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February 28, 2018

VIA FEDERAL EXPRESS

Commissioner Julie Morita, M.D.
Chicago Department of Public Health
333 South State Street, Room 200
Chicago, IL 60604

Re: NASCO's Request for Reconsideration on the Chicago Department of Public Health's Determination on its Request for Variance

Dear Commissioner Morita:

On June 11, 2014, North America Stevedoring Company, LLC ("NASCO" or the "Company") submitted a petition requesting variances ("Request for Variance") from the Chicago Department of Public Health's ("CDPH" or "Department") Air Pollution Control Rules and Regulations for Control of Emissions from the Handling and Storage of Bulk Material Piles ("Bulk Material Rules"). On January 26, 2015, the Department requested additional information from the Company to support its variance request, and the Company responded with additional information on February 24, 2015. More than three and a half years after the original Request for Variance, on January 26, 2018, CDPH made its Determination on NASCO's Request for Variance ("Determination"), denying the request in its entirety. NASCO respectfully requests reconsideration of the portion of the Determination that relates to Section 3.0(4) of the Bulk Material Rules, and a stay of the Determination relating to Section 3.0(4) pending reconsideration, to prevent potentially unnecessary and costly expenditures by the Company prior to final resolution of the matter.[1]

As discussed herein, good cause exists for reconsideration of the portion of the Determination relating to the dust monitors, such good cause specifically including that there are significantly changed circumstances at the NASCO facility since NASCO's Request for Variance was filed more than three years ago, the September 2014 public comments on the Variance Request were provided to CDPH, and since the Department's October 30, 2017 inspection of the facility (which inspection appears to be the partial basis for

[1] NASCO has reviewed CDPH's Air Pollution Rules, as well as the Chicago Department of Administrative Hearings Procedural Rules and Regulations, and finds no guidance on the procedure for review of the Determination. NASCO has reviewed other petitions before the CDPH and notes that in 2015, KCBX Terminals Company filed a request for reconsideration on its petition for variance, and the Department noticed the request and solicited written public comments on the Request for Reconsideration.

the CDPH Determination.[2]) The other CDPH stated bases for the denial (failure to implement the Fugitive Dust Plan to prevent off-site fugitive emissions, and failure to manage material transfer points to prevent a public nuisance) have also been corrected since the Request for Variance, the public comments, and the October 30, 2017 inspection. The Department's 2018 conclusions, thus appear to be based on the Department's evaluation of practices which no longer exist at NASCO.

NASCO requests reconsideration of its Request for Variance with respect to Section 3.0(4) of the Bulk Material Rules, and the CDPH's Determination, in light of the new control measures and practices instituted by the Company, at considerable expense, since the October 2017 inspection and the September 2014 public comments upon which the Determination is based in part, were received from the Natural Resources Defense Council and Southeast Environmental Task Force. Further, good cause exists to stay the Determination pending reconsideration, not only so that CDPH has adequate time to review the change in circumstances at NASCO, but also in order to provide NASCO the opportunity to engage the Illinois International Port District at the Port of Chicago ("Port District") (owner of the Property and landlord to NASCO) in discussions regarding the Determination. The Determination affects not only NASCO but also the Port District and its property, because of the CDPH requirements to install dust monitoring equipment on Port District property. Further, good cause exists to stay the Determination pending the Reconsideration so that NASCO does not have to expend monies on monitoring equipment that may be deemed unnecessary or infeasible given recent efforts to prevent fugitive dust.

The Company appreciates the Department's efforts to date in reviewing its Request for Variance, however, NASCO respectfully requests that upon further review, the Commissioner grant the Request for Variance from Section 3.0(4), for the reasons herein.

I. Background

NASCO requested a Variance from three requirements of the CDPH Bulk Material Rules,[3] and the Department denied the request for all three requirements. Since the time of the Request for Variance, NASCO has agreed to the installation of the wind monitoring station, which is expected to be installed and operational by April 30, 2018. For this reason, this Request for Reconsideration does not include a variance from the requirement of Section 3.0(5) of the Bulk Material Rules. In addition, NASCO withdraws its Request for a Variance from Section 3.0(7) of the Bulk Material Rules, because NASCO now maintains all material transfer points in compliance with one or more of the measures listed in the Rules, including total enclosure for storage, a water spray system sufficient to control potential fugitive dust emissions during operations, and the transfer of only moist material in a manner that minimizes the exposed drop. Accordingly, NASCO requests reconsideration of its variance petition for only Section 3.0(4) of the Bulk Material Rules relating to air monitoring stations.

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[2] It appears to NASCO that CDPH's Determination is based on the October 30, 2017 inspection and not subsequent inspections, because the photographs which accompanied the Determination were taken prior to significant modifications to the facility which occurred after the October 30 inspection and eliminated the source of emissions in the photos.

[3] NASCO requested a variance from: (i) the requirement to install perimeter PM_{10} monitors around the facility; (ii) the requirement to install a weather station; and (iii) requirements to enclose or control "transfer of points."

II. Basis for CDPH Denial

According to the Determination, the Department denied NASCO's Request for Variance from Section 3.0(4) of the Bulk Material Rules because the Department found that NASCO "has not ensured the suppression of fugitive dust as evidenced by a recent City inspection" and due to "deficiencies identified in NASCO's supporting materials", specifically, failure to provide evidence that NASCO's Fugitive Dust Plan is effective. The Department Determination also cited certain public comments received. The following addresses those concerns.

A. Inspection Reports

With respect to the results of the "recent inspection" mentioned in the Determination, based upon the date of the Determination, that "recent inspection" referenced by CDPH is believed to have taken place on October 30, 2017. It is our belief that the Determination is based on that inspection because since the date of that inspection, the Company, with approval of the Port District, expended considerable money to minimize and mitigate fugitive emissions. These efforts have been confirmed by CDPH in inspections subsequent to October 2017 and NASCO's changes. CDPH conducted three of its own inspections on December 1, 2017, February 2, 2018, and February 20, 2018, after the new fugitive dust control measures were implemented by NASCO in November 2017 (*See* Exhibit A for the CDPH Inspection Reports that were provided to the Company[4]). Additionally, CDPH environmental engineer Emmanuel Adesanya was present during U.S. EPA's inspection of the facility on February 1, 2018.[5] In total, CPDH has visited the Property four times since the October 30, 2017 inspection on which the denial of Variance was based, with no violations or concerns cited by CDPH.

The Inspection Report of December 1, 2017 specifically notes the new dust suppression and control systems in place as of that date (explained in more detail below), the facility's implementation of its Fugitive Dust Plan, its enhanced Good Housekeeping Practices, and its compliance with Monitoring and Recordkeeping Requirements. The Inspection Reports of February 2018 also highlight the enhanced dust control methods utilized at the facility, including use of the new dust suppressor and water cannon spray system during unloading operations, roofed/covered storage of bulk materials, and a system to control dust on the roadways. Importantly, all three written CDPH inspection reports state that there are no visible emissions of fugitive particulate matter, and that the facility is operating in compliance with its approved Fugitive Dust Plan. Because the January 26, 2018 Determination does not take into account the observations and results of the CDPH inspections subsequent to October 30, 2017, we respectfully request CDPH reconsider the denial of the Variance.

B. Public Comments

According to the Determination, the denial was based in part on public comments received in September 2014. Those comments, similar to the inspection reports, are now outdated as they pre-date significant changes in operations in the three and a half years since the Request for Variance.

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[4] NASCO was not provided with Page 2 of the Department's inspection report from February 2, 2018.
[5] NASCO was not provided an inspection report following Mr. Adesanya's visit on February 1, 2018.

III. Changes in Operations and Controls Since 2014 Variance Request

In support of this Request for Reconsideration, the following is a discussion of the changes at the facility since the Request for Variance, as such changes relate to the CDPH's basis for the denial of the Variance.

A. Fugitive Dust Plan

With respect to the CDPH denial based on NASCO's *failure to show its Fugitive Dust Plan is effective*, as shown in three inspection reports in December 2017 and February 2018, the Determination pre-dates significant efforts by the Company to update and implement the Fugitive Dust Plan, and maintain proper records demonstrating compliance with that Plan.

Specifically, the Fugitive Dust Plan was last updated in February 2018 (*See* Exhibit B), and currently reflects all of the changes at the facility since October 2017. It also addresses the Department's concern as to whether the Plan is effective, and whether opacity observations are being implemented and recorded. As noted in the December 2017 and February 2018 CDPH inspection reports, the facility's records are in compliance with the Fugitive Dust Plan. Because the CDPH denial was based on an inspection report that pre-dates changes to the facility and the Fugitive Dust Plan, and pre-dates subsequent inspections which indicate compliance with the Dust Plan, we request the City reconsider the Determination to the extent it was based on a failure to show compliance with the Fugitive Dust Plan.

B. Fugitive Dust Control

Since the submittal of the Request for Variance and supplemental information on which the Determination was based, NASCO has made significant enhancements to control, minimize and mitigate fugitive emissions, at costs in excess of $391,000. These efforts are discussed in detail below.

1. Paved Vessel Unloading Area. The site, which consists of approximately 200 acres of land, is paved on the approximate 70 acres located on the "vessel-side" of the property where bulk materials handling occurs. (Please see attached facility layout diagram in Exhibit C). In the October 2017 inspection, the Department expressed concern that "access roads were very dry and accumulated with particulate dust." Determination, p. 8. To address this concern, after the October 2017 inspection, NASCO updated its Fugitive Dust Plan, and implemented processes to ensure the paved areas on the "vessel side" are swept daily by NASCO during non-winter months using a NASCO-owned-and-operated wet sweeper. The wet sweeper is used both before and after each unloading of a vessel or barge in the area depicted in the marked area of Exhibit C, both to prevent cross-transfer of products, and to collect and return valuable product to the appropriate product storage area in the building. Materials placed in the temporary pile during unloading are generally moved to the indoor storage area in the Warehouse A building immediately.

2. Wind Wall and Water Cannon. Beginning in August 2017, even before the October 2017 inspection, the facility enhanced its efforts to minimize potential fugitive emissions from vessel unloading operations by acquiring equipment for, and utilizing, both a "wind wall" to prevent wind impacts during unloading, and a water cannon to create a water mist during vessel unloading of ferromanganese. For each of the approximate six (6) shipments of ferromanganese a year, the facility now constructs an upwind "windbreaker" consisting of a series of 40-foot containers staged along the dock apron perpendicular to the vessel's hull along the dock face. (*See* diagram in Exhibit C). The wind wall is approximately sixteen (16) feet high, thus, well above the level of the "drop area" of unloading, and higher than the level of the temporary piles of ferromanganese, which are less than eight (8) feet high. The wind wall remains in place

(except as necessary to accommodate a change in wind direction) during the entire 24-hour period the vessel is in place, even when unloading activities are not occurring.

In addition to the portable wind wall, the ship or barge (which is normally perpendicular to the wind wall, as depicted in Exhibit C) itself acts as a barrier to any movement of fugitive emissions during unloading. The ship hull is at least 25 feet above the dock, far above the tops of the temporary piles, thus preventing wind impacts and preventing any fugitive emissions from moving away from the immediate unloading drop area. As ferromanganese is removed from the hull of the ship, the clam bucket is operated in a manner that places the material on the paved surface utilizing a minimal drop space to prevent product degradation and minimize creation of potential fugitive emissions.

In addition to the wind controls, beginning in August 2017, to further minimize any fugitive emissions during unloading or from the temporary pile, a water cannon was acquired for use in the area of unloading. The water cannon is now operated downwind of unloading and temporary storage operations associated with ferromanganese. Any fugitive dust that might be generated during unloading or in the temporary pile is entrained in the mist curtain created by operation of the water cannon, thus knocking any dust to the paved surface. The cannon, and thus direction of the mist curtain, is portable, and addresses fugitive emissions, if any, within the 50-75 foot area of the paved apron around the unloading area and temporary pile. (*See* Exhibit C). Because of the density of the material, deposition is expected only in that 50-75 foot area, and the utilization of wind protections combined with use of the water curtain ensures there is very little, if any, likelihood of movement of fugitive emissions, away from the immediate area of the drop point and temporary storage.

At the completion of unloading, when the final temporary pile has been removed into the indoor storage area, the wet sweeper collects the "knocked down" product from the apron, and the product collected in the sweeper truck is deposited into the indoor storage area.

3. Elimination of Scale Drop Point. In addition to all of the other best management practices in place at the facility, in December 2017, at considerable expense, NASCO eliminated the transfer points depicted in the October 2017 photos accompanying the Determination, that could be a potential source of fugitive emissions. The October photos show fugitive emissions associated with loading of dump trucks that were then weighed on the former scale. This "source" of fugitive emissions (or loading of dump trucks prior to weighing) was discussed and documented by CDPH in its Determination, and was relied upon as one of the primary reasons why CDPH denied NASCO's dust monitoring variance request. Since then, however, the Company invested more than $112,500 on a new scale system which has allowed the Company to eliminate that dump truck transfer point, by allowing for the direct weighing of product in the front end loaders. This new process thus eliminates the need to transfer materials into dump trucks. Eliminating that transfer point for materials has eliminated the potential for fugitive emissions in that paved area of vessel unloading.

4. Unpaved Rail Area. Because, as discussed above, recent controls and practices have resulted in mitigation of fugitive emissions associated with vessel unloading and transfer areas, the only remaining source of potential fugitive emissions at the site are associated with unpaved roads in the rail area owned by the Port District. As shown in Exhibit C, unpaved roadways are located in areas far from, and unaffected by NASCO bulk materials vessel unloading and materials handling operations in the paved areas and the Warehouse A building. Dust from unpaved roadways consist solely of dirt, stone and other natural unpaved road materials. The unpaved roads are associated solely with the handling and storing of steel and timber products, and are completely separate from, unrelated to, and unaffected by ferromanganese or other bulk materials handling.

To control dust from the unpaved roads in the rail area, NASCO operates a Company-owned water truck, which is utilized daily during April through November, with particular attention to any areas deemed by a particular area superintendent as needing dust controls on that day. The emissions calculations in Exhibit D take into account emissions controls in determining the fugitive emissions, but even in the absence of controls, show the uncontrolled fugitive emissions from unpaved roads are deminimis.

With these additional measures, dust emissions are effectively prevented, contained, captured, or controlled. NASCO's current operations do not create a public nuisance or adversely impact the surrounding area, environment, or property uses, and the Company requests CDPH reconsider the Determination with respect to Section 3.0(4) of the Bulk Material Rules.

IV. Remaining Issues for Variance

Because NASCO has agreed to install wind monitoring equipment, there is no longer a need for a Variance from the requirements of Section 3.0(5) of the Bulk Material Rules.

Similarly, because NASCO has implemented a water spray system to control potential fugitive emissions from vessel uploading operations, and eliminated the transfer point for weighing bulk materials, the Company no longer needs a Variance from Section 3.0(7) of the Bulk Material Rules.

Thus, the only remaining relief requested by NASCO is a Variance from the requirement for fugitive dust monitoring under Section 3.0(4) of the Bulk Materials Rules.

V. Conclusion

Good cause exists to stay the Department's determination pending reconsideration of NASCO's Request for Variance. NASCO has and continues to maintain its operations in compliance with applicable Federal EPA and State environmental regulations and guidelines for handling its bulk materials. With the enhanced control measures recently implemented, NASCO has demonstrated to CDPH through the Department's four most recent inspections since December 2017, that its operations are not likely not result in off-site fugitive dust emissions, thereby making the requirement for dust monitors unwarranted and unduly burdensome on the Company. Since its Request for Variance, NASCO has spent approximately $391,000 to enhance its fugitive dust mitigation program to minimize any potential fugitive dust impact to the community and environment which were a cause of concern for the CDPH. If the Request for Variance is not approved, NASCO would need to spend additional monies to monitor for fugitive dust in addition to monies it has already spent to prevent fugitive emissions since the Request for Variance. As NASCO indicated in its Request for Variance and supporting documents, the *annual* costs for dust monitoring required by CDPH under Section 3.0(4) are approximately $127,000, which would require NASCO to increase its price for handling bulk solid materials by 20 percent in order to stay in business. This increase likely will be sufficient to cause customers to seek other outlets, with a significant resulting loss of business to NASCO and the Port District, and would pose an unreasonable hardship upon the Company and the Port District.

It is important to note that the Port District is the owner of the Property leased by NASCO, and in accordance with CDPH regulations as the "owner" of the NASCO facility, could be subjected to enforcement, could be forced to purchase the equipment required under the Bulk Material Rules, and likewise faces hardship in the event the CDPH fails to grant the Request for Variance as amended herein. NASCO works closely with the Port District and notes the Port District has expressed no concerns regarding the Fugitive Dust Plan, its implementation, or the mitigation measures the Company has taken since the

Request for Variance. NASCO thus urges the CDPH to consider impacts on the Port District as well as NASCO if the Determination is not reconsidered and rescinded.

For the foregoing reasons, NASCO respectfully requests that, upon reconsideration, the Commissioner grant NASCO a variance from the Section 3.0(4) dust monitoring provisions of the Bulk Material Rules. In support of this Request for Reconsideration, NASCO requests a meeting with CDPH to discuss the measures taken since late 2017, as well as alternatives to the requested monitoring, which alternatives are being considered by NASCO.

Sincerely,

SEYFARTH SHAW LLP

Jeryl L. Olson

JLO:krb
Enclosures
Exhibit A: CDPH Inspection Reports of the Facility, dated December 1, 2017, February 2, 2018, and February 20, 2018
Exhibit B: Fugitive Dust Plan
Exhibit C: Facility Layout Diagram (Confidential Business Information)
Exhibit D: Emissions Calculations (see attached CD) (Confidential Business Information)

cc: Clayton Harris III, Executive Director, Illinois International Port District at the Port of Chicago (w/enclosures)
Alderman Greg Mitchell, 7th Ward (w/enclosures)
Alderwoman Susan Sadlowski Garza, 10th Ward (w/enclosures)

EXHIBIT A

DEPARTMENT OF PUBLIC HEALTH
POLLUTION PREVENTION UNIT
333 SOUTH STATE STREET, ROOM 200
CHICAGO, ILLINOIS 60604

CITY OF CHICAGO **DATE OF INSPECTION** 12/01/17

FUGITIVE EMISSION INSPECTION CHECKLIST

Part 1: FACILITY INFORMATION

NAME: North America steve doing PERMIT NUMBER: ENVAIR138278

STREET ADDRESS 9301 S. Kreiter Current Certificate of Operation? ☒ Yes ☐ No

NAME OF CONTACT: Rudy Becerra, Safety PHONE: 773/420-8755

CONTACT EMAIL ADDRESS:

Part 2: OUTDOOR STORAGE INFORMATION

TYPE(S) OF MATERIAL: PIG IRON, MANGANESE, FLOORSPAR (inside)

VOLUME: 6,877 tons ~~Cubic Yards~~ **HEIGHT:** 25 **Feet**

Are materials stored at least 50ft from the river? ☐ Yes ☐ No **30 ft. height marker?** ☐ Yes ☐ No

Any changes in type of material? ☐ Yes ☐ No Date change occurred: _____

Is facility subject to any variance? ☐ Yes ☒ No
If YES, list section(s):

Part 3: EMISSION POINTS

	YES	NO	N/A
Property Line			
1. Are there emissions of fugitive particulate matter that are visible by an observer looking generally toward the zenith at a point beyond the property line of the source?		☒	
If YES, provide more information (including the source of the emissions):			
Storage Piles			
a) Is there any dust suppression system?	☒		
If YES, describe type of dust suppression system used: dust suppressor			
b) How is runoff managed? pH tested if occures			

	YES	NO	N/A
c) Are all storage piles protected by a cover or sprayed with a surfactant solution or water on a regular basis or as needed, in accordance with the Fugitive Dust Plan?	X		
If NO, identify the storage pile and provide more information, if visible emissions are observed or indicated: water used for wetting			
2. Are all loading/unloading operations of the storage pile utilizing spray systems, telescopic chutes, or other equivalent methods in accordance with the Fugitive Dust Plan?	X		
If NO, identify the operation and provide more information, if visible emissions are observed or indicated: cannon for mist			
Traffic Areas			
3. Are all normal traffic pattern roads and parking facilities paved and cleaned regularly in accordance with the Fugitive Dust Plan?	X		
Identify the area and provide more information if visible emissions are observed or indicated: water truck & sweeper used for paved roadways			
Crushing, Screening, Conveying, Bagging, and Loading/unloading Operations			
4. Are all material processing operations, (such as crushers, screening, bagging operations, etc.) being controlled by a dust collection system in accordance with the Fugitive Dust Plan?	X		
If NO, identify the operation and provide more information if visible emissions are observed or indicated: conveyors belt are used for loading railcars			
5. Are all transfer points, truck loading/unloading, railcar loading/unloading, Barge loading/unloading being controlled according to the Fugitive Dust Plan?	X		
If NO, identify the operation and provide more information, if visible emissions are observed or indicated:			
Part 4: GOOD HOUSEKEEPING PRACTICES			
1. Are materials loaded into vehicles in a way that prevents leaking/spilling of material?	X		
2. Any track-out observed?		X	
3. If a vehicle leaks/spills onto a road, is the leak/spill being cleaned within an hour?	X		
4. If a vehicle leaks/spills into a waterway, is it being cleaned immediately?	X		
5. Is a street sweeper available to clean paved roads of spilled or tracked out material inside or within a quarter mile of the facility?	X		
6. Is sweeper equipped with a water spray and a vacuum system to prevent dust during street sweeping?	X		
7. Are all non-storage areas within the facility cleared of spilled or misplaced material by the end of each work shift?	X		
8. Are facility roads paved and maintained?	X		
9. Any wheel wash, rumble strips, or other means to clean outgoing trucks?		X	
10. Is runoff being managed?	X		

Part 5: MONITORING AND RECORD KEEPING	YES	NO	N/A
1. Is the facility maintaining the following records?			
a) Daily weather conditions, including wind speed and direction:	X		
b) Daily cleaning and street sweeping log:	X		
c) Log of fugitive dust monitoring, including any incidents where the RAL is exceeded and any response activities:	X		
d) Record of quarterly visual and opacity testing:	X		
e) Schedule and log of routine inspection, maintenance, calibration and testing activities:	X		
f) Log of application of water or chemical stabilizers:	X		
g) Log of instances when activities were suspended due to high winds:	X		
2. Records maintained for at least three years?	X		
3. Are records in compliance with Fugitive Dust Plan submitted to CDPH?	X		

Part 6: INSPECTION SUMMARY

Comments/Issues for follow-up:

Multi modal facility, storing bulk & brick materials. Warehouse "A" is designated for Manganese containing materials (rocks)

In addition:

1. Facility still works on special designated warehouse with dust collection for loading and storing manganese materials.
2. Sweeper will have proper brushes & PM log
3. Existing baghouse will have PM log it will be operational. See attached proposal.

OWNER/OPERATOR

INSPECTOR

Rev. 9-28-17

DEPARTMENT OF PUBLIC HEALTH
POLLUTION PREVENTION UNIT
333 SOUTH STATE STREET, ROOM 200
CHICAGO, ILLINOIS 60604

CITY OF CHICAGO

DATE OF INSPECTION 02/02/18

FUGITIVE EMISSION INSPECTION CHECKLIST

Part 1: FACILITY INFORMATION

NAME: North America stevedoring PLANT NUMBER: ENVAIR138278

STREET ADDRESS 9301 S. Kreiter **Current Certificate of Operation?** ☒ Yes ☐ No

NAME OF CONTACT: Ryan Wozniak, Acc Mgr. PHONE: 708/846-4807

CONTACT EMAIL ADDRESS:

Part 2: OUTDOOR STORAGE INFORMATION

TYPE(S) OF MATERIAL: PIGIRON, MANGANESE, FLOORSPAR (roofed)

VOLUME: 6,900 tons ~~Cubic Yards~~ **HEIGHT:** _____ **Feet**

Are materials stored at least 50ft from the river? ☒ Yes ☐ No **30 ft. height marker?** ☐ Yes ☒ No

Any changes in type of material? ☐ Yes ☒ No Date change occurred: 20

Is facility subject to any variance? ☐ Yes ☒ No
If YES, list section(s):

Part 3: EMISSION POINTS

	YES	NO	N/A
Property Line			
1. Are there emissions of fugitive particulate matter that are visible by an observer looking generally toward the zenith at a point beyond the property line of the source?		X	

If YES, provide more information (including the source of the emissions):

Storage Piles			
a) Is there any dust suppression system?	X		

If YES, describe type of dust suppression system used:

dust suppressor

b) How is runoff managed?

pH tested if occures

Part 5: MONITORING AND RECORD KEEPING

1. Is the facility maintaining the following records?	YES	NO	N/A
a) Daily weather conditions, including wind speed and direction:	X		
b) Daily cleaning and street sweeping log:	X		
c) Log of fugitive dust monitoring, including any incidents where the RAL is exceeded and any response activities:	X		
d) Record of quarterly visual and opacity testing:	X		
e) Schedule and log of routine inspection, maintenance, calibration and testing activities:	X		
f) Log of application of water or chemical stabilizers:	X		
g) Log of instances when activities were suspended due to high winds:	X		
2. Records maintained for at least three years?	X		
3. Are records in compliance with Fugitive Dust Plan submitted to CDPH?	X		

Part 6: INSPECTION SUMMARY

Comments/Issues for follow-up:

Currently is a "dead" season till March. Materials still piled and coils steel currently received by barges.

2/2/18

OWNER/OPERATOR

INSPECTOR

DEPARTMENT OF PUBLIC HEALTH
POLLUTION PREVENTION UNIT
333 SOUTH STATE STREET, ROOM 200
CHICAGO, ILLINOIS 60604

CITY OF CHICAGO **DATE OF INSPECTION** 02/20/18

FUGITIVE EMISSION INSPECTION CHECKLIST

Part 1: FACILITY INFORMATION

NAME: North America Steve Corp PLANT NUMBER: ENVAIR138278

STREET ADDRESS 939 S. Kreiter Current Certificate of Operation? ☒ Yes ☐ No 2018

NAME OF CONTACT: Rudy Becerra, safety & Compliance PHONE: 773/420-8755

CONTACT EMAIL ADDRESS:

Part 2: OUTDOOR STORAGE INFORMATION

TYPE(S) OF MATERIAL: PIGIRON, MANGANEASE, FLUORSPAR (CaF_2) (roofed)

VOLUME: 6,721 Tons ~~Cubic Yards~~ **HEIGHT:** 25 **Feet**

Are materials stored at least 50ft from the river? ☒ Yes ☐ No **30 ft. height marker?** ☐ Yes ☒ No

Any changes in type of material? ☐ Yes ☒ No Date change occurred: N/A

Is facility subject to any variance? ☐ Yes ☒ No
If YES, list section(s):

Part 3: EMISSION POINTS

	YES	NO	N/A
Property Line			
1. Are there emissions of fugitive particulate matter that are visible by an observer looking generally toward the zenith at a point beyond the property line of the source?		X	

If YES, provide more information (including the source of the emissions):

Storage Piles			
a) Is there any dust suppression system?	X		

If YES, describe type of dust suppression system used:
water cannon

b) How is runoff managed?

Never occured, but if it would, the sump pump is available.

	YES	NO	N/A
c) Are all storage piles protected by a cover or sprayed with a surfactant solution or water on a regular basis or as needed, in accordance with the Fugitive Dust Plan?	X		
If NO, Identify the storage pile and provide more information, if visible emissions are observed or indicated:			
2. Are all loading/unloading operations of the storage pile utilizing spray systems, telescopic chutes, or other equivalent methods in accordance with the Fugitive Dust Plan?	X		
If NO, identify the operation and provide more information, if visible emissions are observed or indicated:			
Traffic Areas			
3. Are all normal traffic pattern roads and parking facilities paved and cleaned regularly in accordance with the Fugitive Dust Plan?	X		
Identify the area and provide more information if visible emissions are observed or indicated:			
Crushing, Screening, Conveying, Bagging, and Loading/unloading Operations			
4. Are all material processing operations, (such as crushers, screening, bagging operations, etc.) being controlled by a dust collection system in accordance with the Fugitive Dust Plan?	X		
If NO, identify the operation and provide more information if visible emissions are observed or indicated: water cannon			
5. Are all transfer points, truck loading/unloading, railcar loading/unloading, Barge loading/unloading being controlled according to the Fugitive Dust Plan?	X		
If NO, identify the operation and provide more information, if visible emissions are observed or indicated:			
Part 4: GOOD HOUSEKEEPING PRACTICES			
1. Are materials loaded into vehicles in a way that prevents leaking/spilling of material?	X		
2. Any track-out observed?		X	
3. If a vehicle leaks/spills onto a road, is the leak/spill being cleaned within an hour?	X		
4. If a vehicle leaks/spills into a waterway, is it being cleaned immediately?	X		
5. Is a street sweeper available to clean paved roads of spilled or tracked out material inside or within a quarter mile of the facility?	X		
6. Is sweeper equipped with a water spray and a vacuum system to prevent dust during street sweeping?	X		
7. Are all non-storage areas within the facility cleared of spilled or misplaced material by the end of each work shift?	X		
8. Are facility roads paved and maintained? (main roadways)	X		
9. Any wheel wash, rumble strips, or other means to clean outgoing trucks?		X	
10. Is runoff being managed?			X

Part 5: MONITORING AND RECORD KEEPING			
	YES	NO	N/A
1. Is the facility maintaining the following records?			
a) Daily weather conditions, including wind speed and direction:	X		
b) Daily cleaning and street sweeping log:	X		
c) Log of fugitive dust monitoring, including any incidents where the RAL is exceeded and any response activities:	X		
d) Record of quarterly visual and opacity testing:	X		
e) Schedule and log of routine inspection, maintenance, calibration and testing activities:	X		
f) Log of application of water or chemical stabilizers:	X		
g) Log of instances when activities were suspended due to high winds:	X		
2. Records maintained for at least three years?	X		
3. Are records in compliance with Fugitive Dust Plan submitted to CDPH?	X		

Part 6: INSPECTION SUMMARY

Comments/Issues for follow-up:

Dust plan is being updated and will be filed for review and approval to CDPH soon. Plan will be more stringent. Depending on the weather first vessels will arrive the earliest end of March beg. of April. CDPH will be notified about the schedule and activity.

OWNER/OPERATOR

INSPECTOR 2/20/18

Rev. 9-28-17

EXHIBIT B

FUGITIVE DUST PLAN

Prepared For:

NORTH AMERICAN STEVEDORING COMPANY, LLC
9301 SOUTH KREITER AVENUE
IROQUOIS LANDING, PORT OF CHICAGO
CHICAGO, COOK, ILLINOIS

NORTH AMERICA
STEVEDORING COMPANY, LLC

Prepared By:

CIVIL & ENVIRONMENTAL CONSULTANTS, INC.
LOMBARD, ILLINOIS

CEC PROJECT 175-273

UPDATE FEBRUARY 2018

FACT SHEET

This Fugitive Dust Plan for North American Stevedoring Company, LLC (NASCO) documents best management practices employed to prevent fugitive dust. NASCO is located at Iroquois Landing in the Illinois Port District along the Calumet River and Lake Michigan. Most commercial goods arriving at this marine terminal are not bulk solid materials, such as lumber, steel, iron, zinc, and aluminum. Bulk solid materials (BSM), as defined by the City of Chicago Department of Public Health, currently handled at NASCO are ferromanganese and fluorspar; up to approximately 15,000 tons can be stored within buildings. BSM arrive by barge or ship and are primarily loaded out to trucks, railcars, or ocean-going vessels. Management practices include inspections, roadway sweeping, spill cleanup, minimum drop distances, installation of a wind wall for wind controls, operation of a water cannon to create a mist curtain, enclosed conveyors, indoor storage, loading within buildings, and vehicle tarping. Practices conform to the City of Chicago Air Pollution Control rules and regulations. The terminal has never had a complaint regarding particulate matter, fugitive dust, opacity, or visible emissions.

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1.0 INTRODUCTION

This Fugitive Dust Plan has been prepared for North American Stevedoring Company, LLC to mitigate potential impacts to air quality resulting from fugitive dust associated with the Iroquois Landing Marine Loading Terminal operations. The plan provides a description of the facility operations and a list of bulk solid materials handled at the Iroquois Landing Marine Loading Terminal. The Fugitive Dust Plan will be operated in compliance with the City of Chicago Department of Public Health Article II - Air Pollution Control Rules and Regulations for Control of Emissions from the Handling and Storage of Bulk Material Piles, dated March 13, 2014. The Fugitive Dust Plan will be updated on an annual basis and submitted to the Department of Public Health for review and approval on or before January 31 every year. Additionally, the facility will submit an amended Fugitive Dust Plan within thirty days of any changes, modifications, or additions of the approved Fugitive Dust Plan

2.0 FACILITY OPERATIONS

The Iroquois Landing Marine Loading Terminal is located at the mouth of the Calumet River and Lake Michigan, approximately 12.5 miles from downtown Chicago, and receives a variety of cargoes from different cargo vessels. Cargoes handled at the Iroquois Landing Marine Loading Terminal include salt, steel products, lumber, fluorspar, zinc, aluminum, pig iron, ballast rock, and break wall stone. The cargoes arrive via barges and ships, and depart by ocean-going vessels, rail cars, and trucks. The Iroquois Landing Marine Loading Terminal is equipped with cargo loading machinery such as forklifts, reach slackers, and mobile and overhead cranes. The Iroquois Landing Marine Loading Terminal possesses a certificate of operation, which was issued in accordance with Section 11-4-660 of the Municipal Code of Chicago. Materials, which meet the definition of bulk solid materials (BSM), are handled and stored in a 17-acre portion of the Iroquois Landing Marine Loading Terminal. Figure 1 shows the layout of the Iroquois Landing Marine Loading Terminal. The portion of the Iroquois Landing Marine Loading Terminal that handles the BSM will be referred to as "the Facility." A map of the Facility is provided in Figure 2.

3.0 BULK SOLID MATERIALS HANDLED

Cargoes handled at the Facility include salt; aluminum: slabs, bars, sows, and ingots; zinc bar; copper plate; steel: coils, plate, round bar, and wire rod coil; lumber: plywood, oriented standard board (OSB), construction lumber, and LP siding; blast furnace iron (BFI or pig iron); fluorspar; and ferromanganese ores.

- Salt is excluded from the CDPH definition of BSM. However, any salt handled on the facility will be stored indoors in the blue tent, with the exception of the transfer in/out process. The maximum storage capacity of the blue tent is 2,500 tons.
- Aluminum: slabs, bars, sows and ingots, zinc bar, copper plate; steel: coils, plate, round bar, and wire rod coil; lumber: plywood, OSB, construction lumber, and LP siding; BFI or pig iron do not generate particulate matter and are not included in this Fugitive Dust Plan except as included in the truck fugitive emissions from road dust. These cargoes are generally stored outside and are not covered by tarps. These cargoes will be inspected daily to ensure that no dust is being generated. If any windborne dust is generated by these products, they will either be covered with tarps or moved indoors immediately.
- BFI does not meet the CDPH definition of a BSM because residues are too dense to become airborne or be scattered by the wind. Additional information regarding pig iron has been presented separately.
- Materials handled at the Facility that meet the CDPH BSM definition include ferromanganese and fluorspar.

Ferromanganese arrives in 3,000-ton shipments by ship. Approximately six times per year in non-winter months, the Facility unloads between 3,000 to 6,000 tons of ferromanganese. The ferromanganese is unloaded for approximately a 24-hour period at the marine terminal and temporarily (for less than eight hours) staged in sequential piles along the dock, before being transferred, using a front loader, to bays within the A House building. Within the A House building, the ferromanganese may be bagged into super sacks. The bagging operation has its own dust collection system designed and operated to contain fines within the building. The dust control unit discharges inside the building and is not expected to reach the ambient air. Approximately 95% of the ferromanganese ships out as loose bulk in covered dump trucks. Approximately 5% of the ferromanganese ships out in super sacks on flatbed trucks. Maximum ferromanganese inventory can reach 10,000 tons and rarely goes below 1,000 tons. Approximately 25,000 tons of ferromanganese were handled in 2016, and 47,000 tons were handled in 2017.

Fluorspar normally arrives in 1,600-ton shipments by barge. The fluorspar is unloaded at the marine terminal and temporarily staged (for less than twenty-four hours) in sequential piles along the dock and then transferred using a front loader to bays within the A House or the grey tent. In the A House, the fluorspar may be dried to 3% moisture prior to loading into railcars.

Approximately 75% of the fluorspar ships out in enclosed railcars, 100 tons at a time. It takes two hours to load a railcar. The remainder of the fluorspar ships out in covered dump trucks. Approximately 3,000 tons of fluorspar were handled in 2016, and 9,000 tons were handled in 2017.

The Facility historically handled petroleum coke, metallurgical coke, synthetic gypsum, and coke breeze. The Facility no longer handles these materials, and they are not included in this Fugitive Dust Plan.

4.0 TRUCK ROUTES AND PROCEDURES

Truck routes within one-quarter mile of the perimeter of the Facility, and used to transport material to and from the Facility, are shown on Figure 1. All truck routes located within one-quarter mile of the facility are paved and located within the Iroquois Landing Marine Loading Terminal.

To minimize dust during transport, trucks handling or transporting BSM will adhere to the following measures prior to leaving the facility:

- All truck drivers will adhere to the posted speed limit, which is no more than 8 miles per hour on paved roads within the facility.
- All truck drivers will verify that any part of any tractor, trailer, or tire exterior surface is free of loose materials.
- Exiting trucks will be visually observed at the weigh scale station.
- BSM loading vehicles are also routinely visually inspected for loose material.

5.0 BULK SOLID MATERIAL STORAGE CAPACITY

The Iroquois Landing Marine Terminal occupies a 140-acre parcel with 3000 linear feet of ship and barge berthing space having a navigation depth of 27 feet. There are two 100,000-square-foot transit sheds and one 30,000-square-foot transit shed with direct truck and rail access. The Iroquois Landing Marine Loading Terminal has outside storage space covering over 90 acres, warehouses equipped with loading docks totaling over 245,000 square feet and a climate-controlled building of 25,560 square feet equipped with a 30-metric ton (MT) gantry crane. About 100 acres of land adjacent to the terminal are available for use as additional outside storage space.

The bulk storage facility occupies 17 acres of the terminal with four structures: the A-house, grey tent, green tent, and blue tent. BSM are not handled in the green tent or blue tent. The total indoor storage capacity is 14,500 tons.

Storage Name	**CDPH Bulk Solid Materials**	**Storage Capacity (tons)**
Bulk Tent	Fluorspar	3,000
A House	Ferromanganese/Fluorspar	10,000
Outside Area	Pig Iron	12,000
		TOTAL 25,000

6.0 FUGITIVE DUST CONTROL MEASURES

The Facility has fugitive dust control measures in place for the cargos handled that meet the CDPH definition of BSM, including ferromanganese and fluorspar. These measures conform to operation and maintenance practices set forth in Part B, Section 3.0 of the City of Chicago Rules: Air Pollution Control. Control measures, devices, and technologies used to control emissions have been properly calibrated and maintained and Facility staff have been trained on the proper application and operation of all control measures, devices, and technologies used.

6.1 CONVEYORS

Conveyors used at the Facility to transfer BSM are covered or enclosed in order to reduce fugitive dust emissions to the maximum extent practicable. Conveyors operations have been designed to minimize drop heights to minimize time material is exposed to wind.

6.2 TRANSFER POINTS

In order to assure compliance with the 10% opacity limit, the Facility transfers BSM as moist materials, with a water spray system sufficient to control Fugitive Dust emissions, and in a manner that minimizes the number of drop points and the exposed drop distance. The Facility conducted an analysis to determine the minimum number of drop points to accomplish the material transfers. This analysis included in 2017 the redesign of the material scale to allow direct weighing of the materials in the loaders rather than the need to transfer materials into trucks to be weighed. Thus, the project resulted in the elimination of a transfer point. In addition, loader operators have been instructed to minimize the height of each material transfer whether to a truck, barge, or storage pile. BSM may also be loaded for shipping out from an indoor storage area protected from any wind. Materials are stored and transferred with a moisture content above 3%.

6.3 VEHICLE COVERING AND OTHER DUST CONTROL MEASURES

BSM is loaded once measures are in place to prevent the material from escaping from the vehicle.

(a) Before departing, truck trailers are covered with a tarp, and secured so BSM is not exposed to the wind.
(b) Railcar loading is done with closed conveyors, minimum drop distances, and enclosed hopper cars.
(c) Truck loading is mostly done inside the warehouse.

6.4 VEHICLE LEAKING

No loading of BSM is done such that a vehicle could potentially leak BSM onto internal roads or into waterways. If a leak of BSM occurs, spilled material is removed as soon as practical the same day, with residue cleaned up by street sweeping or other appropriate measures.

6.5 TRUCK LOADING AND UNLOADING

Loading of trucks occurs at A House and north of the grey tent. Material is moved from enclosed storage immediately to the truck being loaded. Loading is done within A House during inclement weather (high wind, rains). Truck tires are inspected at the weigh scale on departure to assure BSM is not tracked out. The Facility normally conducts no truck unloading. In a rare event of inventory shortfall, BSM has arrived by truck and immediately moved into enclosures.

6.6 RAILCAR LOADING AND UNLOADING

The Facility conducts railcar loading of BSM consistent with measures for transfer points and in a manner that minimizes the number of drop points and the exposed drop distance and with moist materials having at least a 3% by weight moisture content. Enclosed conveyors and hopper cars are used.

6.7 BARGE AND SHIP LOADING AND UNLOADING

To ensure compliance with opacity limits, the Facility performs all barge and ship unloading of BSM in a manner that minimizes the exposed drop. BSM, as received, generally meet the definition of moist material. A 10-meter meteorological station is installed and operated at the Facility. The Facility utilizes a portable wind wall approximately 16 feet high to prevent wind impacts during unloading, that is adjusted to accommodate a change in wind direction. The Facility also utilizes a water cannon operated downwind of unloading and temporary storage operations to create a water mist curtain such that deposition of fugitive emissions, if any, are prevented except in the immediate area of the drop point. Dust in the area is collected with a wet sweeper and deposited in the indoor storage area.

6.8 PAVING

BSM are only loaded onto paved areas of the Facility. Facility roads used for transporting BSM are paved. The asphalt pavement is not susceptible to becoming windborne and is sufficient to bear the expected level of traffic at the Facility. Paved areas where bulk materials handling occurs are swept daily during non-winter months using a wet sweeper.

6.9 ROADWAY CLEANING

Street sweeping is conducted on paved roads within the property.

(a) The street sweeper is equipped with a water spray for use during no-freezing weather and a vacuum system to mitigate fugitive dust during street sweeping.
(b) The street sweeping frequency will be one time daily when the Facility is open for business, unless the roads are free and clear of bulk solid material that could become airborne.
(c) Each day the Facility documents whether the roads are free and clear of bulk solid material that could become airborne. The record shows the date and time when the street sweeping was performed.
(d) Water trucks are used daily during the non-winter months to control dust on non-paved roads.

6.10 SPILLED MATERIAL

Areas within the Facility not regularly used for storage of BSM are maintained free of any spilled or misplaced material by removing such material immediately.

7.0 OPACITY TESTING

The Facility performs visual tests of fugitive dust emissions and opacity on a quarterly basis utilizing Method 22 testing. Testing is conducted by a professional trained and certified to read opacity. The opacity testing is conducted during a range of weather conditions to be representative of conditions at the Facility.

8.0 RECORDKEEPING SYSTEM

The Facility maintains a BSM daily log as follows:

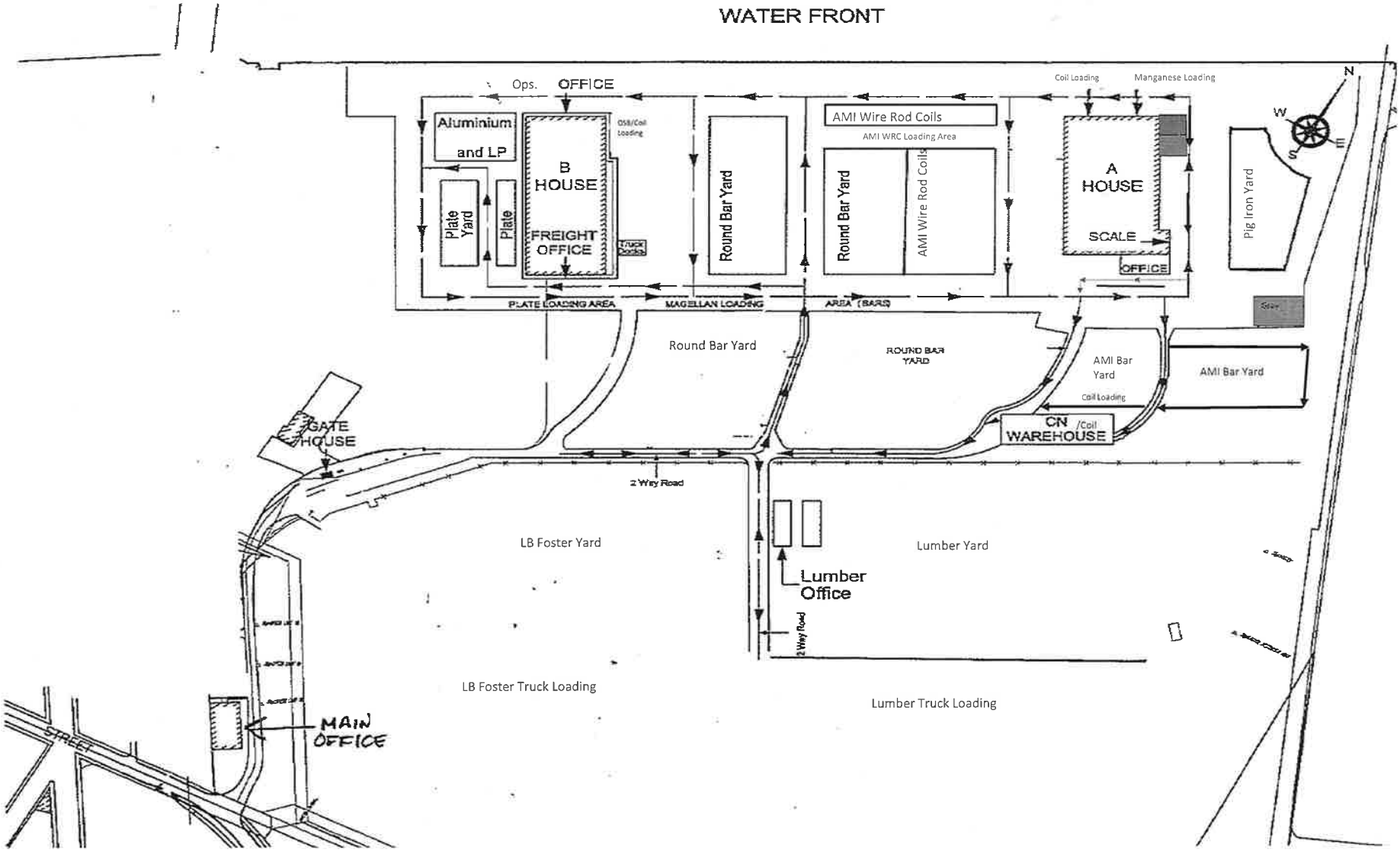
- Record daily roadway condition, cleaning and street sweeping/watering;
- Record loaders and outgoing trucks are visually inspected (i.e. free of loose material);
- Record BSM removed from dock within twenty-four hours and placed in enclosure;
- Record of any instance when activities are suspended due to high winds;
- Record each event of a leak and cleanup measures;
- Record weather conditions, including temperature and precipitation.
- Record quarterly results of testing of visual emissions and opacity.
- Records of the meteorological data form the on-site system.
- Records of the dust inspections conducted off-site to meet the requirements of the BSM rule.

Records required to be kept shall be kept and maintained at the Facility and be available for inspection for a minimum of three years from the date the record is create. Normal business records will document for BSM delivery, bagging, and loading.

9.0 REFERENCES

- Manual of Best Management Practices for Port Operations and Model Environmental Management System; L.A. Corson, Ph.D. and S.A. Fisher.
- City of Chicago Department of Public Health Article II - Air Pollution Control Rules and Regulations for Control of Emissions from the Handling and Storage of Bulk Material Piles, March 13, 2014.
- North American Stevedoring Company, LLC; Variance Application, Fugitive Dust Plan, Bulk Material Storage Rules and Regulations, May 30, 2014.

FIGURES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Aluminium and LP
B HOUSE
FREIGHT OFFICE
Plate Yard
Plate
Round Bar Yard
AMI Wire Rod Coils
AMI WRC Loading Area
Round Bar Yard
AMI Wire Rod Coils
A HOUSE
SCALE
OFFICE
Coil Loading
Manganese Loading
Pig Iron Yard
PLATE LOADING AREA
MAGELLAN LOADING
AREA (BARS)
Round Bar Yard
ROUND BAR YARD
AMI Bar Yard
Coil Loading
AMI Bar Yard
CN /Coil WAREHOUSE
GATE HOUSE
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Lumber Yard
Lumber Office
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LB Foster Truck Loading
Lumber Truck Loading
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STREET
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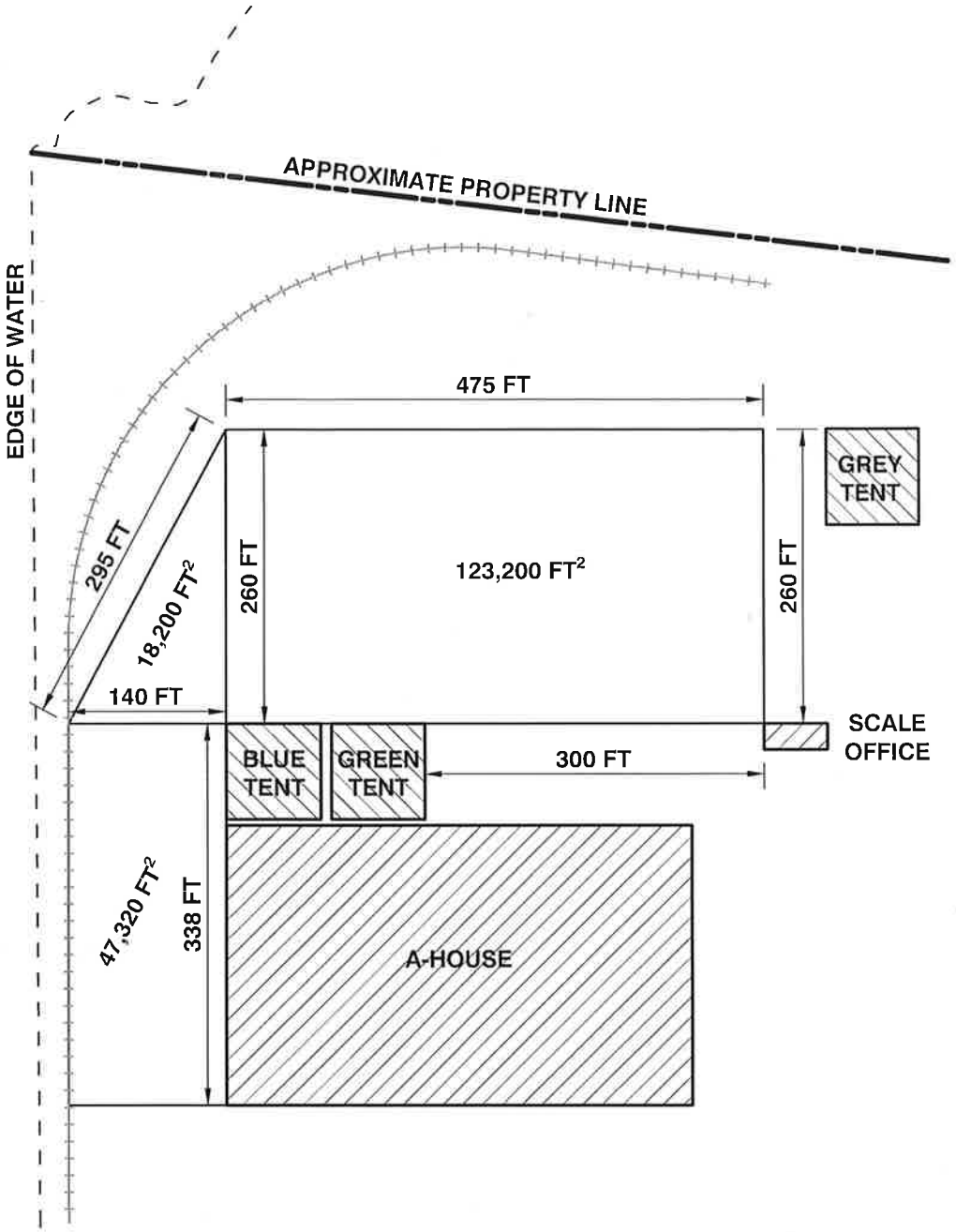

SCALE IN FEET

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PORT OF CHICAGO
9301 S. KREITER AVENUE
CHICAGO, ILLINOIS

SITE PLAN
BULK DISCHARGE/LOADING AREA

DRAWN BY:	MSK	CHECKED BY:	BD	APPROVED BY:	BD	FIGURE NO.:	2
DATE:	02/28/2018	DWG SCALE:	1"=150'	PROJECT NO:	175-273.AW00		

P:\2017\175-273\-CADD\Dwg\AW00-Bulk Discharge Loading Area\175273-AW00-AW02-Site Map.dwg[LAYOUT1] LS:(2/28/2018 - mkarpf) - LP: 2/28/2018 1:25 PM

ATTACHMENT 1

NASCO Daily Log
Bulk Solid Materials - Fugitive Dust Plan

Date	Time	Initials	Deg F	Precip	a Paving	b Trucks	c Dock	d Cleanup	Observations	Action/Date

Instructions: [Refer to Fugitive Dust Plan]

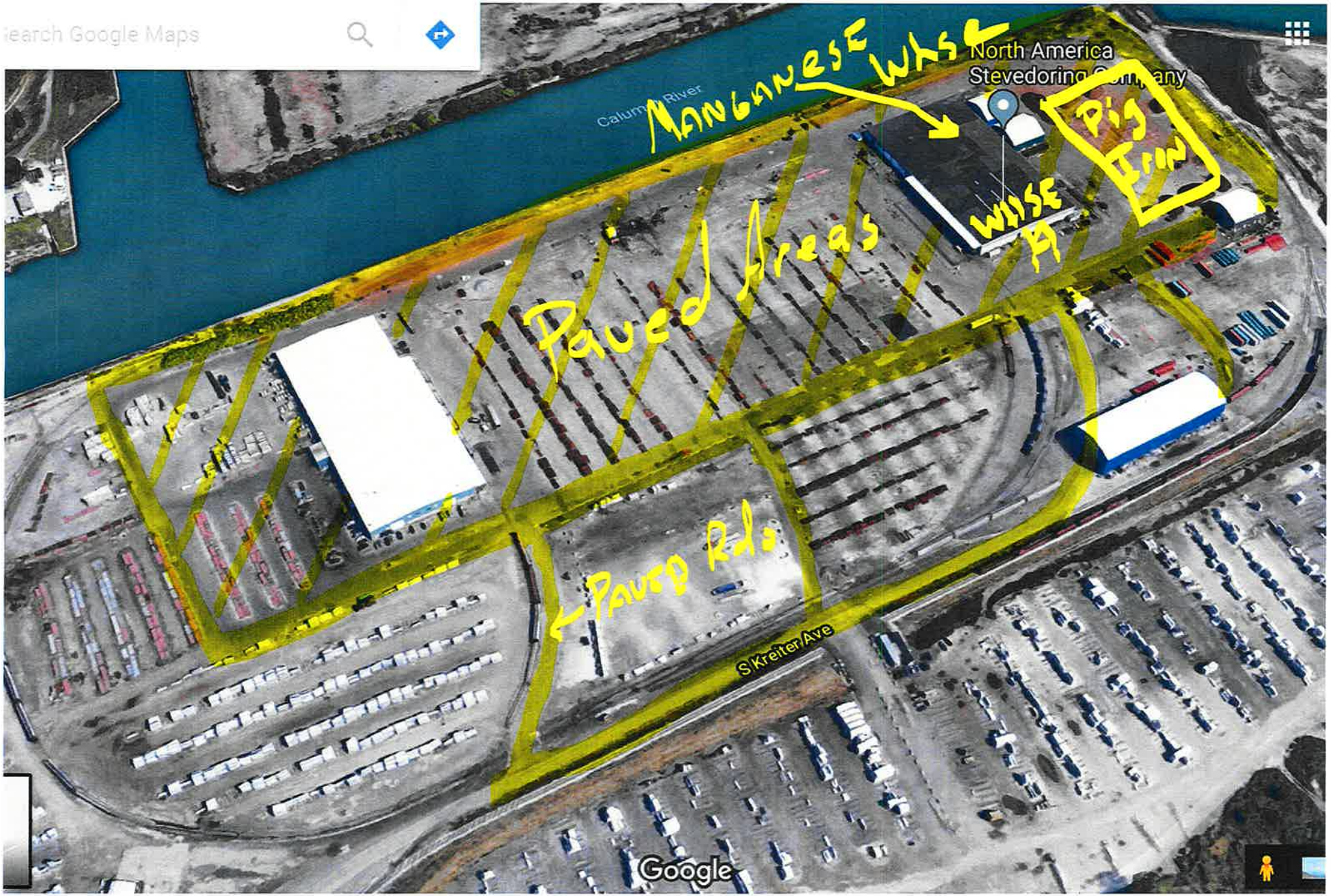
a	Note if roadway free of BSM which can become airborne; note if street sweeping done; if needed, note in Comments & Action taken
b	Confirm BSM loaders and departing trucks are visually inspected and free of loose material
c	Confirm unloaded BSM is moved to enclosure within 24 hours of unloading
d	Record event of leak of BSM from vehicle or equipment and cleanup steps taken
Observations	Describe condition noted such as residue or visible emissions.

Bulk Solid Material Facility
Iroquois Landing, Chicago, IL

EXHIBIT C


Calumet River
S Harbor Ave
NASCO
Boundary
E 95th St
S Ewing Ave
Calumet Park
Chicago Skyway


Vessel
Bulk Pile
Wind break via containers
Manganese Whse
Water Curtain from Cannon
North America Stevedoring Company
Google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North America
Stevedoring Company
Paved Areas
Paved Rds
S Kreiter Ave
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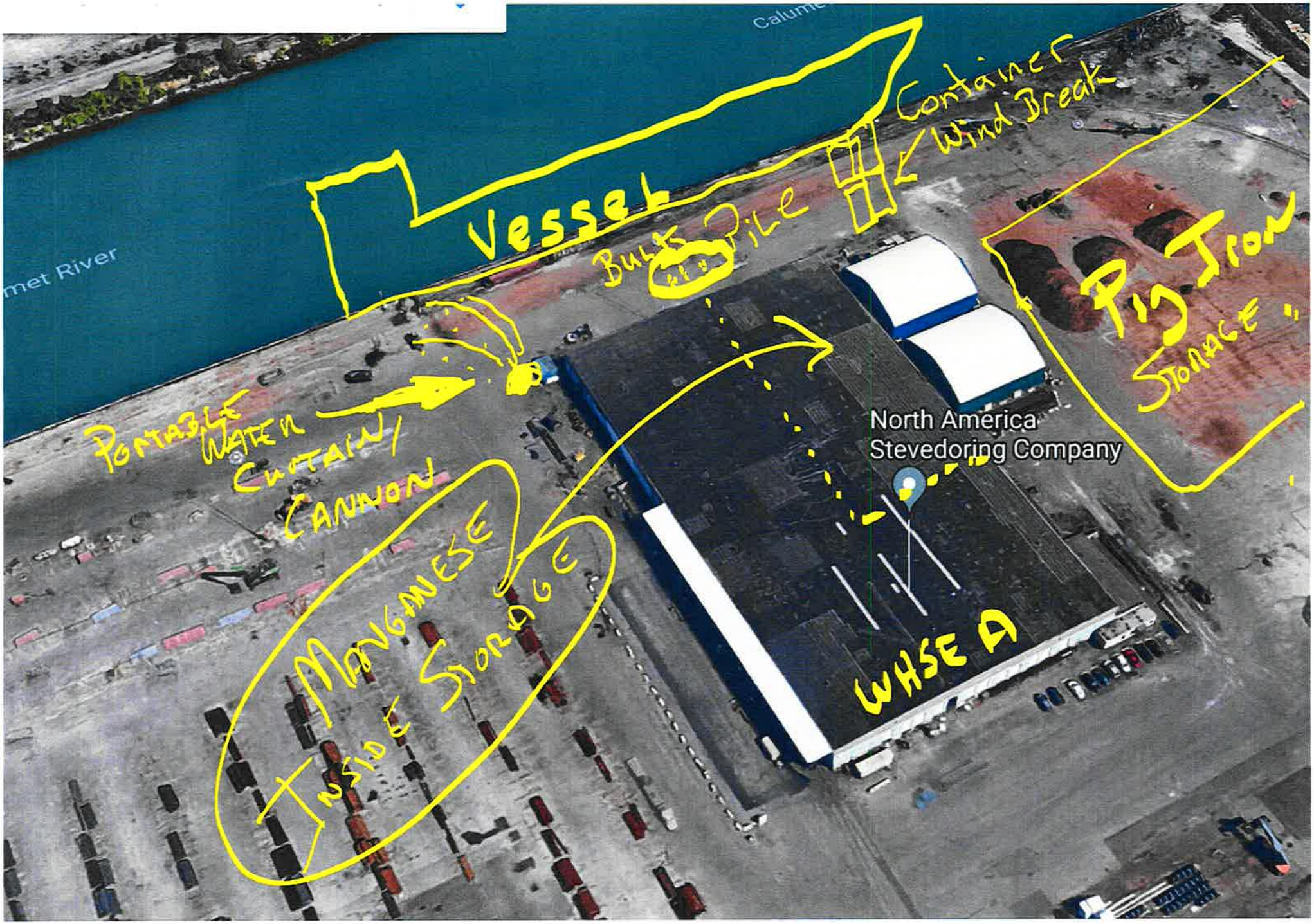
Vessel
Bulk Pile
Container Wind Break
Pig Iron Storage
Portable Water Curtain Cannon
Manganese Inside Storage
North America Stevedoring Company
WHSE A

EXHIBIT D

NASCO Emissions Calculations Spreadsheets

Annual Summary

This spreadsheet conservatively calculates the emissions for each pollutant for each emission source by year. Data is sourced from the Fluorspar, Pig Iron, Ferromanganese, Unpaved Roads, Paved Roads, and Combustion Sources tabs. All cells are linked to their corresponding tabs for automatic updates if any of the data or calculations are altered.

Please note that the Total Emissions in pounds and tons for the PM and HAP – Manganese columns only sum the uncontrolled sources to be conservative and avoid double counting. PM_{30} is not summed as it is considered PM for all other emissions accounting purposes, except in the AP-42 guidance for Paved and Unpaved Roads. The PM_{30} emissions are included in the Total Emissions sums in the PM column.

Monthly Summary

This spreadsheet conservatively calculates the monthly emissions for each applicable pollutant for each emission source for the time period in question. For the Fluorspar, Pig Iron, and Ferromanganese monthly emissions, this spreadsheet calculates emissions based on month-specific emission factors incorporating actual weather data as reported for the Chicago- area by the NOAA and actual material throughputs as reported by NASCO.

The emissions for Paved and Unpaved roads are the annual emissions divided evenly by 22 months as overall throughput and traffic is assumed relatively consistent throughout the year. It is important to note that Fluorspar, Pig Iron, and Ferromanganese are not transported on the unpaved roads, and because of the distance from the materials handling areas and unpaved roads, it is not expected that any fugitive dust from those materials would be present on the unpaved roads. Only lumber and steel article products are transported in these areas for storage purposes.

Monthly Combustion Sources emissions are likewise calculated by dividing the annual emissions totals evenly by 22 months as hours run.

The Total Emissions section sums the pollutants from each emission source by month. As in the Annual Summary tab, the PM and HAP-Manganese rows only sum emissions from uncontrolled sources to be conservative. For this spreadsheet, PM does not include PM_{30} emissions for Paved and Unpaved Roads.

Fluorspar

This spreadsheet includes the annual and monthly throughputs provided by the client. The Annual and Monthly Summary tabs source data from this tab. Emission factors were calculated using the equations and variables found in AP-42 Chapter 13.2.4. Emissions were calculated by multiplying the emission factor unique to the calendar year in question by throughput and the number of drop points for each emission source. The number of drop points for each emission source in each year was verified with NASCO personnel. The spreadsheet conservatively represents **uncontrolled** emissions; the spreadsheet does not take into account the various best management practices utilized by the facility to minimize and prevent fugitives, such as the use of sweeper trucks on paved areas, and NASCO's use of the water cannon during offloading of materials.

Pig Iron

This spreadsheet includes the annual and monthly throughputs provided by the client. The Annual and Monthly Summary tabs source data from this tab. Emission factors were calculated using the equations and variables found in AP-42 Chapter 13.2.4. Emissions were calculated by multiplying the emission factor unique to the calendar year in question by throughput and the number of drop points for each emission source. The number of drop points for each emission source in each year was verified with NASCO personnel. Emission corrections based on NASCO's use of the water cannon during barge offloading when winds are blowing from the North or Northeast were not incorporated into these calculations.

Additionally, HAP emissions from Manganese content was calculated for this material. The Safety Data Sheet provided by NASCO for this material referenced a 0.1% to 1% Manganese content, so a median value of this range at 0.45% was used to conservatively represent potential HAP Manganese releases from the drop points in the Pig Iron's process flow. Controlled emissions were based on an assumption of 85% control from wetting material prior to unloading. This control reduction in annual emissions summary table.

Ferromanganese

This spreadsheet includes the annual and monthly throughputs provided by the client. The Annual and Monthly Summary tabs source data from this tab. Emission factors were calculated using the equations and variables found in AP-42 Chapter 13.2.4. Emissions were calculated by multiplying the emission factor unique to the calendar year in question by throughput and the number of drop points for each emission source. The number of drop points for each emission source in each year was verified with NASCO personnel. Emission corrections based on NASCO's use of the water cannon during barge offloading were not incorporated into these calculations. HAP emissions from Manganese were calculated for this material based on a 78% Manganese content as referenced by the Safety Data Sheet provided by NASCO.

Unpaved Roads

This spreadsheet calculates emissions based on mileage driven on Unpaved Roads in the time period in question using Equation 1a for Industrial Roads from AP-42 Chapter 13.2.2 and constants provided in AP-42 Table 13.2.2-2. Emissions were calculated based on the assumption that half of the mileage was driven by unloaded trucks and the other half was driven by loaded trucks. NASCO provided mean vehicle weights for both loaded and unloaded trucks as well as the mileage driven. Finally, the emissions were corrected to account for geographic regional precipitation pursuant to AP-42 Figure 13.2.2-1 and conservative inclusion of roadway watering control effectiveness pursuant to AP-42 Figure 13.2.2-2.

Paved Roads

This spreadsheet calculates emissions based on mileage driven on Paved Roads in the time period in question using Equation 1 from AP-42 Chapter 13.2.1 and constants provided in AP-42 Table 13.2.1-1. Emissions were calculated based on the assumption that half of the mileage was driven by unloaded trucks and the other half was driven by loaded trucks. NASCO provided mean vehicle weights for both loaded and unloaded trucks as well as the mileage driven. Finally, the emissions were corrected to account for geographic regional precipitation pursuant to AP-42 Figure 13.2.1-2. There we no reductions

made to account for fugitive emissions controls such as the use of the road sweeper and road watering program in paved areas. In addition, after each unloading operation the bulk material area is swept to prevent dust from cross contaminating materials, and therefore also reduces any processed bulk material from generating road dust from the area.

Combustion Sources

This tab calculates the combustion emissions from the diesel powered equipment on the site. The hours of run time and fuel usage in gallons provided by NASCO span the entire time period in question, so monthly and annual emissions were calculated by dividing the overall emissions by the appropriate unit of time. Gross power in horsepower for the Wheel Loaders and Railcar Mover were sourced from the manufacture specifications for each piece of equipment. The generator size in MMBtu/hr was provided from NASCO files.

Emission factors for the generator are based on AP-42 Chapter 3.3. Emission factors for the Wheel Loaders and Railcar Mover were based on equipment specific factors from *USEPA Exhaust and Crankcase Emission Factors for Nonroad Engine Modeling – Compression Ignition NR-009d* (document number EPA-420-R-10-018). SO_2 emissions were calculated based on the standard Ultra Low Sulfur Diesel sulfur content of 15 ppm. The CO emission factor was calculated using the specific equipment data for equations provided in Appendix A of the referenced modeling document.

Data Support Tabs

These tabs contain data directly provided by NASCO that are referenced in individual calculations in the previously described tabs, and data gathered from NOAA data regarding mean wind speeds. Process flow information such as number of material drop points was derived from an on-site review conducted by Dr. Bruce Dumdei, of Civil and Environmental Consultants, Inc., and verified through discussions with site operations personnel.