U.S. EPA STATEMENT OF BASIS

For
Flexible Products Company Site
A Wholly Owned Subsidiary of The Dow Chemical Company

EPA I.D. No. ILD 043 912 922

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Statement of Basis for the Proposed Remedy at the Flexible Products Company Site in Crest Hill, Illinois

INTRODUCTION

This Statement of Basis (SB) explains the proposed remedy for contaminated soil, sediments, and groundwater at the Flexible Products Company (FPC) Site (Site) former Crest Hill facility, a wholly owned subsidiary of The Dow Chemical Company (Dow). The U.S. Environmental Protection Agency (EPA) will select a final remedy for the Site only after the public comment period has ended and the information provided by the public has been reviewed and considered.

EPA is issuing this SB as part of its public participation responsibilities under the Resource Conservation and Recovery Act (RCRA). The document summarizes information that can be found in greater detail in the Current Conditions Report (CCR; CH2MHill 2008) and Corrective Measure Proposal Report (CMS) and other pertinent documents contained in the Administrative Record. EPA encourages the public to review these documents in order to gain a more comprehensive understanding of the Site and the RCRA activities that have been conducted to date.

EPA may modify the proposed remedy or select another remedy based on new information or public comments. Therefore, the public is encouraged to review and comment on all corrective measure scenarios. The public can participate in the remedy selection process by reviewing this document, as well as the documents contained in the Administrative Record, and then providing comments to the EPA.

PROPOSED REMEDY

EPA proposes that Dow should implement the following remedy to address the contaminated media located on the Site as well as any off site media contaminated by migration of contaminants off of the Site:

- Institutional controls;
- Maintenance of the existing cover over the former quarry;
- Groundwater monitoring including periodic removal of substantial non-aqueous phase liquids (NAPL) per a Groundwater Monitoring Plan and a NAPL Removal Plan; and

- Demolition of Building 2.
- Provide adequate financial assurance to demonstrate that funding will be available to complete the required work.

A more detailed discussion of the proposed remedy, Alternative 2, is included on page 11.

FACILITY BACKGROUND

The Site is located at 2050 North Broadway in Crest Hill, Lockport Township, Will County, Illinois. The Site encompasses approximately 9 acres at the northwestern corner of North Broadway Street and Chaney Avenue (Figure 1). Dow currently owns the Site and has entered into a Voluntary Corrective Action Agreement with EPA to perform corrective action at the Site under RCRA. The earliest use of the Site was as a limestone quarry beginning in the 1800s. Lumbering operations followed in the 1920s through the 1960s. In the early 1970s, a trucking company initiated filling of the quarry. Records indicate that a variety of materials, including construction debris, slag, trees, tar paper from a warehouse fire, petroleum tank bottoms, sludges, and asphaltic materials, were used to fill the quarry. These waste disposal operations occurred between 1970 and 1973. Subsequent waste disposal was performed by owners of the Site in the later 1970s and early 1980s. This material consisted of roadway debris and excess soils or construction materials generated during facility upgrades or work in the vicinity of the Site. Cross-sections developed for the Site in 2003 indicate that only a portion of the center of the quarry was filled with "waste" materials that have introduced the environmental conditions associated with the Site. For structural reasons, manufacturing operations at the Site have largely been conducted outside the footprint of the former quarry.

Former manufacturing operations at the Site consisted principally of polyurethane foam production on the eastern half of the property. Polyurethane foam was made by reacting isocyanate with certain types of polyol to create a tough, but rigid, plastic material.

Dow purchased the Site in 2000 and continued the polyurethane foam operations conducted by previous owners. Following a transition period, Dow completed final shutdown of the polyurethane foam operations in September 2004. Demolition of most of the former manufacturing buildings and ancillary equipment at the Site (for example, tanks and piping), along with the surrounding concrete, was completed in early 2006. All of the surrounding concrete and demolition materials were properly managed off-site. Three buildings remain at the Site, Building 2 (a limestone building), Building 10 (a warehouse), and the Office Building, along with a parking lot (Figure 2). In addition, a small shed is located just north of the Office Building and on the south-central perimeter of the Site. All other structures have been demolished. A stormwater retention basin is located on the north side of the Site.

SUMMARY OF FACILITY INVESTIGATION

Site Specific Characteristics and Physical Setting

Hydrogeological Setting

The geology in the vicinity of the site consists of a thin veneer of unconsolidated sediments that overlay Silurian Age dolomite bedrock. In the Joliet area bedrock is primarily dolomite. Regionally, this portion of Will County has bedrock exposed along the banks of much of the Des Plaines River, with glacial outwash and fluvial sediments in the river bed. Lower in the section, the dolomite becomes more thinly bedded, contains more silt, and has less chert. Bedrock at the site is more or less horizontal and thinly bedded weathered cherty dolomite, which is overlain by less than a foot to over 20 feet of fill material. The Des Plaines River and parallel Chicago Sanitary and Ship Canal (Figure 1) are the dominant geographic features in the area. The topography of the immediate area slopes east toward the Des Plaines River valley. The surface topographic relief near the City of Crest Hill ranges from near 670 feet above mean sea level (MSL) in the southwest portion of Crest Hill to approximately 540 feet above MSL at the banks of the Des Plaines River to the east. The west side of the site has a vertical exposure of Silurian dolomite, and the ground surface elevations at the site range from approximately 605 feet above MSL at the top of the bedrock in the west to approximately 580 feet MSL at the lowest portion of the site in the stormwater retention basin in the center of the site.

At the Site, surface water drains to the center of the site and into the stormwater retention basin, which is a remnant of previous quarrying operations. There is no outlet for water in the stormwater basin. Groundwater in the unconsolidated material and shallow bedrock form a single aquifer, and groundwater flows through the bedrock via bedding planes, fractures, weathered surfaces, and solution features eastward towards the Des Plaines River.

The ground surface along the entrance, the Office Building, and around the manufacturing complex is paved with asphalt and concrete, and the remainder of the Site surface is covered with gravel. The northeastern portion of the Site contains a 0.25-acre stormwater retention basin that is surrounded by wooded vegetation. Offsite stormwater, received from the residential area to the west, and all facility stormwater, drains to the stormwater retention basin. There is no offsite drainage of site stormwater. The western boundary of the facility contains a vertical exposure of dolomite bedrock that is 5 to 15 feet high. This vertical bedrock exposure is the visible remains of previous stone quarrying operations.

Ecological Setting

The Site is developed and is covered by buildings, gravel, or pavement (concrete or asphalt) over the vast majority of the property (Figure 2). The Site is zoned industrial and is surrounded by developed properties—single family homes, commercial property, a railroad line, and a public highway. There is a small upland vegetated border along a portion of the western boundary of the Site. The northeastern portion of the Site contains a 0.25-acre

stormwater retention basin that receives runoff from the Site grounds. The basin is surrounded by wooded vegetation and is the extent of any potential ecological habitat at the Site.

Investigation Results

A RCRA Facility Investigation (RFI) was performed at the facility in order to determine the nature and extent of contamination, as well as the need for interim measures. The RFI is the initial investigation in the Corrective Action Process. During the RFI, soil, groundwater, surface water, sediment from the retention pond, and groundwater were sampled and the results were compared against human health and/or ecological screening criteria. If certain chemicals are above the screening criteria, then those chemicals are considered to be contaminants of concern and are assessed further in the risk assessment. Current conditions at the facility are well understood, based on over 20 years of work to evaluate the site's history, physical environment, and contaminant distribution and movement in soil, sediment, indoor and outdoor air, and groundwater within the facility. This information was summarized and presented in the CCR. Environmental samples and geologic and hydrogeologic information collected during these investigations were used to formulate the conceptual site model, as documented in the CCR. Several supplemental investigations have been completed since the CCR was completed. A vapor intrusion and indoor air investigation at existing buildings was completed in fall 2008. A bedrock and groundwater investigation was completed in 2009. These investigations confirmed the site conceptual model at the site.

At this Site, soil data were compared to risk based screening levels indentified in the EPA regional screening Table. EPA industrial risk-based concentrations (RBCs) were used to compare facility soil concentrations to risk-based human health criteria. Maximum contaminant levels (MCLs) and risk-based soil to groundwater screening levels were used to evaluate the effects of soil on groundwater. Sediment data also were compared to regional screening levels (RSLs) in the EPA regional screening table. EPA industrial RBCs for soil were used to compare facility sediment concentrations to risk-based human health criteria. Sediment results were compared to screening levels for industrial soil because human health screening levels have not been established for sediment. An additional assessment of the sediments was conducted considering a trespasser exposure scenario. In addition, sediments were compared to Region 5 Ecological Screening Levels (ESLs) for sediment to evaluate exposure to ecological receptors. All surface water data were compared to both the EPA MCL and/or tap water criteria and the EPA National Ambient Water Quality Criteria (AWQC) for Wildlife to evaluate effects to both human and ecological receptors. Although the surface water will not be used as a drinking water source, the drinking water criteria are considered to be conservative human health screening criteria. The lower (more stringent) of the EPA MCL and EPA RSL tap water RBC was used to evaluate facility groundwater data for risks to human health. When both values existed, the lower value was used for the screening. Subslab vapor, indoor air, and outdoor air samples collected at the site were compared to EPA RSLs for industrial air. Using the draft guidance on vapor intrusion, constituent concentrations based on 10^{-5} target risk levels were used to evaluate the data.

Based on the RFI and subsequent investigations, in 2010 the FPC Site achieved a

"yes" determination for both the Human Health and Groundwater Environmental Indicator (EI) Reports. The EI Reports are used by the RCRA Corrective Action program to indicate the quality of the environment in relation to current human exposures to contamination and the migration of contaminated groundwater. The Site achieved a "yes" determination for the human health EI indicating that there are no unacceptable human exposures to contamination that can reasonably expected under current land and groundwater use conditions at the Site. In addition, the Site achieved a "yes" determination for the migration of contaminated groundwater EI. This indicates that the migration of contaminated groundwater has stabilized, and that monitoring will be conducted to confirm that contaminated groundwater remains within the original area of contamination.

SUMMARY OF FACILITY RISKS

The process for identifying human health and ecological risks consisted of establishing criteria, comparing investigation results to criteria, identifying potentially complete pathways under current and planned future land uses, and assessing whether complete pathways are significant. The risks identified for the Site are summarized below.

Human Health Considerations

During the RFI and after contaminant levels were identified, a human health risk assessment was performed to determine the potential for health problems to occur if the contamination was not addressed. Based on that risk assessment, in 2010, EPA determined that human health exposures to contaminated soil and groundwater are currently under adequate control at the Site and that several complete exposure pathways at the Site are not significant. However, there are several complete exposure pathways that represent potential future human health and environmental risks and, therefore, warrant corrective action. These potentially complete human health exposure pathways (under commercial/industrial land use conditions) include the following:

Table 1: Surface soil direct contact for potential future construction workers and trespassers

Constituents of Interest in Surface Soil (0-2 ft bgs) that Exceed USEPA Regional Screening Levels for Industrial Soil*

Analyte	Frequency			Screening Level	Units	Surface Soil Maximum Detected Concentration
	Number of Samples	Number of Detections	Screening Level Exceedance			
METALS						
Arsenic	21	21	21	1.6	mg/kg	18
Benzo (a) anthracene	21	12	1	2.1	mg/kg	4.1
Benzo (a) pyrene	21	11	7	0.21	mg/kg	4.9
Benzo (b) fluoranthene	21	12	1	2.1	mg/kg	8.4
Dibenzo (a,h) anthracene	21	3	1	0.21	mg/kg	0.98
Indeno (1,2,3-c,d) pyrene	21	8	1	2.1	mg/kg	4.2

* This table summarizes contaminant of interest (COI) data from Table 4-1 and Table C-1 (Appendix C) of the Crest Hill CCR.

The human health EI identifies arsenic and eight semivolatile organic compounds as COIs that exceed EPA risk-based human health industrial RBCs. The vast majority the locations where soil exceeds the screening levels for site COIs are within the filled quarry. Some surface soil exceedences were documented near the perimeter of the facility within the former manufacturing area, although the buildings in this area have been demolished and the surface has been covered with gravel.

Analytical results from shallow soil samples collected from less than 2 feet BGS from the site were evaluated as part of the human health risk assessment using EPA's ProUCL program to determine the 95% upper confidence limit on the mean (95% UCL). As shown in Table 1, the following analytes have maximum concentrations that exceeded the industrial RBC screening criteria in surface soil: arsenic and 5 PAHs [benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, dibenzo(ah)anthracene, and indeno(1,2,3-cd)perylene]. The statistical calculations using USEPA's ProUCL program determined the 95% UCL for total arsenic to be 8.5 mg/kg, which is below the published Illinois statewide background arsenic concentration (13 mg/kg for Counties Within Metropolitan Statistical Areas, TACO Appendix A, Table G).

Evaluation of PAH surface soil data for benzo(a)pyrene and benzo(b)fluoranthene determined that the results were not normally or log normally distributed. Therefore, the 95% UCL calculations resulted in values that were similar to the maximum detected PAH concentrations that were detected at one sampling location (OBG-2-17). The maximum PAH concentrations detected at location OBG-2-17 for benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, dibenzo(ah)anthracene, and indeno (1,2,3-cd) perylene exceed industrial RBC screening criteria based on 10^{-6} target risk, but are all less than RBCs based on 10^{-4} target risk. It is noted that sample OBG-2-17 was collected at a depth of approximately 10 inches bgs, and this area was subsequently covered with gravel after the adjacent buildings were demolished. Furthermore, location OBG-2-17 is within the designated area where cover disturbance and subsurface excavations are prohibited without written approval from EPA. Lastly, the single near surface soil sampling location that exceeded RSL screening criteria and is located outside of the restricted excavation area (OBG-2-13) had a benzo(a)pyrene concentration of 0.41 mg/kg, which is far below the published Illinois statewide background concentration for this compound (2.1 mg/kg for Metropolitan Areas [Will County], TACO Appendix A, Table H).

These circumstances support a conclusion that detected concentrations of arsenic, benzo(a)pyrene, benzo(a)anthracene, benzo(b)fluoranthene, dibenzo(ah)anthracene, and indeno (1,2,3-cd) perylene in shallow soil at the site are typically below published statewide background levels, are below industrial RBCs based on 10^{-4} target risk levels, are covered with gravel, and will generally have additional exposure protections placed on the affected areas through the proposed institutional controls. Therefore, there are no significant human health risks for potential construction workers and trespassers associated with exposure to surface soil.

Table 2: Subsurface soil direct contact for potential future construction workers

Constituents of Interest in Subsurface Soil (>2 ft bgs) that Exceed USEPA Regional Screening Levels for Industrial Soil

Analyte	Frequency			Screening Level	Units	Subsurface Soil Maximum Detected Concentration
	Number of Samples	Number of Detections	Screening Level Exceedance			
METALS						
Arsenic	22	19	9	1.6	mg/kg	9.2
3,3'-Dichlorobenzidine	25	1	1	3.8	mg/kg	4.3
Benzo (a) anthracene	25	12	6	2.1	mg/kg	390
Benzo (a) pyrene	25	11	10	0.21	mg/kg	260
Benzo (b) fluoranthene	25	11	6	2.1	mg/kg	270
Benzo(k)fluoranthene	25	9	1	21	mg/kg	200
Chrysene	25	12	1	210	mg/kg	340
Dibenzo (a,h) anthracene	25	7	6	0.21	mg/kg	92
Indeno (1,2,3-c,d) pyrene	25	9	3	2.1	mg/kg	240

- * This table summarizes COI data from Table 4-1 and Table C-1 (Appendix C) of the Crest Hill CCR.

Exposure pathways to onsite subsurface soils are not complete because pathways are controlled through safe work permitting processes that require identifying hazards and applying health and safety precautions for activities performed at the Site including, but not limited to, excavation and construction activities. Therefore, there are no significant human health risks for potential future construction workers associated with exposure to subsurface soils.

Table 3: Sediment direct contact for potential trespassers

Constituents of Interest in Sediment that Exceed USEPA Regional Screening Levels for Industrial Soil

Analyte	Frequency			EPA RSL – Cancer Screening Level	Units	Maximum Detected Sediment Concentration
	Number of Samples	Number of Detections	Screening Level Exeedance			
METALS						
Arsenic	3	3	3	1.6	mg/kg	22
Benzo (a) pyrene	3	2	1	0.21	mg/kg	0.87

- * This table summarizes COI data from Table 4-1 and Table C-5 (Appendix C) of the Crest Hill CCR screened against industrial soil criteria.

The sediment human health direct contact pathway was evaluated based on exposure to sediments at the retention basin at the Site. The human health risk assessment determined that the estimated excess lifetime cancer risk for exposure to contaminants of interest (COIs) is below the EPA risk management range of 10^{-6} to 10^{-4} and the cumulative hazard index for lifetime noncancer risk was less than 1. Because the use of the retention basin is not expected to change, this is also representative of future conditions. Therefore, there are no significant human health risks for potential future trespassers associated with exposure to retention basin sediments.

Table 4: Groundwater direct contact for potential future construction workers

Contamination found in groundwater that exceeds USEPA MCL Screening Levels

	MCL	Groundwater Maximum Detected Concentration	Location of Maximum Result	Interior/Bedrock
Total METALS (ppm)				
Arsenic	0.01	0.0895 J	ERM-3	Interior
Lead	0.015	6.5 J	ERM-3	Interior
Manganese	NA	6.3	MW-8r	Interior
Mercury	0.002	0.0018	ERM-3	Interior
Thallium	0.002	0.0058 J	ERM-3	Interior
PCBs (ppb)				
Aroclor-1242	NA	0.08 J	MW-15	Interior
Aroclor-1254	NA	0.07 J	MW-15	Interior
SVOCs (ppb)				
Benzo (a) anthracene	NA	0.263	MW-8r	Interior
Benzo (b) fluoranthene	NA	0.382	MW-8r	Interior
Dibenzo (a,h) anthracene	NA	0.381	ERM-5	Perimeter (Bedrock)
Indeno (1,2,3-c,d) pyrene	NA	0.296	MW-8r	Interior
Naphthalene	NA	24	MW-15	Interior
VOCs (ppb)				
1,1-Dichloroethane	NA	2.98 J	MW-13A	Interior
1,2,4-Trimethylbenzene	NA	17	MW-15	Interior
Benzene	5	2.81 J	MW-13B	Interior
Chloroform	NA	1.18 J	MW-18	Perimeter (Bedrock)
Ethylbenzene	NA	2.7	MW-15	Interior

- *This table summarizes COI data from Table 4-1 and Table C-4 (Appendix C) of the Crest Hill CCR and Table 4 from the bedrock and groundwater investigation report (CH2M HILL 2009).

Potential exposure pathways to an onsite facility worker or construction worker from constituents in groundwater are not complete. The City of Crest Hill provides potable water to the Site and groundwater is not used. In addition, groundwater contact is controlled through safe work permitting processes by the owner, the Dow Chemical Company. These processes require identifying hazards and applying health and safety precautions for activities performed at the Site including, but not limited to, excavation and construction activities. Therefore, there are no significant human health risks for exposure of potential future construction workers associated with exposure to groundwater.

In addition to the pathways identified above, the following are potentially complete human health pathways under future conditions:

- Exposure to groundwater as a drinking water source; and

- Exposure to indoor air for workers in existing Building 2 and future occupied structures that may be constructed on the Site.

These potentially complete human health pathways are evaluated and considered under the Alternatives Analysis.

Ecological Considerations

EPA's Ecological Risk Assessment (ERA) Guidance was followed to determine whether contaminants at the Site posed a risk to ecological receptors. An ecological risk assessment is the process through which scientists evaluate the likelihood that adverse ecological effects might occur, or are occurring, due to exposure to or more stressors, such as contamination. The process begins with a Screening Level Ecological Risk Assessment (SLERA) which is an evaluation to determine whether a more comprehensive risk assessment is needed.

The Site is developed and is covered by buildings, gravel, or pavement (concrete or asphalt) over the vast majority of the property (Figure 2). The Site is zoned industrial and is surrounded by developed properties—single family homes, commercial property, a railroad line, and a public highway. There is a small upland vegetated border along a portion of the western boundary of the Site. This area has limited habitat quality and is not of significant size. Therefore, the terrestrial pathways are considered incomplete or insignificant based on limited and degraded upland habitat. The retention basin was evaluated for ecological considerations relating to potential sediment and surface water exposures to transient wildlife. The following factors are important considerations relative to the retention basin:

- The retention basin has limited habitat quality because of its shallow nature, stagnant conditions, and fluctuating water levels due to its use as a stormwater management feature;
- The surrounding vegetated upland border has limited habitat quality because of the size of the area, its proximity to the facility and residential areas, and presence of debris;
- No viable benthic community or fish population are expected, although transient wildlife may use the retention basin as a water source; and
- The retention basin is planned to be used to manage stormwater for the foreseeable future.

Based on these factors, no complete non-transient ecological pathways were identified, and the aquatic pathways are considered incomplete or insignificant. Ingestion of surface water by transient wildlife is considered the only complete pathway. The SLERA compared surface water data to EPA's AWQC for wildlife and determined that there is no potential unacceptable risk.

SCOPE OF CORRECTIVE ACTION

Remedial action objectives have been identified to address potentially complete human health exposure pathways for COIs at the Site. These objectives, listed below, were developed in consideration of both the current and reasonably expected future land use scenarios at the Site:

- Prevent site reuse as residential property;
- Prevent incidental direct human exposure (ingestion, inhalation, and dermal contact) to COIs in soils and sediments that exceed established screening levels;
- Prevent future human ingestion of, and direct contact with groundwater, that contains COIs exceeding EPA screening levels;
- Prevent potential future exposures to soil vapor migrating from the quarry into new occupied structures that may be constructed at the Site; and
- Prevent exposure to soil vapor within existing buildings that exceed EPA screening levels.

SUMMARY OF ALTERNATIVES

Based on the Remedial Action Objectives (RAOs) and the findings of the human health and ecological risk assessments, the following four remedial alternatives were identified. The 4 alternatives were analyzed to address soil, groundwater, and sediment contamination at and from the FPC Site. The alternatives are numbered to correspond with the numbers in the CMS Report.

Alternative No. 1 – NO ACTION

Alternative No. 1 consists of no action at the Site including no changes to current site status leaving the Site available for reuse consistent with current zoning. This alternative was retained as a baseline for the assessment of other alternatives but because it is not protective of human health or the environment, it is not considered further in this analysis.

Alternative No. 2 – Management and Monitoring with Potential NAPL Recovery

Alternative No. 2 consists of institutional controls to prevent groundwater use, institutional controls to restrict land use to its current industrial/commercial land use designation, protection against vapor intrusion into any future occupied structures, and continued maintenance of the cover over the former quarry. The existing cover over wastes in the former quarry would be managed and maintained to prevent direct contact. A groundwater monitoring plan would be followed to ensure conditions remain stable and impacted groundwater does not migrate offsite. As NAPL has been found in several of the on-site wells during previous sampling events, a NAPL removal plan has been developed that would address any NAPL detected at the Site in future groundwater monitoring events. In addition, Building 2 would be demolished to eliminate potential vapor intrusion risks.

Alternative No. 3 – Engineered Landfill Cover and Monitoring

Alternative No. 3 consists of institutional controls to prevent groundwater use, institutional controls to restrict land use to its current industrial/commercial land use designation, protection against vapor intrusion into any future occupied structures, and continued maintenance of the cover over the former quarry. An engineered cover would be installed over the former quarry to prevent direct contact and minimize infiltration. A

groundwater monitoring plan would be followed to ensure conditions remain stable and impacted groundwater does not migrate offsite. A NAPL removal plan would be followed to address any detected NAPL. In addition, Building 2 would be demolished to eliminate potential vapor intrusion risks.

Alternative No. 4 – Remove Wastes from the Former Quarry and Dispose Offsite

Alternative No. 4 would consist of excavating and removing all the wastes from former quarry and disposing them at an off-site RCRA landfill. In addition a groundwater monitoring plan would be followed to ensure effectiveness of the remedy on groundwater conditions. A NAPL removal plan would be followed to address any detected NAPL.

EVALUATION OF PROPOSED REMEDY AND ALTERNATIVES

This section profiles the proposed remedy against the four threshold criteria and five balancing criteria, noting how it compares to the other options under consideration.

Selected Remedy – Alternative 2: Management and Monitoring with Potential NAPL Recovery

1. Overall protection

Except for the "No Action" alternative, all of the alternatives would provide adequate protection of human health and the environment by eliminating, reducing, or controlling risk to human health through engineering and/or institutional controls. The proposed remedy would manage and maintain the existing cover over the wastes in the former quarry to prevent direct contact. A groundwater monitoring plan would be put into place that would be used to demonstrate that conditions within the quarry are stable and that impacted groundwater is not migrating offsite. Any NAPL detected in the groundwater will be removed and properly characterized per the NAPL removal plan and treated/disposed of in accordance with all applicable local, state and federal rules. Building 2 would be demolished to eliminate potential vapor intrusion risks. Institutional controls to restrict land use to its current industrial/commercial land use designation and prevent groundwater use would be effective methods to protect human health when combined with the proposed engineered controls.

2. Attainment of media cleanup standards

All alternatives, except the "No Action" alternative, would meet their respective media cleanup standards of federal and state environmental laws.

3. Controlling the sources of releases

The periodic removal of NAPL, as detected during groundwater monitoring events, provides an effective source control program to ensure the long-term effectiveness and protectiveness of this remedy. Alternatives No. 2 and 3 reduce, but do not eliminate potential future risk of exposure. Alternative 4 eliminates the risk of potential future exposures by removing most, if not all, of the wastes from the quarry to an off-site location.

4. Compliance with applicable standards for waste management

For all the alternatives, waste generated during the implementation of the remedy will be properly characterized and treated/disposed of in accordance with all applicable local, state and federal rules.

5. Long-term reliability and effectiveness

Each of the alternatives would be an effective means of addressing contamination at the Site. Under Alternatives No. 2 and 3, the groundwater monitoring plan would be used to demonstrate that conditions within the quarry are stable and that impacted groundwater is not migrating offsite. Any NAPL detected in the groundwater will be removed and properly characterized and treated/disposed of in accordance with all applicable local, state and federal rules. Building 2 would be demolished to eliminate potential vapor intrusion risks. The cover over the former quarry would be managed and maintained to prevent direct contact. Institutional controls to restrict land use to its current industrial/commercial land use designation and prevent groundwater use would be effective methods to protect human health when combined with the proposed engineered controls under the proposed selected remedy. Alternative No. 4 would attempt to remove all of the waste thereby eliminating any future potential exposures.

6. Reduction of toxicity, mobility, or volume of wastes

All of the Alternatives have the ability to reduce the toxicity of the wastes. Alternatives No. 2 and 3 would reduce toxicity through the removal of NAPL as it is detected. Alternative No. 4 would reduce toxicity through the removal and off-site disposal of the wastes located in the quarry. Alternatives No. 2 and 3 would not result in any reduction in the volume of the waste found in the quarry, but would be effective in monitoring the mobility of the waste through the groundwater monitoring plan. In addition, demolishing Building 2 and maintaining the cover over the former quarry would aid in reducing the toxicity or mobility of the wastes. Alternative No. 4 would result in an almost complete reduction in the toxicity, volume, and mobility of the wastes as a result of the wastes being removed from the quarry for off-site disposal.

7. Short-term effectiveness

The implementation of alternatives No. 2 and 3 poses a limited risk to workers due to potential exposure to contaminants during demolition activities. Potential exposures may consist of direct contact or inhalation of excavated materials. However, any work performed

would be conducted by trained personnel, in accordance with a site-specific health and safety plan which meets the requirements of 29 C.F.R. § 1910.120. The site-specific health and safety plan would be designed to mitigate any potential exposure, and appropriate PPE would be utilized. Alternative No. 4 is difficult to implement due to proximity of the Site to residential properties. In addition, the ability to effectively remove all of the wastes from the base of the quarry is questionable. It is very likely, under Alternative No. 4, that neighbors would be impacted from nuisance odors, potential issues associated with transportation of contaminated material, and/or noisy operations. However, the health and safety plan would take potential impacts to the community into account and, if necessary, provide means to mitigate the potential impacts.

8. Implementability

This proposed remedy can be implemented with little or no difficulty by administrative processes, availability of equipment or availability of manpower. Institutional needs for this alternative are limited. City ordinances would be followed with respect to working hours, noise and utilization of public roads for transportation. Additionally, state and federal department of transportation regulations would be followed for transportation of contaminated soil.

9. Cost

The present cost of implementing the proposed remedy, Alternative No. 2, is $520,000. This estimate assumes a $310,000 estimate for the first 2 years of remedy implementation, followed by an estimated $70,000 per year for remedy maintenance for subsequent years 3 to 5. This estimate includes the demolition of Building 2, implementation of institutional controls, and implementation of the groundwater monitoring plan. Alternative No. 2 is the lowest cost alternative. The highest cost alternative is Alternative No. 4 with capital costs of approximately $46 million. Alternative No. 3 has a cost of approximately $1.6 million.

Summary of Basis for Non-Selection

Alternative 1- No Action, was not selected because it does not meet the criteria for protection of human health and the environment. Under this alternative there would be nothing to prevent exposure to buried wastes or contaminated groundwater by people performing work at the Site. In addition, areas of the Site could potentially be converted to residential use. Thus, buildings could be constructed over areas of the former quarry that may result in unacceptable risk due to vapor intrusion, and groundwater wells could be installed resulting in exposure to contaminated groundwater.

Alternative 3- Engineered Landfill Cover and Monitoring, was not selected because implementing an engineered cover over the former quarry does not provide any additional protection to human health and the environment relative to the existing cover. Specifically, the construction of a new asphalt cover over the quarry is not expected to offer any additional environmental benefits when compared to the existing gravel/cement cover that is already in place. In addition, constructing an engineered cover would result in additional limitations on future land use that would be detrimental to future revitalization of the Site, which is

strategically located on one of the primary entrance roads to Crest Hill. The capital costs of approximately $1.6 million for this option are not justified, given that no additional environmental protection would be achieved and redevelopment efforts would be impaired.

Alternative 4 – Remove Waste from Former Quarry and Dispose Offsite, was not selected because of the excessive cost, which was estimated to be in the range of $46 million, relative to the incremental benefits gained which would include the elimination of cover maintenance activities, certain restricted land uses and certain potential future risks. On the other hand, the movement of waste from one disposal area to another will result in increased emissions from trucks and other mechanical equipment and pose other public safety risks associated with such a large construction project. This remedy also would result in demolition of the existing office building and warehouse, which may be of value to potential new landowners. Additionally, the feasibility of removing fill and waste materials from the deeper portions of the former quarry (to approximately 30 feet below ground surface) is uncertain.

Based on the above evaluation, Alternative No. 2, Management and Monitoring with Potential NAPL Recovery, is the recommended Corrective Action for the FPC Site.

PUBLIC PARTICIPATION

EPA solicits input from the community on the corrective measures proposed for the Site. The public is also invited to provide comment on corrective measure scenarios not addressed in this Statement of Basis. EPA has set a public comment period from November 26, 2010 through January 3, 2011, to encourage public participation in the selection process. EPA may hold a public meeting during the public comment period on the Statement of Basis if requested by the public.

The Administrative Record for the FPC Site is available at the following locations:

Crest Hill Public Library
1298 Theodore Street
Crest Hill, IL 60403
Ph # (815) 725-0234

EPA, Region 5
Land and Chemicals Division Records Center
77 West Jackson Boulevard, 7th Floor
Chicago, Illinois 60604-3590
Ph # (312) 886-0902
Hours: Mon-Fri,
8:00 a.m. - 4:00 p.m.

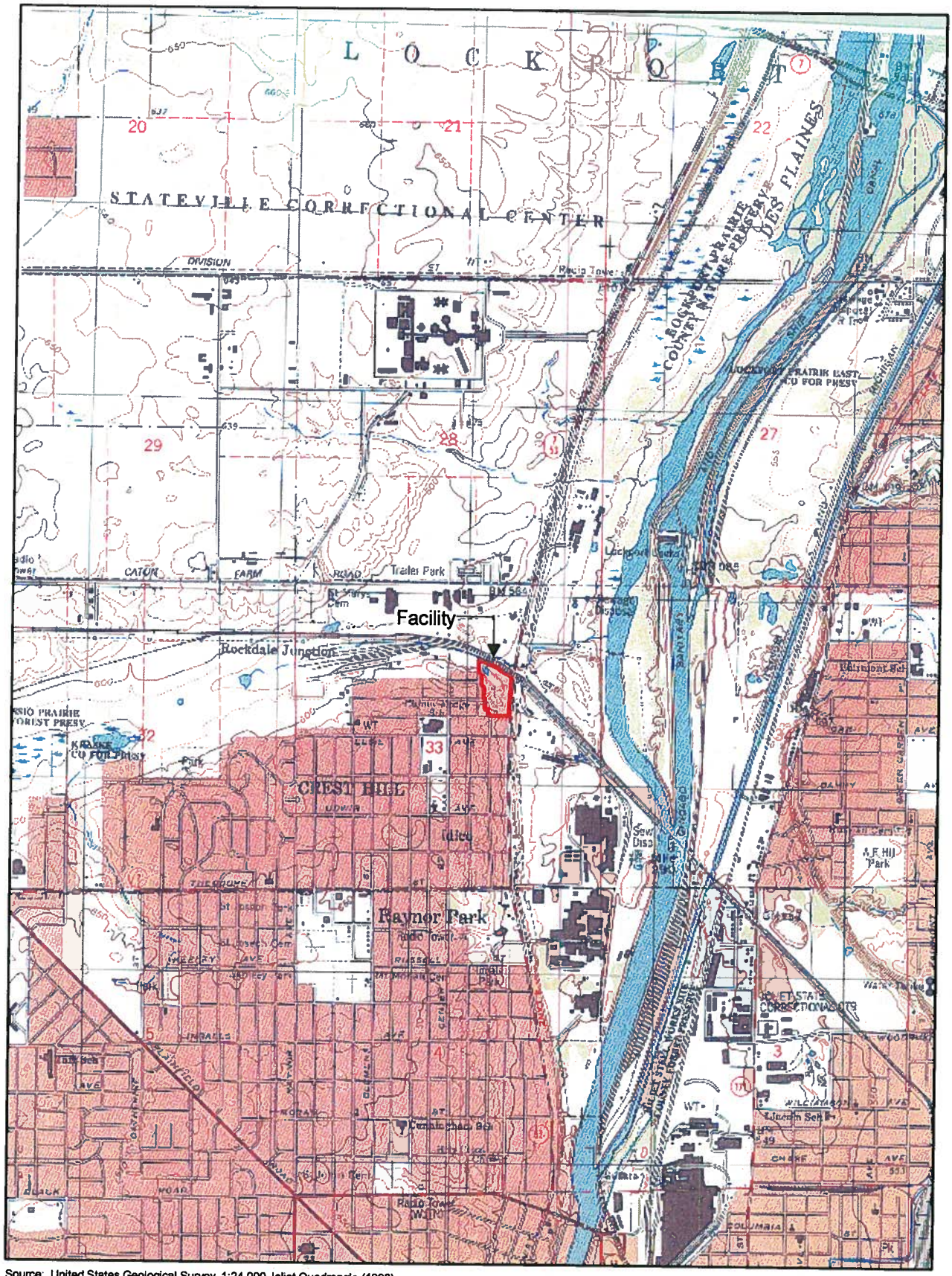
After consideration of the comments received, EPA will select the remedy and document the selection in the Final Decision and Response to Comments. EPA will summarize and respond to public comments. The Final Decision and Response to Comments will be drafted at the conclusion of the public comment period and incorporated into the Administrative Record.

To send written comments, request technical information, or to request a public meeting on the FPC Site, please contact:

Jennifer Dodds
Environmental Scientist
U.S. Environmental Protection Agency, Region 5
77 West Jackson Boulevard
Corrective Action Section 2, LU-9J
Chicago, Illinois 60604-3590
Ph # (312) 886-1484
E-mail: dodds.jennifer@epa.gov

To request information on the public comment period process, please contact:

Rafael P. Gonzalez
EPA Public Affairs Specialist
U.S. Environmental Protection Agency, Region 5
77 West Jackson Boulevard
Land and Chemicals Division, L-8J
Chicago, Illinois 60604-3590
Ph # (312) 886-0269
E-mail: gonzalez.rafaelp@epa.gov



Source: United States Geological Survey, 1:24,000 Joliet Quadrangle (1998)

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Figure 1
Facility Location Map

Flexible Products Company
Crest Hill, Illinois

CH2MHILL

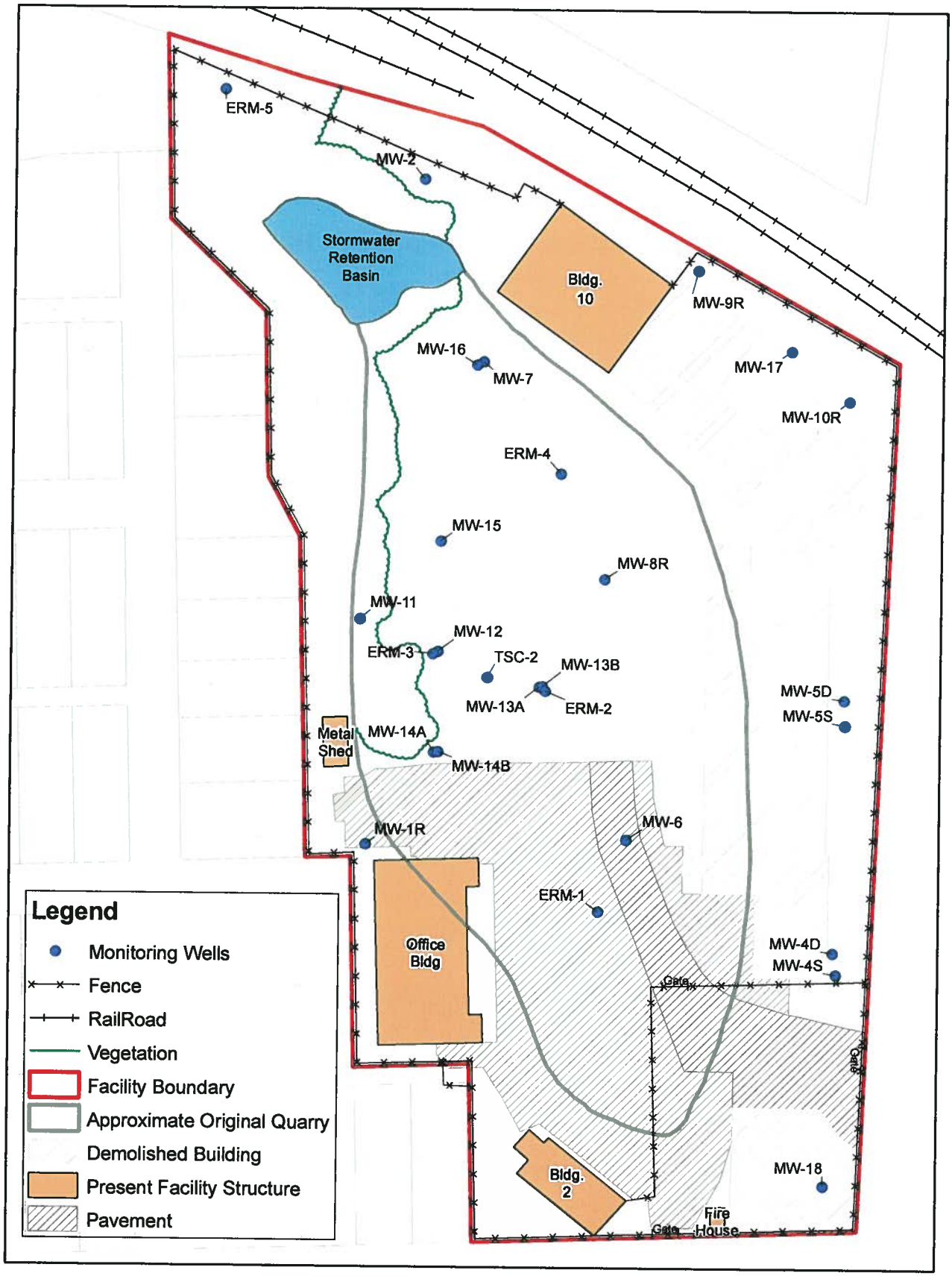

Figure 2
Facility Features Map

Flexible Products Company
Crest Hill, Illinois

CH2MHILL