



ILLINOIS ENVIRONMENTAL PROTECTION AGENCY

1021 NORTH GRAND AVENUE EAST, P.O. BOX 19276, SPRINGFIELD, ILLINOIS 62794-9276 • (217) 782-3397

JB PRITZKER, GOVERNOR

JAMES JENNINGS, ACTING DIRECTOR

217/785-1705

CERTIFIED MAIL
7012 0470 0001 3004 2580

CONSTRUCTION PERMIT DENIAL

January 15, 2025

A-F Acquisition, LLC
Attn: Peter Rnich, Facility Manager
2701 East 100th Street
Chicago, Illinois 60617

Application No.: 24120018
I.D. No.: 031600FDK
Applicant's Designation:
Received: December 26, 2024
Construction of: Soapstock Acidulation & Third Boiler Addition
Location: 2701 East 100th Street, Chicago, Cook County

The Illinois EPA has reviewed your Application for Construction Permit for the above referenced project. The permit application is DENIED because Sections 9 and 39 of the Illinois Environmental Protection Act (Act) and 35 Ill. Adm. Code 201.142 might be violated.

The following are specific reasons why the Act and the Rules and Regulations may not be met:

Pursuant to 35 Ill. Adm. Code 201.142, a construction permit is to be obtained prior to constructing or modifying air pollution emission unit or control equipment. The application indicated that the construction or modification of the equipment described in this application has already been completed prior to the issuance of a construction permit. Consequently, your application for construction permit is hereby denied.

If you have any questions on this, please call Mohamed Otry at 312/832-2165.

William D. Marr /an

William D. Marr
Manager, Permit Section
Bureau of Air

WDM:MIO:tan

IEPA - Division of Records Management
Releasable

MAR 07 2025

Reviewer: SAB

2125 S. First Street, Champaign, IL 61820 (217) 278-5800
115 S. LaSalle Street, Suite 2203, Chicago, IL 60603
1101 Eastport Plaza Dr., Suite 100, Collinsville, IL 62234 (618) 346-5120
9511 Harrison Street, Des Plaines, IL 60016 (847) 294-4000

595 S. State Street, Elgin, IL 60123 (847) 608-3131
2309 W. Main Street, Suite 116, Marion, IL 62959 (618) 993-7200
412 SW Washington Street, Suite D, Peoria, IL 61602 (309) 671-3022
4302 N. Main Street, Rockford, IL 61103 (815) 987-7760

PERMIT CALCULATION SHEET

Facility: A-F Acquisition, LLC		I.D.: 031600FDK
Anal. Eng.: MIO	Date: 1/15/2025	P.N.: 24120018
Rev. Eng.:	Date:	Date Rec.: 12/26/2024

Section 1: Identify noted File Traveler Sheet and ICEMAN source information that may affect permit issuance; if active VN indicate if Compliance is ok with issuance of a permit or NOI/Denial letter:

- EJ: yes
- VN: Yes by Kent M "8lb/hr rule enforcement and Supart TT rule enforcement

LEGAL:	None
FOS FLAG:	None
CROPA:	None
Other	N/A

Section 2: Identify type of permit and summary of application/permit history if submitted in response to a NOI/Denial letter or to request revision to an existing permit:

Type of Application:	Construction Permit (Denial)
-----------------------------	------------------------------

County: Cook	EPA - Division of Records Management Releasable
Attainment: Nonattainment 8hr ozone 2015	MAR 07 2025
Pollutant: No Permit "Denial" CO, NOx, PM, SO ₂ , VOM & HAPs	

Reviewer: SAB

Section 3: Description of the source with an itemized list of emission units and pollution control equipment included in the application. If for an operating permit, list all existing and proposed units and equipment that the operating permit will need to address:

The source is requesting a construction permit for a third boiler which has already been installed. Therefore, this construction permit is denied.

Section 4: Identify the proposed type(s) and maximum actual operating quantities and rates of pollutant containing materials to be used/processed/produced that will be included in permit:

This is a denial application

Section 5: List potentially applicable State and Federal (NSPS and NESHAP) regulations and indicate if application demonstrated those regulations would not be violated by construction and/or operation of equipment/units/processes in application:

This is a denial application

Section 6: Conclusions and recommendations. Indicate your final recommendation (e.g., NOI, denial, issue permit with conditions, etc.) and indicate reason(s) for that action:

Based on the analysis and review of this application, the emission unit has already been installed. it is recommended to deny this application (denial letter will be issued.

**COMPLETENESS REVIEW WORKSHEET
FOR CONSTRUCTION PERMIT FEES**

FACILITY: A-F Acquisition, LLC

ID NO.: 031600FDK

APPLICATION NO.: 24120018

DATE REC'D: 12/26/2024

ANALYST: MIO

IDENTIFICATION OF REVIEW

NUMBER (CIRCLE): 1 2 3 4 5 6 7 8

☐ INITIAL COMPLETENESS REVIEW

☐ SUPPLEMENTAL SUBMITTAL (DATE): ___/___/___

☐ OTHER TRIGGER (DESCRIBE): _____

TYPE OF SOURCE

☐ MAJOR

☐ SYNTHETIC MINOR
HAVE FESOP? ☐ YES
☒ NO

☐ NON-MAJOR

COMPLETENESS REVIEW FOR TECHNICAL INFORMATION

☐ INCOMPLETE (DESCRIBE):

The source can no longer be in LOP program, FESOP/CAAPP app must be submitted

ACTION TO BE TAKEN

☐ CALL DENY ☐ REQUEST ADDITIONAL INFORMATION ☐ REJECT ☐

ACTION COMPLETED: ___/___/___ "DAY": ____

☐ APPLICATION COMPLETE

COMPLETENESS REVIEW FOR FEES

☒ INADEQUATE

☐ UNCERTAIN

☐ CORRECT

☐ OVERPAID (DESCRIBE): _____

ACTION TO BE TAKEN

☐ CONTINUE WITH TECHNICAL REVIEW

☒ REQUEST TECHNICAL INFO (SEE ABOVE)

☐ REQUEST TECHNICAL INFO & UPDATED FEE INFO (SEE ABOVE)

☐ BILL & CONTINUE WITH TECHNICAL REVIEW

☐ BILL & NO TECHNICAL REVIEW (EXPLAIN): _____

BILL AMOUNT

REASON

AMOUNT

1. application fee \$ 9,000.00

2. fee received \$ 1,000.00

3. remaining balance \$ 8,000.00

Remaining TOTAL: \$ 8,000.00

BILL DATE: ___/___/___ "DAY": ____

INITIALS

ANALYST: MIO

DATE: 1/10/2025

COMMENTS: NOI

REVIEW: _____

DATE: ___/___/___

COMMENTS: _____

Permit Applicant: A-F Acquisition LLC **Denial**

ID#: 031600FDK ; Application#: 24120018

Date received: 12/26/24; 30th day (NOI. deadline): 1/24/25 ; 90th day: 3/24/2025

Analyst: MIO ; Date Checklist Completed: 1/15/2025

Permit Application Completeness Screening Questions	Yes/No/NA
1. Does the application include a cover letter or project narrative that describes what the applicant is requesting a permit for (e.g., construct/operate two tanks, etc.)?	yes
2. Have the applicable signature application forms (APC 200P/628/629, etc.) been completed and signed and dated by the applicant?	Yes Denial
3. For a construction permit application, was correct construction permit fee paid? a. If no fee or incorrect fee paid, call applicant, and tell them to submit it and revised 197-FEE Form within one week's time. If not received within one week, prepare an Additional Fee Letter.	Yes, Denial and inadequate
4. For a construction permit application, does the APC-200P/628/629 form indicate if the emission unit has already been constructed? If it does, does it indicate date constructed? Denial will be needed if already constructed.	Yes, denial letter will be issued
5. If a construction permit required testing prior to issuance of an operating permit: a. Have the required test results been received by the IEPA? b. Has Compliance Section reviewed the test results or have you requested their review of the test results? c. Did the test results indicate compliance with limits?	N/A
6. For existing sources requesting revision, does ICEMAN show current permit(s) for source issued to the same applicant identified on the form(s) in 2 above?	Yes
7. Does the application indicate or can you determine what the potential to emit (PTE) is for the source (including HAPs), including requested modifications?	Yes, Denial
8. Does the application state or can you determine if the subject project's process, equipment or source is subject to the NSPS in 40 CFR Part 60, or NESHAP in 40 CFR Parts 61 and 63, or RACT in 35 IAC 218/219 Subparts AA-TT?	Denial
9. Does the application propose and clearly identify the annual and short-term emission limits <u>and</u> associated material throughput/usage limits and emission factors to be included in their new/revised permit?	Denial
10. a. Does application identify county <u>and</u> township <u>and</u> SIC code of source? If not, call applicant and tell them to submit that information. b. Is source subject to either 212.302(a) <u>or</u> (b)? If so, does application describe how source will comply with the additional PM requirements?	SIC #2079 Cook County FPOP: Yes
11. If source is in an EJ area, is EJ outreach complete and EJ outreach completion email from EJ officer in file?	It is in EJ area No permit will be issued, it is a denial
12. If permit was due today, could you write an enforceable permit with application?	N/A
13. Does the application request a change of operating permit from a CAAPP Title V or FESOP to a Lifetime Operating Permit?	No

If a No answer in Boxes 1-12 or Yes answer in Box 13, or not clear what the appropriate response is to a question, discuss the application with your supervisor. 11022015.

PERMIT REVIEW TRAVELER SHEET

I.D. # 031600FDK	Source Name A-F Acquisition LLC dba Pullman Innovations	Date Received 12-26-2024
Application # 24120018	Location Chicago	Date Opened 12-26-2024

Program TITLE V	Type CONSTRUCTION	Title V Type NEW
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Flag	Date	Section	Contact	Expiration Date
	5-5-2022	CASM	MOHR, KENT <i>EO Area</i> <i>1/31/2025</i>	5-5-2027

Emissions(Tons/Year)	CO	NOX	PM	SO2	VOM	Total HAP	Highest Single HAP
Current Allowable Rates	8.74	10.44	.79	.61	28.42		
Project/Total Increase							

Initial Completeness	Analyst	Unit Manager	Date of Determination	Application Complete?
CAAPP Completeness ☐ N/A				☐ Yes ☐ No
Fee Completeness ☐ N/A				☐ Yes ☐ No
Technical Completeness				☐ Yes ☐ No

Welcome Phone Call to Permit Applicant

Date	Contact Name	Telephone#	Was Additional Information Requested?

For Incomplete Applications	Analyst	Unit Manager	Date Issued	Number of Items Requested (or Amount of Fee Requested)
Type of Letter Sent				\$
Notice of Additional Fees:				
Notice of Incompleteness(NOI)				
Request for Additional Information(RAI)				
All Required Information Received?	☐ Yes	☐ No	Date Received	
Notice of Intent to Deny CAAPP				

Permit Processing	Analyst	Date	Unit Manager	Date
Draft Prepared for Unit Manager Review & Comments Returned to Analyst				
Final Draft Sent to Applicant for Comments				
Submitted to Word Processing				
Draft Permit to Community Relations ☐ N/A				
Public Comment Period Initiated				
Public Hearing Date ☐ N/A				
Public Comment Period Completed ☐ N/A				
45 Day USEPA Comment Period ☐ N/A				
USEPA Comments Received ☐ Yes ☐ No				
Responsiveness Summary Completed ☐ N/A				
Public Participation Completed				
Final Action (Fill in One)	Analyst	Date	Unit Manager	Date
☐ Permit Not Required				
☐ Grant				
☒ Deny	<i>MIO</i>	<i>1/17/25</i>	<i>g/as</i>	<i>1/17/25</i>

Mail-Out	☐ District Office	☐ Public Participation List	☐ Cook County	☐ Health Dept
	☐ Enforcement	☐ Other	Init.	Date

Permit Electronically Sent to	Applicant	CES	DLC	Community Relations	USEPA	AQPS	FOS
Person Sending (Initials)							



Environmental Engineers, Geologists and Scientists

Tel 847.573.8900
Fax 847.573.8953

RECEIVED
STATE OF ILLINOIS

DEC 26 2024

Environmental Protection Agency
~~BUREAU OF AIR~~
Polo Park Business Center
27834 N. Irma Lee Circle
Lake Forest, Illinois 60045-5130

**LIFETIME OPERATING PERMIT REAPPLICATION/
JOINT CONSTRUCTION AND OPERATING PERMIT APPLICATION
APPLICATION 86050044, ID 031600FNK
A-F ACQUISITIONS, LLC
d/b/a PULLMAN INNOVATIONS
2701 EAST 100th STREET
CHICAGO, ILLINOIS 60617**

December 6, 2024

DAI Project # 2712

Prepared For:
A-F Acquisition, LLC
2701 East 100th Street
Chicago, Illinois 60617

Prepared By:
DAI Environmental, Inc.
27834 North Irma Lee Circle
Lake Forest, Illinois 60045

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Illinois Environmental Protection Agency
Division Of Air Pollution Control – Permit Section
P.O. Box 19506
Springfield, Illinois 62794-9506

Application for a Construction and/or Operating Permit for a Lifetime Source* (Form APC629)	For Illinois EPA use only	
	Date Received:	BOA ID Number:
	RECEIVED STATE OF ILLINOIS DEC 26 2024 Environmental Protection Agency BUREAU OF AIR	031600 FDK
		Application Number:
		24120018
		ACES ID Number:
		1700-0005-4465
		Construction Fee Check Amount Rec'd:
		\$1,000

***NOTE:** This form is intended to be used by all Lifetime Sources (see 35 IAC 201.169(a)) to identify and supply information as required by 35 IAC 201.152, 201.157, 201.159, 201.160, and 201.169 necessary to obtain a Construction Permit, a Joint Construction and Operating Permit, and/or an Operating Permit. Please attach other information, data, and/or completed forms regarding this project as necessary and appropriate.

I. Proposed Project Addressed By Application
1. Working Name of Proposed Project: Soapstock acidulation (emissions updated per stack sampling) and third boiler addition
2. Is the Project occurring at a source that already has a permit from the Bureau of Air (BOA)? ☐ No ☒ Yes If Yes, provide BOA ID Number: 031600FDK
3. Does this application request a revision to an existing permit issued by the Bureau of Air (BOA)? ☐ No ☒ Yes If Yes, provide Application Number: 86050044
4. Do you request a new or modified Construction Permit? ☐ New ☐ Modified ☒ N/A
5. Do you request a new or modified Joint Construction and Operating Permit? ☒ New ☐ Modified ☐ N/A
6. Do you request a new or modified Operating Permit? ☐ New ☒ Modified ☐ N/A
7. If the application is for a construction permit, is the emission unit/air pollution control equipment covered by this application already constructed? ☒ Yes ☐ No ☐ N/A If "yes", the date construction was completed must be provided: Date: 11/25/24
8. If this application incorporates by reference a previously granted permit(s), has form APC-210, "Data and Information-Incorporation by Reference" been submitted? ☒ Yes ☐ No ☐ N/A

II. Source Information		
1. Source name:* Pullman Innovations		
2. Source street address:* 2701 East 100th Street		
3. City:* Chicago	4. County:* Cook	5. Zip code:* 60617
* Is information different than previous information? ☐ Yes ☒ No If yes, then explain what is different and why/when changed.		

This Agency is authorized to require and you must disclose this information under 415 ILCS 5/39. Failure to do so could result in the application being denied and penalties under 415 ILCS 5 et seq. It is not necessary to use this form in providing this information. This form has been approved by the forms management center.

II. Source Information (continued)

ONLY COMPLETE THE FOLLOWING FOR A SOURCE WITHOUT AN EXISTING ID NUMBER OR IF INFORMATION HAS CHANGED.

6. Is the source located within city limits? ☒ Yes ☐ No
If No, provide Township name:

7. Description of source and product(s) produced:
The facility acidulates vegetable oil soapstock into finished oil, interphase, and wastewater (no change). See attached narrative for more complete process description and associated emissions.

8. Primary Classification Code of source: SIC: 2079 or NAICS: 31125

9. Latitude (DD:MM:SS.SSSS): 41:42:47.88

10. Longitude (DD:MM:SS.SSSS): 87:33:28.44

III. Applicant Information

- | | |
|---|---|
| 1. Who is the applicant?
☒ Owner ☐ Operator | 2. All correspondence to: (check only one)
☒ Owner ☐ Operator ☐ Source |
| 3. Applicant's FEIN:
81-1625561 | 4. Attention name and/or title for written correspondence:
Peter Rnich, Facility Manager |

IV. Owner Information*

- | | | |
|------------------------------------|--------------|--------------------|
| 1. Name: A-F Acquisition, LLC | | |
| 2. Address: 2701 East 100th Street | | |
| 3. City: Chicago | 4. State: IL | 5. Zip code: 60617 |

* If this information different than previous information, then include a Request for Ownership Change.

V. Operator Information (If Different from Owner)*

- | | | |
|------------------------------------|--------------|--------------------|
| 1. Name: Pullman Innovations | | |
| 2. Address: 2701 East 100th Street | | |
| 3. City: Chicago | 4. State: IL | 5. Zip code: 60617 |

* If this information different than previous information, then include a Request for Operator Change.

VI. Technical Contacts for Application

- | | |
|--|---|
| 1. Preferred technical contact: (check only one) ☒ Applicant's contact ☐ Consultant | |
| 2. Applicant's technical contact person for application: Christopher Cailles | |
| 3. Contact person's telephone number:
(847) 996-3580 | 4. Contact person's email address:
cailles@daienv.com |
| 5. Applicant's consultant for application: ☐ N/A DAI Environmental, Inc. | |
| 6. Consultant's telephone number: ☐ N/A
(847) 996-3580 | 7. Consultant's email address: ☐ N/A
cailles@daienv.com |

VII. Other Addresses/Contacts for the Permit Applicant

ONLY COMPLETE FOLLOWING FOR A SOURCE WITHOUT AN EXISTING ID NUMBER OR IF INFORMATION HAS CHANGED.

1. Address for billing Site Fees for the source: ☒ Source ☐ Other (provide below):

Address: 2701 East 100th Street

City: Chicago

State: IL

Zip Code: 60617

2. Contact person for Site Fees:
Peter Rnich, Facility Manager

3. Contact person's telephone number:
(773) 978-5130

4. Address for Annual Emission Report for the source: ☒ Source ☐ Other (provide below):

Address: 2701 East 100th Street

City: 60617

State: IL

Zip Code: 60617

5. Contact person for Annual Emission Report:
Peter Rnich, Facility Manager

6. Contact person's telephone number:
(773) 978-5130

VIII. Summary/Review Of Contents of the Application

**NOTE: ANSWERING "NO" TO THESE ITEMS MAY RESULT IN THE APPLICATION BEING DEEMED INCOMPLETE
(SEE 35 IAC 201.158)**

- | | | | | | | | | | | |
|--|---|---|-----------------------------|-------------------------------|---|-----------------------------|------------------------------|---|-----------------------------|------------------------------|
| 1. Does the application include a detailed narrative description of the proposed project, and if for an existing source, does the application describe how the new/modified emission units/equipment in the project relate to the existing emission units/equipment at the existing source? | ☒ Yes ☐ No | | | | | | | | | |
| 2. Does the application contain a list and detailed description of all the emission units and air pollution control equipment that are part of the project, and if the application includes a request for a revised operating permit, a list and description of all the emission units/equipment that the revised operating permit will need to address? | ☒ Yes ☐ No | | | | | | | | | |
| 3. Does the application include a process flow diagram(s) for the project showing new/modified emission units/equipment, and if for an existing source, how it relates to existing emission units/equipment at the existing source? | ☒ Yes ☐ No | | | | | | | | | |
| 4. If the project is at a source that has not previously received a permit from the BOA, does the application include a source description, plot plan and site map? | ☐ Yes ☐ No ☒ N/A | | | | | | | | | |
| 5. Does the application identify and address all applicable or potentially applicable performance and emissions standards, including:
a. State emission standards (35 IAC Chapter I, Subtitle B);
b. Federal New Source Performance Standards (40 CFR Part 60);
c. Federal standards for Hazardous Air Pollutants (HAPs) (40 CFR Parts 61 and 63)? | <table><tr><td>☒ Yes</td><td>☐ No</td><td>☐ N/A</td></tr><tr><td>☒ Yes</td><td>☐ No</td><td>☐ N/A</td></tr><tr><td>☒ Yes</td><td>☐ No</td><td>☐ N/A</td></tr></table> | ☒ Yes | ☐ No | ☐ N/A | ☒ Yes | ☐ No | ☐ N/A | ☒ Yes | ☐ No | ☐ N/A |
| ☒ Yes | ☐ No | ☐ N/A | | | | | | | | |
| ☒ Yes | ☐ No | ☐ N/A | | | | | | | | |
| ☒ Yes | ☐ No | ☐ N/A | | | | | | | | |
| 6. Does the application include a listing and summary of the requested permitted annual emissions (tons/year) of the proposed project for the new and/or modified emission units for the pollutants to be emitted (CO, NOx, PM/PM10, SO2, VOM, and/or individual and combined HAPs), and if for an existing permitted source, how the new emissions correlate to the total proposed emissions for the entire source? | <table><tr><td>☒ Yes</td><td>☐ No</td><td>☐ N/A*</td></tr></table> <p>* Project does not involve an increase in emissions from new or modified emission units.</p> | ☒ Yes | ☐ No | ☐ N/A* | | | | | | |
| ☒ Yes | ☐ No | ☐ N/A* | | | | | | | | |

VIII. Summary/Review Of Contents of the Application (continued)

7. Does the application include a listing and summary of the requested permitted production, throughput, fuel, or raw material usage limits that correspond to the annual emissions limits of the proposed project in 6 above, and if for an existing permitted source, how they correlate to the proposed usage limits for the entire source?	☒ Yes ☐ No ☐ N/A* * Project does not involve an increase in emissions from new or modified emission units.
8. Does the application include the calculations and methodology (emission factors, test results, etc.) used to develop the emission estimations and the requested permitted annual emission limits in 6 above based on the requested usage limits in 7 above?	☒ Yes ☐ No ☐ N/A* * Project does not involve an increase in emissions from new or modified emission units.
9. Does the application identify and list the emission units and activities at the source that are claimed to be exempt from permitting per 35 IAC 201.146 including a reference to the specific exemption in 35 IAC 201.146 along with justification for the claimed exemption(s)?	☒ Yes ☐ No ☐ N/A* * No exemptions claimed.
10. Does the application include the calculations and methodology (emission factors, regulatory-based emission/material throughput limitations, physical emission/material throughput limitations, maximum allowable pollutant content of materials to be processed, etc.) used to calculate the potential to emit (PTE) for the proposed project and for the entire source for the pollutants to be emitted (CO, NOx, PM/PM10, SO2, VOM, and/or individual and combined HAPs) to demonstrate that the source is eligible for a lifetime operating permit pursuant to 35 IAC 201.169(a)? ☒ Yes ☐ No Potential to emit (PTE), as defined at 35 IAC 211.4970, means the maximum capacity of a stationary source to emit any air pollutant under its physical and operational design. Any physical or operational limitation on the capacity of a source to emit an air pollutant, including air pollution control equipment and restriction on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation is federally enforceable. Please note that emissions from emission units/activities claimed as exempt per 35 IAC 201.146 in 9 above need to be included in the PTE emission calculations and totals for the source. If it can not be demonstrated that the source is eligible for a lifetime operating permit pursuant to 35 Ill. Adm. Code 201.169(a), (e.g., PTE calculations result in potential emissions of criteria pollutants and/or HAPs exceeding major source threshold levels (i.e., 100 tons/year for criteria pollutants, 10 tons/year for a single HAP and 25 tons/year for total HAPs)), the Permittee should apply for a Clean Air Act Permit Program (CAAPP) permit. To avoid the CAAPP permitting requirements, if applicable, the Permittee may want to consider applying for a Federally Enforceable State Operating Permit (FESOP). A FESOP is an operating permit that contains federally enforceable limits in the form of permit conditions, which effectively restrict the potential emissions of a source to below major source threshold, thereby excluding the source from the CAAPP.	
11. If the application contains information that is considered a TRADE SECRET, has such information been properly marked and claimed and other requirements to perfect such a claim been satisfied in accordance with 35 IAC Part 130?	☐ Yes ☐ No ☒ N/A* * No information in the application is claimed to be a TRADE SECRET

Note: "Claimed information will not be legally protected from disclosure to the public if it is not properly claimed or does not qualify as trade secret information."

VIII. Summary/Review Of Contents of the Application (continued)

- 12a. If the source is located in a county other than Cook County, have two separate complete copies of this application been submitted? ☐ Yes ☐ No ☒ N/A
- b. If the source is located in Cook County, have three separate complete copies of this application been submitted? ☒ Yes ☐ No ☐ N/A
13. Does the application include a completed "FEE DETERMINATION FOR CONSTRUCTION PERMIT APPLICATION," Form 197-FEE, for the emission units and control equipment for which a permit for construction or modification is being sought? ☒ Yes ☐ No ☐ N/A
14. Does the application include a check in the proper amount for payment of the Construction permit application fee as identified in the Form 197-FEE? ☒ Yes ☐ No ☐ N/A

IX. Signature Block

Pursuant to 35 IAC 201.159, all applications and supplements thereto shall be signed by the owner and operator of the source, or their authorized agent, and shall be accompanied by evidence of authority to sign the application. Applications without a signed certification will be deemed incomplete.

Authorized Agent Listing

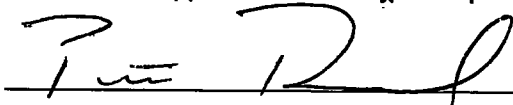
The Owner, Operator, or Source certifies that the listing below shall be considered as evidence for our authorized agents for this project; which shall have the authority to sign the application and supplements.

Consulting Company Name:	☐ N/A
Legal Firm Name:	☐ N/A
Testing Company Name:	☐ N/A
Other:	☐ N/A

Owner, Operator, or Source Signature

I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the statements and information contained in this application are true, accurate and complete. In addition, the technical contact person identified above is authorized to submit (by hard copy and/or by electronic copy) any supplemental information related to this application that may be requested by the Illinois EPA.

BY:



AUTHORIZED SIGNATURE

Peter Rnich

TYPED OR PRINTED NAME OF SIGNATORY

Facility Manager

TITLE OF SIGNATORY

12-10-24

DATE

ATTACHMENT 1
FORM APC 210 (X 2)

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
1021 NORTH GRAND AVENUE, EAST
SPRINGFIELD, ILLINOIS 62702

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DATA AND INFORMATION INCORPORATION BY REFERENCE	
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THIS FORM IS TO BE USED TO INCORPORATE OR TRANSFER INFORMATION FROM ONE PERMIT APPLICATION TO ANOTHER, INCLUDING THE TRANSFER OF INFORMATION FROM A CONSTRUCTION PERMIT APPLICATION INTO AN OPERATING PERMIT APPLICATION. THIS FORM SHOULD ACCOMPANY THE APPLICATION INTO WHICH INFORMATION IS TO BE TRANSFERRED.

1. NAME OF OWNER: A-F Acquisition, LLC	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER): Pullman Innovations	
3. STREET ADDRESS OF EMISSION SOURCE: 2701 East 100th Street	4. CITY OF EMISSION SOURCE: Chicago	5. IDENTIFICATION NUMBER: 031600FDK

6. APPLICATION NUMBER: 86050044	7. ☐ CONSTRUCTION ☒ OPERATION OF: Soapstock acidulation (09/24/14 submission)	
8. SHOULD ALL INFORMATION IN THIS APPLICATION BE INCORPORATED BY REFERENCE OR TRANSFERRED? ☐ YES ☒ NO Incorporation of tank information/forms IF "NO", LIST ITEMS TO BE INCORPORATED		
9a. ITEM TO BE INCORPORATED:	b. PAGE:	c. FLOW DIAGRAM DESIGNATION (IF APPLICABLE):
APC 232 form	37-85	R1-R24
APC 232 form	86-89	T1-T2 (now C1-C2)
10. DOES THE DATA & INFORMATION DESCRIBING THESE ITEMS REMAIN TRUE, CORRECT, CURRENT, AND COMPLETE? ☒ YES ☐ NO IF "NO", SUBMIT THE APPLICATION FORMS AND CLEARLY STATE THE DATA AND INFORMATION WHICH IS NO LONGER TRUE, CORRECT, CURRENT, AND COMPLETE.		

11. APPLICATION NUMBER: 86050044	12. ☐ CONSTRUCTION ☒ OPERATION OF: Soapstock acidulation modification (05/27/21 submission)	
13. SHOULD ALL INFORMATION IN THIS APPLICATION BE INCORPORATED BY REFERENCE OR TRANSFERRED? ☐ YES ☒ NO Incorporation of emission test report IF "NO", LIST ITEMS TO BE INCORPORATED		
14a. ITEM TO BE INCORPORATED:	b. PAGE:	c. FLOW DIAGRAM DESIGNATION (IF APPLICABLE):
Report on VOC Testing (02/15/21)	59-286	--
15. DOES THE DATA & INFORMATION DESCRIBING THESE ITEMS REMAIN TRUE, CORRECT, CURRENT, AND COMPLETE? ☒ YES ☐ NO IF "NO", SUBMIT THE APPLICATION FORMS AND CLEARLY STATE THE DATA AND INFORMATION WHICH IS NO LONGER TRUE, CORRECT, CURRENT, AND COMPLETE.		

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
1021 NORTH GRAND AVENUE, EAST
SPRINGFIELD, ILLINOIS 62702

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DATA AND INFORMATION
INCORPORATION BY REFERENCE

THIS FORM IS TO BE USED TO INCORPORATE OR TRANSFER INFORMATION FROM ONE PERMIT APPLICATION TO ANOTHER, INCLUDING THE TRANSFER OF INFORMATION FROM A CONSTRUCTION PERMIT APPLICATION INTO AN OPERATING PERMIT APPLICATION. THIS FORM SHOULD ACCOMPANY THE APPLICATION INTO WHICH INFORMATION IS TO BE TRANSFERRED.

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3. STREET ADDRESS OF EMISSION SOURCE: 2701 East 100th Street	4. CITY OF EMISSION SOURCE: Chicago	5. IDENTIFICATION NUMBER: 031600FDK

6. APPLICATION NUMBER: 86050044	7. ☐ CONSTRUCTION OF: Soapstock acidulation modification (01/18/24 submission)	☒ OPERATION
8. SHOULD ALL INFORMATION IN THIS APPLICATION BE INCORPORATED BY REFERENCE OR TRANSFERRED? ☐ YES ☒ NO Incorporation of information/forms and emission test reports IF "NO", LIST ITEMS TO BE INCORPORATED		
9a. ITEM TO BE INCORPORATED:	b. PAGE:	c. FLOW DIAGRAM DESIGNATION (IF APPLICABLE):
APC 220 form, APC 260 form, and design schematic	25-34	Duct (Caustic Scrubber 2)
APC 260 form, and design schematic	35-41	Vacuum fan and stack 1
Report on H2S Testing (02/18/21)	47-125	--
Report on VOC Testing (05/05/23)	126-350	--
APC 240 form	352-354	Steam generators...
APC 240 form	355-357	...and stacks (2)
10. DOES THE DATA & INFORMATION DESCRIBING THESE ITEMS REMAIN TRUE, CORRECT, CURRENT, AND COMPLETE? ☒ YES ☐ NO IF "NO", SUBMIT THE APPLICATION FORMS AND CLEARLY STATE THE DATA AND INFORMATION WHICH IS NO LONGER TRUE, CORRECT, CURRENT, AND COMPLETE.		

11. APPLICATION NUMBER:	12. ☐ CONSTRUCTION OF:	☐ OPERATION
13. SHOULD ALL INFORMATION IN THIS APPLICATION BE INCORPORATED BY REFERENCE OR TRANSFERRED? ☐ YES ☐ NO IF "NO", LIST ITEMS TO BE INCORPORATED		
14a. ITEM TO BE INCORPORATED:	b. PAGE:	c. FLOW DIAGRAM DESIGNATION (IF APPLICABLE):
		--
15. DOES THE DATA & INFORMATION DESCRIBING THESE ITEMS REMAIN TRUE, CORRECT, CURRENT, AND COMPLETE? ☐ YES ☐ NO IF "NO", SUBMIT THE APPLICATION FORMS AND CLEARLY STATE THE DATA AND INFORMATION WHICH IS NO LONGER TRUE, CORRECT, CURRENT, AND COMPLETE.		

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ATTACHMENT 2
NARRATIVE

Permitted Facility Location

Pullman Innovations operates and maintains a vegetable oil by-product processing and distribution facility located at 2701 East 100th Street in a primarily commercial area of Chicago, Illinois. Figure 1 is a topographical Site Location Map. The approximately 6.87-acre property consists of a combination of paved and gravel surface and includes multiple buildings, including the main building (office/lab/processing), the Guard House, two (2) maintenance buildings, the scale building, the AVR shack, a large storage building and a small storage shed, and the unloading area shelter. Numerous storage boxes are also located on-site.

The facility is bound by vacant land to the east; by a Chicago Rail Link rail line switching terminus to the south; by Chicago Rail Link rail lines or a small industrial property, then by various commercial properties (a car wash, a bus depot, and an auto body shop) to the west; and by 100th Street followed by vacant land to the north. Figure 2 provides an aerial view of the facility and surrounding property use.

Permit Number and Emission Sources

The facility (ID 031600FDK), currently operates under the *Lifetime Operating Permit – NSPS Source – Revised* issued July 27, 2016. Emissions from the facility are generated from the soapstock acidulation process and natural gas-burning operations. Permitted emission equipment includes:

- Twenty four (24) acidulation reactors (tanks R1 to R24: 15,000-gallons each)
- Two (2) sulfuric acid aboveground storage tanks (tank C1: 9,300-gallons and tank C2: 8,900-gallons)
- Two (2) natural gas fired steam generators (11.9-mmBtu/hr & 12.0-mmBtu/hr rating)

Facility General Description

The facility performs soapstock acidulation, a process that converts a by-product of commercial edible oil production into commercial animal (generally poultry and cattle) feed ingredients by enhancing naturally-occurring oil/water gravity separation. The facility reprocesses various vegetable-type oil (e.g., soybean, canola, and vegetable) soapstock into finished oil via the acidulation process. The soapstock acidulation process extracts proteins and segregates the soapstock into three (3) primary component layers: oil, “interphase,” and water. The oil is finished product that is distributed from storage tanks to tanker truck and railcar for off-site delivery to animal feed manufacturers. Interphase, the emulsion (oil/water/nutrients) layer that forms between oil and water when soapstock segregates, is a by-product of acidulation that is also shipped off-site for use as an ingredient in animal feed. Wastewater is generated during the various steps of the oil soapstock reprocessing. Wastewater is treated on-site and discharged to the combined sewer system via a Discharge Authorization with the Metropolitan Water Reclamation District of Greater Chicago.

In addition to soapstock acidulation, the facility generates emissions from the burning of natural gas by two (2) natural gas-fired steam generators (boilers) used to generate steam that is used throughout the facility to maintain the soapstock in a liquefied state and easily transferable. The boilers have firing ratings of 11.9-mmBTU and 12.0-mmBTU. A third boiler with 41.85-

mmBTU has been added to the facility for increased steam generation. The two (2) permitted boilers are located inside the boiler room inside of the processing building. The third boiler is located within the processing building just outside the boiler room. The steam is used in non-contact heat transfer piping present in storage tanks or via direct sparging of soapstock in railcars and tanker trucks. Cooled steam/water from storage tank heat transfer piping returns to the generators to be re-heated. All returned steam is non-contact.

The facility typical hours of operation are 10:00 p.m. to 6:00 a.m. and 7:00 a.m. to 4:30 p.m. Monday-Friday. The acidulation process is typically performed between 8:00 a.m. and 4:00 p.m., Monday-Friday. Acidulation is occasionally performed on Saturdays. Operations are controlled from the office area inside the processing building. Figure 3 provides a Site Plan showing the processing building and locations of the permitted emission points (3 total stacks). A detailed description of the facility processes and associated emissions is provided below.

Soapstock Acidulation (and Associated Wastewater Generation) Process

Pre-acidulation Soapstock Transfer/Storage – Permit Exempt

Raw soapstock is delivered to the facility by railcar and tanker truck. Soapstock received by the facility is primarily transferred at the raw soapstock unloading area (west side of the processing building), which includes nine (9) railcar and three (3) tanker truck transfer stations. Other unloading areas are in periodic use at the facility. To minimize odors from the raw soapstock unloading area and allow for optimal operating conditions during soapstock transfer activities (particularly in the winter), a shelter was constructed over the unloading area in October 2017. Further modifications and nearly complete enclosure of the shelter (originally open on 3 sides) have occurred since that time to improve facility functioning and odor capture. Transfers of soap and vegetable oil from tanker trucks and railcars are exempt from air permitting per 35 IAC 201.146(gg) as long as no organic solvent has been mixed into the liquid. Soapstock is a liquid emulsion of soap, vegetable oil, and water received directly from vegetable oil manufacturers. No solvents are mixed into the soapstock. Therefore, the soapstock transfer operations conducted at the facility are exempt from air permitting per 35 IAC 201.146(gg).

Air gathered by the ventilation system within the shelter is routed via air duct to a single stack (i.e., point emissions). Prior to emission to the atmosphere, the air passes through a packed bed scrubber unit designed to control odor-causing chemical constituents by using a sulfuric acid wash. The scrubber is not a control device for priority pollutants; it is a control for non-regulated, odor-causing amines. The scrubber unit was erected on the east side of the processing building and began operating in January 2019 upon the completion of final connections and enclosure of the acid scrubber inside an extension from the processing building. As an air pollution control device used exclusively with other equipment that is exempt from permitting, the acid scrubber is exempt from air permitting per 35 IAC 201.146(jj).

From the raw soapstock unloading area, raw soapstock is transferred via pump and hose/piping into three (3) aboveground storage tanks (ASTs), tanks T41 to T43, which are used for the preliminary “processing” of soapstock, specifically water decanting via gravity separation. From tanks T41 to T43, decanted soapstock is transferred into tanks T31 to T34 for further gravity separation and storage in advance of the acidulation process. Periodically, soapstock that is not

required to go through the preliminary processing is transferred directly into tanks T31 to T34. All water that separates from the soapstock either during tanker truck/railcar delivery or within the seven (7) ASTs is decanted and transferred via hose/piping to six (6) wastewater holding tanks, T24 to T27 and T45 to T46. Similar to soapstock transfers, soapstock storage tanks are exempt from air permitting per 35 IAC 201.146(n)(2). Water storage is exempted from air permitting per 35 IAC 201.146(vv)(2).

Soapstock and wastewater tanks are affixed with ductwork, capturing odorous vapors for routing through the permit-exempt (per 35 IAC 201.146(jj)) acid scrubber and emissions to the atmosphere via the single stack (i.e., point emissions). See Figure 4A for a flow diagram of the permit-exempt pre-acidulation soapstock (and wastewater) transfer/storage.

Soapstock Acidulation – Emissions Process

From tanks T31 to T34, decanted soapstock transfers via pump and piping to 24 fiberglass reactor vessels (R1 to R24) that are located inside the processing building. During the acidulation process, the decanted soapstock is mixed with sulfuric acid inside the reactors, accelerating the segregation of soapstock into the three (3) constituent layers: finished oil (top), interphase (middle), and water (bottom). Approximately 330-gallons of sulfuric acid are added to each approximately 11,000-gallon batch of decanted soapstock undergoing acidulation. The sulfuric acid is transferred via pump and piping from two (2) pressurized tanks (C1 and C2). APC 232 forms for the currently permitted reactors and sulfuric acid ASTs were previously submitted as part of the September 2014 permit modification application are incorporated by reference (see APC 210 form in Attachment 1).

Each reactor is equipped with a vent connected to duct work that continuously draws vapors from each unit and directs those vapors to a single stack (i.e., point emissions). There is no direct venting to the atmosphere from the reactors. Prior to emission to the atmosphere, the vapors pass through two (2) packed bed scrubber units working in series designed to control non-regulated, odor-causing chemical constituents and neutralize the pH of acidic vapors by using a caustic soda wash. Though not specifically designed to control volatile pollutants, stack testing has shown the dual scrubbers do provide an average reduction of 59.8%. The vents on the two (2) acid tanks are also routed through the dual caustic scrubbers for pH neutralization of acid vapors. The first scrubber has been in operation since 1986, and the second began operation in May 2018. See Figure 4B for a flow diagram of the permitted soapstock acidulation process.

Process emission source form APC 220 was previously submitted for the soapstock acidulation, and two (2) APC 260 forms were submitted for the dual caustic scrubbers. Scrubber schematics were included as attachment to each of the APC 260 forms. The forms and schematics previously submitted in the January 2024 permit modification application remain accurate and are incorporated by reference via form APC 210 (see Attachment 1).

Post-acidulation Finished Product Storage/Transfer – Permit-Exempt

Following the acidulation in the reactors, the three (3) separated constituent layers are transferred to various storage tanks via pump and piping/hose. Finished oil is transferred to tanks T10 to T13, T17R, T18 to T20, and T21R to T23R. Interphase is transferred to tanks T28, T29, and T131 to T133. Finished oil and interphase are ultimately distributed to tanker truck or railcar

staged on the scales to the east of the processing building for off-site shipment. Post-acidulation wastewater is transferred to tanks W1 to W4. Pre-acidulation and post-acidulation wastewater is blended in tank T00 and ultimately discharged to the combined sewer system after on-site treatment in two (2) skimmers (oil/water separators). As noted above, transfers of soap and vegetable oil are exempt from air permitting per 35 IAC 201.146(gg). The acidulation process generates finished (vegetable) oil and interphase (the soap layer of the emulsion). Therefore, the transfer operations are exempt from air permitting. Similarly, the storage tanks are exempt from air permitting per 35 IAC 201.146(n)(2) or 35 IAC 201.146(vv)(2). See Figure 4C for a flow diagram of the permit-exempt post-acidulation finished product (and wastewater) storage/transfer.

Several of the storage tanks are affixed with ductwork, capturing odorous vapors for routing through the dual caustic scrubbers. Vent hoods above the skimmers also draw odorous vapors into the dual caustic scrubbers. Post-acidulation equipment with odor control in place includes finished oil storage tanks T10 to T13, interphase storage tanks T28 and T29, wastewater storage tanks W1 to W4 and T00, and the two (2) wastewater skimmers. No direct emission to the atmosphere occurs from these permit-exempt units but are instead routed through the same single stack (i.e., point emissions) where vapors from acidulation reactors and sulfuric acid tanks are emitted. Therefore, the emission rate determined in the outlet stack accounts for the combined contributions of the 24 acidulation reactors, the two (2) sulfuric acid tanks, and the 13 permit-exempt units noted above. There are no additional, separate emissions from any of these 39 units. Figures 4B and 4C provide citation to these odor control connections.

Natural Gas-Burning by Steam Generators Process

Natural Gas-Burning – Emissions Process

In order to ensure that the soapstock remains in a fluid state, steam is utilized for non-contact heat transference in several of the storage tanks or for direct sparging of soapstock in tanker trucks and railcars prior to transfer. Presently, the steam is generated from two (2) permitted natural gas-burning steam generators manufactured by Miura Boiler Co., Ltd. and located inside the boiler room of the processing building. One (1) boiler (model FX-300, serial number 38S472198) was installed in August 2007 and operates at a firing rate of 11.9-mmBTU. The second boiler (model FX-300SG-12, serial number 111179) was installed in March 2019 (an emergency like-for-like replacement for the previous permitted boiler after a critical failure) and operates at a firing rate of 12-mmBTU.

To increase the steam generation available for use by the facility, a third boiler unit has been added, situated immediately outside the boiler room inside the processing building. The steam generating boiler was manufactured by Johnston Boiler Company in 1990 (509 series model PFTA1000-4, unit number 876501). The 1,000-hp boiler unit gas a 41.85-mmBTU firing rate. The previously used boiler was purchased by Pullman Innovations in 2024, with installation completed November 25, 2024 (i.e., all connections completed and ready to begin operating).

Emissions from each boiler vent into the atmosphere via individual roof stacks. APC 240 forms previously submitted in the January 2024 permit modification application for the two (2)

permitted units are incorporated by reference via form APC 210. An APC 240 form for the third unit is included as Attachment 4. Figure 5 provides the process flow diagram for the boilers.

All three (3) boilers are subject to the requirements of 40 CFR 60 Subpart Dc. The majority of requirements under Subpart Dc apply to coal and/or oil burning. These boilers are natural gas-burning units, and therefore are exempt from the limitations detailed in 40 CFR 60.42c-43c. The notification requirements detailed in 40 CFR 60.48c are applicable for this type of regulated unit. Notifications for the presently permitted units have already been provided. The above paragraph provides the required information associated for the third unit. The emission-associated paragraphs provided below include operating parameter information. Therefore, this permit application meets the notification requirements of 40 CFR 60.48c.

Emissions for Soapstock Acidulation Process (Including all Contributing Components)

Currently Permitted Emissions

The acidulation process generates emissions of Volatile Organic Material (VOM), Sulfur dioxide (SO₂), and Hydrogen sulfide (H₂S) from the soapstock acidulation process. Historical odor sampling activities performed at the facility indicate that the VOM is primarily ethanol (not a hazardous air pollutant), assumingly the result of bacterial breakdown of the vegetable soapstock (i.e., fermentation). Emissions from the process are the combined contributions from the 24 permitted acidulation reactors and two (2) permitted sulfuric acid tanks, as well as odorous vapors from 13 permit-exempt units. Current permit limits for the soapstock acidulation process include:

- 212,615-tons/yr maximum soapstock throughput
- 0.7-tons/month, 6.92-tons/yr of H₂S
- 0.06-tons/month, 0.56-tons/yr of SO₂
- 1.69-tons/month, 16.82-tons/yr of VOM

The current emission limits are based upon doubling the emissions rates determined during the May 2011 stack testing results and continuous operations. Note that SO₂ was permitted as an air pollutant for the process based upon the results of the May 2011 stack testing indicating an unexplained concentration of SO₂ in the effluent stream for one (1) of the three (3) runs, though no SO₂ should have been present (no detectable concentrations in the other testing runs).

Actual Soapstock Throughput

The permitted maximum throughput of 212,615-tons/yr is over double the actual maximum throughput at the facility during the 5-yr period of 2019-2023. Total soapstock throughput between 2019 and 2023 has ranged from 58,176-tons to 90,619-tons. The 2024 throughput is anticipated to approximately match the 90,619-tons of 2023. Even with improved operational efficiencies and increased capabilities, the facility's maximum target is 150,000-tons/yr of throughput, well below the permitted maximum of 212,615-tons/yr.

Updated Hydrogen sulfide Emission Calculations

Stack testing performed in January 2021 confirmed the emissions of H₂S from soapstock acidulation. During the testing, soybean soapstock was acidulated. The January 2021 stack testing of the soapstock acidulation process identified the following H₂S emission rates:

- Test run 1 – 0.764-lbs/hr
- Test run 2 – 0.57-lbs/hr
- Test run 3 – 0.508-lbs/hr
- Average – 0.614-lbs/hr

These results were included in the *Report on H₂S Testing* dated February 18, 2021, that was previously submitted in the January 2024 permit modification application and is incorporated by reference via form APC 210.

Total annual atmospheric emissions of H₂S for the soapstock acidulation process, including the potential to emit (PTE) and maximum theoretical emissions (MTE), are as follows:

Average (AVG)

$0.614\text{-lbs/hr} \times 3,531\text{-hrs} \times 1\text{-ton}/2,000\text{-lbs} = 1.083864\text{-tons}$
(January 2021 average rate) * (typical actual operations, 11.5-hrs/day, M-Sat excluding holidays)

PTE/MTE

$0.764\text{-lbs/hr} \times 8,760\text{-hrs} \times 1\text{-ton}/2,000\text{-lbs} = 3.34632\text{-tons}$
(January 2021 maximum rate) * (continuous operations)

Currently Permitted Limit

$2 \times [0.79\text{-lbs/hr} \times 8,760\text{-hrs} \times 1\text{-ton}/2,000\text{-lbs}] = 6.9204\text{-tons}$
(currently permitted rate), conservatively doubled * (continuous operations)

As noted above, the currently permitted emission rate of 0.79-lbs/hr from May 2011 stack testing is slightly higher than the January 2021 maximum rate of 0.764-lbs/hr, and the conservative doubling of the May 2011 rate further over estimates the maximum annual discharge of H₂S to the atmosphere.

Updated Volatile Organic Material Emission Calculations

With continued operational increase and optimization of the soapstock acidulation process, stack testing was performed in May 2023 to evaluate the emissions under present operating conditions. During the testing, soybean soapstock was acidulated, considered to be the most odorous soapstock with the likely highest volatile content. The testing was completed under operating conditions representative of the highest possible emissions from the acidulation process. The stack sampling protocol was developed in coordination with and approved by the USEPA. The additional sampling for VOM was completed as follows:

- Test run 1 – active acidulation (R9) with five (5) reactors having been acidulated earlier that morning and the remaining 16 reactors in various stages of VOM emissions contribution

- Test run 2 – active acidulation (R8) with six (6) reactors (including R9) having been acidulated earlier that morning and the remaining 16 reactors in various stages of VOM emissions contribution
- Test run 3 – active acidulation (R15) with seven (7) reactors (including R9 and R8) having been acidulated earlier that morning (i.e., 8 active or recently active reactors, the facility operating maximum), and the remaining 16 reactors in various stages of VOM emissions contribution.

The May 2023 stack testing of the soapstock acidulation process identified the following VOM (primarily alcohols) emission rates in the outlet stack:

- Test run 1 – 3.37-lbs/hr
- Test run 2 – 3.48-lbs/hr
- Test run 3 – 3.81-lbs/hr
- Average – 3.55-lbs/hr

These results were included in the *Report on VOC Testing* dated June 5, 2023, that was previously submitted in the January 2024 permit modification application and is incorporated by reference via form APC 210. All results indicate VOM emission rates from the outlet stack below the 8-lbs/hr maximum allowable listed in 35 IAC 218.301. However, while not specifically intended to serve as a VOM reduction control, VOM emissions to the atmosphere from the soapstock acidulation process would exceed the 8-lbs/hr VOM limitation specified in 35 IAC 218.301 without the use of the dual caustic scrubbers, as observed by the scrubber inlet rates noted in the June 2023 *Report on VOC Testing* and summarized below:

- Test run 1 – 8.2-lbs/hr, reduced by 58.9% to 3.37-lbs/hr at the outlet
- Test run 2 – 8.99-lbs/hr, reduced by 61.3% to 3.48-lbs/hr at the outlet
- Test run 3 – 9.12-lbs/hr, reduced by 58.3% to 3.81-lbs/hr at the outlet
- Average – 8.77-lbs/hr, reduced by 59.8% to 3.55-lbs/hr at the outlet

Therefore, the partial reductions of VOM from the dual caustic scrubbers are necessary for facility compliance, and thus the reductions are included in the PTE calculations. The total annual atmospheric emissions of VOM for the soapstock acidulation process are as follows:

AVG

3.55-lbs/hr * 3,531-hrs * 1-ton/2,000-lbs = 6.266638-tons
(May 2023 average rate) * (typical actual operations, 11.5-hrs/day, M-Sat excluding holidays)

PTE

3.81-lbs/hr * 8,760-hrs * 1-ton/2,000-lbs = 16.6878-tons
(May 2023 maximum rate) * (continuous operations)

MTE

9.12-lbs/hr * 8,760-hrs * 1-ton/2,000-lbs = 39.9456-tons
(May 2023 maximum inlet rate, no emissions reductions) * (continuous operations)

Currently Permitted Limit

$$2 \times [1.92\text{-lbs/hr} \times 8,760\text{-hrs} \times 1\text{-ton}/2,000\text{-lbs}] = 16.8192\text{-tons}$$

(currently permitted rate), conservatively doubled * (continuous operations)

As noted above, the maximum rate of 3.81-lbs/hr identified during the highest emission operations (run 3) of the May 2023 stack testing is nearly identical to double the May 2011 emission rate ($2 \times 1.92\text{-lbs/hr} = 3.84\text{-lbs/hr}$). These calculations verify that the currently permitted emission rates and emission limit are generally accurate. The PTE calculated from the current data is 16.6878-tons, slightly lower than the currently permitted limit of 16.8192-tons (the previously determined PTE) and below the 25-tons/yr threshold of applicability per 35 IAC 218.980(b)(1). The uncontrolled MTE is calculated as 39.9456-tons, well below the 100-tons/yr threshold of applicability per 35 IAC 218.980(a)(1)(A).

Summary of Soapstock Acidulation Emissions

For documentation of emissions from the soapstock acidulation process, calculations are provided in Attachment 5. A summary of the results is provided below. The calculations show that current operations do not exceed the currently permitted limits. Therefore, no change in the permit limits is specifically requested in association with soapstock acidulation. However, if required by Illinois EPA, a reductions in the total annual soapstock throughput to 150,000-tons/yr (future operating goal) and of the H₂S emission limit due to the over estimation will be accepted.

Soapstock Acidulation Processing Summary

Ingredient	Soapstock Processed (tons/yr)	Comment/Justification
Anticipated Operational Maximum		
Raw soapstock	150,000	Future goal with optimized operations
Current Actual		
Raw soapstock	58,176-90,619	2019-2023 range, 2024 anticipated marginally higher than 2023
Permit Limit		
Raw soapstock	212,615	Current limit

Soapstock Acidulation Pollutant Emissions Summary

Pollutant	Calculated Emissions (tons/yr)	Comment/Justification
Maximum Theoretical Emissions		
H ₂ S	3.34632	01/21 stack test MAX outlet rate (0.764-lbs/hr) * 8,760-hrs
SO ₂	0.55188 (→0.56)	Double 05/11 stack test AVG outlet rate (0.126-lbs/hr) * 8,760-hrs
VOM	39.9456	05/23 stack test MAX inlet rate (9.12-lbs/hr) * 8,760-hrs
Potential to Emit		
H ₂ S	3.34632	01/21 stack test MAX outlet rate (0.764-lbs/hr) * 8,760-hrs
SO ₂	0.55188 (→0.56)	Double 05/11 stack test AVG outlet rate (0.126-lbs/hr) * 8,760-hrs
VOM	16.6878	05/23 stack test MAX outlet rate (3.81-lbs/hr) * 8,760-hrs
Typical Actual Emissions		
H ₂ S	1.083864	01/21 stack test AVG outlet rate (0.614-lb/hr) * 3,531-hrs (see Note)
SO ₂	0.222422	Double 05/11 stack test AVG outlet rate (0.126-lbs/hr) * 3,531-hrs (see Note)
VOM	6.266638	05/23 stack test AVG outlet result (3.55-lbs/hr) * 3,531-hrs (see Note)
Current Emission Limits		
H ₂ S	6.92	Current limit
SO ₂	0.56	Current limit
VOM	16.82	Current limit

Note – Typical operations for the caustic scrubbers are 11.5-hrs/day, M-Sat; no Sunday or holidays (307-days/yr). There are no emissions to the atmosphere when the scrubbers are off; any vapors generated by the various connected components remain trapped in the units or connective duct work until the scrubbers are restarted.

Emissions for Natural Gas-Burning

Currently Permitted Emissions

As natural gas-fired units, emissions from the boilers include: Carbon monoxide (CO), Carbon dioxide (CO₂), methane (CH₄), Nitrogen oxides (NO_x), Nitrous oxide (N₂O), ammonia (NH₃), particulate matter (PM) and subcategories PM₁₀ and PM_{2.5}, SO₂, and VOM. Therefore, the natural gas-burning is the second permitted emissions source for the facility. Current permit limits for the natural gas-burning process include:

- 21-mmscf/month, 208.5-mmscf/yr natural gas usage
- 0.88-tons/month, 8.76-tons/yr of CO
- 1.05-tons/month, 10.42-tons/yr of NO_x
- 0.08-tons/month, 0.79-tons/yr of PM
- 0.01-tons/month, 0.06-tons/yr of SO₂
- 0.06-tons/month, 0.57-tons/yr of VOM

The current emission limits are based upon AP 42, Tables 1.4-1 to 1.4-2 standard emission factors and the maximum permitted natural gas usage (i.e., the PTE/MTE).

Actual Natural Gas Usage

The permitted maximum natural gas usage of 208.5-mmSCF/yr was previously determined by the volume of natural gas the two (2) boilers can burn if operating continuously at maximum efficiency. The permitted maximum usage is significantly higher than the actual throughput at the facility during the 5-yr period of 2019-2023, between 28.38-mmSCF and 43.22-mmSCF (as taken directly from the facility utility bills). The 2024 usage is estimated at 66.39-mmSCF.

If the three (3) existing boilers at the facility (11.9-mmBTU, 12-mmBTU, and 41.85-mmBTU) were to operate continuously at maximum efficiency (never the actual case), then natural gas usage by the facility could reach 576-mmSCF/yr. While it is known by actual usage that this rate is likely substantially higher than will be the actual total usage, a permit modification is requested assuming 100% efficiency without restrictions (i.e., not requiring a federally enforceable limitation). The below calculations take into account this higher total usage. Attachment 6 includes the APC 197-Fee form as required when requesting a construction permit (third boiler and modified usage).

Summary of Natural Gas-Burning Emissions

For documentation of emissions from the natural gas-burning equipment, calculations are provided in Attachment 5. The calculations include a future average based upon 275% of the 2024 estimated total (accounts for increased usage from third boiler) and PTE/MTE (576-mmSCF/yr requested permit limit). Even with a large increase in actual natural gas consumption with the operation of the third boiler unit, the calculations show that anticipated future operations do not exceed the currently permitted limits. Only the PTE/MTE are higher than currently permitted. A summary of the results is provided below.

Natural Gas-Burning Usage Summary

Ingredient	Soapstock Processed (mmSCF/yr)	Comment/Justification
Maximum Theoretical Usage		
Natural Gas	576	Combined usage of 3 boilers at 100% efficiency and continuous operations
Anticipated Actual		
Natural Gas	183	275% of 2024 to account for larger, third boiler operations
Current Permit Limit		
Natural Gas	208.5	Current limit

Natural Gas-Burning Pollutant Emissions Summary

Pollutant	Calculated Emissions (tons/yr)	Comment/Justification
Maximum Theoretical Emissions/Potential to Emit		
CO	24.192	576-mmSCF * AP 42
CO ₂	34,560	576-mmSCF * AP 42
CH ₄	0.6624	576-mmSCF * AP 42
N ₂ O	0.06336	576-mmSCF * AP 42
NH ₃	0.9216	576-mmSCF * AER factor
NO _x	28.8	576-mmSCF * AP 42
PM/PM ₁₀ /PM _{2.5}	2.188	576-mmSCF * AP 42
SO ₂	0.1728	576-mmSCF * AP 42
VOM	1.584	576-mmSCF * AP 42
Typical Actual Emissions		
CO	7.668128	182.57-mmSCF * AP 42
CO ₂	10,954.467892	182.57-mmSCF * AP 42
CH ₄	0.209961	182.57-mmSCF * AP 42
N ₂ O	0.200832	182.57-mmSCF * AP 42
NH ₃	0.292119	182.57-mmSCF * AER factor
NO _x	9.128723	182.57-mmSCF * AP 42
PM/PM ₁₀ /PM _{2.5}	0.693783	182.57-mmSCF * AP 42
SO ₂	0.054772	182.57-mmSCF * AP 42
VOM	0.50208	182.57-mmSCF * AP 42
Current Emission Limits		
CO	8.76	Current limit
CO ₂	--	Current limit
CH ₄	--	
N ₂ O	--	
NH ₃	--	
NO _x	10.42	Current limit
PM/PM ₁₀ /PM _{2.5}	0.79	Current limit
SO ₂	0.06	Current limit
VOM	0.57	Current limit

-- -- Pollutants without a permit limit but that are required to be reported on the annual air emissions report

Emissions for Permit-Exempt Acid Scrubber (Including all Contributing Components)

As a method of odor control, the facility continuously routes all air gathered by the ventilation system within the unloading area shelter and all vapors from various soapstock and wastewater storage tanks to a single emissions stack located on the eastern side of the main building. Prior to emission to the atmosphere, the air passes through the acid scrubber unit. Although the railcar/tanker truck transfers are permit-exempt per 35 IAC 201.146(gg), soapstock and wastewater storage operations are permit-exempt per 35 IAC 201.146(n)(2) and 201.146(vv)(2), and the acid scrubber is permit-exempt per 35 IAC 201.146(jj), emissions from these permit-exempt units are to be considered when calculating the facility PTE and MTE.

Stack testing of the acid scrubber inlet and outlet was performed in January 2021. The testing indicated emissions of VOM and H₂S. Like the permitted soapstock acidulation process, the VOM is primarily ethanol. During the testing, active transfers of soapstock were occurring in the

unloading area shelter and vapors were extracted from the various connected storage tanks (i.e., typical maximum operating conditions). The January 2021 stack testing of the acid scrubber system identified the following emission rates:

- Test run 1*
- Test run 2 – 1.8-lbs/hr of VOM and 0.523-lbs/hr of H₂S
- Test run 3 – 1.14-lbs/hr of VOM and 0.838-lbs/hr of H₂S
- Test run 4 – 1.02-lbs/hr of VOM and 0.486-lbs/hr of H₂S
- Average – 1.32-lbs/hr of VOM and 0.616-lbs/hr of H₂S

*Note: test run 1 data considered invalid and excluded due to the system freezing during testing

All results indicate VOM emission rates from the outlet stack below the 8-lbs/hr maximum allowable listed in 35 IAC 218.301. These results were included in the *Report on VOC Testing* dated February 15, 2021, and the *Report on H₂S Testing* dated February 18, 2021. The VOC report was previously submitted in the May 2021 permit modification application, and the H₂S report was previously submitted in the January 2024 permit modification application. Both reports are incorporated by reference via form APC 210.

The acid scrubber system is not a VOM control equipment. The January 2021 stack testing indicated minimal VOM reduction, ranging between 16.7% and 22.7% as determined by inlet/outlet concentrations (instead of emission rate because the outlet emissions were higher than the inlet emissions as a result of air flow rate discrepancies during testing). Therefore, instead of using the inlet rate to the scrubber, the outlet maximum rate has been adjusted by the highest reduction amount (22.7%) to determine an uncontrolled inlet rate for purposes of the PTE and MTE calculations (i.e., emissions without reduction). Total annual atmospheric emissions of VOM and H₂S for the acid scrubber system (and contributing components) are calculated as follows:

AVG (VOM)

1.31-lbs/hr * 8,760-hrs * 1-ton/2,000-lbs = 5.7816-tons
(January 2021 average rate) * (continuous typical operations)

PTE/MTE (VOM)

1.8-lbs/hr/0.773 * 8,760-hrs * 1-ton/2,000-lbs = 10.199224-tons
(January 2021 maximum rate adjusted) * (continuous typical operations)

AVG (H₂S)

0.616-lbs/hr (H₂S) * 8,760-hrs * 1-ton/2,000-lbs = 2.69808-tons
(January 2021 average rate) * (continuous typical operations)

PTE/MTE (H₂S)

0.838-lbs/hr * 8,760-hrs * 1-ton/2,000-lbs = 3.67044-tons
(January 2021 maximum rate) * (continuous typical operations)

Summary of Permit-Exempt Acid Scrubber Emissions

The below table provides the combined emissions for the unloading area shelter, soapstock storage tanks (7), and wastewater storage tanks (4) and skimmers (2).

Acid Scrubber Pollutant Emissions Summary

Pollutant	Calculated Emissions (tons/yr)	Comment/Justification
Potential to Emit/Maximum Theoretical Emissions		
H ₂ S	3.67044	01/21 stack test MAX outlet rate (0.838-lbs/hr) * 8,760-hrs
VOM	10.199224	01/21 stack test MAX outlet rate adjusted by 22.7% MAX reduction (2.33-lbs/hr) * 8,760-hrs
Typical Actual Emissions		
H ₂ S	2.69808	01/21 stack test AVG outlet rate (0.616-lb/hr) * 8,760-hrs
VOM	5.7816	01/21 stack test AVG outlet result (1.31-lbs/hr) * 8,760-hrs

Combined Facility Emissions

The above narrative provides the calculated emissions for two (2) permitted processes, the soapstock acidulation process (and all connected components) and natural gas-burning equipment, as well as the permit-exempt emissions of the acid scrubber system (and all connected permit-exempt components). Accounting for emissions from all permitted and permit-exempt sources, the facility's combined PTE and MTE are as follows:

Combined PTE

16.6878-tons + 1.584-tons + 10.199224-tons = 28.471024
(soapstock acidulation) + (natural gas) + (acid scrubber)

Combined MTE

39.9456-tons + 1.584-tons + 10.199224-tons = 51.728824
(soapstock acidulation) + (natural gas) + (acid scrubber)

These calculations show that the total combined uncontrolled MTE for the facility is 51.728824-tons, well below the 100-tons/yr threshold of applicability per 35 IAC 218.980(a)(1)(A). The combined PTE is calculated as 28.471024-tons, above the 25-tons/yr threshold of applicability per 35 IAC 218.980(b)(1). Therefore, the facility is subject to the requirements of 35 IAC 218 Subpart TT.

Although the facility is subject to Subpart TT, all of the emission sources are excluded per 35 IAC 218.980(2). As noted in 35 IAC 218.980(b)(2)(A), the requirements of the Subpart do not apply to sources that are permit-exempt per 35 IAC 201.146. Therefore, the acid scrubber system and connected permit-exempt components are not subject to Subpart TT, nor are any of the permit-exempt sources associated with the permitted soapstock acidulation process. As noted in 35 IAC 218.980(f), the control requirements of 35 IAC 218.986 "shall not apply to...vegetable

oil extraction and processing...fuel combustion units...” As has been previously discussed, soapstock acidulation is effectively vegetable oil extraction and processing. Therefore, the soapstock acidulation process is not subject to the control requirements of 35 IAC 218.986, nor are the natural gas (fuel) burning boiler units. Thus, the facility is subject to Subpart TT, but all emitting units at the facility are exempted.

Summary of Permit Emission Limits

The below table summarizes the requested unchanged permit limits to be included in the lifetime operating permit.

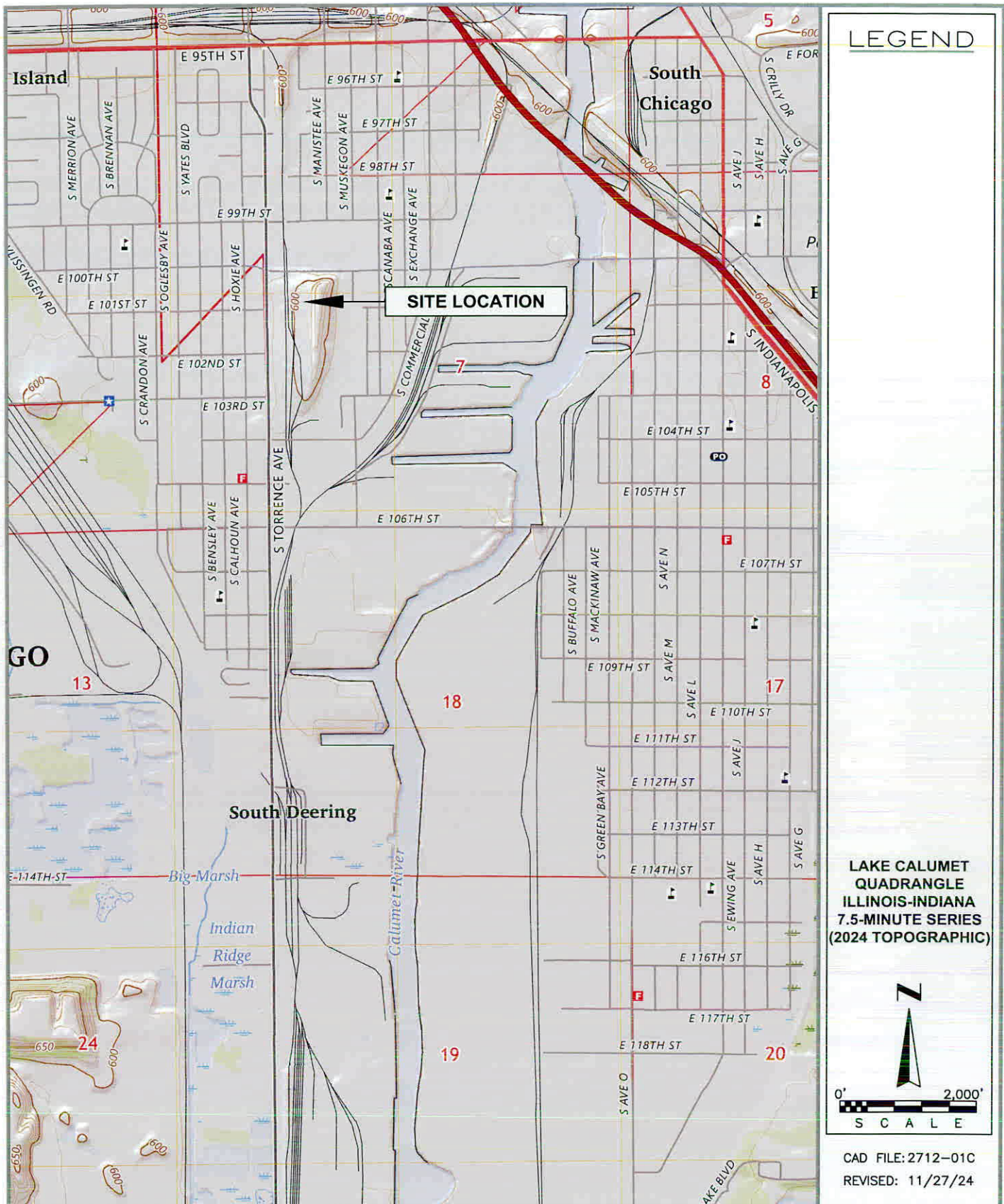
Summary of Facility Emissions Limits

Pollutant	Current Limit (tons/yr)	Requested Limit (tons/yr)	Comment
CO	8.76 (NG)	24.19 (NG)	Increase assuming maximum natural gas consumption
CO ₂	-- (NG)	-- (NG)	AER reporting only
CH ₄	-- (NG)	-- (NG)	AER reporting only
H ₂ S	6.92 (SA)	6.92 (SA)	No change (or reduction to corrected MTE, 3.35-tons)
N ₂ O	-- (NG)	-- (NG)	AER reporting only
NH ₃	-- (NG)	-- (NG)	AER reporting only
NO _x	10.42 (NG)	28.8 (NG)	Increase assuming maximum natural gas consumption
PM/PM ₁₀ /PM _{2.5}	0.79 (NG)	2.19 (NG)	Increase assuming maximum natural gas consumption
SO ₂	0.56 (SA) + 0.06 (NG) = 0.62	56 (SA) + 0.17 (NG) = 0.73	Increase assuming maximum natural gas consumption; no change from soapstock acidulation
VOM	16.82 (SA) + 0.57 (NG) = 17.39	16.82 (SA) + 1.58 (NG) = 18.439	Increase assuming maximum natural gas consumption; no change from soapstock acidulation

NG – Natural gas-burning equipment

SA – Soapstock acidulation process

ATTACHMENT 3
FIGURES



DAI
ENVIRONMENTAL

A-F ACQUISITION, LLC
d/b/a PULLMAN INNOVATIONS
2701 EAST 100TH STREET
CHICAGO, ILLINOIS

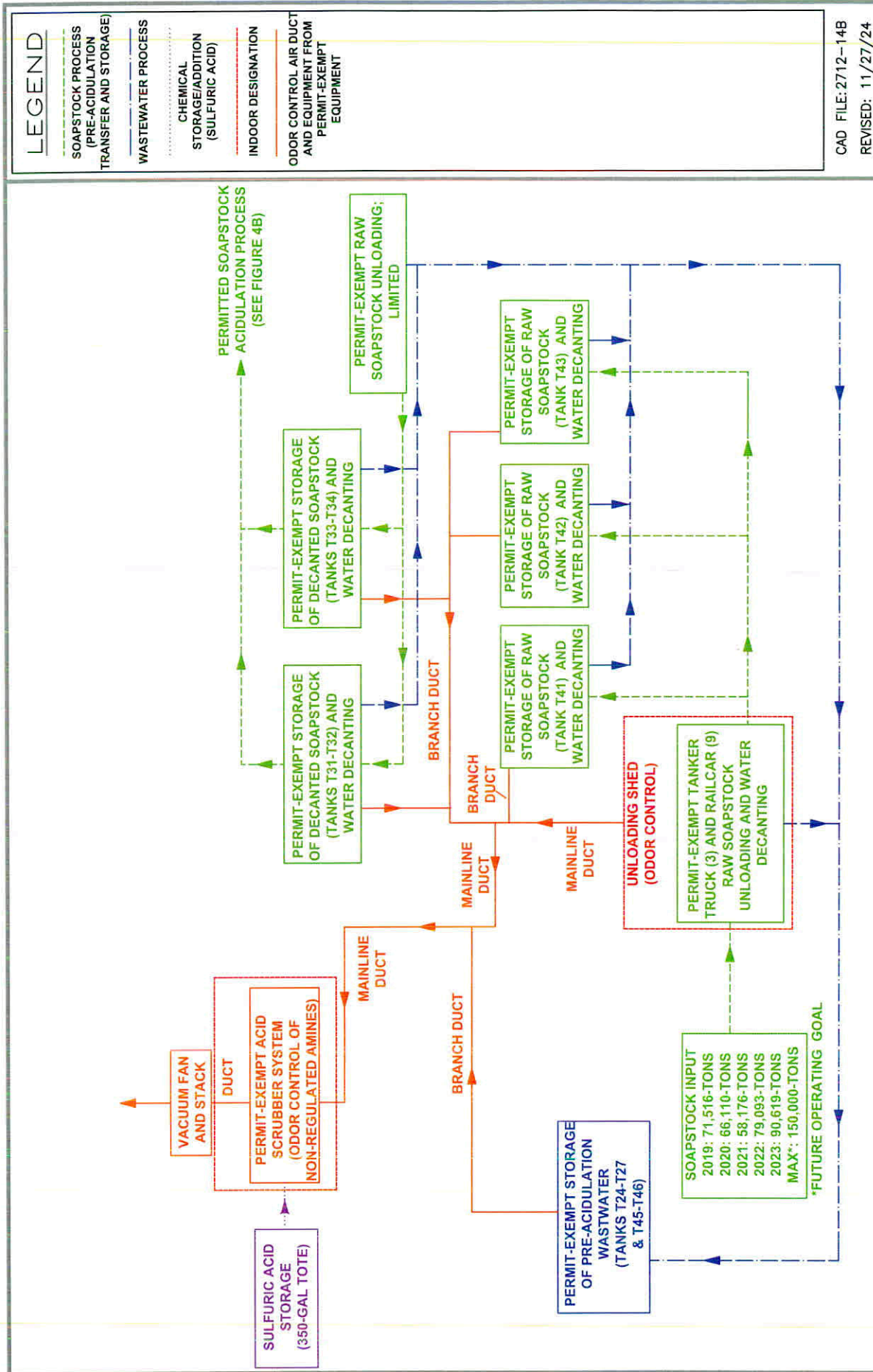
**FIGURE 1
SITE LOCATION MAP**



ENVIRONMENTAL

A-F ACQUISITION, LLC
d/b/a PULLMAN INNOVATIONS
2701 EAST 100TH STREET
CHICAGO, ILLINOIS

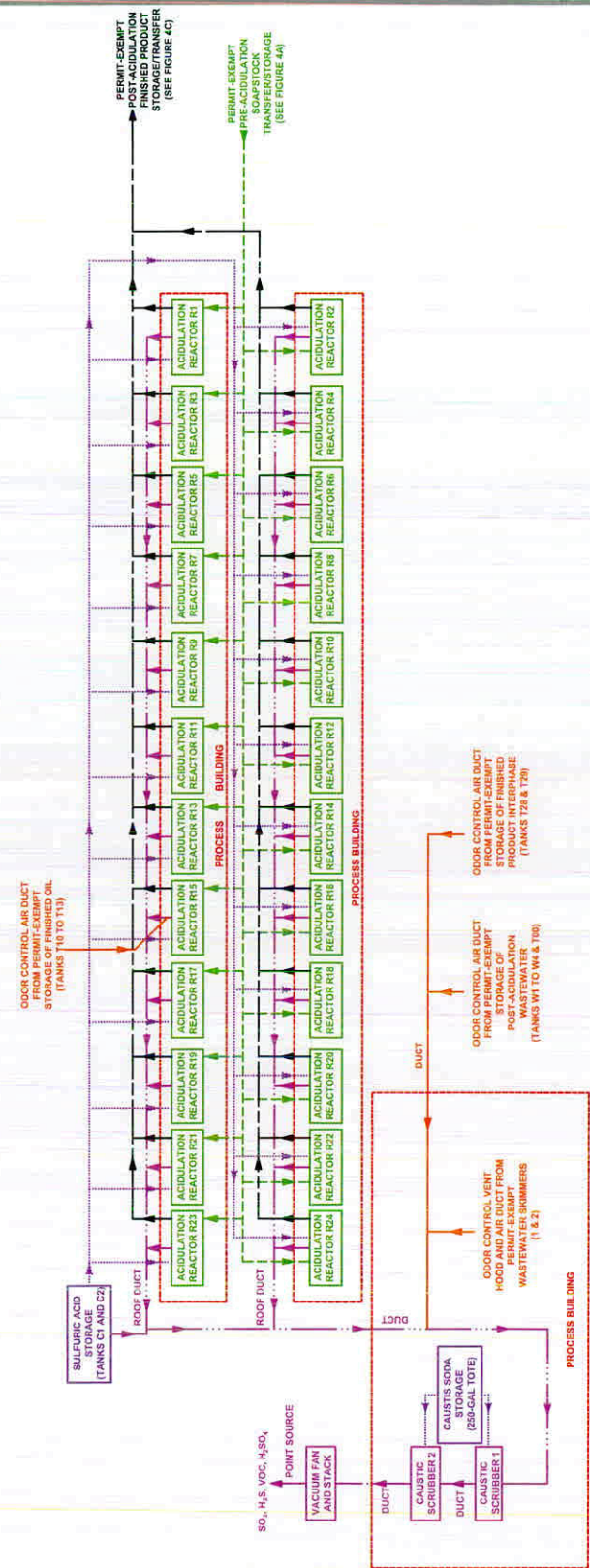
FIGURE 2
AERIAL VIEW OF SITE AND
SURROUNDING PROPERTY USAGE
(APRIL 2024 AERIAL TAKEN FROM GOOGLE EARTH)

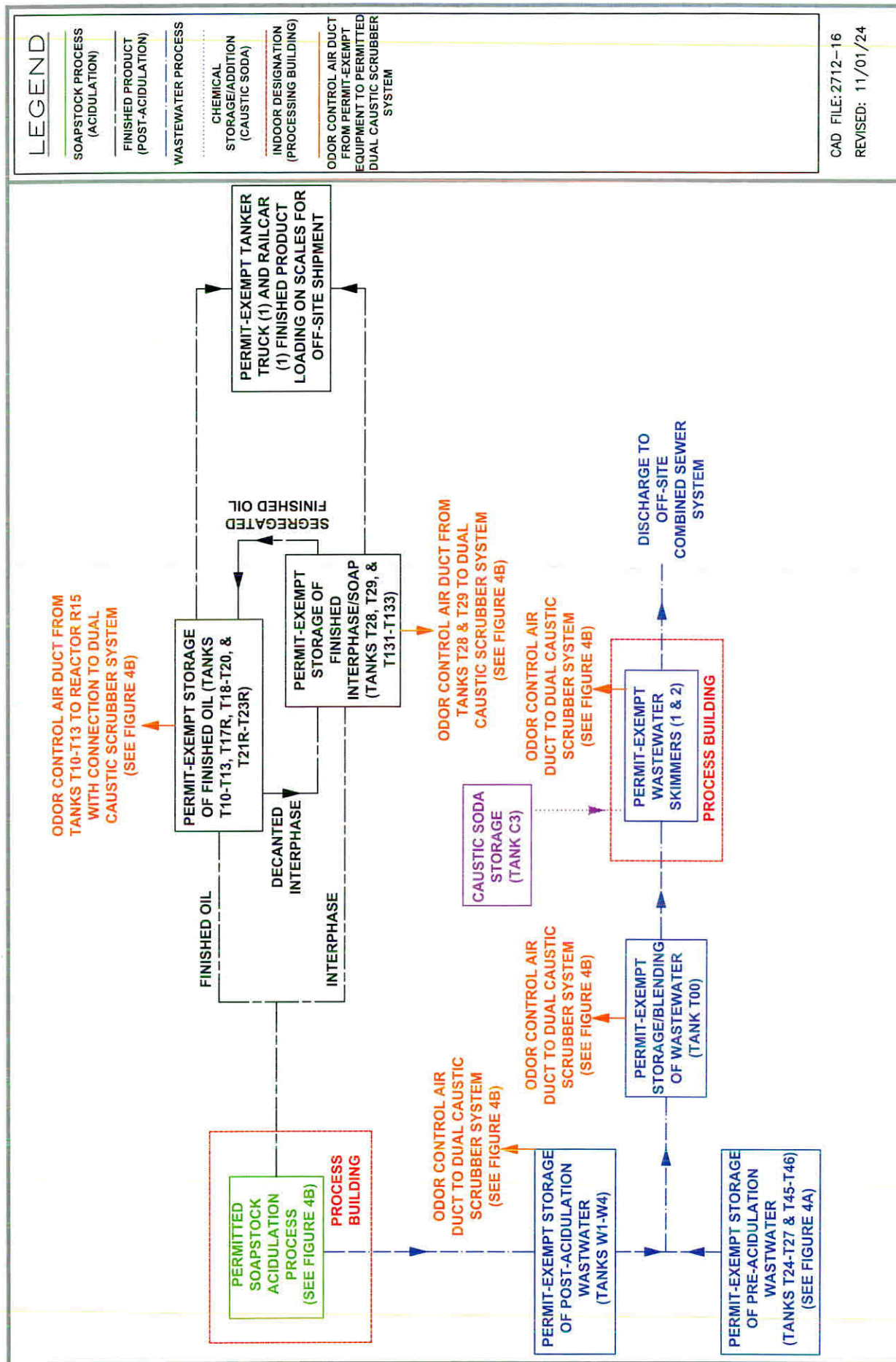


CAD FILE: 2712-15B
REVISED: 11/27/24

LEGEND

- SOAPSTOCK PROCESS (ACIDULATION)
- CHEMICAL STORAGE/ADDITION (SULFURIC ACID OR CAUSTIC SODA)
- FINISHED PRODUCT (POST-ACIDULATION)
- INDOOR DESIGNATION (PROCESSING BUILDING)
- AIR DUCT AND EQUIPMENT (PERMITTED EMISSIONS VIA CAUSTIC SCRUBBER STACK)
- ODOR CONTROL AIR DUCT FROM PERMIT-EXEMPT EQUIPMENT





A-F ACQUISITION, LLC
d/b/a PULLMAN INNOVATIONS
2701 EAST 100TH STREET
CHICAGO, ILLINOIS

ENVIRONNEMENTAL

FIGURE 4C
POST-ACIDULATION PROCESS FLOW DIAGRAM
FINISHED PRODUCT & WASTEWATER STORAGE/TRANSFER
(PERMIT-EXEMPT OPERATIONS)

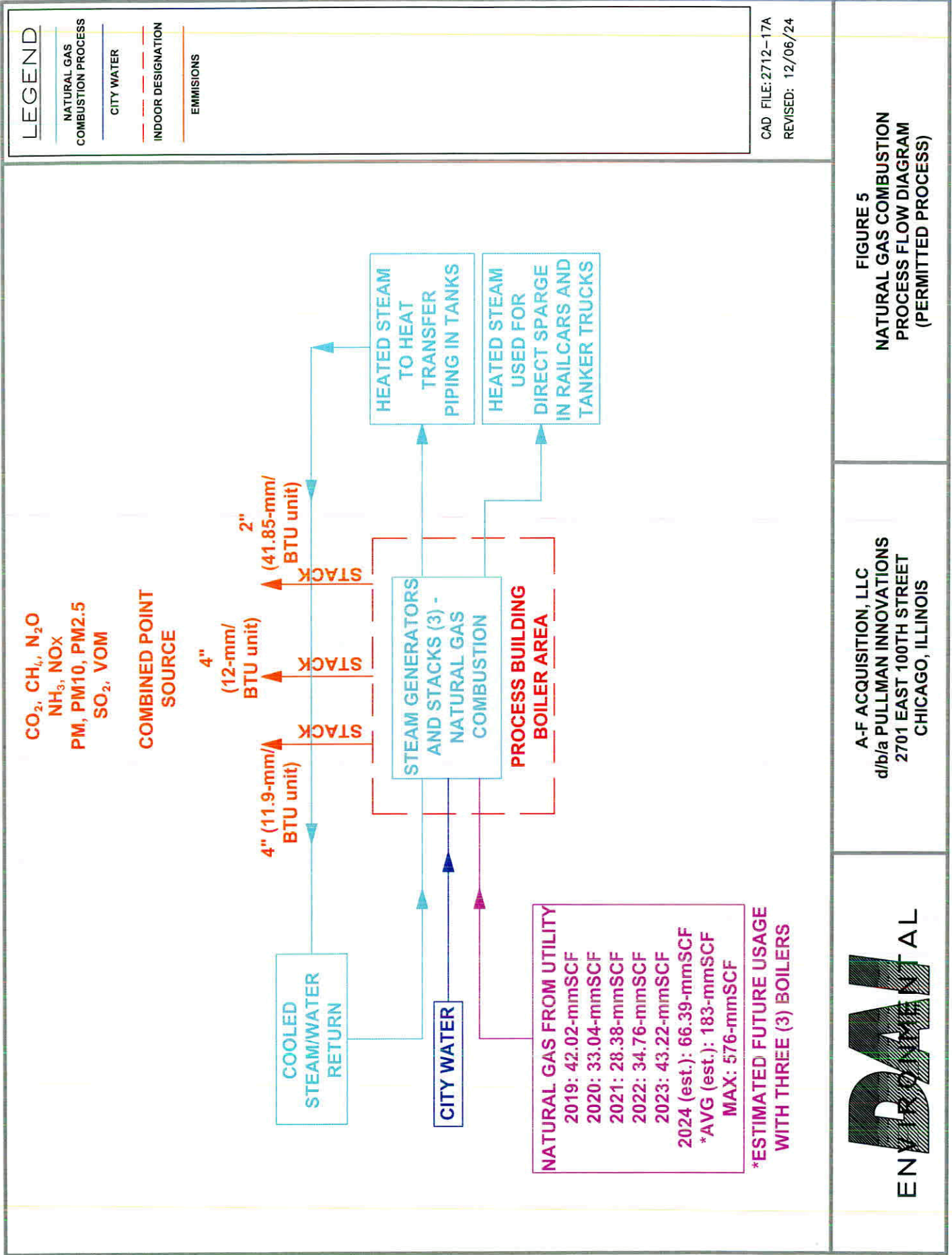


FIGURE 5
NATURAL GAS COMBUSTION
PROCESS FLOW DIAGRAM
(PERMITTED PROCESS)

A-F ACQUISITION, LLC
d/b/a PULLMAN INNOVATIONS
2701 EAST 100TH STREET
CHICAGO, ILLINOIS

**ATTACHMENT 4
FORM APC 240**

STATE OF ILLINOIS
ENVIRONMENTAL PROTECTION AGENCY
DIVISION OF AIR POLLUTION CONTROL
1021 NORTH GRAND AVENUE, EAST
SPRINGFIELD, ILLINOIS 62702

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* DATA AND INFORMATION
FUEL COMBUSTION EMISSION SOURCE

* THIS INFORMATION FORM IS TO BE COMPLETED FOR A FURNACE, BOILER, OR SIMILAR EQUIPMENT USED FOR THE PRIMARY PURPOSE OF PRODUCING HEAT OR POWER BY INDIRECT HEAT TRANSFER. AN EMISSION SOURCE THAT DOES NOT FIT THIS DESCRIPTION, INCLUDING AND EMISSION SOURCE USING DIRECT HEATING, IS EITHER A PROCESS EMISSION SOURCE OR AN INCINERATOR.

1. NAME OF PLANT OWNER: A-F Acquisitions, LLC	2. NAME OF CORPORATE DIVISION OR PLANT (IF DIFFERENT FROM OWNER): Pullman Innovations
3. STREET ADDRESS OF EMISSION SOURCE: 2701 East 100th Street	4. CITY OF EMISSION SOURCE: Chicago

GENERAL INFORMATION		
5. FLOW DIAGRAM DESIGNATION(S) OF EMISSION SOURCE: Steam generators and stacks (3) - natural gas combustion		
6. MANUFACTURER: Johnston Boiler Company	7. MODEL NUMBER: 509 PFTA 1000-4	8. SERIAL NUMBER: 876501
9. AVERAGE OPERATING TIME OF EMISSION SOURCE: 16 HRS/DAY 6 DAYS/WK 52 WKS/YR		10. MAXIMUM OPERATING TIME OF EMISSION SOURCE: 24 HRS/DAY 7 DAYS/WK 52 WKS/YR
11. PERCENT OF ANNUAL HEAT INPUT: DEC-FEB 38 % MAR-MAY 28 % JUN-AUG 16 % SEPT-NOV 18 %		

INSTRUCTIONS	
1. COMPLETE THE ABOVE IDENTIFICATION AND GENERAL INFORMATION SECTION.	
2. COMPLETE THE APPROPRIATE FUEL SECTION OR SECTIONS. IF MORE THAN ONE FUEL IS FIRED OR IF THE CAPABILITY EXISTS TO FIRE MORE THAN ONE FUEL, THE ACTUAL USAGE OF FUELS AND THE RELATIONSHIP BETWEEN FUELS, SIMULTANEOUS FIRING, ALTERNATE FIRING, RESERVE FUEL, ETC., MUST BE MADE CLEAR.	
3. EMISSION AND EXHAUST POINT INFORMATION MUST BE COMPLETED, UNLESS EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT.	
4. FIRING RATES AND CERTAIN OTHER ITEMS REQUIRE BOTH AVERAGE AND MAXIMUM VALUES	
5. FOR GENERAL INFORMATION REFER TO "GENERAL INSTRUCTIONS FOR PERMIT APPLICATIONS," APC-201.	

DEFINITIONS	
AVERAGE - THE VALUE THAT SUMMARIZES OR REPRESENTS THE GENERAL CONDITION OF THE EMISSION SOURCE, OR THE GENERAL STATE OF HEAT PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: AVERAGE OPERATING TIME - ACTUAL TOTAL HOURS OF OPERATION FOR THE PRECEDING TWELVE MONTH PERIOD. AVERAGE RATE - ACTUAL TOTAL QUANTITY OF "MATERIAL" FOR THE PRECEDING TWELVE MONTH PERIOD, DIVIDED BY THE AVERAGE OPERATING TIME. AVERAGE OPERATION - OPERATION TYPICAL OF THE PRECEDING TWELVE MONTH PERIOD, AS REPRESENTED BY AVERAGE OPERATING TIME AND AVERAGE RATES.	
MAXIMUM - THE GREATEST VALUE ATTAINABLE OR ATTAINED FOR THE EMISSION SOURCE, OR THE PERIOD OF GREATEST OR UTMOST HEAT PRODUCTION OF THE EMISSION SOURCE. SPECIFICALLY: MAXIMUM OPERATING TIME - GREATEST EXPECTED TOTAL HOURS OF OPERATIONS FOR ANY TWELVE MONTH PERIOD. MAXIMUM RATE - GREATEST QUANTITY OF "MATERIAL" EXPECTED PER ANY ONE HOUR OF OPERATION. MAXIMUM OPERATION - GREATEST EXPECTED OPERATION, AS REPRESENTED BY MAXIMUM OPERATING TIME AND MAXIMUM RATES.	

This Agency is authorized to require this information under Illinois Revised Statutes, 1979, Chapter 111 1/2, Section 1039. Disclosure of this information is required under that Section. Failure to do so may prevent this form from being processed and could result in your application being denied. This form has been approved by the Forms Management Center.

GAS FIRING			
*11. ORIGIN OF GAS: ☐ DISTILLATE FUEL ☐ OTHER LIQUID FUEL ☐ SOLID FUEL ☐ BYPRODUCT ☐ PIPELINE OIL GASIFICATION GASIFICATION GASIFICATION SPECIFY SOURCE			
12. ARE YOU ON AN INTERRUPTABLE GAS SUPPLY: ☐ YES ☒ NO IF "YES", SPECIFY ALTERNATE FUEL:			
13. ANNUAL CONSUMPTION: 63000000 SCF		*14. HEAT CONTENT: BTU/SCF	
16. AVERAGE FIRING RATE: 40386000 BTU/HR		*15. SULFUR CONTENT: % BY WT. 17. MAXIMUM FIRING RATE: 41850000 BTU/HR	

* IF THE GAS FIRED IS NATURAL GAS, THESE ITEMS NEED NOT BE COMPLETED.

OIL FIRING	
18. TYPE OF OIL: GRADE NUMBER: ☐ 1 ☐ 2 ☐ 3 ☐ 4 ☐ 5 ☐ 6 OTHER: SPECIFY	
19. ANNUAL CONSUMPTION: GALLONS	20. HEAT CONTENT: ☐ BTU/LB ☐ BTU/GAL
21. SULFUR CONTENT: % BY WT	22. ASH CONTENT: % BY WT
23. DIRECTION OF FIRING: ☐ HORIZONTAL ☐ TANGENTIAL ☐ OTHER: SPECIFY	
24. AVERAGE FIRING RATE: BTU/HR	25. MAXIMUM FIRING RATE: BTU/HR

SOLID FUEL FIRING		
26. TYPE OF SOLID FUEL ☐ SUB-BITUMINOUS COAL ☐ BITUMINOUS COAL ☐ ANTHRACITE COAL ☐ OTHER: SPECIFY		
27. ANNUAL CONSUMPTION: TONS		28. HEAT CONTENT AS FIRED: BTU/LB
29. MOISTURE CONTENT AS FIRED: % BY WT.	30. ASH CONTENT AS FIRED: % BY WT.	31. SULFUR CONTENT AS FIRED: % BY WT.
32. TYPE OF FIRING: ☐ CYCLONE ☐ PULVERIZED { ☐ WET BOTTOM OR ☐ DRY BOTTOM, ☐ HORIZONTALLY OPPOSED OR ☐ OTHER: SPECIFY _____		
☐ SPREADER STOKER: % REINJECTION ☐ OTHER: SPECIFY _____		
33. AVERAGE FIRING RATE: BTU/HR		34. MAXIMUM FIRING RATE: BTU/HR
SUBMIT COPIES OF THOSE PORTIONS OF COAL OR OTHER SOLID FUEL CONTRACTS WHICH SET FORTH THE SPECIFICATIONS OF THE FUEL AND THE DURATION OF THE CONTRACT. IF THE ACTUAL FUEL FIRED IS A BLEND OF SOLID FUELS, SUBMIT APPROPRIATE PORTIONS OF ALL FUEL CONTRACTS AND SET FORTH THE MANNER IN WHICH THE FUELS ARE BLENDED AND ACTUALLY FIRED. REFERENCE THIS INFORMATION TO THIS FORM.		

*EMISSION INFORMATION				
35. NUMBER OF IDENTICAL SOURCES (DESCRIBE AS REQUIRED): 1				
AVERAGE OPERATION				
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE	b.	METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE	
PARTICULATE MATTER	36a. GR/SCF	☐ LB/10 ⁶ BTU ☐ LB/HR	c.	
CARBON MONOXIDE	37a. PPM (VOL)	☐ LB/10 ⁶ BTU ☐ LB/HR	c.	
NITROGEN OXIDES	38a. PPM (VOL)	☐ LB/10 ⁶ BTU ☐ LB/HR	c.	
ORGANIC MATERIAL	39a. PPM (VOL)	☐ LB/10 ⁶ BTU ☐ LB/HR	c.	
SULFUR DIOXIDE	40a. PPM (VOL)	☐ LB/10 ⁶ BTU ☐ LB/HR	c.	
MAXIMUM OPERATION				
CONTAMINANT	CONCENTRATION OR EMISSION RATE PER IDENTICAL SOURCE	b.	METHOD USED TO DETERMINE CONCENTRATION OR EMISSION RATE	
PARTICULATE MATTER	41a. GR/SCF	☐ LB/10 ⁶ BTU ☐ LB/HR	c.	
CARBON MONOXIDE	42a. PPM (VOL)	☐ LB/10 ⁶ BTU ☐ LB/HR	c.	
NITROGEN OXIDES	43a. PPM (VOL)	☐ LB/10 ⁶ BTU ☐ LB/HR	c.	
ORGANIC MATERIAL	44a. PPM (VOL)	☐ LB/10 ⁶ BTU ☐ LB/HR	c.	
SULFUR DIOXIDE	45a. PPM (VOL)	☐ LB/10 ⁶ BTU ☐ LB/HR	c.	

* IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT, OR IF NATURAL GAS IS THE FUEL FIRED, ITEMS 36 THROUGH 47 NEED NOT BE COMPLETED.

**EXHAUST POINT INFORMATION	
46. FLOW DIAGRAM DESIGNATION(S) OF EXHAUST POINT: Steam generators and stacks (3)	
47. DESCRIPTION OF EXHAUST POINT (LOCATION IN RELATION TO BUILDINGS, DIRECTION, HOODING, ETC.): Stacks (boiler area of processing building roof)	
48. EXIT HEIGHT ABOVE GRADE: 13.5-ft	50. EXIT DIAMETER: 2-in
49. GREATEST HEIGHT OF NEARBY BUILDINGS: 26-ft	51. EXIT DISTANCE FROM NEAREST PLANT BOUNDARY: 51.5-ft FT
AVERAGE OPERATION	MAXIMUM OPERATION
52. EXIT GAS TEMPERATURE: 375 °F	54. EXIT GAS TEMPERATURE: 400 °F
53. GAS FLOW RATE THROUGH EACH EXIT: Unk. ACFM	55. GAS FLOW RATE THROUGH EACH EXIT: Unk. ACFM

** IF EMISSIONS ARE EXHAUSTED THROUGH AIR POLLUTION CONTROL EQUIPMENT THIS SECTION SHOULD NOT BE COMPLETED.

ATTACHMENT 5 EMISSION CALCULATIONS

Total Soapstock Processed via Acidulation Process

2023	Lbs proc.	Tons proc.	
Jan	11016000	5508	
Feb	12340000	6170	
Mar	16296000	8148	
Apr	13616000	6808	
May	15846000	7923	
Jun	19166000	9583	
Jul	15070000	7535	
Aug	18686000	9343	
Sep	16390000	8195	
Oct	17080000	8540	
Nov	12866000	6433	
Dec	12866000	6433	
TOTAL	181238000	90619	212,615-tons/year limit
			AVG PWR 53668.34468
2024	Lbs proc.	Tons proc.	
Jan	11100000	5550	
Feb	17816000	8908	
Mar	14370000	7185	
Apr	14660000	7330	
May	17326000	8663	
Jun	11216000	5608	
Jul	15436000	7718	
Aug	18270000	9135	
Sep	16146000	8073	
Oct	16326000	8163	
TOTAL	152666000	166952	212,615-tons/year limit
			AVG PWR 54002.82985

Total Oil Produced via Acidulation Process

2023	Lbs prod.	Tons	
Jan	4452000	2226	
Feb	3210000	1605	
Mar	4642000	2321	
Apr	4978000	2489	
May	5598000	2799	
Jun	5732000	2866	
Jul	5210000	2605	
Aug	6252000	3126	
Sep	6110000	3055	
Oct	4766000	2383	
Nov	4856000	2428	
Dec	4866000	2433	
TOTAL	60672000	30336	
			AVG PWR 17966.24223
2024	Lbs prod.	Tons	
Jan	5872000	2936	
Feb	6826000	3413	
Mar	4336000	2168	
Apr	5100000	2550	
May	6670000	3335	
Jun	6430000	3215	
Jul	5004000	2502	
Aug	5918000	2959	
Sep	6246000	3123	
Oct	7120000	3560	
TOTAL	59522000	29761	
			AVG PWR 21054.82844

Total Interphase Produced via Acidulation Process

	Lbs Prod.	Tons
Jan	1858000	929
Feb	1482000	741
Mar	2482000	1241
Apr	1524000	762
May	1576000	788
Jun	2574000	1287
Jul	2526000	1263
Aug	2098000	1049
Sep	1908000	954
Oct	2380000	1190
Nov	1810000	905
Dec	1428000	714
TOTAL	23646000	11823

AVG PWR
7002.072846

	2024 Lbs Prod.	Tons
Jan	1720000	860
Feb	1772000	886
Mar	1862000	931
Apr	2386000	1193
May	1720000	860
Jun	1332000	666
Jul	1900000	950
Aug	2280000	1140
Sep	2282000	1141
Oct	2470000	1235
TOTAL	19724000	21685

AVG PWR
5840.687

Soapstock Acidulation Process Emissions
(Including all contributing permitted and permit-exempt units)

AVG Annual Operation Hours	3531	11.5-hrs/day, M-Sat (no holidays)
PTE/MTE Annual Operation Hours	8760	24-hrs/day, 7-days/wk

	H ₂ S*	SO ₂ **	VOM***
AVG Emission Factor (lb/hr)	0.614	0.126	3.55
AVG Emissions (lbs)	2167.727	444.843	12533.28
AVG Emissions (tons)	1.083864	0.222422	6.266638

* - Emission factor taken from January 2021 stack test average results

** - Emission factor taken as double May 2011 stack test results (current permit)

*** - Emission factor taken from May 2023 stack test outlet average results

	H ₂ S*	SO ₂ **	VOM***
PTE Emission Factor (lb/hr)	0.764	0.126	3.81
PTE Emissions (lbs)	6692.64	1103.76	33375.6
PTE Emissions (tons)	3.346320	0.551880	16.687800

* - Emission factor taken from January 2021 stack test maximum results

** - Emission factor taken as double May 2011 stack test results (current permit)

*** - Emission factor taken from May 2023 stack test outlet maximum results

	H ₂ S*	SO ₂ **	VOM***
MTE Emission Factor (lb/hr)	0.764	0.126	9.12
MTE Emissions (lbs)	6692.64	1103.76	79891.2
MTE Emissions (tons)	3.346320	0.551880	39.945600

* - Emission factor taken from January 2021 stack test maximum results

** - Emission factor taken as double May 2011 stack test results (current permit)

*** - Emission factor taken from May 2023 stack test inlet maximum results

Natural Gas Burning Equipment Emissions

2019 Natural Gas Use	42,017,47126	mmSCF																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
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Acid Scrubber System Emissions
(Including all contributing permit-exempt units)

AVG/PTE/MTE Annual Operation Hours 8760 24-hrs/day, 7-days/wk

	H ₂ S*	VOM*
AVG Emission Factor (lb/hr)	0.616	1.32
AVG Emissions (lbs)	5396.16	11563.2
AVG Emissions (tons)	2.698080	5.781600

* - Average Emission factors taken from January 2021 stack test results

	H ₂ S**	VOM**
MAX Emission Factor (lb/hr)	0.838	1.8
MAX Emissions (lbs)	7340.88	15768
MAX Emissions (tons)	3.670440	7.884000

** - Max Emission factors taken from January 2021 stack test outlet results

	H ₂ S**	VOM***
PTE/MTE Emission Factor (lb/hr)	0.838	2.328589909
MTE Emissions (lbs)	7340.88	20398.44761
MTE Emissions (tons)	3.670440	10.199224

** - Max Emission factors taken from January 2021 stack test results

*** - January 2021 Max factor increased by 22.7% MAX removal efficiency

**ATTACHMENT 6
FORM APC 197-FEE**



Illinois Environmental Protection Agency

Bureau of Air • 1021 North Grand Avenue East • P.O. Box 19506 • Springfield • Illinois • 62794-9506

FEE DETERMINATION FOR CONSTRUCTION PERMIT APPLICATION

FOR AGENCY USE ONLY	
ID Number: <u>031600FDK</u>	Permit #: <u>24120018</u> \$1,000
☒ Complete ☐ Incomplete	Date Complete: <u>12-18-24</u>
Check Number: <u>13364</u>	Account Name: <u>DAI Environmental</u>

This form is to be used to supply fee information that must accompany all construction permit applications. This application must include payment in full to be deemed complete. Make check or money order payable to the Illinois Environmental Protection Agency, Division of Air Pollution Control - Permit Section at the above address. Do NOT send cash. Refer to instructions (197-INST) for assistance.

RECEIVED
STATE OF ILLINOIS

DEC 26 2024

Source Information

1. Source Name: Pullman Innovations
2. Project Name: Updated emissions & third boiler
3. Source ID #: (if applicable) 031600FDK
4. Contact Name: Peter Rnich
5. Contact Phone #: (773) 978-5130

Fee Determination

6. The boxes below are automatically calculated.

Section 1 Subtotal \$0.00 + Section 2, 3 or 4 Subtotal \$1,000.00 = \$1,000.00
Grand Total

Section 1: Status of Source/Purpose of Submittal

7. Your application will fall under only one of the following five categories described below. Check the box that applies. Proceed to applicable sections. For purposes of this form:

- **Major Source** is a source that is required to obtain a CAAPP permit.
- **Synthetic Minor Source** is a source that has taken limits on potential to emit in a permit to avoid CAAPP permit requirements (e.g., FESOP).
- **Non-Major Source** is a source that is not a major or synthetic minor source.

- ☒ Existing source without status change or with status change from synthetic minor to major source or vice versa. Proceed to Section 2.
- ☐ Existing non-major source that will become synthetic minor to major source. Proceed to Section 4.
- ☐ New major or synthetic minor source. Proceed to Section 4.
- ☐ New non-major source. Proceed to Section 3.
- ☐ AGENCY ERROR. If this is a timely request to correct an issued permit that involves only an agency error and if the request is received within the deadline for a permit appeal to the Pollution Control Board. Skip Sections 2, 3 and 4. Proceed directly to Section 5.

\$0.00
Section 1 Subtotal

This agency is authorized to require and you must disclose this information under 415 ILCS 5/39. Failure to do so could result in the application being denied and penalties under 415 ILCS 5 ET SEQ. It is not necessary to use this form in providing this information. This form has been approved by the forms management center.

Section 2: Special Case Filing Fee

8. **Filing Fee.** If the application only addresses one or more of the following, check the appropriate boxes, skip Sections 3 and 4 and proceed directly to Section 5. Otherwise, proceed to Section 3 or 4 as appropriate.

- Addition or replacement of control devices on permitted units.
- Pilot projects/trial burns by a permitted unit
- Land remediation projects
- Revisions related to methodology or timing for emission testing
- Minor administrative-type change to a permit

Section 3: Fees for Current or Projected Non-Major Sources

9. ☐ This application consists of a single new emission unit or no more than two modified emission units. (\$500 fee) 9. _____
10. ☒ This application consists of more than one new emission unit or more than two modified units. (\$1,000 fee) 10. \$1,000.00
11. ☐ This application consists of a new source or emission unit subject to Section 39.2 of the Act (i.e., Local Siting Review); a commercial incinerator or a municipal waste, hazardous waste, or waste tire incinerator; a commercial power generator; or an emission unit designated as a complex source by agency rulemaking. (\$15,000 fee) 11. _____
12. ☐ A public hearing is held (see instructions). (\$10,000 fee) 12. _____
13. Section 3 subtotal. (lines 9 through 12 - entered on page 1) 13. \$1,000.00

Section 4: Fees for Current or Projected Major or Synthetic Minor Sources

Application contains modified emission units only	14. For the first modified emission unit, enter \$2,000.	
	15. Number of additional modified emission units = _____ x \$1,000.	
	16. Line 14 plus line 15, or \$5,000, whichever is less.	16. <u>\$0.00</u>
Application contains new and/or modified emission units	17. For the first new emission unit, enter \$4,000.	
	18. Number of additional new and/or modified emission units = _____ x \$1,000.	
	19. Line 17 plus line 18, or \$10,000, whichever is less.	19. <u>\$0.00</u>
Application contains netting exercise	20. Number of individual pollutants that rely on a netting exercise or contemporaneous emissions decrease to avoid application of PSD or nonattainment area NSR = _____ x \$3,000.	20. <u>\$0.00</u>
Additional Supplemental Fees	21. If the new source or emission unit is subject to Section 39.2 of the Act (i.e. siting); a commercial incinerator or other municipal waste, hazardous waste, or waste tire incinerator; a commercial power generator; or one or more other emission units designated as a complex source by Agency rulemaking, enter \$25,000.	
	22. If the source is a new major source subject to PSD, enter \$12,000.	
	23. If the project is a major modification subject to PSD, enter \$6,000.	
	24. If this is a new major source subject to nonattainment area (NAA) NSR, enter \$20,000.	
	25. If this is a major modification subject to NAA NSR, enter \$12,000.	
	26. If the application involves a determination of MACT for a pollutant and the project is not subject to BACT or LAER for the related pollutant under PSD or NSR (e.g., VOM for organic HAP), enter \$5,000 per unit for which a determination is requested or otherwise required. _____ x \$5,000.	26. <u>\$0.00</u>
	27. If a public hearing is held (see instructions), enter \$10,000.	
28. Section 4 subtotal (line 16 and lines 19 through 28) to be entered on page 1		28. <u>\$0.00</u>

Section 5: Certification

NOTE: Applications without a signed certification will be deemed incomplete.

29. I certify under penalty of law that, based on information and belief formed after reasonable inquiry, the information contained in this fee application form is true, accurate and complete.

by: _____

Signature

Peter Rnich

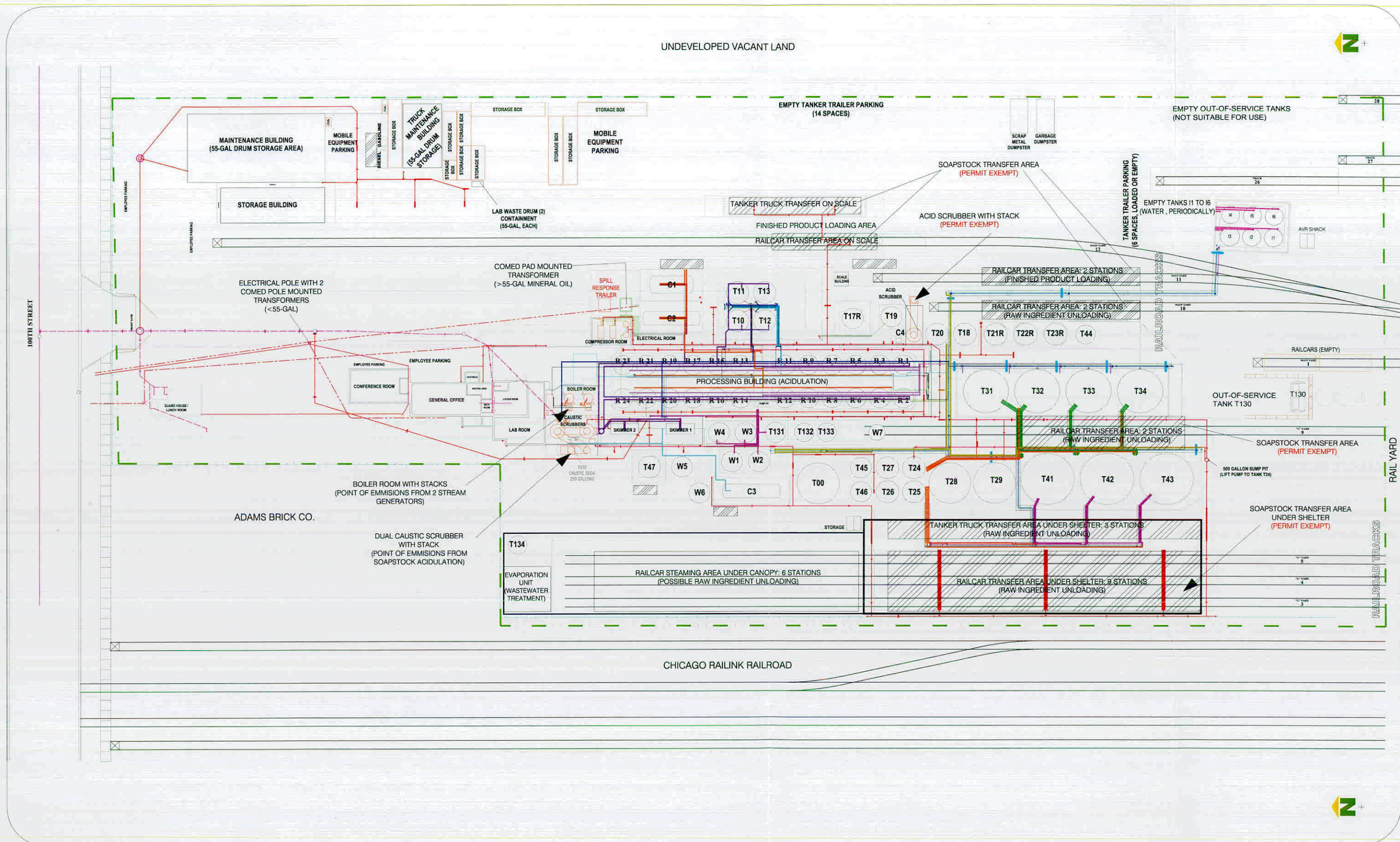
Typed or Printed Name of Signatory

Facility Manager

Title of Signatory

12-10-24

Date



- APPROXIMATE PROPERTY BOUNDARY
- ABOVEGROUND STORAGE TANK
- OVERHEAD PIPING - VARIOUS CONTENTS (E.G., WATER, ACID, OIL, ETC.)
- UNDERGROUND STORM SEWER
- UNDERGROUND SANITARY SEWER
- RAILCAR OR TANKER TRUCK TRANSFER AREA (NOT A RACK)

pulman innovations
PULLMAN INNOVATIONS
 2701 East 100th Street
 Chicago IL 60617

SHEET TITLE
 PLANT LAYOUT
 SITE PLAN
 UNIVERSAL SCALE

REVISION
FEBRUARY 2017 PLANT LAYOUT, TEMPLATE
MAY 2017 PLANT LAYOUT, AIR PERMIT
MAY 2021 PLANT LAYOUT, AIR PERMIT
DECEMBER 2023 PLANT LAYOUT, AIR PERMIT
OCTOBER 2024 PLANT LAYOUT, AIR PERMIT