bluff City Materials     | 409                          | 314                          |
| Reliable Materials Lyons | 644                          | 493                          |

PC 34 at 2.

As to costs for groundwater monitoring, IAAP noted that costs would depend on the variables for each site, such as size of the site, depth of the excavation, type of material mined, and depth to groundwater. As an example, IAAP provided information on costs actually incurred by Bluff City Materials to develop a groundwater monitoring model and wells for its CCDD site in Bartlett, Illinois. The project involved modeling groundwater flow rates and direction in order to develop wells around the 1,000 acre sand and gravel mine and to determine the potential for impacting the Bluff Springs Fen. The total cost of engineering, surveying, well development, and analysis totaled \$528,000 for six wells. Mr. Wilcox acknowledged that a portion of this total cost was attributable to the flow rate modeling, which would not necessarily be required under IEPA's proposed groundwater monitoring rules. Backing out the costs associated with the more complex modeling, Mr. Wilcox estimated total costs in line with IEPA's proposal would be approximately \$350,000. PC 34 at 2-3.

In addition to the upfront costs, Bluff City Materials also provided an estimate for its annual groundwater monitoring costs from purging wells, collecting and testing samples, and preparing reports. For the six wells, Mr. Wilcox estimated the annual costs at \$20,000 to \$25,000. PC 34 at 3. IAAP stated, “[t]hese costs would be added to the significant expenses already required for coming into compliance with the Board's proposed changes to Part 1100.” PC 34 at 3.

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<sup>12</sup> PC 34 was filed on April 18, 2012.

IAAP agrees with the Board's First Notice proposal not to include groundwater monitoring, observing that at no time during the course of this rulemaking has anyone submitted evidence demonstrating that CCDD or uncontaminated soil fill sites were a source of groundwater contamination. PC 34 at 3.

IAAP also reiterated the evidence provided by its members regarding soil pH and its support for using a pH of 6.25 as the lowest pH value on which to base the MACs for certain pH-sensitive chemical constituents. IAAP emphasized that the evidence its members provided was from tests on soil actually accepted at CCDD facilities, and that IEPA provided no evidence to demonstrate that soils matching the STATSGO pH values were used as fill at any permitted CCDD or uncontaminated soil fill site. In contrast to pH data provided by its members showing neutral to slightly alkaline values, IAAP noted that the pH values from the STATSGO database have not been shown to be representative of soils typically accepted at CCDD or uncontaminated soil fill operations. PC 34 at 3-4, 3-13-12 Tr. at 76.

### **City of Chicago (PC 35)**

The City of Chicago provided comments on soil pH, soil certification, small or unplanned/emergency excavations, already-bid projects, and grab vs. composite sampling.

Based on information and expert opinions presented in this rulemaking, the City of Chicago observed that relying on a pH range of 4.5-4.74 for the MACs appears to be inappropriately low. With the record suggesting that soils with very low pH are found in places unlikely to be excavated during construction or demolition, the City of Chicago is concerned that the pH values for MACs proposed at first notice will exclude a great deal of soil from being safely deposited into fill operations. The City of Chicago urged the Board to reconsider the pH values for the MACs in light of the data, expert testimony, and extraordinary costs of landfilling clean soil. PC 35 at 1.

As to soil certifications, the City of Chicago noted that public entities throughout Illinois engage in thousands of public works projects each year on roadway, water, and sewer infrastructure. Such projects can cover multiple city blocks, dozens or hundreds of parcels, and public right-of-way. The City of Chicago stated that the ASTM standards proposed by the Board at first notice for soil certification were designed for discrete parcels, not for these types of public works projects, and costs would be prohibitive. The City of Chicago suggested that such standards would prevent public entities from depositing uncontaminated soil into fill operations and drive them to the wasteful practice of landfilling. With hundreds of thousands of tons of soil and debris every year, the City of Chicago compared potential costs to deposit 10,000 tons at a fill operation of \$66,670 with costs at a landfill of \$280,000. The City of Chicago requested the Board modify the soil certification process as recommended by Mr. Huff. PC 35 at 2 referring to Exh. 45 at 8-9.

For small or unplanned/emergency excavations, the City of Chicago stated that the soil certification process proposed at first notice would be either disproportionately expensive for small excavations or too time intensive for unplanned/emergency excavations. The City of Chicago is concerned that it will have to landfill uncontaminated soil from these types of

excavations. The City of Chicago requested the Board to consider an alternative requirement tailored to small and unplanned/emergency excavations. PC 35 at 4.

For public works projects that are in progress or have already been bid, the City of Chicago requested the Board consider a “grandfathering” clause related to the effective date of the proposed rule. Like many public entities, the City of Chicago stated it has public works projects in progress virtually all the time. Currently, the City of Chicago estimated more than \$200 million worth of public works projects, not including water or sewer projects, is in progress or has already been bid. Adding the new soil certification process as proposed by the Board at first notice to these projects would not only delay the projects and result in the loss of public monies, but it could also leave open holes, trenches, unfinished sidewalks and roadways, and lane closures. In addition, extended delays may result in contractors laying off workers. The City of Chicago requested that the Board consider a grandfather clause as to the effective date of the new rule for public works projects that are in progress or have already been bid. To implement such a clause, the City of Chicago recommended that the grandfather clause might disallow use of the existing form 662 for source site owner/operator certification and require a LPE/LPG certification using form 663 regardless of the source site. PC 35 at 2-3.

As to the best method for providing representative soil samples, the City of Chicago asked the Board to reconsider the grab sample requirement. Based on the record indicating that grab samples might be less representative than composite samples for chemical constituents other than volatile organic materials (VOM), the City of Chicago recommended that the composite sampling should be allowed as an option at the discretion of a LPE/LPG. PC 35 at 3.

### **The Illinois Environmental Council (IEC) (PC 36)**

The Illinois Environmental Council (IEC) is a 501(c)3 non-profit organization that represents the interests of more than 50 environmental and community organizations in Illinois on state and federal issues related to the environment and public health. IEC strongly opposes the Board’s proposed amendments because Subpart G: Groundwater Monitoring was not included. IEC states “quarries are highly permeable excavated open-pit mines, which are ideal conduits for groundwater contamination”. PC 36 at 1. In addition, IEC notes the bottoms of quarries are at or below the water table. IEC contends that “proper surveying and monitoring are necessary to determine whether contaminants are leaching from the quarry into the surround aquifers”. IEC cites IEPA’s October 7, 20122 testimony regarding groundwater contamination as further evidence of the need to include groundwater monitoring. PC 36 at 1.

IEC urges the Board to include groundwater monitoring in its proposed rule. Further, IEC recommends that the groundwater monitoring requirements be made more stringent than that proposed by IEPA by requiring an engineering survey to be completed to determine the geological characteristics of the quarry. In addition, the groundwater monitoring system should require a sufficient number of wells be installed at the appropriate locations to obtain water samples from the “upper most aquifer”, and that sampling procedures be done at a “frequency that protects human health and the environment”. PC 36 at 1 and 2.



**Illinois Transportation Coalition (ITC) (PC 37)**

Mr. James E. Huff, P.E., provided comments on behalf of the Illinois Transportation Coalition (ITC) on the Board's first notice regulations on CCDD and soil fill operations. ITC's comments notes that the Board needs to address two key issues concerning the minimum pH for establishing soil MACs, and groundwater monitoring at CCDD and soil fill operations. Mr. Huff asserts that the extensive soil pH data submitted into the record during the hearing process justifies the need to amend the minimum soil pH requirement for establishing MACs while protecting groundwater. PC 37 at 1. He notes that the record supports a minimum pH range of 6.25 to 6.64 for establishing MACs. Also, Mr. Huff suggests routine testing of every source of CCDD or uncontaminated soil to address any concerns regarding the acceptance of low pH soil by fill operations. *Id.* at 4. In addition, he urges the Board to allow the acceptance of low pH soils treated with limestone to increase soil pH in CCDD or uncontaminated soil fill operations.

While noting that there is no evidence of groundwater impacts from fill operations in the record, Mr. Huff addresses issues concerning IEPA's groundwater monitoring proposal. PC 37 at 2. He notes that groundwater monitoring imposes significant capital and operating costs on fill sites that would have a bearing on the continued operation of many fill sites. Next, Mr. Huff voices concern regarding the unknown cost of remediation if groundwater monitoring results in the detection of some contaminant above the regulatory threshold. This concern is exacerbated by IEPA's proposal of a non-degradation requirement for off-site contamination that imposes more stringent background groundwater quality as the standard. *Id.* In light of these concerns, if the Board decides to restore groundwater monitoring, Mr. Huff recommends the Board to limit groundwater monitoring to volatile organic compounds and dissolved metals as defined by the Resource Conservation and Recovery Act (RCRA). PC 37 at 3. By doing so, the proposal would minimize monitoring costs and focus on mobile contaminants commonly found in groundwater. Further, he urges the Board to eliminate any reference to non-degradation requirement and allow the use of groundwater use restrictions under TACO regulations to address off-site groundwater contamination. *Id.*

Finally, Mr. Huff requests the Board to allow the use of composite samples when samples are taken outside of PIPs. He notes that fill operations routinely require sampling outside of PIPs and using composite samples is a cost effective approach. Mr. Huff also asks the Board to recognize the current site assessment practices in the transportation industry and revise the proposed soil certification requirements accordingly. PC 37 at 4.

**People of the State of Illinois (People) (PC 38)**

The People's comment reiterates much of the testimony of Mr. Sylvester (Exh. 35) arguing that CCDD is waste unless the CCDD meets the exceptions in Section 3.160(b) of the Act (415 ILCS 5/3.160(b) (2010)). PC 38 at 1-4. The People maintain that in order to determine that CCDD is not waste, two showings must be made. First that the CCDD comes from one of the four enumerated exceptions in Section 3.160(b) of the Act (415 ILCS 5/3.160(b) (2010)). And, second that the excepted use removes the CCDD from being considered waste under federal law. PC 38 at 3. The People argue that no explicit determination has been made that federal law allows CCDD to be considered "anything other than waste." *Id.*

The People comment that during this rulemaking the “focus has shifted to defining what constitutes ‘uncontaminated soil’ rather than complying” with the legislative mandate to protect groundwater. PC 38 at 4. The People point to testimony by Ms. Manning and questions by Mr. Huff as statements that indicate the shift in focus. PC 38 at 4-5, citing 3/14/12Tr. at 57; 3/13/12Tr. at 63. The People opine that the definition of CCDD does not just include uncontaminated soil, but also “uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, reclaimed or other asphalt pavement, or soil generated from construction or demolition activities.” PC 38 at 5, citing 415 ILCS 5/3.160(b) (2010).

The People believe that the General Assembly, when enacting Section 22.51 of the Act (415 ILCS 5/22.51 (2010)) and the 2010 amendments, demonstrated the General Assembly’s concern with potential negative impacts associated with “disposal of CCDD and the inherent threat to the State’s groundwater.” PC 38 at 5. The People state that the General Assembly demonstrated this concern by ordering the Board to protect groundwater. *Id.* The People comment that for this reason alone groundwater monitoring and appropriate corrective action should be included in the Board’s rules. *Id.*

The People maintain that soil certification and load checking is insufficient to ensure that CCDD and uncontaminated soil fill operations will not impact the State’s groundwater. PC 38 at 6. The People note that the prefiled testimony of Mr. Sylvester pointed to a “number of instances where enforcement actions have been initiated for regulatory violations that call into question the ability to determine the nature of materials accepted by the facility.” *Id.*, citing Exh. 35 at 26-28. The People also reiterate the testimony of Mr. Cobb to support the concept that groundwater monitoring is necessary. *Id.*, citing 3/13/12Tr. at 22-23.

The People agree that a reliable certification and screening process to limit negative impacts is a good first step in protecting groundwater, but only a first step. PC 38 at 6. The People state that “non-CCDD (as well as CCDD in the form of asphalt) may, either through deliberate or inadvertent means, make its way into a CCDD dump site and thereafter negatively impact the groundwater.” PC 38 at 7. The People opine that without groundwater monitoring and corrective action requirements, the General Assembly’s “mandate to the Board to adopt regulations to protect groundwater would go unchecked.” *Id.*

The People point to the testimony of Mr. Cobb concerning the number of people relying on groundwater for their needs in Will County where nine “CCDD dump sites” are located. PC 38 at 7. The People comment that given that so many people rely on groundwater prevention of contamination should be paramount. *Id.* The People opine that investment in groundwater monitoring at “CCDD dump sites” outweighs the potential negative impacts to groundwater. *Id.* The People further opine that the cost for groundwater monitoring could be passed on “to the dumpers”. *Id.*

The People argue that absent groundwater monitoring, contamination will likely only be discovered once the contamination impacts drinking wells. PC 38 at 7. The People state that the General Assembly did not envision a scenario that would leave people who “are constitutionally guaranteed a right” to a healthy environment to determine that a “CCDD dump site” impacted

their water. PC 38 at 7-8. The People opine that the Board was charged by the General Assembly to adopt standard to protect groundwater. PC 38 at 7.

### **Illinois Environmental Protection Agency (IEPA) (PC 39)**

IEPA urges the Board to restore the groundwater monitoring requirements for CCDD and uncontaminated soil fill operations, as proposed by IEPA and amended in the errata sheets one through 3. Further, IEPA requests that the Board modify the proposed soil certification provisions by allowing the use of ASTM standards as guidance rather than mandatory requirements. IEPA also addressed the issue soil pH as it relates to determining MACs for pH dependent constituents. PC 39 at 1-2. The Board will summarize below IEPA's comments concerning groundwater monitoring, soil certification, and soil MACs.

#### **Groundwater Monitoring**

IEPA asserts that "groundwater monitoring provides the single most reliable tool for protection of groundwater." PC 39 at 3. IEPA maintains that certification and screening procedures cannot be expected to ensure groundwater protection. Groundwater monitoring, IEPA contends, will act as a check on the effectiveness of the certification and screening procedures and trigger corrective action measures if groundwater contamination is identified." *Id.* IEPA argues that proof of groundwater contamination from fill operations is not necessary, since they have the potential to cause groundwater contaminations. In this regard, IEPA notes that the State's policy regarding groundwater has always been to prevent groundwater contamination and preserve groundwater resources for their highest current and future uses. PC 39 at 3.

IEPA contends that soils not meeting MACs will likely be accepted at fill operations because of imperfect implementation of screening and certification procedures, and limitations associated with available screening tools (PID and XRF). PC 39 at 4-5. Further, IEPA maintains that the potential for groundwater contamination exists because large volumes of soil are placed in fill operations, many of which are located in geologically susceptible areas without any controls to prevent migration of contaminants. IEPA comments provide additional information to support the inclusion of groundwater monitoring.

First, IEPA provides a discussion of the application of minimum setback zone requirements to CCDD and uncontaminated soil fill operations. These fill operations, IEPA notes, are not considered potential primary or secondary sources under Section 14.1 of the Act. However, a CCDD or soil fill operation at a former stone, sand or gravel excavation meets the definition of a "potential route" in accordance with Section 3.350 of the Act. PC 39 at 6-7. Section 14.2 of the Act prohibits new community water supply, private, semi-private, and/or non-community water supply wells from locating within 200 feet of an existing potential route after January 1, 1988. The setback may be increased to 400 feet for community water supply wells. Also, new potential routes may not be located within the setback zones of existing potable wells. *Id.* at 7. IEPA argues that the setback zones are just one element of a multi-barrier approach to prevention of groundwater contamination that includes legal and technological controls. *Id.* 10. IEPA contends that the proposed screening and certification procedures

without technological controls constitute a single barrier against groundwater contamination. Thus, IEPA argues that groundwater monitoring becomes very significant as an early warning system of groundwater contamination. *Id.*

Next, IEPA's comments address the issue of CCDD and uncontaminated soil fill operations in the vicinity of Class III Special Resource Groundwater<sup>13</sup>. IEPA's comments include maps of existing CCDD fill operations and proposed expansion in or near Class III groundwater in Volo Bog State Nature Preserve and Bluff Spring Fen. PC 39 at 11 and Attach. 1 and 2. Other CCDD sites existing in or near existing Class III groundwater or proposed Class III groundwater areas, existing nature preserves, and existing wetlands include: Beverly Materials CCDD site (Bartlett, Kane Co.); Reliable Sand & Gravel Co. CCDD site (Holiday Hills, McHenry Co.); Lake in the Hills CCDD site (Lake in the Hills, McHenry Co.; and Hanson Material Service Yard 588 (Romeoville, Will Co.). PC 39 at 13-14.

IEPA believes that the fill operations near Class III groundwater may be subject to water table fluctuations and linked hydraulically to adjacent wetland complexes. PC 39 at 12. Further, the wetlands can be a point of groundwater discharge or recharge. In addition, IEPA notes that the USDA NRCS soil pH data shows pH lows of 4.5. Thus, IEPA contends that the potential for interaction with saturated fill materials and groundwater is another reason for restoring groundwater monitoring at CCDD and soil fill operations. IEPA also asserts that the location of CCDD or uncontaminated soil fill operations in the vicinity of Class III groundwater highlights the need for groundwater protection for the highest current or future uses, which is not limited to drinking water. PC 39. At 15. As such, IEPA is opposed to the use of TACO tools like institutional controls to increase the concentrations of contaminants in "uncontaminated soil" at fill operations.

Additionally, IEPA argues that the impact of aquifer recharge and acidic precipitation on fill operations is one more reason for requiring groundwater monitoring. In this regard, IEPA notes that many fill operations in the northeastern Illinois are located in principal aquifers with very high potential for recharge. PC 39 at 17 citing Attach 3. Further, the National Atmospheric Deposition Program (NADP) data from 2010 indicates that the pH of precipitation in northeastern Illinois range from 4.9 to 5.1, which is considered to be acidic. *Id.* at 19 citing Attach. 4. IEPA contends that acidic precipitation infiltrating through CCDD and soil fill materials could potentially mobilize and leach contaminants to the water table. Acidic precipitation can also increase concentrations of total dissolved solids, which cannot be removed by ordinary treatment techniques used by private well owners. PC 39 at 19.

### **Enhanced Soil Certification Procedures**

IEPA comments note that it does not share the Board's confidence that the enhanced certification procedures along with screening procedures at fill operations provide sufficient

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<sup>13</sup> Determined by the Board to be: demonstrably unique and suitable for application of a water quality standard more stringent than the otherwise applicable groundwater quality standard; or vital for a particularly sensitive ecological system. 35 Ill. Adm. Code 620.230.

protection for groundwater. PC 39 at 19-20. IEPA maintains that the complexity of ASTM standards along with the costs and delays associated with implementing ASTM procedures are disincentives for diligent performance of the requirements. *Id.* at 20. IEPA also notes that the exceptions requested by other participants (IDOT and ITC) from the proposed ASTM standards would weaken the basis on which the Board excluded groundwater monitoring. While an enhanced procedure may produce marginally better results, IEPA contends that neither IEPA's flexible certification procedure nor the Board's more stringent requirements will guarantee all materials received at fill operations will comply with the MACs so that there will be no threat to groundwater contamination. PC 39 at 22. Therefore, IEPA urges the Board to reconsider the mandatory use of ASTM standards and adopt a flexible approach proposed by IEPA along with groundwater monitoring. IEPA recommends that the ASTM standards be included in the rules as guidance for investigation procedures and techniques rather than as requirements. *Id.* at 23.

### **Cost of ASTM Assessment and Groundwater Monitoring**

In response to the Board's request, IEPA provides cost estimates for ASTM assessments and groundwater monitoring. IEPA states that the cost of ASTM-based certifications could range from several hundred to several thousand dollars depending on site complexity and history. IEPA notes that the costs could be higher for linear projects. Further, the costs could vary widely when converted to costs per cubic yard depending on the amount of soil generated at a site. PC 39 at 24.

IEPA estimates the cost of groundwater monitoring using a model site and relying on several assumptions. IEPA estimates the cost to install five monitoring wells at a site consisting of: bedrock geology to be \$75,000; and unconsolidated material geology to be \$6750. Using the average total volume of CCDD used as fill material statewide in 2011, IEPA estimates a well installation cost of \$0.06 per cubic yard over the 10-year life of a CCDD permit. PC 39 at 25. In order to provide a better perspective on cost, IEPA estimates the well installation cost at each of the permitted CCDD sites in the state. PC 39 at 25 citing Attach. 6. IEPA notes that the estimated well installation costs for approximately 96 percent of CCDD used as fill material would be less than \$0.10 per cubic yard. While IEPA recognizes that larger sites would incur higher groundwater monitoring costs, such costs would still be modest when compared to landfill disposal costs.

In addition to the cost of well installation, IEPA notes that the groundwater monitoring costs will include engineering design costs, maintenance costs, and costs of sampling and analysis. PC 39 at 26. For a five-well groundwater monitoring network, using information in the record, IEPA estimates the annual sampling and analysis cost on a statewide basis to be \$0.20 per cubic yard. *Id.* at 27. IEPA asserts that while groundwater monitoring would increase the cost of disposal at fill sites, the cost increase is reasonable when compared to the higher cost of disposal of CCDD materials in landfills. IEPA notes that the current cost of CCDD disposal in fill sites ranges from \$3-5, as compared with the landfill disposal cost of approximately \$20. PC 39 at 27 citing Tr. 4 at 100, and Exh. 43 at 5.

### **Role of pH in Determining MACs**

IEPA comments provide additional explanation of IEPA's pH data from the USDA's NRCS' STATSGO2 Database, address the pH data submitted by the participants, and discuss the issue of establishing a minimum soil pH of 6.25 for determining MACs. IEPA notes that Exhibit 25 presents the pH data from STATSGO2 for 23 counties in which a CCDD or uncontaminated soil fill operation is located. For each county, STATSGO2 lists up to 200 unique soil types with areal coverage for most soil types in a county being less than 1 percent. IEPA states that it focused on the fewest number of soil types necessary to represent around one-third of the entire county surface area reducing the number of unique soil types to between two and 13. IEPA notes that each soil type percentage is followed by a range of pH values that corresponds to the lowest and the highest soil pH determined in the specific soil type represented by the percent coverage. The range of pHs represents values from the soil surface through up to 80 inches below ground surface. PC 39 at 28-29.

Based on the STATSGO2 data, IEPA concludes "soil pH is too variable and that no generalizations suitable for a statewide rule of general applicability could be made regarding average or background soil pH." *Id.* at 29. Regarding the wide pH ranges, IEPA notes that the STATSGO2 data is obtained from agricultural fields that are highly amended and impacted by agricultural activities. The natural transformation of nitrogen along with the acidic precipitation in Illinois impacts the upper levels of the soil profile. However, the lower dolomitic soils are expected to be more alkaline. *Id.* at 30. IEPA notes that STATSGO2 data was mostly measured in the field, and the high end of the pH range was limited by field measurement kits to 8.5. *Id.*

Regarding the pH datasets introduced into the record at the March 14th hearing, IEPA states that it is difficult to reconcile the data because of the limitations associated with each dataset. While IEPA does not dispute the datasets submitted by Mr. Hall, Mr. Wilcox and Ms. Maenhout, IEPA maintains that the information is geographically limited to northeastern Illinois. PC 39 at 33. Regarding data presented by Dr. Fernández, IEPA notes that the data "is substantially less comprehensive as to area and depth than the STATSGO2 data and also may reflect amendment of the soils." PC 39 at 33-34. IEPA also comments on the pH data submitted by IDOT that includes pH values from 13,616 samples from 48 counties. While the average pH per listed county range from 4.68 to 8.76, IEPA notes that "it's difficult to generalize conclusions with a high degree of confidence. *Id.* at 35.

Next, IEPA addresses the issue of the neutralizing effects of sand and gravel due to their buffering capacity. IEPA agrees with the participants' assertions regarding the neutralization effects of carbonates. However, IEPA notes that the specific effect at fill operations is uncertain without site-specific data quantifying the neutralizing effect at a fill sites. PC 39 at 35. Further, IEPA asserts that there may be more uncertainty relative to neutralizing effect of sand and gravel since their neutralizing effect is less than dolomite. Also, the proportions of sand and gravel may have a significant effect on the neutralizing capacity of sand and gravel. PC 39 at 37.

Finally, IEPA addressed the issue of establishing a minimum soil pH of 6.25 for purposes of establishing MACs. Based on a review of all pH related data, IEPA maintains that its proposal to establish MACs for ionizing chemical constituents using the lowest pH dependent

values from Part 742 Appendix B, Table C is reasonable. PC 39 at 37. IEPA contends that its proposal accommodates the inherent uncertainty while protecting groundwater. Regarding the participants' proposal to establish MACs based on a soil pH within the range of 6.25 and 9.0, IEPA notes that all soils would have to be tested for pH prior to acceptance at fill operations and fill operations would be prohibited from accepting soils with pH below 6.25 regardless of applicable MACs. *Id.* 38. Again, IEPA voices concern regarding the effectiveness of screening procedures, particularly with the addition of soil pH testing. Thus, IEPA asserts that the Board must restore the groundwater monitoring requirements if the Board decides to establish a minimum soil pH of 6.25. PC 39 at 38-39.

### **Other Issues**

In addition to addressing specific concerns regarding the Board's first notice proposal, IEPA's comments address Mr. Huff's request for data, and testimony of the Honorable Christopher Getty, Mayor of Lyons. Regarding Mr. Huff's request for data from a court-ordered groundwater monitoring at facility in Lynwood, IEPA notes that additional groundwater monitoring data is not available. PC 39 at 39-40. Next, IEPA's comments address Mayor Getty's question as to IEPA's refusal to approve the placement of soils exceeding the Tier 1 ingestion remediation objectives at an adjacent CCDD fill operation instead of placing the soil in a park site under a three-foot cap. IEPA notes that the management of contaminated soil at the Lyon's site was handled in accordance with the provisions of the Site Remediation Program under Part 740. Further, "IEPA does not support relaxing the proposed MACs or allowing the use of engineered barriers and institutional controls so fill operations may accept contamination exceeding values protective of residential or construction worker exposure routes." PC 39 at 40 citing PC9 at 5-8.

### **Will County Land Use Department (PC 40)**

In its second public comment, the Will County Land Use Department, Resource Recovery and Energy Division requests that the Board reconsider its decision not to include groundwater monitoring in its first notice proposal. In response to the Board's first notice finding that the record lacks evidence of these sites being a source of groundwater contamination, the Will County Land Use Department states, "There isn't any groundwater monitoring data (and thus evidence of contamination from these sites) because the CCDD and Uncontaminated Soil Fill Operations have not been required to collect it." PC 40 at 1. The Will County Land Use Department suggests that groundwater monitoring, on a quarterly or annual basis, would be helpful in determining a site's impact on an aquifer and thus, the drinking water supply. Given the testimony of Mr. Cobb showing drinking water wells within 2500 feet of the ten sites in Will County, the Will County Land Use Department believes there is a compelling case to ensure groundwater is adequately protected. PC 40 at 1-2.

As to the Board's first notice proposal to enhance the soil certification procedure for source site owners/operators, the Will County Land Use Department predicts that some contaminated loads may still be inadvertently deposited at the fill sites. Additionally, the Will County Land Use Department points out that some contaminated loads might have already been deposited in these sites since the current testing and soil certification requirements only came

about recently. The Will County Land Use Department believes that CCDD and uncontaminated soil fill operations should be held accountable for the resulting groundwater contamination. PC 40 at 2.

In lieu of or in addition to requiring groundwater monitoring, the Will County Land Use Department provides an example to the Board of conditions it recently imposed on a CCDD/quarry applicant under a Special Use Permit. The conditions provide that in the event a complaint is received relating to a private residential well within 1/4 mile of the quarry, the CCDD site operator must pay for testing and a temporary clean water source. If the CCDD site is confirmed as source of contamination by a professional hydrogeologist, the CCDD site operator would be responsible for providing a permanent clean water source to the private residential well owner. PC 40 at 2.

### **Land Reclamation & Recycling Association (LRRRA) (PC 41)**

In its third public comment, LRRRA reiterates its recommendation “that the Board allow the IEPA the flexibility to create a new category of CCDD fill site that reflects the environmental conditions and types of soil inherent to the area in which it is located.” PC 41 at 1. LRRRA cites the situation in the Village of Lyons as well as Dr. Roy’s testimony regarding the appropriateness of applying residential inhalation and ingestion standards to CCDD fill sites in urban areas. PC 41 at 1.

LRRRA acknowledges that the IEPA expressed concern over the difficulty of monitoring CCDD sites with different standards, however, LRRRA points out that the proposed rules already include different standards for permitted CCDD and registered uncontaminated soil fill sites, as well as different MAC standards based on geographical location. PC 41 at 2.

To help facilitate the idea of providing greater flexibility for the emplacement of urban soil in commercial and industrial areas while protecting groundwater, LRRRA provided draft language. The proposed amendment would allow CCDD sites to apply to IEPA to use the construction worker standards in lieu of the residential inhalation and ingestion MAC standards as long as certain provisions regarding site closure are met. Such provisions would require a site closure plan that includes installation of a cap to remove the inhalation and ingestion pathway. In addition, the LRRRA’s proposal would require the CCDD owner/operator to post bond to cover proposed closure costs and to record deed restrictions consistent with the process under the Site Remediation Program. PC 41 at 2. LRRRA’s proposed amendments are show below in double underline and strikeout, while the Board’s first notice proposal is shown in single underline.

### **Section 1100.605 Maximum Allowable Concentrations for Chemical Constituents in Uncontaminated Soils**

- c) Construction worker Ingestion and Inhalation concentrations from Ill. Adm. Code 742.Appendix B, Table B may be used as the maximum allowable concentrations of containments in permitted CCDD sites provided that: (1) IEPA has approved a closure plan for the site which shall include an engineered barrier of materials



that will sufficiently eliminate the Inhalation and Ingestion exposure pathway; (2) deed restrictions for final use, as approved by IEPA, are recorded in the office of the County Recorder of Deeds where the site is located; and (3) a bond is posted by the site owner or operator to ensure compliance with the approved closure plan.

de) For chemicals not listed on 35 Ill. Adm. Code 742.Appendix B. Table A, B, or C, the values may be obtained from IEPA by making a request for chemical-specific values.

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ed) Other provisions of 35 Ill. Adm. Code 742 (e.g., institutional controls, engineered barriers, exposure route exclusions, site-specific evaluations, local area background calculations) may not be used to exclude or otherwise alter exposure routes or exposure route values for the purpose of determining the maximum allowable concentrations under this Part unless otherwise approved by IEPA. PC 41 at 2.

### **Public Building Commission of Chicago (PBC) (PC 42)**

The PBC was active throughout the legislative process that resulted in amendments to the language of the Act regarding CCDD and uncontaminated soil. PC 42 at 1. PBC’s “key interest” is in defining uncontaminated soil in a “workable, sensible” manner that would allow public contractors to readily ascertain if soil is uncontaminated. *Id.* PBC notes that the record establishes that the cost of transporting and disposing of excavated soil at a landfill is double for transporting and six to seven times the cost of using that soil as fill at a CCDD site. *Id.* PBC notes that prior to the more recent amendments, uncontaminated soil could be used as fill at CCDD sites; however the Act and Board regulations did not define “uncontaminated soil”. PC 42 at 2. As a result, IEPA applied a strict standard to determine “uncontaminated” and applied that standard to receiving facilities as well as the haulers and source site owners. PC 42 at 4.

PBC opines that the legislation that drives this rulemaking requires that any standard for “uncontaminated soil” must be risk based. PC 42 at 4, citing 415 ILCS 5/3.160(c) (2010). PBC comments that a key fact is that the legislature directed the Board to establish a standard using the definition in Section 3.160 of the Act (415 ILCS 5/3.160(c) (2010)), which is a workable methodology that responsible contractors and source site owners can understand their responsibilities under the Act. PC 42 at 2.

PBC argues that the proposed MACs do not represent a risk-based approach and changes are necessary before going to second notice. PC 42 at 5. PBC opines that the use of MACs creates an economically unreasonable rule as disposal at a landfill is the only “reasonable alternative” to using the soil as fill. PC 42 at 6. PBC’s projects are almost all subject to due diligence investigations and where necessary targeted analysis for contaminants. *Id.* PBC offers that if the Board adopts the MACs proposed, analytical data “would no doubt require that all

excavated urban soil be landfilled.” *Id.* The landfilling of urban soils would divert public dollars and PBC opines that this is not a scenario envisioned by the legislature. *Id.*

PBC states that IEPA has not provided scientific evidence to support the use of the proposed MACs in relation to actual risk to groundwater. PC 42 at 7. PBC offers that IEPA merely confirms what is well known: that groundwater is a source for drinking water for many citizens of the State, and groundwater must be protected from contamination. *Id.* However, PBC opines that IEPA has not provided scientific evidence that using MACs will result in groundwater contamination. *Id.* PBC comments that the IEPA’s position does not account for the “major purpose” of this rulemaking. *Id.* That purpose is to ascertain a MAC, and a methodology that adequately and accurately assesses actual risk to groundwater. *Id.*

PBC points to the testimony of Dr. Roy (Exh. 50) and notes that after reviewing the record in this proceeding, Dr. Roy noticed an absence of science. PC 42 at 8, citing 3/14/12 Tr. at 13. PBC further points out that Dr. Roy testified on the nature and science of soils as well as the interplay between soil and groundwater. *Id.* PBC reiterates the following points from Dr. Roy’s testimony:

- 1) The pH numbers used by the IEPA in its proposed MAC formula are not representative of Illinois soils, particularly Illinois soils found in northern Illinois, where the greatest economic concerns in this rulemaking are at play. Utilization of a lower pH than is actually representative of soils that enter Illinois quarries results in an overly conservative MAC, as it is based upon acidic conditions not representative of such soils, and certainly not representative of background conditions in Illinois quarries. Dr. Roy opined that the proper values to be utilized to evaluate soils relevant to this rulemaking are 6.25 through 8.74. *See* 35 Ill. Adm. Code Part 742, Appendix B, Tables C and D.
- 2) Although TACO may be an appropriate methodology to utilize in this rulemaking, the specific TACO application urged by the IEPA in its proposed MAC is inappropriate in context and overly conservative: “these numbers generated from TACO are going to be conservative...we’re assuming desorption is completely reversible when experimentally (sic) we know it’s not...I don’t think TACO takes into account when lead precipitates as a solid phase. Then its dissolution behavior is not based on sorption/desorption, but a whole bag of chemistry, which I don’t think TACO takes into account.” *See* 3/14/12Tr. at 19.
- 3) The MAC proposed by IEPA does not take into account the scientific fact that, in a quarry environment, some constituents in soil (*e.g.*, benzopyrene) will be strongly sorbed by soil organic matter as it is “not very water soluble...it won’t come out into solution”. *See* 3/14/12Tr. at 20 - 21.
- 4) The MAC proposed by IEPA does not adequately consider the alkaline nature of Illinois quarries: “Another thing that seemed to be missing was .

. .the influence of the quarry rocks, the limestone. . .[in the quarry environment] you have the sources of things that aren't acidic that would help immobilize things like lead and zinc and copper.” *See* 3/14/12Tr. at p. 25.

- 5) The MAC proposed by IEPA does not adequately address the anthropogenic concentrations of urban soil, such as lead, since lead isn't soluble in a more alkaline pH environment, endemic to Midwest quarries. *See* 3/14/12Tr. at 26.
- 6) The MAC proposed by IEPA does not allow for a more flexible (and appropriate in context) use of TACO: “TACO...talks a lot about flexibility and different options and I really admire TACO. It's obvious a lot of thought went into it, but when I started reading how it's applied to CCDD, a lot of those options seemed to be missing and I can't understand why we didn't take advantage of all the options and all the things that are there.” *See* 3/14/12Tr. at 30.
- 7) The MAC proposed by IEPA is not justified by distinctions in quarry type (rock, limestone, sand) as actual risk is inherent in an appropriate TACO analysis. *See* 3/14/12Tr. at 31.
- 8) The MAC proposed by IEPA places unwarranted emphasis on the TACO groundwater ingestion pathway, which is not suitable in the context of this rulemaking: “it didn't make a lot of sense to me that you would consider that [the ingestion] pathway. I was focusing on the pathway to groundwater.” *See* 3/14/12Tr. at 32. PC 42 at 9-11.

PBC suggests that the Board revisit the proposed MACs, and the utilization of TACO methodology as it relates to four types of contaminants of concern: inorganics, ionizable organics, other organics in the TACO tables, and other constituents that might be eligible for chemical site-specific numbers. PC 42 at 11. PBC notes that it would “strongly support” language to allow for consideration of site specific conditions and operational infrastructure and protocol in the determination of site specific MACs.

PBC takes issue with the proposed definition and inclusion of the phrase “potentially impacted properties” in the proposal. PC 42 at 12. PBC offers that the statutory language used zoning categories as demarcation. *Id.* PBC opines that the legislative demarcation is appropriate, but if the Board proceeds with using “potentially impacted properties” changes need to be made. PC 42 at 12-13. One area of concern for PBC is the application of the proposed language to small to medium sized projects in an urban area that were never developed as industrial or commercial. PBC opines that with these smaller projects a decision to dispose of the soil would be made rather than going through the uncontaminated soil certification process due to expense. PC 42 at 13. PBC estimates that the cost to do an uncontaminated soil certification could exceed the cost of disposal, leaving disposal as the more economic alternative. PC 42 at 14.

Another issue with the use of the phrase potentially impacted properties is unless “more realistic contaminant parameters” are developed based on actual risk to groundwater, disposal at a landfill would be required as most urban soils will not meet the MACs currently proposed. PC 42 at 14. PBC also has concerns with the meaning of a “recognized environmental condition” in the context of urban soils. PBC proposes the following language to address its concerns:

New 1100.205(a)(1)(C)

(C) for a publicly-owned source site, a certification from the source site owner or source site operator that the site is not a potentially impacted property, as can be determined through adequate knowledge of the site history, and is presumed to be uncontaminated soil. If soil is consolidated from more than one such source site owned by the same public entity, a certification must be obtained for each source site.

Then, change current (C) to (D), then add a new certification type to the subsection now marked as “D.”

(iii) for publicly-owned source site, for the person making the certification under subsection (a)(1)(C), the following language: In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I \_\_\_\_\_, [name of person authorized by public owner entity] certify that this site is not a potentially impacted property, as determined by an adequate review of the site history showing no reasonable likelihood of such impact, and the soil is presumed to be uncontaminated soil. I also certify that I am a duly authorized representative of the site owner or site operator and am authorized to sign this form. Furthermore, I certify that all information submitted, including but not limited to all attachments and other information is, to the best of my knowledge and belief, true, accurate and complete. PC 42 at 15.

PBC notes that IEPA has indicated that IEPA will rely on the professional judgment of LPE/LPGs in determining if soil is uncontaminated. However, PBC is unclear on how such deference will actually occur in practice. PC 42 at 15. PBC suggests that the rule language clearly allow for targeted testing and language be developed to absolve the excavation site owner of responsibility for contamination if the Board’s rules have been followed. PC 42 at 16.

**Heather Jorna (PC 43)**

Ms. Jorna sent a comment that expresses concerns about a special use permit issued to Vulcan Lands, Inc. by the Will County Board. Ms. Jorna and her husband have a drinking water well on their property and support Will County’s additional requirements on the permit.

**Land Reclamation & Recycling Association (LRRRA) (PC 44)**

Responding to the other first notice comments, LRRRA agreed with the comments of IAAP, PBC, the City of Chicago, and ITC regarding pH for purposes of determining the MACs. LRRRA also agreed with the comments of IAAP on the issue of groundwater monitoring. PC 44.

Following up on the issues raised by the Village of Lyons, LRRRA believes that the concept of burying material that does not meet residential inhalation and ingestion standards in an open park under 3 feet of clean fill instead of a in the Lyons quarry under 100 feet of fill risks accidental excavation and exposure. LRRRA indicated such an approach “makes no practical sense”. By way of background, LRRRA explained that the Village of Lyons purchased the property at issue from Material Service Corporation and a gas station owner, not Reliable Materials Lyons, LLC. LRRRA stated that the property previously housed an asphalt plant and a gasoline service station with a leaking underground storage tank (LUST) and that portions of the site were mined and filled in decades ago. PC 44.

LRRRA reiterated its suggestion that the proposed rule make provisions for IEPA to allow the use of engineered barriers at CCDD sites where such mechanisms are included in the site’s post-closure plan and deed restrictions, and where bond is posted to ensure implementation of the post-closure plan. PC 44.

**Illinois Transportation Council (ITC) (PC 45)**

Mr. James E. Huff, P.E., provides response to first notice comments on behalf of the Illinois Transportation Coalition on the Board’s first notice regulations on CCDD and soil fill operations. Mr. Huff specifically responds to IEPA’s position that a soil pH range of 4.5 to 4.74 is appropriate for establishing MACs instead of the higher range of proposed by ITC and other participants. PC 45 at 1. First, Mr. Huff asserts that IEPA’s concerns regarding groundwater pH at fill sites is without foundation, especially in light of the groundwater pH data submitted by ITC that shows pH values are consistently on the alkaline side. *Id.* at 2 citing Attach 1. Further, regarding hydraulically connected bogs and wetlands, Mr. Huff notes that IEPA did not provide any data to support its contention of potential interaction among these hydrogeologic settings and fill operations. Next, Mr. Huff states that IEPA’s acid rain argument has no place in the current CCDD proceedings and mobilization of metals argument ignores Dr. Roy’s hysteresis explanation of metals adsorbed to soils. PC 45 at 2. Finally, Mr. Huff disagrees with IEPA position to not allow the use of ordinances to restrict groundwater use. He argues that the use of groundwater ordinances to address groundwater impacts is a cost effective approach and protective of the environment. PC 45 at 3.

**Public Building Commission of Chicago (PBC) (PC 46)**

PBC maintains that the People have framed the language in Section 3.160(b) of the Act (415 ILCS 5/3.160(b) (2010)) incorrectly. PC 46 at 2. PBC defines the issue as whether or not CCDD used as fill is contrary to federal law; whereas the People ask whether federal law requires that CCDD is waste. *Id.* PBC recites the definition of waste at Section 3.53 of the Act (415 ILCS 5/3.53 (2010)) and the definition of “solid waste” found in RCRA (42 U.S.C. §

6903(27)) as well as the beginning of the definition of CCDD in the Act. PBC states that CCDD is not in the specific items listed in the federal definition nor is CCDD “other discarded material”. PC 46 at 3. PBC opines that the People’s citations to case law, particularly cases where material was not used in a manner specified in the CCDD laws and regulations, are not relevant to this proceeding. *Id.* PBC states that the Board’s initial conclusion on this point is correct, CCDD is not waste. *Id.*, citing Proposed Amendments to Clean Construction or Demolition Debris (CCDD) Fill Operations: Proposed Amendments to 35 Ill. Adm. Code 1100, R12-9 (Feb. 2, 2011).

PBC reiterates its contention that IEPA is being unnecessarily rigid on MACs, by assuming worst case scenarios on a statewide basis. PC 46 at 3. PBC notes that such worst-case scenarios may not be present for solubility into the groundwater, risk to groundwater, or an exposure pathway. *Id.* PBC points to IEPA’s response to testimony by Christopher Getty (3/14/12Tr. at 60-64) as evidence of IEPA’s position on MACs. *Id.* PBC argues that IEPA’s position does not focus on groundwater risk, but rather focuses on a rigid application of TACO parameters. PC 46 at 4.

PBC argues that appropriate pH levels are from 6.25 to 8.74 (PC 46 at 7). PBC opines that adopting MACs based on IEPA’s suggested pH values would be arbitrary and capricious. PC 46 at 5. PBC states that based on Cook County numbers in the STATSGO data base the mean pH in Cook County is between 5.57 and 7.59, outside the 4.5 advocated by the IEPA. PC 46 at 6.

PBC offers that the appropriate risk level of not more than one in a million should be the “driver for all MACs” and that would further the goal of making reasonable and economical use of the materials. PC 46 at 8. Using the most stringent assumptions only forces more material to landfills to take up space. *Id.*

PBC recommends language removing the required use of groundwater Class I input values. PC 46 at 8. PBC offers that if the site is in an area of Class II groundwater, the pH specific MACs for Class II groundwater should be used. *Id.*

PBC also makes a case for not using TACO residential objectives. PC 46 at 8. PBC notes that very little if any of the material will be exposed to the public, except for construction workers. PC 46 at 9. Further, TACO residential objectives are not necessary to protect groundwater. *Id.* PBC continues to reject IEPA’s one size fits all approach to the definition of uncontaminated soil. *Id.*

PBC states that it leaves the question of groundwater monitoring to the Board; but believes that the direct burden of groundwater protection should be placed on the CCDD facility and not the soil generators. PC 46 at 10. PBC suggests that any groundwater monitoring be based on actual risk and contamination should not be presumed to result from CCDD facilities. *Id.*

PBC supports flexibility in the approach to potentially impacted properties. PC 46 at 11.

### **Illinois Environmental Protection Agency (IEPA) (PC 47)**

IEPA's responsive comments address soil certification procedures, soil sampling, cost of groundwater monitoring, and legislative intent behind soil MACs. First, IEPA states that the proposed enhanced soil certification requirements will result in additional cost and delay for the source site owners or operators. Further, the revisions requested by participants to the proposed certification requirements will make the Board's enhanced procedures less comprehensive and effective. PC 47 at 4. Therefore, IEPA urges the Board to adopt IEPA's proposal, which relies on a multi-barrier approach of flexible soil certification procedures combined with groundwater monitoring to accomplish the groundwater protection required by the Act. *Id.* at 5.

Next, IEPA continues to oppose compositing of soil samples to show compliance with the MACs. PC 47 at 5. IEPA states that whether or not a source site is a PIP, the analytical results of soil sampling must reflect the limitations of TACO as well as standard practices for sampling and analysis. IEPA notes that TACO values for migration to groundwater and construction worker exposure routes must be compared to discrete, non-averaged results. Therefore, sampling and analysis to show compliance with MACs, which are based on TACO values, must be consistent with the limitations of TACO values. *Id.* at 6. Additionally, the standard practices for sampling and analysis prohibits compositing of samples for analysis of volatiles. Lastly, IEPA states that the nature of environmental contamination is rarely uniform and there is no general homogeneity of the contaminants in soil. As such, discrete samples should be taken to acknowledge the variation in environmental samples and focus on soils that are more highly contaminated and poses a potential threat human health and the environment. *Id.* 7.

Regarding the groundwater monitoring costs, IEPA raises some questions about the cost estimates submitted by IAAP. First, IEPA notes that the cost information provided by Waste Management is consistent with IEPA's cost data. PC 47 at 9. However, IEPA contends that the IAAP's groundwater monitoring cost estimate of \$350,000 is not very helpful without additional information, including the nature of geologic material in which the wells were installed, the depth of the wells, and the cost per foot of installation, and other related costs necessary to reach the total of \$350,000. PC 47 at 11. In this regard, IEPA notes that using IEPA's or Waste Management's installation cost for drilling 30-foot wells in unconsolidated material or 150-foot wells in bedrock leaves a significant portion of the IAAP's estimate unaccounted for.

Finally, IEPA disagrees with PBC's contention that Sections 3.160, 22.51 and 22.51 allow the consideration of site-specific circumstances to determine risk-based MACs of contaminants that could be present in soil at fill operations. IEPA states that its proposal is consistent with the statutory provisions enacted in P.A. 97-0137. IEPA states that it was the primary drafter of the language that was eventually enacted as Public Act 97-0137. Further, the public act was not intended to allow the use of TACO-style, site-specific evaluations and institutional controls to establish higher site specific MACs. PC 47 at 12. IEPA asserts that allowing the use of site-specific risk-based MACs "would lead to an unenforceable hodge-podge of MACs at each facility and allow elevated concentrations of contaminants that would threaten human health, safety and the environment if not controlled in perpetuity or until a demonstration was made that the higher concentrations had attenuated and were no longer a threat." *Id.*

## **DISCUSSION**

The participants' testimony and comments raise a number of issues concerning the Board's first-notice proposal. These issues include soil certification, grab and composite sampling methods, grandfathering projects that have already been bid, incidental amounts of soil, MACs, and groundwater monitoring. For each of these issues, the Board provides, a summary of the participants' concerns and the Board's discussion and findings. In addition, the Board also addresses other miscellaneous issues raised by participants.

### **Soil Certification**

#### **ASTM Standards**

At first notice, the Board required soil certification under Section 1100.205 to be based upon source site evaluation conducted in accordance with the ASTM standards. The Board amended the source site owner or operator certification at Section 1100.205(a)(1)(A) to be based on ASTM Standard E1528-06, and LPE/LPG certification under Section 1100.205(a)(1)(B) to be based on ASTM Standard E1527-05. However, IEPA along with several representatives of the regulated community expressed concern over the Board's approach.

**Participants' Concerns.** IEPA indicated that the required use of ASTM standards "may be too prescriptive and reduce flexibility". Exh. 26 at 8. For source site owners/operators, Mr. Cobb explained that these standards are complex and will result in additional costs and significant delays. *Id.* Mr. Clay stated that requiring source site certifications to be based on ASTM standards would be "unworkable, unclear and prohibitively burdensome to the source site owners and operators." Exh. 33 at 1. Mr. Clay maintained that the technical aspects of the ASTM due diligence standard (ASTM E 1528-06) would be confusing and beyond the capabilities of persons not having a technical background. Mr. Clay stated that hiring an environmental professional to complete the ASTM evaluation for a source site owner/operator certification would range from several hundred to thousands of dollars per site and would be economically unreasonable. Exh. 33 at 2-3, 3/13/12Tr. at 28. As a result, Mr. Clay predicted that large amounts of presumably uncontaminated soils would be sent to landfills or other areas not subject to regulation under Part 1100. *Id.* at 1-2.

Regarding the LPE/LPG certification, Mr. Clay argued that the required use of the ASTM standard would be overly burdensome and costly, since certain elements of the ASTM standard may be too extreme for all PIPs. Exh. 33 at 4. Mr. Clay recommended the Board adopt the ASTM standards as guidance only. Exh. 33 at 5 and 3/13/12Tr. at 27. By doing so, Mr. Clay said the regulations would provide guidance to an extremely diverse group of source site owners and operators and allow a LPE/LPG the discretion to develop a plan and procedure to determine if soil is uncontaminated on a site specific basis. Exh. 33 at 5.

From the perspective of governmental organizations responsible for many of the road building projects in Illinois, ITC's Mr. Huff echoed IEPA's concerns that the mandatory use of the ASTM standards would result in delays and significant costs. While ASTM standards may



be appropriate for individual properties, Mr. Huff remarked that the corridor for linear projects, such as roadways and pipelines, can extend across hundreds of properties. Mr. Huff explained that the evaluation for linear projects typically involves only two of four components of the ASTM Standard E1527-05: records search and site reconnaissance. As an alternative to the Board's proposal at first notice, Mr. Huff proposed draft language that would provide for soil certifications by an LPE/LPG based on either the records review and site reconnaissance provisions of the ASTM E1527-05, or policies developed by IDOT or the Illinois Tollway.<sup>14</sup> He proposed similar flexibility for source site certifications by owners or operators. Exh. 45 at 8-9.

IDOT also expressed concern with the Board's first notice proposal requiring use of the ASTM standards for soil certification. Mr. Gobelman pointed out, as did Mr. Huff, that the ASTM standards are intended for a single parcel, whereas a single IDOT project covers multiple parcels. IDOT explained that under the first notice provisions, IDOT would not be able to certify any soil as uncontaminated using its current Phase I process because it does not completely follow the ASTM standard. Exh. 34 at 2. IDOT suggested that the Board revert to the certification language IEPA originally proposed, rather than tying the certification process to ASTM standards. As an alternative, Mr. Gobelman proposed language that would allow certification with a method equivalent to the ASTM standards and provided a copy of "A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Infrastructure Projects".<sup>15</sup> Mr. Gobelman also stated that Mr. Huff's proposed revisions for Section 1100.205 (a)(1)(A) and (B) would be acceptable to IDOT. 3/13/12Tr. at 47-49.

The City of Chicago echoed Mr. Huff's and IDOT's concern that the ASTM standards proposed by the Board at first notice for soil certification were designed for discrete parcels, not for public works projects which can cover multiple city blocks, dozens or hundreds of parcels, and public right-of-way. The City of Chicago stated the costs of complying with such standards for discrete parcels would be prohibitive. The City of Chicago also supported revisions to the soil certification process as recommended by Mr. Huff. PC 35 at 2 referring to Exh. 45 at 8-9.

For small or unplanned/emergency excavations, the City of Chicago stated that the soil certification process proposed at first notice would be either disproportionately expensive for small excavations or too time intensive for unplanned/emergency excavations. The City of Chicago is concerned that it will have to landfill uncontaminated soil from these types of excavations "simply because the costs of certification will be very high relative to the amount of material at issue". PC 35 at 3-4. The City of Chicago requested the Board to consider an alternative requirement tailored to small and unplanned/emergency excavations. PC 35 at 3-4.

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<sup>14</sup> Illinois Department of Transportation, Bureau of Design and Environment Manual, Part III Environmental Procedures, Chapter 27 Environmental Surveys, February 2011; Illinois Department of Transportation, Local Roads and Street Manual, Chapter 20; and Illinois State Toll Highway Authority, "Environmental Studies Manual", Section F, July 2001.

<sup>15</sup> "A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Infrastructure Projects" Second Edition.

For small excavations, Springfield's CWLP expressed concerns similar to those of the City of Chicago. Mr. Metz stated that CWLP excavates about 80 sites each year, and the time to complete the 39-item site screening questionnaire in the ASTM standard would be difficult to justify for simple excavations of only 3 truckloads. Short of recommending IEPA's proposal for Section 1100.205 be adopted, Mr. Metz proposed language that would incorporate an exclusion for excavations done for utility maintenance and repair where CCDD is not generated from a potentially impacted property. Exh. 43 at 3-4, Exh. 44. Mr. Metz testified that he did not have a problem with using the ASTM standards as guidance. 3/13/12Tr. at 87-88.

PBC expressed similar concerns regarding small to medium sized excavations in urban areas that were never developed as industrial or commercial. For sites where less than 150 cubic yards of excess soils are produced, PBC estimated that the costs for an uncontaminated soil certification as proposed at first notice could exceed the cost of disposal, leaving disposal in a landfill as the more economic alternative. PC 42 at 14. PBC proposed language that would allow a source site owner or operator to certify soil from a publicly-owned source site is "presumed to be uncontaminated soil" if the site is not a PIP based on "adequate knowledge of the site history". PC 42 at 15. PBC also supported including guidance in the soil certifications based on the ASTM standards, IDOT and Illinois Tollway policies, noting that it is in the process of developing something similar for its own use. 3/14/12Tr. at 53.

MWRD also requested more specificity in the soil sampling protocol left to the discretion of the LPE/LPG. Additionally, MWRD requested that the rules clarify the terms "site" and "site of origin" as to whether a construction site, particularly a large site, could be segregated into distinct parcels for the purposes of site certifications. PC 28 at 3.

Vulcan also sought greater documentation for soil certifications. Vulcan noted that it has received certification forms that are incorrectly completed, signed by parties other than those listed in the rules, lacking supporting documentation or evidence, or of questionable validity. Vulcan suggested that testing and a comparison against MAC criteria be required for all sites other than residential. PC 14 at 2. The IEC concurred with Vulcan's position. PC 18 at 2.

**Discussion On The Use of ASTM Standards.** At first notice, the Board discussed the new term "potentially impacted property" (PIP) and expressed concern regarding its definition and the associated certification process as originally proposed by IEPA. The Board stated,

As discussed above, the Board agrees with IEPA on the proposed use of the new term "PIP" instead of the statutory phrase "industrial/commercial". However, the Board shares participants' unease regarding the determination of PIP. The Board agrees with Mr. Huff and PBC that the definition of PIP and the associated certification requirements do not provide sufficient guidance for making a PIP determination.

Under the proposed rules, the determination of whether a property is potentially impacted is a significant step, which determines whether soil from that property may be used as fill material without further evaluation. However, the proposed

rules do not specify any standard methodology or guidance that a source site owner/operator or LPE/LPG needs to follow to determine if a property is potentially impacted. Actually, according to IEPA, a source site owner/operator may use any criteria to determine whether a property is potentially contaminated. Tr.2 at 9.

... Therefore, the Board will require the source site owner or operator certification required at Section 1100.205(a)(1)(A) be based upon a site evaluation conducted in accordance with ASTM Standard E1528-06. If the owner or operator determines that the site is a PIP, then the Board will require LPE/LPG certification under Section 1100.205(a)(1)(B) be based on a site evaluation conducted in accordance with ASTM Standard E157-05. Proposed Amendments to Clean Construction or Demolition Debris Fill Operations (CCDD): Proposed Amendments to 35 Ill. Adm. Code 1100, R12-9, slip op. at 60-61 (Feb. 2, 2012)..

The Board understands that parties in this rulemaking support provisions in the soil certifications that would allow more flexibility than the Board's first notice proposal. For soil certifications by the source site owner or operator as well as the LPE/LPG, IEPA and IDOT supported a return to IEPA's original proposal, which did not tie the certification to any particular standard. IEPA stated the definition of "potentially impacted property" identifies key elements to be considered, and IEPA did not want to "pick and choose investigation techniques as identified in the ASTM due diligence standards." 3/13/12Tr. at 26. However, IDOT, ITC, City of Chicago, CWLP, PBC, MWRD, and Vulcan supported the option of including some measure of specificity in the certification, for example requiring the use of specified portions of the ASTM standards or policies adopted by IDOT or Illinois Tollway. PBC also supported changes to the definition of "potentially impacted property".

In light of the above, the Board will not require the mandatory use of ASTM standards for the purposes of soil certification. However, the Board believes that the ASTM standards, and the IDOT and Illinois Tollway documents contain useful information, and guidance for determining whether a property is potentially impacted or soil is uncontaminated. Therefore, to provide more specificity in the definition of PIP, the Board will revise the definition at Section 1100.103 by adding the ASTM, IDOT, and Illinois Tollway documents as guidance at second notice<sup>16</sup>. The definition of "potentially impacted property" will be amended at second notice to read as follows (Second notice changes are shown in double underline and strikeouts):

Potentially impacted property" means property on which a historical or current use, or contaminant migration from a proximate site, increases the presence or potential presence of contamination at the source site.

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<sup>16</sup> The IDOT and Illinois Tollway guidance documents are available for viewing through the Board's website as Exhibits under this docket. The ASTM standards are copyrighted documents that are available for viewing at the Board's clerk's office or may be purchased from ASTM. 3/13/12Tr. at 28.

“Potentially impacted property” is intended to identify soil that is more likely to be contaminated and in need of professional evaluation and certification before placement in a fill site. Source site owners are encouraged to coordinate with the receiving facility on soil certifications. The following should be considered when determining whether property is “potentially impacted property”: the current use of the property, prior uses of the property, and the prior and current uses of adjoining property. For example, for transportation rights of way or utility easements, the current use of the property as a right of way or easement, the uses of the property prior to its use as a right of way or easement, and the prior and current uses of adjoining property should be considered. Source site owners are encouraged to coordinate with the receiving facility on soil certifications. One or more of the following environmental site assessment standards or policies, which are incorporated by reference at Section 1100.104, may be used for determining whether a property is “potentially impacted property”:

ASTM E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, approved November 1, 2005.

ASTM E 1528-06 Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process, approved February 1, 2006.

Illinois Department of Transportation, Bureau of Design and Environment Manual, Part III Environmental Procedures, Chapter 27 Environmental Surveys, September 2010.

Illinois Department of Transportation, Local Roads and Street Manual, Chapter 20, Fifth Edition.

Illinois Department of Transportation, “A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Infrastructure Projects” Second Edition 2012.

Illinois State Toll Highway Authority, “Environmental Studies Manual”, Chapter VI, Section F, July 2001.

The Board will also add the last four documents listed above to those already included in the incorporations by reference at Section 1100.104. Currently, the record includes copies of each referenced document except “IDOT, Local Roads and Street Manual, Chapter 20”. This document, which is available on IDOT’s website, will be entered into the record as an exhibit. Further, the Board will make the IDOT and Illinois Tollway documents available on the Board’s website under Docket R12-9.

Consistent with the above revisions to the definition of PIP and to provide more flexibility, the Board will remove the requirement to specifically use ASTM standards under Sections 1100.205(a)(1)(A), (a)(1)(B), (a)(2)(A) and (a)(2)(B) at second notice. These sections

will be amended to read as follows (Second notice changes to Section 1100.205(a)(1) are marked with double underline and strikethrough):

- 1) For all soil, including soil mixed with CCDD, obtain:
  - A) a certification from the source site owner or source site operator that the site is not a potentially impacted property, as defined at Section 1100.103, ~~as determined in accordance with ASTM E 1528-06 Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process, incorporated by reference at Section 1100.104~~ and is presumed to be uncontaminated soil. If soil is consolidated from more than one source site, a certification must be obtained from each source site owner or source site operator; or,
  - B) a certification from a PE or PG that the soil is uncontaminated soil ~~based on a site evaluation conducted in accordance with ASTM E 1527-05 Standard Practice for Environmental Site assessments: Phase I Environmental Site Assessment Process, incorporated by reference at Section 1100.104~~. A certification under this subsection (a)(1)(B) must include analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to Subpart F of this Part.
- 2) Certifications required under subsections (a)(1)(A) and (a)(1)(B) must be on forms and in a format prescribed by the Agency and must provide at a minimum:
  - A) for source site owners or source site operators who certify under subsection (a)(1)(A), the following language: In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I \_\_\_\_\_ (owner or operator of source site) certify that this site is not a potentially impacted property, ~~as determined in accordance with ASTM E 1528-06 Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process,~~ and the soil is presumed to be uncontaminated soil. I also certify that I am either the site owner or site operator or a duly authorized representative of the site owner or site operator and am authorized to sign this form. Furthermore, I certify that all information submitted, including but not limited to all attachments and other information, is, to the

best of my knowledge and belief, true, accurate and complete.

- B) for PE or PG who certify under subsection (a)(1)(B), the following language: I \_\_\_\_\_ (name of licensed professional engineer or geologist) certify under penalty of law that the information submitted, including but not limited to all attachments and other information, is, to the best of my knowledge and belief, true, accurate, and complete. In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil based on a site evaluation conducted in accordance with ASTM E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. All necessary documentation is attached.

### **IEPA Forms**

The Board notes that the proposed Section 1100.205(a)(1)(C) provides that the certification forms are to be “in a format prescribed by IEPA”. As part of its proposal, IEPA submitted forms to demonstrate current practice under the interim statutory requirements under Section 22.51(f)(2)(B). Form LPC-662 was for the source site owner or operator to certify that the site has never been used for commercial or industrial purposes, and Form LPC-663 was for the LPE/LPG to certify that the soil is uncontaminated. *See* Exh. 5 and 6. The rule at second notice under Section 1100.205(a) continues to require that the source site owner or operator, or a LPE/LPG provide certification that the soil is uncontaminated on forms provided by IEPA. However, with the adoption of the proposed rules, the Board notes that the forms IEPA currently uses will need to be revised to reflect the Board regulations. As such, the Board directs IEPA to revise the soil certification forms provided by IEPA.

Specifically, the current forms would need to be revised to replace the statutory language in Section 22.51(f)(2)(B) and 22.51a(d)(2)(B) regarding soil removed from a site that “has never been used for commercial or industrial purposes” with language consistent with the new definition of “potentially impacted property”. Also, the certification forms must include relevant information to provide owners or operators of CCDD or uncontaminated soil fill operations a means to comply with Section 1100.205(a)(2) of the proposed rules regarding soil removed from a site as part of a cleanup of contaminants. Additionally, the Board directs IEPA to include more details in the forms under item three “Basis for Certification & Attachments” to provide a greater degree of specificity as to the types of information that must be considered to support the soil certification.

Given that the Board is not mandating the use of ASTM standards, the Board believes that the owner or operator certification (Form LPC 662) must include a checklist identifying the types of information that must be considered when certifying that the site is not a PIP and soil is

presumed to be uncontaminated. Based on a review of the ASTM standards along with IDOT and Illinois Tollway policies, the Board finds that, at a minimum, the owner/operator certification form (Form LPC-662) must include a checklist of the following types of information along with pertinent supporting documentation:

Description of the current and past uses of the site where the soil originated, giving consideration to the following:

Use of the site for commercial or industrial purposes.

Use of the site for use, storage, or disposal of chemicals or petroleum products in individual containers greater than 5 gallons or collectively more than 50 gallons.

Any storage tanks (aboveground or underground) being located on the site.

Use of the site for waste treatment or disposal.

Any environmental liens or governmental notification of environmental violations pertaining to the site.

Any transformers or capacitors manufactured before 1979 being used, stored, or disposed of on the site.

Any contamination that exceeds the Board's groundwater quality standards in any private wells on the site.

Any fill dirt being used at the site from either an unknown source or a site.

The Board will add the above minimum informational requirements for source site owners or operators certification under the proposed Section 1100.205(a)(2)(A) as follows.

- a)
  - 2) Certifications required under subsections (a)(1)(A) and (a)(1)(B) must be on forms and in a format prescribed by the Agency:
    - A) For source site owners or source site operators who certify under subsection (a)(1)(A), the ~~certification~~ form must provide at a minimum:
      - i) Description of the current and past uses of the site where the soil originated, giving consideration to: use of the site for commercial or industrial purposes; presence of any storage tanks (aboveground or underground) being located on the

site; use of the site for waste treatment or disposal; any governmental notification of environmental violations pertaining to the site; any contamination in any private wells on site that exceeds the Board's groundwater quality standards; any transformers or capacitors manufactured before 1979 being used, stored, or disposed of on the site; and any fill dirt used at the site from either an unknown source or a site; and

- ii) Certification language as follows: In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I \_\_\_\_\_ (owner or operator of source site) certify that this site is not a potentially impacted property, ~~as determined in accordance with ASTM E 1528-06 Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process,~~ and the soil is presumed to be uncontaminated soil. I also certify that I am either the site owner or site operator or a duly authorized representative of the site owner or site operator and am authorized to sign this form. Furthermore, I certify that all information submitted, including but not limited to all attachments and other information, is, to the best of my knowledge and belief, true, accurate and complete.

Regarding LPE/LPG certification under section 1100.205(a)(2)(B), the Board believes that it would be helpful for the regulated entities to comply with the proposed rules if Form LPC-663 is revised to include a direct reference to the guidance documents listed in the definition of PIP (ASTM standards or the IDOT and Illinois Tollway policies) along with a prompt for the LPE/LPG to indicate what guidance was followed to support the certification. While the Board is not specifying any minimum informational requirements for LPE/LPG certification (Form LPC-663), the Board encourages IEPA to initiate outreach with the regulated community on the redevelopment of the form to provide more specificity. The Board also suggests that the Agency include examples such as historic records, maps, photographs, aerial photographs, title search, etc. under the "List all attached documents supporting the certification" in LPC 662 and 663.

Finally, regarding MWRD's concern pertaining to site certification based on segregation of a construction site into distinct parcels or portions of parcels, the Board notes that the proposed definitions of "PIP" and "Site of origin" do not limit a source site owner from segregating construction site for purposes of certification. Therefore, the Board declines to amend the rules. PC 28 at 3.



### **Small, Unplanned, Emergency, and Right-of-Way Excavations**

The City of Chicago, Springfield's CWLP, and PBC each requested that the Board carve out an alternative requirement for soil certifications for small and unplanned or emergency excavations. Each indicated that the certification process proposed at first notice would be either disproportionately expensive for small excavations or too time intensive for unplanned or emergency excavations. PC 35 at 3-4, Exh. 43 at 3-4, PC 42 at 14-15. PBC estimated that the cost of certification could exceed the cost of disposal in a landfill. PC 42 at 14. The Board notes that while the Agency did not specifically respond to participants' concerns regarding small, unplanned, emergency excavations, IEPA testified that no type of property can be "categorically excluded" when it comes to soil certification. 9/26/11 Tr. at 22, 10/26/11Tr. at 8. The Board agrees with IEPA's interpretation here. Further, as noted by the City of Chicago, environmental concerns associated with excavated soils preclude the adoption of an exemption for soils from small excavations. Moreover, the Board notes that the certification procedures as revised for second notice and the clarification discussed below regarding target constituents for sampling are intended to provide more flexibility in this regard.

For excavations in the public right of way, CWLP and PBC indicated that IEPA had provided guidance in the past that the public right of way, whether in a residential area or not, would be considered commercial/industrial property for the purpose of soil certifications, precluding the use of the source site owner or operator certification. Exh. 43 at 3, PC 42 at 12-13.

However, Mr. Clay provided clarification regarding soil certification for soils excavated from the public right of way:

I might add that with regard to Mr. Metz's testimony, ... what we would normally see from a utility is if they were doing a water main and had an easement across three properties and were doing that, we would normally see the 662 form, which is the property owner certification for those three properties from the property owner. So that's what we would normally see. They wouldn't have to have a professional in there, but the property owner then could just certify that it's not a potentially impacted property based on the definition that we had proposed. 3/13/12Tr. at 91-92.

The Board further notes that the definition of "potentially impacted property" only refers to "rights of way" as an example in the context of the types of information to be considered when determining whether a property is "potentially impacted property". The definition does not categorically include right of way as a "potentially impacted property". In light of the above, the Board declines to propose any categorical exemptions of alternative requirements for small and unplanned or emergency excavations or right of way excavations.

### **LPE/LPG Certification Without Soil Testing**

For sites that are not PIPs, MWRD suggested that a source site owner or operator should be allowed to obtain a certification through an LPE/LPG that the site is not a PIP without soil testing. PC 28 at 2.

The Board notes that of the two types of soil certification required under Section 1100.205, only the source site owner or operator may certify that the site is “not a potentially impacted property” and “presumed to be uncontaminated soil.” A LPE/LPG may certify that the soil is uncontaminated and include “analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to [35 Ill. Adm. Code 1100] Subpart F...”. Proposed 35 Ill. Adm. Code 1100.205(a)(1)(B). The Board notes that the proposed soil certification requirements at Section 1100.205(a)(1) track the interim statutory requirements at Section 22.51a (d)(2) of the Act, which clearly makes the distinction between the owner/operator certification and LPE/LPG certification.

The Board notes that a source site owner or operator has the option to consult with an LPE/LPG to provide a professional opinion as to whether the site is not a PIP. However, the Board believes it should be incumbent upon the owner or operator to certify that the site is not a PIP. The LPE/LPG certification is intended to evaluate the site and analytically assess the soil for compliance with the MACs. Therefore, the Board will not allow a LPE/LPG to certify that a source site is not PIP in accordance with Section 1100.205(a)(1)(A).

### **Soil Testing**

As to which contaminants on the MAC table must be assessed, IEPA conveyed that the Board’s first notice proposal under 1100.205(a)(1)(B) seemed to suggest that the soils must be analyzed for the entire list of contaminants on the MAC table. Exh. 33 at 4-5. PBC also suggested that the rule specify that only those TACO parameters targeted as a result of a site investigation need to be tested. PC 42 at 16. Additionally, Mr. Rapps recommended that Board consider “focused analyses that limit test parameters to those most likely to be of concern.” PC 29 at 2.

The Board notes that proposed Section 1100.205(a)(1)(B) provides in pertinent part:

...A certification under this subsection (a)(1)(B) must include analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to Subpart F of this Part.

Proposed 35 Ill. Adm. Code 100.205(a)(1)(B).

The Board clarifies here that the analytical soil testing need not necessarily cover the entire list of contaminants on the MAC table. The Board notes that the proposed Section 1100.610(a) under Subpart F provides the LPE/LPG discretion in determining the sample points and constituents to be evaluated for purposes of determining if soil is uncontaminated. However, the Board makes the following change to Section 1100.610(a) to reflect that soil testing is a requirement, and not an option for LPE/LPG certification under Section 1100.205(a)(1)(B) :

## Section 1100.610

- a) For purposes of this Subpart F, the chemical constituents to be evaluated, if any, and the soil sample points must be determined on a site-specific basis by the PE or PG.

**Costs of Certification**

IEPA estimated that the cost of ASTM-based certifications could range from several hundred to several thousand dollars depending on site complexity and history. IEPA notes that the costs could be higher for linear projects. Further, the costs could vary widely when converted to costs per cubic yard depending on the amount of soil generated at a site. PC 39 at 24, 3-13-12Tr. at 28.

Mr. Huff estimated a full Phase 1 environmental assessment would be on the order of \$3,000, typically ranging from \$2,000 for an apartment building site to \$5,000 for a complex industrial site. 3-13-12Tr. at 126-127

PBC estimated step one of a Property Transaction Screen per ASTM E1528-06 would be \$1,000, and a Phase I Environmental Site Assessment per ASTM E1527-05 would be \$2,500 with soil samples at another \$3,000. PC 42 at 13-14

Mr. Metz estimated costs for soil testing associated with CWLP excavations to be \$1,500 for each analysis. Exh. 43 at 4. Mr. Rapps also indicated the price for a commercial laboratory soil analysis for all of the parameters in the MAC list is \$1,500 per sample. PC 29 at 2.

The Board notes that the second notice changes to the soil certification process and the definition of “potentially impacted property” replace the mandatory use of the ASTM standards with documents appropriate to be used as guidance. Additionally, the Board has clarified above that the analytical soil testing need not necessarily cover the entire list of contaminants on the MAC table since proposed Subpart F, Section 1100.610(a) provides the LPE/LPG discretion in determining the sample points and constituents to be evaluated. With these second notice changes and clarifications, the Board finds the costs of soil certification are economically reasonable.

**Grab and Composite Sampling**

At first notice, the Board agreed with IEPA that when defining “uncontaminated soil” the rules must be based on the assumption that any exposure may be to the highest constituent concentrations. Thus, the Board found that the rules should not allow compositing and averaging to show compliance with soil MACs. However, several participants raised the issue of using composite sampling to obtain better representative samples.

## Concerns

Mr. Huff stated that for PIPs, grab samples might be appropriate. 3/13/12Tr. at 105. However, Mr. Huff argued that using grab samples can lead to unrepresentative samples, particularly for linear corridor projects, at non-PIP sites where fewer samples would be taken. *Id.* at 10. Mr. Huff explained that for public works projects, standard practice is to bring excess soil from the excavations back to the public works yards. Piles are segregated depending on whether they are from residential or industrial/commercial sites and tested. Mr. Huff stated, “[I]t makes no technical sense to me to take a single grab sample out of a pile instead of a representative composite sample of ground in the pile.” 3/13/12Tr. at 105-106. Additionally, Mr. Huff estimated that relying on grab samples to determine compliance “assures a 5 percent rejection rate for arsenic alone, due to naturally occurring arsenic levels in Illinois”, which translates into an economic impact of \$4.3 million per year Exh. 45 at 9. Mr. Huff recommended that the Board amend the proposed rules to allow compositing of soil samples collected outside of PIPs. *Id.*, 3/13/12Tr. at 106.

Dr. Fernández also addressed the issue of grab samples versus composite samples, stating that analyzing only grab samples is technically questionable in terms of providing representative values for pH or other chemical parameters. Exh. 48 at 2, 3/13/12Tr. at 110-112.

The City of Chicago also indicated that the record demonstrated that grab samples might be less representative than composite samples for chemical constituents other than VOMs, and recommended that the composite sampling should be allowed as an option at the discretion of a LPE/LPG. PC 35 at 3.

LRRA also supported the inclusion of composite sampling, indicating that composite sampling is a useful tool for characterizing large quantities of soil in a cost-effective manner that is more accurate than collecting fewer grab samples. LRRA requested the Board provide for compositing in accordance with TACO Section 742.225, which allows composite sampling for certain compounds under certain situations. PC 23 at 2-3.

Proposed Section 1100.610 provides in pertinent part:

Section 1100.610 Compliance Evaluation; Performance and Documentation of Soil Sampling and Chemical Analysis

...

- d) Samples must not be composited for analysis, and analytical results from samples must not be averaged.

## Discussion

The Board finds that composite sampling for soils other than those from PIPs is an acceptable option, as Mr. Huff suggested. However, the second notice language only requires analytical soil testing under proposed section 1100.205(a)(1)(B) for the LPE/LPG certification, not for the source site owner or operator certification. As explained above, only the source site owner or operator certification (Form 662) can be used to certify the site is “not a potentially

impacted property”. Therefore, samples outside of a PIP are not required under the proposed rules. Even so, the Board notes Mr. Huff did say that many quarries have indicated they want analytical information whether the soil certifications use Form 662 or 663. 3/13/12Tr. at 105.

Dr. Fernández, the City of Chicago, and LRRRA did not condition their recommendation regarding composite sampling on samples outside of PIPs. The Board finds that composite sampling, when done in accordance with 35 Ill. Adm. Code 742.225(c) and (d), as suggested by LRRRA, would be acceptable for soils from non-PIP sites . The Board amends Section 1100.610(d) as follows(second notice changes are shown in double underline and strikeouts):

- d) Compositing and averaging of soil samples.
  - 1) Samples must not be composited for analysis, except as specified in subsection (d)(2), below.
  - 2) Samples taken from a site that is not a potentially impacted property may be composited for analysis if samples are composited in accordance with 35 Ill. Adm. Code 742.225(c) and (d).
  - 3) Analytical results of soil samples from subsections (d)(1) and (d)(2) must not be averaged.

### **In-Progress and Already-Bid Public Works Projects**

The City of Chicago requested that the Board consider a “grandfathering” clause related to the effective date of the proposed rule for public works projects that are in progress or have already been bid. The City of Chicago estimated more than \$200 million worth of projects in progress or already bid. With the new soil certification requirements, the City of Chicago indicated delays could occur, resulting in the loss of public monies and the consequence of unfinished projects in public spaces, such as open holes, trenches, unfinished sidewalks and roadways, lane closures, and worker layoffs. To implement such a clause, the City of Chicago recommended that the grandfather “clause might disallow use of the existing form 662 for these projects and require a LPE/LPG certification to use existing form 663” regardless of the source site. PC 35 at 2-3.

The Board declines to include an exemption to public works projects that are already in progress or that have already been bid prior to the effective date of the proposed rules. As noted above, the Board is no longer requiring the use of ASTM standards for soil certification. Thus, the proposed rules are very similar to the statutory requirements already in place. The only significant difference being soil testing: pH for soils from non-PIP sites certified by owner/operator; pH and applicable soil contaminants for uncontaminated soil certification by LPE/LPG. The record indicates that a very strict “pristine soil” standard was being applied under the interim statutory requirements to determine whether or not fill materials were “uncontaminated soil”. PC 42 at 4. In light of this, the Board believes that the proposed rules

should not result in significant problems or delays with the transition from the interim statutory rules to the Board regulations.

### **Incidental Soils**

MWRD suggested that the rules specify an incidental volume of soil in CCDD below which certifications would not be required. Since most construction activity results in some commingling of soil with CCDD, MWRD is concerned that not recognizing the extent to which an incidental amount of soil may be involved is unreasonable. PC 28 at 2.

The Board observes that the occurrence of “commingled” uncontaminated soil is accounted for in the definition of CCDD as follows.

#### 1100.103 Definitions

...

*“Clean construction or demolition debris” means uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, reclaimed or other asphalt pavement, or soil generated from construction or demolition activities. For purposes of this Part, CCDD may include uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, or reclaimed or other asphalt pavement that has been painted (painted CCDD) if the painted CCDD is used as fill material at a CCDD fill operation in accordance with Section 1100. 212. Clean construction or demolition debris does not include uncontaminated soil generated during construction, remodeling, repair, and demolition of utilities, structures, and roads provided the uncontaminated soil is not commingled with any clean construction or demolition debris or other waste. For purposes of this Part, uncontaminated soil may include incidental amounts of stone, ~~clay~~, rock, ~~sand~~, gravel, roots, and other vegetation*

Pursuant to the statutory definition, uncontaminated soil generated *from construction or demolition activities* is CCDD. 415 ILCS 5/3.160(b). However, CCDD does not include uncontaminated soil generated at the site *during* construction provided the uncontaminated soil is not commingled with CCDD. Thus, the incidental uncontaminated soil generated from construction or demolition activities is included in the definition of CCDD. The Board believes that the definition is clear and further clarification or revisions are not necessary.

### **Maximum Allowable Concentrations (MACs) in Soils**

At first notice, the Board adopted MAC provisions proposed under Subpart F by IEPA without any changes. Several participants, including IAAP, ITC, IDOT, and PBC provided additional testimony and comments urging the Board to reconsider its findings on MACs. Specifically, the participants ask that the Board establish MACs for certain pH-dependent chemical constituents based on a neutral pH range, and allow the use TACO’s risk-based options on a site-specific basis, including the use of Class II groundwater standards and construction worker exposure route. After a careful review of all additional testimony and comments, the Board finds that the record supports the determination of MACs for certain pH-dependent

chemical constituents to be based on a pH range 6.25 to 9.0. However, the Board declines to allow the establishment of MACs on a site-specific basis using risk-based options, Class II groundwater standards, or construction worker exposure routes. The Board provides a discussion of the issues raised by participants concerning MACs before making a finding on each of them.

### **Soil MACs for pH-dependent Chemical Constituents**

***Participants' Position.*** As noted above, IAAP, ITC, IDOT, and PBC urged the Board to establish MACs for certain pH-dependent chemical constituents based on a neutral pH range. They presented additional soil pH data and testimony in response to Board's first notice finding that pH data in the record was insufficient to support the application of a higher pH range to determine MACs on a statewide basis. The Board received soil pH data from IAAP members, Dr. Fernández (ITC), Dr. Roy (PBC), and Mr. Gobelman (IDOT). Exh. 40, 41, 42, 48, 50 and PC 32. In addition, ITC and PBC presented expert testimony on the implications of soil pH on the placement of CCDD at fill sites to support their recommendation for MACs based on higher soil pH in the range of 6.25 to 9.0.

IAAP members, Mr. Hall, Ms. Maenhout, and Mr. Wilcox, presented 923 soil pH data points from 373 separate construction projects in the Chicagoland area. The pH data was derived from the IEPA certification form LPC 663. The pH values of soil samples from construction sites ranged from 6.70 to 11.1. Mr. Wilcox contends that the pH data is representative of most soils within the State of Illinois. Given the tendency of soil pH towards a neutral to alkaline pH, he argues that using MACs based on the most acidic pH values under TACO is neither realistic nor indicative of the type of soils generated from construction projects in Illinois. Exh. 38.

Dr. Fernández presented soil pH data from 576 randomly selected commercial agricultural fields from 51 Illinois counties sampled to a depth of 7 inches. The mean soil pH was 6.72 with only 3 values in the lowest range of 4.74 to 5.14. Dr. Fernández asserted that pH data represents worst case scenarios in terms of low soil pH since the pH in most Illinois soils increases with depth. Based on the pH data, Dr. Fernández questioned the validity of the use of lowest soil pH range of 4.5 to 4.74 by IEPA, and asserted that the likelihood of encountering soil with a pH of 4.74 or lower is very limited. Exh. 48 at 1.

Dr. Roy presented a summary of soil pH results from an ISGS State-wide assessment of 137 soil cores and 820 soil samples taken from surface to up to a depth of 7.3 feet. He noted that pH ranged from 3.6 to 8.7, with a median value of 6.64.<sup>17</sup> Exh. 50 at 6. Dr. Roy noted that 79% of the samples fell into a pH range of 5 to 8. Exh. 50 at 6. Dr. Roy stated that a soil pH of less than 5.0 is not typical for Illinois soils, as such; the MACs should reflect realistic soil pH values in the range of 6.2 to 6.3. Exh. 50 at 16 and 3/14/12Tr. at 14-15, 33.

Mr. Gobelman submitted pH data from 13,616 samples obtained along the State Right-of-Way in 48 counties. The pH ranged from 3.58 to 12.4 with an average of 7.95. Mr. Gobelman

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<sup>17</sup> Cahill, R. Chemical Composition of Soils in Illinois. Illinois State Geological Survey. Open File Report (in review) 2012. Exh. 50 at 6.

stated that it is IDOT's experience that the average soil pH throughout the state is typically greater than 6.0. He stated that IDOT supports raising the minimum pH for determining MACs from 4.5 to 6.25 along with a condition that soil with pH less than 6.25 not be allowed in non-limestone fill operations. PC 32 at 1. The soil pH data received by the Board is summarized in Table 1.

**Table 1: Soil pH Data Summary**

| Source              | Sample source Area                                     | Number of Samples | pH Range     | Arithmetic Average | Average based on H ion Conc. |
|---------------------|--|-------------------|--------------|--------------------|------------------------------|
| Mr. Hall (IAAP)     | Chicagoland - 53 construction sites                    | 103               | 6.73 -9.51   | 8.22               | 7.66                         |
| Ms. Maenhout (IAAP) | Chicagoland - 103 construction sites                   | 103               | 7.19 – 10.0  | 8.3                | 7.97                         |
| Mr. Wilcox (IAAP)   | Chicagoland - 74 construction sites                    | 236               | 7.12 – 10.9  | 8.21               | 7.80                         |
| Mr. Wilcox (IAAP)   | Chicagoland - 144 construction sites                   | 531               | 6.7 – 11.1   | 8.34               | 7.77                         |
| Dr. Fernández (ITC) | Commercial agricultural fields in 51 Illinois Counties | 567               |              | 6.72               | -                            |
| Dr. Roy (PBC)       | 137 cores collected Statewide                          | 820               | 3.6 to 8.7   | 6.64 (median)      | -                            |
| Mr. Gobelman (IDOT) | 48 counties statewide                                  | 13,616            | 3.58 to 12.4 | 7.95               | 6.41                         |

The Board also notes that IEPA and IAAP submitted pH data during the pre-first notice hearing process. The IEPA presented soil pH data for 23 counties with CCDD or uncontaminated soil fill operations from the USDA's NRCS' STATSGO database. Exh. 25. For each county, IEPA presented soil pH ranges for major soil types, which provide an overall areal coverage of one-third of the entire county showing a soil pH range of 4.5 to 8.4. 10/25/11Tr. 39-40. Mr. John Hock, Vice President of Civil & Environmental Consultants, Inc. (CEC), presented pH data from 44 borings from multiple CCDD fill sites in northeastern Illinois. The pH of fill material ranged from 7.3 to 11.0 with an average of 8.1. Exh. 12 at 3-4.

In addition to presenting soil pH data, Drs. Fernández and Roy addressed the buffering capacity at CCDD sites. Dr. Fernández noted that CCDD sites at former quarries, which were mined for calcium carbonate and calcium-magnesium carbonate (dolomite), have a natural buffering capacity to neutralize pH. Additionally, materials already placed in a CCDD site possess a pH buffering capacity. Dr. Fernández asserts that even if soils with a pH of 4.74 were placed in such a CCDD facility, it is unlikely that the pH of the groundwater would somehow be lowered. Exh. 48 at 2; 3/13/12Tr. at 109-110. In this regard, Dr. Roy noted that since the equilibrium pH of calcium carbonate (the major component of limestone quarries) is 8.2, any transient acidity created by low pH soil would be neutralized and eventually buffered by the



limestone remaining in the quarry. Exh. 50 at 13-14, 3/13/12Tr. at 23, 42-43. Further, Dr. Roy explained that the pH of soil or CCDD containing calcite or crushed concrete will range from 7.2 to 8.5. Therefore, CCDD derived from the demolition of buildings have relatively basic pH levels. Exh. 50 at 5- 7.

Finally, Dr. Roy explained that while leaching of contaminants from soil is influenced by pH, all of the mass of a given contaminant is not available to leach into groundwater. He noted that contaminants from soil and CCDD can be mobilized by “dissolution” and “desorption” when water flows through CCDD or soil. Regarding desorption, Dr. Roy explained that not all of the ions sorbed to a particle surface will desorb. This lack of reversibility tends to increase with time and may be due to the formation of chemical bonds or diffusion of ions into the soil particle itself. Exh. 50 at 7-8; 3/14/12Tr. at 18-19. In contrast, Dr. Roy noted that TACO assumes 100 percent of the contaminant mass would be available for leaching, which makes reliance on TACO values inherently conservative. 3/14/12Tr.at 20. Relying on the additional pH data and testimony of Drs. Fernández and Roy, Mr. Huff urges the Board to establish MACs based upon a more representative pH range of 6.25 to 6.64. Exh. 45. at 7. Mr. Huff adds that any concerns of low pH soil entering fill sites may be addressed by requiring pH testing of soil and prohibiting the acceptance of soil with pH below 6.25 by a fill operation. 3/13/12Tr. at 124. At hearing, Mr. Huff clarified that he was recommending only pH testing of soil for owner or operator certification of non-PIP sites. *Id.* at 126.

**IEPA Response.** IEPA continues to argue that the “STATSGO database is still the single most comprehensive source of statewide Illinois soil pH data presented in this proceeding”. PC 39 at 37. While IEPA does not dispute the pH data submitted by the IAAP members, IEPA states that the data does not support a statewide rule of general applicability because the data is limited to northern and northeastern Illinois. *Id.* at 33. Regarding the dataset submitted by Dr. Fernández, IEPA noted that the data is substantially less comprehensive as to depth and area when compared to STATSGO data and may reflect soil amendment. *Id.* 33-34. Next, regarding the data from the Cahill Study presented by Dr. Roy, IEPA notes that 21 percent (172 out 820) of the samples had pH values below pH 5 or above 8. The Agency also states that IDOT’s data shows wide-ranging soil pH values that makes it difficult to draw broad conclusions with a high degree of confidence.

The Agency makes the following limited conclusions based on the pH data in the record: pH values are generally higher in northern Illinois and trend lower towards the south; pH values generally increase with depth of soil; the arithmetic average and median soil pH values in Illinois generally above 6.25; pH values below 6.25 are found throughout the State and in increasing numbers as one moves southward across the State. PC 39 at 37.

Regarding the testimony on neutralization effects of carbonates, IEPA agrees with the chemistry of neutralization, but states that it is unconvinced of the specific effects at quarry operations without additional data. PC 39 at 35. The Agency voices concerns regarding sand and gravel aquifers in northeastern Illinois because sand does not have adequate buffering capacity. *Id.* at 35-36 citing 3/13/12Tr. 114-115. While IEPA does not have data to compare the neutralizing effect of sand and gravel environment to limestone environment, IEPA asserts that

there is more uncertainty regarding the effectiveness of the neutralizing effect at fill operations. PC 39 36.

IEPA maintains that its proposal for establishing MACs is reasonable, since the proposal eliminates pH consideration except at the extremes (pH 2.0 and below or pH 12.5 and above). However, IEPA admits that its proposal has the drawback of excluding “soils with certain pH-sensitive contaminant concentrations higher than the proposed MACs even though there may be no portion of the fill operation with a pH environment acidic enough to create leaching that would be of concern.” PC 39at 38. The Agency argues that a revision to a minimum pH of 6.25 must be accompanied by groundwater monitoring because such a revision increases potential for contamination. *Id.*

**Board Discussion.** Based on a review of the pH data in the record, the Board agrees with IEPA that it is not easy to reconcile the data from different sources in a cohesive manner because of geographical limitations (urban or agricultural) and the objectives of sampling programs. However, the soil pH data does shed some light on soil pH conditions across the state. First, the pH data indicates that the arithmetic average and median soil pH values in Illinois is above 6.25. Next, the pH data shows that the soil pH values generally increase with depth. This finding is significant in the context of the CCDD regulations, since soil from construction sites are mostly excavated from depths greater than three feet. Additionally, the soil pH data indicates that the soil pH in the northern and northeastern Illinois where most of the CCDD and uncontaminated soil fill operations are located is higher in the range of 5 to 8.2. Actually, the ISGS soil pH data for the Counties of Cook, DuPage, Kane and Will ranges from 6.2 to 8.2. Exh. 50 at 6. Further, the record indicates that very low pH acidic soils occur mostly in swamps in southern Illinois or bogs in northeastern Illinois. Exh. 45 at 3-4. Many of these areas are protected and soils from these areas would not be excavated for construction purposes. In summary, Board finds that the soil pH data in the record supports testimony of soil experts that a soil pH of less than 5.0 is not typical for Illinois soils.

In addition to soil pH data, the Board also received expert testimony on other factors that affect the potential of soil contaminants to enter groundwater, including the neutralizing potential of the quarry environment and mobilization mechanisms of soil contaminants. Both Drs. Fernández and Roy testified as to the buffering capacity of limestone quarries to neutralize acidic soils. Dr. Fernández explained that CCDD sites themselves have a large potential to neutralize pH (also referred to as buffering capacity). For CCDD sites where quarries were mined for calcium carbonate and calcium-magnesium carbonate (dolomite), Dr. Fernández explained that a natural buffering capacity is inherently present. Additionally, materials already placed in a CCDD site possess a pH buffering capacity. Dr. Fernández stated that soils with pH as low as 4.74 would not lower the pH of groundwater when placed in limestone quarries because of the neutralizing potential or buffering capacity of the quarries. Exh. 48 at 2. Dr. Roy stated that the equilibrium pH of calcium carbonate, the major component of limestone quarries is 8.2. Therefore, any transient acidity created by surface soils mixed with deeper, less acidic material neutralized and eventually buffered by the limestone remaining in the quarry. Exh. 50 at 13-14, 3/13/12Tr. at 23, 42-43.

Regarding the transfer of contaminants from soil to groundwater, Dr. Roy explained that due to sorption hysteresis, not all mass of a given contaminant is available to leach into groundwater. On the other hand, Dr. Roy noted that TACO assumes 100 percent of the contaminant mass would be available, which makes reliance on TACO values inherently conservative. 3/14/12Tr.at 20. This point was emphasized by Mr. Huff who stated that the assumption in IEPA's proposal that all contaminants are available to leach into groundwater adds a significant level of conservatism to the proposed revision of soil pH level. PC 37 at 4. Thus, the Board finds that the extensive soil pH data and testimony on factors affecting soil pH in quarry environment and transfer of soil contaminants to groundwater supports the establishment of MACs based on a higher pH range. Having found that a higher pH range for establishing MACs is appropriate, the Board will address issues concerning the implementation of the higher pH range.

First, the Board agrees with IEPA's interpretation of how the higher pH range would be specified in the rule. While the participants have argued for the establishment of a minimum pH value of 6.25, they have not proposed an upper limit. However, IEPA states that the proposed revision would "instead of basing MACs for pH sensitive chemicals on the lowest pH-dependent value from Table C (whether that lowest value is at the acidic or alkaline end of the table), the MACs for chemicals with pH sensitivity would be based on the lowest pH dependent values between Table C column range 6.25 to 6.64 and column range 8.75 to 9.0." PC 39.

Next, the Board will address the issue of whether the pH of all soils must be determined prior to acceptance at a fill operation. In this regard, the Board shares IEPA's concerns regarding soils with pH values outside the range of 6.25 to 9.0 being accepted at fill operations in quantities large enough to leach higher concentrations of pH-dependent contaminants to groundwater. In order to address this concern, as suggested by IEPA, the Board will prohibit fill operations from accepting soils with pH below 6.25 or above 9.0 regardless of applicable MACs. The Board will add the pH prohibition under Section 1100.201 for CCDD fill operations, and Section 1100.500 for uncontaminated soil fill operations as follows (second notice changes are shown in double underline and strikeouts):

### **Section 1100.201 Prohibitions**

- a) *No person shall conduct any CCDD fill operation in violation of the Act or any regulations or standards adopted by the Board. [415 ILCS 5/22.51(a)].*
- b) CCDD fill operations must not accept waste for use as fill.
- c) CCDD fill operations must not be located inside a setback zone of a potable water supply well. (See Section 3.160(b)(i) of the Act.)
- d) *No person shall use soil other than uncontaminated soil as fill material at a CCDD fill operation. [415 ILCS 5/22.51(g)(1)]*
- e) *No person shall use construction or demolition debris other than CCDD as fill material at a CCDD fill operation. [415 ILCS 5/22.51(g)(2)]*

- f) Except as provided in Section 1100.212 of this Part, no person shall use painted clean construction or demolition debris (painted CCDD) as fill material at a CCDD fill operation.
- g) CCDD fill operations must not accept uncontaminated soil with pH outside the range of 6.25 to 9.0.

### **Section 1100.500 Prohibitions**

- a) No person shall conduct any uncontaminated soil fill operation in violation of the Act or any regulations or standards adopted by the Board.
- b) No person shall use soil other than uncontaminated soil as fill material at an uncontaminated soil fill operation. [415 ILCS 5/22.51a(b)]
- c) Uncontaminated soil fill operations must not accept waste for use as fill.
- d) Uncontaminated soil fill operations must not accept CCDD for use as fill.
- e) Uncontaminated soil fill operations must not be located inside a setback zone of a potable water supply well.
- f) Uncontaminated soil fill operations must not accept uncontaminated soil with pH outside the range of 6.25 to 9.0.

The soil pH prohibition will be implemented through a soil certification process under Section 1100.205. The Board will require soil certification under subsections (a)(1)(A) and (a)(1)(B) to include soil pH testing results to show that the soil pH is within the range of 6.25 to 9.0. Further, the Board will amend subsections 1100.205(a)(2)(A) and (a)(2)(B) to require certification forms to provide for soil pH testing results. The Board amends Section 1100.205(a) as follows(second notice changes are shown in double underline and strikeouts):

### **Section 1100.205 Certifications and Load Checking**

- a) The owner or operator must do all of the following activities and document all the activities for all CCDD and uncontaminated soil accepted for use as fill material:
  - 1) For all soil, including soil mixed with CCDD, obtain:
    - A) a certification from the source site owner or source site operator: that the site is not a potentially impacted property, ~~as determined in accordance with ASTM E 1528-06 Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process,~~ incorporated by reference at Section 1100.104 and is presumed to be uncontaminated soil, and soil pH is within the range of 6.25 to

9.0. A certification under this subsection (a)(1)(A) must include soil pH testing results to show that the soil pH is within the range of 6.25 to 9.0. If soil is consolidated from more than one source site, a certification must be obtained from each source site owner or source site operator; or

B) a certification from a PE or PG: that the soil is uncontaminated soil based on a site evaluation, and the soil pH is within the range of 6.25 to 9.0 conducted in accordance with ASTM E 1527-05 Standard Practice for Environmental Site assessments: Phase I Environmental Site Assessment Process, incorporated by reference at Section 1100.104. A certification under this subsection (a)(1)(B) must include analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to Subpart F of this Part, and the soil pH is within the range of 6.25 to 9.0.

2) Certifications required under subsections (a)(1)(A) and (a)(1)(B) must be on forms and in a format prescribed by the Agency and must provide at a minimum:

A) For source site owners or source site operators who certify under subsection (a)(1)(A), the form must provide at a minimum following language:

i) Description of the current uses of the site where the soil originated;

ii) Description of the past uses of the site giving consideration to: prior use of the site for commercial or industrial purposes; presence of any storage tanks (aboveground or underground) being located on the site; prior use of the site for waste treatment or disposal; any governmental notification of environmental violations pertaining to the site; any contamination in any private wells on site that exceeds the Board's groundwater quality standards; any transformers or capacitors manufactured before 1979 being used, stored, or disposed of on the site; and any fill dirt used at the site from either an unknown source or a site;

iii) Soil pH testing results to show that the soil pH is within the range of 6.25 to 9.0.

iv) A certification using the following language: In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I \_\_\_\_\_ (owner or operator of source site) certify that this site is not a potentially impacted property, as determined in accordance with ASTM E 1528-06 Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process, and the soil is presumed to be uncontaminated soil. I also certify that the soil pH is within the range of 6.25 to 9.0. Additionally, I certify that I am either the site owner or site operator or a duly authorized representative of the site owner or site operator and am authorized to sign this form. Furthermore, I certify that all information submitted, including but not limited to all attachments and other information, is, to the best of my knowledge and belief, true, accurate and complete.

B) fFor PE or PG who certify under subsection (a)(1)(B), the following language: I \_\_\_\_\_ (name of licensed professional engineer or geologist) certify under penalty of law that the information submitted, including but not limited to all attachments and other information, is, to the best of my knowledge and belief, true, accurate, and complete. In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil based on a site evaluation. I also certify that the the soil pH is within the range of 6.25 to 9.0. conducted in accordance with ASTM E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. All necessary documentation is attached.

Third, the Board will address the issue of soil excluded from fill operations when the soil pH is outside the specified range of 6.25 to 9.0. This issue was addressed by IEPA, ITC and PBC. The Agency states that soils rejected solely on the basis of pH being outside the range should not be considered waste. The Agency maintains “[E]xcept at extreme pH values where soil becomes a corrosive solid or may produce hazardous leachates, whether soil should be managed as waste would depend on contaminant concentrations and not on its acid or alkaline properties.” Further, IEPA notes that the proposed rule at Section 1100.205(b)(4), would require loads rejected solely on the basis of pH to be disposed of at a permitted landfill unless retesting demonstrated the earlier pH values were in error. PC 39 at 39 citing Board’s First Notice Order at 95; Board’s First Notice Opinion. Along the same lines, both Mr. Huff and Dr. Roy stated that

the rules must allow source site owners/operators to amend soils with low pH with limestone to increase soil pH. PC 37 at 4, Exh. 50 14.

The Board agrees with IEPA that soils rejected solely on the basis of pH being outside the range should not be considered waste. However, since the Board is proposing to establish MACs based on a soil pH range of 6.25 to 9.0, acceptance of soils with a pH value outside the proposed range would not assure groundwater protection. Therefore, one viable option for soils from non-PIP sites or soils from PIP sites meeting the applicable MACs with pH below 6.25 would be to treat or amend the soil with limestone to increase the pH, as suggested by Mr. Huff and Dr. Roy. The Board believes that there is nothing in the proposed rules that would prohibit an owner/operator to amend the soil with limestone to increase the soil pH prior to sending the soil to a fill site. Regarding loads rejected at a fill operation solely on the basis pH, as noted by IEPA, the proposed rules at Section 1100.205(b)(4) would allow such loads to be accepted by the same fill operation or another fill operation if the requirements of subsection 1100.205(a)(4) of this Section are satisfied. The proposed Section 1100.205(a)(4) sets forth in part “Information demonstrating that the reasons for rejection of the load have been addressed by measures which would include but not be limited to testing and retesting of soils or removal of nonconforming materials” (emphasis added). The Board believes that Section 1100.205(a)(4), as proposed, allows for treatment of soil with limestone to increase pH, so that soil initially rejected solely on the basis of pH could be subsequently accepted by a fill operation.

Finally, as noted by the IEPA, the proposed revisions to the pH levels for determining soil MACs would affect ten chemicals. These chemicals are listed in Table 2 along with the IEPA’s proposed MACs and the revised MACs. PC 39 Attach. 8. The Board notes that the MAC for arsenic is not affected since it is based on the background concentration because arsenic is a carcinogen. Further, MACs for copper and elemental mercury increase only to interceding TACO values for ingestion and inhalation exposure routes. PC 39 at 39.

**Table 2**  
**Revised MACs for pH Dependent Chemical Constituents**

| Chemical Name      | MACs First Notice<br>(pH 4.5 -9.0) (mg/kg) | Revised MACs<br>(pH 6.25-9.0) (mg/kg) | Other Intervening<br>Limit for MAC<br>(mg/kg) |
|--------------------|--|---------------------------------------|---|
| Barium             | 260  | 1,500                                 |   |
| Beryllium          | 1.1  | 22                                    |   |
| Cadmium            | 1.0  | 5.2                                   |   |
| Copper             | 330  | 59,000                                | 2,900 (Residential<br>ingestion)              |
| Lead               | 36 (MSA),<br>23(non-MSA)                   | 107                                   |   |
| Mercury: Elemental | 0.01                                       | -                                     | 0.1 (Construction<br>Worker Inhalation)       |
| Mercury: Ionic     | -  | 0.89                                  |   |
| Nickel             | 20   | 100                                   |   |
| Silver             | 0.24                                       | 4.4                                   |   |
| Thallium           | 1.6  | 2.6                                   |   |
| Zinc               | 1000                                       | 5,100                                 |   |

**Board Findings.** Based on a review of soil pH data, testimony and comments, the Board finds that the record justifies the establishment of soil MACs for certain pH-dependent chemicals based on a soil pH range of 6.25 to 9.0. Under the proposed revisions, the MACs for chemicals with pH sensitivity would be based on the lowest pH dependent values between Part 742, Appendix B, Table C column range 6.25 to 6.64 and column range 8.75 to 9.0. The Board prohibits fill operations from accepting soils with pH below 6.25 or above 9.0 regardless of applicable MACs. This prohibition will be implemented under the proposed rules through soil certification under Section 1100.205 by requiring the source site owner/operator or the LPE/LPG to certify that soil pH is within the specified range of 6.25 to 9.0, and submit soil pH testing data. Further, for soils rejected solely on the basis of soil pH, the Board finds that Section 1100.205(a)(4), as proposed, allows for treatment of such soil with limestone to increase pH, so that the treated soil could be accepted by a fill operation.

#### **Use TACO's Risk-Based Options on a Site-Specific Basis**

**Participants' Position.** PBC expresses serious concerns regarding the establishment of soil MACs based on TACO Tier I Residential objectives. PBC argues that the Tier I objectives are not appropriate for fill operations, since "very little (if any) of the material being discussed will ever be exposed physically to the public (except construction workers during construction, transport and fill) as the vast majority of this material will be used as fill deep within the earth." PC 46. At 9. PBC contends that the rules must address issues related to soil that may be exposed to human activity at the end of a CCDD fill operation's effective life. *Id.* In this regard, PBC asserts that the Board must allow for site-specific determination of MACs. PBC argues that



“one-size-fits-all” approach is inconsistent with the statutory intent of Section 3.160(c)(1), which requires MACs based on background concentration to be based on the location of the quarry, mine, or other excavation where soil is used as fill material. PC 46 at 9-10.

**Agency Response.** The Agency strongly disagrees with PBC’s position on site-specific MACs. The Agency asserts that its proposal with MACs applicable on a statewide basis is consistent with the statutory provisions. PC 47 at 12. The Agency argues that P.A. 97-0137 was not intended to allow the use of TACO-style, site-specific evaluations and institutional controls to establish higher site specific MACs. The Agency maintains that the proposed methodology for determining MACs is consistent with the “language governing the meaning of ‘uncontaminated soil’ is found in Section 3.160 of the Act.” PC 47 at 13 citing 415 ILCS 5/3.160 (2010) (as amended by P.A. 97-0137, eff. July 14, 2011). Further, IEPA notes that Section 3.160(c)(1) directs the IEPA to propose rules specifying MACs that must not exceed concentrations posing a threat to human health, safety and the environment. The Agency argues that the MACs must be based on the concentrations of contaminants in the soil itself and cannot be conditioned on the presence of external controls and circumstances such as institutional controls, exposure route exclusion assessments, and so forth. PC 47 at 13-14. Finally, IEPA maintains that the statutory requirement at Section 3.160(c)(1) that MACs for carcinogens be established at a level not exceeding lifetime cancer risk of one in one million supports IEPA’s proposal. *Id.* at 14.

**Board Discussion.** The Board agrees with IEPA that the use of risk-based TACO methods on site-specific basis are not appropriate for establishing MACs for CCDD or uncontaminated soil fill operations. The Board notes that the statutory language under Section 3.160(c)(1) clearly requires the Board to adopt maximum concentrations of contaminants that may be present in uncontaminated soil. The primary statutory directive for establishing MACs is that the concentrations must not pose a threat to human health and safety and the environment. The statutes make no distinction as to whether the MACs should be determined considering site-specific conditions. The only reference made to MACs based on the location of a quarry, mine, or other excavation in section 3.160 concerns the MACs based on background concentrations.

The Board notes that Section 3.160(c)(1) allows the Board to establish MACs for carcinogens at the applicable background concentration if the most stringent remediation objective or applicable background concentration for a contaminant under Part 742 is greater than the concentration that would allow exposure at an excess upper-bound lifetime risk of 1 in 1,000,000. If the Board adopts background concentration in Part 742 as a MAC, the statutes require that the background concentration must be based on the location of the quarry, mine, or other excavation. This requirement applies specifically to location based background concentrations specified in the TACO regulations at 35 Ill. Adm. Code 742.Appendix A, Tables G and H. These tables provides background concentrations for PAHs and inorganic chemicals in soils based on location (Chicago, Metropolitan Statistical Area, and Non-Metropolitan area).

**Board Finding.** Based on the above discussion, the Board finds that the proposed methodology for establishing MACs on a statewide basis is consistent with the statutory provisions under Section 3.160(c)(1) of the Act. The Board believes that the proposed

methodology for establishing MACs for uncontaminated soil ensures protection of human health and safety and the environment on a statewide basis.

**MACs based upon Class II groundwater standards and construction worker exposure route**

PBC urges the Board to allow the use of TACO remediation objectives based on Class II groundwater standards for establishing MACs if the fill site is in an area of Class II groundwater. PC 46 at 8. PBC also argues that MACs should be based on groundwater protection and not on protection of irrelevant routes such as inhalation and ingestion. *Id.* at 9. In this regard, PBC recommends the consideration of exposure only to construction workers because of the potential exposure during construction, transport and filling. *Id.* and PC 42, Attach. B. The Board's first notice proposal sets forth that the MAC for a chemical constituent in uncontaminated soil will be the lowest Tier 1 chemical-specific soil value of the exposure routes for residential and construction worker receptors set forth in 35 Ill. Adm. Code 742.Appendix B, Tables A and B.

**Board Discussion.** The Board notes that PBC request for MACs based on Class II groundwater is an extension of defining MACs on a site-specific basis. As discussed above, the Board found that the statutory directive to the Board is to establish MACs that are protective of human health and safety, and the environment on a statewide basis. Moreover, the Board believes that additional regulatory structure would be needed for the determination and approval of Class II groundwater. The Board is not inclined to develop a framework for Class II groundwater at this stage of the rulemaking.

Regarding the issue of establishing MACs by considering only construction worker exposure, the Board notes that PBC's proposal may not be consistent with Section 3.160(c) of the Act that requires MACs to be protective of human health and safety. The statutory directive is fairly broad and not limited to protection of only construction worker exposure.

**Board Finding.** In light of the above discussion, the Board declines to adopt the changes proposed by PBC regarding Class II groundwater and construction worker exposure. The Board finds that the proposed methodology for establishing MACs meets the statutory directive and is protective of human health and safety and the environment.

**Groundwater**

Certain participants question the Board's decision not to proceed with groundwater monitoring at first notice. IEPA, the People, CARE and Mr. Liss all contend that the Board should include groundwater monitoring. These participants express concerns that not including groundwater monitoring is contrary to legislative intent, and will result in groundwater not being protected. Further, IEPA and the People argue that evidence of groundwater contamination is not required for the Board to include groundwater monitoring. In addition, participants have provided information on the cost of groundwater monitoring. The Board will discuss each of these in turn.

## **Legislative Intent**

The IEPA included groundwater monitoring to fulfill the mandate of the legislature to protect groundwater. *See* Exh.26 at 4. IEPA believes that groundwater monitoring is the most reliable tool for protection of groundwater.

The People argue that the focus of this rulemaking has shifted to defining what is uncontaminated and away from protection of groundwater. *See* PC 38 at 4-5. The People believe that the General Assembly demonstrated its concern with the negative impacts of CCDD and uncontaminated soil fill operations on groundwater by ordering the Board to protect groundwater. *See* PC 38 at 5. The People argue that for that reason groundwater monitoring and corrective action should be included in the Board's rules. *See Id.*

CARE agrees with the People that the decision not to include groundwater monitoring is contrary to the legislative intent. PC 31 at 3. Will County noted that it had recently imposed conditions pertaining to potential groundwater contamination on a permit issued to a CCDD/quarry applicant. *See* PC 40 at 2.

The Board contends the arguments of participants that not requiring groundwater monitoring is contrary to the statutory mandate are misplaced. Section 22.51(f)(1) of the Act requires the Board to adopt rules for CCDD facilities and provides, in pertinent part:

The rules must include standards and procedures necessary to protect groundwater, which may include, but shall not be limited to, the following: requirements regarding testing and certification of soil used as fill material, surface water runoff, liners or other protective barriers, monitoring (including, but not limited to, groundwater monitoring), corrective action, recordkeeping, reporting, closure and post-closure care, financial assurance, post-closure land use controls, location standards, and the modification of existing permits to conform to the requirements of this Act and Board rules. The rules may also include limits on the use of recyclable concrete and asphalt as fill material at clean construction or demolition debris fill operations, taking into account factors such as technical feasibility, economic reasonableness, and the availability of markets for such materials. 415 ILCS 5/22.51(f)(1) (2010).

For uncontaminated soil fill sites, the statute provides in pertinent part:

The rules must include standards and procedures necessary to protect groundwater, which shall include, but shall not be limited to, testing and certification of soil used as fill material and requirements for recordkeeping. 415 ILCS 5/22.51a(d)(1) (2010).

The plain language of Section 22.51 of the Act requires the Board to adopt rules to protect groundwater using multiple potential methods. One of those is groundwater monitoring. The Act does not require groundwater monitoring, but only that groundwater be protected. As the Board stated at first notice:

. . . P.A. 96-1416 requires the Board to adopt rules to include “standards and procedures necessary to protect groundwater, which may include, but shall not be limited to” a list of twelve possible procedures or tools. One of these is “monitoring (including, but not limited to groundwater monitoring)”. The Board finds that, while groundwater protection is a legislative priority, this protection can be achieved without requiring groundwater monitoring. The Board’s proposal strengthens the front-end screening process for soils and other provisions to help ensure that the soils legally deposited in quarries, mines, and other excavations are uncontaminated. Therefore, the Board’s proposal will protect groundwater. Proposed Amendments to Clean Construction or Demolition Debris Fill Operations (CCDD): Proposed Amendments to 35 Ill. Adm. Code 1100.R12-9, slip op. at 54 (Feb. 2, 2012).

The Board has reviewed the statutory language and the arguments presented by the participants. The Board remains convinced that the statutory language of Section 22.51, while requiring the Board to adopt rules to protect groundwater, does not require groundwater monitoring. Thus, the Board will continue to proceed with a rule that protects groundwater, but does not require the monitoring.

Furthermore, the language of the statute provides options for groundwater protection only one of which is groundwater monitoring and that was only for CCDD operations. Those options include testing and certification of soil used as fill material, surface water runoff, liners or other protective barriers, monitoring (including, but not limited to, groundwater monitoring), corrective action, recordkeeping, reporting, closure and post-closure care, financial assurance, post-closure land use controls, and location standards. In the case of uncontaminated soil fill operations, the statute specifically lists the options of testing and certification of soil used as fill material and requirements for recordkeeping. The Board’s rules address several options highlighted in the statutes, including, testing and certification of soils to be deposited in CCDD and uncontaminated soil fill operations, surface water control, recordkeeping and reporting, and closure and postclosure care. Also, the rules define uncontaminated soil such that MACs will not be exceeded in soils. Clearly, the rule will protect groundwater.

Will County provided the Board with some examples of conditions that Will County placed on a special use permit for CCDD/quarry applicant, including requiring the monitoring of private wells in close proximity to CCDD facilities. These types of conditions would seem appropriate for a local government to incorporate in such permits. The Board believes that local governments, in exercising local authority, can certainly add these types of conditions to permits, where a local government believes such conditions are necessary.

### **Groundwater Will Be Protected**

The IEPA expresses concerns that groundwater will not be protected absent groundwater monitoring and noted the number of private and public wells in the vicinity of existing CCDD facilities. *See* Exh. 26 at 16 and 17; PC 39 at 13-14. Although IEPA agrees that the CCDD and uncontaminated soil subject to this rule are not wastes, IEPA is concerned that due to “imperfect

certifications” waste could be accepted at a CCDD or uncontaminated soil fill operation. *See* Exh. 26 at 20; PC 39 at 4-5.

The People argue that the Board should treat classes of materials that pose a risk to the public in the same or a similar manner. *See* Exh. 35 at 2. The People take issue with the Board’s position at first notice that CCDD and uncontaminated soil subject to this rule are not waste. Exh. 35 at 10-13; PC 38 at 1-4. The People do not believe that soil certification and load checking is sufficient; believing that it is only a first step. *See* PC 38 at 6-7. The People point to examples of enforcement actions where there have been violations of the rules as examples of why groundwater monitoring is necessary. *See* PC 38 at 6.

Mr. Liss agrees that front end screening would not keep 100 percent of contamination out of CCDD and uncontaminated soil fill operations. *See* Exh. 49 at 1-2. Mr. Liss believes groundwater monitoring is an essential protection against contamination. *See Id.* CARE echoes concerns about the number of public and private wells that may be impacted by CCDD and uncontaminated soil fill operations.

In contrast, PBC disagrees with the People’s argument that all CCDD is waste and asserts that CCDD as defined by Section 3.160(b) of the Act is not waste. *See* PC 46 at 2. PBC opines that federal law does not require CCDD as defined by Section 3.160(b) of the Act to be treated as waste. *See* PC 46 at 3. PBC also takes issue with the case citations listed by the People, arguing that the cases are not relevant to this proceeding.

**CCDD Subject to this Rule is not Waste.** In the Board’s first-notice opinion and order, the Board made the following statement: “CCDD and uncontaminated soil are by statutory definition clean and uncontaminated and not a waste.” Proposed Amendments to Clean Construction or Demolition Debris Fill Operations (CCDD): Proposed Amendments to 35 Ill. Adm. Code 1100.R12-9, slip op. at 57 (Feb. 2, 2012). In context, that statement was made about CCDD and uncontaminated soil that is subject to this rule. It is this statement that has been the focus of arguments by the People that CCDD is waste. Section 3.160(b) of the Act provides:

“Clean construction or demolition debris” means uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, reclaimed or other asphalt pavement, or soil generated from construction or demolition activities.

Clean construction or demolition debris does not include uncontaminated soil generated during construction, remodeling, repair, and demolition of utilities, structures, and roads provided the uncontaminated soil is not commingled with any clean construction or demolition debris or other waste.

*To the extent allowed by federal law*, clean construction or demolition debris shall not be considered “waste” if it is (i) used as fill material outside of a setback zone if the fill is placed no higher than the highest point of elevation existing prior to the filling immediately adjacent to the fill area, and if covered by sufficient uncontaminated soil to support vegetation within 30 days of the completion of filling or if covered by a road or structure, and, if used as fill material in a current

or former quarry, mine, or other excavation, is used in accordance with the requirements of Section 22.51 of this Act and the rules adopted thereunder or (ii) separated or processed and returned to the economic mainstream in the form of raw materials or products, if it is not speculatively accumulated and, if used as a fill material, it is used in accordance with item (i), or (iii) solely broken concrete without protruding metal bars used for erosion control, or (iv) generated from the construction or demolition of a building, road, or other structure and used to construct, on the site where the construction or demolition has taken place, a manmade functional structure not to exceed 20 feet above the highest point of elevation of the property immediately adjacent to the new manmade functional structure as that elevation existed prior to the creation of that new structure, provided that the structure shall be covered with sufficient soil materials to sustain vegetation or by a road or structure, and further provided that no such structure shall be constructed within a home rule municipality with a population over 500,000 without the consent of the municipality. 415 ILCS 5/3.160(b) (2010) (emphasis added).

The People rely on the phrase “to the extent allowed by federal law” and argue that allowing CCDD and uncontaminated soil to be used as fill material is contrary to federal law and thus CCDD and uncontaminated soil defined by statutory language as not waste, is in fact waste. *See* PC 38 at 3-4. In fact, the People advocate that the Board must find federal law that specifically provides that CCDD used as fill material is not a waste. *See* PC 38 at 4. As discussed above PBC disagrees with the People’s reading of federal law.

The Board is unconvinced by the People’s argument that CCDD and uncontaminated soil as defined by Section 3.160(b) of the Act are always waste. Federal law has no rule or statute directly on point. The People would have the Board search federal law to find federal language that specifically provides that CCDD and uncontaminated soil are not waste. The Board instead will rely on the plain language of the statute in which the Illinois General Assembly found that CCDD and uncontaminated soil used as fill material are not a waste. The Board will not usurp the General Assembly without specific evidence that federal law will be circumvented. Therefore, the Board finds that CCDD and uncontaminated soil meeting the requirements of this rule are not a waste. Section 3.160(b) of the Act specifically provides for CCDD and uncontaminated soil, used “as fill material in a current or former quarry, mine, or other excavation, is used in accordance with the requirements of Section 22.51 of this Act” are not waste. The Board will therefore not treat them as waste.

**Use of MACs for PIPs Means Soils Are “uncontaminated”.** The People, IEPA, and CARE are concerned that soil certification and establishment of MACs for soil from a PIP are not sufficient to protect groundwater. However, their concerns seem to be related to failures of the system and persons who may choose to ignore the rules and regulations. The Board’s rules, building on the IEPA’s proposal, require that a site owner must certify that the soil is not from a PIP in order to avoid testing soils for constituents other than pH. Further, the Board offers guidance in the rules on what a site owner/operator must examine in order to determine if the site is a PIP. Thus, procedures are required that will limit the use of uncontaminated soil that has not been tested to sites that are unlikely to have been impacted by contaminants.

If a source site is a PIP, then testing must be done and soils cannot exceed the MACs. If soils exceed the MACs the soil is not “uncontaminated” and cannot be used as fill in a CCDD or uncontaminated soil fill operation. Thus, the Board’s rules prohibit using soils that are contaminated as fill material in a CCDD or uncontaminated soil fill operation. As the rules do not allow for contaminated material to be placed in a fill operation, the Board is unconvinced that groundwater monitoring is required.

The Board understands that mistakes can be made and that there are persons who may choose to ignore the law. However, the rules do provide checks at the fill sites to alleviate the potential for source site owners/operators to make mistakes. Furthermore, LPE/LPGs will be certifying that soils meet MACs from PIPs and errors by LPE/LPGs have ramifications for them professionally. Thus, the Board is convinced that the rules provide checks and balances against errors and persons who may choose to ignore the law.

**Number of People Who Rely on Groundwater.** The IEPA, McHenry County and CARE expressed concerns that because of the number of private and public drinking water wells in proximity to CCDD operations, groundwater monitoring is required. *See* Exh. 26 at 16-17; PC 31 at 5 and 6; PC 24. The Board appreciates the concerns, however, the record provided by the participants merely demonstrates that groundwater is prevalent in the State and many citizens of the State rely on groundwater. The record lacks any evidence that facilities operating within the law are currently contaminating wells or are likely to contaminate the wells. The Board does not believe this fact alone is sufficient to require groundwater monitoring.

### **Board’s Authority**

The People and IEPA argue that the Board does not need evidence that groundwater contamination may occur to require groundwater monitoring. *See* Exh. 26 at 9-12; Exh. 35 at 22. The People and IEPA rely on provisions of the Groundwater Protection Act (415 ILCS 55/1 *et seq.* (2010)) and Illinois’ constitution as evidence that groundwater monitoring can be required. *See* Exh. 26 at 9-12; Exh. 35 at 5.

The Board’s authority in rulemaking derives from Section 5(b) of the Act (415 ILCS 5/5(b) (2010)), which grants the Board the authority to adopt rules, which the Board does under Title VII of the Act (415 ILCS 5/26-29 (2010)). Section 27 of the Act (415 ILCS 5/27 (2010)) allows the Board to adopt substantive regulations pursuant to the Act and provides, in part:

In promulgating regulations under this Act, the Board shall take into account the existing physical conditions, the character of the area involved, including the character of surrounding land uses, zoning classifications, the nature of the existing air quality, or receiving body of water, as the case may be, and the technical feasibility and economic reasonableness of measuring or reducing the particular type of pollution. The generality of this grant of authority shall only be limited by the specifications of particular classes of regulations elsewhere in this Act. 415 ILCS 5/27 (2010).

The authority granted to the Board under the Act is a general grant of broad authority. Granite City Division of National Steel Company v. IPCB, 155 Ill. 2d 149, 181-82; 613 N.E.2d 719, 733-34 (1993). Furthermore, when the courts review the Board's rules:

Because the Board is an administrative agency, judicial review of its rulemaking is limited. People ex rel. Hartigan v. Illinois Commerce Comm'n, 148 Ill. 2d 348, 366, 592 N.E.2d 1066 (1992). Rules and regulations promulgated by the Board have the force and effect of law, are presumed to be valid, and will be construed by the same standards as statutes. Celotex Corp. v. Pollution Control Board, 94 Ill. 2d 107, 445 N.E.2d 752 (1983); Northern Illinois Automobile Wreckers & Rebuilders Association v. Dixon, 75 Ill. 2d 53, 58, 387 N.E.2d 320 (1979). When an agency has acted in its rulemaking capacity, a court will not substitute its judgment for that of the agency. Monsanto[Co. v. Pollution Control Board, 67 Ill. 2d 276], at 290, [367 N.E.2d 684 (1977)]. Regulations adopted by the Board pursuant to its statutory authority will not be set aside unless they are arbitrary and capricious. Celotex Corp., 94 Ill. 2d at 125; Monsanto, 67 Ill. 2d at 288-89.

The Board's statutory obligation requires that the Board make decisions in rulemakings taking a number of factors into consideration. Any review of a Board decision by the courts requires the courts to examine the Board's decision to determine if the decision is arbitrary or capricious. The Board does agree that policy considerations, such as the protection of groundwater, may be sufficient basis for adopting a rule. However, in this rulemaking, the Board believes that protection of groundwater can be achieved without groundwater monitoring. The Board further believes that the record supports the Board's decision.

IEPA and the People argue evidence of groundwater contamination is not required. The Board believes that something more is required in this case where the record merely reflects that groundwater contamination is possible if the rules are not followed. The People, IEPA, CARE, and others have suggested that groundwater contamination could occur and therefore groundwater monitoring must be done. The Board remains unconvinced and the record since first notice has not added sufficient information to change the Board's position.

### **Cost of Groundwater Monitoring**

In particular, IEPA, Waste Management, and IAAP provided cost break downs for groundwater monitoring. See PC 34 at 2-3; PC 33a at Exh. A; PC 39 at 23-27, Att. 5-6; PC 47 at 7-11. IEPA estimated the well installation costs for approximately 96 percent of CCDD used as fill material would be less than \$0.10 per cubic yard with annual sampling and analysis cost of \$0.20 per cubic yard. PC 39 at 25-27. IEPA asserted the cost increase is reasonable when compared to the higher cost of disposal of CCDD materials in landfills. IEPA stated that the costs of groundwater monitoring "[appear] to be within a quite reasonable range considering the protection to the State's groundwater resource that monitoring would provide and especially when compared to the considerably higher costs of disposing of material at a landfill." PC 39 at 27. PC 47 at 8.



Waste Management estimated that the cost per ton for groundwater monitoring could be as low as 8 to 16 cents per ton. PC 33 at 3. Based on a simple groundwater monitoring system with four thirty-foot wells (three upgradient and one downgradient) costing between \$5,400 and \$12,000, Waste Management stated, “When extrapolated over many tons of soil over many years, the cost per ton is insignificant, being a few pennies per ton.” PC 33a.

IAAP estimated the cost of monitoring for all parameters set forth in the Class I groundwater regulations at 35 Ill. Adm. Code 620.410 could be over \$3,000 for each time the wells are sampled. Exh. 12 at 6. IAAP also provided information on costs actually incurred for a CCDD site in Bartlett, Illinois involving a 1,000 acre sand and gravel mine. IAAP estimated total costs in line with IEPA’s proposal would be approximately \$350,000, with annual costs of \$20,000 to \$25,000. IAAP stated, “These costs would be added to the significant expenses already required for coming into compliance with the Board’s proposed changes to Part 1100.” PC 34 at 3.

The Board appreciates the information provided on cost of groundwater monitoring. However, in view of the Board’s decision that soil certification and testing sufficiently protects groundwater, the costs information does not alter the Board finding.

### **Summary**

The Board finds that the statutory directive to protect groundwater does not equate to requiring groundwater monitoring. With strengthened soil certification and testing and recordkeeping, groundwater will be protected from contamination under the Board’s rules. While the Board may adopt rules based on policy reasons, in this instance the Board is furthering the policy of groundwater protection without requiring groundwater monitoring. Based on this record, the Board finds that groundwater monitoring is not required and the Board will not restore Subpart G, groundwater monitoring, to the rule.

### **Language Allowing “Other Agency Written Approval” (Sections 1100.205(b)(8)(C), 1100.205(c), 1100.209, and 1100.209(a))**

At first notice the Board noted that the language “other Agency written approval” is vague and the Board is inclined to strike the language. Because the only proposed change to Section 1100.209 added this phrase, the Board proposed the language for first notice. The Board indicated that it expected IEPA to address this issue and invites other participants to comment on this during first notice. Mr. Clay testified at hearing that the language was intended to allow an owner or operator of a soil fill site to meet alternate standards only if they obtain written approval from IEPA. Because soil fill operations do not have permits, Mr. Clay indicated that this mechanism was necessary for soil fill operations.

While the Board appreciates the IEPA’s concerns for soil fill operations, the language is too vague. Furthermore, the placement of this language would allow for “other Agency written approval” to be applied to permitted sites. Therefore, the Board will strike the language in Sections 1100.205(b)(8)(C), 1100.205(c), 1100.209, and 1100.209(a). However to ensure that uncontaminated soil fill operations will be afforded some flexibility, the Board will amend the

language in Sections 1100.205(b)(8)(C) and (c) and 1100.505. Section 1100.205(b)(8)(C) will be amended to read:

Other operating procedures specified in the Agency permit for CCDD facility or approved by the Agency in writing for an uncontaminated soil fill operation ~~or other written Agency approval~~

Section 1100.205(c) will be amended to read:

Documentation required under this Section must be kept for a minimum of 3 years at the facility or in some alternative location: specified in the Agency permit for CCDD facility; or approved by the Agency in writing for an uncontaminated soil fill operation ~~or other written Agency approval~~. Documentation relating to an appeal, litigation or other disputed claim must be maintained until at least 3 years after the date of the final disposition of the appeal, litigation, or other disputed claim. The documentation must be available for inspection and copying by the Agency and by units of local government upon request during normal business hours.

Section 1100.505 will be amended as follows:

Uncontaminated soil fill operations are subject to all of the standards and requirements of Sections 1100.202 through 1100.211 of Subpart B with the following exceptions:

- a) The provisions of Sections 1100.203 and 1100.210 will not apply.
- b) The owner or operator must conduct postclosure maintenance in accordance with Section 1100.209 for a minimum of one year after the Agency issues a certificate of closure pursuant to Section 1100.525 unless a shorter period of time for postclosure maintenance is approved by the Agency in writing. Reasons for which the Agency may approve a shorter period of time for postclosure maintenance include, but are not limited to, conformance with existing reclamation plan requirements, zoning requirements, local ordinances, private contracts, or development plans.
- c) The owner or operator must remove all equipment or structures not necessary for postclosure land use in accordance with Section 1100.209(a) unless otherwise approved by the Agency in writing.

The language in these sections is based on language in Section 1100.510. The Board will add “in writing” to that section after “Agency” as well. The Board notes that, as with any final decision on registration, the IEPA’s decisions under the provisions of Sections 1100.205, 1100.505, and 1100.510 are appealable to the Board. *See* 415 ILCS 5/5(d) (2010).

### **Economic Reasonableness and Technical Feasibility**

Pursuant to Section 27(a) of the Act (415 ILCS 5/27(a) (2010)) when promulgating a rule, the Board must take into account several matters including the technical feasibility and economic reasonableness of reducing pollution. 415 ILCS 5/27(a) (2008). Further, the Board must make a determination as to whether the proposed rule has any adverse economic impact on the people of Illinois. 415 ILCS 5/27(b) (2010).

The Board received testimony and comments detailing the costs of landfilling of soils versus using the soils for fill at mines, quarries and other excavations; soil certifications in accordance with ASTM standards; soil testing; and groundwater monitoring. The record is clear that the cost of using uncontaminated soil as fill material is significantly lower than landfilling. *See e.g.* Exh. 45 at 2-3; Exh. 51 at 5. Further, the Board notes that the costs associated with ASTM-based soil certifications and groundwater monitoring is not relevant since the Board's second notice proposal does not mandate the use of ASTM standards or require groundwater monitoring. Regarding the costs associated with site investigation and testing of soils, the Board finds that such costs are reasonable since those provisions are required to ensure that only uncontaminated soil is used as fill material. Further the Board notes that the rules allow flexibility for LPE/LPG to choose the constituents to be tested based on site investigation. Therefore, the Board finds that allowing uncontaminated soil and CCDD to be used as fill material in accordance with the proposed regulations is economically reasonable.

In addition, the Board has addressed all technical issues concerning the proposed first notice regulations. Specifically, the Board is proposing substantive changes to the soil certification requirements, and the determination of MAC for pH dependent constituents. These changes allow specificity in determining what constitutes uncontaminated soil, as well as flexibility. Therefore, the Board finds that the rules are economically reasonable and technically feasible. Further, the Board finds that the adoption of the proposed rules will not result in any adverse economic impact on the people of Illinois.

### **CONCLUSION**

After reviewing the record in this proceeding and in consideration of the comments and testimony, the Board has made changes to the first-notice proposal. Specifically, the Board has accepted comments from participants and will no longer require the use of ASTM standards for determining if a site is a PIP or if the soil is uncontaminated. Rather, the Board provides the ASTM and other methods as guidance to be used by the source site owner, or a LPE/LPG in evaluating the site. The Board is also requiring IEPA to add additional items to the certification forms to better document the evaluation process.

The rule is also changed to require pH testing of soils from all source sites and establishes soil MACs based on a soil pH range of 6.25 to 9.0 for pH dependent chemical constituents. Under the proposed revisions, the MACs for chemicals with pH sensitivity would be based on the lowest pH dependent values between Part 742, Appendix B, Table C column range 6.25 to 6.64 and column range 8.75 to 9.0. The rule prohibits fill operations from accepting soils with a pH below 6.25 or above 9.0 regardless of applicable MACs.

The Board declines to add exemptions or allowances for small unplanned projects and will not add a “grandfathering” clause to the rule for projects already in progress or that have been placed for bid. The Board remains unconvinced that site-specific Tiered Approach to Corrective Action Objectives (TACO) should be used in this rule. And after review of the comments, the Board is also unconvinced that groundwater monitoring should be required for CCDD and uncontaminated soil fill operations.

### **ORDER**

The Board directs the Clerk to submit the following rule to the Joint Committee on Administrative Rules for second notice:

TITLE 35: ENVIRONMENTAL PROTECTION  
SUBTITLE J: CLEAN CONSTRUCTION OR DEMOLITION DEBRIS  
CHAPTER I: POLLUTION CONTROL BOARD

PART 1100  
CLEAN CONSTRUCTION OR DEMOLITION DEBRIS FILL OPERATIONS AND  
UNCONTAMINATED SOIL FILL OPERATIONS

SUBPART A: GENERAL

|          |                             |
|----------|-----------------------------|
| Section  |                             |
| 1100.101 | Scope and Applicability     |
| 1100.102 | Severability                |
| 1100.103 | Definitions                 |
| 1100.104 | Incorporations by Reference |

SUBPART B: OPERATING STANDARDS FOR CCDD FILL OPERATIONS

|                 |   |
|-----------------|---|
| <u>Section</u>  |   |
| 1100.201        | Prohibitions                                |
| 1100.202        | Surface Water Drainage                      |
| 1100.203        | Annual Facility Map                         |
| 1100.204        | Operating Standards                         |
| 1100.205        | <u>Certifications and Load Checking</u>     |
| 1100.206        | Salvaging                                   |
| 1100.207        | Boundary Control                            |
| 1100.208        | Closure                                     |
| 1100.209        | Postclosure Maintenance                     |
| 1100.210        | Recordkeeping Requirements                  |
| 1100.211        | Annual Reports                              |
| <u>1100.212</u> | <u>Use of Painted CCDD as Fill Material</u> |

SUBPART C: PERMIT APPLICATION INFORMATION FOR CCDD FILL OPERATIONS

|          |                         |
|----------|-------------------------|
| Section  |                         |
| 1100.301 | Scope and Applicability |

|          |  |
|----------|--|
| 1100.302 | Notification                                   |
| 1100.303 | Required Signatures                            |
| 1100.304 | Site Location Map                              |
| 1100.305 | Facility Plan Maps                             |
| 1100.306 | Narrative Description of the Facility          |
| 1100.307 | Proof of Property Ownership and Certifications |
| 1100.308 | Surface Water Control                          |
| 1100.309 | Closure Plan                                   |
| 1100.310 | Postclosure Maintenance Plan                   |

**SUBPART D: PROCEDURAL REQUIREMENTS FOR PERMITTING CCDD FILL OPERATIONS**

|                |  |
|----------------|--|
| <u>Section</u> |  |
| 1100.401       | Purpose of Subpart                                 |
| 1100.402       | Delivery of Permit Application                     |
| 1100.403       | Agency Decision Deadlines                          |
| 1100.404       | Standards for Issuance of a Permit                 |
| 1100.405       | Standards for Denial of a Permit                   |
| 1100.406       | Permit Appeals                                     |
| 1100.407       | Permit No Defense                                  |
| 1100.408       | Term of Permit                                     |
| 1100.409       | Transfer of Permits                                |
| 1100.410       | Procedures for the Modification of Permits         |
| 1100.411       | Procedures for the Renewal of Permits              |
| 1100.412       | Procedures for Closure and Postclosure Maintenance |

**SUBPART E: UNCONTAMINATED SOIL FILL OPERATIONS**

|                 |   |
|-----------------|---|
| <u>Section</u>  |   |
| <u>1100.500</u> | <u>Prohibitions</u>                           |
| <u>1100.505</u> | <u>Operating Standards</u>                    |
| <u>1100.510</u> | <u>Recordkeeping Requirements</u>             |
| <u>1100.515</u> | <u>Registration</u>                           |
| <u>1100.520</u> | <u>Required Signatures</u>                    |
| <u>1100.525</u> | <u>Procedures for Closure</u>                 |
| <u>1100.530</u> | <u>Termination of Postclosure Maintenance</u> |

**SUBPART F: STANDARDS FOR UNCONTAMINATED SOIL USED AS FILL MATERIAL AT FILL OPERATIONS REGULATED BY THIS PART**

|                 |  |
|-----------------|--|
| <u>Section</u>  |  |
| <u>1100.600</u> | <u>Purpose and Applicability</u>   |
| <u>1100.605</u> | <u>Maximum Allowable Concentrations for Chemical Constituents in Uncontaminated Soils</u>          |
| <u>1100.610</u> | <u>Compliance Evaluation; Performance and Documentation of Soil Sampling and Chemical Analysis</u> |
| <u>1100.615</u> | <u>Waste and Materials Other Than Chemical Constituents in Soils</u>                               |

AUTHORITY: Implementing Sections 5, 3.160, 22.51, and 22.51a and authorized by Sections 3.160, 22.51, 22.51a, and 27 of the Environmental Protection Act [415 ILCS 5/5, 22.51, 22.51a, and 27].

SOURCE: Adopted in R06-19 at 30 Ill. Reg. 14534, effective August 24, 2006; amended in R12-9 at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_.

## SUBPART A: GENERAL

### Section 1100.101 Scope and Applicability

- a) This Part applies to all clean construction or demolition debris (CCDD) fill operations that are required to be permitted pursuant to Section 22.51 of the Act, other than CCDD fill operations permitted pursuant to 35 Ill. Adm. Code 807 or 811 through 814, and to all uncontaminated soil fill operations that are required to be registered pursuant to Section 22.51a of the Act.
- b) This Part does not apply to:
  - 1) CCDD or uncontaminated soil that is not other than CCDD used as fill material in a current or former quarry, mine, or other excavation;
  - 2) The use of CCDD or uncontaminated soil as fill material in a current or former quarry, mine, or other excavation located on the site where the CCDD or uncontaminated soil was generated *The use of CCDD as fill material in a current or former quarry, mine, or other excavation located on the site where the CCDD was generated [415 ILCS 5/22.51(b)(4)(A)];*
  - 3) The use of CCDD or uncontaminated soil as fill material in an excavation other than a current or former quarry or mine if the use complies with Illinois Department of Transportation specifications *The use of CCDD as fill material in an excavation other than a current or former quarry or mine if the use complies with Illinois Department of Transportation specifications [415 ILCS 5/22.51(b)(4)(B)];*

BOARD NOTE: The Illinois Department of Transportation (IDOT) specifications applicable to the use of CCDD or uncontaminated soil as fill can be found at Articles 107.22 and 202.03 of IDOT's "Standard Specifications for Road and Bridge Construction." According to IDOT specifications, this exemption applies to IDOT, a county, a municipality, or a township.

- 4) Current or former quarries, mines, and other excavations that do not use CCDD or uncontaminated soil as fill material *Current or former quarries, mines, and other excavations that do not use clean construction or demolition debris as fill material [415 ILCS 5/22.51(b)(4)(C)];*

- 5) The use of the following types of material as fill material:
  - A) CCDD or soil that is considered “waste” under the Act or rules adopted pursuant to the Act; or
  - B) Any material other than CCDD or uncontaminated soil, including, but not limited to, material generated on site as part of a mining process; and
- 6) The portions of a site not used for a CCDD fill operation or an uncontaminated soil fill operation.

(Source: Amended at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

### **Section 1100.103 Definitions**

Except as stated in this Section, or unless a different meaning of a word or term is clear from the context, the definition of words or terms in this Part will be the same as that applied to the same words or terms in the Environmental Protection Act [415 ILCS 5]:

“10-year, 24-hour precipitation event” means a precipitation event of 24-hour duration with a probable recurrence interval of once in 10 years.

“100-year, 24-hour precipitation event” means a precipitation event of 24-hour duration with a probable recurrence interval of once in 100 years.

“Acceptable Detection Limit” or “ADL” means the detectable concentration of a substance that is equal to the lowest appropriate Practical Quantitation Limit (PQL) as defined in this Section.

“Act” means the Environmental Protection Act [415 ILCS 5].

“Agency” is the *Illinois Environmental Protection Agency established by the Act.* [415 ILCS 5/3.105]

“Applicant” means the person submitting an application to the Agency for a permit for a CCDD fill operation.

“Aquifer” means saturated (with groundwater) soils and geologic materials which are sufficiently permeable to readily yield economically useful quantities of water to wells, springs, or streams under ordinary hydraulic gradients and whose boundaries can be identified and mapped from hydrogeologic data. (Section 3 of the Illinois Groundwater Protection Act [415 ILCS 55/3])

“Board” is the Pollution Control Board established by the Act. [415 ILCS 5/3.105]

“CCDD” means clean construction or demolition debris.

“CCDD fill operation” means a current or former quarry, mine, or other excavation where clean construction or demolition debris is used as fill material. [415 ILCS 5/22.51(e)(3)] ~~the use of CCDD as fill material in a current or former quarry, mine, or other excavation. For purposes of this Part, the term “other excavation” does not include holes, trenches, or similar earth removal created as part of normal construction, removal, or maintenance of a structure, utility, or transportation infrastructure.~~

*“Clean construction or demolition debris” means uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, reclaimed or other asphalt pavement, or soil generated from construction or demolition activities. For purposes of this Part, CCDD may include uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, or reclaimed or other asphalt pavement that has been painted (painted CCDD) if the painted CCDD is used as fill material at a CCDD fill operation in accordance with Section 1100. 212. Clean construction or demolition debris does not include uncontaminated soil generated during construction, remodeling, repair, and demolition of utilities, structures, and roads provided the uncontaminated soil is not commingled with any clean construction or demolition debris or other waste. For purposes of this Part, uncontaminated soil may include incidental amounts of stone, clay, rock, sand, gravel, roots, and other vegetation. [415 ILCS 5/3.160(b)]*

*To the extent allowed by federal law, clean construction or demolition debris shall not be considered "waste" if it is:*

*used as fill material outside of a setback zone if the fill is placed no higher than the highest point of elevation existing prior to the filling immediately adjacent to the fill area, and if covered by sufficient uncontaminated soil to support vegetation within 30 days of the completion of filling or if covered by a road or structure; or*

*separated or processed and returned to the economic mainstream in the form of raw materials or products, if it is not speculatively accumulated and, if used as a fill material, it is used in accordance with the first identical paragraph immediately above within 30 days of its generation; or*

*solely broken concrete without protruding metal bars used for erosion control; or*

*generated from the construction or demolition of a building, road, or other structure and used to construct, on the site where the construction or*



*demolition has taken place, a manmade functional structure not to exceed 20 feet above the highest point of elevation of the property immediately adjacent to the new manmade functional structure as that elevation existed prior to the creation of that new structure, provided that the structure shall be covered with sufficient soil materials to sustain vegetation or by a road or structure, and further provided that no such structure shall be constructed within a home rule municipality with a population over 500,000 without the consent of the municipality. [415 ILCS 5/3.160(b)]*

“Documentation” means items, in any tangible form, whether directly legible or legible with the aid of any machine or device, including but not limited to affidavits, certificates, deeds, leases, contracts or other binding agreements, licenses, permits, photographs, audio or video recordings, maps, geographic surveys, chemical and mathematical formulas or equations, mathematical and statistical calculations and assumptions, research papers, technical reports, technical designs and design drawings, stocks, bonds, and financial records, that are used to support facts or hypotheses.

“Facility” means the areas of a site and all equipment and fixtures on a site used for a CCDD fill operation or uncontaminated soil fill operation. A facility consists of an entire ~~CCDD~~ fill operation. All structures used in connection with or to facilitate the ~~CCDD~~ fill operation will be considered a part of the facility.

“Filled area” means areas within a unit where CCDD or uncontaminated soil has been placed as fill material.

“Fill operation” means a CCDD fill operation or an uncontaminated soil fill operation, as the context requires.

*“Malodor” means an odor caused by one or more contaminant emissions into the atmosphere from a facility that is in sufficient quantities and of such characteristics and duration as to be described as malodorous and which may be injurious to human, plant, or animal life, to health, or to property, or may unreasonably interfere with the enjoyment of life or property. [415 ILCS 5/3.115]*

“Mine” means an excavation created for the purpose of extracting ore or minerals, including, but not limited to, coal.

“National Pollutant Discharge Elimination System” or “NPDES” means the program for issuing, modifying, revoking and reissuing, terminating, monitoring, and enforcing permits and imposing and enforcing pretreatment requirements under the Clean Water Act (33 USC 1251 et seq.), Section 12(f) of the Act, Subpart A of 35 Ill. Adm. Code 309, and 35 Ill. Adm. Code 310.

“NPDES permit” means a permit issued under the NPDES program.

*“Operator” means a person responsible for the operation and maintenance of a ~~CCDD~~ fill operation. [415 ILCS 5/22.51(e)(1)]*

“Other excavation” means a pit other than a quarry or mine created primarily for the purpose of extracting resources, including , but not limited to, clay or other soil and does not include holes, trenches, or similar earth removal created as part of normal construction, removal, or maintenance of a structure, utility, or transportation infrastructure.

*“Owner” means a person who has any direct or indirect interest in a ~~CCDD~~ fill operation or in land on which a person operates and maintains a ~~CCDD~~ fill operation. A “direct or indirect interest” does not include the ownership of publicly traded stock. The “owner” is the “operator” if there is no other person who is operating and maintaining a ~~CCDD~~ fill operation. [415 ILCS 5/22.51(e)(2)]*

*“Person” is any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, political subdivision, State agency, or any other legal entity, or their legal representative, agent or assigns. [415 ILCS 5/3.115]*

“Potentially impacted property” means property on which a historical or current use, or contaminant migration from a proximate site, increases the presence or potential presence of contamination at the source site.

“Potentially impacted property” is intended to identify soil that is more likely to be contaminated and in need of professional evaluation and certification before placement in a fill site. Source site owners are encouraged to coordinate with the receiving facility on soil certifications. The following should be considered when determining whether property is “potentially impacted property”: the current use of the property, prior uses of the property, and the prior and current uses of adjoining property. For example, for transportation rights of way or utility easements, the current use of the property as a right of way or easement, the prior and current uses of the property prior to its use as a right of way or easement, and the uses of adjoining property should be considered. ~~Source site owners are encouraged to coordinate with the receiving facility on soil certifications.~~ One or more of the following environmental site assessment standards or policies, which are incorporated by reference at Section 1100.104, may be used for determining whether a property is “potentially impacted property”:

ASTM E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, approved November 1, 2005.

ASTM E 1528-06 Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process, approved February 1, 2006.

Illinois Department of Transportation, Bureau of Design and Environment Manual, Part III Environmental Procedures, Chapter 27 Environmental Surveys, February 2011.

Illinois Department of Transportation, Local Roads and Street Manual, Chapter 20.

Illinois Department of Transportation, “A Manual for Conducting Preliminary Environmental Site Assessments for Illinois Department of Transportation Infrastructure Projects” Second Edition.

Illinois State Toll Highway Authority, “Environmental Studies Manual”, Section F, July 2001.

“Practical Quantitation Limit” or “PQL” means the lowest concentration that can be reliably measured within specified limits of precision and accuracy for a specific laboratory analytical method during routine laboratory operating conditions in accordance with “Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods”, EPA Publication No. SW-846, incorporated by reference in Section 1100.104 of this Part.

“Professional engineer” or “PE” means a person who has registered and obtained a seal pursuant to the Professional Engineering Practice Act of 1989 [225 ILCS 325].

“Professional Geologist” or “PG” means a person licensed to practice as a professional geologist pursuant to the Professional Geologist Licensing Act [225 ILCS 745].

“Quarry” means an open surface excavation or pit created for the purpose of extracting stone, rock, sand and gravel.

“Runoff” means water resulting from precipitation that flows overland before it enters a defined stream channel, any portion of such overland flow that infiltrates into the ground before it reaches the stream channel, and any precipitation that falls directly into a stream channel.

“Salvaging” means the return of CCDD to use other than use as fill at a CCDD fill operation.

*“Setback zone” means a geographic area, designated pursuant to the Act, containing a potable water supply well or a potential source or potential route,*

*having a continuous boundary, and within which certain prohibitions or regulations are applicable in order to protect groundwaters. [415 ILCS 5/3.450]*

“Site of origin” means the site where the CCDD or uncontaminated soil was generated from construction or demolition activities.

“Source site operator” means a person responsible for the operation of the site of origin of the CCDD or uncontaminated soil.

“Source site owner” means a person having an ownership interest in the site of origin of the CCDD or uncontaminated soil.

“Uncontaminated soil” means soil generated during construction, remodeling, repair or demolition of utilities, structures and roads that does not contain contaminants in concentrations that pose a threat to human health and safety and the environment. [415 ILCS 5/3.160(c)] Subpart F of this Part establishes standards for soil that is considered uncontaminated for purposes of this Part.

“Uncontaminated soil fill operation” means a current or former quarry, mine, or other excavation where uncontaminated soil is used as fill material but does not include a clean construction or demolition debris fill operation. [415 ILCS 5/22.51a(a)(2)].

“Unit” means a contiguous area within a facility where CCDD or uncontaminated soil is placed that is permitted for the placement of CCDD as fill material.

“Working face” means any part of a unit where CCDD or uncontaminated soil is being placed as fill.

(Source: Amended at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### **Section 1100.104 Incorporations by Reference**

- a) The Board incorporates the following material by reference:

ASTM. American Society for Testing and Materials, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959. (610) 832-9585

ASTM E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process, approved November 1, 2005.

ASTM E 1528-06 Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process, approved February 1, 2006.

Illinois Department of Transportation, 2300 S. Dirksen Parkway  
Springfield, IL 62764. (217)782-7820

Bureau of Design and Environment Manual, Part III  
Environmental Procedures, Chapter 27 Environmental  
Surveys, September 2010. (Available online at  
[http://www.dot.il.gov/desenv/Illinois%20BDE%20Manual.  
pdf](http://www.dot.il.gov/desenv/Illinois%20BDE%20Manual.pdf))

Bureau of Local Roads and Street Manual, Chapter 20.  
Fifth Edition. (Available online at  
<http://www.dot.il.gov/blr/manuals/Cover.pdf>)

“A Manual for Conducting Preliminary Environmental Site  
Assessments for Illinois Department of Transportation  
Infrastructure Projects” Second Edition, 2012.

Illinois State Toll Highway Authority, 2700 Ogden Avenue  
Downers Grove, IL 60515. (630) 241-6800. “Environmental  
Studies Manual”, Chapter VI, Section F, July 2001. (Available  
online at  
[http://www.illinoistollway.com/documents/10157/30214/PPM\\_EN  
VIRONMENTAL+MANUAL\\_07012001.PDF](http://www.illinoistollway.com/documents/10157/30214/PPM_ENVIRONMENTAL+MANUAL_07012001.PDF))

“Human Health Toxicity Values in Superfund Risk Assessments (2003)”.  
U. S. Environmental Protection Agency, Office of Solid Waste and  
Emergency Response, Washington, DC, OSWER Directive 9285.7-53,  
2003. (Available online at [http://www.epa.gov/oswer/riskassessment/pdf/  
hhmemo.pdf](http://www.epa.gov/oswer/riskassessment/pdf/hhmemo.pdf).)

IRIS. Integrated Risk Information System, National Center for  
Environmental Assessment, United States Environmental Protection  
Agency, 26 West Martin Luther King Drive, MS-190, Cincinnati, OH  
45268, (513) 569-7254.

“Reference Dose (RfD): Description and Use in Health Risk  
Assessments”, Background Document IA (March 15, 1993).

“Guidelines for Carcinogen Risk Assessment (2005)”. U. S.  
Environmental Protection Agency, Washington, DC, EPA  
Publication No. EPA/630/P-03/001F, 2005. (Available online at  
[http://www.epa.gov/ttn/atw/cancer\\_guidelines\\_final\\_3-25-05.pdf](http://www.epa.gov/ttn/atw/cancer_guidelines_final_3-25-05.pdf).)

NTIS. National Technical Information Service, 5285 Port Royal Road,  
Springfield, VA 22161, (800) 553-6847 U.S. Government Printing Office,  
Washington, D.C. 20402, Ph: 202-783-3238:

Test Methods for Evaluating Solid Waste, Physical/Chemical methods, EPA Publication SW-846 (Third Edition, 1986 as amended by Updates I, II, IIA, IIB, III, IIIA, ~~and~~ IIIB, IVA and IVB).

- b) This incorporation includes no later amendments or editions.

(Source: Amended at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### SUBPART B: OPERATING STANDARDS FOR CCDD FILL OPERATIONS

##### **Section 1100.201 Prohibitions**

- a) *No person shall conduct any CCDD fill operation in violation of the Act or any regulations or standards adopted by the Board. [415 ILCS 5/22.51(a)].*
- b) CCDD fill operations must not accept waste for use as fill.
- c) CCDD fill operations must not be located inside a setback zone of a potable water supply well. (See Section 3.160(b)(i) of the Act.)
- d) No person shall use soil other than uncontaminated soil as fill material at a CCDD fill operation. [415 ILCS 5/22.51(g)(1)]
- e) No person shall use construction or demolition debris other than CCDD as fill material at a CCDD fill operation. [415 ILCS 5/22.51(g)(2)]
- f) Except as provided in Section 1100.212 of this Part, no person shall use painted clean construction or demolition debris (painted CCDD) as fill material at a CCDD fill operation.
- g) CCDD fill operations must not accept uncontaminated soil with pH outside the range of 6.25 to 9.0.

(Source: Amended at 36 Ill. Reg. \_\_\_\_\_ effective \_\_\_\_\_)

##### **Section 1100.203 Annual Facility Map**

The owner or operator must submit an annual facility map with the annual report required under Section 1100.211 to the Agency each calendar year by the date specified in the Agency permit. The map must have a scale no smaller than one inch equals 200 feet, show the horizontal extent of filled areas as of the date of the map, and show the same information as required for facility plan maps under Sections 1100.305(a) through (d) ~~of this Part~~.

(Source: Amended at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**Section 1100.204 Operating Standards**

- a) **Placement of Fill Material**  
Fill material must be placed in a safe manner that protects human health and the environment in conformance with the provisions of the Act and the regulations adopted under the Act.
- b) **Size and Slope of Working Face**  
The working face of the fill operation must be no larger than is necessary, based on the terrain and equipment used in material placement, to conduct operations in a safe and efficient manner in conformance with the provisions of the Act and the regulations adopted under the Act.
- c) **Equipment**  
Equipment must be maintained and available for use at the facility during all hours of operation, so as to achieve and maintain compliance with the requirements of this Part.
- d) **Utilities**  
All utilities, including but not limited to heat, lights, power, and communications equipment, necessary for safe operation in compliance with the requirements of this Part must be available at the facility at all times.
- e) **Maintenance**  
The owner or operator must maintain and operate all systems and related appurtenances and structures in a manner that facilitates proper operations in compliance with this Part.
- f) **Dust Control**  
The owner or operator must implement methods for controlling dust so as to minimize off-site wind dispersal of particulate matter.
- g) **Noise Control**  
The facility must be designed, constructed, and maintained to minimize the level of equipment noise audible outside the site. The facility must not cause or contribute to a violation of the Board's noise regulations or Section 24 of the Act.
- h) **Fill Elevation**  
The owner or operator must not place CCDD used as fill *higher than the highest point of elevation existing prior to the filling immediately adjacent to the fill area.*  
[415 ILCS 5/3.160(b)]

BOARD NOTE: This does not prohibit non-CCDD materials, such as uncontaminated soil and other non-waste material, from being placed above grade

in accordance with the Act and regulations adopted thereunder to increase elevations at the fill site.

- i) Mud Tracking  
The owner or operator must implement methods to minimize tracking of mud by hauling vehicles onto public roadways.
- j) Odor and Nuisance  
The fill operation must not cause foul odors or other nuisance.

(Source: Amended at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

### **Section 1100.205 Certifications and Load Checking**

- a) The owner or operator must do all of the following activities and document all the activities for all CCDD and uncontaminated soil accepted for use as fill material:
  - 1) For all soil, including soil mixed with CCDD, obtain:
    - A) a certification from the source site owner or source site operator: that the site is not a potentially impacted property, ~~as determined in accordance with ASTM E 1528-06 Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process, incorporated by reference at Section 1100.104~~ and is presumed to be uncontaminated soil, and soil pH is within the range of 6.25 to 9.0 . A certification under this subsection (a)(1)(A) must include soil pH testing results to show that the soil pH is within the range of 6.25 to 9.0. If soil is consolidated from more than one source site, a certification must be obtained from each source site owner or source site operator; or
    - B) a certification from a PE or PG: that the soil is uncontaminated soil, and the soil pH is within the range of 6.25 to 9.0 ~~based on a site evaluation conducted in accordance with ASTM E 1527-05 Standard Practice for Environmental Site assessments: Phase I Environmental Site Assessment Process, incorporated by reference at Section 1100.104.~~ A certification under this subsection (a)(1)(B) must include analytical soil testing results to show that soil chemical constituents comply with the maximum allowable concentrations established pursuant to Subpart F of this Part, and the soil pH is within the range of 6.25 to 9.0.
  - 2) Certifications required under subsections (a)(1)(A) and (a)(1)(B) must be on forms and in a format prescribed by the Agency and must provide at a minimum:



- A) fFor source site owners or source site operators who certify under subsection (a)(1)(A), the form must provide at a minimum following language:
- i) Description of the current and past uses of the site where the soil originated giving consideration to, but not limited to: use of the site for commercial or industrial purposes; presence of any storage tanks (aboveground or underground) being located on the site; use of the site for waste treatment or disposal; any governmental notification of environmental violations pertaining to the site; any contamination in any private wells on site that exceeds the Board's groundwater quality standards; any transformers or capacitors manufactured before 1979 being used, stored, or disposed of on the site; and any fill dirt used at the site from either an unknown source or a site;
  - ii) Soil pH testing results to show that the soil pH is within the range of 6.25 to 9.0.
  - iii) A certification using the following language: In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I \_\_\_\_\_ (owner or operator of source site) certify that this site is not a potentially impacted property, ~~as determined in accordance with ASTM E 1528-06 Standard Practice for Limited Environmental Due Diligence: Transaction Screen Process,~~ and the soil is presumed to be uncontaminated soil. I also certify that the soil pH is within the range of 6.25 to 9.0. Additionally, I certify that I am either the site owner or site operator or a duly authorized representative of the site owner or site operator and am authorized to sign this form. Furthermore, I certify that all information submitted, including but not limited to all attachments and other information, is, to the best of my knowledge and belief, true, accurate and complete.
- B) fFor PE or PG who certify under subsection (a)(1)(B), the following language: I \_\_\_\_\_ (name of licensed professional engineer or geologist) certify under penalty of law that the information submitted, including but

not limited to all attachments and other information, is, to the best of my knowledge and belief, true, accurate, and complete. In accordance with the Environmental Protection Act [415 ILCS 5/22.51 or 22.51a] and 35 Ill. Adm. Code 1100.205(a), I certify that the soil from this site is uncontaminated soil. I also certify that the the soil pH is within the range of 6.25 to 9.0, based on a site evaluation conducted in accordance with ASTM E 1527-05 Standard Practice for Environmental Site Assessments: Phase I Environmental Site Assessment Process. All necessary documentation is attached.

- 3) Confirm and document that the CCDD or uncontaminated soil was not removed from a site as part of a cleanup or removal of contaminants, including, but not limited to, activities conducted under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended; as part of a Closure or Corrective Action under the Resource Conservation and Recovery Act, as amended, or under an Agency remediation program, such as the Leaking Underground Storage Tank Program or Site Remediation Program, but excluding sites subject to Section 58.16 of the Act when there is no presence or likely presence of a release or a substantial threat of a release of a regulated substance at, on, or from the real property.
- 4) For all testing conducted to determine that the soil is uncontaminated, obtain documentation to show that the soil was tested in accordance with the requirements of Subpart F of this Part.
- 5) Obtain documentation on rejected loads.
  - A) For loads rejected from the same or another fill operation, the owner or operator may accept a rejected load if subsections (a)(1) through (a)(4) are satisfied and the owner or operator also obtains the following information:
    - i) Information identifying the rejected load and the reasons it was rejected, including, but not limited to, a copy of the written notice the driver received pursuant to subsection (b)(4)(A) of this Section when the load was rejected;
    - ii) Information demonstrating that the load proposed for acceptance is the rejected load identified in this subsection (a)(5);
    - iii) Information demonstrating that the reasons for rejection of the load have been addressed by measures that would

include, but not be limited to, testing and retesting of soils or removal of nonconforming materials; and

iv) For all soil, including soil mixed with CCDD, a certification meeting the requirements of subsection (a)(1) of this Section that is executed after correction of the reasons for the load rejection. This subsection (a)(5)(A)(iv) does not apply if load rejection was due to the detection of non-CCDD or non-soil material, including, but not limited to, wood, glass, piping, vegetation, plastic, metal, electrical wiring, or concrete with protruding rebar.

B) Except as provided in subsection (a)(5)(A)(iv), the information required under this subsection (a)(5) must be on forms and in a format prescribed by the Agency, and must be certified by the source site owner, the source site operator, a PE or PG. Loads accepted pursuant to this subsection (a)(5) are subject to all other requirements of this Part, including, but not limited to, the load checking program in effect at the receiving fill operation (see subsection (b)).

ab) The owner or operator must institute and conduct a load checking program designed to detect attempts to dispose of waste at the facility. At a minimum, the load checking program must consist of the following components:

1a) Routine Inspections

A1) An inspector designated by the facility must inspect every load before its acceptance at the facility utilizing an elevated structure, a designated ground level inspection area, or another acceptable method as specified in the Agency permit. In addition to a visual inspection, the inspector must use an instrument with a photo ionization detector utilizing a lamp of 10.6 eV or greater or an instrument with a flame ionization detector, or other monitoring devices approved by the Agency, to inspect each load. All instruments shall be interpreted based on the manufacturer's margin of error. Any reading in excess of background levels using any of these instruments must result in the rejection of the inspected load. In addition, any reading in excess of background levels on any monitoring device used by the Agency during an Agency inspection must result in the rejection of the inspected load.

B2) Cameras or other devices may be used to record the visible contents of shipments. Where such devices are employed, their

use should be designated on a sign posted near the entrance to the facility.

2b) Random Inspections

A1) In addition to the inspections required under subsection ~~(b)(1)(a)~~ of ~~this Section~~, an inspector designated by the facility must conduct a discharge inspection of at least one randomly selected load delivered to the facility each day. The driver of the randomly selected load must be directed to discharge the load at a separate, designated location within the facility. The inspector must conduct an inspection of the discharged material that includes, but is not limited to, additional visual inspection and additional instrument testing using the instruments required under subsection ~~(b)(1)(A)(a)(1)~~ of ~~this Section~~. All instruments shall be interpreted based on the manufacturer's margin of error. Any reading in excess of background levels using any of these instruments must result in the rejection of the inspected load. In addition, any reading in excess of background levels on any monitoring device used by the Agency during an Agency inspection must result in the rejection of the inspected load.

B2) Cameras or other devices may be used to record the visible contents of shipments. Where such devices are employed, their use should be designated on a sign posted near the entrance to the facility.

3e) Documentation of Inspection Results: The documentation for each inspection must include, at a minimum, the following:

A1) The date and time of the inspection, the date the CCDD or uncontaminated soil was received, the weight or volume of the CCDD or uncontaminated soil, the name of the hauler, the name of the hauling firm, the vehicle identification number or license plate number, the source site owner and source site operator, and the location of the site of origin of the CCDD or uncontaminated soil ~~source of the CCDD~~;

B2) The results of the routine inspection required under subsection ~~(b)(1) (a)~~ of this Section, including, but not limited to, the monitoring instruments used, whether the load was accepted or rejected, and for rejected loads the reason for the rejection;

C3) The results of any random inspection required under subsection ~~(b)(2)~~ of this Section, including, but not limited to, the monitoring

instruments used, whether the load was accepted or rejected, and for rejected loads the reason for the rejection; and

D4) The name of the inspector.

4d) Rejection of Loads

A1) If material other than CCDD or uncontaminated soil is found or suspected, the owner or operator must reject the load and present the driver of the rejected load with written notice of the following:

iA) That only CCDD or uncontaminated soil is accepted for use as fill at the facility;

iiB) ~~The reasons for rejections of the load, that~~ The reasons for rejections of the load, that ~~That the rejected load contains or is suspected to contain material other than CCDD, and that, the material must not be taken to another CCDD fill operation, except as provided in subsection (b)(4)(A)(iv) or the material must be properly recycled or disposed of at a permitted landfill;~~

iiiC) That, for all inspected loads, the owner or operator is required to record and make available for Agency inspection, at a minimum, the date and time of the inspection, the weight or volume of the CCDD or uncontaminated soil, the name of the hauler, the name of the hauling firm, the vehicle identification number or license plate number, the source site owner and source site operator, and the location of the site of origin of the fill; and source of the fill and is required to make this information available to the Agency for inspection;

iv) That a load rejected from a fill operation may be accepted by the same fill operation or another fill operation if the requirements of subsection (a)(5) are satisfied.

B2) The owner or operator must ensure the cleanup, transportation, and proper disposal of any material other than CCDD or uncontaminated soil that remains at the facility after the rejection of a load.

5e) The owner or operator must take special precautionary measures ~~as specified in the Agency permit~~ prior to accepting loads from persons or sources found or suspected to be responsible for sending or transporting material other than CCDD or uncontaminated soil to the facility. The special precautionary measures may include, but are not limited to,

communication with the source site owner or source site operator of the CCDD or uncontaminated soil, communication with the PE or PG certifying pursuant to subsection (a)(1)(B, questioning the driver about the load prior to its discharge, and increased visual inspection and instrument testing of the load.

- 6f) If material other than CCDD or uncontaminated soil is discovered to be improperly accepted or deposited at the facility, the owner or operator must remove and properly dispose of the material.
- 7g) The owner or operator must ensure that all appropriate facility personnel are properly trained in the identification of material that is not CCDD or uncontaminated soil.
- 8h) All field measurement activities relative to equipment and instrument operation, calibration and maintenance and data handling shall be conducted in accordance with the following:
- A4) “Test Methods for Evaluating Solid Waste, Physical/Chemical Methods” (SW-846), Vol. One, Ch. One (Quality Control), incorporated by reference at Section 1100.104 ~~of this Part;~~
  - B2) The equipment or instrument manufacturer's or vendor's published standard operating procedures; or
  - C3) Other operating procedures specified in the Agency permit for CCDD facility or approved by the Agency in writing for an uncontaminated soil fill operation or other written Agency approval.
- cj) Documentation required under this Section must be kept for a minimum of 3 years at the facility or in some alternative location specified in the Agency permit for CCDD facility; or approved by the Agency in writing for an uncontaminated soil fill operation or other written Agency approval. Documentation relating to an appeal, litigation or other disputed claim must be maintained until at least 3 years after the date of the final disposition of the appeal, litigation, or other disputed claim. The documentation must be available for inspection and copying by the Agency and by units of local government upon request during normal business hours.
- d) For painted CCDD to be accepted for use as fill material in accordance with Section 1100.212, the owner or operator of the CCDD fill operation must:
- 1) Obtain a certification from a PE or PG that the painted CCDD satisfies the requirements of Section 1100.212. The certification required under this subsection (d)(1) must be on forms and in a format prescribed by the

Agency. Documentation required by Section 1100.212(c)(2) must be attached to the certification form.

- 2) Comply with the load checking requirements of subsection (b).
- 3) Comply with the document retention requirements of subsection (c) for the PE or PG certification and the attached documentation required under Section 1100.212 (c)(2).

(Source: Amended at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

### **Section 1100.206 Salvaging**

- a) All salvaging operations must in no way interfere with the ~~CCDD~~ fill operation, result in a violation of this Part, or delay the construction of final cover.
- b) All salvaging operations must be performed in a safe manner in compliance with the requirements of this Part.
- c) Salvageable materials:
  - 1) May be accumulated onsite by an owner or operator, provided they are managed so as not to create a nuisance, harbor vectors, cause foul odors ~~malodors~~, or create an unsightly appearance; and
  - 2) May not be accumulated at the facility for longer than one year unless a longer period of time is allowed under the Act or is specified in the Agency permit.

(Source: Amended at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

### **Section 1100.207 Boundary Control**

- a) Unauthorized vehicular access to the working face of all units and to all other areas within the boundaries of the facility must be restricted.
- b) A permanent sign must be posted at the entrance to the facility or each unit stating that only CCDD or uncontaminated soil is accepted for use as fill.

(Source: Amended at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

### **Section 1100.208 Closure**

- a) Completion of Filling

- 1) The owner or operator is deemed to have completed ~~CCDD~~ filling with CCDD or uncontaminated soil:
    - A) 30 days after the date on which the facility receives the final load of CCDD or uncontaminated soil for use as fill; or
    - B) If the facility has remaining capacity and there is a reasonable likelihood that the facility will receive additional CCDD or uncontaminated soil for use as fill, no later than one year after the most recent receipt of CCDD or uncontaminated soil for use as fill.
  - 2) The Agency must grant extensions beyond the one year deadline in subsection (a)(1)(B) if the owner or operator demonstrates that:
    - A) The facility has the capacity to receive additional CCDD or uncontaminated soil for use as fill; and
    - B) The owner or operator has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the facility.
- b) Closure
- 1) Final Cover
 

All filled areas must be *covered by sufficient uncontaminated soil to support vegetation within 30 days of the completion of filling or must be covered by a road or structure.* [415 ILCS 5/3.160] The minimum amount of soil to support vegetation is one foot. The final surface must prevent or minimize erosion.
  - 2) Final Slope and Stabilization
    - A) The final slopes and contours must be constructed to complement and blend with the surrounding topography of the proposed final land use of the area.
    - B) All drainage ways and swales must be constructed to safely pass the runoff from the 100-year, 24-hour precipitation event without scouring or erosion.
    - C) The final configuration of the facility must be constructed in a manner that minimizes erosion.
    - D) Standards for Vegetation



- i) Vegetation must minimize wind and water erosion;
- ii) Vegetation must be compatible with (i.e., grow and survive under) the local climatic conditions;
- iii) Temporary erosion control measures, including, but not limited to, the application, alone or in combination, of mulch, straw, netting, or chemical soil stabilizers, must be undertaken while vegetation is being established.

(Source: Amended at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

### **Section 1100.209 Postclosure Maintenance**

The owner or operator must conduct postclosure maintenance in accordance with this Section and the Agency permit for a minimum of one year after the Agency issues a certificate of closure in accordance with Section 1100.412 ~~of this Part~~ unless a shorter period of time for postclosure maintenance is specified in the Agency permit ~~or other written Agency approval~~. Reasons for which the Agency may specify a shorter period of time for postclosure maintenance include, but are not limited to, conformance with existing reclamation plan requirements, zoning requirements, local ordinances, private contracts, or development plans.

- a) The owner or operator must remove all equipment or structures not necessary for the postclosure land use, unless otherwise authorized by the Agency permit ~~or other written Agency approval~~.
- b) Maintenance and Inspection of the Final Cover
  - 1) Frequency of Inspections. The owner or operator must conduct a quarterly inspection of all surfaces during closure and for a minimum of one year after closure.
  - 2) All rills, gullies, and crevices 6 inches or deeper identified in the inspection must be filled. Areas identified by the owner or operator or the Agency as particularly susceptible to erosion must be recontoured.
  - 3) All eroded and scoured drainage channels must be repaired and lining material must be replaced if necessary.
  - 4) All holes and depressions created by settling must be filled and recontoured so as to prevent standing water.
  - 5) All reworked surfaces, and areas with failed or eroded vegetation in excess of 100 square feet cumulatively, must be revegetated in accordance with the approved closure plan for the facility.

- c) The Agency must approve postclosure use of the property if the owner or operator demonstrates that the disturbance of the final cover will not increase the potential threat to human health or the environment.

(Source: Amended at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

### **Section 1100.211 Annual Reports**

The owner or operator must submit an annual report to the Agency each calendar year by the date specified in the Agency permit. For an uncontaminated soil fill operation, the first annual report shall be filed on the first of January that follows the year in which the facility is registered in accordance with this Part. The annual report must include, at a minimum, the following information:

- a) A summary of the number of loads accepted and the number of loads rejected during the calendar year.
- b) Amount of CCDD and uncontaminated soil accepted in the calendar year.
- c) Amount of CCDD and uncontaminated soil expected in the next year.
- d) Any modification affecting the operation of the facility.
- e) The signature of the owner or operator, or the owner or operator's duly authorized agent as specified in Section 1100.303 of this Part.
- f) Annual facility map required pursuant to Section 1100.203.

(Source: Amended at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

### **Section 1100.212 Use of Painted CCDD as Fill Material**

- a) For purposes of this Part, uncontaminated broken concrete without protruding metal bars, bricks, rock, stone, or reclaimed or other asphalt pavement that has been painted (painted CCDD) may be used as fill material at a CCDD fill operation if it is evaluated analytically under the supervision of a PE or PG and if all requirements of this Section are satisfied. Acceptance or management of painted CCDD for any purpose other than use as fill material at a CCDD fill operation must be in accordance with applicable law and may require permits or beneficial use determinations from the Agency. Such other purposes include, but are not limited to, processing of painted CCDD for reuse.
- 1) The PE or PG must determine, on a site-specific basis, the number and location of paint samples that will provide a representative analysis of paint from the painted CCDD to be used as fill material.

- 2) The PE or PG must obtain paint samples consisting of representative paint chips or scrapings that include all layers of paint in the area sampled and that minimize the amount of substrate in the sample.
  - 3) Paint samples must be analyzed for arsenic, cadmium, chromium (total), lead, mercury and zinc (contaminants of concern) using the TCLP or SPLP extraction test analytical procedures in accordance with Methods 1311 and 1312, respectively, in "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods," USEPA Publication No. SW-846, incorporated by reference in Section 1100.104.
    - A) Paint samples must not be composited for analysis, and analytical results from paint samples must not be averaged.
    - B) All quantitative analyses of paint samples must be completed by an accredited laboratory in accordance with the requirements of 35 Ill. Adm. Code 186 and the scope of the accreditation.
    - C) Documentation of any chemical analysis must include, but is not limited to:
      - i) Chain of custody control;
      - ii) A copy of the lab analysis;
      - iii) Accreditation status of the laboratory performing the analysis; and
      - iv) Certification by an authorized agent of the laboratory that the analysis has been performed in accordance with 35 Ill. Adm. Code 186, the Agency's rules for the accreditation of environmental laboratories and the scope of the accreditation.
  - 4) For painted CCDD to be used as fill material, analytical results for each paint sample must not exceed the chemical-specific Class I groundwater quality standard at 35 Ill. Adm. Code 620.410 for any contaminant of concern identified in subsection (a )(3) of this Section.
- b) Notwithstanding subsection (a) of this Section, broken concrete, asphalt pavement, and other roadway CCDD with pavement markings, including but not limited to striping, may be used as fill material at a CCDD fill operation provided that:
- 1) The pavement markings comply with IDOT specifications for pavement markings; and

- 2) The CCDD is accompanied by a PE or PG certification, on forms prescribed by the Agency, affirming that the pavement markings comply with IDOT specifications for pavement markings.

BOARD NOTE: The IDOT specifications for pavement markings can be found at Section 1095 of IDOT's "Standard Specifications for Road and Bridge Construction."

(Source: Added at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

## SUBPART C: PERMIT APPLICATION INFORMATION FOR CCDD FILL OPERATIONS

### **Section 1100.304 Site Location Map**

All permit applications must contain a site location map on the most recent United States Geological Survey (USGS) quadrangle of the area from the 7½ minute series (topographic) that clearly shows the following information:

- a) The site boundaries, the facility boundaries, and all adjacent property extending at least 1000 meters (3300 feet) beyond the facility boundaries;
- b) All surface waters;
- c) All potable water supply wells within 1000 meters (3300 feet) of the facility boundaries;
- d) All potable water supply well setback zones established pursuant to Section 14.2 or 14.3 of the Act;
- e) Any wellhead protection areas pursuant to Section 1428 of the Safe Drinking Water ~~Drinking~~ Act (SDWA) (42 USC 300f) and any sole source aquifer designated by the United States Environmental Protection Agency pursuant to Section 1424(e) of SDWA; and
- f) All main service corridors, transportation routes, and access roads to the site and facility.

(Source: Amended at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

### **Section 1100.306 Narrative Description of the Facility**

The permit application must contain a written description of the facility with supporting documentation describing the procedures and plans that will be used at the facility to comply with the requirements of this Part. Such descriptions must include, but are not limited to, the following information:

- a) A description of the CCDD and the uncontaminated soil being used as fill and a load checking plan describing how the owner or operator will comply with Section 1100.205 ~~of this Part~~;
- b) The types of CCDD and uncontaminated soil expected in each unit, an estimate of the maximum capacity of each unit, and the rate at which fill CCDD is to be placed in each unit;
- c) The estimated density of the CCDD and the uncontaminated soil;
- d) The length of time each unit will receive CCDD and uncontaminated soil;
- e) A description of all equipment to be used at the facility for complying with the facility permit, the Act, and Board regulations;
- f) A description of any salvaging to be conducted at the facility, including, but not limited to, a description of all salvage facilities and a description of how the owner or operator will comply with Section 1100.206 ~~of this Part~~;
- g) A description of how the owner or operator will comply with the requirements of Section 1100.207 ~~of this Part~~;
- h) A description of how the owner or operator will comply with Sections 1100.204(c) and (e) ~~of this Part~~;
- i) A description of the methods to be used for controlling dust in compliance with Section 1100.204(f) ~~of this Part~~;
- j) A description of how the owner or operator will control noise in compliance with Section 1100.204(g) ~~of this Part~~; and
- k) A description of all existing and planned roads in the facility that will be used during the operation of the facility, the size and type of such roads, and the frequency with which they will be used.

(Source: Amended at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

### **Section 1100.307 Proof of Property Ownership and Certifications**

The permit application must contain a certificate of ownership of the facility property and certifications regarding the provisions of Sections 39(i) and 39(i-5) of the Act. The owner and operator provide written notification to the Agency ~~must certify that the Agency will be notified~~ within 7 days after any changes in ownership.

(Source: Amended at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

### Section 1100.309 Closure Plan

The permit application must contain a written closure plan that contains, at a minimum, the following:

- a) Maps showing the configuration of the facility after closure of all units, including, but not limited to, appropriate contours as needed to show the proposed final topography after placement of the final cover for all filled areas. All maps must have a scale no smaller than one inch equals 200 feet;
- b) Steps necessary for the temporary suspension of the fill operation ~~CCDD filling~~ in accordance with Section~~Sections~~ 1100.208(a)(1)(B) or (a)(2) ~~of this Part~~;
- c) Steps necessary for closure of the facility at the end of its intended operating life;
- d) An estimate of the expected year of closure;
- e) Schedules for temporary suspension of the fill operation ~~CCDD filling~~ and closure, which must include, at a minimum, the total time required to close the facility and the time required for closure activities that will allow tracking of the progress of closure;
- f) A description of how the applicant will comply with Section 1100.208 ~~of this Part~~; and
- g) A description of the final cover, including, but not limited to, the material to be used as the final cover, application and spreading techniques, the types of vegetation to be planted, and the types of roads or structures to be built pursuant to Section 1100.208 ~~of this Part~~.

(Source: Amended at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### SUBPART D: PROCEDURAL REQUIREMENTS FOR PERMITTING CCDD FILL OPERATIONS

### Section 1100.412 Procedures for Closure and Postclosure Maintenance

- a) Notification of Closure Receipt of Final Volume

The owner or operator must provide written notification of closure to the Agency within 30 days after the date the owner or operator is deemed to have completed filling under Section 1100.208(a). ~~Within 30 days after the date the final volume of CCDD is received, the owner or operator must notify the Agency in writing of the receipt of the final volume of CCDD.~~

## b) Certification of Closure

- 1) When the closure of the facility is complete, the owner or operator must submit to the Agency:
  - A) Documentation concerning closure of the facility, including, but not limited to, plans or diagrams of the facility as closed and the date closure was completed.
  - B) An affidavit by the owner or operator and the seal of a PE or PG professional engineer that the facility has been closed in accordance with the closure plan and the closure requirements of this Part.
- 2) When the Agency determines, pursuant to the information received pursuant to subsection (b)(1) of this Section and any Agency site inspection, that the facility has been closed in accordance with the specifications of the closure plan and the closure requirements of this Part, the Agency must:
  - A) Issue a certificate of closure; and
  - B) Specify the date the postclosure maintenance period begins, based on the date closure was completed.

## c) Termination of the Permit

- 1) At the end of the postclosure maintenance period, the owner or operator may submit to the Agency an application for termination of the permit. The application must be submitted in a format prescribed by the Agency and must include, at a minimum, the certification of a PE or PG professional engineer and the affidavit of the owner or operator demonstrating that, due to compliance with the postclosure maintenance plan and the postclosure maintenance requirements of this Part, postclosure maintenance is no longer necessary because:
  - A) Vegetation has been established on all nonpaved areas;
  - B) The surface has stabilized sufficiently with respect to settling and erosion so that further stabilization measures, pursuant to the postclosure maintenance plan, are no longer necessary; and
  - C) The owner or operator has completed all requirements of the postclosure maintenance plan.

- 2) Within 90 days after receiving the certification required by subsection (c)(1) ~~of this Section~~, the Agency must notify the owner or operator in writing that the permit is terminated, unless the Agency determines, pursuant to the information received pursuant to subsection (c)(1) ~~of this Section~~ and any Agency site inspection, that continued postclosure maintenance is required pursuant to the postclosure maintenance plan and this Part.
- 3) For purposes of appeal pursuant to Section 40(d) of the Act and the appeal provisions of this Part, Agency action pursuant to subsection (c)(2) of this Section is deemed a denial or grant of permit with conditions.

(Source: Amended at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### SUBPART E: UNCONTAMINATED SOIL FILL OPERATIONS

##### **Section 1100.500 Prohibitions**

- a) No person shall conduct any uncontaminated soil fill operation in violation of the Act or any regulations or standards adopted by the Board.
- b) No person shall use soil other than uncontaminated soil as fill material at an uncontaminated soil fill operation. [415 ILCS 5/22.51a(b)]
- c) Uncontaminated soil fill operations must not accept waste for use as fill.
- d) Uncontaminated soil fill operations must not accept CCDD for use as fill.
- e) Uncontaminated soil fill operations must not be located inside a setback zone of a potable water supply well.
- f) Uncontaminated soil fill operations must not accept uncontaminated soil with pH outside the range of 6.25 to 9.0.

(Source: Added at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

##### **Section 1100.505 Operating Standards**

Uncontaminated soil fill operations are subject to all of the standards and requirements of Sections 1100.202 through 1100.211 of Subpart B, with the following exceptions: excluding Sections 1100.203 and 1100.210.

- a) The provisions of Sections 1100.203 and 1100.210 will not apply.
- b) The owner or operator must conduct postclosure maintenance in accordance with Section 1100.209 for a minimum of one year after the Agency issues a certificate



of closure pursuant to Section 1100.525 unless a shorter period of time for postclosure maintenance is approved by the Agency in writing. Reasons for which the Agency may approve a shorter period of time for postclosure maintenance include, but are not limited to, conformance with existing reclamation plan requirements, zoning requirements, local ordinances, private contracts, or development plans.

- c) The owner or operator must remove all equipment or structures not necessary for postclosure land use in accordance with Section 1100.209(a) unless otherwise approved by the Agency in writing.

(Source: Added at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

### **Section 1100.510 Recordkeeping Requirements**

The owner or operator must maintain an operating record at the facility or in some alternative location approved by the Agency in writing. The owner or operator must make the operating record available for inspection and copying by the Agency upon request during normal business hours. Information maintained in the operating record must include, but is not limited to, the following:

- a) Any information submitted to the Agency pursuant to this Part.
- b) Written procedures for load checking, load rejection notifications, and training required under Section 1100.205.
- c) A site location map as described under Section 1100.304.
- d) A facility plan map as described under Section 1100.305.
- e) A narrative description of the facility as described under Section 1100.306.
- f) Proof of property ownership. The owner and operator must notify the Agency within 7 days after any changes in ownership.
- g) A surface water control plan as described under Section 1100.308.
- h) A closure plan and postclosure maintenance plan as described under Sections 1100.309 and 1100.310.

(Source: Added at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

### **Section 1100.515 Registration**

- a) Owners and operators of uncontaminated soil fill operations must register the fill operation with the Agency.

- 1) Uncontaminated soil fill operations must be registered with the Agency within 60 days after the effective date of this Section. Uncontaminated soil fill operations already registered with the Agency pursuant to Section 22.51a (c) of the Act must be re-registered in accordance with this subsection (a)(1).
  - 2) Uncontaminated soil fill operations that first receive uncontaminated soil on or after the effective date of this Section must be registered with the Agency prior to the receipt of any uncontaminated soil.
- b) Registrations must be submitted on forms and in a format prescribed by the Agency and must include information set forth at Sections 1100.304 through 1100.310, excluding the certifications required under Section 1100.307.

(Source: Added at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### **Section 1100.520 Required Signatures**

- a) All registrations must contain the name, address, and telephone number of the owner and operator, and any duly authorized agents of the owner or operator to whom inquiries and correspondence should be addressed.
- b) All registration applications must be signed by the owner and operator or by their duly authorized agents with an accompanying oath or affidavit attesting to the agent's authority to sign the application on behalf of the owner or operator. The following persons are considered duly authorized agents of the owner and operator:
  - 1) For corporations, a principal executive officer of at least the level of vice president;
  - 2) For a sole proprietorship, the sole proprietor;
  - 3) For a partnership, a general partner;
  - 4) For a municipality, State, federal or other public agency, by the head of the agency or a ranking elected official; and
  - 5) For a member-managed limited liability company, by a member and for a manager-managed limited liability company, by a manager or member.

(Source: Added at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

#### **Section 1100.525 Procedures for Closure**

a) Notification of Closure

The owner or operator must provide written notification to the Agency within 30 days after the owner or operator begins closure in accordance with the closure plan required by Section 1100.510(h) and the closure requirements of Section 1100.208.

b) Certification of Closure

When the closure of the facility is complete, the owner or operator must submit to the Agency:

- 1) Documentation concerning closure of the facility, including, but not limited to, plans or diagrams of the facility as closed and the date closure was completed.
- 2) An affidavit by the owner or operator and the seal of a PE or PG that the facility has been closed in accordance with the closure plan required by Section 1100.510(h) and the closure requirements of Section 1100.208.

(Source: Added at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

### **Section 1100.530 Termination of Postclosure Maintenance**

At the end of the postclosure maintenance period, the owner or operator must submit a certification by a PE or PG and an affidavit by the owner or operator demonstrating that, due to compliance with the postclosure maintenance plan and the postclosure maintenance requirements of this Part, postclosure maintenance is no longer necessary because:

- a) Vegetation has been established on all nonpaved areas;
- b) The surface has stabilized sufficiently with respect to settling and erosion so that further stabilization measures required by the postclosure maintenance plan are no longer necessary; and
- c) The owner or operator has completed all requirements of the postclosure maintenance plan.

(Source: Added at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

### **SUBPART F: STANDARDS FOR UNCONTAMINATED SOIL USED AS FILL MATERIAL AT FILL OPERATIONS REGULATED BY THIS PART**

### **Section 1100.600 Purpose and Applicability**

- a) The purpose of this Subpart F is to establish standards for soils that are considered uncontaminated for purposes of this Part.
- b) This Subpart F applies only to soil that is:
- 1) Generated during construction, remodeling, repair or demolition of utilities, structures and roads as provided in Section 3.160 of the Act ; and
  - 2) Used as fill material at Clean Construction or Demolition Debris Fill Operations or Uncontaminated Soil Fill Operations as provided at Sections 22.51 and 22.51a of the Act and in this Part.
- c) Soil that is generated during construction, remodeling, repair or demolition of utilities, structures and roads and commingled with CCDD must satisfy the standards for maximum allowable concentrations of chemical constituents in uncontaminated soil as set forth in this Subpart F if used as fill material at CCDD Fill Operations pursuant to Section 22.51 of the Act.
- d) Soil or materials to which this Subpart F does not apply include, but are not limited to:
- 1) Soil that must be managed as hazardous waste;
  - 2) Soil that has at any time been treated or diluted to reduce contaminant concentrations or contaminant mobility (e.g., treatment to reduce extraction test contaminant concentrations) except for soil that has been treated to reduce contaminants by physical separation from construction or demolition debris at the site where the soil was generated or at a site authorized by applicable law to perform such separation; and
  - 3) Soil that has been removed from a site as part of cleanup or removal of contaminants, including, but not limited to, activities conducted under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980, as amended; as part of a closure of corrective action under the Resource Conservation and Recovery Act, as amended; or under an Agency remediation program, such as the leaking Underground Storage Tank Program or Site Remediation Program, but excluding sites subject to Section 58.16 of the Act where there is no presence or likely presence of a release or a substantial threat of a release of a regulated substance at, on or from the real property and excluding soil that is uncontaminated and has not been excavated or treated as part of the cleanup or removal of contaminants. [415 ILCS 5/22.51(f)(2)(C) and 22.51a (d)(2)(C)]

(Source: Added at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**Section 1100.605 Maximum Allowable Concentrations for Chemical Constituents in Uncontaminated Soils**

- a) Except as provided for background concentrations in subsection (b), the maximum allowable concentrations for chemical constituents in uncontaminated soil must be determined pursuant to this subsection (a).
- 1) The maximum allowable concentration for a chemical constituent in uncontaminated soil will be the lowest Tier 1 chemical-specific soil value of the exposure routes for residential and construction worker receptors set forth in 35 Ill. Adm. Code 742.Appendix B, Tables A and B (e.g., soil ingestion exposure route, outdoor inhalation exposure route, soil component of the groundwater ingestion exposure route, construction worker exposure route). Class I values must be used when determining the lowest Tier 1 chemical-specific value for the soil component of the groundwater ingestion exposure route. Before making the comparison among exposure routes to determine the lowest value for ionizing organic chemical constituents and inorganic chemical constituents, the requirements of subsections (a)(2) and (a)(3) must be satisfied, as applicable.
- 2) For ionizing organic constituents, the lowest pH-dependent value for the soil component of the Class I groundwater ingestion exposure route in 35 Ill. Adm. Code 742.Appendix B, Table C, between column range 6.25 to 6.64 and column range 8.75 to 9.0 must be substituted for the pH-neutral value provided for the soil component of the Class I groundwater ingestion exposure route in 35 Ill. Adm. Code 742.Appendix B, Table A before determining the lowest Tier 1 chemical-specific soil value pursuant to subsection (a)(1) of this Section.
- 3) For inorganic constituents, the remediation objectives for the soil component of the Class I groundwater ingestion exposure route in Appendix B, Tables A and B are based on the contaminant concentration resulting from an extraction test and are not directly comparable to the remediation objectives provided for the ingestion and inhalation exposure routes, which are based on total concentrations. The following values, based on total concentrations, must be substituted for the extraction test values in Table A before determining the lowest Tier 1 chemical-specific soil value pursuant to subsection (a)(1) of this Section:
- A) The lowest chemical-specific, pH-dependent values for the soil component of the Class I groundwater ingestion exposure route in 35 Ill. Adm. Code 742.Appendix B, Table C, between column range 6.25 to 6.64 and column range 8.75 to 9.0; or

- B) For inorganic constituents that are listed in 35 Ill. Adm. Code 742.Appendix B, Table A but not in Appendix B, Table C, the extraction test values for the soil component of the groundwater ingestion exposure route in Appendix B, Table A may be multiplied by 20 (i.e., 20 liters/kilogram, the liquid to solid ratio in the extraction test assuming complete constituent leaching) to enable direct comparison with the ingestion and inhalation exposure route values. The resulting value must be substituted for the extraction test value before determining the lowest Tier 1 chemical-specific soil value pursuant to subsection (a)(1) of this Section.
- 4) If the lowest Tier 1 soil value for a chemical is less than the Acceptable Detection Limit (ADL), the ADL will serve as the lowest soil value.
- 5) The total concentration of organic contaminants may not exceed the attenuation capacity of the soil as determined in accordance with 35 Ill. Adm. Code 742.215 (b)(1) and (b)(1)(A) using a default value of 2000 mg/kg for the natural organic carbon fraction ( $f_{oc}$ ).
- b) Background concentrations from 35 Ill. Adm. Code 742.Appendix A, Tables G and H may be used as the maximum allowable concentrations at locations specified by the tables if the most stringent exposure route value for the chemical constituent, as determined pursuant to subsection (a) of this Section, is lower than the chemical's applicable background value listed in Table G or H. The chemical's applicable background value in Table G or H must be established based on the location of the fill operation where the soil is placed.
- c) For chemicals not listed in 35 Ill. Adm. Code 742.Appendix B, Table A, B or C, the values may be obtained from the Agency by making a request for chemical-specific values.
- 1) The Agency will develop these objectives based upon USEPA's toxicity value hierarchy as specified in OSWER Directive 9285.7-53, incorporated by reference in Section 1100.104. USEPA's Integrated Risk Management System (IRIS), incorporated by reference in Section 1100.104, is the first tier of this hierarchy.
- 2) Calculation of the maximum allowable concentrations must use the applicable risk-based soil screening level equations from 35 Ill. Adm. Code 742.Appendix C, Table A. Default exposure durations and contact rates from 35 Ill. Adm. Code 742.Appendix C, Table B must be used in making these calculations.
- 3) If the person making the request of the Agency disagrees with the Agency's decision, the person who made the request may file an

appeal of the Agency's decision with the Board pursuant to Section 40(a) of the Act and 35 Ill. Adm. Code 105.

- d) Other provisions of 35 Ill. Adm. Code 742 (e.g., institutional controls, engineered barriers, exposure route exclusions, site-specific evaluations, local area background calculations) may not be used to exclude or otherwise alter exposure routes or exposure route values for the purpose of determining the maximum allowable concentrations under this Part.
- e) For purposes of this Part, the Agency shall publish at its website a list of chemical-specific values for maximum allowable concentrations of chemical constituents in uncontaminated soils based on the methodology for determining those values set forth in this Section. In addition, the Agency shall publish at its website a list of chemical-specific values for chemicals not listed in 35 Ill. Adm. Code 742. Appendix B, Tables A, B or C when values are calculated by the Agency in accordance with subsection (c) of this Section or of 35 Ill. Adm. Code 742.510(c).

(Source: Added at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**Section 1100.610 Compliance Evaluation; Performance and Documentation of Soil Sampling and Chemical Analysis**

- a) For purposes of this Subpart F, the chemical constituents to be evaluated, ~~if any,~~ and the soil sample points must be determined on a site-specific basis by the PE or PG.
- b) If soil sampling and analysis are used to evaluate compliance with the maximum allowable concentrations for chemical constituents in uncontaminated soils, compliance generally must be determined by comparing total soil concentrations from the laboratory reports with the maximum allowable concentrations as determined pursuant to Section 1100.605. The following procedures will be required, as applicable, when making the comparisons:
  - 1) If the background value from 35 Ill. Adm. Code 742. Appendix A, Table G or H was determined to be the maximum allowable concentration in accordance with Section 1100.605 for an inorganic constituent or a polynuclear aromatic hydrocarbon constituent, compliance must be determined as follows:
    - A) The applicable background value from Table G or H may be compared directly with the total soil concentration from the laboratory report; or
    - B) If, as determined pursuant to Section 1100.605(a) and (b), the applicable background value for an inorganic chemical constituent

from Table G has been selected as the maximum allowable concentration in place of a more stringent value for the Class I soil component of the groundwater ingestion exposure route in 35 Ill. Adm. Code 742.Appendix B, Table A, concentration in the extract from the Toxicity Characteristic Leaching Procedure (TCLP) or Synthetic Precipitation Leaching Procedure (SPLP) analytical extraction test in accordance with Methods 1311 and 1312, respectively, in SW-846, incorporated by reference at Section 1100.104, may be compared with the chemical's Class I soil component of the groundwater ingestion exposure route value in 35 Ill. Adm. Code 742.Appendix B, Table A.

- 2) For ionizing organic constituents, if, as determined pursuant to Section 1100.605, the lowest Tier 1 chemical-specific soil value is for the soil component of the Class I groundwater ingestion exposure route, the total soil concentration from the laboratory report must be compared with the lowest corresponding pH-dependent value in 35 Ill. Adm. Code 742.Appendix B, Table C.
- 3) For inorganic constituents and, except as provided in subsection (b)(1)(B) of this Section, if, as determined pursuant to Section 1100.605, the lowest Tier 1 chemical-specific soil value is for the soil component of the Class I groundwater ingestion exposure route, compliance must be evaluated by comparing the total soil concentration from the laboratory report using the following methods:
  - A) Total soil concentrations from the laboratory report must be compared with the lowest chemical-specific, pH-dependent value for the soil component of the Class I groundwater ingestion exposure route in 35 Ill. Adm. Code 742.Appendix B, Table C; or
  - B) For inorganic chemical constituents that are listed in Appendix B, Table A but not in Appendix B, Table C, the total soil concentrations from the laboratory report must be compared with the product of the extraction test values for the soil component of the Class I groundwater ingestion exposure route in Appendix B, Table A multiplied by 20 to convert to total soil concentration values; or
  - C) As an alternative to subsections (b)(3)(A) and (b)(3)(B) of this Section, concentrations in the extract from TCLP or SPLP analytical extraction test in accordance with Methods 1311 and 1312, respectively, in SW-846 may be compared with the chemical's Class I soil component of the groundwater ingestion exposure route value in 35 Ill. Adm. Code 742.Appendix B, Table A.



- c) Chemical analysis of soil samples conducted under this Subpart F must be conducted in accordance with the requirements of 35 Ill. Adm. Code 742 and "Test Methods for Evaluating Solid Wastes, Physical/Chemical Methods" USEPA Publication No. SW-846, incorporated by reference in Section 1100.104 [415 ILCS 5/22.51(f)(3) and 22.51a(d)(3)]. If SW-846 methods do not support detection at the concentration specified for a particular chemical constituent (e.g., aldicarb, carbofuran, endothall), the laboratory may use modified or alternative methods available to the laboratory to achieve the lowest practical detection level possible. If concentrations of these constituents in soil are demonstrated to be equal to or lower than the applicable maximum allowable concentrations using modified or alternative methods pursuant to this subsection (c), the soil may be certified as complying with the maximum allowable concentrations.
- d) Compositing and averaging of soil samples.
- 1) Samples must not be composited for analysis, except as specified in subsection (d)(2), below .
  - 2) Samples taken from a site that is not a potentially impacted property may be composited for analysis if samples are composited in accordance with 35 Ill. Adm. Code 742.225(c) and (d),
  - 3) ~~and a~~ Analytical results of soil samples from subsections (d)(1) and (d)(2) samples must not be averaged.
- e) All quantitative analyses of samples must be completed by an accredited laboratory in accordance with the requirements of 35 Ill. Adm. Code 186 and the scope of the accreditation. Documentation of any chemical analysis must include, but is not limited to:
- 1) Chain of custody control;
  - 2) A copy of the lab analysis;
  - 3) Accreditation status of the laboratory performing the analysis; and
  - 4) Certification by an authorized agent of the laboratory that the analysis has been performed in accordance with the Agency's rules for the accreditation of environmental laboratories and the scope of the accreditation. [415 ILCS 5/22.51(f)(2)(D)]

(Source: Added at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

**Section 1100.615 Waste and Materials Other Than Chemical Constituents in Soils**

For purposes of this Part:

- a) Uncontaminated soil may include incidental amounts of stone, rock, gravel, roots, and other vegetation.
- b) Except as provided in subsection (a), soil containing waste or other materials or exceeding the standards for chemical constituents in uncontaminated soil is not uncontaminated soil and must be managed in accordance with applicable provisions of the Act and implementing rules.
  - 1) Soil satisfying the standards for chemical constituents in uncontaminated soil but that is commingled with general construction or demolition debris is general construction or demolition debris and must be managed as such in accordance with applicable provisions of the Act and implementing rules. (See 415 ILCS 5/3.160(a).)
  - 2) Soil satisfying the standards for chemical constituents in uncontaminated soil but that is commingled with clean construction or demolition debris is clean construction or demolition debris and must be managed as such in accordance with applicable provisions of the Act and implementing rules. (See 415 ILCS 5/3.160(b).)

(Source: Added at 36 Ill. Reg. \_\_\_\_\_, effective \_\_\_\_\_)

IT IS SO ORDERED.

Board Member J. A. Burke abstains.

Board Member C.K. Zalewski abstains.

I, John T. Therriault, Assistant Clerk of the Illinois Pollution Control Board, certify that the Board adopted the above opinion and order on June 7, 2012, by a vote of 3-0.




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John T. Therriault, Assistant Clerk  
Illinois Pollution Control Board