



Consulting Engineers and Scientists

Off-Site Investigation and Remediation Work Plan for 2022 Activities

FMC Corporation Middleport, New York NYSDEC Site No. 932014

Submitted to:

FMC Corporation Middleport, New York

Submitted by:

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Off-Site Investigation and Remediation Work Plan FMC Corporation Middleport, New York NYSDEC Site No. 932014 February 2022

Certifications

I, Kelly McIntosh, certify that I am currently a New York State registered professional engineer and that this Off-Site Investigation and Remediation Work Plan for 2022 Activities was prepared in accordance with all applicable statutes and regulations and in substantial conformance with the DER Technical Guidance for Site Investigation and Remediation (DER10).

Date: 01/31/2022 Stamp:



I certify under penalty of law that this document and all attachments were prepared under my direction or supervision according to a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Date: 02/02/2022

Signature:

Dougles amo

Douglas Groux Director, EHS Remediation & Governance FMC Corporation

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1. Introduction

FMC Corporation (FMC) owns and operates a pesticide formulating and packaging facility (Facility or Site) located in the Village of Middleport and the Town of Royalton, New York. Investigative, monitoring, and remedial activities have been implemented by FMC to address FMC-related constituents in soil and other environmental media at the Facility and in certain off-Site areas, with arsenic being the primary constituent of concern. These activities have been conducted in a phased approach, in which separate study areas and/or environmental media have been organized into 11 operable units (OUs). This work is currently subject to the terms and conditions of an Order on Consent and Administrative Settlement (Index No. CO 9 2014062540) between FMC and the New York State Department of Environmental Conservation (NYSDEC), effective June 6, 2019 (Order), which now guides the process and nature of the work to be addressed in each OU. Prior to June 6, 2019, all work was conducted pursuant to the now supplanted Administrative Order on Consent (Docket No. II RCRA 90 3008(h)02090) by and among FMC, the United States Environmental Protection Agency (USEPA), and the NYSDEC (the AOC).¹

Section IV.F of the Order stipulates that, at least 90 days prior to the beginning of calendar year 2021 (and each year after until completion of remediation work off site from the Facility), FMC will submit a work plan detailing the actions proposed to be taken during such upcoming calendar year for the NYSDEC's review, prioritization, and approval, with an anticipated budget for such actions of at least \$15 million (the Work Plan). Of the proposed \$15 million in proposed work, FMC will be required to spend no more than \$10 million toward such qualified remedial expenditures during the applicable calendar year, subject to any amounts allowed to be off set against pursuant to the Order, including certain qualified financial assurance costs.

Accordingly, for the NYSDEC's review and approval, FMC is submitting this Off-Site Investigation and Remediation Work Plan for 2022 Activities (Work Plan) detailing options for off-Site investigation and remediation activities with an anticipated budget totaling at least \$15 million, with the prioritization of \$10 million worth of activities selected for potential implementation in 2022. In addition to identifying and describing investigative and remedial options for off -Site OUs in 2022, this Work Plan also includes FMC's current thinking as it pertains to the broader long term remediation plan, with an associated implementation schedule, to assist in long term planning coordination with NYSDEC.

The options described within this Work Plan focus on advancing remediation in off -Site OUs 2 and 5 as a priority, consistent with the Order. Per the 2013 Final Statement of Basis (SB) for

¹ Pursuant to Section I.C. of the Order, prior approvals, authorizations, and determinations pursuant to the AOC that are applicable to the work in site-related OUs are all still applicable.

OUs 2, 4, and 5, the selected remedy for these OUs, referred to as corrective measures alternative 9 (CMA9), is remediation of soil containing arsenic at concentrations greater than 20 milligrams per kilogram (mg/kg), with flexibility. All properties associated with OUs 2 and 5, and their current status, are presented on Figure 2. In addition to work in OUs 2 and 5, the Work Plan also contemplates the potential for certain work to be conducted in 2022 in other off-Site OUs, subject to the work plan or design submittals having been approved by the NYSDEC in advance of such time, as may be appropriate.

Any work identified as part of the 2021 remedial construction activities in the 2021 Off-Site Investigation and Remediation Work Plan that was not completed during the 2021 construction season will be prioritized for completion in 2022. Accordingly, the scope of proposed 2022 activities will be subject to change based on the final scope of work completed prior to the end of the calendar year. FMC will reengage with NYSDEC in January 2022 to reassess the any proposed changes to this Work Plan, with its concurrence. This Work Plan should be read with this understanding.

The organization of this Work Plan is as follows:

- Section 1. Introduction
- Section 2. A summary of off-Site OU status and long-term outlook
- Section 3. Proposed and Contingency 2022 actions
- Section 4. Proposed next steps for implementation of the recommended work
- Section 5. A list of the reference materials utilized in the preparation of this Work Plan

2. Off-Site OU Status and Long-Term Outlook

2.1 Current Status

Figure 1 identifies the locations of the off-Site OUs subject to the Resource Conservation and Recovery Act (RCRA) corrective action requirements of the Order, including completion and/or status of the following for each of the off-Site OUs: RCRA Facility Investigation (RFI), Corrective Measures Study (CMS), final SB, and Corrective Measure Implementation (CMI), as may be applicable. The current status of the off-Site OUs are as follows:

Operable Unit	Description	Status and Next Steps as of October 1, 2021
OU2	Air Deposition Area 1	A final SB, dated May 2013, and issued by the NYSDEC, describes the NYSDEC selected remedy for OU2, OU4, and OU5. NYSDEC implemented the remedy between 2015 and 2020 pursuant to the Order. In 2021, FMC took over performance of OU2 remedy implementation.
		• A final CMI Work Plan for OU2 was submitted to NYSDEC on June 18, 2021 that addressed modifications requested by a NYSDEC approval letter dated May 24, 2021. Consistent with the approved work plan, FMC anticipates completing remedial construction activities for residential properties T5 and L4, and Phase I of agricultural parcel R1b, by the end of 2021.
		 Access permission could not be timely obtained for predesign investigation (PDI) activities on the utility owned parcel that is part of the Phase I area of R1a. The owner of the remainder of R1a requested additional remediation on August 31, 2021. Accordingly, the Phase I area of R1a could not be remediated in 2021. FMC will perform PDI activities and remediate the Phase I area of R1a, as discussed in Section 3 of this Work Plan, after calendar year 2021. FMC purchased one of the five Norco parcels on December 31, 2020, as well as acquired the tax liens
		associated with the remaining four parcels (collectively, all five parcels comprise the Norco Site). Certain limited site inspection work was undertaken at the five parcels

Operable Unit	Description	Status and Next Steps as of October 1, 2021
		pursuant to a 10-day access letter issued by the NYSDEC. FMC has commenced a tax lien foreclosure proceeding in State Supreme Court, Niagara County, seeking to effectuate appointment of a receiver to allow for on-site work to commence, and ultimately, to obtain title to the real property. Court action is still pending as of the time of this submission. No parties have appeared challenging the foreclosure proceeding for any of the parcels formerly owned directly by Norco. The Estate of James F. Conley has appeared as it pertains to the location commonly known as Parcel 3. The Court action relative to Parcel 3 has been severed from the other parcels, allowing the company to proceed with seeking a Default Judgment. It is moving forward with addressing the matters raised in the proceeding for Parcel 3, and intends to move forward with seeking a foreclosure sale acquisition on that parcel. Accordingly, the majority of site remedial preparation and implementation work was not able to be completed in 2021.
		• By the end of 2021, the remaining OU2 properties subject to remediation consist of 25 residential properties, the Norco Site, R1d, R1a, and a portion of R1b, as shown on Figure 2.
		 Consistent with the approved OU2 CMI Work Plan, PDI activities were performed in 2021 or will be in early 2022 for the following OU2 properties in preparation for remedial construction in 2022: Phase I area of parcel R1a, as defined in the OU2 CMI Work Plan, R1d tilling pilot study, R1d/Canal bank PDI, and OU2 residential properties E1, M6, and S4. Preparation of remedial design drawings and other submittals specified in the OU2 CMI Work Plan after completion of the PDI in 2021 and 2022.

Operable Unit	Description	Status and Next Steps as of October 1, 2021
OU3	Suspected Air Deposition Area 2	NYSDEC selected the remedy for OU3 in a final SB, dated February 2021.
		 As required by the Order, FMC submitted a PDI work plan for OU3 on May 17, 2021. NYSDEC provided comments on the PDI Work Plan on July 26, 2021. By letter dated August 10, 2021, FMC responded to NYSDEC comments and proposed separate PDI work plans as follows: PDI activities for a portion of OU3 consisting of the south canal bank that abuts OU2 property R1d was completed in 2021. A revised OU3 PDI work plan addressing NYSDEC comments was submitted for approval on before November 1, 2021, covering the remaining areas of OU3 for which a No Further Action (NFA) has not already been issued. NYSDEC and NYSDOH approved the revised PDI work plan on November 29, 2021.
OU4	Royalton-Hartland (RoyHart) School Property	A final SB, dated May 2013, and issued by the NYSDEC, describes the NYSDEC selected remedy for OU2, OU4, and OU5. NYSDEC implemented the remedy between 2015 and 2020 pursuant to the Order.
		• In August 2021, it was identified that the utility corridor owned by Roy-Hart was not fully remediated. This area is unused by the school and is situated east of the school fence line, south of the softball field and west of parcel R1a. FMC will perform PDI activities and remediate this area, along with OU2 property R1a, as discussed in Section 3 of this Work Plan, in 2022.

Operable Unit	Description	Status and Next Steps as of October 1, 2021
OU5	Culvert 105	A final SB, dated May 2013, and issued by the NYSDEC, describes the NYSDEC selected remedy for OU2, OU4, and OU5. NYSDEC implemented the remedy for OU5 south of the Erie Canal between 2015 and 2020 pursuant to the Order.
		• FMC submitted a final CMI Work Plan for OU5 north of the Erie Canal on June 4, 2021, which was approved by NYSDEC on June 17, 2021.
		 FMC began remediation of OU5 north of the Erie Canal in 2021, anticipating completion of Reach C1 and Reach C2 property AD1 in accordance with the NYSDEC-approved CMI Work Plan for OU5 in 2021, weather permitting. FMC completed supplemental PDI in Reach C3 in 2021, will submit data to NYSDEC in February 2022, at which time it will discuss next steps with NYSDEC, consistent with the prior agreement of the parties regarding the scope of such work, including a pending reservation of rights and agreement to toll dispute resolution over certain areas subject to the supplemental PDI work.
OU6	Tributary One South	The OU6 RFI report was approved in 2010. A revised draft CMS report for OU6, dated December 6, 2019, was submitted, pursuant to the Order.
		• The draft OU6 CMS report remains subject to NYSDEC review as of the date of this Work Plan. FMC has initiated discussions with NYSDEC regarding the corrective measure alternative for high-value ecological habitat areas. On December 16, 2021 FMC submitted, at NYSDEC's request, a report detailing FMC's proposed approach for developing ecological risk-based action levels for use at OU6.

Operable Unit	Description	Status and Next Steps as of October 1, 2021
OU7	Tributary One North	Supplemental RFI sampling was completed in 2018 and 2019. A data report was submitted to NYSDEC in September 2019, along with FMC's findings that further sampling activities are required for finalization.
		• NYSDEC is reviewing the report as of the date of this Work Plan and proposed next steps for the RFI are to be discussed with FMC.
OU8	Jeddo & Johnson Creeks	 Supplemental RFI sampling was completed in 2018 and 2019. A data report was submitted to NYSDEC in September 2019, along with FMC's findings that further sampling activities are required for finalization. NYSDEC is reviewing the report as of the date of this Work Plan and proposed next steps for the RFI are to be discussed with FMC.
OU9	Former FMC R&D Facility	RFI Report Volume III – Former Research and Development Property (Operable Unit 9) (dated September 2013) was approved by letter dated April 22, 2014. FMC submitted a draft CMS work plan for OU9 in August 2014.
		 The property is currently being used by FMC as a staging area for remediation of OU2 and OU5, which is consistent with its use by the NYSDEC during its contractor's prior remedial mobilization. The draft OU9 CMS work plan is under review by NYSDEC.

2.2 Long-Term Priorities and Outlook

Consistent with the requirements in the Order, the off-Site investigation and remediation have been prioritized based on the same considerations specified in the NYSDEC approved *Off-site Investigation and Remediation Work Plan for 2021 Activities* (December 2020) (2021 Work Plan). Current timing expectations as discussed below:

• **OU2**: By the end of 2021, the remaining OU2 properties subject to remediation will include 25 residential properties, the Norco Site, R1d, R1a and portions of R1b, as shown on Figure 2. Three OU2 residential properties (E1, M6, and S4) will be

remediated in 2022. FMC will continue to pursue access for remediation of the Norco Site, and will discuss with NYSDEC the schedule for remediation of the Norco Site as the ongoing Court action proceeds.. The owners of the remaining 22 residential properties will be offered remediation annually for a 5-year period after NYSDEC approval of the construction completion report (CCR) for the completed residential properties in OU2, pursuant to Section VI.D of the Order. It is FMC's understanding that NYSDEC's contractor, WSP USA (WSP), will compile property specific CCRs into an overall OU2 CCR of work completed by NYSDEC. For planning purposes only, it is assumed that the owners of two of the remaining 22 unremediated residential properties per year will allow remediation in subsequent years. This assumption may be modified in the future, as appropriate. As required by the Order and outlined in the approved OU2 CMI work plan, a Site Management Plan (SMP) will be prepared to track ownership and the offer of remediation for the OU2 residential properties that have refused remediation. The schedule for remediation of the Norco Site, R1d, R1a and R1b are discussed in Section 3.

- **OU5 North of Erie Canal (OU5 North)**: Remediation of OU5 North Reaches C1 and C2 began in 2021 and is expected to be completed through property AF1in 2022, weather permitting. Reach C3 is proposed to be completed in multiple phases across three consecutive construction seasons, as discussed in Section 3.
- **OU6**: FMC and NYSDEC continue to discuss the revised draft OU6 CMS Report (dated December 2019) in 2021. FMC has initiated discussions with NYSDEC regarding the corrective measure alternative for high-value ecological habitat areas. On December 16, 2021 FMC submitted, at NYSDEC's request, a report detailing FMC's proposed approach for developing ecological risk-based action levels for use at OU6. It is assumed that the OU6 CMS will be finalized, and a final statement of basis for OU6 will be issued, in 2023, with PDI and design activities starting in 2023/2024. The estimated years required for construction of OU6 CMAs evaluated in the revised draft OU6 CMS Report (dated December 2019), other than the no action CMA, range from 7 to 12 years to complete, moving from upstream to downstream. Based on attendant considerations, including the potential timelines required to complete remedial construction, OU6 construction south of the Erie Canal is targeted to begin in 2025, assuming the final SB for OU6 can be issued in 2023 and phased PDI and design of the selected remedy for the initial phase of construction can be substantially completed in 2024 (note that the start date may be adjusted if certain OU2 property owners allow remediation to be performed on their properties, which would extend the time required to complete OU2 prior to beginning OU6 work).
- **OU3**: The remedy selected by NYSDEC in the final SB for OU3 includes remediation of soil to 20 mg/kg, with flexibility, by soil excavation and/or with soil tilling/blending (if demonstrated to be appropriate based on a pilot study). Remediation of the portion of

OU3 that abuts property R1d is proposed for 2022, as requested by the property owner of R1d. The remainder of OU3 will be addressed as discussed in Section 3. The OU3 Final SB estimates the cost of the selected remedy to be approximately \$14.5 million, and that it would take approximately 48 months to complete the design and remediation.

- **OU9**: A CMS is to be performed prior to issuance of the final SB for OU9. OU9 activities may be used to complete additional annual work required to be conducted pursuant to the Order in years that certain other Order off-site work called for in the prior year planning cannot be achieved. It is assumed that OU9 investigative/remedial activities will be performed after closure of the staging area for ongoing remediation in other OUs. Currently, FMC anticipates that the OU9 staging area will continue to be used at least during the 2022 construction season by FMC, consistent with the current use, and given the Village code restrictions of truck size on Village roads and the established staging area being already present. It is FMC's understanding that NYSDEC collected minimal sampling at OU9 prior to its use by NYSDEC and subcontractors as a construction staging area.
- **OU7**: Remediation of OU7 will not begin prior to completion of the OU6 remedial construction, consistent with the upstream to downstream remediation procedures in accordance with the Order. The continued RFI/CMS/SB/CMI design process will be completed concurrently with other remedial action work, including additional sampling activities for RFI purposes.
- **OU8**: Remediation of OU8 will not start prior to completion of the OU7 remediation, consistent with the upstream to downstream remediation procedures in accordance with the Order. The continued RFI/CMS/SB/CMI design process will be completed concurrently with other remedial action work, including additional sampling activities to be conducted for RFI purposes.

Figure 3 presents a preliminary long-term plan for completion of the off-Site OU remediation and projected annual costs based on currently available information, solely for the NYSDEC's convenience and discussion purposes only. Projected costs for years after 2022 will be updated in the future as more information becomes available, including as work and related Order activities are completed.

Remedial activities for OU2 (specifically residential properties) and OU5 are consistent with the 2013 final SB issued by NYSDEC. Estimated costs for PDI activities and remediation of the remainder of the OU2 and OU5 areas are estimated based on contractor proposals/bids for the 2021 construction activities. Costs are subject to change based on results of PDI activities and actual contractor proposals/bids for the specific work to be performed. The sequence and timing of work is also subject to change based on a variety of factors, including, but not limited to,

access, weather, cost and implementability considerations, and request and/or required scope changes.

No SB has been issued for OU6 as of the submittal date of this Work Plan. For the purposes of this document only, OU6 remedial costs are assumed to be costs for CMA4 (FMC's recommended CMA in the draft OU6 CMS Report submitted to the NYSDEC in 2019 in accordance with the Order).

OU3 costs (except for the area that abuts R1d) are based on the estimate for the selected remedy in the OU3 final SB.

The Order allows for up to \$1 million in annual financial assurance costs to be off set against the \$10 million proposed annual spend discussed in this Work Plan, which has been factored into FMC's assessment. FMC also factored in appropriate costs associated with community relations activities associated with the corrective action process (e.g., access, information notices, inquiries, etc.), repairs, operations, monitoring, and maintenance of off-Site remedies. The estimated costs for these activities as well as for financial assurance will require approximately \$1.7 million annually, assumed for planning purposes of this document only. Section 3 discusses the proposed 2022 work. Properties anticipated to be addressed in 2022 are shown on Figures 4 and 5, respectively.

3. Proposed 2022 Activities

3.1 Recommended 2022 Actions

For calendar year 2022, the following remediation activities are anticipated to meet the required proposed \$10 million worth of scoped activities (see Figure 3), and are consistent with FMC's understanding of NYSDEC's concurrence on the prioritization of work:

Area	Proposed 2022 Priority Activities	Estimated Cost (\$M)
OU2 Residential Properties	Based on the PDI to be completed in 2021, the remedial designs for Properties E1, M6, and S4 will be provided to NYSDEC in early 2022, and remediation will be completed during the 2022 construction season. A CCR will be completed for each property after completion.	\$ 0.75
OU5 North of the Erie Canal	Remediation will continue, moving upstream to downstream. This will include completion of properties AE1 and AF1 in Reach C2.	\$ 2.0
OU4 Royalton- Hartland School Property	FMC will perform PDI and design for the RoyHart-owned utility corridor located adjacent to property R1a. Upon approval of the design by NYSDEC, FMC will remediate the remaining portion of the property in conjunction with remediation of Phase I of R1a.	\$ 0.25
OU2 Property R1a	Remediation of the Phase I area of R1b was completed in 2021. Remaining remediation consists of Phases II and III of R1b and Phases I, II and III of R1a. PDI for Phase I of R1a will be performed in early 2022. Upon approval of the remedial design by NYSDEC, remediation of Phase I of R1a will be completed, inclusive of a tilling pilot study if determined to be appropriate following completion of the PDI sampling and as approved by the property owner.	\$ 3.0
OU2 Property R1d and abutting Canal bank	The PDI for R1d and the abutting Erie Canal bank was completed in November 2021. A remedial design is being prepared for submittal to	\$ 2.3

Area	ea Proposed 2022 Priority Activities							
	NYSDEC in early 2022 and the remedial construction will be implemented in 2022. This estimate presumes FMC's current assessment of the corresponding scopes of work likely to be required.							
All areas	As discussed in Section 2.2, annual financial assurance, project community relations activities associated with the corrective action process, repairs, operations, monitoring and maintenance of implemented off-site remedies, will continue as may be applicable.	\$ 1.7						
	Total Estimated Cost	\$ 10.0						

Activities planned for 2023 (see Figure 3) may be brought forward to 2022 as contingency activities, if necessary, and/or substituted for activities identified above, given the potential for site access issues, delays in approvals, and other unexpected/changes in scope or additional considerations, such as weather or the impact of COVID 19 related effects in the Fall/Winter.

The following contingency activities are estimated to total \$5 million, and consistent with the Order's obligation, provide for the additional scopes to address the \$15 million total scope:

Area	Potential 2022 Contingency Activity	Estimated Cost (\$M)
OU2 Norco Properties	Buildings on the properties will be demolished after assessment/appropriate removal of regulated building materials and other materials presently being stored in the interior, and a soil cover will be installed over the properties. In addition, a CCR, as well as an environmental easement and corresponding site SMP, will be prepared. All of this work, including the corresponding time for implementation, is subject to FMC obtaining the required site access and/or control through the current tax lien foreclosure process.	\$ 2.5
OU5 North of the Erie Canal	Assuming completion of Reach C2 properties AE1 and AF1 in 2022, PDI and remedial design activities for AGI and a portion of remedial construction in Reach C3 could be completed in	\$ 0.45

Area	Potential 2022 Contingency Activity	Estimated Cost (\$M)
	2022. In addition, pending discussions with NYSDEC regarding the supplemental PDI data (to be submitted in February 2022), additional PDI/design of the remaining Reach C3 properties may be completed, which may include a pilot study for soil tilling/blending, if appropriate.	
OU3	A final PDI Work Plan for OU3 was submitted to NYSDEC for approval on November 1, 2021. PDI activities outlined in the Work Plan and associated remedial design activities could be potentially implemented in 2022, as necessary.	\$ 1.5
OU6	FMC will respond to any NYSDEC comments on the draft OU6 CMS Report, make revisions to the report, if needed, and participate in the public review/comment process for the draft CMS report/draft SB and issuance of a final SB.	\$ 0.55
	Total Estimated Cost	\$ 5.0

The general scope of work for the proposed 2022 priority and contingency activities is discussed further below in order of precedence.

3.2 OU2 Air Deposition Area 1 - Residential

As of the end of the 2021 construction season, 25 unremediated residential properties will remain in OU2 (Figure 1). Three of the remaining unremediated properties (E1, M6, and S4) are planned for remediation in 2022, following completion of PDI activities in 2021. FMC submitted PDI scopes of work for these three properties to NYSDEC on September 13, 2021 and were approved on September 21, 2021. Remedial designs for properties E1, M6, and S4 will be provided to NYSDEC in early 2022 and remediation will be performed in 2022. Upon completion of remediation, a CCR will be completed.

Pursuant to Section VI.D. of the Order, FMC will offer remediation of the remaining 22 unremediated residential properties consistent OU2 SMP in early 2022 and annually thereafter for five years after approval of the OU2 CCR. Additionally, as in 2021, FMC will continue to track ownership of the remaining 22 unremediated residential properties on an annual basis.

2022 Plan Critical Path Items

• PDI remedial designs for E1, M6, and S4 will need to be completed and approved by NYSDEC before construction is set to begin in the spring of 2022.

3.3 OU5 – Culvert 105 (North)

Culvert 105 is a combination of buried pipe and open ditch sections that together extend approximately 6,600 feet (1.25 miles) in length. NYSDEC completed remediation of sections south of the Erie Canal in 2020 (OU5 South), and FMC will remediate sections north of the canal (OU5 North). Consistent with prior submissions to the NYSDEC, OU5 North is divided into three reaches: Reach C1 (Erie Canal to Sleeper Street); Reach C2 (Sleeper Street to Property AF1); and Reach C3 (Property AG1 to Tributary One). Properties within each reach are identified on Figures 2 and 5 and in the table below.

Reach	Properties
Reach C1	13: AA1, AB1 through AB7, and AC1 through AC5
Reach C2	7: AD1 through AD3, AE1 through AE3 and AF1
Reach C3	7: AG1, AH1, AH2, AI1, AJ1, AJ2, and AK1

The 2013 final SB for OU2, OU4, and OU5 identified CMA9 as the selected remedy, which includes excavation of soil to 20 mg/kg arsenic, with flexibility, for residential properties, and possible use of soil tilling/blending on non-residential properties (including agricultural land) and on residential properties greater than 5 acres with additional pilot studies approved by NYSDEC.

Through the 2022 construction season, FMC anticipates completing remediation of Reaches C1 and C2, inclusive of work remaining from the 2021 construction season, as identified in the approved remedial design drawings (RD).

CCRs will be prepared for each property of OU5 North upon completion. The CCRs will contain drawings/data reports for the purposes of seeking NYSDEC issuance of NFA letters to each remediated property. Adjacent properties with the same owner will be summarized in one property drawing/report as various improvements on these properties (e.g., homes, garages) span the property line.

2022 Plan Critical Path Items

• Completion of Reach C1 and Reach C2 remedial construction activities originally proposed as part of the 2021 construction scope of work, as outlined in the 2021 Off-Site Investigation and Remediation Work Plan, the OU5 CMI, and NYSDEC-approved design drawings.

- Obtain access from AF1 property owner.
- Finalize the remedial designs for Reach C3 in 2022, including the northern portion of AF1. Any remaining access permissions will need to be obtained before start of construction, as well as identification of restrictions from property owner(s) and/or the Village of Middleport (Village) that may result in revisions of work scopes. The current access arrangement with the Village expires at the end of calendar year 2021, as it required annual reconsideration as to the scope of access to be provided.
- Review/revise the preliminary RD for Culvert 105 in Reach C3 and AF1 to incorporate any changes to the northern excavation limits (based on the Reach C3 supplemental PDI results) and to ensure proper drainage in the downstream portion of Culvert 105 after remediation of AF1.

3.4 OU2 - Air Deposition Area 1 – Properties R1a and R1b

The R1a and R1b properties consist of farmland and a private residence. CMA9 includes remediation of soil to 20 mg/kg, with flexibility, by soil excavation and/or with soil tilling/blending if demonstrated to be appropriate based on a pilot study.

Soil arsenic concentrations are generally highest in the western portions of the R1a and R1b properties. Based on the physical characteristics of the properties, the soil arsenic concentrations, and owner input, it is anticipated that remediation will be performed in three newly identified phases (Phase I through Phase III), as shown on Figure 6. The proposed sequence is based on the following criteria:

• Areas with highest concentrations first, which will require soil removal only.

Areas with lower surface soil arsenic concentrations, dense vegetation and/or next to OU3 later. The phases identified above have been reconfigured from previous submissions based on discussions with the property owner and probable access for remediation activities. Phase I of property R1b was completed as part of 2021 remediation construction activities. In 2022, pending receipt of access, FMC will complete PDI soil sampling in Phase I of R1a (including the National Grid/utility parcel and the Roy-Hart owned utility corridor. A scope of work for PDI sampling will be submitted to NYSDEC in February 2022 for approval prior to field mobilization. Following completion of PDI in this area, the remedial design for the increased R1a Phase I area and Roy-Hart owned parcel will be completed and submitted to NYSDEC for review and approval for implementation in 2022. It is anticipated that remediation in this area may include a combination of soil tilling/blending and excavation.

If determined to be appropriate upon review of the PDI data, a soil/tilling blending pilot study may be performed in accordance with the R1-Grid PDI Work Plan submitted as Appendix O to

the OU2 CMI work plan. Data collected following implementation of the pilot study will be submitted to NYSDEC for review and approval of use of soil tilling/blending in Phase I of R1a. Subsequent phases are anticipated to be remediated in 2023 through 2026 assuming access is provided by the property owner, as outlined on Figure 3, and will likely include a combination of soil removal and soil tilling/blending (to be based on outcome of a pilot study or studies). Overall, soil tilling/blending is expected to result in several green remediation and community benefits (e.g., reduced fuel, truck traffic, backfill resources, and landfill space). All remediation activities will be performed under construction oversight, including community air monitoring.

One CCR will be prepared for the R1a and R1b properties upon completion of Phase III of remediation.

2022 Plan Critical Path Items

- Ability to obtain access permission for the 2022 PDI activities and remediation of Phase I R1a, the National Grid/utility parcel, and the Roy-Hart owned utility corridor.
- The areas of the three phases and construction schedule may be adjusted based on additional owner input, PDI results, and/or construction progress of the preceding construction year.

3.5 OU2 – Air Deposition Area 1 - R1d

R1d is vacant, undeveloped land. Soil arsenic concentrations on the property are generally less than 30 mg/kg, with a maximum concentration of 44 mg/kg. Based on concentrations of arsenic present in soil, the majority of property R1d is amenable to soil tilling/blending, with potential limited excavation of areas with higher arsenic concentrations. A soil tilling/blending pilot study will be completed in 2021 in accordance with the R1-Grid PDI Work Plan. R1d property owners requested concurrent remediation of the abutting Canal property, which is part of OU3 property R2a south. Remediation of R1d and the abutting Canal property is planned for 2022.

FMC performed supplemental PDI in 2021 on R1d and the Canal property for preparation of the remedial design, which is anticipated to be submitted to NYSDEC in early 2022. This supplemental mobilization will include the collection of data around a New York State Department of Transportation (NYSDOT) easement located on the western portion of the property to determine if subsurface intrusive activities can be avoided in the area of the subsurface storm drains. This data, in conjunction with the results of the pilot study, will inform the remedial design to be submitted and approved by NYSDEC for implementation in 2022. PDI in this area to determine appropriate excavation boundaries was completed concurrent with supplemental R1d PDI and in accordance with procedures outlined in the draft OU3 PDI Work Plan. The supplemental R1d and adjacent canal bank scope of work was submitted to NYSDEC on August 31, 2021 and approved on October 1, 2021.

2022 Plan Critical Path Items

- Erie Canal Corporation review/comments on the remediation scope of work and/or RD on the Canal property and identification of any construction-related restrictions or conditions.
- Erie Canal Corporation access permission for any 2022 remedial construction.

3.6 OU2 – Air Deposition Area 1 - Norco Site

The parcels comprising the Norco Site are zoned commercial and industrial, respectively, and total approximately 91,800 square feet (2.1 acres) over the five adjoining properties (properties Q3 through Q7). Pursuant to the 2013 final SB, remediation will involve installation of a site cover with deed restrictions and an SMP. The approved CMI Work Plan for the Norco Site includes the demolition of above grade structures, the removal of 2 feet of soil and associated foundations to the minimum depth of soil removal, and installation of a demarcation layer and 2-foot thick, clean soil cover. In addition, soil documentation samples will be collected at the excavation base and sides at the frequency specified in the approved OU2 CMI Work Plan. Based on the results of the documentation sampling, FMC may remove additional soil greater than 20 mg/kg to eliminate the need for deed restrictions and/or a site management plan. However, the approved remedy anticipates the filing of an environmental easement against the real property in the County Clerk's office, which will reference a corresponding SMP and all related site use restrictions.

One CCR and SMP, assuming no change, for the Norco Site will be prepared for submission to NYSDEC following completion of remediation.

2022 Plan Critical Path Items

- Ability to obtain unimpeded access permission and/or site control to at least three of the four Norco Site parcels not currently owned by FMC in a timely manner during the construction season. Should work be undertaken and completed, obtaining NYSDEC-approval on the Environmental Easement and corresponding SMP for the remediated parcels may impact completion schedule. The Village code prohibits trucks in excess of 5 tons on Watson, Vernon and South Vernon Streets. Infrastructure protection requirements apply to trucks 7 tons or more on all Village streets. A permit with an acceptable truck route for trucks weighing more than 5 tons will need to be granted by the Village. A possible second haul route utilizing the haul road constructed for R1b Phase I remediation will need to be assessed.
- Finalization and submittal of the Norco Site building demolition work plan, as specified in the OU2 CMI Work Plan.

3.7 OU3 – Air Deposition Area 2

A final SB, dated February 2021 and issued by NYSDEC, describes the NYSDEC selected remedy CMA3 for OU3, which includes remediation of soil to 20 mg/kg, with flexibility, and potential for soil tilling/blending if demonstrated to be appropriate based on a pilot study. FMC submitted a PDI work plan for OU3 on May 17, 2021 in accordance with the Order. NYSDEC provided comments to the PDI Work Plan on July 26, 2021. A revised OU3 PDI work plan addressing NYSDEC comments will be submitted for approval on or before November 1, 2021. PDI activities for a small portion of OU3 – the canal bank immediately adjacent to OU2 property R1d - were outlined in a separate submittal to NYSDEC on August 31, 2021 to be completed with R1d PDI activities in 2021.

The portion of R2a south immediately adjacent to OU2 property R1d is anticipated to be remediated in 2022 to address a property owner request that the entire area be completed at once. After 2022, PDI will be performed for each area of work in the year prior to construction implementation, beginning in 2023, with construction anticipated for 2024. OU3 PDI is a contingency task for 2022.

2022 Plan Critical Path Items

• Access permission from the Erie Canal Corporation for PDI on remaining portions of property R2a north and south. Access permission for remediation will occur independently.

3.8 OU6 - Tributary One South

FMC submitted a revised draft CMS Report (Arcadis, 2019) in December 2019, which is currently under NYSDEC review. As discussed in Section 2.2, and presented on Figure 3, OU6 remediation is prioritized to begin in 2025, assuming that the CMS report can be finalized and a final SB can be issued in 2023, and the design for the first phase OU6 remedial construction can be completed in 2024.

Upon issuance of a final SB for OU6 in 2023, FMC will submit a PDI work plan for the first phase of construction (i.e., area south of the Erie Canal). The OU6 PDI work plan will specify the schedule for submittal of the final design for the first section of OU6 south of the Erie Canal to be submitted to NYSDEC for approval in 2024, and construction of the first section/phase of OU6 will begin in 2025. PDI work plans for subsequent OU6 phases will be submitted two years prior to anticipated construction, with PDI activities completed in the year prior to construction.

2022 Plan Assumptions

- The draft OU6 CMS report can be finalized and approved for public comment in 2023 and a Final SB for OU6 will be issued in late 2023.
- As discussed in Section 2.2 and included on Figure 3, it is assumed that CMA4 (recommended CMA in the December 2019 draft OU6 CMS Report) will be the selected CMA in the Final SB for planning purposes only.
- Remedial construction of OU6 south of the Canal or portions of the area can begin in 2025.

2022 Plan Critical Path Items

• NYSDEC will complete the review/comment process on the draft OU6 CMS report, allowing FMC time to complete any revisions to the draft CMS report, if needed.

3.9 OU9 Former Research and Development Property

OU9 consists of three parcels comprising the former R&D property. FMC's contractors have been using two of the three parcels of OU9 as a staging area for OU2 and OU5 remedial construction pursuant to an executed access agreement with the property owner. At this time, the use of the staging area is limited to contractor/construction management offices and storage. No soil was stockpiled at OU9 during the 2021 construction season. If the properties continue to be used only for office spaces/equipment storage, this area may be used indefinitely during off-site mobilization. The OU2 and OU5 CMI work plans include discussions of additional limited work that may be performed in the staging area of OU9, including, but not limited to, the following:

- Use/management of the staging area, as necessary
- Closure of the staging area
- Additional soil sampling to determine impacts or changes to soil arsenic concentration
- Removal of any unacceptable hazardous wastes/debris that may have been present on the property prior to its use as a staging area

No work is planned for OU9 in 2022 or 2023. FMC will continue to use the staging area for remedial construction for OU2 residential properties, at a minimum.

3.10 OU7 - Tributary One (North of Pearson/Stone Roads)

Potential activities to be performed in OU7 include supplemental RFI activities, such as an ecological risk assessment, as warranted, and/or potential additional RFI sampling activities

based on further discussion with the NYSDEC. Activities associated with OU7 have not been proposed in 2022 or 2023, as discussed in Section 2.2.

3.11 OU8 - Jeddo and Johnson Creeks

Potential activities to be performed in OU8 include supplemental RFI activities, such as additional sample collection and ecological risk assessment, as warranted, and/or potential additional RFI sampling activities based on further discussion with the NYSDEC. Activities associated with OU8 have not been proposed in 2022, as discussed in Section 2.2.

4. Next Steps

In preparation for 2022, FMC will start the following activities in the fourth quarter of 2021, which may carry over to the first quarter of 2022:

- OU2:
 - Three residential properties (E1, M6, S4)
 - PDI activities including topographic survey and soil sampling and analysis as outlined in the scopes of work submitted to NYSDEC on September 13, 2021.
 - Preparation of remedial designs for NYSDEC approval.
 - o R1d/Canal Bank
 - Dependent on time required to obtain access, PDI activities at R1d and the adjacent portion of OU3 property R2a south as outlined in the scope of work submitted to NYSDEC on August 31, 2021.
 - Preparation of a pilot study report.
 - Preparation of remedial designs which incorporate results of the 2021 soil tilling/blending pilot study for NYSDEC review and approval.
 - o R1a/b PDI Sampling
 - Prepare and submit a scope of work for PDI sampling activities on property R1a, inclusive of the Roy-Hart parcel west of R1a. Continue working toward obtaining access to all appropriate parcels for completion of PDI activities.
- OU5:
 - Reach C2
 - Continue access activities for unresponsive property owners.
 - Revise and finalize the RD drawings for Reach C2 property AF1 to incorporate any changes to the northern excavation limits (based on the

Reach C3 supplemental PDI results) and to ensure proper drainage in the downstream portion of Culvert 105 after remediation of AF1.

- o Reach C3
 - Continue access activities for unresponsive property owners.
 - •
 - FMC completed supplemental PDI in Reach C3 in 2021, will submit data to NYSDEC in February 2022, at which time it will discuss next steps with NYSDEC, consistent with the prior agreement of the parties regarding the scope of such work, including a pending reservation of rights and agreement to toll dispute resolution over certain areas subject to the supplemental PDI work.

All work will be performed in accordance with the Order, final OU2 and OU5 CMI work plans, or applicable PDI work plans. Specifications, infrastructure protection plans, property specific safety plans, and other documents provided in the CMI work plans may be updated as necessary for work being performed in 2022. Any work identified as part of the 2021 remedial construction activities in the 2021 Off-Site Investigation and Remediation Work Plan that was not completed during the 2021 construction season will be prioritized for completion in 2022. Accordingly, the scope of proposed 2022 activities will be subject to change based on the final scope of work completed prior to the end of the calendar year.

5. References

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GHD, 2021. Corrective Measures Implementation Work Plan, Culvert 105 North of Erie Canal (OU5). FMC Corporation, Middleport, New York.

GHD, 2021. Pre-Design Investigation Data Report and Proposed Supplemental PDI – Reach C3. FMC Corporation, Middleport, New York.

GHD, 2021. Suspected Air Deposition Study Area 2 (OU3) Pre-Design Investigation Work Plan. FMC Corporation, Middleport, New York. Draft.

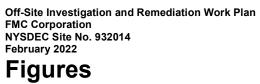
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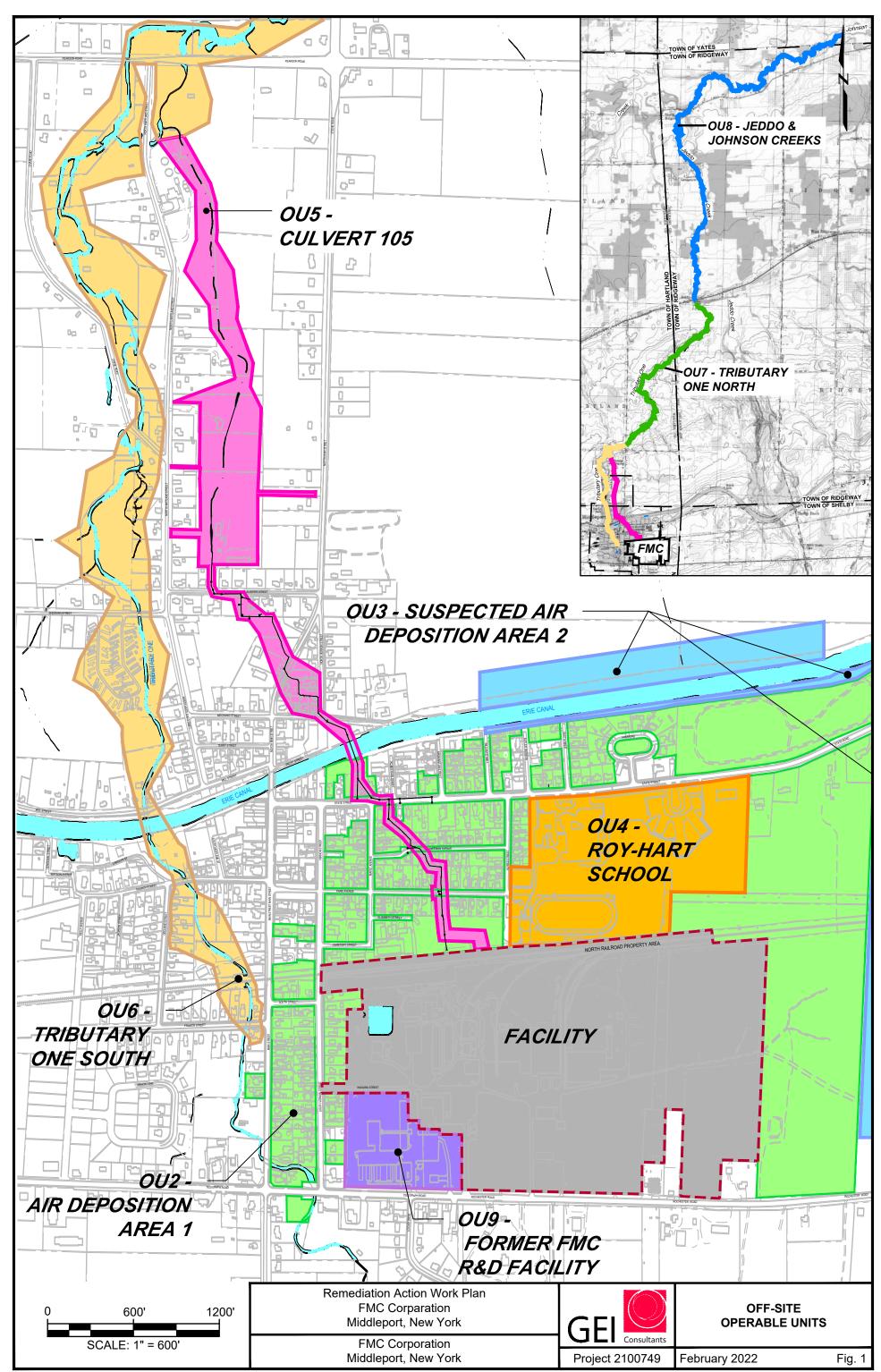
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NYSDEC, 2013. Final Statement of Basis for Air Deposition Area #1 (OU2 and OU4) and Culvert 105 (OU5).

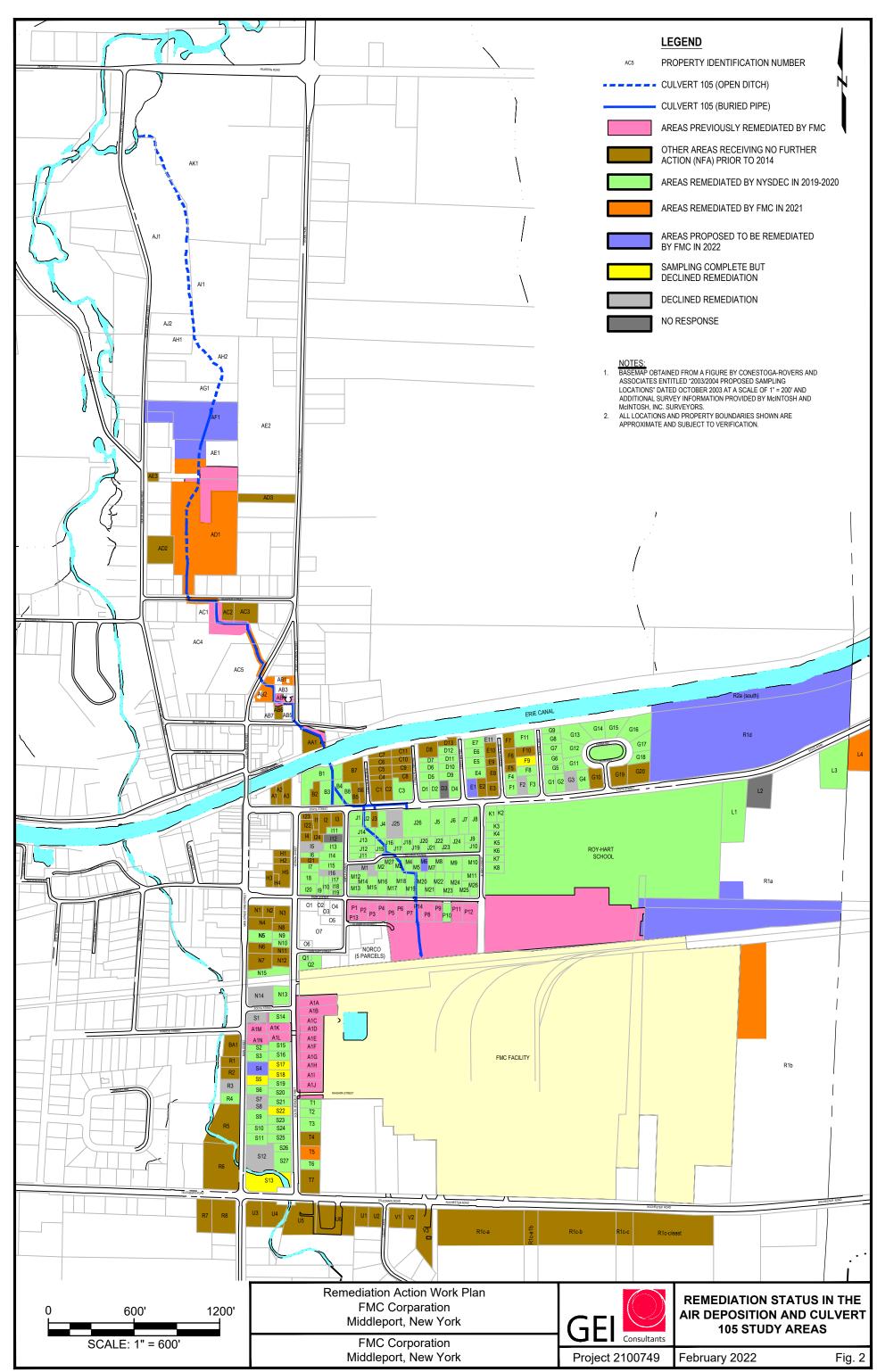
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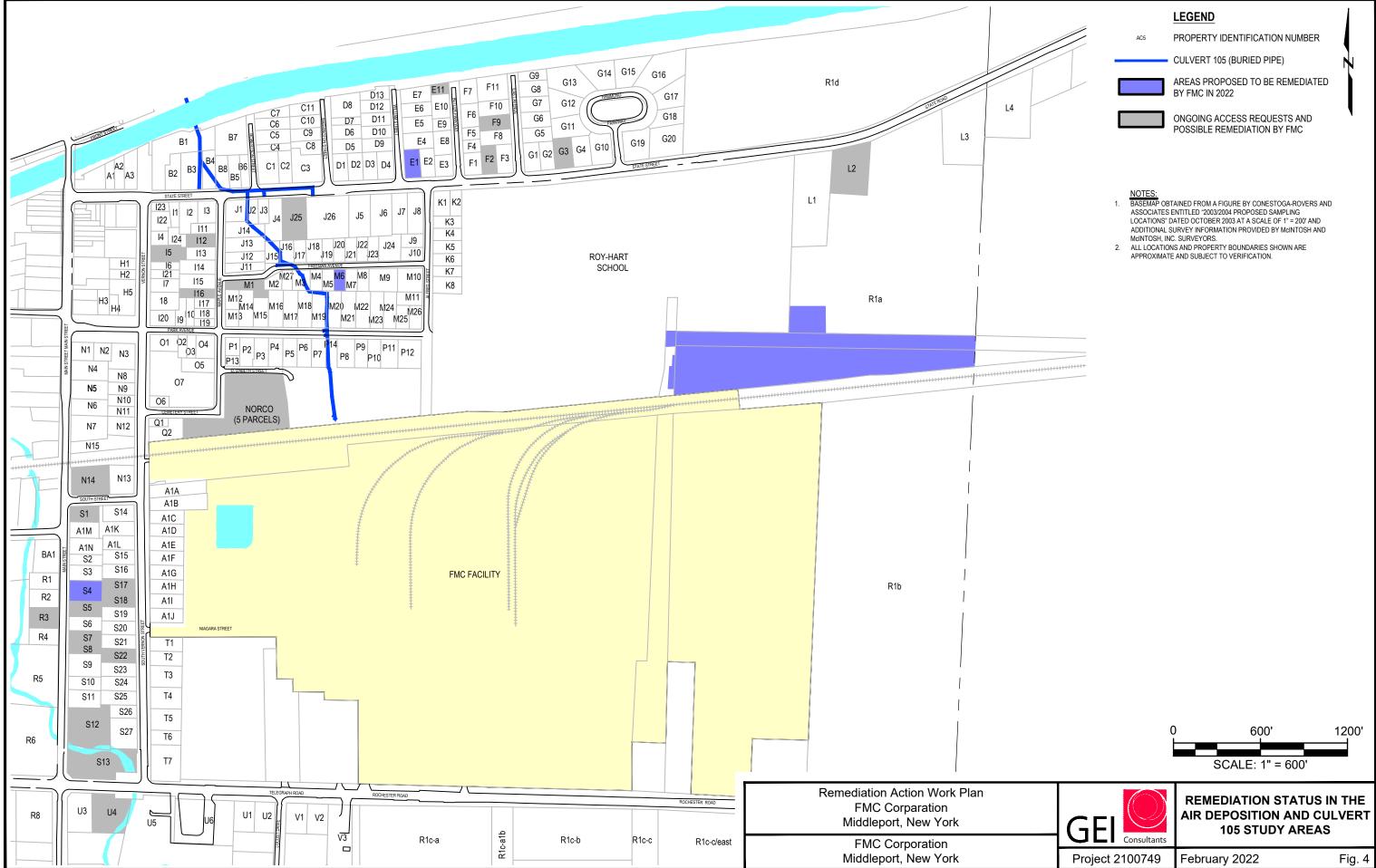
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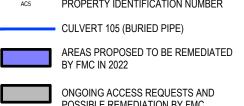
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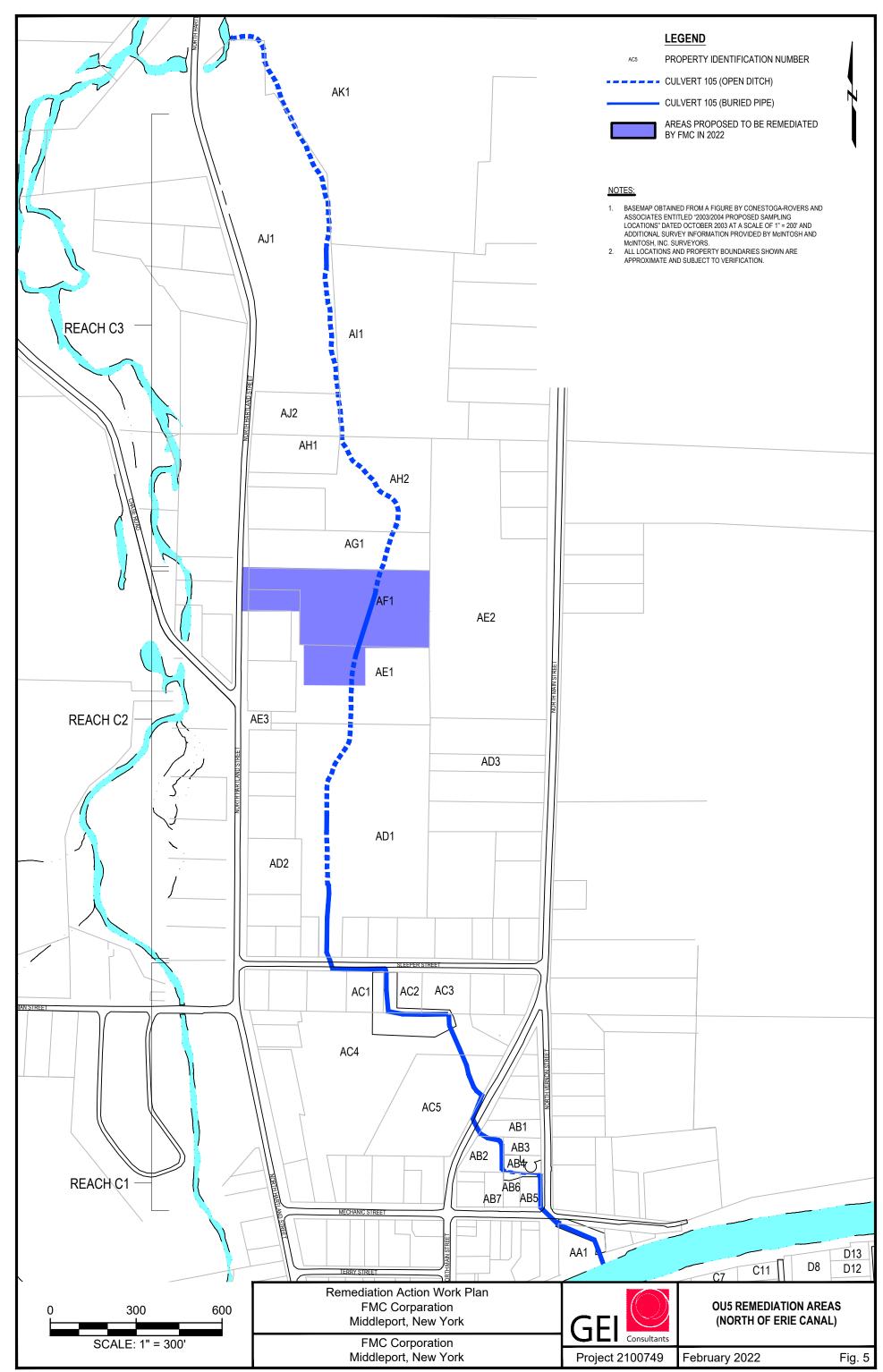
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PDI for Phases I-III 2		Phase I (R1a)		Phase II (R1b)		Phase III (R1b)		Phase II (R1a)															
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Construction - Phases I - III (Excavate/Till) OU2 Norco Properties (5 parcels)		Phase I (R1a)	-	Phase II (R1b)				Phase III (R1b)		Phase II (R1a)				-									
CMI WP (w/ PDI scope)																							
Building characterization and waste removal			TBD		\$2.5				-		_						-		_			-	\$2.50
Building Demolition, Excavation, Cover Installation OU2 Property R1d and Canal Bank									-3			v								<u> </u>	- N-		
Tilling/Blending Pilot Study and PDI																				Ĩ			
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Reach C3 Supplemental PDI Implementation ¹															-								
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OU6 - Tributary One South of Peason/Stone Roads 4			1	Reaction		Headinou		41															
CMS revision/Statement of Basis																			_				
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OU9 - Former R&D Property Post Contractor Characterization			1	1	[F	-	1	1		1		_		_				-				
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1 Tasks started in 2021 with financial carry ove	er to 2022					SMP = Inter OU = Ope		Management F	lan														
2 Phase I of R1a, Phase II of R1a and R1b, Pha								Investigation										-					
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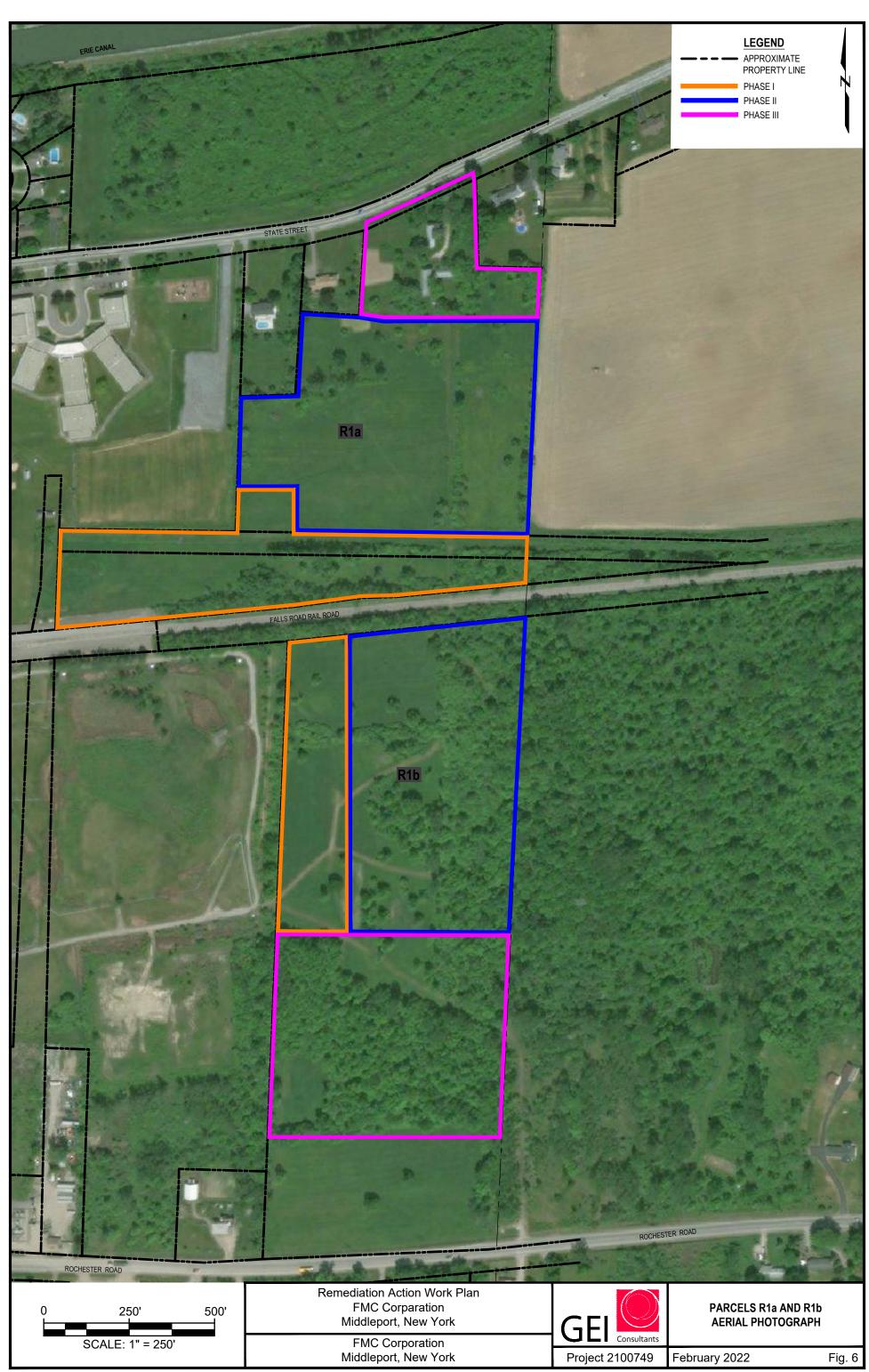


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