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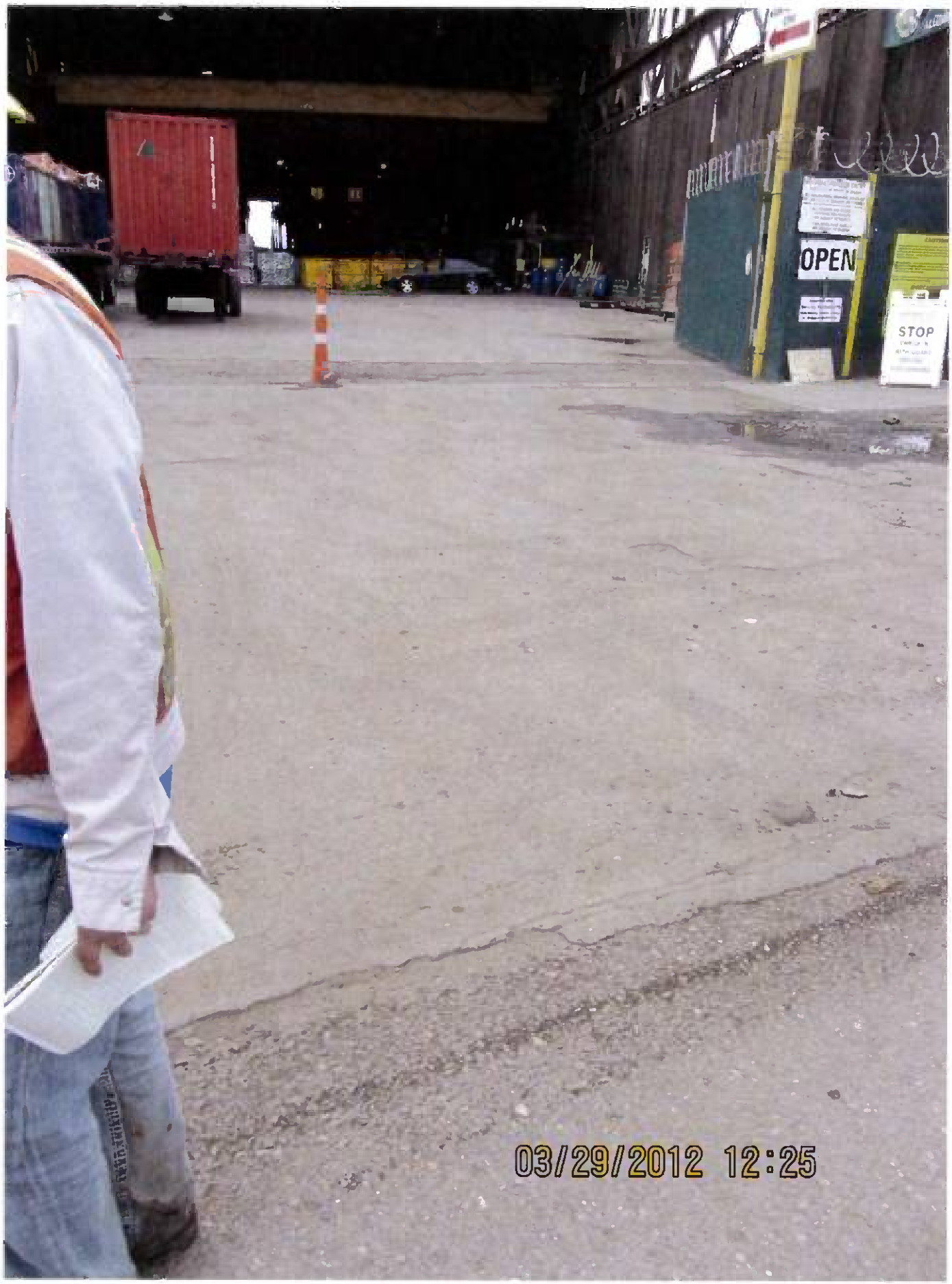
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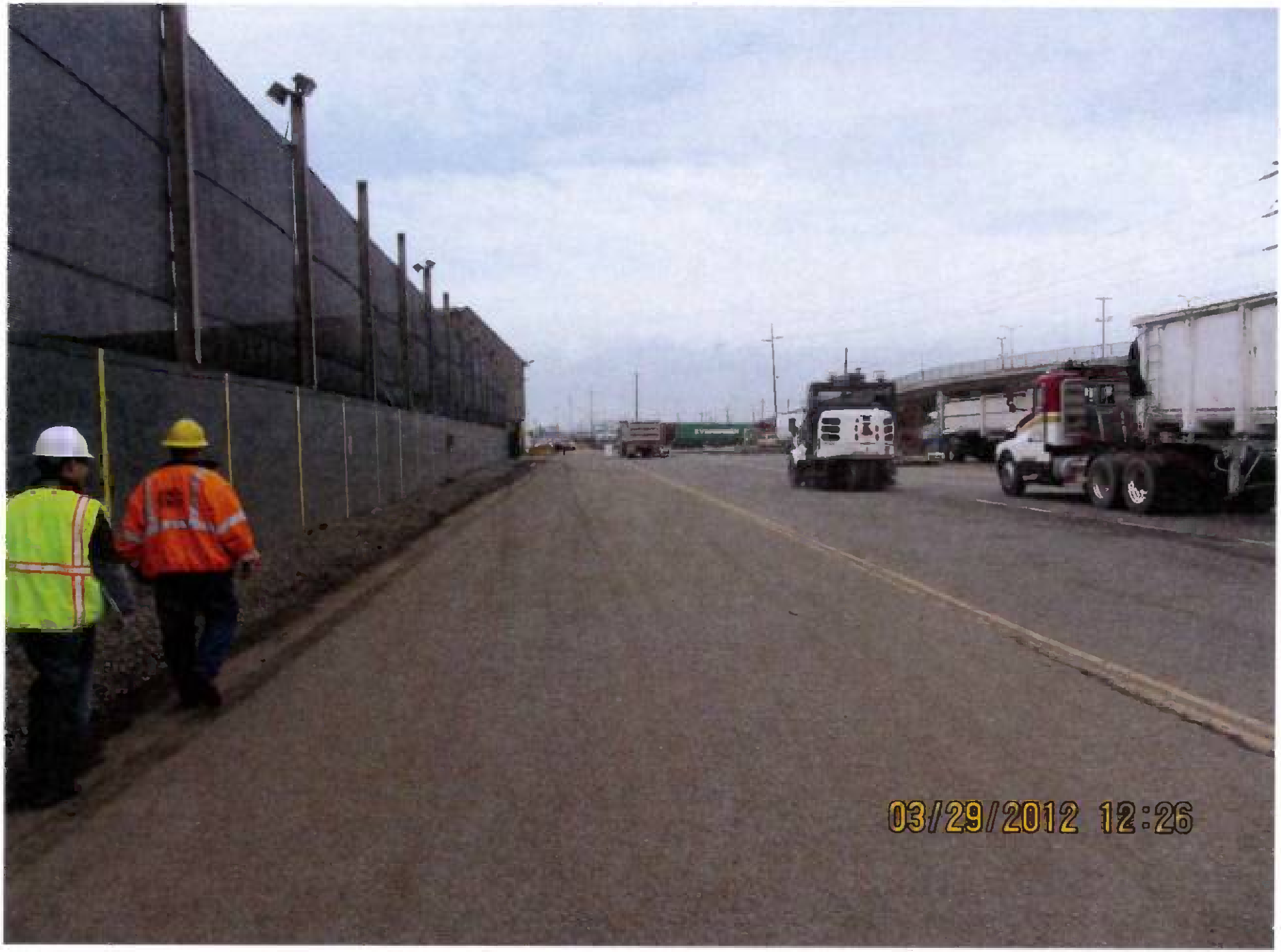
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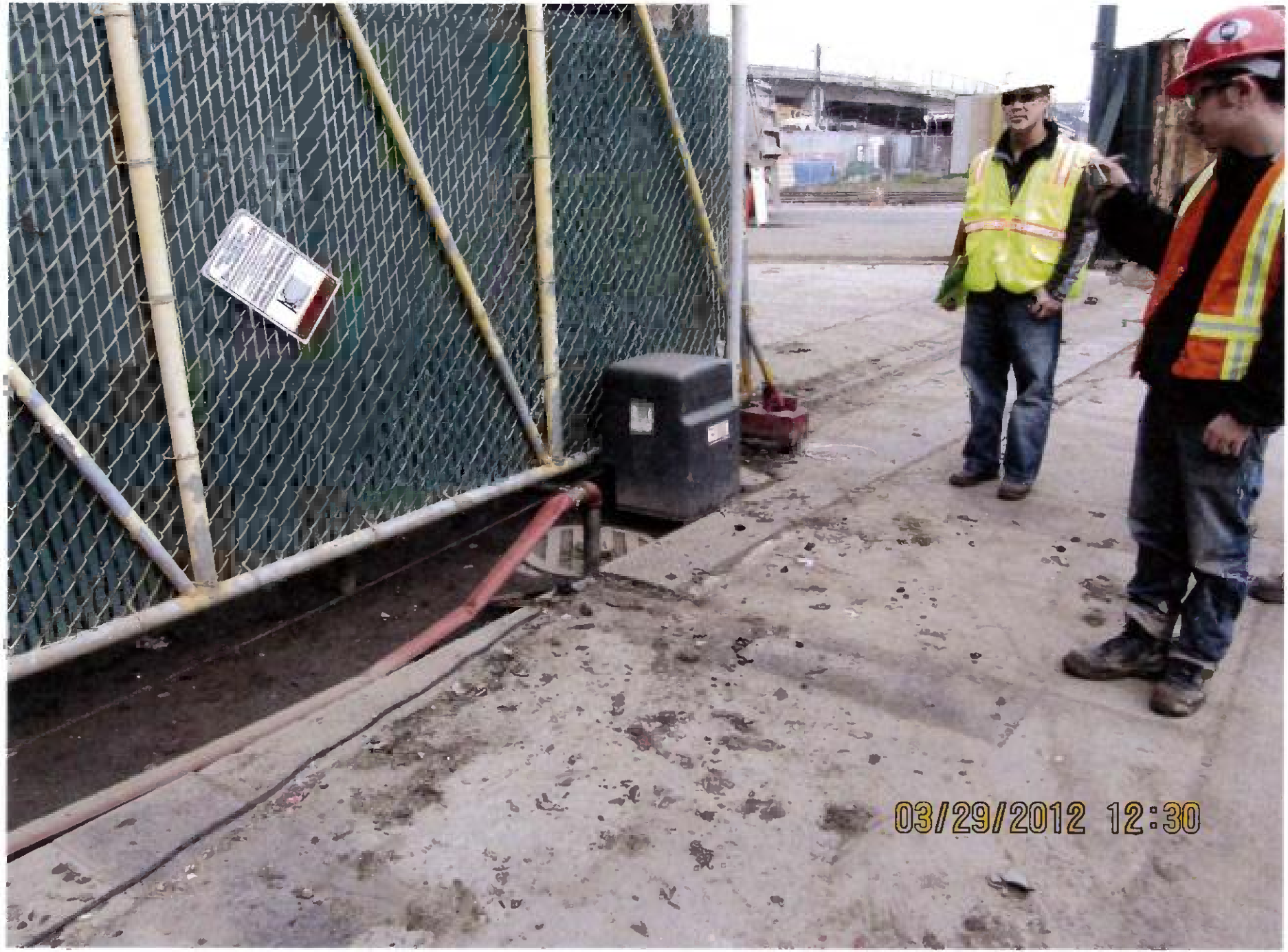
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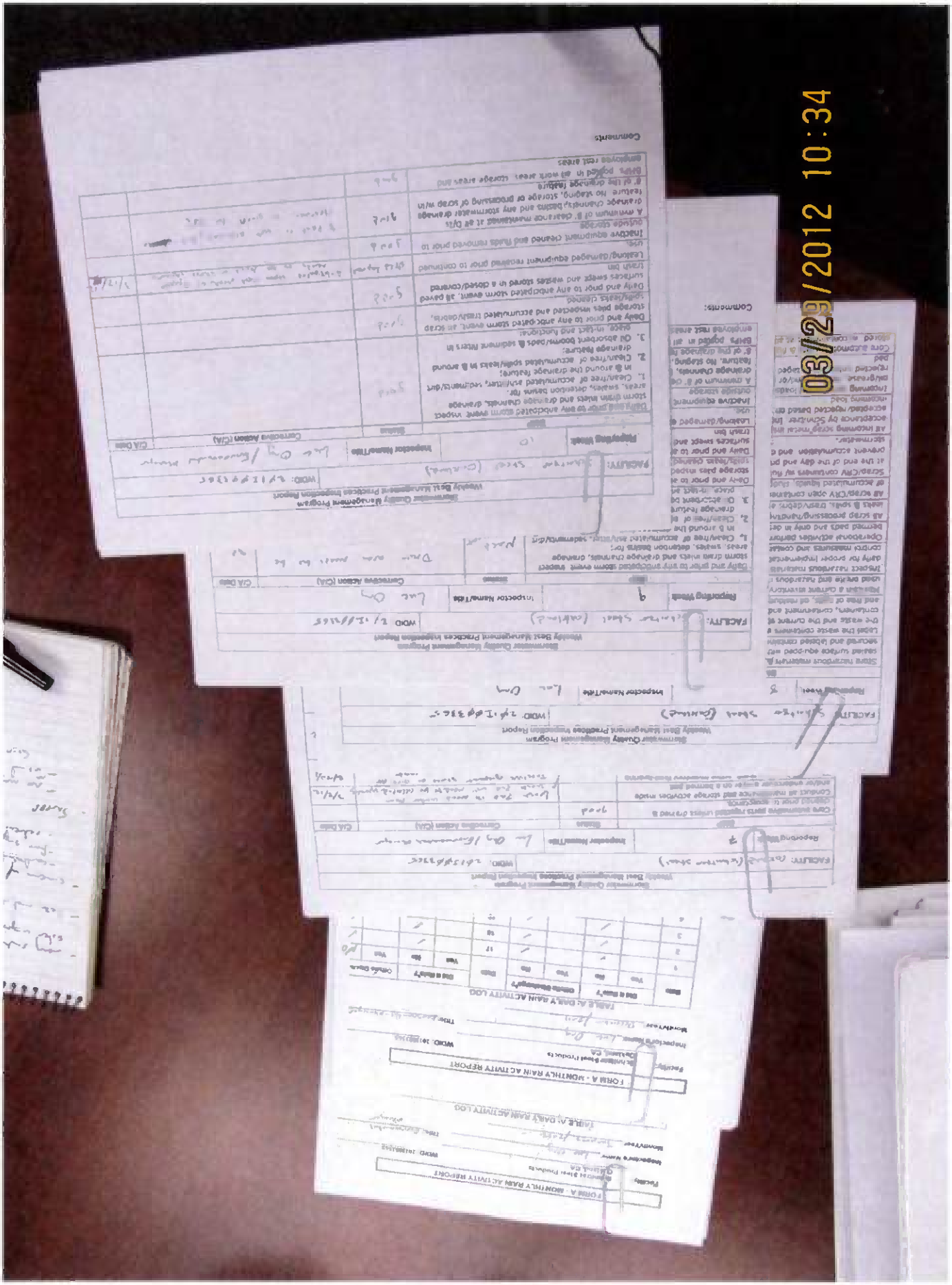
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May 1, 2012

State Water Resources Control Board's Video Surveillance Summary

April 10, 2012
at
Schnitzer Steel Products Inc.

SWRCB Staff Performing Surveillance:
Video surveillance was recorded by Taro Murano, Environmental Scientist, Office of Enforcement. Photo documentation during the Schnitzer surveillance was taken by Dylan Seidner, Environmental Scientist, Office of Enforcement. The photos are documented in a separate report written by Dylan Seidner.

Video Surveillance Purpose:
The purpose of the surveillance was to video document the east and west perimeter conditions of the Schnitzer Steel (Schnitzer) facility during a storm event. The video surveillance was conducted from the SSA Terminals (SSA) facility (Schnitzer's east neighbor) and APL facility (Schnitzer's west neighbor).

Video Surveillance Location:
On April 10, 2012 at 9:10 a.m., SSA facility access was granted to Dylan Seidner and I to video and photo document our observations from the SSA facility by Peter Kiestoff, Operations Manager. SSA's west perimeter borders Schnitzer's east perimeter. We began intermittently video recording Schnitzer's east perimeter at 9:15 a.m., by walking north to south along the fence line that separated Schnitzer's property from SSA. The red dashed line in Figure #1 is the pathway we walked. The two blue circles are the approximate locations of storm drains at the SSA facility. Storm drain #1 can be seen at the video record time 11:04. A close up of storm drain #2 can be seen in Figure #2.

Figure #1

Figure #2

After leaving the SSA facility at 10:03 a.m., we arrived at the Port of Oakland pad-locked gate at 10:09 a.m. Chris Peterson, Chief Warfinger of the Port of Oakland granted us access the property and provided Dylan Seidner the combination to the locked gate on April 9, 2012. Mr. Peterson granted us access to the Port of Oakland's paved lot verbally over the phone so we could photo and video document our observations of the Schnitzer's west perimeter through a chain link fence. We began video recording our observations at 10:14 a.m., starting from the northeast corner of the Port of Oakland paved lot and proceeded southward until we reached a chain link fence separating the Port of Oakland paved lot from the APL leased area, please refer to Figure #3. We left the Port of Oakland facility at 10:30 a.m.

The southern portion of the Port of Oakland paved lot is leased to APL. APL is an international container shipping company. We had made arrangements with Jack Murphy, Security and Environment Manager for Eagle Marine Services Ltd., on April 9, 2012, to access the APL's leased Port of Oakland property. We arrived at the APL facility at 10:35 a.m. Mr. Murphy escorted us in his company car to APL's east perimeter so that we could photo and video document our observations of Schnitzer's west perimeter. We resumed video recording Schnitzer's west perimeter at 10:40 a.m. Video recording began from the north east corner of the APL's leased property and proceeded southward until we reached a chain linked fence at the south east corner. We left the APL facility at 11:32 a.m.

On Figure #3 the red dashed line shows the pathway we walked. The green dashed line represents the Port of Oakland's property. The blue solid line represents the property APL leases from the Port of Oakland.

Figure #3

Surveillance Timeline:

A total of 28 minutes and 1 second of intermittent video was recorded on April 10, 2012. Intermittent video was taken to capture our observations of the Schnitzer facility perimeter

during our walk and was periodically stopped to orient our position, safety or to reduce repetitious video.

The first 18 minutes and 53 seconds of video was recorded from the SSA Terminal facility. Video recording counter for video recorded from the SSA Terminal facility begin at the recording time of 0:00 to 18:53. Another 6 minutes and 19 seconds of video was recorded from the Port of Oakland property. Video recording counter for video recorded from the Port of Oakland property begin at the recording time of 18:54 to 25:12. The final 2 minutes and 49 seconds of video was recorded from the APL leased property (property). Video recording counter for video recorded at the APL properties begin at the recording time of 25:13 to 28:01. The following is a narrative summary of the video recording.

Surveillance Observation Summary:

SSA Facility Video Observations

Observations from Section #1 on Figure #1
Video observations taken at section #1 begin at the record time 0:00 to 10:49. Storm water containment ranged from no storm water containment to a raised concrete containment berm. Portions of the Schnitzer facility were above gradient from the SSA facility. Debris and accumulated sediment was observed on the SSA facility along the chain link fence that borders Schnitzer's east perimeter (video record time 1:17 to 3:40). Material that closely resembled shedder residue (fluff) was observed on the SSA facility and on the Schnitzer facility (video record time 3:41 to 10:50).

Observations from Section #2 on Figure #1
Video observations taken at section #2 begin at the record time 10:50 to 14:10. Schnitzer's storm water containment structures included portions of raised concrete containment, corrugated metal siding, to no containment. Portions of the concrete containment berm had large cracks. In this section, the Schnitzer facility was entirely above gradient from the SSA facility. Fluff material was observed on the SSA facility (video record time at 11:53). Two storm drains (refer to blue circles on Figure #1) were observed on the SSA facility (video record time from 10:52 to 14:11). Possible fluff material can be seen on top of both storm drains (video record time at 11:03 for storm drain #1, video record time at 13:03 for storm drain #2). Figure #2 shows a photo of storm drain #2.

Section #3, Figure #1 - Observations
The video observations taken at section #3 begin at the record time 14:11 to 18:53. Storm water containment on the Schnitzer facility included corrugated metal siding, rail cars aligned in succession to no storm water containment structures in place. Accumulated debris, sediment and overgrown vegetation were observed along the Schnitzer facility perimeter. The Schnitzer facility is above gradient from the SSA facility (video record time at 15:58). A large amount of accumulated fluff was observed along the SSA facility perimeter (video record time from 14:36 to18:53).

Port of Oakland Video Observations:

Video observations made from the Port of Oakland paved lot begin at the record time 18:54 to 23:38. The K-rail border marked the Port of Oakland east perimeter. Rail tracks are adjacent to the Port of Oakland east perimeter and Schnitzer's west perimeter. The rail tracks run parallel (north to south) to the Schnitzer west perimeter. Breaks in the Schnitzer K-rail containment berm were observed from the Port of Oakland paved lot (video record times at 20:30, 20:54, 21:08, 21:33, 21:40, 21:56 and 22:04). The Schnitzer west facility perimeter was above gradient from the rail tracks. Accumulated fluff mixed with sediment was observed throughout the Port of Oakland paved lot (video record times at 19:33, 21:21, 21:25, 22:08 to 22:28, and 23:22 to 23:39).

APL Video Observations:
Video observations made from the APL property begin at the record time 23:39 to 28:01. Storm water containment ranged from K-rail containment berms to no storm water containment structures (video record time from 23:39 to 24:50). We observed Schnitzer workers sand bagging the area where there was no storm water containment in addition to sand bagging beneath the K-rail containment berms (video record time at 25:02, 26:07 and 27:22). Portions of the Schnitzer facility were above gradient to the APL property. Fluff was observed on the APL property (video record time at 23:59). An outfall pipe was observed in the Oakland Inner Harbor located between the APL property and the Schnitzer west perimeter (video record time at 27:49 to 28:01).

EXHIBIT 2

August 27, 2012
WDID# 2 01I003365

VIA CERTIFIED MAIL & EMAIL

Schnitzer Steel Products, Inc.
1101 Embarcadero West
Oakland, CA 94607

ATTN: Mr. Luc Ong, Regional Environmental Manager

RE: **Tentative Cleanup and Abatement Order for**
Schnitzer Steel Products facility, 1101 Embarcadero West, Oakland, CA

Dear Mr. Ong:

Please find enclosed a tentative Cleanup and Abatement Order (Tentative CAO) for the Schnitzer Steel Products facility located at the address noted above. You and interested persons are invited to comment on the Tentative CAO. The comment deadline is **5 p.m. on October 1, 2012.** Comments shall be sent to:

Christine Boschen
SF Bay Regional Water Board
1515 Clay St., Suite 1400
Oakland, CA 94612
cboschen@waterboards.ca.gov

After the public comment deadline, the cleanup staff will respond to comments and present it, along with the Tentative CAO (which may have revisions based on the comments received), to the Executive Officer of the San Francisco Bay Regional Water Board for his consideration and action. The cleanup staff will copy you and all interested parties when transmitting the Tentative CAO and response to comments to the Executive Officer for consideration and action.

The Tentative CAO is a pending adjudicatory proceeding and there shall be no ex parte communications between any party, including the cleanup staff who have prepared the Tentative CAO, and the presiding officer (here, the Executive Officer and his advisory staff). An ex parte communication is a communication, direct or indirect, regarding any issue in the proceeding to the presiding officer by any party without notice and opportunity for all the parties to participate

in the communication. Cleanup staff includes the following Regional Water Board and State Water Board staff:

Regional Water Board
- Yuri Won
- Thomas Mumley
- Shin-Roei Lee
- Christine Boschen
- Cecil Felix
- Danny Pham

State Water Board
- Cris Carrigan
- Laura Drabandt
- Andrew Tauriainen
- Dylan Seidner
- Taro Murano

Advisory staff includes counsel Tamarin Austin.

If you have any questions regarding this letter, please contact Christine Boschen at (510) 622-2346 or email at ceb@waterboards.ca.gov.

Sincerely,

for

Shin-Roei Lee, Chief
Watershed Management Division

Enclosure:
Tentative Cleanup and Abatement Order

Copy to (via email only):

Kevin Mehlberg - SSA Terminals, Terminal Manager
Kevin.mehlberg@ssamarine.com

Jeff Thompson – APL Ltd
Jeff_thompson@apl.com

Jeff Jones – Port of Oakland, Environmental Compliance Officer
jjones@portoakland.com

Craig Pon – City of Oakland, Environmental Program Specialist
cpon@oaklandnet.com

Lyris List Administrator

Bruce H. Wolfe, Executive Officer, San Francisco Bay Regional Water Board

Tamarin Austin, Advisory Counsel, San Francisco Bay Regional Water Board

Dylan Seidner, State Water Resources Control Board

EXHIBIT 3

TENTATIVE CLEANUP AND ABATEMENT ORDER NO. R2-2012-0083
For SCHNITZER STEEL PRODUCTS COMPANY

Water Board Staff Response to Comments

The San Francisco Bay Regional Water Quality Control Board (Water Board) provided a 54-day public comment period (August 27 – October 19, 2012) for the Tentative Cleanup and Abatement Order to Schnitzer Steel Industries, Incorporated, also known as Schnitzer Steel Products Company, for the property located at 1101 Embarcadero West, Oakland, Alameda County, CA 94607. Comments were received from the following parties: Schnitzer Steel Products Company, BayKeeper, Mr. Len Keck, and the Port of Oakland.

This response to comments document provides a paraphrase of the comments received from the parties and associated responses by Water Board staff. Comments and responses are grouped by the parties. Staff modifications to the Tentative Order made in response to a comment are indicated in the staff response.

Commenter and Date: Port of Oakland, September 21, 2012

Comment 1

The Port supports the Water Board's efforts and agrees that the site and contiguous areas need to be cleaned up. (Specific to process sediment, industrial process waste water, and metal shredding by-products.)

Water Board Staff Response

So noted. No change required to the Tentative Order.

Comment 2a

The Port agrees that cleanup of shredder waste and heavy metal residue needed at site and neighboring properties.

Water Board Staff Response

So noted. No change required to the Tentative Order.

Comment 2b

The Port assumes that Schnitzer will need to incorporate into its "source Identification and Site Investigation" work, and accompanying "Sampling Plan", an offshore sediment investigation element, and that Schnitzer's anticipated Corrective Action Plan will likewise need to include estuary/inner bay sediment deposition as a component of any cleanup."

Water Board Staff Response

We recommend no change to the Tentative Order. The scope of the Tentative Order is limited to land areas as well as structures that extend out over the water. It is not clear at this time that extending this Order to offshore sediment is necessary. However, if investigations undertaken pursuant to this Order indicate the need for investigation and cleanup of offshore sediments, the Water Board will consider issuing an additional Cleanup and Abatement Order.

Comment 2c

The Port requests that airborne dispersion and deposition from Schnitzer's operations be included to ensure that the known migration of shredder fluff, process sediment and related materials are properly tracked to neighboring properties...and included in Schnitzer's Corrective Action Plan.

Water Board Staff Response

In response to this comment, we recommend the following change to the Tentative Order:

> On Page 10, under Task B.2, Source Identification and Site Investigation, add the following description to Table 1. Sampling Plan in the "Shredder waste and/or fluff at:" section:
>
> "- Pathways of airborne dispersion and deposition"

Comment 3

The Port supports requirements of acceptable BMPs.

Water Board Staff Response

So noted. No change required to Tentative Order.

Commenter and Date: BayKeeper, October 19, 2012

Comment 1

The Order fails to require controls for fugitive dust that is deposited directly or indirectly into the Oakland Inner Harbor.

A – airborne dust emissions to surface waters constitute non-stormwater discharges and are prohibited.

B – Schnitzer's airborne dust reaches the Oakland Inner Harbor thus resulting in prohibited non-stormwater discharges.

C – dust from metal recycling facilities and auto shredders contains toxic pollutants harmful to public health and the environment. (Refers to DTSC study from Wilmington, CA)

D – the Oakland Inner Harbor is a 303(d) listed waterbody identified as impaired by multiple pollutants contained in auto shredder dust. (mentions Mercury, Copper, Lead, Zinc, PCBs, and PAHs)

F – [they skipped "E"] the Board must require Schnitzer to eliminate fugitive dust discharges.

Water Board Staff Response

The Prohibitions, as currently drafted in the Tentative Order, are sufficiently broadly stated that airborne deposition of pollutants from the facility is prohibited.

We recommend changing the Sampling Plan as described above in our response to the Port's comment:

> On Page 10, under "Task B.2, Source Identification and Site Investigation", add the following description to Table 1. Sampling Plan in the "Shredder waste and/or fluff at:" section:
>
> "- Pathways of airborne dispersion and deposition"

Comment 2

The Order does not hold Schnitzer sufficiently accountable for its failure to adequately monitor and prevent unauthorized stormwater runoff from the facility. (Specifically calls attention to the permit sampling reduction condition, "All prohibited non-stormwater discharges have been eliminated or

otherwise permitted", and "the facility Operator demonstrates that the facility's storm water discharges and authorized non-stormwater discharges do not contain significant quantities of pollutants"

Water Board Staff Response

BayKeeper requested a complete public record on the Schnitzer facility so that BayKeeper could prepare its comment letter on this Tentative Order. We provided the file to BayKeeper. In that file is a letter from the Water Board to Schnitzer, dated July 5, 2012, in which we revoked the Sampling and Analysis Reduction Certification for the Facility. As this revocation has already been communicated formally to Schnitzer, it is unnecessary to include within the Tentative Order.

Comment 3

The Order fails to provide a specific list of pollutants to monitor, sampling methodologies to use and a sampling schedule. Points to recent EPA enforcement at Sims facility in Redwood City.

Recommendation: For all pollution sources the Order should 1) specify pollutant parameters to be monitored, 2) set forth sampling methodologies, and 3) identify sampling locations and frequencies.

Water Board Staff Response

Development of a robust monitoring plan requires some degree of iterative communication between the Discharger and Water Board staff. The Tentative Order is intentionally worded to allow the needed iterations to arrive at a comprehensive, specific, and appropriately stringent monitoring plan. The Executive Officer must approve the plan, and the Discharger may not proceed without Executive Officer approval. Thus, we recommend no change to the Tentative Order.

Comment 4

This Order fails to require necessary containment upgrades.

Recommendation: The Order should require Schnitzer to take samples of the standing water left to infiltrate into the groundwater and to implement more effective containment BMPs to reduce standing water at the facility and prevent groundwater infiltration.

Water Board Staff Response

We agree and recommend the following modification to the Tentative Order:

> On page 11, under Task B.2, Source Identification and Site Investigation, add the following description to Table 1. Sampling Plan in "Industrial process and wastewater, stormwater, and/or groundwater at" section:
>
> "-Standing water onsite--regardless of origin, but taking into account all types."

Comment 5

The Order fails to provide clear direction to Schnitzer or a specific cleanup level for the affected waters.

Recommendation: If the Board does not expect Schnitzer to attain background levels of water quality in the surface waters or groundwater onsite, then the Order should specify what cleanup levels will be required to protect beneficial uses, or the Board should strengthen the Order by including the requirements Baykeeper has advocated herein.

Water Board Staff Response

The Water Board typically addresses site cleanup in phases, with the first order focusing on investigation and interim corrective actions. This Order follows the typical progression. Final site cleanup levels are typically established in a future order based on full site characterization, effectiveness of interim

correction actions, and residual risks a site poses to the most sensitive receptors. We recommend no changes to the Tentative Order in response to this comment.

Commenter and Date: Len Keck, September 25, 2012

I am familiar with the type of operations performed at the site, and believe that a significant reduction of pollution potential for both the bay waters and adjacent properties can be accomplished by altering Item #4 Interim Correction Plan to include an additional requirement (e.g. new item "e.") requiring that all shredder fluff that is waste and not intended for further processing be promptly (within 4 hours of processing and before it has dried) be loaded into the intended vehicles for transport to a permitted landfill, and promptly tarped & contained to prevent drying and airborne drift.

This requirement will eliminate the large, outdoor, uncontrolled piles of shredder fluff that are the likely source of the fluff material cited in item 3 c. page 4 of the CAO*. Since the material must be transported to a landfill at some point, the only reason for retaining it on site is to allow it to dry and reduce the landfill charges. By loading the material immediately after processing, while it is still damp, and by minimizing the duration of exposure to winds, the opportunity for airborne drift will be significantly reduced.

Water Board Staff Response

We concur with the recommendation and propose the following addition to the Tentative Order:

On Page 11, under Task B.4, Interim Corrective Action Plan, add the following:

"e. Waste Shedder Fluff: All shredder fluff that is waste and not intended for further processing shall be visually monitored and managed onsite and during transportation to a permitted landfill to prevent airborne, wind, or water migration."

Commenter and Date: Schnitzer, October 1, 2012

Please note: The comments in the 16-page letter submitted by Schnitzer have been consolidated into the following outline for the purpose of responding to the comments.

Comment 1

It isn't fair that the Water Board jumped straight to a Cleanup and Abatement Order without first giving us the chance to work cooperatively and in a non-regulatory context.

- We have been inspected by the County and the Water Board in the past and never received a Notice of Violation so this was a shock to us.
- We have been regulated under the groundwater CAO since the 1980s and never has the Water Board indicated a problem with our sampling plan; similarly, we have been regulated under the Industrial General Stormwater Permit since the 1990s and the Water Board has "accepted" our annual reports all those years.
- We have assertively attempted to engage Water Board staff in a collaborative discourse so we can come into compliance and avoid enforcement.
- We have a strong corporate culture of environmental compliance.

Water Board Staff Response

As Schnitzer notes, we have previously inspected this facility. Following inspections on June 30, 2009, and November 22, 2011, we met with Schnitzer representatives and explained the violations observed during the inspections. Schnitzer representatives had the opportunity at those times to proactively address the violations brought to their attention during the inspections and failed to do so.

We acknowledge that written communication, shortly following an inspection, documenting violations provides all sides with a record of what was noted and communicated in the field. Having that written record would have benefited us as well in regard to the inspections we did of the facility. However, with our limited resources, we were unable to prepare inspection reports and notices of violation following those inspections.

We note that that Schnitzer became responsive to our comments made during inspections at the point that our inspection personnel included staff from the State Water Board Office of Enforcement. We appreciate that Schnitzer—since our joint inspection this May 2012 with State Water Board enforcement staff—has assertively contacted us to dialogue about the improvements Schnitzer initiated after that inspection. Nonetheless, based on our site inspections, site conditions, and the violations set forth in the Tentative Order, Staff finds the Cleanup and Abatement Order is the proper regulatory mechanism to employ in this instance.

Following our May 2012 inspection, we began to delve into Schnitzer's compliance status including reviewing the past several years of its annual report submittals. It was in this process that we realized that Schnitzer had been inappropriately operating under a Sampling and Analysis Reduction Certification, by which Schnitzer justified its failure to sample its stormwater discharges from the Facility. As soon as this came to our attention, we issued a letter to Schnitzer revoking that Sampling and Analysis Reduction Certification status. See response to BayKeeper Comment 2 above.

Comment 2

A Cleanup and Abatement Order is not warranted because (a) the Water Board does not have the evidence that impairment exists that requires cleanup, and (b) we are willing to make warranted improvements cooperatively and reimburse the Water Board for reasonable staff time expended.

Water Board Staff Response

See Comments 3 and 4 below.

Comment 3

In follow-up to point 2(a) above—we assert that the Water Board does not have reason to believe there is an impairment that needs to be cleaned up for the following reasons:

- Groundwater – our testing wells have not shown any problems.
  - The Water Board never conveyed any concerns with the placement of our wells before now.
  - Our site looks messy, but that is just looks; there is no impairment of groundwater BUs and our operations have not degraded groundwater
- Stormwater – we are a Zero Discharge facility because we do not have any storm drains connected to the MS4 onsite or on the roads near our site. We don't really agree with the Water Board in considering the other discharge pathways to be "discharges", but we are willing to go along with that pretense moving forward. Our willingness to go along with that pretense that we

have "discharges" ***may*** be conditioned upon the Water Board agreeing to forgo the CAO and work cooperatively with us within the context of the Industrial Stormwater Permit.

- As a Zero Discharge facility, the amount of discharge that may leave our site via other pathways is negligible and cannot possibly have caused any water quality impairment in the surface waters near our facility.
- What the Water Board calls "pollutants" we call the very product we shred and recycle.
- We are already implementing BMPs that take care of any problem that might have the potential to have been here back when we were operating under a different understanding than the Water Board regarding what constitutes a discharge.

Water Board Staff Response

Groundwater – Prior to the fires of 2009 to 2011, this was considered a low-priority case with long-term groundwater monitoring in accordance with the 1988 Site Cleanup Requirements. The fires and the concern of releases that may have occurred as a result of them warranted new attention to the site and a review of the files. Based on a review of the files, the locations of the fires, as well as the onsite operations that could contribute to a release, were distant to the monitoring well network. The monitoring well network (four wells) lies at the periphery of the site, with three wells along the presumed hydraulic downgradient edge along the waterfront and one presumably hydraulically upgradient of site operations. The closest monitoring well in the presumed downgradient direction is over 500 feet from potential release points (the shredder, incoming scrap storage areas, and at least two of the three recent fires). These wells are effectively sentinel (3) and background (1) wells, and as such, their data do not indicate whether or not there has been a release at the site.

Following a review of available files, suspicion of potential groundwater impacts (in addition to potential releases as a result of the fires and ongoing operations involving chemicals of concern) can be supported by the following:

June 24, 1992, DTSC Report of Violation: One soil sample contained 1,190 mg/kg total lead and 350 mg/L soluble zinc, exceeding TTLC and STLC, respectively. Another soil sample contained 12,700 mg/kg lead, 31,100 mg/kg copper, and 6,800 mg/kg zinc, exceeding TTLC for each metal. A sludge/soil sample contained 370,000 mg/kg (37%) total petroleum hydrocarbons (waste oil) and 1,080 mg/kg lead (exceeds TTLC). No records are on file showing how these results or the violations were followed up, or if there were ever groundwater samples taken from the impacted areas.

Stormwater – Schnitzer has fundamentally misinterpreted the definition of stormwater discharge: the existence of storm drains on or near the Facility is not a necessary element for determining whether there has been a stormwater discharge. Overland sheet flow is also a conveyance mechanism for stormwater runoff, as are the other conveyances documented by Water Board staff in the Tentative Order and attached inspection report. Schnitzer is not a "zero discharge facility".

While we do acknowledge that a portion of Schnitzer's stormwater and non-stormwater substances remain onsite, we do not conclude that the discharges of stormwater and non-stormwater that are leaving the facility are negligible. The requirements in the Tentative Order will compel Schnitzer to characterize its discharge, which is something Schnitzer indicates it is very reluctant to do.

Schnitzer has been covered under the Industrial General Stormwater Permit since 1997. In this time period, Schnitzer has failed to appropriately and correctly self-characterize its discharge, monitor its discharge and make iterative improvements as is the cornerstone of Industrial General Stormwater Permit compliance.

We recommend no change to the Tentative Order in response to this comment.

Comment 4

In follow-up to point 2(b) above—we present an alternative path forward that we would be willing to follow:

- For Stormwater-related issues (waste pile management, track-out, water recycling system, and containment of process pollutants), we propose (and are moving forward with) making necessary changes within the context of our Stormwater Pollution Prevention Plan. We are proactively and expeditiously implementing a suite of BMPs to address any "discharges" that may be possible. In our assessment, the BMPs we are implementing constitute BAT/BCT.
- For groundwater, we feel that any required investigation should be written as a 13267 letter.

Water Board Staff Response

Stormwater - We note that Schnitzer has moved ahead with its suggested alternative path of updating its SWPPP and implementing BMPs based on our feedback during the site inspection of May 2012. We applaud this initiative. However, without the full site characterization as required in the Tentative Order, it is not possible to determine whether the actions Schnitzer has taken are sufficient. Furthermore, the deadlines laid out in the Tentative Order provide an appropriate timeframe for the dialogue between Schnitzer and us that we also agree is important.

Groundwater- CWC section 13304(s) provides for the issuance of a CAO when any person who threatens to cause or permit any waste to be discharged or threatens to create a condition of pollution. There is no language that states a 13267 must first be issued. We recommend no change to the Tentative Order in response to this comment.

Comment 5

We are unique and should be treated differently because of the nature of our metal shredding business:

- Stormwater uniqueness: the facility's many heavy industrial operations cannot be conducted in a sterile and process-sediment free manner as staff seems to envision. We need to operate outdoors.
- Groundwater uniqueness: the standard approach to site cleanup is not feasible in the context of a scrap metal recycling facility.

Water Board Staff Response

We recommend no change to the Tentative Order in response to this comment. The Industrial Stormwater General Permit and the Tentative Order follow the guidelines set forth in the federal Clean Water Act for the regulation of industrial discharges from facilities including the metal shredding sector. The law is no different when applied to this industry. Many industries must operate outdoors and adjacent to waterways.

Comment 6

The requirements of the CAO are so expensive that they will put Schnitzer out of business. Specific expensive items mentioned include the following:

- "Preventing materials, wastes, and associated pollutants from moving around the Site"
- Implementing "procedures designed to sequester pollutants within the shredder waste, bulk material, non-ferrous metals and ferrous metals"
- Installing "water tight measures to ensure full...stormwater containment" at the conveyor loading system, pier crane dock and bridge

- "minimizing" on-site truck traffic contact with contaminated sediments and standing water"
- Purchasing more storage tank capacity (and giving up yard space to it) is cost-prohibitive; we do not try to prevent infiltration of ponded water, and have no reasonable means of doing so.
- Paving the site is cost prohibitive as well because of the extreme wear and tear of our activities.

Water Board Staff Response

We recommend no change to the Tentative Order in response to this comment. We acknowledge that cost is a factor that must be considered in determining at which point Schnitzer has achieved the BAT/BCT standard. The information required in the Tentative Order will allow us to have an informed conversation with Schnitzer about where this line is drawn. We acknowledge the flurry of activity Schnitzer has accomplished since our May inspection in cleaning its over-water structures and installing several useful improvements. While we applaud the momentum, we also caution Schnitzer that it is proceeding with implementing solutions without beginning to characterize the overall extent of its potential pollution pathways. The Tentative Order ensures that Schnitzer follows a logical and fully responsible order in its investigations and management practice implementation. Schnitzer's completion of the first three tasks required in the Tentative Order is necessary to our evaluation of whether Schnitzer has maximized its ability to protect water quality within the context of cost considerations. Until that point, such conversation is premature.

Comment 7

We do not agree to characterize the materials we use and process on site because (a) it is not needed in order to characterize whether there is a groundwater discharge and impairment and (b) we are a Zero Discharge site so it is irrelevant what is going on within our stockpiles and internal waste streams.

Water Board response

See responses above. We recommend no change to the Tentative Order in response to this comment. Characterizing the materials used onsite is the basic first step in understanding what constituents to sample for and what management practices to design.

During a meeting on September 14, 2012, representatives for Schnitzer claimed that leaching to groundwater was not possible due to the compacted soils at the site as a result of heavy traffic and stock pile overburden. In unpaved portions of the site, this claim is essential in order to characterize the site as Zero Discharge. There are no data to substantiate the non-permeable nature of the soils at the site, nor does compaction (especially non-engineered compaction as a result of heavy traffic and stock pile overburden) necessarily result in significant reduction of permeability.

Commenter and Date: Schnitzer, October 19, 2012

Schnitzer provides an update to its SWPPP revisions and Best Management Practice implementation and reiterates the desire to meet with Water Board staff and get our feedback.

Water Board response

See responses above. We recommend no change to the Tentative Order in response to this comment.

EXHIBIT 4

Table 1

Summary of Groundwater Monitoring Data
1992 – 2012
Schnitzer Steel Products Company
Oakland, CA

2012	Metals	Detection Limit (mg/l)	MW 1	MW 2	MW 3	MW 4
	Cadmium	0.0025	ND	ND	ND	ND
	Chromium	0.01	ND	ND	ND	ND
	Copper	0.02	ND	ND	ND	ND
	Mercury	0.0002	0.00023	0.00024	0.00021	0.00031
	Nickel	0.01	ND	ND	ND	ND
	Lead	0.005	ND	ND	ND	ND
	Zinc	0.02	ND	ND	ND	ND
2012	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	0.51	ND	ND	ND	ND
	Aroclor 1221	0.51	ND	ND	ND	ND
	Aroclor 1232	0.51	ND	ND	ND	ND
	Aroclor 1242	0.51	ND	ND	ND	ND
	Aroclor 1248	0.51	ND	ND	ND	ND
	Aroclor 1254	0.51	ND	ND	ND	ND
	Aroclor 1260	0.51	ND	ND	ND	ND
2011	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.01	ND	ND	ND	ND
	Copper	0.01	ND	ND	ND	ND
	Mercury	0.0005	ND	0.0009	ND	ND
	Nickel	0.01	ND	ND	ND	ND
	Lead	0.01	ND	ND	ND	ND
	Zinc	0.01	0.0184	ND	0.0101	0.0556
2011	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	1	ND	ND	ND	ND
	Aroclor 1221	1	ND	ND	ND	ND
	Aroclor 1232	1	ND	ND	ND	ND
	Aroclor 1242	1	ND	ND	ND	ND
	Aroclor 1248	1	ND	ND	ND	ND
	Aroclor 1254	1	ND	ND	ND	ND
	Aroclor 1260	1	ND	ND	ND	ND
	Aroclor 1262	1	ND	ND	ND	ND
2010	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.01	ND	ND	ND	ND
	Copper	0.01	ND	ND	ND	ND
	Mercury	0.0005	ND	ND	ND	ND
	Nickel	0.01	ND	ND	ND	ND
	Lead	0.01	ND	ND	ND	ND
	Zinc	0.01	ND	0.0111	ND	0.0135

2010	PCBs	Detection Limit (ug/l)	MW 1	MW 2	MW 3	MW 4
	Aroclor 1016	1	ND	ND	ND	ND
	Aroclor 1221	1	ND	ND	ND	ND
	Aroclor 1232	1	ND	ND	ND	ND
	Aroclor 1242	1	ND	ND	ND	ND
	Aroclor 1248	1	ND	ND	ND	ND
	Aroclor 1254	1	ND	ND	ND	ND
	Aroclor 1260	1	ND	ND	ND	ND
	Aroclor 1262	1	ND	ND	ND	ND
2009	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.005	ND	ND	ND	ND
	Chromium	0.005	ND	ND	ND	ND
	Copper	0.005	ND	ND	ND	ND
	Mercury	0.0005	ND	ND	ND	ND
	Nickel	0.005	0.0257	0.0052	ND	ND
	Lead	0.01	0.014	ND	ND	ND
	Zinc	0.01	0.0289	0.0105	0.0162	ND
2009	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	1	ND	ND	ND	ND
	Aroclor 1221	1	ND	ND	ND	ND
	Aroclor 1232	1	ND	ND	ND	ND
	Aroclor 1242	1	ND	ND	ND	ND
	Aroclor 1248	1	ND	ND	ND	ND
	Aroclor 1254	1	ND	ND	ND	ND
	Aroclor 1260	1	ND	ND	ND	ND
	Aroclor 1262	1	ND	ND	ND	ND
2008 (Feb.)	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.005	ND	ND	ND	ND
	Chromium	0.005	ND	ND	ND	ND
	Copper	0.005	ND	ND	ND	ND
	Mercury	0.0005	ND	ND	ND	ND
	Nickel	0.005	ND	ND	ND	ND
	Lead	0.01	ND	ND	ND	ND
	Zinc	0.01	0.0144	0.0175	0.0299	ND
	Zinc	0.10				ND
2008 (Feb.)	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	1	ND	ND	ND	ND
	Aroclor 1221	1	ND	ND	ND	ND
	Aroclor 1232	1	ND	ND	ND	ND
	Aroclor 1242	1	ND	ND	ND	ND
	Aroclor 1248	1	ND	ND	ND	ND
	Aroclor 1254	1	ND	ND	ND	ND
	Aroclor 1260	1	ND	ND	ND	ND
	Aroclor 1262	1	ND	ND	ND	ND

2008 (July)	Metals	Detection Limit (mg/l)	MW 1	MW 2	MW 3	MW 4
	Cadmium	0.005	ND	ND	ND	ND
	Chromium	0.005	ND	ND	ND	ND
	Copper	0.005	0.0052	ND	ND	ND
	Mercury	0.0005	ND	ND	ND	ND
	Nickel	0.005	ND	ND	ND	ND
	Lead	0.01	ND	ND	ND	ND
	Zinc	0.01	0.037	0.0318	0.0219	0.0241
2008 (July)	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	1	ND	ND	ND	ND
	Aroclor 1221	1	ND	ND	ND	ND
	Aroclor 1232	1	ND	ND	ND	ND
	Aroclor 1242	1	ND	ND	ND	ND
	Aroclor 1248	1	ND	ND	ND	ND
	Aroclor 1254	1	ND	ND	ND	ND
	Aroclor 1260	1	ND	ND	ND	ND
	Aroclor 1262	1	ND	ND	ND	ND
2007	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.005	ND	ND	ND	ND
	Chromium	0.005	ND	ND	ND	ND
	Copper	0.005	ND	ND	ND	ND
	Mercury	0.0005	ND	ND	ND	ND
	Nickel	0.005	ND	ND	ND	ND
	Lead	0.01	ND	ND	ND	ND
	Zinc	0.01	0.0558	0.0671	0.133	0.0161
2007	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	1		ND	ND	ND
	Aroclor 1221	1		ND	ND	ND
	Aroclor 1232	1		ND	ND	ND
	Aroclor 1242	1		ND	ND	ND
	Aroclor 1248	1		ND	ND	ND
	Aroclor 1254	1		ND	ND	ND
	Aroclor 1260	1		ND	ND	ND
	Aroclor 1262	1		ND	ND	ND
2006	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.05	ND	ND	ND	ND
	Zinc	0.10	ND	ND	ND	ND

2006	PCBs	Detection Limit (ug/l)	MW 1	MW 2	MW 3	MW 4
	Aroclor 1016	1	ND	ND	ND	ND
	Aroclor 1221	1	ND	ND	ND	ND
	Aroclor 1232	1	ND	ND	ND	ND
	Aroclor 1242	1	ND	ND	ND	ND
	Aroclor 1248	1	ND	ND	ND	ND
	Aroclor 1254	1	ND	ND	ND	ND
	Aroclor 1260	1	ND	ND	ND	ND
	Aroclor 1262	1	ND	ND	ND	ND
2005	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.05	ND	ND	ND	ND
	Zinc	0.10	ND	ND	ND	ND
2005	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	1	ND	ND	ND	ND
	Aroclor 1221	1	ND	ND	ND	ND
	Aroclor 1232	1	ND	ND	ND	ND
	Aroclor 1242	1	ND	ND	ND	ND
	Aroclor 1248	1	ND	ND	ND	ND
	Aroclor 1254	1	ND	ND	ND	ND
	Aroclor 1260	1	ND	ND	ND	ND
	Aroclor 1262	1	ND	ND	ND	ND
2004	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.05	ND	ND	ND	ND
	Zinc	0.05	ND	ND	ND	ND
2004	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	1		ND	ND	ND
	Aroclor 1221	1		ND	ND	ND
	Aroclor 1232	1		ND	ND	ND
	Aroclor 1242	1		ND	ND	ND
	Aroclor 1248	1		ND	ND	ND
	Aroclor 1254	1		ND	ND	ND
	Aroclor 1260	1		ND	ND	ND
	Aroclor 1262	1		ND	ND	ND

2003	Metals	Detection Limit (mg/l)	MW 1	MW 2	MW 3	MW 4
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.005	ND	ND	ND	ND
	Zinc	0.10	ND	ND	ND	ND
2003	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	0.5	ND	ND	ND	ND
	Aroclor 1221	0.5	ND	ND	ND	ND
	Aroclor 1232	0.5	ND	ND	ND	ND
	Aroclor 1242	0.5	ND	ND	ND	ND
	Aroclor 1248	0.5	ND	ND	ND	ND
	Aroclor 1254	0.5	ND	ND	ND	ND
	Aroclor 1260	0.5	ND	ND	ND	ND
	Aroclor 1262	0.5	ND	ND	ND	ND
2002	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.05	ND	ND	ND	ND
	Zinc	0.10	ND	0.115	ND	ND
2002	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	0.5	ND	ND	ND	ND
	Aroclor 1221	2	ND	ND	ND	ND
	Aroclor 1232	0.5	ND	ND	ND	ND
	Aroclor 1242	0.5	ND	ND	ND	ND
	Aroclor 1248	0.5	ND	ND	ND	ND
	Aroclor 1254	0.5	ND	ND	ND	ND
	Aroclor 1260	0.5	ND	ND	ND	ND
	Aroclor 1262	0.5	ND	ND	ND	ND
2001	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.05	ND	ND	ND	ND
	Zinc	0.10	ND	ND	ND	ND

2001	PCBs	Detection Limit (ug/l)	MW 1	MW 2	MW 3	MW 4
	Aroclor 1016	0.5	ND	ND	ND	ND
	Aroclor 1221	2	ND	ND	ND	ND
	Aroclor 1232	0.5	ND	ND	ND	ND
	Aroclor 1242	0.5	ND	ND	ND	ND
	Aroclor 1248	0.5	ND	ND	ND	ND
	Aroclor 1254	0.5	ND	ND	ND	ND
	Aroclor 1260	0.5	ND	ND	ND	ND
	Aroclor 1262	0.5	ND	ND	ND	ND
2000	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.05	ND	ND	ND	ND
	Zinc	0.10	ND	ND	ND	ND
2000	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	1	ND	ND	ND	ND
	Aroclor 1221	1	ND	ND	ND	ND
	Aroclor 1232	1	ND	ND	ND	ND
	Aroclor 1242	1	ND	ND	ND	ND
	Aroclor 1248	1	ND	ND	ND	ND
	Aroclor 1254	1	ND	ND	ND	ND
	Aroclor 1260	1	ND	ND	ND	ND
	Aroclor 1262	1	ND	ND	ND	ND
1999	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.05	ND	ND	ND	ND
	Zinc	0.10	ND	ND	ND	ND
1999	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	0.5	ND	ND	ND	ND
	Aroclor 1221	2	ND	ND	ND	ND
	Aroclor 1232	0.5	ND	ND	ND	ND
	Aroclor 1242	0.5	ND	ND	ND	ND
	Aroclor 1248	0.5	ND	ND	ND	ND
	Aroclor 1254	0.5	ND	ND	ND	ND
	Aroclor 1260	0.5	ND	ND	ND	ND
	Aroclor 1262					

1998 (June)	Metals	Detection Limit (mg/l)	MW 1	MW 2	MW 3	MW 4
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	0.07	0.08	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	0.08	ND	ND	ND
	Lead	0.05	ND	ND	ND	ND
	Zinc	0.10	ND	ND	ND	ND
1998 (July)	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND		
	Chromium	0.05	ND	ND		
	Copper	0.10	ND	ND		
	Mercury	0.002	ND	ND		
	Nickel	0.05	ND	ND		
	Lead	0.05	ND	ND		
	Zinc	0.10	ND	ND		
1998	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016					
	Aroclor 1221					
	Aroclor 1232					
	Aroclor 1242					
	Aroclor 1248					
	Aroclor 1254					
	Aroclor 1260					
	Aroclor 1262					
1997	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.10	ND	ND	ND	ND
	Zinc	0.10	ND	ND	ND	ND
1997	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	0.5	ND	ND	ND	ND
	Aroclor 1221	2	ND	ND	ND	ND
	Aroclor 1232	0.5	ND	ND	ND	ND
	Aroclor 1242	0.5	ND	ND	ND	ND
	Aroclor 1248	0.5	ND	ND	ND	ND
	Aroclor 1254	0.5	ND	ND	ND	ND
	Aroclor 1260	0.5	ND	ND	ND	ND
	Aroclor 1262					

1996 (June)	Metals	Detection Limit (mg/l)	MW 1	MW 2	MW 3	MW 4
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.10	ND	ND	ND	ND
	Zinc	0.10	ND	ND	ND	ND
1996 (Dec.)	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	0.10	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.10	ND	ND	ND	ND
	Zinc	0.10	ND	ND	ND	ND
1996	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	0.5	ND	ND	ND	ND
	Aroclor 1221	2	ND	ND	ND	ND
	Aroclor 1232	0.5	ND	ND	ND	ND
	Aroclor 1242	0.5	ND	ND	ND	ND
	Aroclor 1248	0.5	ND	ND	ND	ND
	Aroclor 1254	0.5	ND	ND	ND	ND
	Aroclor 1260	0.5	ND	ND	ND	ND
	Aroclor 1262					
1995 (May)	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	0.17	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.05	ND	ND	ND	ND
	Zinc	0.10	ND	ND	ND	ND
1995 (June)	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01		ND		
	Chromium	0.05		ND		
	Copper	0.10				
	Mercury	0.002				
	Nickel	0.05				
	Lead	0.05				
	Zinc	0.10				

1995 (Dec.)	Metals	Detection Limit (mg/l)	MW 1	MW 2	MW 3	MW 4
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.10	ND	ND	ND	ND
	Zinc	0.10	ND	ND	ND	ND
1995	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	0.5	ND	ND	ND	ND
	Aroclor 1221	2	ND	ND	ND	ND
	Aroclor 1232	0.5	ND	ND	ND	ND
	Aroclor 1242	0.5	ND	ND	ND	ND
	Aroclor 1248	0.5	ND	ND	ND	ND
	Aroclor 1254	0.5	ND	ND	ND	ND
	Aroclor 1260	0.5	ND	ND	ND	ND
	Aroclor 1262					
1994 (March)	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.05	ND	ND	ND	ND
	Zinc	0.10	ND	ND	ND	ND
1994 (June)	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.05	ND	ND	ND	ND
	Zinc	0.10	ND	ND	ND	ND
1994 (Sept.)	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	0.78	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.05	ND	ND	ND	ND
	Zinc	0.10	ND	0.46	ND	ND

1994 (Dec.)	Metals	Detection Limit (mg/l)	MW 1	MW 2	MW 3	MW 4
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.05	ND	ND	ND	ND
	Zinc	0.10	ND	ND	ND	ND
1994	PCBs	Detection Limit (ug/l)	MW 1	MW 2	MW 3	MW 4
	Aroclor 1016	0.5	ND	ND	ND	ND
	Aroclor 1221	2	ND	ND	ND	ND
	Aroclor 1232	0.5	ND	ND	ND	ND
	Aroclor 1242	0.5	ND	ND	ND	ND
	Aroclor 1248	0.5	ND	ND	ND	ND
	Aroclor 1254	0.5	ND	ND	ND	ND
	Aroclor 1260	0.5	ND	ND	ND	ND
	Aroclor 1262					
1993	Metals	Detection Limit (mg/l)	MW 1	MW 2	MW 3	MW 4
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.05	ND	ND	ND	ND
	Zinc	0.10	ND	ND	ND	ND
1993 (March)	PCBs	Detection Limit (ug/l)	MW 1	MW 2	MW 3	MW 4
	Aroclor 1016	0.5	ND		ND	ND
	Aroclor 1221	2	ND		ND	ND
	Aroclor 1232	0.5	ND		ND	ND
	Aroclor 1242	0.5	ND		ND	ND
	Aroclor 1248	0.5	ND		ND	ND
	Aroclor 1254	0.5	ND		ND	ND
	Aroclor 1260	0.5	ND		ND	ND
	Aroclor 1262					
1993 (June)	PCBs	Detection Limit (ug/l)	MW 1	MW 2	MW 3	MW 4
	Aroclor 1016	0.5	ND	ND	ND	ND
	Aroclor 1221	2	ND	ND	ND	ND
	Aroclor 1232	0.5	ND	ND	ND	ND
	Aroclor 1242	0.5	ND	ND	ND	ND
	Aroclor 1248	0.5	ND	ND	ND	ND
	Aroclor 1254	0.5	ND	ND	ND	ND
	Aroclor 1260	0.5	ND	ND	ND	ND
	Aroclor 1262					

1993 (Sept.)	PCBs	Detection Limit (ug/l)	MW 1	MW 2	MW 3	MW 4
	Aroclor 1016	0.5	ND	ND	ND	ND
	Aroclor 1221	2	ND	ND	ND	ND
	Aroclor 1232	0.5	ND	ND	ND	ND
	Aroclor 1242	0.5	ND	ND	ND	ND
	Aroclor 1248	0.5	ND	ND	ND	ND
	Aroclor 1254	0.5	ND	ND	ND	ND
	Aroclor 1260	0.5	ND	ND	ND	ND
	Aroclor 1262					
1993 (Dec.)	PCBs	Detection Limit (ug/l)	MW 1	MW 2	MW 3	MW 4
	Aroclor 1016	0.5	ND	ND	ND	ND
	Aroclor 1221	2	ND	ND	ND	ND
	Aroclor 1232	0.5	ND	ND	ND	ND
	Aroclor 1242	0.5	ND	ND	ND	ND
	Aroclor 1248	0.5	ND	ND	ND	ND
	Aroclor 1254	0.5	ND	ND	ND	ND
	Aroclor 1260	0.5	ND	ND	ND	ND
	Aroclor 1262					
1992	Metals	Detection Limit (mg/l)	MW 1	MW 2	MW 3	MW 4
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.05	ND	ND	ND	ND
	Zinc	0.10	ND	ND	ND	0.11
1992	PCBs	Detection Limit (ug/l)	MW 1	MW 2	MW 3	MW 4
	Aroclor 1016	0.5	ND	ND	ND	ND
	Aroclor 1221	2	ND	ND	ND	ND
	Aroclor 1232	0.5	ND	ND	ND	ND
	Aroclor 1242	0.5	ND	ND	ND	ND
	Aroclor 1248	0.5	ND	ND	ND	ND
	Aroclor 1254	0.5	ND	ND	ND	ND
	Aroclor 1260	0.5	ND	ND	ND	ND
	Aroclor 1262					

EXHIBIT 5

Schnitzer

Schnitzer Steel Products Company
1101 Embarcadero West
Oakland, CA 94607

November 30th, 2012

Cecil Felix
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Re: Submission of revised site SWPPP, Water Management Plan, and Material Stockpile plan
For Schnitzer Steel Products Facility, 1101 Embarcadero West, Oakland, CA.

Dear Mr. Felix:

Schnitzer Steel Products Company is pleased to submit a revised SWPPP, Water Management Plan, and Material Stockpile plan for our Oakland facility as discussed during our September 14th, 2012 meeting and in subsequent correspondence.

It should also be noted that these documents directly address the following provisions of the Tentative Cleanup and Abatement Order for Schnitzer Steel Products Facility in Oakland, CA:

1) Task # 8, page 13; Update and Maintain Stormwater Pollution Prevention Plan (SWPPP)
2) Technical and Monitoring Reports #1, page 13; Onsite Water Recycling System and Stormwater Controls.
3) Technical and Monitoring Reports #2, page 14; Storage Piles and Controls

I also wanted to update you on the status of several BMP improvements that have been discussed at our meetings and in correspondence. The industrial wheel wash at the front gate is now fully operational for all outbound trucks. Additionally, the wheel wash for the concrete dock is onsite and in the process of being assembled, and progress continues on the new maintenance area.

Schnitzer Steel looks forward to receiving your comments and suggestions regarding these documents. We would appreciate the opportunity to meet with you in the near future to discuss our facility, our new and revised plans, and our comments on the tentative order. As indicated in our comment letters, we do not believe issuance of the CAO is necessary or warranted in the circumstances.

Thank you for your time and consideration.

Sincerely,

Chris Orsolini
Regional Environmental Manager
Schnitzer Steel Industries
916.512.0269 Mobile
916.985.4810 Office
503.471.4457 eFax
corsolini@sclin.com

Cc: Christine Boschen
Meg Rosegay

Scott Sloan
Bruce Rieser

STORMWATER POLLUTION PREVENTION PLAN
SCHNITZER STEEL PRODUCTS COMPANY
OAKLAND, CALIFORNIA

WDID #2 01I003365

Prepared for

Schnitzer Steel Products Company
1101 Embarcadero West
Oakland, California 94607

Prepared by

Terraphase Engineering Inc.
1404 Franklin Street, Suite 600
Oakland, California 94612

November 30, 2012

Project Number 0055.001.002

terraphase engineering

CONTENTS

Figures

Appendices

Acronyms and Abbreviations

ACSCE	Annual Comprehensive Site Compliance Evaluation
BAAQMD	Bay Area Air Quality Management District
BMPs	Best Management Practices
CFR	Code of Federal Regulations
COD	Chemical Oxygen Demand
CRV	Cash Redemption Value
CWA	Clean Water Act
EBMUD	East Bay Municipal District
HMBP	Hazardous Materials Business Plan
HMS	Heavy Melting Scrap
IGP	NPDES General Permit No. CAS000001
NFR	Non-ferrous Raw
NPDES	National Pollutant Discharge Elimination System
NOI	Notice of Intent
O&G	Oil and Grease
PM	Particulate Matter
QA/QC	Quality Assurance/Quality Control
QC	Quality Control
RWQCB	Regional Water Quality Control Board
SC	Specific Conductivity
SPCC	Spill Prevention Countermeasures and Control
SAP	Sampling and Analysis Plan
Schnitzer	Schnitzer Steel Products Company
SIC	Standard Industry Classification
SWPPP	Stormwater Pollution Prevention Plan
SWPPT	Stormwater Pollution Prevention Team
SWRCB	State Water Resources Control Board
Terraphase	Terraphase Engineering Inc.
TSS	Total Suspended Solids
USEPA	United States Environmental Protection Agency

Certification

Schnitzer Steel Products Company (Schnitzer) annually certifies that its facility at 1101 Embarcadero West in Oakland, California is in compliance with the requirements of State Water Resources Control Board (SWRCB) Water Quality Order 97-03-DWQ for National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001 (Waste Discharge Requirements for Discharges of Stormwater Associated with Industrial Activities excluding Construction Activities), also known as the Stormwater Industrial General Permit (IGP). Schnitzer certifies the facility's compliance with the IGP at the time of the Annual Comprehensive Site Compliance Evaluation (ACSCE).

As required under Section C (Standard Provisions) item 9 of the IGP, the person signing documents makes the following certification (Section C, item 10):

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

Signature Date

Authorized Representative (Print)

Amendment Log

Number	Date	Description	Section (Page)	Prepared By
1	06-2007	Minor stormwater discharge point at the front of the Facility was eliminated. The gutters on Bay 1 were redone and the downspout was redirected to maintain the water on-site. In addition, the berm at the non-ferrous gate was bolstered and a drain and a sump pump were installed to direct water from that area back to the main stormwater collection system. A topographical survey was prepared for the Facility in April 2007. The purpose of the survey was to provide documentation as to the drainage patterns on the site to show that stormwater was being retained on-site.	-	Robin Spencer
2	06-2009	A 1.2 Million Gallon Stormwater Tank was installed and put in service in November 2008 to collect stormwater for use on-site in the Recycled Water System and to eliminate the need for a stormwater detention basin.	-	Robin Spencer
3	08-2011	General update of Site Map and Information, including incorporation of previous addendums into new document.	-	TRC
4	03-2012	Change of Environmental Manager	-	Luc Ong
5	1-13-2012	Rubber guard installed on docks and rumble strips installed	-	Luc Ong
6	4-17-12	K-rail/berm/containment installed (west side of property)	-	Luc Ong
7	5-2-2012	Strip drain for non-ferrous entrance installed	-	Luc Ong
8	5-16-2012	Relocate torch cutting operations	-	Luc Ong
9	Oct and Nov 2012	Complete revision of SWPPP	-	Terraphase
10	10-31-2012	Wheel wash information added	Page 27	Terraphase
11	11-29-2012	Added On-Site Water Recycling Plan	Appendix B	Terraphase
11	11-29-2012	Updated site figures	Figure 2	Terraphase

1.0 INTRODUCTION

This Stormwater Pollution Prevention Plan (SWPPP) was prepared by Terraphase Engineering Inc. (Terraphase) for the Schnitzer Steel Products Company (Schnitzer) facility located at 1101 Embarcadero West in Oakland, California ("the Facility"). Figure 1 is a map showing the location of the Facility. Stormwater discharges associated with the Facility are regulated through the State Water Resources Control Board (SWRCB) Water Quality Order 97-03-DWQ for National Pollutant Discharge Elimination System (NPDES) General Permit No. CAS000001 (Waste Discharge Requirements for Discharges of Stormwater Associated with Industrial Activities excluding Construction Activities), also known as the Stormwater Industrial General Permit (IGP).

The IGP identifies 10 categories of industrial activities subject to both the federal and state stormwater regulations, including recycling facilities, Standard Industrial Classification (SIC) Codes 5015 and 5093. The Facility is classified as SIC Code 5093 – Scrap Recycling, which includes metal scrap yards, battery re-claimers, salvage yards, automobile dismantlers, and recycling facilities which are engaged in assembling, breaking up, sorting and wholesale distribution of scrap and waste material such as bottles, wastepaper, textile wastes, waste oil, etc. With the limited exception of certain consumer recyclables as described below, Schnitzer's operations are limited to scrap metal recycling. Schnitzer does not engage in the recycling of secondary materials or wastes other than those that are generated incidentally in the course of scrap metal recycling operations.

1.1 Regulatory Background

A 1972 amendment to the federal Clean Water Act (CWA) prohibited the discharge of pollutants to the waters of the United States from any point source, including pollutants from stormwater runoff, unless the discharge is specifically permitted in accordance with the NPDES program. In 1990, the US Environmental Protection Agency (USEPA) promulgated final regulations which established application requirements for stormwater discharge permits. These regulations require industrial facilities that discharge stormwater runoff into surface waters, either directly or indirectly via a stormwater conveyance system (such as a stormwater sewer), to obtain an NPDES discharge permit authorizing the stormwater discharge.

Federal regulations allow authorized states to operate the NPDES program and to have permit authority to issue general or individual permits to regulate stormwater discharges associated with industrial activities within their jurisdictions. For discharges to California waters, the NPDES stormwater permitting program is administered by the SWRCB through the nine Regional Water Quality Control Boards (RWQCBs). Under California's program, stormwater discharges are permitted under the IGP issued by the SWRCB or individual NPDES permits issued to dischargers by the RWQCB.

The IGP was initially adopted by the SWRCB on November 19, 1991, and most recently amended on April 17, 1997. Dischargers may apply for coverage of their stormwater discharges under the IGP by submitting a Notice of Intent (NOI). The SWRCB originally received the NOI submitted by the Facility in 1997 (a copy of the NOI receipt letter from the RWQCB is included as Appendix A).

This SWPPP was developed in accordance with SWRCB requirements stipulated in the IGP.

1.2 Purpose

The general purpose of this SWPPP is (1) to identify potential sources of pollutants that may affect stormwater quality; (2) to identify best management practices (BMPs) intended to reduce pollutants in stormwater; and (3) to provide practical guidance to the Facility designed to assist management in implementing the recommended BMPs.

This SWPPP is an evolving or living document, which will be updated as the operations of the Facility change and as additional information is gained regarding the control of stormwater pollutants. The SWPPP will be amended (see above Amendment Log) whenever there is a change in operations, maintenance, or new construction that may affect the discharge of pollutants to stormwater. The SWPPP will also be amended to describe improvements implemented to resolve violations of the IGP, or that will be undertaken if the Facility has not achieved the objectives of controlling stormwater discharges or pollutants contained within such discharges, as specified in the SWPPP.

The SWPPP has the following objectives:

- To identify and evaluate sources of pollutants associated with industrial activity that may affect the quality of potential stormwater discharges and authorized non-stormwater discharges.
- Provide effective control of discharges to the stormwater collection system.
- To identify and implement site-specific BMPs to reduce or prevent pollutants in potential industrial stormwater discharges and authorized non-stormwater discharges.
- Monitor the Facility for compliance.
- Maintain an effective stormwater awareness training program.

1.3 Implementation Schedule

The BMPs that do not involve major construction are intended to be implemented before the beginning of the wet season but no later than October 15th of each year.

1.4 Updates/Revisions

As necessary, this SWPPP will be updated to incorporate changes in stormwater regulations, monitoring procedures, BMPs implemented at the Facility, and Schnitzer corporate policy. The SWPPP will be revised as appropriate, and prior to changes in industrial activities which (1) may

significantly increase the quantities of pollutants in stormwater, (2) cause a new area of industrial activity at the facility to be exposed to stormwater, (3) begin an industrial activity which would introduce a new pollutant source at the facility, or (4) result in a new discharge of stormwater from the Facility. Updates may consist of temporary addenda to this SWPPP or re-issuance of a revised SWPPP, depending on the extent of the changes.

In addition, this SWPPP will be updated, or revised as appropriate, if the SWRCB, RWQCB, or local regulatory agency notifies Schnitzer that the SWPPP does not meet one or more of the requirements of the IGP. Schnitzer will submit the revised SWPPP and implementation schedule to the requesting regulatory agency in accordance with the agreed upon schedule. Within 14 days of submitting the revised SWPPP, Schnitzer will submit a written certification to the applicable regulatory agency that the revisions have been implemented.

Schnitzer will revise the SWPPP and implement the necessary revisions to the Facility stormwater management system within 90 days of determining that the Facility is in violation of the requirements of the IGP. If implementation of necessary revisions cannot feasibly be achieved by the 90-day deadline (for example, if significant structural changes are needed), Schnitzer will submit a report to the RWQCB prior to the applicable deadline that 1) describes the BMPs that cannot feasibly be implemented within 90 days, 2) provides justification for a time extension, 3) presents a schedule for completing and implementing the BMPs, and 4) describes the BMPs that will be implemented in the interim period to reduce or prevent pollutants in stormwater discharges. Such reports are subject to RWQCB approval and/or modifications. Schnitzer will provide written notification to the RWQCB within 14 days after the SWPPP revisions are implemented.

The SWPPP Amendment Log and Statement of Completion can be found at the beginning of this document.

1.5 Non-Compliance

Non-compliance would include the failure to adhere to the SWPPP requirements (including documentation/compliance records, inspections, sampling, maintenance, etc.) and general requirements associated with implementation of the IGP. Non-compliance may include, but is not limited to, the failure to adhere to the following SWPPP and associated IGP requirements:

- Perform routine (as scheduled) stormwater inspections of the Facility during precipitation events as required by the IGP.
- Conduct site inspections in accordance with established SWPPP requirements and implement recommended solutions and/or mitigation measures within the agreed to schedule; follow up in a timely manner to assess the effectiveness of revised BMPs or other mitigation measures.
- Follow established spill prevention and response procedures.

- Monitor and inspect the facility to prevent illicit connections/illegal discharges and conduct quarterly visual observations of drainage areas to detect the presence of unauthorized non-stormwater discharges and their sources.
- Prepare and maintain records of site visits.
- Prepare regular and accurate reports.
- Update BMPs as necessary.
- Perform sampling and basic field testing of stormwater runoff flows in accordance with the IGP schedule; assess potential pollutants and further need for water quality monitoring.
- Prepare SWPPP amendments/updates when there are changes to the Facility, when modifications to existing stormwater BMPs are conducted, or when Facility practices/measures are developed to address identified pollutants of concern.
- Provide annual compliance reports by the required deadline (July 1st)

It is the responsibility of the Facility manager to certify compliance by ensuring that the SWPPP is in place and is implemented correctly.

1.6 Availability

This SWPPP is retained on-site and made available (upon request) to the RWQCB and/or local regulatory agencies. It does not need to be submitted to the SWRCB, RWQCB or other regulatory agency for approval.

1.7 Plans and Programs

In addition to this SWPPP, the Facility implements the following related programs and plans at this facility:

- The **Hazardous Materials and Hazardous Waste Incident Response and Contingency Plan**, which contains the procedures for emergency response and the emergency response equipment available for cleanup of petroleum-related spills.
- The **Spill Prevention Control and Countermeasures (SPCC) Plan**, which describes the petroleum storage facilities (above-ground storage tanks) and filling operations, potential spill sources and spill pathways, spill prevention and controls, and inspection and training guidelines.
- The **Hazardous Materials Business Plan (HMBP),** which includes industrial activities information and hazardous materials inventory.
- The **On-Site Water Recycling Plan (Appendix B)** , which describes the capture, treatment, and re-use of stormwater and process water on the Facility.

1.8 SWPPP Team

The Stormwater Pollution Prevention Team (SWPPT) is responsible for implementing the SWPPP such that it remains an effective compliance tool to reduce the potential for impacts to the environment caused by pollutants in stormwater runoff. The SWPPT is made up of key on-site personnel who are familiar with the Facility and its operations. The SWPPT is comprised of key representatives from the Facility's operations team. It includes personnel from management, operations, material and waste handling, maintenance, and shipping and receiving.

The individuals listed below have been given the responsibility for:

- Implementing and enforcing the IGP and SWPPP;
- Defining appropriate goals for the Facility's stormwater management program;
- Evaluating the effect changes to the Facility's operations will have on the stormwater management program;
- Updating the SWPPP, as necessary;
- Implementing and inspecting BMPs, as necessary;
- Reporting the inspection and sampling results to the appropriate regulatory agencies, as required;
- Signing documents, as delegated by the Facility Manager; and
- Retaining records related to the stormwater management program for at least five years.

Facility Contacts:

- Jim Pierce – Facility Manager – Primary Contact
- Chris Orsolini – Environmental Manager – Secondary Contact

1.9 SWPPP Organization

The sections in the SWPPP include the following: Section 2.0 describes the Facility layout, industrial processes, and the stormwater collection system; Section 3.0 identifies potential stormwater pollutant sources and pollutant loadings; Section 4.0 identifies and discusses implementation of BMPs; Section 5.0 describes stormwater monitoring; Section 6.0 details the reporting requirements, including the Annual Comprehensive Site Compliance Evaluation; and Section 7.0 discusses recordkeeping.

A copy of the Notice of Intent (NOI) receipt letter is included in Appendix A; On-Site Water Recycling Plan is included in Appendix B; the significant materials summary is included in Appendix C; information on the structural BMPs is included in Appendix D; and monitoring forms are in Appendix E.

2.0 FACILITY DESCRIPTION

The Facility is located at 1101 Embarcadero West in Oakland, California (Alameda County). The Facility is a scrap metal recovery and recycling facility occupying approximately 26.5 acres of flat-lying land adjacent to the Oakland Inner Harbor waterfront and the Port of Oakland (Figure 1). The facility is bounded to the south by the Oakland Inner Harbor, to the east and west by the Port of Oakland, and to the north by Embarcadero West and Union Pacific Railroad tracks.

The Site Map (Figure 2) indicates the Facility boundaries, drainage areas and flow patterns, BMPs, and locations of specific industrial activities and significant materials.

2.1 Industrial Activities and Processes

Operations at the site include shredding of light iron products including automobiles, appliances, and other recyclable light steel materials; shearing and torch cutting of heavy recyclable steel products; preparation and sorting of ferrous and non-ferrous metal recycling feedstock; temporary storage of finished recycled metal products and non-recyclable waste materials, and maintenance of facility equipment. Raw bulk scrap is delivered to the Facility by both rail and truck at the main commercial entrance where it is inspected and sorted.

Incoming bulk scrap metal is segregated into the following material streams:

- "Bonus" heavy melting steel (HMS) material that will be processed by torch cutting into smaller sizes for shipment;
- Standard grade HMS that will be processed by shear cutting into smaller sizes for shipment; and
- Shredder feed material consisting of light iron products including automobiles, appliances and other recyclable light steel materials.

At the Shedder, light iron products are shredded so that ferrous metal can be isolated from non-ferrous metals and residual non-metallic materials. The intermediate non-ferrous stream resulting from shredding operations is known as non-ferrous raw (NFR) which consists of both non-ferrous metal and non-metallic materials. NFR is processed further in the Joint Products Plant where non-ferrous metal is separated, by metal type, from non-metallic materials. Upon completion of the non-ferrous separation processes, the non-metallic shredder residue is then treated with cement and silicate, which binds trace remnant metals in the residue to reduce their solubility. The treated shredder residue is transported by truck to off-site disposal locations for use as alternative daily landfill cover.

The processed ferrous scrap is stockpiled at the Facility and is eventually loaded at the Facility's docks into cargo ships for export.

California Redemption Value (CRV) goods, such as plastic and glass, scrap and non-bulk ferrous/non-ferrous metal scrap are received at the Facility at the Peddler Gate and are also inspected and sorted. Incoming scrap at the Peddler Gate is weighed, sorted and segregated by hand, into bins by scrap type, and either baled at the non-ferrous building and/or stored in cargo containers for transport by truck to a Port of Oakland container loading dock.

2.2 Hydrologic Conditions

Topographic and structural controls have been installed at the Facility to retain stormwater and surface drainage on-site within the Facility's processing areas for recycling and reuse. The primary structural control is an approximately 2,200-foot long concrete berm (seawall) that runs along the Facility's perimeter effectively preventing discharge to the Oakland Inner Harbor. There are no stormwater outfalls at the Facility. The only potential point sources at the Facility are the ship-loading dock and wooden conveyor pier that extend over open water.

The Facility has four primary drainage areas that correspond to specific areas of industrial activity at the Facility (refer to the Site Map; Figure 2). Stormwater runoff from the Site Entrance and Non-ferrous Area (Area 1) is pumped to the Product Storage Areas (Areas 3 and 4) and contained by the concrete berm, where the contained stormwater is allowed to evaporate and/or is pumped to Area 2 for storage and eventual use as shredder cooling or dust control water. Although these Product Storage Areas (Areas 3 and 4) are not lined, the ground surface is highly compacted due to the weight of the stored scrap and frequent heavy truck traffic, thus minimizing the amount of infiltration that occurs in these areas. Stormwater sourced from, or pumped to, the Material Processing Area (Area 2) is collected in several sumps, processed through a clarifier system and oil-water separator, and stored in a 1.2-million gallon aboveground storage tank for use as shredder cooling water or in dust suppression operations.

The following table summarizes the Facility's stormwater retention and storage capacities:

Drainage Area Storage Capacity[1]

Drainage Area	Basin Storage Capacity[2]	Tank Storage Capacity	Estimated Total Capacity
	Acre-Feet	Acre-Feet	Acre-Feet
1	0.0	0.0	0.0
2	0.7	3.7	4.4
3	1.3	0	1.3
4	0.3	0	0.3
Facility	2.3	3.7	6.0

1 Based on Drainage Report and Plan (TRC 2000).

2 Due to product storage, only 50% of space is available for water storage.

The Site Map (Figure 2) indicates the Facility boundaries, drainage areas and flow patterns, structural BMPs and drainage controls, as well as locations of specific industrial activities and significant materials.

3.0 POTENTIAL POLLUTANT SOURCES

The Facility, like most industrial sites, has many potential pollutant sources. The potential pollutant sources at the Facility are comprised of substances stored, machineries used, processes conducted, materials used, and wastes generated. A comprehensive table of the significant sources of potential pollutant sources identified at the Facility is included below. The table includes the potential pollutant sources' typical area of use (Figure 2) and the spill control device or BMP used to mitigate stormwater contamination. BMPs for mitigating stormwater impacts are further discussed in Section 4. Appendix C contains the significant materials summary for the Facility.

Generally, each area/process on the Facility is discussed below including the substances used or activities taking place.

3.1 Petroleum Products Storage

Petroleum impacts to stormwater quality could occur from equipment fuel/fluid leaks and exposure of petroleum products and product storage areas to direct precipitation and stormwater runoff. Fuel and bulk chemical tanks located at the Facility are equipped with engineered secondary containments. Oil-filled equipment at the Facility that does not include secondary containment or similar structures is protected by spill kits maintained in nearby locations. Petroleum products are stored on-site primarily at the following locations:

- Fuel Storage Area (Area 2) – This area contains a 10,000-gallon diesel tank and 250-gallon gasoline tank. The diesel and gasoline tanks are contained within concrete secondary containment with more than 110% containment capacity.
- Fuel truck (Site-wide) – An 1,800-gallon diesel tanker truck is used for refueling on-site vehicles and equipment. When the fuel truck is not in use, it is parked in the Maintenance Area (Area 1 – Bay 1 with a roof covering).
- Lube truck (Site-wide) – The lube truck has two 250-gallon tanks for hydraulic oils, one 250-gallon tank for motor oil, and one 55-gallon drum of grease. When the lube truck is not in use, it is parked in Maintenance Area (Area 1 – Bay 1 with a roof covering).
- Used Oil (Area 1) – Used waste oil is stored at the Maintenance Area (Non-ferrous building) in a 480-gallon double-walled tank.
- Hazardous Materials Storage Area (Area 1) – This area contains brake fluids, hydraulic fluids, transmission oils, antifreeze, motor oils, lubricants, and greases for use in the facility. Typically, there are approximately ten 55-gallon drums stored at the Facility. The hazardous materials pad, located in Bay 1 under the roof, consists of a metal grating over a secondary containment unit that can capture approximately 3,000 gallons.

- Hazardous Materials Storage Area (Area 2) – This area contains motor oils, lubricants, and greases for use in the Maintenance Shop. Approximately ten, 55-gallon drums of petroleum products are stored here on secondary containment pads.

3.2 Vehicle Maintenance

Vehicle maintenance occurs at the Maintenance Shop located in Area 2. Motor oil and hydraulic oils are drained from the equipment and replaced as necessary by Facility mechanics. Off-road equipment maintenance occurs at the Maintenance Area (Area 1). Used/waste oils are stored in a double-walled vault with a 480-gallon capacity. Daily servicing (refueling and lubrication) of the large pieces of equipment is provided by the operators of the diesel tanker and lube trucks.

Spill clean-up supplies are maintained throughout the facility where oils and waste fluids are handled or stored. The following spill clean-up supplies are maintained onsite:

- Dry absorbent (i.e."Kitty Litter" or clay absorbent);
- Brooms, shovels for sweeping and picking up contaminated absorbents;
- Clean rags for wiping up residual spilled fluids; and
- Container with secured lid for storing collected contaminated absorbent until disposal.

Spills are cleaned up upon discovery, using dry techniques. The collected contaminated adsorbent and rags are stored in a can or 55-gallon container, equipped with a secured lid, until the used adsorbent or dirty rags can be shipped off-site for proper waste disposal or recycled for reuse.

3.3 Storage Bin and Truck Maintenance

Schnitzer stores and maintains scrap metal storage bins and trucks on-site, and services equipment in the on-site maintenance area and/or in the processing areas. Servicing of the equipment includes fueling and maintenance and repair. Potential routes of stormwater exposure are limited to rainfall and surface drainage coming in contact with the vehicles, equipment, and the uncovered bins. Potential pollutants include sediment, rust, metal chips/flakes from metal surfaces, paint chips/flakes, oil/chemical residues on the bins and equipment, lubricating oil, and/or cutting fluids.

3.4 Scrap Recycling

Scrap metal is typically received in uncovered trailers and bins. Incoming trucks and trailers are weighed at the scales. Schnitzer only accepts vehicles, engine blocks, and appliances that have been drained of fluids. Gasoline, diesel, and other automotive fluids (e.g., motor oil, antifreeze, brake fluid, power steering fluid, transmission fluid) must be removed from cars and other vehicles before they are accepted into the facility. Once the material is received, Schnitzer

stores the scrap for processing either by shredder, shear, or torch cutting into smaller pieces. Scrap material processing is limited to sorting and segregating the scrap by material type and cutting of bulk scrap metal down in size. Schnitzer processes include separating the ferrous and non-ferrous metals out of the scrap, separating and treating the shredder residue, and compaction in the non-ferrous baler. Bulk processed metal scrap is then staged into bulk storage piles. Torching operations on larger pieces of scrap are conducted in the scrap metal processing and storage areas on uncovered paved pads.

Potential routes of stormwater exposure are limited to rainfall and surface drainage coming in contact with the uncovered scrap metal. Potential pollutants include sediment, rust, metal chips/flakes from processing, paint chips/flakes, oil/chemical residues on the scrap, lubricating oil, and/or cutting fluids.

3.5 Material Storage Areas

Shredder residue is treated with cement and silicate, which binds trace metals in the residue to reduce solubility. The treated shredder residue is transported by truck to off-site disposal facilities for beneficial use as alternative daily landfill cover. The maximum amount of treated shredder residue typically stored on the ground surface at the Facility is approximately 350 tons.

The outdoor product storage is located within the graded areas of the facility (up to approximately 20 acres within Areas 2 through 4). Potential routes of stormwater exposure are limited to rainfall and surface drainage coming in contact with the uncovered products (estimated to average between 70,000 and 80,000 tons of material).

3.6 Dust and Particulate Generating Activities

Operations and vehicle traffic have potential to produce dust on the roads and throughout the facility. Two street sweepers run frequently on the internal paved access roads to control the buildup of dirt, dust and debris. In addition, the access road that parallels the northern boundary of the Facility (Embarcadero West) is swept six times each day (three times by each mechanical sweeper) to remove track-out, beginning at the main entrance and extending to the intersection of Embarcadero West and Market Street. Each street sweeper has two sets of brushes, one for use on internal access roads and one for sweeping Embarcadero West. The brushes are changed out between sweeping the Facility and Embarcadero West to further reduce potential pollutants leaving the Facility.

When necessary, water trucks apply water on the roads, scrap metal stockpiles, and treated shredder residue stockpiles to mitigate fugitive dust and particulates. In addition, portable dust suppression equipment (see Appendix D) is used as necessary to mitigate fugitive dust and particulates from the product piles.

Ship loading activities can also generate dust. Large mine trucks transport product onto the dock, where it is unloaded into a three-sided hopper which is lowered by crane into the hold of

the ship. During the unloading process, a continuous spray of water is applied to the product to reduce fugitive dust and particle emissions. The water spray is only activated during the few seconds when the large mine truck is discharging cargo into the shiploading hopper in order to minimize runoff.

Summary of Potential Pollutant Sources

Area	Activity	Pollutant Source	Pollutant	BMP(s)
Maintenance Shop (Area 1)	Vehicle and Equipment Maintenance	Spills; Leaks; Washing down the maintenance area	Oils, greases, lubricants, anti-freeze, solvents, fuels	Site personnel are trained in safe material handling procedures, materials management practices, good housekeeping, and spill prevention and response.
				Perform maintenance activities only in designated work areas
				Post BMPs in work areas
				Inspect maintenance areas daily for presence of spills or leaks
				Hazardous waste storage areas have secondary containment which are inspected weekly for integrity
				Spilled or leaked oils, greases, chemical materials or waste fluids, either outside or inside buildings, are cleaned using dry techniques such as adsorbents (rags, grease sweep, kitty litter, etc), sweeping and/or shoveling
	Hazardous Materials and Waste Transfer and Storage	Spills; Leaks		Store hazardous materials and waste under cover, on a sealed surface equipped with secondary containment in secured and labeled containers
				Label the waste containers with the name, description of the waste and the current storage start date.
				Post BMPs in work areas
				Maintain a current inventory of hazardous materials used onsite and hazardous wastes generated on-site
				Inspect hazardous materials and wastes storage areas daily for proper implementation and maintenance of control measures and containment integrity
				Facility personnel are trained in safe material handling procedures, materials management practices, good housekeeping, and spill prevention and response.
				Material transfer operations are closely observed by trained facility personnel.
				Hazardous waste storage areas have secondary containment and are inspected weekly for integrity.
				Keep the containers, containment and storage areas clean, dry and free of spills, oil residues, trash, debris

Area	Activity	Source	Constituent of Concern	BMP(s)
Equipment Fueling Areas (Areas 1, 2, and 4)	Fueling	Spills; Leaks	Diesel, gasoline	Reports, annual inspections, monitoring data, and spill response information is kept on-site in accordance with regulatory requirements
				The gasoline and diesel tanks have secondary containment which are inspected weekly for integrity
				Facility personnel are trained in safe material handling procedures, materials management practices, good housekeeping, and spill prevention and response
Parking Area, Bin Storage, and Embarcadero West (Area 1)	Vehicle Traffic	Leaks; Dust	Metals, fuels	Significant vehicle leaks in parking areas are identified in a timely manner and contained with drip pans and cleaned up as necessary
				Sediment deposits on paved areas are to be cleaned daily
				Regular street sweeping of the two entrances and Embarcadero West to remove track-out
Site-wide	Facility Operations	Dust, Debris, Spills	Particulates, fuels, trash	Good housekeeping is employed to reduce debris
				Post BMPs in work areas
				Train employees on proper cleanup and waste disposal practices at the time of initial employment, then at least annually thereafter
				Inspect the site at least daily to insure proper implementation and maintenance waste control and housekeeping procedures
				The Facility is maintained to prevent areas of erosion
				Inspect the Facility at least daily to insure proper implementation and maintenance waste control and housekeeping procedures
Area 1	Scrap Receiving	Dust, Spills, Scrap Metal	Particulates, fuels, metals	Incoming scrap metal shall be inspected upon arrival prior to acceptance by Schnitzer
				Incoming scrap shall be accepted or rejected based on the condition of the incoming load
				Incoming scrap metal loads which are heavily contaminated with oil/grease, residues shall be rejected unless the entire load can be staged undercover and on a contained pad until shipped offsite
				Incoming scrap metal loads mixed w/soil, trash and/or debris shall be rejected, unless the scrap metal can be isolated from the incoming load prior to acceptance of the load; soil, trash and debris shall be rejected
				Core automotive parts shall be stored within containment
				Fluid bearing scrap metal parts shall be rejected unless the parts have been drained and cleaned prior to acceptance

Area	Activity	Source	Constituent of Concern	BMP(s)
Area 2 and 3	Scrap Metal Processing and Storage	Dust, Spills, Scrap Metal, Auto Fluff	Particulates, fuels, metals	Operational activities shall be performed on a paved and/or bermed pad whenever possible.
				Perform operational activities only in designated work areas
				Inspect, and monitor daily, baling, torch cutting and shearing operations for oil/fluid leaks and spills, trash/debris accumulation, upon discovery and at the end of the shift, clean up spills and accumulated trash/debris
				Post BMPs in work areas and storage areas.
				Train employees on proper operational procedures and control measures at the time of initial employment, then at least annually thereafter
				Inspect operation work areas daily to insure proper implementation and maintenance of operational procedures and control measures
				Roadway and paved surface dust control shall be limited to sweeping and/or wet-vac sweeping
				Water shall be sprayed on scrap piles as necessary to control dust emissions
				At least once a day and prior to significant anticipated storm events, scrap storage piles shall be inspected and accumulated trash/debris shall be removed and disposed of and significant spills or leaks cleaned up
				At least once a day and prior to significant anticipated storm events, paved surfaces shall be swept and the sweeping wastes stored in a closed/covered trash bin
				Leaking/damaged equipment shall be repaired prior to continued use
				Inactive equipment shall be cleaned and fluids removed prior to outside storage
				A minimum of 8' clearance (no scrap storage) shall be maintained at stormwater collection system features (including inlets and swales)
Area 4	Ship Loading	Dust, Spills, Scrap Metal	Particulates, fuels, metals	Rumble strips are present at the entrance to the Pier Crane dock to remove sediment from truck tires
				Rubber edging is installed on the dock sides to contain sediment
				The docks are swept of sediment as needed
				Water is sprayed on the ship loading hopper and the pier crane hopper during loading to prevent dust emissions

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3.7 Authorized Non-Stormwater Discharges

Non-stormwater discharges consist of discharges which do not originate from rainfall events. Visual observations to identify authorized non-stormwater discharges at drainage areas within the Facility are conducted at least quarterly, as required by the IGP.

Currently, there are no authorized non-stormwater discharges that occur at the Facility.

Approved non-stormwater discharges that could occur include the following:

- Discharges from water line flushing or other potable water sources;
- landscape irrigation or lawn watering;
- rising groundwater;
- groundwater infiltration to storm drains;
- uncontaminated pumped groundwater;
- air conditioning condensation; and
- fire-fighting activities.

3.8 Unauthorized Non-Stormwater Discharges

As discussed above, there are no stormwater outfalls at the Facility, and there are no connections to the municipal separate storm sewer system or to any storm drain system operated by the Port of Oakland. All stormwater that falls on the site is contained and routed to the On-site Water Recycling System for reuse on-site. Schnitzer does not discharge any other materials to the Facility's stormwater collection system other than process (dust control) water that is applied to product storage piles, roads, loading and unloading areas, etc. to control the potential for particulate emissions (although it is noted that any such discharges into the On-Site Water Recycling System, were they to occur, would not be regulated under the IGP since that system does not discharge directly or indirectly to waters of the United States).

If an activity results in the generation of a waste, the waste will be collected and disposed of off-site in accordance with applicable regulations. If a waste or material is accidentally spilled, it will be promptly cleaned up and will not be washed into or otherwise allowed to enter the stormwater collection system.

The following types of discharges are prohibited:

- Illegal Connections: To establish, use, maintain, or continue an illegal connection to the City of Oakland or Port of Oakland's stormwater conveyance system is prohibited; and

- Littering: To throw, deposit, leave, maintain, or keep refuse, rubbish, garbage, discarded or abandoned objects, articles, or other materials containing pollutants which may result in an illegal discharge to waters of the United States is prohibited.

Shredding and other processing operations at the Facility produce fibrous material, dirt, and other particulate debris that can be dispersed by wind or water, or tracked out of the Facility by vehicles, if not adequately controlled. To the extent this type of debris is allowed to accumulate in locations where it may subsequently be discharged into the Oakland Inner Harbor (e.g., by falling into the water during ship loading operations, or by being blown onto neighboring property where it could later be washed into a storm drain), such discharges would be considered unauthorized non-stormwater discharges and are prohibited. Ambient dust associated with Facility operations is considered a "non-point source" and is not regulated under the IGP.

3.9 Soil Erosion

The Facility is located on flat lying land and much of the area is covered with product storage stockpiles, or consists of intact or degraded pavements. Concentrated erosion areas are not evident at the Facility.

Periodically, in accordance with the BMP maintenance and inspection schedule, SWPPT personnel will inspect the Facility and identify areas where soils are being worn or eroded by surface drainage. The SWPPT shall be responsible for reducing soil erosion at the Facility through implementation and maintenance of appropriate soil erosion controls, including, but not limited to the following:

- Diverting runoff away from areas of erosion.
- Stabilizing/covering the erosion areas with vegetation, gravel, retention structures, and/or pavement and concrete.

3.10 Improper Connections to the Storm Drain

There are no known connections at the Facility to any storm drain system that conveys stormwater to waters of the United States.

The SWPPT will continue to conduct ongoing inspections to detect and address non-stormwater discharges to the Facility's stormwater collection system.

3.11 Spills of Significant Materials after April 17, 1994

There are no known significant spills and/or leaks at the Facility since 1994. Significant spills considered included, but are not limited to, releases of oil or hazardous substances in excess of reportable quantities. However, in 2009 an auto shredder residue pile caught fire, resulting in

the generation of fire-fighting wastewaters containing fire-retardant chemicals. Fire-fighting water was captured and recycled for re-use on-site.

3.12 Generated Wastes

The following are the types of wastes generated at the Facility and the means used to dispose of the wastes.

Domestic Waste: The Facility's domestic wastewater is discharged to the East Bay Municipal District (EBMUD) sanitary sewer system from the offices on-site.

Process Wastewater: The Facility has an EBMUD special discharge permit, but currently does not discharge process water under it.

Hazardous Waste: Waste oils, spent cleaning solvent, and antifreeze are generated from routine equipment operation and maintenance activities. The Facility generates less than 500 gallons of hazardous wastes per year on average. The Facility's hazardous wastes are managed in accordance with Title 22 of the California Code of Regulations.

Solid Waste: The Facility operates a particulate matter (PM) emission control system on the Shredder. Both the shredder and PM emission control system are permitted by the Bay Area Air Quality Management District (BAAQMD). Emission control residues from the system are periodically removed and disposed of off-site. Emission stacks are not "point sources" and are not regulated under the IGP. Treated shredder residue (non-hazardous) is temporarily stored at the Facility until it is transported off-site to local landfills where it is beneficially used as alternative daily landfill cover. Facility trash is collected by a waste management contractor and disposed of off-site.

4.0 BEST MANAGEMENT PRACTICES (BMPS)

BMPs are a very broad class of measures and may include processes, procedures, scheduling activities, prohibitions on practices, and other management practices to reduce stormwater impacts. Typically BMPs are divided into two categories: 1) Non-structural (operational or administrative controls) and 2) Structural BMPs (physical or engineering controls).

4.1 Non-structural BMPs

Non-structural BMPs generally consist of administrative procedures and non-operational controls and include scheduled inspections, maintenance, employee training, and other management activities and controls. Schnitzer has implemented several non-structural BMPs at the Facility, as described in the following subsections.

4.1.1 Good Housekeeping

Impervious (paved, concreted, or otherwise "sealed") surfaces, both inside as well as outside, shall be kept free of potential pollutants that are generated or accumulated at the Facility (i.e., process areas, dumpster areas, etc.), including implementation of the following:

- Keep work areas, both inside and outside (dumpsters, work areas, storage areas, shipping and receiving areas, etc.) free of trash and debris. Control litter by sweeping and picking up trash on a daily basis.
- Routine sweeping of internal access roads and Embarcadero West.
- Inspect weekly and, when needed, clean drainage channels, drop inlets, and sumps that are part of the Facility's On-site Water Recycling System.
- Clean up spills when they are discovered to reduce safety hazards and deter spreading.
- Use "dry" cleaning methods (sweeping, vacuuming, machine scrubbing, etc.) on impervious surface such as work areas, storage areas, and shipping and receiving areas, and dispose of waste properly in a covered trash bins or drums.
- Properly contain and dispose of cleanup materials (rags, towels, absorbent materials, etc.).
- Do not discharge wash water to the stormwater collection system or to the Oakland Inner Harbor. Wash water generated at the Facility will be collected and contained for proper disposal and/or recycling and reuse.

4.1.2 Preventative Maintenance

Vehicle and equipment operation, fueling, maintenance, and repair shall be conducted in such a manner as to avoid contributing pollutants to the Facility's stormwater, including implementation of the following:

- On-site fueling areas will be paved. Spills and leaks will be collected and contained.

- On-site fueling areas shall be inspected after each use. Significant spill, leak, or accumulated liquids shall be cleaned up. Absorbent materials shall be used to clean up spills and leaks.
- At least daily, each on-site fueling area will be inspected and trash, debris, spills, leaks, and used absorbent shall be cleaned up and disposed of or removed.
- When practicable, conduct equipment and vehicle maintenance and repair activities under cover on paved and contained impervious pad.
- Store fluid-bearing parts under a cover.
- Clean up significant spills or leaks using dry methods only (i.e., adsorbents, sweeping, machine scrubbing, etc).
- During maintenance activities, do not leave open containers of motor oils, waste fluids, or other chemical materials unattended.
- Maintain site equipment and vehicles in good operating order and in accordance with manufacturers' recommendations.
- Inspect weekly forklifts, pumps, compressors, vehicles, etc., for leaks or accumulation of potential pollutants.
- Use of drip pans and other appropriate containment devices during maintenance of equipment.
- As part of the hazardous waste management program, satellite accumulation areas are checked weekly for secondary containment integrity, container integrity and signs of leakage or spills.

4.1.3 Spill Prevention and Response

Spills and leaks are the most significant potential source of stormwater pollutants at the Facility. The Facility's SPCC plan includes a summary of the steps that will be taken by site personnel to identify and characterize potential spills and reduce spill potential, and to respond to spills when they occur in an effort to prevent potential pollutants from entering the Facility's stormwater collection system. Even though none of the water that is collected by the Facility's stormwater collection system is discharged to waters of the United States, this SWPPP contains BMPs designed to prevent potential pollutants from entering the system.

Spills are addressed through use of appropriate material handling devices and methods and by training personnel. In addition, site inspections are conducted to check if containers are closed and secure and are secondarily contained, if appropriate. The following BMPs shall be implemented and maintained:

- Use of secondary containment measures for hazardous waste storage areas and wash waters staging areas.
- Clean up spills or leaks using dry methods (i.e., adsorbents, sweeping, machine scrubbing, etc.).

- Use drip pans under vehicles or equipment that may leak (hose connections, filler nozzles, etc.) and repair leaking and damaged equipment as soon as possible, but no less than 24 hours after discovery of the leak or malfunction.
- Maintaining proper spill kits at locations where potential spills might occur. Spill kits are located on the fuel and lube trucks.
- Properly contain and dispose of cleanup materials (rags, towels, absorbent materials, etc.).
- Maintenance of containers in good condition and safe storage.

4.1.4 Material Handling and Storage

Handling and storage of unprocessed and processed metal products and their byproducts is typically conducted outdoors as covering these areas is infeasible. Some handling and storage of non-ferrous products is conducted under overhead coverage. The BMPs to be used during the handling and storage of unprocessed and processed metal products and their byproducts include but are not limited to the following:

- Employees who handle metal products are properly trained.
- Strict compliance with Scrap Acceptance Policy is mandatory.
- Standing water is conveyed to the on-site water recycling system.
- Prior to breakdown or processing of unprocessed metal products, they are again inspected for the presence of hazardous liquids and other prohibited hazardous materials.
- Periodic inspection of the storage facilities.

For other materials, such as petroleum products, paint, etc., materials loading, unloading, and storage activities shall be conducted in such a manner as to reduce the chance that stormwater will contact pollutants and as to avoid spills in areas where hazardous and non-hazardous materials are loaded, unloaded (e.g., delivery or shipping docks), or stored (bulk storage areas, etc.). Petroleum products, other hazardous materials, and hazardous wastes are stored under cover when possible. The BMPs to be used on the Facility include but are not limited to the following:

- Employees who handle materials and wastes are properly trained.
- Materials and wastes are stored in compatible containers that are labeled and can be securely closed.
- Materials are stored in such a way as to reduce the occurrences of spills due to dropping a container.
- When containerized materials are moved via forklifts, operators have been trained in safe practices and spill response.
- Materials handling and storage areas are regularly inspected for tank integrity and leaks.

- Materials stored or staged outside shall be tarped and placed on serviceable pallets.
- Pallets, crates, boxes, drums, and bags of materials staged or stored at the Facility's outside shipping and receiving areas shall be dated upon staging or storage, using the following format: 17OCT12.
- Prior to breakdown or processing of palletized material staged or stored outside, the material shall be moved under roof.
- Periodic and documented inspection of materials and waste handling and storage facilities.

4.1.5 Waste Handling/Recycling

Pollutants are kept from entering stormwater by proper waste handling and disposal practices including: tracking waste generation, storage, and disposal. Also, reducing waste generation and disposal through source reduction, reuse, and recycling when possible are source control practices. Managing run-on and runoff to and from areas where waste is handled and stored will also reduce the potential for pollutants from entering stormwater.

Proper waste handling and recycling efforts can be accomplished by employing the following source controls:

- Store and dispose of hazardous wastes in accordance with the Facility's HMBP.
- Stage solid waste (e.g., municipal trash) containers (i.e., bins, drums, etc.) on an impervious surface in covered and water-tight bins.
- Solid wastes (e.g., trash) containers/areas must be kept covered when not in use or be otherwise contained (this BMP does not apply to treated or untreated shredder residue, which is stored in outdoor stockpiles).
- Do not overfill waste containers, whether they contain solids or liquids.
- Inspect each solid waste storage area weekly and clean/remove accumulated trash, litter, and debris when necessary.
- Clean up spills and leaks using dry techniques only.
- Production planning and sequencing to limit amount of waste generated.
- Maintenance of chemical, petroleum, and lubricant containers in good condition and safe storage. Store containers under cover on an impervious, bermed surface.
- Store fluid-bearing parts under cover on an impervious, bermed surface.
- Dispose or recycle wastewater in accordance with applicable regulations.

4.1.6 Employee Training

Since each of the facility's employees is responsible for, and contributes to, the Facility's housekeeping and maintenance, employees are provided training on implementation and

enforcement of the BMPs. An employee training program has been implemented at the Facility to inform employees of the components and goals of Schnitzer's SWPPP.

The intent of the employee training program is to create an overall sensitivity to stormwater quality concerns. The training program will be evaluated routinely, but at least annually.

The training program will consist of both formal and informal training which will focus on the Facility's BMPs. Initial training is provided to new employees as well as annual refresher training to employees responsible for maintaining stormwater quality.

4.1.7 Recordkeeping and Internal Reporting

Records are maintained by the SWPPT and may include records of inspections, spills, maintenance activities, corrective actions, and visual observations. The SWPPP will be continually evaluated and revised by periodic examination of the procedures described in this SWPPP. Revisions to the SWPPP protocols and procedures will be documented on the SWPPP Amendment Log (located at the front of this SWPPP). See Sections 8.0 and 9.0 for more detailed information on reporting and recordkeeping.

4.1.8 Erosion Control and Site Stabilization

Periodically, the SWPPT shall inspect the Facility and identify areas where soils are being worn or eroded by surface drainage. The SWPPT shall be responsible for reducing soil erosion at the Facility through implementation and maintenance of appropriate soil erosion controls, including, but not limited to the following:

- Diverting runoff away from areas of erosion.
- Stabilizing/covering the erosion areas with vegetation, gravel, retention structures, and/or pavement and concrete.

4.1.9 Inspections

Regular weekly site inspections are conducted to assess for potential stormwater pollutants at the Facility including uncovered containers and leaks of significant materials. Corrective action is taken promptly to correct conditions that could result in stormwater being impacted. Qualified personnel conduct quarterly visual inspections of the stormwater drainage areas, BMPs, and industrial activity areas on the Facility and implement corrective actions and/or SWPPP revisions resulting from those inspections, if needed. If corrective actions are required, a summary and description of SWPPP revisions will be included in the Annual Report.

Inspections are performed in compliance with the requirements of the IGP, including an annual inspection for compliance with the requirements of the permit as well as non-stormwater discharge and stormwater discharge observations at the appropriate frequency.

In addition, the Facility, with the cooperation of the Port of Oakland and its tenants, conducts periodic inspections of adjacent off-site properties for evidence of Facility-sourced material. Facility-sourced materials will be removed and BMPs will be reevaluated to determine whether additional measures can be implemented to control off-site dispersal.

4.1.10 Quality Assurance

The SWPPT is responsible for implementing the SWPPP. The SWPPT conducts an Annual Comprehensive Site Compliance Evaluation (ACSCE) as described below in the reporting section.

4.2 Structural (Source/Treatment Control) BMPs

Structural BMPs use physical or engineering means to reduce the quantity of pollutants in stormwater runoff. Structural BMPs can also be either source control or treatment control, depending on whether potential pollutants are removed or reduced prior to contact with the stormwater or after. Some of the site-specific structural BMPs in place at the Facility are, as follows:

4.2.1 Overhead Coverage

Overhead coverage is practical for equipment maintenance and storage of petroleum products, chemicals, equipment parts and supplies, and hazardous wastes. In October 2012, construction began on the covered (tented) maintenance area to expand it to approximately twice its prior size. High volume/inventory ferrous scrap metal products and byproducts are generally stored outdoors due to the large quantities of these materials managed at the facility and the need to access them and move them around with large, heavy equipment (cranes, grapples, mine trucks, dump trucks, etc.). Covered storage for ferrous products, Non-ferrous Raw and shredder residue (treated and untreated) is infeasible. Non-ferrous metals, which are generally managed in smaller quantities, are typically stored in a warehouse. Other hazardous materials are stored under cover.

4.2.2 Retention

The Facility's topography and perimeter concrete berm maintain stormwater within the facility and control stormwater discharge. An approximately 2,200 foot long concrete sea-wall constructed in the 1980's and an approximately 550-foot long concrete berm constructed in August 2012 extend the length of the shoreline on the Facility and act as a physical barrier to control discharge to the Oakland Inner Harbor. The Facility is graded so that stormwater sheet flow from Areas 1, 2, and 3 flows towards the center of the Facility, where the water recycling system is located. Stormwater in Area 4 typically ponds and evaporates or infiltrates into the subsurface.

On the Pier Crane dock, rubber edging is installed on the sides of the dock to contain sediment tracked onto the dock by mine trucks during ship loading. This area is routinely swept to remove

the accumulated sediment. Similarly, each side of the conveyor pier is fitted with rubber shields to help prevent materials that fall off the conveyor and onto the pier from entering the water. In addition, the uppermost portion of the conveyor that extends over open water, past the end of the pier, is fully enclosed except for a small opening at the top of the housing. This enclosure prevents water, metal, and other debris which could fall off this portion of the conveyor from entering the water below.

4.2.3 Secondary Containment

Secondary containment is provided for the diesel and gasoline tanks, waste oil tank at Bay 2, oil reservoirs of stationary equipment, and the hazardous materials/hazardous waste storage pad. Spills that occur within these areas will be contained and cleaned up in accordance with the Facility's SPCC Plan. The storage and containment areas will be inspected monthly to detect leaks and assess maintenance of adequate freeboard. In July 2012, the torch cutting station was relocated to a paved, contained area to minimize the potential for storm water exposures associated with torch cutting operations. This area is paved with concrete and overlain with gravel. The gravel prevents pollutants associated with this operation from escaping the immediate area. The gravel bed is replenished or replaced as needed.

4.2.4 Treatment

Three oil/water separators are in place to collect and treat oily water draining from the Shear Area, the Maintenance Shop, and the northern part of the outdoor product storage area (Figure 2). Water collected from the oil-water separators is pumped back to the on-site water recycling system for reuse in the metal shredding processes. The on-site recycling system includes a weir box and clarifier, which remove silt and solids from on-site runoff prior to re-use. Solids cleaned from the weir box and clarifier are sampled and disposed of off-site based on the analytical results.

The water recycling system located in Area 2 receives water that drains from the surface of Area 2 in addition to water pumped from other areas of the Facility via the stormwater collection system or portable pumps. Water drains into the weir box adjacent to the Shredder, where solids are allowed to settle out. From there the water is pumped via a submersible pump to another weir box for further solids settling, before being conveyed into the 1.2-million gallon storage tank. The water in the storage tank is again processed by a clarifier prior to use in the Shredder as cooling water. Water emanating from the Shredder re-enters the recycling loop for further re-use via the initial weir box and via sheet flow over paved surfaces in the immediate vicinity of the Shredder within Area 2.

4.2.5 Dust Suppression

Water is applied continuously to conveyor systems and regularly to open ground surface and product storage areas to reduce fugitive dust and particle emissions. In addition, three portable dust suppression units (Appendix D) are used as needed to reduce fugitive dust and particle emissions.

4.2.6 Street Sweeping

Two street sweepers run frequently on the internal access roads to control the buildup of dirt, dust and debris (track-out). In addition, three times a day each street sweeper sweeps the entire length of the access road (Embarcadero West), from the main entrance all the way to the intersection of Embarcadero West and Market Street. Each street sweeper has two sets of brushes, one for use on internal access roads and one for sweeping Embarcadero West. The brushes are changed out between sweeping the Facility and Embarcadero West to further reduce the potential pollutants from leaving the Facility.

4.2.7 Rumble Strips

Two rumble strips are located on-site: one at the scales by the main entrance and one at the entrance to the Crane Pier. The rumble strip at the Crane Pier removes and captures sediment from the mine truck tires before the trucks drive onto the dock. This reduces the amount of sediment tracked onto the dock that could potentially be discharged in stormwater over the sides of the dock. Vehicles exiting the Facility have to cross the rumble strip at the scales, which reduces sediment being tracked out onto Embarcadero West.

4.2.8 Drains

A trench drain was installed at the Peddler Gate to capture sheet flow from the non-ferrous receiving area onto Embarcadero West. There are also several drop inlets at the Facility, all of which are plumbed to the On-site Water Recycling System. There are no drain connections to the municipal/Port of Oakland separate storm sewer system.

4.2.9 Commercial Wheel Wash

The Facility exit wheel wash is in service as of October 30, 2012 and is used to remove sediment from trucks exiting the Facility. Appendix D contains a description of the wheel wash installed on the Facility.

4.2.10 Cleaning

Schnitzer completed a thorough cleaning of the dock and pier in September 2012. All surface areas were power washed and all wash water and debris were collected and fully contained in a barge that was positioned immediately below the areas being cleaned. The Facility will conduct

regular inspections of the dock and pier and will schedule periodic cleaning of these structures as necessary to prevent accumulations of mud, dirt and debris that could be conveyed into the Bay during storm events, or that could otherwise become dislodged and fall into the water.

4.3 Planned Structural BMPs

In addition to the BMPs listed above, Schnitzer shall implement and maintain the following permanent structural BMPs.

Summary of Planned BMPs

BMP	Location	Intent	Estimated Date of Completion
Conveyor Containment (lower segment)	Ship Loading Conveyor Pier	Contain scrap, and residual drips/debris, being transported on the conveyor	January 2013
Rigid Sediment Barrier	Pier Crane Dock	Contain and filter sediment from surface flows off of the dock	December 2012
Customized Heavy Duty Wheel Wash	Pier Crane Dock	Remove sediment from truck tires prior to driving on the dock	January 2013
Wind Screen	Eastern Facility Boundary	Containment of light fibrous material from shredding and non-ferrous metal separation operations	August 2013

5.0 STORMWATER MONITORING PROGRAM

The primary objectives of the Facility's monitoring program are:

- To assess if the practices implemented by the Facility to control pollutants in the Facility's stormwater discharges are protective of receiving waters and are revised to meet changing conditions if necessary;
- To aid in the implementation and revision of the SWPPP, as necessary;
- To measure the effectiveness of the BMPs in controlling pollutants in the Facility's stormwater discharges (i.e., stormwater that comes into contact with over-water structures); and
- Adjust or implement new BMPs if current ones are not effective in controlling potential pollutants in the Facility's stormwater discharges as described above.

5.1 Weekly Facility Inspections

Schnitzer personnel are required to inspect the facility on a daily basis, and document the inspection findings once a week. The intent of the daily inspections is to assess the status of Schnitzer's SWPPP BMPs. These inspection reports shall be used to assess and demonstrate Schnitzer's level of compliance with the monitoring requirements of the IGP and to evaluate the effectiveness of the Schnitzer's BMPs and pollution prevention efforts.

Once each day during the monitoring period (October 1 to September 30) designated personnel shall inspect the site to assess the facility's level of compliance with its BMPs. Facility personnel shall record the inspection findings to document that the Facility is implementing the necessary BMPs.

5.2 Wet Season Visual Observations

Designated personnel or the SWPPT will visually observe stormwater flow within terrestrial areas the facility, and/or discharges from the dock structures, from one storm event per month during the wet season (October 1 through May 31). These visual observations will occur during the first hour of internal flow within the Facility and/or internal discharge at key stormwater management locations within terrestrial areas of the facility (weir boxes, submersible pump installations, and/or internal stormwater transfer conveyances), and the potential discharge locations on the conveyor pier and pier crane dock. The visual observation shall occur during a qualified storm event, which is preceded by at least three working days of dry weather conditions and which produces a significant stormwater flow within terrestrial portions of the facility and/or discharge from the dock structures. Visual observations shall be made during the first hour of the storm event, during scheduled operating hours and then only during daylight hours.

Observations of discharges from the dock structures will include the presence of floating materials, oil and grease sheen, discoloration, and odor. Observations of stormwater flow within terrestrial areas of the facility will be conducted to ensure proper operation of containment structures, water collection structures, and stormwater transfer conveyances; and to determine whether discharge to surface waters is occurring (i.e., by overtopping or breaching the shoreline berm). Observations of discharges from terrestrial areas of the facility to surface waters will include the presence of floating materials, oil and grease sheen, discoloration, and odor. Observations will be documented on Form 4 provided in Appendix E. For tracking purposes, if no significant storm event (resulting in internal flow within terrestrial areas of the facility or discharge from the docks) occurs during a calendar month, the form will be used to document that none occurred.

5.3 Non-Stormwater Discharge (NSD) Observations

Per the IGP, visual observations of unauthorized non-stormwater discharges will be performed quarterly (spaced at least 6 and no more than 16 weeks apart), between the following months:

- January-March
- April-June
- July-September
- October-December

Observations will be performed by qualified Schnitzer staff familiar with this SWPPP and trained in the identification of non-compliant activities. Drainage areas, structural BMPs, and stormwater conveyance systems within the facility will be visually observed for the presence of unauthorized non-stormwater discharges. The visual observations will occur during daylight hours, on days with no stormwater discharges, during scheduled facility operating hours, and when they can be conducted in a safe manner. Visual observations will document the presence of discolorations, stains, odors, floating materials, etc., as well as the source of discharge. If an unauthorized discharge of non-stormwater is observed, measures will be taken to identify the source and stop the flow.

Records will be maintained of the non-stormwater discharge visual observation dates, locations observed, observations, and response taken to manage non-stormwater discharges and to reduce the probability of pollutants contacting non-stormwater discharges. Form 2, Quarterly Visual Observations of Authorized Non-Stormwater Discharges and Form 3, Quarterly Visual Observations of Unauthorized Non-Stormwater Discharges will be used for the quarterly observations (Appendix E).

5.4 Annual Comprehensive Site Compliance Evaluation

The SWPPT conducts one comprehensive site compliance evaluation in each reporting period of July 1 through June 30. Based on the comprehensive site compliance evaluation, the SWPPP is revised and the revisions implemented within 90 days of the evaluation. Evaluations are made to be in compliance with the requirements of the IGP using Form 5 located in Appendix E.

The evaluations include a review of the following:

- A review of visual observation records, inspection records, training records, and sampling and analysis results, if any;
- A visual inspection of potential pollutant sources for evidence of, or the potential for pollutants entering the stormwater collection system;
- A review and evaluation of BMPs (both structural and non-structural) to determine whether the BMPs are adequate, properly implemented and maintained, or whether additional BMPs are needed. A visual inspection of equipment needed to implement the SWPPP, such as spill response equipment, will be included, and;

Following the review, an evaluation report will identify potential revisions to the plan or program, the schedule for implementation, and incidents of noncompliance. If necessary, the site's SWPPP will be revised within 30 days of completing the ACSCE. Changes in the control measures will be scheduled for implementation within 90 days of updating the SWPPP.

5.5 Sampling and Analysis (SAP) Program

With the exception of stormwater discharges from the docks, the Facility, as currently managed, does not discharge to a water body or another off-site area or conveyance. As such, this sampling and analysis (SAP) program is limited to discharges from the two docks at the Facility and would not be implemented in other locations unless there is a change in Facility conditions or stormwater management practices. Where used, the SAP provides a consistent basis for evaluation of the Facility's impacts to stormwater and effectiveness of BMPs.

5.5.1 Sample Frequency

If stormwater discharges are observed, Schnitzer will sample and analyze the stormwater discharges at least twice during the wet season (October 1 through May 31). The SWPPT will collect stormwater samples from the first qualifying storm event of the wet season that produces a significant off-site discharge. If the Facility is unable to collect stormwater samples from the first qualifying storm event of the wet season, then the SWPPT will document the reasons in the Annual Report. In addition to collecting stormwater samples from the first qualifying storm event of the wet season, Schnitzer shall collect stormwater samples from at least one other qualifying storm event during the wet season (October 1 through May 30).

If possible, samples shall be collected during the first hour of discharge from the first qualifying storm event of the wet season, and at least one other qualifying storm event in the wet season

preceded by at least three days without stormwater discharges. Sampling will be restricted to normal scheduled facility operating hours, and when conditions allow for the sampling to be conducted in a safe manner (not under adverse weather conditions or in a perilous sampling location or during non-work hours). The sampling event should coincide with conducting the wet season visual observation. If there is insufficient flow to collect a sample or if no stormwater discharge occurs, the sampler will document that information on Form 2 (Appendix E).

5.5.2 Potential Sample Location(s)

If stormwater discharges were to occur, they likely would be on the Pier Crane Dock and the Ship Conveyor Pier. If stormwater discharges from either of these locations is observed, one representative sample at each location will be collected.

5.5.3 Sampling Parameters

Analysis of samples for the following parameters listed in Section B.5.c of the IGP is required for scrap recycling facilities: pH, total suspended solids (TSS), specific conductance (SC), Oil and Grease (O&G), iron, lead, aluminum, copper, zinc, and chemical oxygen demand (COD). A summary of analytes, containers necessary and analytical methods is below.

Summary of Sample Parameters

Analyte	Number of Containers	Container Type	Preservative	Analytical Method
Iron, Lead, Aluminum, and Zinc	1	500-ml Poly	HNO_3/Cool to 4°C	EPA 6010B
Oil and Grease	1	1-L Amber	HCl/Cool to 4°C	EPA 1664A
pH	1	250-ml Poly	Cool to 4°C	EPA 9040C
Specific Conductivity			Cool to 4°C	SM 2510B
Total Suspended Solids			Cool to 4°C	SM 2540D
Chemical Oxygen Demand	1	100-ml Poly	H_2SO_4/Cool to 4°C	SM 5220D

A certified laboratory will provide appropriate sampling bottles for the appropriate analyses as described above. Preparations for sampling will be made prior to the wet season. By contacting the laboratory in advance, proper sampling containers, coolers, labels, and chain-of-custody forms can be provided on a timely basis.

5.5.4 Sample Collection

Schnitzer shall designate trained personnel who will sample stormwater discharges at each discharge point in accordance with the procedures listed below.

The stormwater sampling procedures include:

- Performing a visual observation of the stormwater discharge and completing the Wet Season Observation Form (Form 2, Appendix E).
- Don new latex or nitrile gloves to prevent contamination of the sample;
- Collect samples by carefully positioning the sampling containers below the flow of stormwater as close as possible to the point of discharge. Alternatively, a sterile container could be used to collect a bulk sample for transferring into the appropriate sample containers for analysis. Care will be taken to prevent overfilling of those containers containing preservatives.
- Labeling the sample containers with the sample location and analyses requested (i.e., pH, TSS, etc.), date, and time of collection.
- Labeled samples will be placed in an ice-filled cooler (a maximum of 4 degrees centigrade:39 degrees Fahrenheit) and packed securely to prevent breakage.
- Sample containers will be logged under chain-of-custody procedures and delivered to the laboratory for analysis. The samples must arrive at the laboratory no later than 24 hours from the time of sample collection (pH and SC have 24-hour holding times).

Schnitzer's SWPPT shall generate and maintain a sample log each time the Facility's stormwater discharges are sampled for analysis. The following information will be generated and documented by the sampler for each sample:

- Date and time of the sampling. When stormwater discharges cannot be sampled during the first hour of discharge, an explanation of why sampling did not occur within this 60 minute period must also be provided;
- Location of the sample;
- Description of the condition of the sample (i.e., color, odor, cloudiness, pH, etc.); and
- Name of the Schnitzer personnel responsible for collecting the sample.

5.5.5 Sample Analysis

Schnitzer's sample preparation and analysis shall be conducted by a California Department of Health Services certified laboratory (for the specific analytical methods). Analyses shall be conducted in accordance with 40 CFR 136 or USEPA approved equivalent methods.

5.5.6 Quality Assurance/Quality Control

Quality assurance/quality control (QA/QC) measures shall be taken to confirm the integrity of the field and laboratory data generated during the monitoring program. Laboratory QA/QC data will be included with the certified analytical results. As applicable, this data will include the results of laboratory method blanks, surrogate spike recoveries, matrix spike recoveries, and matrix spike duplicates.

The following Quality Control (QC) samples shall be run with each laboratory sample set or analytical batch which may contain Schnitzer's stormwater samples:

Method Blanks: 1 per batch or every 20 samples, whichever is greater.

Matrix Spike Samples: 1 control matrix spike and 1 field matrix spike per batch or every 20 samples, whichever is greater.

Matrix Duplicate: 1 per matrix or every 10 (i.e., TSS, pH) samples.

6.0 REPORTING

As required by the IGP, an annual stormwater report will be prepared and submitted by July 1st of each year to the RWQCB. An annual report form will be completed as provided by the SWRCB. The Annual Report will include:

- The completed forms supplied by the SWRCB/RWQCB and those attached to this SWPPP;
- A summary of visual observations and sampling results;
- An evaluation of the visual observation and sampling and analysis results, if applicable;
- Laboratory analytical reports, if applicable;
- The Annual Comprehensive Site Compliance Evaluation;
- An explanation of why the facility did not implement activities required by the IGP, if applicable;
- Other pertinent monitoring records; and
- A signed certification of the Annual Report that reads as follows:

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

7.0 RECORD KEEPING

Schnitzer will keep stormwater and non-stormwater observation forms, chain-of-custody, laboratory analytical data, supporting documentation, records documenting employee training sessions, and other pertinent documentation. The following documents are some of the documents to be retained on-site:

- Spill Response Reports;
- Employee Training Records;
- Weekly Visual Inspection Reports;
- Stormwater Sampling Results Data Packages;
- Seasonal Observation Reports;
- ACSCE Reports;
- Stormwater Annual Reports; and
- SWPPP Updates.

Where applicable, portions of documents will be completed and signed. Documentation will include the date, place, and time of activity; name and title of individual(s) conducting the task; field observations and corrective measures; and sample number(s), location(s), and test methods. As a provision of the IGP, these records will be kept for a period of at least five years from the date of the observation, sample, or analyses.

8.0 REFERENCES

CASQA 2009, Stormwater BMP Handbook, November 2003, www.casqa.org

State Water Resources Control Board (1997). Water Quality Order No. 97-03-DWQ, National Pollutant Discharges Elimination System (NPDES) General Permit No. CAS000001: Waste Discharge Requirements (WDRs) for Discharges of Storm Water Associated with Industrial Activities Excluding Construction Activities. Available on-line at: http://www.swrcb.ca.gov/water_issues/programs/stormwater/gen_indus.shtml#indus.

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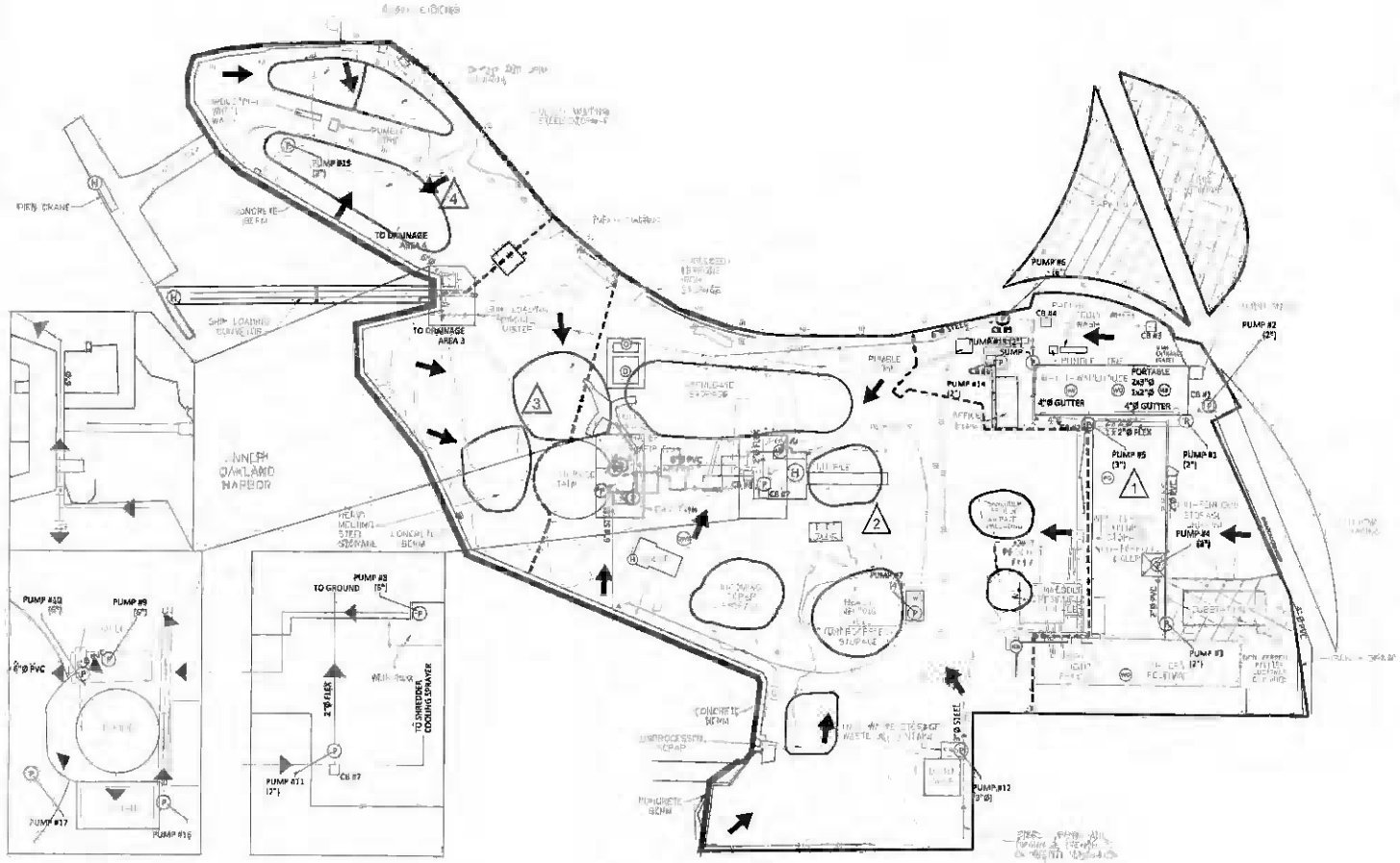
SAFETY FIRST	CLIENT: Schnitzer Steel Facility	Site Location Map
terraphase engineering	PROJECT: Stormwater Pollution Prevention Plan	
	PROJECT NUMBER: 0055.001.001	FIGURE 1



LEGEND

- DRAINAGE AREA
- DRAINAGE AREA LIMIT (APPROXIMATE)
- SITE BOUNDARY
- STORM WATER CONVEYANCE PIPE WITH PIPE FLOW DIRECTION
- GRAVITY STORM WATER CONVEYANCE PIPE WITH PIPE FLOW DIRECTION
- FLOW DIRECTION (SHEET FLOW)
- STOCKPILES
- UNPAVED AREA
- GRAVEL SURFACE
- EXISTING STRUCTURE (ROOF)
- CONCRETE BERM
- EXISTING RAILROAD TRACKS
- FACILITY ROADWAYS
- PUMP (SUMP)
- OIL WATER SEPARATOR
- CITY OF OAKLAND OUTFALL
- CATCH BASIN

SYMBOLS

- DIESEL TANK
- GASOLINE TANK
- HYDRAULIC OIL
- HAZARDOUS WASTE
- PORTABLE GENERATOR
- METBOND TANK
- WASTE OIL TANK

DRAWN BY: KW
REVIEWED BY: WLC
APPROVED BY: JER
SCALE: 1"= 100'
DATE:
PROJECT NO: 0055.001.001
SHEET NO: C1

SITE PLAN

SAFETY FIRST

terraphase engineering
2484 Franklin Street, Suite 600
Oakland, California 94612
Phone: 510.645.1850
www.terraphase.com

LICENSED PROFESSIONAL
SIGNATURE DATE

REVISION HISTORY

NO.	DESCRIPTION	DATE	APPROVED

APPENDIX A
NOTICE OF INTENT

Approved Date: April 03, 1992

Melisa Cohen
Schnitzer Steel Industries Inc
PO Box 747
Oakland CA 94604

RECEIPT OF YOUR NOTICE OF INTENT (NOI)

The State Water Resources Control Board (State Water Board) has received and processed your NOI to comply with the terms of the General Permit to Discharger Storm Water Associated with Industrial Activity. Accordingly, you are required to comply with the permit requirements.

The Waste Discharger Identification (WDID) number is: **2 01I003365** . Please use this number in any future communication regarding this permit.

	FACILITY DESCRIPTION
OPERATOR:	Schnitzer Steel Industries Inc
FACILITY INFORMATION:	Schnitzer Steel Prod 1101 Embarcadero W Oakland
COUNTY:	Alameda
SIC/NAIC CODES:	5093

When the operator changes (i.e. the business was bought or transferred), a new NOI, site map, and fee must be submitted by the new operator. As the previous operator, you are required to submit a Notice of Termination (NOT) to the local Regional Water Board stating you no longer own or operate the facility and coverage under the General Permit is not required. Unless notified, you will continue and are responsible to pay the annual fee invoiced each April.

If you have any questions regarding permit requirements, please contact your Regional Water Board at 510-622-2300 . Please visit the storm water web site at http://www.waterboards.ca.gov/water_issues/programs/stormwater/ to obtain an NOT and other storm water related information and forms.

Sincerely,

Storm Water Section
Division of Water Quality

APPENDIX B
ON-SITE WATER RECYCLING PLAN

ON-SITE WATER RECYCLING PLAN
SCHNITZER STEEL FACILITY
OAKLAND, CALIFORNIA

Prepared for

Schnitzer Steel Products Company
1101 Embarcadero West
Oakland, California 94607

Prepared by

Terraphase Engineering Inc.
1404 Franklin Street, Suite 600
Oakland, California 94612

November 29, 2012

Project Number 0055.001.002

terraphase engineering

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CONTENTS

Figures

Appendices

Acronyms and Abbreviations

CRV	California Redemption Value
EBMUD	East Bay Municipal Utility District
HMS	Heavy Melting Steel
NFR	Non-Ferrous Raw
Schnitzer	Schnitzer Steel Industries, Inc.
SFM or Shred	Shredded Ferrous Material
SR	Shredder Residue
Terraphase	Terraphase Engineering Inc.

1.0 INTRODUCTION

This On-Site Water Recycling Plan ("the Plan") was prepared by Terraphase Engineering Inc. (Terraphase) for the Schnitzer Steel Products Company (Schnitzer) facility located at 1101 Embarcadero West in Oakland, California ("the Facility"). Water from rainfall events and process water (used for shredder cooling and dust suppression) is collected on-site and conveyed in the stormwater collection system to the center of the Facility for treatment, storage, and re-use. The Facility has a special discharge permit from East Bay Municipal Utility District (EBMUD) to discharge process water and/or contaminated stormwater to the sanitary sewer; however water is currently recycled for on-site re-use. Water collection and recycling enables the Facility to use recycled water instead of potable water (preserving freshwater) while also realizing a cost savings. This Plan contains a description of how the shredder cooling water, dust suppression water, and stormwater is collected; how the collected water is treated; and how the treated water is re-used. In addition, this Plan contains information on the types of industrial processes conducted at the facility and the pieces of equipment used and the source(s) of the water used in these processes.

This Plan is an evolving or living document which will be updated as the water management and/or recycling operations of the Facility change and as additional information is collected regarding the re-use of water on-site. For convenience, this Plan will be included as an appendix to the Facility's SWPPP. Currently, Schnitzer is in the process of mapping its stormwater collection system and determining the makes and models of the submersible pumps in use at the facility. The Plan will be amended whenever there is a change in process or new construction that may affect the containment, conveyance, treatment, and/or re-use of water on-site.

The sections in the Plan include the following: Section 2.0 describes the Facility layout; Section 3.0 identifies and discusses where and how the process water is generated; Section 4.0 contains stockpile management information; and Section 5.0 details the collection, treatment, storage, and use of stormwater and process water.

2.0 FACILITY DESCRIPTION

The Facility is located at 1101 Embarcadero West in Oakland, California (Alameda County). The Facility is a scrap metal recovery and recycling facility occupying approximately 26.5 acres of flat-lying land adjacent to the Oakland Inner Harbor waterfront and the Port of Oakland (Figure 1). The facility is bounded to the south by the Oakland Inner Harbor, to the east and west by the Port of Oakland, and to the north by Embarcadero West and Union Pacific Railroad tracks.

The Site Map (Figure 2) indicates the Facility boundaries, drainage areas and flow patterns, BMPs, and locations of specific industrial activities and significant materials.

2.1 Industrial Activities and Processes

Operations at the site include shredding of light iron products including automobiles, appliances, and other recyclable light steel materials; shearing and torch cutting of heavy recyclable steel products; preparation and sorting of ferrous and non-ferrous metal recycling feedstock; temporary storage of finished recycled metal products and non-recyclable waste materials, and maintenance of facility equipment. Raw bulk scrap is delivered to the Facility by both rail and truck at the main commercial entrance where it is inspected and sorted.

Incoming bulk scrap metal is segregated into the following material streams:

- "Bonus" heavy melting steel (HMS) material that will be processed by torch cutting into smaller sizes for shipment;
- Standard grade HMS that will be processed by shear cutting into smaller sizes for shipment; and
- Shredder feed material consisting of light iron products including automobiles, appliances and other recyclable light steel materials.

At the Shedder, light iron products are shredded so that ferrous metal can be isolated from non-ferrous metals and residual non-metallic materials. The intermediate non-ferrous stream resulting from shredding operations is known as non-ferrous raw (NFR) which consists of both non-ferrous metal and non-metallic materials. NFR is processed further in the Joint Products Plant where non-ferrous metal is separated, by metal type, from non-metallic materials. Upon completion of the non-ferrous separation processes, the non-metallic shredder residue is then treated with cement and silicate, which binds trace remnant metals in the residue to reduce their solubility. The treated shredder residue is transported by truck to off-site disposal locations for use as alternative daily landfill cover.

The processed ferrous scrap is stockpiled at the Facility and is eventually loaded at the Facility's docks into cargo ships for export.

California Redemption Value (CRV) goods, such as plastic and glass, scrap and non-bulk ferrous/non-ferrous metal scrap are received at the Facility at the Peddler Gate and are also inspected and sorted. Incoming scrap at the Peddler Gate is weighed, sorted and segregated by hand, into bins by scrap type, and either baled at the non-ferrous building and/or stored in cargo containers for transport by truck to a Port of Oakland container loading dock.

2.2 Hydrologic Conditions

Topographic and structural controls have been installed at the Facility to retain stormwater and surface drainage on-site within the Facility's processing areas for recycling and reuse. The primary structural control is an approximately 2,200-foot long concrete berm (seawall) that runs along the Facility's perimeter effectively preventing discharge to the Oakland Inner Harbor. There are no stormwater outfalls at the Facility. The only potential point sources at the Facility are the ship-loading dock and wooden conveyor pier that extend over open water.

The Facility has four primary drainage areas that correspond to specific areas of industrial activity at the Facility (refer to the Site Map; Figure 2). Stormwater runoff from the Site Entrance and Non-ferrous Area (Area 1) is pumped to the Product Storage Areas (Areas 3 and 4) and contained by the concrete berm, where the contained stormwater is allowed to evaporate and/or is pumped to Area 2 for storage and eventual use as shredder cooling or dust control water. Although these Product Storage Areas (Areas 3 and 4) are not lined, the ground surface is highly compacted due to the weight of the stored scrap and frequent heavy truck traffic, thus minimizing the amount of infiltration that occurs in these areas. Stormwater sourced from, or pumped to, the Material Processing Area (Area 2) is collected in several sumps, processed through a clarifier system and oil-water separator, and stored in a 1.2-million gallon aboveground storage tank for use as shredder cooling water or in dust suppression operations.

The following table summarizes the Facility's stormwater retention and storage capacities:

Drainage Area Storage Capacity[1]

Drainage Area	Basin Storage Capacity[2]	Tank Storage Capacity	Estimated Total Capacity
	Acre-Feet	Acre-Feet	Acre-Feet
1	0.0	0.0	0.0
2	0.7	3.7	4.4
3	1.3	0	1.3
4	0.3	0	0.3
Facility	2.3	3.7	6.0

1 Based on Drainage Report and Plan (TRC 2000).

2 Due to product storage, only 50% of space is available for water storage.

The Site Map (Figure 2) indicates the Facility boundaries, drainage areas and flow patterns, structural BMPs and drainage controls, as well as locations of specific industrial activities and significant materials.

3.0 PROCESS WATER GENERATION

Process water is generated through multiple operations on the Facility as part of daily industrial activities. The descriptions below of the major operations include the activities that occur, the source of the water used, and where the process water goes.

3.1 Dust Suppression During Ship Loading

Ships are loaded either directly from trucks on the Pier Crane Dock or through a conveyor system that runs along the Ship Loading Conveyor Pier (Figure 2). Ship loading activities can generate fugitive dust and particulate emissions absent proper controls. Large mine trucks are used to transport processed recyclable steel products onto the Pier Crane dock where it is unloaded into a three-sided hopper used to transfer the material to the hold of the ship. The ship loading hopper is primarily used to transfer Bonus and HMS to the ship hold, but is also sometimes used to load shredded steel. During the unloading of the trucks into the hopper, a continuous spray of potable water (small droplets) is applied to the product to control fugitive dust and particulate emissions. In order to minimize runoff, the water spray is only activated during the few seconds when the mine truck is unloading the scrap metal into the shiploading hopper. The process water generated by this activity evaporates rapidly during the dry season; during the wet season, a small amount of standing water may be present on the Pier Crane dock. The process water generated from dust suppression activities during ship loading is allowed to evaporate in place and any residual sediment is swept up by the Facility's street sweepers.

In addition, shredded ferrous scrap is loaded into ships using a conveyor system beginning from a feed hopper at the north (upland) end of the Ship Loading Conveyor. During this operation, potable[3] water is also applied continuously to the conveyor system and regularly to the open ground surface and product storage areas to control fugitive dust and particulate emissions which would otherwise be generated as shredded scrap metal is pushed into the conveyor feed hopper by heavy equipment. The majority of the water evaporates from the conveyor system as it travels along the conveyor pier. Small amounts of this water potentially drip onto the pier surface and eventually may drip into the Oakland Inner Harbor. Schnitzer currently is developing a containment tray for installation immediately beneath the conveyor system that will catch product and process water that falls from the conveyor system. Appendix A contains drawings for the containment system currently being installed. Process water that falls onto the containment tray will either evaporate or be transferred to upland areas of the facility for proper management. Residual sediment that collects on the containment tray will be removed on a routine basis.

3 Recycled water is not used for these activities.

3.2 Potable Water Use in Shredder Cooling, Dust Control and Maintenance

When recycled water is unavailable, potable water is introduced to the Shredder hammermill box during shredding operations to control heat and reduce generation of fine particulate matter. Potable water is injected into the shredder box via nozzles leading from a SmartWater™ system controller. The SmartWater™ system uses monitoring sensors, pumps and servo-controlled valves to match the water injection rate to Shredder operating parameters in order to optimize the amount of water being introduced to the shredding process. The SmartWater™ system monitors shredder operational parameters and automatically adjusts the water injection rate accordingly. The SmartWater™ system's programming seeks to ensure enough water is being injected to effectively control heat and particulate emissions, while limiting injection rates to reduce generation of significant quantities of process water run-off. The system's goal is to allow the majority of excess water introduced to the shredder box to be vaporized into steam. If the SmartWater™ system is properly operated, only a limited quantity of process water run-off is generated by shredding operations. The shredder operator has over-ride controls that can be used to manually increase or decrease the water injection rate in response to observed shredding conditions.

During shredder maintenance operations, maintenance personnel periodically use water hoses to spray the outside of the Shredder with potable water to clean out trapped debris. This prevents the Shredder from becoming jammed and controls build-up of debris around maintenance areas.

Both Shredder cooling/emission control water emanating from the SmartWater™ system and shredder maintenance water flow to the paved ground surface around the Shredder. Both types of process water sheet flow across paved areas to the water collection weir box adjacent to the northwest corner of the Shredder. Process water entering the weir box is reintroduced to the water recycling system (described below in Section 5.0).

3.3 Dust Suppression of Stored Material

Various processed scrap metal products and by-products are stored outside, in large uncovered stockpiles (Figure 2). The outdoor product storage areas are located within the graded areas of the facility which direct water flow to on-site water storage and recycling facilities (approximately 20 acres within Areas 2 through 4). When necessary, water trucks apply potable water on the internal access roads; and to working faces of scrap metal and recycling byproduct stockpiles during handling operations. Water is applied to stockpiles during handling in order to mitigate fugitive dust.

In addition, three portable water turbine dust suppression units (Appendix B) are used as needed to control fugitive dust emissions during scrap metal product or by-product handling operations. The water turbine dust suppression equipment uses potable water flowing at

approximately 12 to 19 gallons per minute, depending on the inlet water pressure, and is capable of spraying a fine water mist (droplets 50 to 200 microns in diameter) on up to 21,000 square feet of surface area with a maximum reach of 200 feet. These units are portable with wheeled carriages so they can be moved as needed to control fugitive dust wherever needed. Inlet potable water is fed to the units using a 1.5-inch diameter cam-lock fitting that is compatible with typical fire hose connections.

3.4 Firefighting

In the event of a fire, water used in firefighting would be contained and re-used on-site. This water would be captured in the internal water collection system and managed in the same manner as other water that collects in the system for reuse at the Facility.

3.5 Domestic Wastewater

The Facility's domestic wastewater is discharged to the EBMUD sanitary sewer system from sanitary sewer connections associated with the offices on-site. There is no connection between the sanitary sewer connections and the stormwater collection system.

4.0 STOCKPILE MANAGEMENT

4.1 Description of Stockpiles

Shredder Feedstock Material (SFM) or "Tin"

Shredder Feedstock Material (SFM) is mixed light recyclable metal products consisting primarily of end-of-life vehicles and appliances. SFM also contains many other types of light iron products with gauge thicknesses of approximately ¼-inch or less. It is stockpiled on both sides of the shredder in-feed conveyor (North side of shredder) within Area 2. Approximately 70 to 80 percent of SFM consists of recyclable metal and the remainder represents non-metallic by-products.

Shredded Ferrous Iron ("Shred")

Shredded ferrous iron ("Shred") is produced through the shredding process. Pieces are magnetically separated and directed for stockpiling. Shredded ferrous iron pieces typically average the size of a softball. Shred is stockpiled using a radial stacker which exits the south end of the shredder. Shred stockpiles are located in Area 3 and the southern portion of Area 2.

Heavy Melting Steel (HMS)

Heavy Melting Steel (HMS) is heavy-gauge recyclable steel products which are not suitable for processing through the shredder. This material is typically processed by mechanical shearing. Stockpiles of both processed and unprocessed HMS may be present. Processed material measures approximately 4-feet in its longest dimension. Unprocessed HMS is stockpiled near the fixed shear area in Area 2. Processed HMS is stockpiled on the east side of the dock entry road in Area 4. Auxiliary HMS storage (both processed and unprocessed) is located in the eastern portion of Area 3.

Bonus HMS

Bonus HMS is very heavy gauge recyclable steel products which are not suitable for processing via shredder or mechanical shearing. This material is processed by torch cutting only. Stockpiles of both processed and unprocessed Bonus HMS may be present. Processed material measures approximately 4-feet in its longest dimension. Unprocessed Bonus HMS is stockpiled near the torch cutting station at the border between Areas 3 and 4. Processed HMS is stockpiled on the West side of the dock entry road in Area 4 for easy access during ship loading.

Non-Ferrous Raw (NFR)

Non-ferrous Raw (NFR) is material remaining from shredder output stream following magnetic removal of shredded ferrous steel. NFR includes both non-ferrous metal and non-metallic by-products. NFR is feedstock for the Joint Products Plant which separates non-ferrous metal from non-metallic by-products. NFR is stockpiled on the west side of the shredder within Area 2.

Shredder Residue (SR)

Shredder Residue (SR) is material consisting of the non-metallic by-products of the shredding operation, which remain following magnetic separation of shredded ferrous steel, and separation of non-ferrous metals in the Joint Product Plant. The final stage of processing at the Joint Product Plant includes addition of polysilicate solution and pozzolans to the SR and mixing these materials in a pug mill. This process chemically binds soluble metals present in the SR to reduce leachability. SR is stored in small stockpiles on the North side of Area 2, immediately south of the Joint Product Plant, prior to shipping off-site for beneficial use as landfill cover.

Zorba

Zorba is mixed non-ferrous metal consisting of predominantly aluminum. It is generated during processing in the Joint Product Plant. Zorba is stockpiled within the non-ferrous warehouse and in the non-ferrous storage/shipping area north of the non-ferrous warehouse, both located in Area 1. Fine, mid-grade and coarse fractions of Zurik are separated and stored independently in Area 1.

Zurik

Zurik is mixed non-ferrous metal consisting of predominantly stainless steel. It is generated during processing in the Joint Product Plant. Zurik is stockpiled within the non-ferrous warehouse and in the non-ferrous storage/shipping area north of the non-ferrous warehouse, both located in Area 1. Fine, mid-grade and coarse fractions of Zurik are separated and stored independently in Area 1.

4.2 Ponded Water

Due to the topography of the Facility, ponding of stormwater often occurs after rainfall events. Most of the ponding occurs in Area 2, located in the center of the Facility. Water depth will range from a few inches in some areas to three or four feet in others. Scrap products and byproducts are generally stored outdoors with the exception of some of the non-ferrous metals, which are stored in a warehouse. As needed, Schnitzer personnel use portable submersible pumps and hoses to convey standing stormwater into the water recycling system in order to reduce ponding. Storage of these materials in water does not adversely affect product quality or unduly interfere with routine operations.

4.3 Infiltration/Evaporation

The Facility is located on flat lying land gently sloped inwards towards central areas of the facility. As noted above, this topography results in ponding of stormwater following significant precipitation events. The Facility seeks to rapidly transfer ponded water to the on-site 1.2-million gallon water storage tank; however, stormwater is sometimes retained in low-lying areas when the water storage tank is full. All ponded water is subject to evaporation. Some of the facility surface consists of intact pavement, and some paved areas have been degraded to varying degrees. Water storage in areas of the facility that are either unpaved or covered with

degraded pavement can allow ponded stormwater to infiltrate, although rates of infiltration are low due to the highly compacted nature of the ground surface. As mentioned above, portable submersible pumps and hoses are used by Schnitzer personnel to rapidly transfer ponded water to the water storage tank when capacity is available. Rapid transfer of ponded water to the water storage tank greatly reduces the amount of stormwater that infiltrates and instead makes this water available for on-site re-use. Much of the facility area is covered with product storage stockpiles. As such, retained water sometimes ponds in stockpile storage areas.

5.0 WATER RECYCLING SYSTEM

5.1 Retention

The Facility's topography and perimeter concrete berm maintain stormwater within the Facility and prevent stormwater discharge. An approximately 2,200 foot long concrete sea-wall constructed in the 1980's and an approximately 550-foot long concrete stem wall constructed in August 2012 extend the entire length of the shoreline on the Facility and act as physical barriers to control and prevent stormwater discharge to the Oakland Inner Harbor. The Facility is graded so that stormwater sheet flow flows towards the center of the facility, where the water recycling system is located. There are no stormwater or other outfalls at the Facility.

On the Pier Crane dock, rubber edging is installed on the sides of the dock to contain sediment tracked on by dump trucks onto the dock during ship loading. The rubber edging also contains stormwater which ponds during rainfall events. The ponded water is allowed to evaporate. This area is routinely swept to remove the accumulated or residual sediment.

5.2 Treatment and Storage

Three oil/water separators are in place to collect and treat oily water draining from the Shear Area, the Maintenance Shop, and northern part of the outdoor product storage area (Figure 2). Water collected from the oil-water separators is pumped back to the on-site water recycling system for reuse as shredder cooling/emission control water. Free petroleum product removed from the oil-water separators is placed in 55-gallon containers and disposed of off-site.

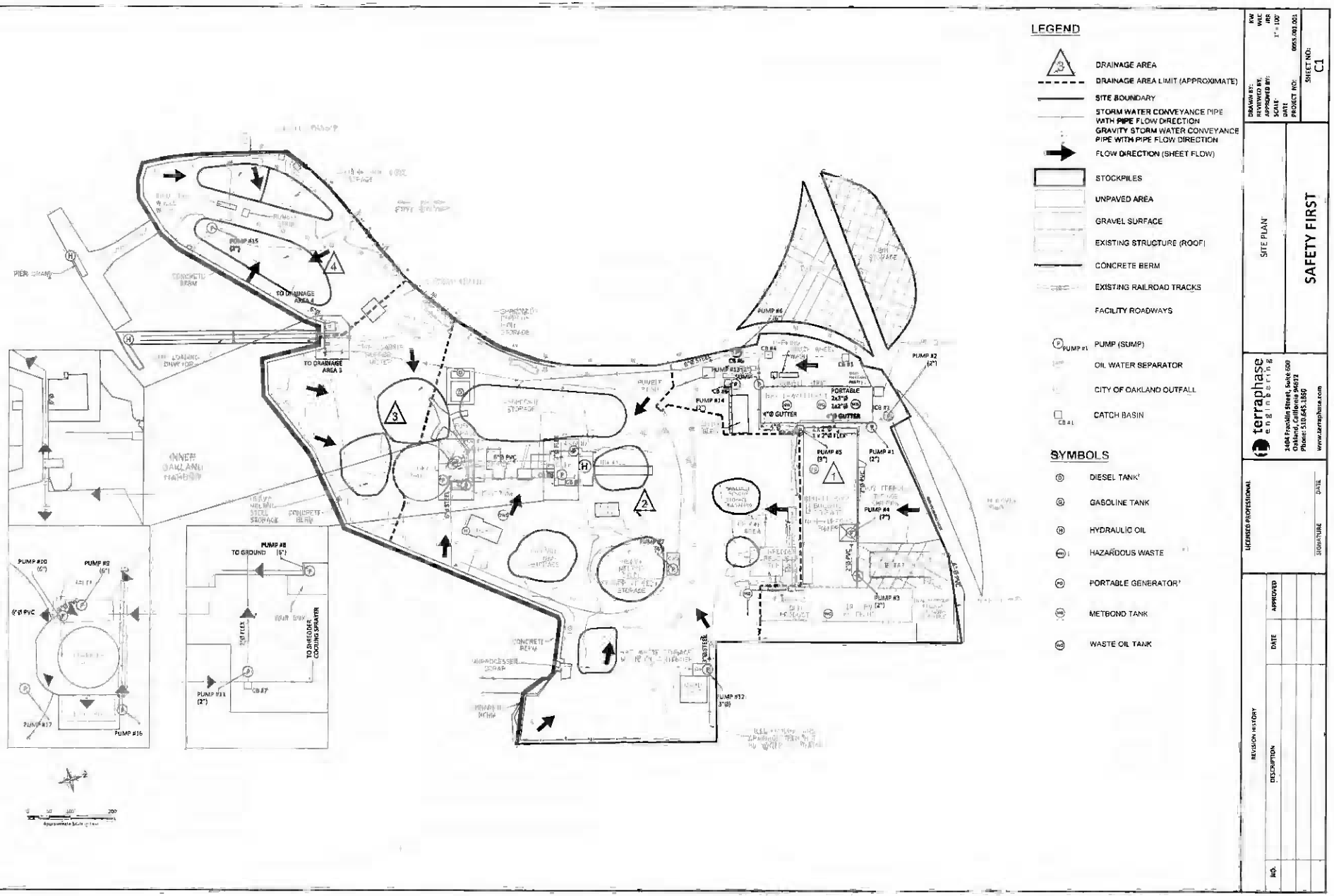
The water recycling system, located in Area 2, receives water draining from the surface of Area 2 in addition to water pumped from the rest of the Facility via the stormwater collection system. Water drains into the weir box (Appendix C) adjacent to the northwest corner of the Shredder, where solids are allowed to settle out. From there the water is pumped via a submersible pump to another weir box for further solids settling, before being conveyed into the 1.2-million gallon storage tank (92 foot diameter and 24 feet in height). The water in the storage tank is conveyed to a clarifier (Appendix D) for additional solids and oil (if necessary) removal before flowing to a 10,000 gallon day tank which feeds the Shredder SmartWater™ system. Solids cleaned from these the two weir boxes, the clarifier, and storage tank are sampled and disposed of at an appropriate off-site disposal facility based on the analytical results.

5.3 Water Use

As needed, the recycled water is pumped from the day tank to the Shredder's SmartWater™ system, where injectors (Appendix E) apply the water as cooling/particulate emission control water at an average rate of approximately 100 gallons per minute. While the SmartWater™ system seeks to minimize run-off, some injected water flows from the Shredder and enters the recycling loop for further re-use via sheet flow across paved surfaces to the initial weir box (adjacent to the northwest corner of the Shredder).

During the dry season, the cooling water is supplemented with potable water once the storage tank is empty. Recycled water is only used as cooling water in the Shredder where excess cooling water can be captured on paved surfaces and re-directed to the water recycling system's initial weir box. Potable water is used for the other dust suppression operations on the Facility, including in water trucks for dust suppression on the internal access roads and stockpiles, street sweeping, ship loading hopper dust suppression, ship loading conveyor system dust suppression, shredder cleaning, and bin cleaning.

SAFETY FIRST	CLIENT: Schnitzer Steel Facility	Site Location Map
terraphase engineering	PROJECT: On-Site Water Recycling Plan	
	PROJECT NUMBER: 0055.001.002	FIGURE 1


LEGEND
DRAINAGE AREA
DRAINAGE AREA LIMIT (APPROXIMATE)
SITE BOUNDARY
STORM WATER CONVEYANCE PIPE WITH PIPE FLOW DIRECTION
GRAVITY STORM WATER CONVEYANCE PIPE WITH PIPE FLOW DIRECTION
FLOW DIRECTION (SHEET FLOW)
STOCKPILES
UNPAVED AREA
GRAVEL SURFACE
EXISTING STRUCTURE (ROOF)
CONCRETE BERM
EXISTING RAILROAD TRACKS
FACILITY ROADWAYS
PUMP (SUMP)
OIL WATER SEPARATOR
CITY OF OAKLAND OUTFALL
CATCH BASIN
SYMBOLS
DIESEL TANK
GASOLINE TANK
HYDRAULIC OIL
HAZARDOUS WASTE
PORTABLE GENERATOR
METBOND TANK
WASTE OIL TANK
SITE PLAN
SAFETY FIRST
SHEET NO: C1
terraphase engineering
2404 Franklin Street, Suite 600
Oakland, California 94612
Phone: 510.645.1800
www.terraphase.com
LICENSED PROFESSIONAL
SIGNATURE
DATE
REVISION HISTORY
NO.
DESCRIPTION
DATE
APPROVED

APPENDIX A

SHIP LOADING CONVEYOR CONTAINMENT

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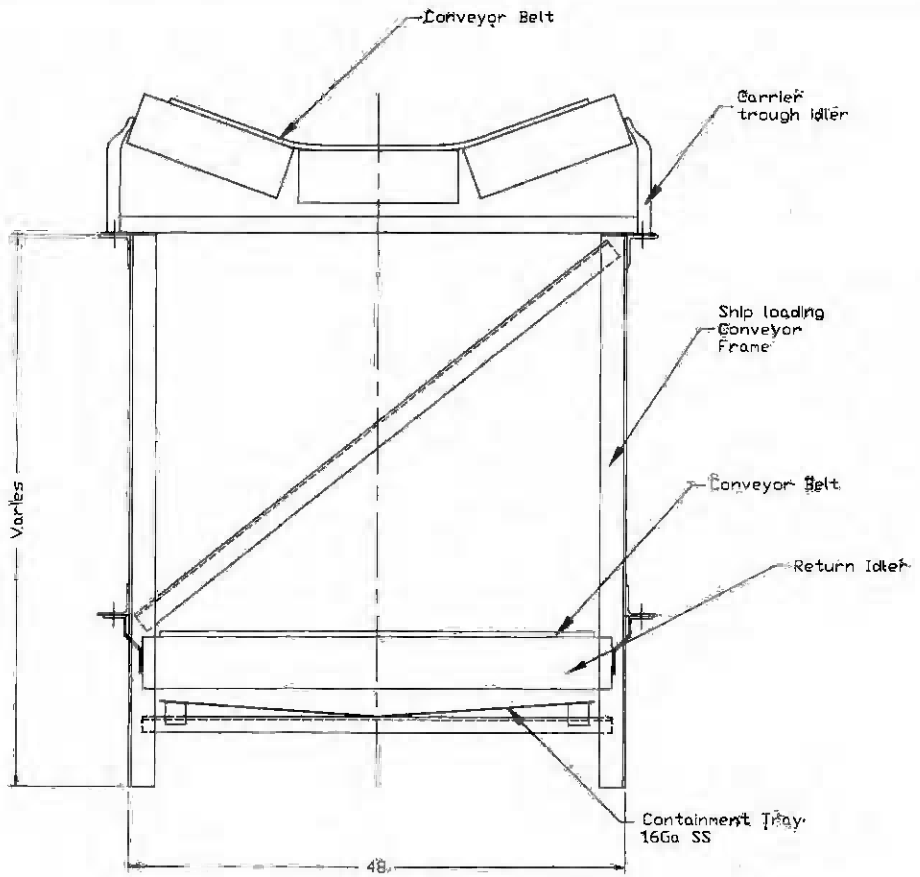


				NO	REVISION	DATE	BY				

PROJECT:

LOCATION: Shiploading Conveyor BC#3

TITLE: Ship Loading Conveyor Cross Section

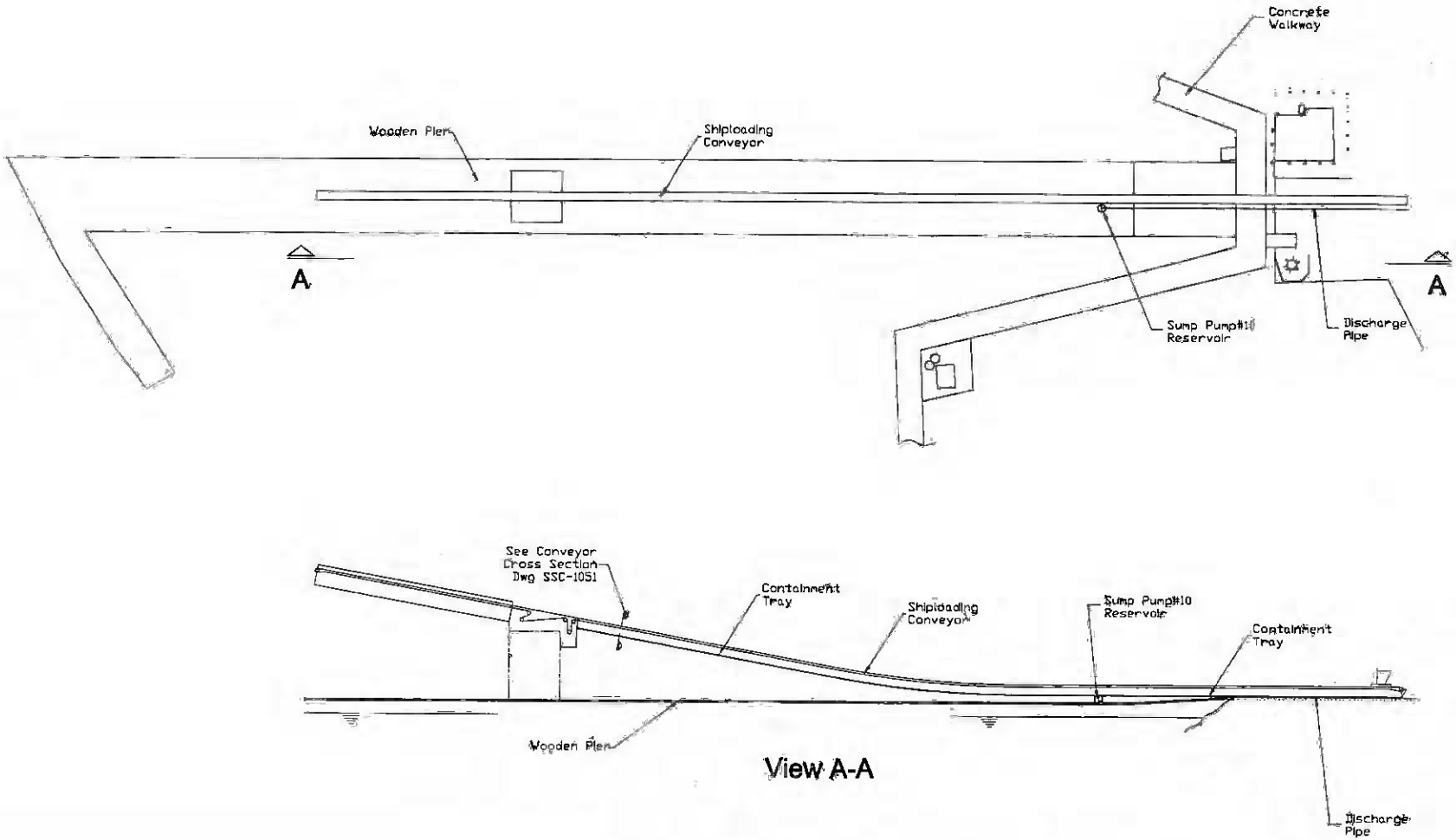
DWN. BY: H.L. CHKD. BY: M.L.

SCALE: APPD. BY:

SCHNITZER STEEL PRODUCTS ENGINEERING DEPARTMENT

DATE: 10/18/12 SH. NO.: 1 OF: 1 ISSUE: 0

DWG. NO.: SSC-1051



View A-A

NO	REVISION	DATE	BY	PROJECT:		CONFIDENTIAL – ALL RIGHTS RESERVED	
				LOCATION: Shiploading Conveyor SC#3		SCHNITZER STEEL PRODUCTS ENGINEERING DEPARTMENT	
				TITLE: Ship Loading Conveyor			
				DWN. BY: R.L.	CHKD. BY: M.L.	DATE: 10/16/12	SH. NO.: 1 OF: 1
				SCALE:	APPD. BY:	DWG. NO.: SSC-1052	ISSUE: 0

APPENDIX B

PORTABLE DUST SUPPRESSION EQUIPMENT

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DUSTBOSS
www.dustboss.com

DB-60 SPECS >

GENERAL SPECIFICATIONS

> 30,000 CFM (849.50 CMM) generated by 25 HP fan.
> 21,000 square feet (1,950 square meters) coverage. Up to 84,000 square feet (7,804 square meters) coverage available with optional 180° oscillation.
> Oscillator gives 0–40° of movement on standard unit. Unit can also be equipped with optional 180° oscillation.
> Adjustable angle of throw 0–50° of height adjustment.

ELECTRICAL SPECIFICATIONS

> U.S.: 3 Phase / 25 HP fan / 480 Volt / 60 Hertz
Full load current is 46 amps. 60 Kw gen set is recommended.
Motor is designed with a 1.15 service factor capable of operating at +/- 10% of design voltage.
> Other motor options available, including all international electrical motors:
- 3 Phase / 25 HP fan /380 Volt / 50 Hz (Europe, Middle East, N. Japan, Latin America)
- 3 Phase / 25 HP fan /400 Volt / 50 Hz (Europe, Japan, New Zealand, Australia)
- 3 Phase / 25 HP fan /415 Volt / 50 Hz (Europe, New Zealand, Australia)
- 3 Phase / 25 HP fan /575 Volt / 60 Hz (Canada)
- 3 Phase / 25 HP fan /380 Volt / 60 Hz Korea)
- 3 Phase / 25 HP fan /440 Volt / 60 Hz (Mexico)

> 380, 400, 415 volt / 50 Hz motors are designed with a 1.00 service factor capable of operating at +/- 10% of design voltage.
> 10 HP (7.5 Kw) high-pressure booster pump with no lift.
> 1/8 HP (0.10 Kw) oscillator.
> 150 foot (45.72 meters) 6/4 electrical cord. Other options available.
> No male plug, "bare wired" is standard. Any plug is extra cost.
> Cabinet with control panel.

WATER SPECIFICATIONS

> 10PSI (0.69 BAR) constant pressure needs to be delivered to booster pump. Maximum inlet water pressure should not exceed 100 PSI (6.89 BAR) when operating the booster pump.
> Maximum PSI delivered by booster pump is 200 PSI (13.79 BAR).
> Filter is included and should be used at all times. Contact us for recommendations when using nonpotable water. (Filter system in-line 30 mesh 595 micron).
> 1-1/2" (38.10 mm) cam-and-groove quick disconnect female coupling for fire hose provided on machine.
> 30 brass nozzles (also available in stainless and nylon).
> Droplet size of 50–200 microns.
> Throw 200 feet (60 meters).

ENGLISH UNITS	WITHOUT BOOSTER PUMP				WITH BOOSTER PUMP		
Water Pressure, psi	40	60	80	100	160	180	200
Water Flow, gpm	12	14.6	16.9	18.9	23.9	25.4	26.7
METRIC UNITS							
Water Pressure, bar	2.8	4.14	5.5	6.89	11	12.4	13.8
Water Flow, lpm	45.3	55.4	64.0	71.6	90.5	96.0	101.2
1-1/2" FIRE HOSE WATER SUPPLY							

NOISE LEVELS

WITH BOOSTER PUMP	CONTROL PANEL SIDE	BACK SIDE OF FAN	OPPOSITE SIDE	DISCHARGE
0 feet	92	103	92	100
12 feet	86	89	84	88
WITHOUT BOOSTER PUMP	**CONTROL PANEL SIDE**	**BACK SIDE OF FAN**	**OPPOSITE SIDE**	**DISCHARGE**
0 feet	86	101	88	96
12 feet	80	87	80	84

DIMENSIONS

ON STANDARD WHEELED CARRIAGE

> 6.75 feet (81 inches; or 2.06 meters) wide.
> 9.75 feet (117 inches; or 2.97 meters) long.
> 7.17 feet (86 inches; or 2.19 meters) tall.
> 1800 lbs. (816.50 kilograms).

MAINTENANCE

> If using potable water, nozzles need to be inspected once a year.
> Fan motor and high pressure pump should be greased every 10,000 hours.
> Oscillator bearing should be greased on a regular maintenance schedule, or as needed.

CHEMICAL ADDITIVES

> Can be used with surfactant to improve binding of dust particles or with tackifying agents to seal the ground to prevent dust from becoming airborne.
> Odor control chemicals can be used to help eliminate odor.

OPTIONS

> Unit is available with optional 180° oscillation. Standard oscillation provides 0–40° of movement.
> Available on frame with skid mount. Unit comes standard on wheeled carriage.
> Dosing pump can be added to unit for chemical applications.

WARRANTY

> Unit is covered by a 3-year/3,000-hour warranty.

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APPENDIX C

WEIR BOX DRAWING

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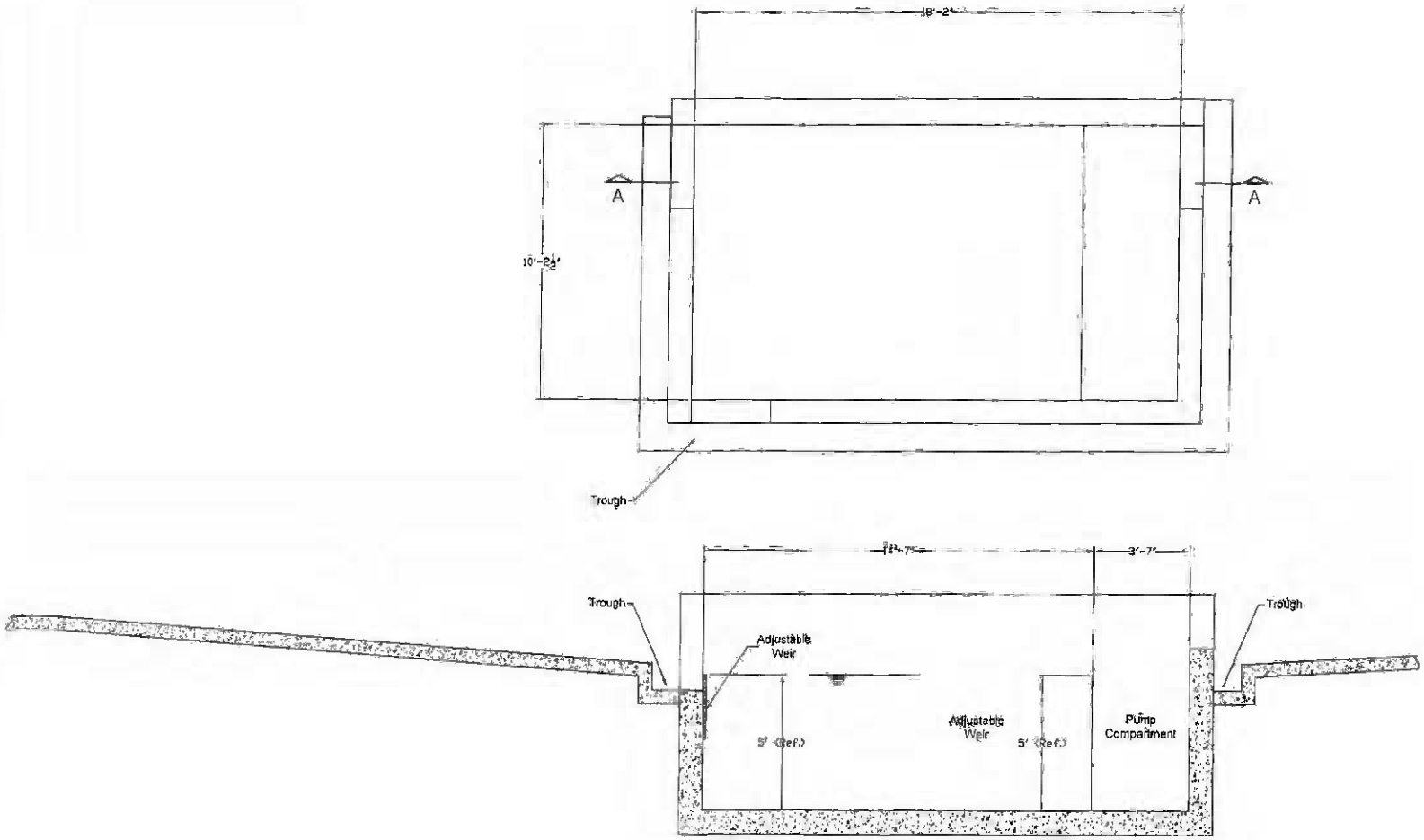

Section A-A

NO	REVISION	DATE	BY

PROJECT:

LOCATION: Shredder MCC & Clarifier

TITLE: WEIR BOX

DWN. BY: N.L. CHKD. BY: N.A.

SCALE: APPD. BY:

SCHNITZER STEEL PRODUCTS
ENGINEERING DEPARTMENT

DATE: 10/15/12 SH. NO.: 1 OF: 1 ISSUE: 0

DWG. NO.: SSC-1048

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APPENDIX D

CLARIFIER DRAWING

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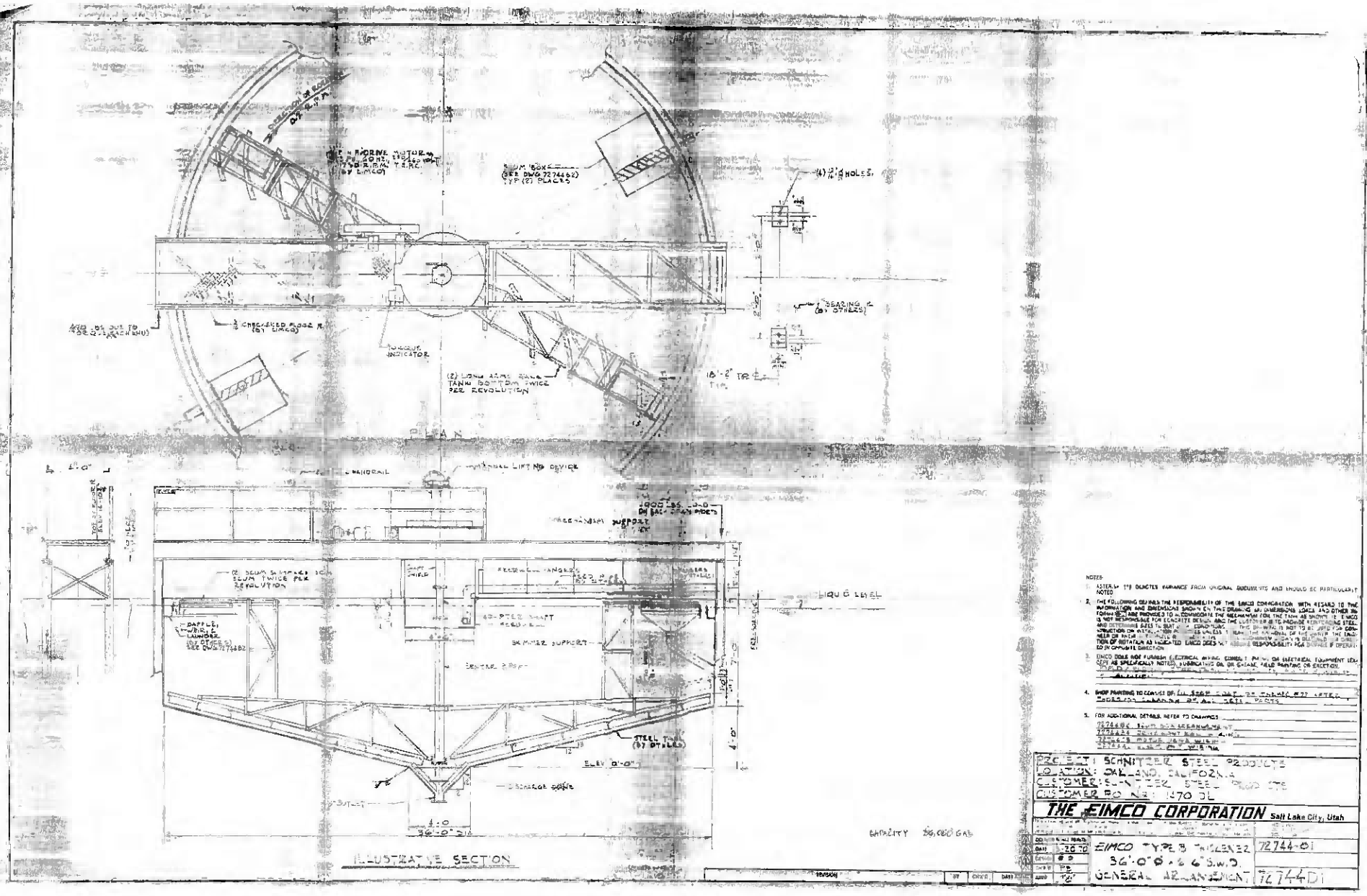

NOTES:

1. ASTERISK (*) DENOTES VARIANCE FROM ORIGINAL SPECIFICATIONS AND SHOULD BE PARTICULARLY NOTED.
2. THE FOLLOWING DETAILS THE RESPONSIBILITY OF THE EIMCO CORPORATION WITH REGARD TO THE INFORMATION AND DIMENSIONS SHOWN ON THIS DRAWING. ALL UNDERSIGNED LOADS AND OTHER DATA FURNISHED ARE PROVIDED TO ACCOMMODATE THE EQUIPMENT FOR THE TANK AS SHOWN. EIMCO IS NOT RESPONSIBLE FOR CONCRETE DESIGN AND THE CUSTOMER OR HIS PROPER REPRESENTATIVE SHALL APPROVE AND DETERMINE SAFETY OF PLANT CONSTRUCTION. THIS DRAWING IS NOT TO BE USED FOR CONSTRUCTION OR INSTALLATION UNLESS [illegible] THE ORIGINAL OF THIS DRAWING THE EXECUTION OF ROTATION AS INDICATED EIMCO DOES NOT ASSUME RESPONSIBILITY FOR DAMAGE IF OPERATION IS IN OPPOSITE DIRECTION.
3. EIMCO DOES NOT FURNISH ELECTRICAL WIRING, CONDUIT, PANELS OR ELECTRICAL EQUIPMENT EXCEPT AS SPECIFICALLY NOTED. LUBRICANTS, OIL OR GREASE, FIELD PAINTING OR ERECTION.
4. SHOP PAINTING TO CONSIST OF: [illegible] COAT TO CONSIST OF [illegible]
5. FOR ADDITIONAL DETAILS, REFER TO DRAWINGS:
   72744-06 SCUM SKIMMER ASSEMBLY
   72744-04 CENTER JOINT ASSEMBLY
   72744-08 MOTOR DATA SHEET
   GENERAL [illegible]

PROJECT: SCHNITZER STEEL PRODUCTS
LOCATION: OAKLAND, CALIFORNIA
CUSTOMER: SCHNITZER STEEL PRODUCTS
CUSTOMER PO NO.: 1470 OL

THE EIMCO CORPORATION Salt Lake City, Utah

DRAWN	[illegible]	EIMCO TYPE B THICKENER	72744-01
DATE	2670	36'-0" Ø x 6'6" S.W.D.	
SCALE	1/8"	GENERAL ARRANGEMENT	72744D1

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APPENDIX E

SHREDDER INJECTION DRAWING

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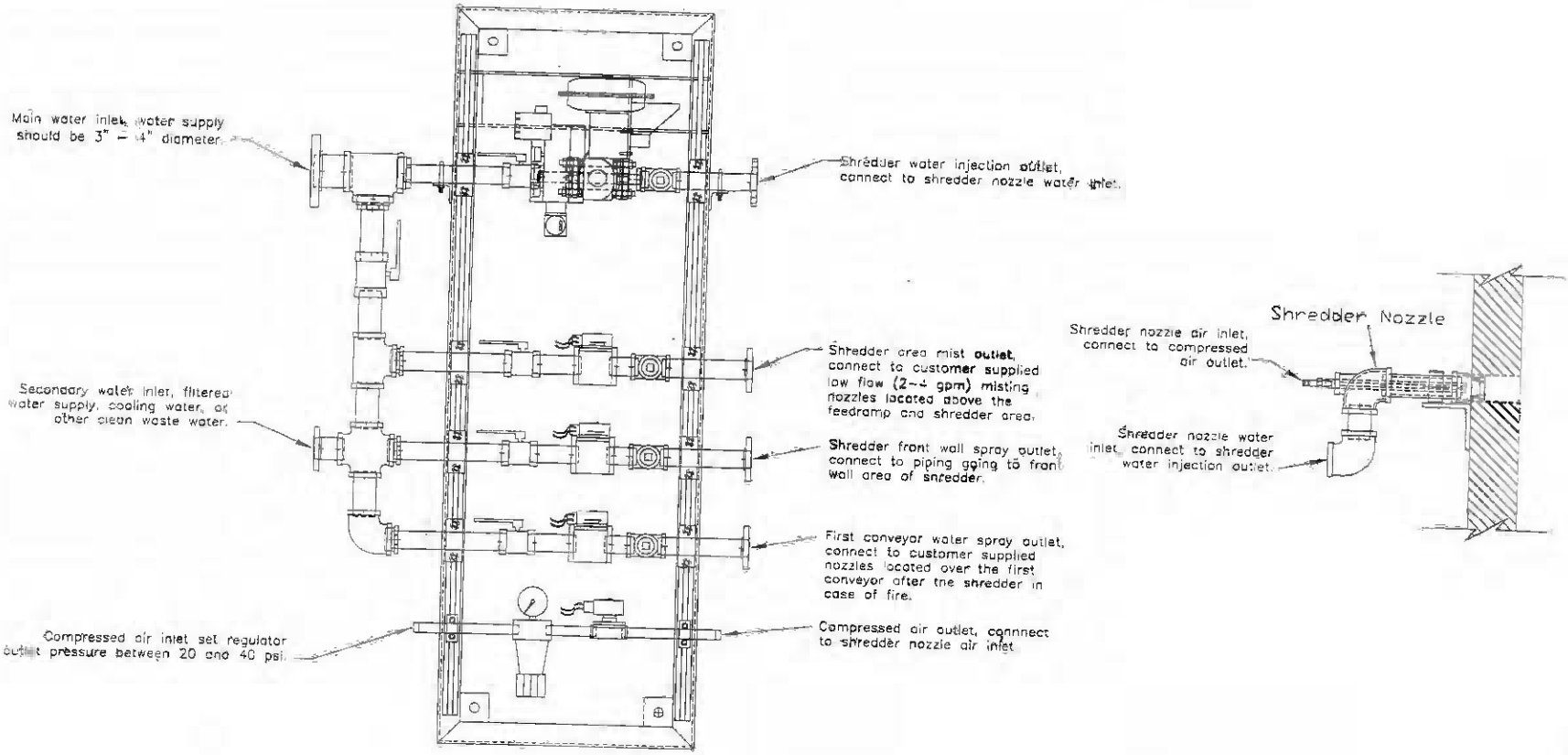


TOLERANCES: UNLESS OTHERWISE NOTED		REMARKS:	CUSTOMER:	CONTENTS © ALL RIGHTS RESERVED
XX/XX	± 1/16"		LOCATION:	RIVERSIDE ENGINEERING
.00	± .015"		TITLE: WATER INJECTION MANIFOLD PIPING SCHEMATIC	
.000	± .005"		DWN. BY: GT, RB / CHKD. BY:	DATE: 21JUN05
.0000	± .0005"		SCALE: NTS / APPD. BY:	DWG. NO.: 563-07X-018

MATERIAL LIST NO.: | PARTS LIST NO.:

NO.	REVISION	DATE	BY	NO.	REVISION	DATE	BY

APPENDIX C
SIGNIFICANT MATERIALS SUMMARY

Significant Materials Summary
Schnitzer Steel Facility, Oakland, California

Material	Quantity	Units	Location	Handling Frequency
Adsorbent	550	gallons	Area 1 (Bay 1)	Weekly
Anti-freeze	110	gallons	Area 1 (Bay 1)	Weekly
Anti-freeze	110	gallons	Area 2 (Maintenance)	Weekly
Used oil	500	gallons	Area 2 (Maintenance)	Daily
Transformer oil	7,000	gallons	Area 1 (Transformer)	Monthly
Hydraulic oil	5,000	gallons	Baler, conveyor, shredder, shear, pier crane, Bay 1, fuel truck	Daily
Diesel	6,000	gallons	Area 2 (Fuel storage), fuel truck, generator	Daily
Gasoline	250	gallons	Area 2 (Fuel storage)	Daily
Motor Oil	220	gallons	Area 1 (Bay 1) and Lube Truck	Daily
Gear Oil	220	gallons	Area 1 (Bay 1) and Lube Truck	Daily
Grease	110	gallons	Area 1 (Bay 1) and Lube Truck	Daily
Lead Acid Batteires	3,000	pounds	Area 1 (Bay 2)	Weekly
Oil Filters	55	gallons	Area 1 (Bay 1)	Weekly
Oil Filters	55	gallons	Area 2 (Maintenance)	Weekly
Flourescent Lights	25	pounds	Area 1 (Bay 1)	Weekly
Metbond MCX-90	5,000	gallons	Area 2 (Joint Product)	Daily
HMS Processed (east)	6,000	tons	Area 3	Daily
HMS Processed (west)	20,000	tons	Area 4	Daily
Bright and Shiny	100	tons	Area 4	Daily
Bonus/CA #1	3,000	tons	Area 4	Daily
Aggregate	3,300	tons	Area 2	Daily
Non-Ferrous Raw	1,000	tons	Area 2 (Joint Product)	Daily
Non-Ferrous	400	tons	Area 1	Daily
Shred	30,000	tons	Area 3	Daily
Tin	1,000	tons	Area 2	Daily
Metbond MCX-90	300	gallons	Area 1 (Bay 1)	Weekly
Unprocessed Scrap (east)	25,000	tons	Area 2	Daily
Unprocessed Scrap (south)	10,000	tons	Area 2	Daily
HMS Unprocessed	15,000	tons	Area 2	Daily

APPENDIX D
STRUCTURAL BMPS SPECIFICATIONS AND INFORMATION

DUSTBOSS

www.dustboss.com

DB-60 SPECS >

GENERAL SPECIFICATIONS

> 30,000 CFM (849.50 CMM) generated by 25 HP fan.
> 21,000 square feet (1,950 square meters) coverage. Up to 84,000 square feet (7,804 square meters) coverage available with optional 180° oscillation.
> Oscillator gives 0–40° of movement on standard unit. Unit can also be equipped with optional 180° oscillation.
> Adjustable angle of throw 0–50° of height adjustment.

ELECTRICAL SPECIFICATIONS

> U.S.: 3 Phase / 25 HP fan / 480 Volt / 60 Hertz
Full load current is 46 amps. 60 Kw gen set is recommended.
Motor is designed with a 1.15 service factor capable of operating at +/- 10% of design voltage.
> Other motor options available, including all international electrical motors:
- 3 Phase / 25 HP fan /380 Volt / 50 Hz (Europe, Middle East, N. Japan, Latin America)
- 3 Phase / 25 HP fan /400 Volt / 50 Hz (Europe, Japan, New Zealand, Australia)
- 3 Phase / 25 HP fan /415 Volt / 50 Hz (Europe, New Zealand, Australia)
- 3 Phase / 25 HP fan /575 Volt / 60 Hz (Canada)
- 3 Phase / 25 HP fan /380 Volt / 60 Hz Korea)
- 3 Phase / 25 HP fan /440 Volt / 60 Hz (Mexico)

> 380, 400, 415 volt / 50 Hz motors are designed with a 1.00 service factor capable of operating at +/- 10% of design voltage.
> 10 HP (7.5 Kw) high-pressure booster pump with no lift.
> 1/8 HP (0.10 Kw) oscillator.
> 150 foot (45.72 meters) 6/4 electrical cord. Other options available.
> No male plug, "bare wired" is standard. Any plug is extra cost.
> Cabinet with control panel.

WATER SPECIFICATIONS

> 10PSI (0.69 BAR) constant pressure needs to be delivered to booster pump. Maximum inlet water pressure should not exceed 100 PSI (6.89 BAR) when operating the booster pump.
> Maximum PSI delivered by booster pump is 200 PSI (13.79 BAR).
> Filter is included and should be used at all times. Contact us for recommendations when using nonpotable water.
(Filter system in-line 30 mesh 595 micron).
> 1-1/2" (38.10 mm) cam-and-groove quick disconnect female coupling for fire hose provided on machine.
> 30 brass nozzles (also available in stainless and nylon).
> Droplet size of 50–200 microns.
> Throw 200 feet (60 meters).

ENGLISH UNITS	WITHOUT BOOSTER PUMP				WITH BOOSTER PUMP		
Water Pressure, psi	40	60	80	100	160	180	200
Water Flow, gpm	12	14.6	16.9	18.9	23.9	25.4	26.7
METRIC UNITS							
Water Pressure, bar	2.8	4.14	5.5	6.89	11	12.4	13.8
Water Flow, lpm	45.3	55.4	64.0	71.6	90.5	96.0	101.2
1-1/2" FIRE HOSE WATER SUPPLY							

NOISE LEVELS

WITH BOOSTER PUMP	CONTROL PANEL SIDE	BACK SIDE OF FAN	OPPOSITE SIDE	DISCHARGE
0 feet	92	103	92	100
12 feet	86	89	84	88
WITHOUT BOOSTER PUMP	**CONTROL PANEL SIDE**	**BACK SIDE OF FAN**	**OPPOSITE SIDE**	**DISCHARGE**
0 feet	86	101	88	96
12 feet	80	87	80	84

DIMENSIONS

ON STANDARD WHEELED CARRIAGE

> 6.75 feet (81 inches, or 2.06 meters) wide
> 9.75 feet (117 inches, or 2.97 meters) long.
> 7.17 feet (86 inches, or 2.19 meters) tall
> 1800 lbs. (816.50 kilograms).

MAINTENANCE

> If using potable water, nozzles need to be inspected once a year.
> Fan motor and high pressure pump should be greased every 10,000 hours.
> Oscillator bearing should be greased on a regular maintenance schedule, or as needed.

CHEMICAL ADDITIVES

> Can be used with surfactant to improve binding of dust particles or with tackifying agents to seal the ground to prevent dust from becoming airborne.
> Odor control chemicals can be used to help eliminate odor.

OPTIONS

> Unit is available with optional 180° oscillation. Standard oscillation provides 0–40° of movement.
> Available on frame with skid mount. Unit comes standard on wheeled carriage.
> Dosing pump can be added to unit for chemical applications.

WARRANTY

> Unit is covered by a 3-year/3,000-hour warranty.

> CALL: 1 (800) 707-2204 (U.S.)
+1 (309) 693-8600 (Int'l)

> 24 HR Technical Support: (309) 645-3691
www.dustboss.com

SPECIFICATION
Model: HERCULES II AUTOMATED WHEEL WASH SYSTEM
PERMANENT TWO (2) TIRE REVOLUTION SYSTEM

1. GENERAL
   A. Contractor shall furnish all designs, labor, materials, equipment, parts & incidentals required for the fabrication and installation of drive thru, low pressure high volume, closed loop cycle wheel wash designed for permanent installation along with all ancillary facilities and components, including water recycling tank and all necessary pipes, valves, pumps and controls and indicators as herein.

2. SYSTEM DESCRIPTION
   A. The Wheel Wash System shall be designed to have a drive-through range designed for permanent site applications. The system shall deliver two (2) full tire revolutions of cleaning power and will be suitable for all wheeled commercial vehicles and trailers that are permitted to drive on public roads. The systems shall be supplied so that it will handle a throughput of up to 75-90 vehicles per hour with a medium to heavy degree of soiling.
   The system shall be designed to be fully installed into the ground.

   B. The system shall be designed to be fully automated so that as a vehicle approaches the wash system, the wash cycle will automatically activate via a vehicle sensor. The wash cycle time shall be variably adjustable depending on specific site conditions which will be typically less than one (1) minute per cycle. A technically coordinated nozzle system consisting of both bottom and side nozzles shall be designed to effectively wash the entire tire profile, inner and outer wheel surface and part of the under chassis as the vehicle slowly drives through the wheel wash system. The use of angled rumble grids shall be integrated into the wash element construction to provide adequate flexing to open the tire profile to supplement the cleaning effect.

   C. The wheel wash system shall be designed to use high water volumes through a high velocity nozzle system at low pressures to create the optimal cleaning effect while minimizing overspray during the wash cycle.

3. WATER MANAGEMENT
   A. The Hercules System specified herein shall be designed with a poured concrete channel that runs perpendicularly underneath the central wash areas. Each wash element on the system will be constructed with an integrated concrete sloped concrete floor that is designed to capture and discharge the wash water as the system is running. As the system runs, the wash water gravity flows from the unit into an adjacent settling basin via a sloped concrete flume.

4. SYSTEM CONSTRUCTION

A. WASH ELEMENTS

1. The wash elements shall consist of two (2) hot-dipped galvanized elements, one right and one left. Each element will be no less than 288" long x 42" wide and shall be constructed of 5 inch x 5 inch tube for the angled profiles with an 8 inch x 8 inch header for the water to enter.
2. Each element shall be integrated into the concrete structure to promote the flow of water between the two wash elements.
3. The elements shall be designed for a maximum axle load of 32,500 lbs.
4. Each wash element shall be designed for a standard track width of no less than 114 inches.

B. NOZZLES AND SPRAY BARS

1. The system shall incorporate two hundred sixty (260) stationary one quarter inch (1/4") spray nozzles to provide a complete wash of the tire profile, outer and inner wheel surfaces and part of the chassis
2. Two (2) sets of side spray nozzles shall be inset into the sidewalls to eliminate the possibility of damage from over width vehicles. Nozzles that protrude the side wall shall not be permitted. Each side spray shall consist of twenty four (24) adjustable one half inch (1/2") spray nozzles that are manufactured as a three part ball nozzle assembly that will allow for easy field-adjustment of the spray path.
3. Each set of side nozzles shall be mounted at a minimum height of twenty inches (20") and will be fully adjustable. Fixed nozzles shall not be permitted.

C. FLOCCULENT DELIVERY SYSTEM (optional)

1. The flocculent delivery system shall include a continual priming peristaltic pump that prevents backflow and eliminates the need for check valves when the pump is not in operation.
2. The flocculent shall be pumped directly from the original container and shall be evenly fed into the water-system where it can be optimally mixed, thus ensuring good sludge settlement.
3. The polymer provided shall be specially manufactured to be water soluble to facilitate the solid separation process and shall require no more than approximately 2-4 tablespoons per wash cycle.
4. The wheel wash system manufacturer shall provide one (1) 5-gallon pail of flocculent at time of start-up, and shall offer either 5-gallon pails or 55-gallon drums of flocculent for sale to the end user on an as needed basis.
5. The flocculent delivery system comes with a standard with a steel flocculent box, but can be upgraded to an insulated and heated flocculent box.

D. PUMPS

1. The two (2) tire revolution wash system shall incorporate at a minimum:
   Two (2) Heavy Duty Submersible HOMA Pumps; Model No. AMX 434 for the wash cycle.
   One (1) Heavy Duty Submersible HOMA Pump; Model No. AMX 434 for the optional Turbo Wash Feature and under carriage wash. The under carriage wash shall be designed and incorporated as an integral component of the final wheel wash system.

2. Each pump shall have a maximum capacity of 815 gpm with an operating pressure from 28-35 psi.
3. Each pump shall be provided with a standard ANSI 150# Flanged Connection; the use of NPT connections shall not be permitted.
4. Each pump shall include a Factory Dynamically Balanced impeller as in accordance with the national Hydraulic Institute.
5. Each pump shall be supplied with the pump manufacturers Auto-Coupler system consisting of pump elbow, quick-coupler and Stainless Steel guide rails for removal of the pumps without the need to dewater the fresh water tank. Systems that require the need for personnel to enter either tank to remove the pumps shall not be permitted.
6. Each pump shall include Stainless Steel lifting chain for ease of installation and removal.
7. The pump fixing and water delivery unit in the tank includes a steel header to mount onto the top of the water recycling tank allowing for a streamlined installation and unrestricted water flow.
8. Pump Auto couplers will be provided that will bolt to the floor of the tank and IES will supply stainless rail assemblies to meet the required depth of the tank.

E. ELECTRONIC CONTROL CENTER

1. The wash system shall include a control center as part of the complete package and shall be supplied by the wheel wash system manufacturer.
2. The control center shall be manufactured in the United States and shall be constructed to meet each site specific requirement as recommended by the wash system manufacturer to meet the specification herein.
3. The control center shall be made of stainless steel in accordance with Standard EN 60 439-1 and shall be for 480volt, 3phase, 60 hertz service.
4. The control center shall be equipped with the following additional features:
   a. U.L. 508A Listed for Enclosed Industrial Control Panels.
   b. Minimum 1KVA Transformer (480 volt only)
   c. 120 or 480 volt Chemical Pump, Elapsed Hour Meter, Seal Failure Light, Phase Failure Protection (480 volt only)
   d. The enclosure shall be supplied with non-fused disconnect
   e. The exterior controls shall include, but not be limited to: Pump H.O.A. Switches, Pump Run Lights, Pump Seal Fail Lights, Elapsed Hour Meters for each pump, exterior Alarm Strobe Light for pump failure & exterior 120 volt GFI Receptacle.
   f. The total connected load of the complete wash system will be: 22.5 Hp (480 volt)

F. SENSOR

1. The system manufacturer shall supply a Model 101 carsense Sensor, which will be hardwired to the control center, and remotely mounted 4" to 6" underground along side the entrance.

5. OPTIONAL EQUIPMENT

1. Turbo Wash Feature

   This feature is designed to increase the effectiveness in extremely tacky soil and shall include large orifice, high output nozzles embedded in the wash platform to focus on solids that may collect between dual tire arrangements. The manufacturer of the wheel wash system shall supply plugs for the Turbo Wash Nozzles at no additional costs to the end user so that the system can be operated without the Turbo Wash Feature when needed.

2. Landfill Package Feature

   This feature allows access to the Tread tubes that make up the Tread nozzles for removing and/or cleaning debris from the tread nozzles from inside the Tread tube. This feature also provides a screen platform over the pump chamber to prevent airborne material form entering the system. (Recommended for all landfills and where high volumes of soil are present)

3. Under Carriage Wash

   This feature is designed to eliminate the solids that cling to the undercarriage of the vehicle and consists of two sets of nozzles, six nozzles on each side, totaling 12 nozzles each pumping 20 gallons a minute at low pressure. This amount of water flushes the dirt and debris from the undercarriage of your vehicle. The low pressure keeps the water from penetrating any of the wheel bearings and seals.

4. Pipe Stem and Valve Assembly

   This feature allows the customer to divert the water from the water recycling and solid separation tank up into the customer supplied water wagon for disposal on site..

5. Back Wash

   This feature is designed to flush dirt and debris off the exit ramp 10 feet past the wheel wash insuring that any traces of debris that is deposited on the exit ramp is flushed back to the system.

6. Tank Sump

   This feature is designed to allow the tank to be drained completely during dewatering.

7. Fresh water Rinse

   The feature is designed to wash off any loose dirt and dust off the vehicle and is mounted at the end of the system. Available with side sprays only or full overhead canopy.

8. Hand wash

   This feature includes 50 feet of hose and one (1) hose nozzle as well as a valve assembly that allow the customer to divert water from the system into the hose. This allows the customer to use the water to spray down other equipment not suitable to pass through the wheel wash and to help clean the tank.

9. Safety Railing or Grating
10. Heated Flocculent Box for Cold Weather Operation
11. Exterior Strobe Alarm Light

    This feature alerts the operator in the event of a failure within the system and is designed to be visible at 500 feet.

12. Plumbing Package

    This includes piping and plumbing to connect the wheel wash system to the water recycling and solid seperation tank when concrete tanks are present.

13. Tank Heater for Cold water operation

14. Oil Seperator Package
    This feature is designed to protect the outflow structure in the event that the tank overflows. The Oil Seperator is also available with a skimmer attachment.
15. Installation Supervision by manufacturer's representative.
16. Freight to Job Site.

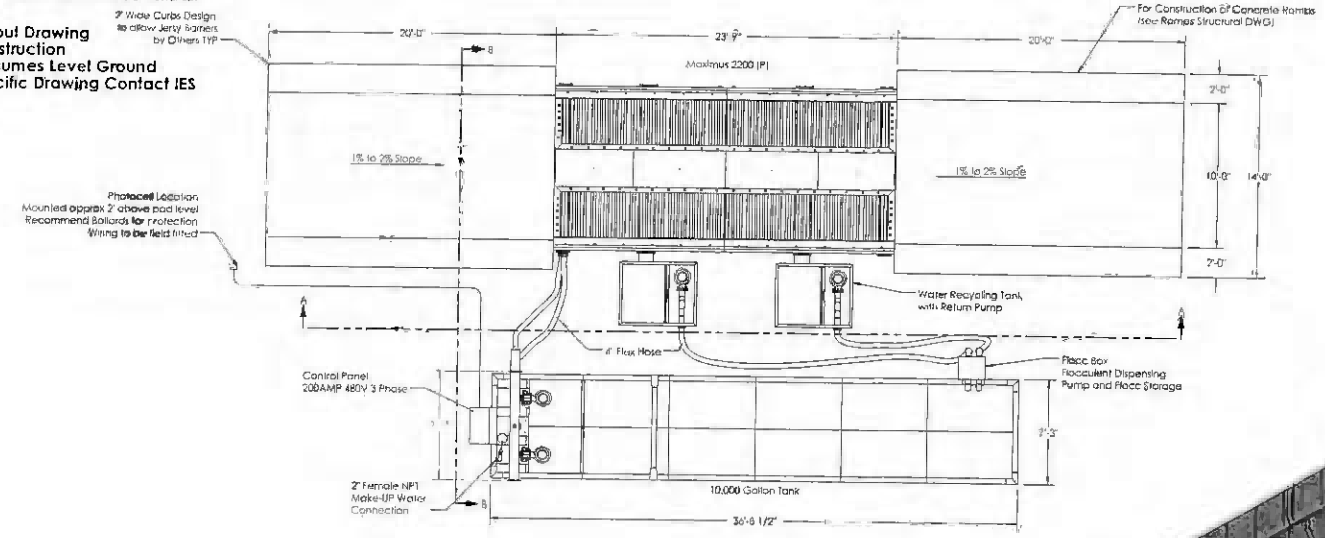
6. WARRANTY
    1. The wheel wash manufacturer shall include a 2yr warranty from the date of delivery to job site. The guarantee will encompass the replacement of defective parts and components. The manufacturer may exclude wear items and electrical components.
    2. Installation of replacement, defective parts and subsequent costs will be the responsibility of the end user.

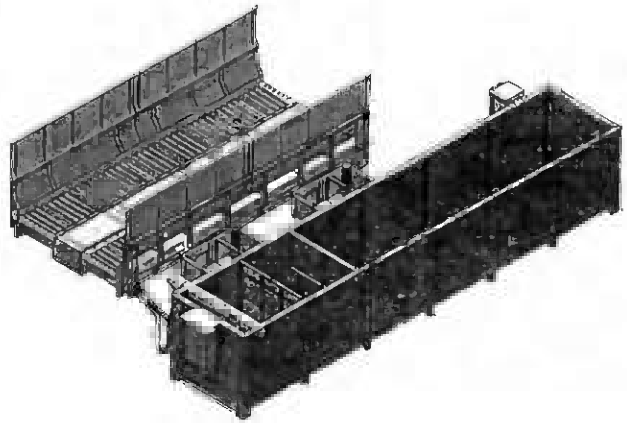
7. MANUFACTURER
    1. The specified Wheel Wash System shall be a Hercules II, as supplied by Innovative Equipment Solutions, Hot Springs, AR.
    2. Other manufacturers who would like to submit a bid for consideration are required to deliver a pre-bid submittal for review and approval no later than fourteen (14) days prior to bid date. Failure to provide an approved submittal at time of bid open shall be ground for disqualification.
    3. The delivered Wheel Wash System shall be designed, built & provided by a manufacturer located within the continental United States.
    4. Manufacturers must supply references and drawings for installation at time of award.
    5. Manufacturers should make recommendation to the end user for qualified installers or shall offer an installation bid of their product to the end user upon receipt of the material order.

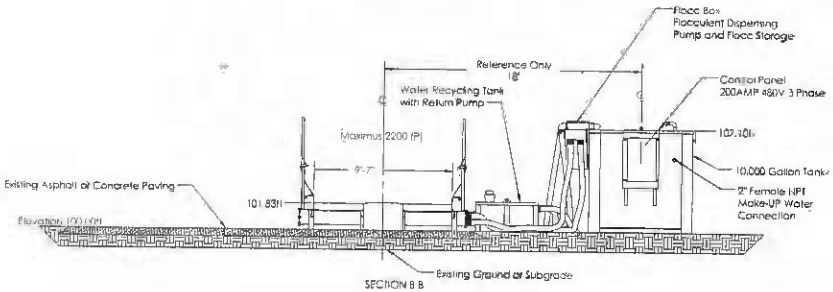
8. QUALITY ASSURANCE
    1. The wheel wash system, pumping equipment and all electrical controls shall be designed and provided by one supplier.
    2. The wheel wash system supplier shall have been regularly engaged in the design and supply of the type of equipment specified herein and shall have specific experience of not less than four (4) years and a minimum of twenty-five (25) "drive through" wheel wash system installations.
    3. The system offered shall be of the latest standard product, modified as necessary to meet the site conditions of the project.
    4. The supplier shall provide a general delivery schedule for delivery of the system to job site.
    5. The supplier shall provide a minimum of one (1) day start-up and training of the complete system.

Typical Layout Drawing
Not For Construction
Drawing Assumes Level Ground
For Site Specific Drawing Contact IES

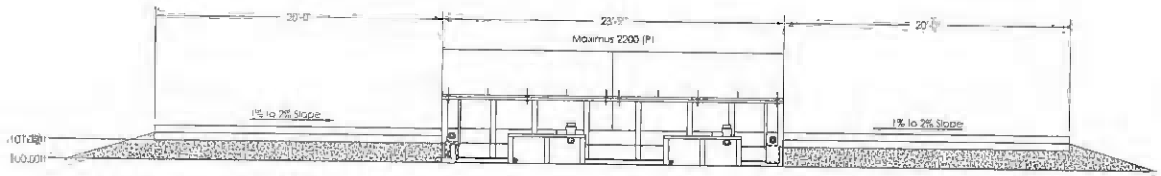
neptune AUTOMATED WHEEL WASH SYSTEMS







SECTION B-B



SECTION A-A

MODEL NAME: Maximus 2 Paihase with 10K Tank

IES Innovative Equipment Solutions
174 Cornerstone Ct. Suite B
Hot Springs, AR 71913
Office (501) 525-8484
Toll Free 1-866-703-4IES
Fax (501) 525-5206

REF DWGS

Maximus 2200 Portable with 10,000 Gallon tank
Typical Layout Drawing

DRAWN BY CMT
CHECKED BY
DATE
SCALE 1"=10'0"
SIZE B DWG NO Max 2200 P_10K Tank SHEET 1 OF 1 REV

APPENDIX E
MONITORING FORMS

2011- 2012

ANNUAL REPORT

SIDE A

FORM 2-QUARTERLY VISUAL OBSERVATIONS OF AUTHORIZED NON-STORM WATER DISCHARGES (NSWDs)

- Quarterly dry weather visual observations are required of each authorized NSWD.
- Observe each authorized NSWD source, impacted drainage area, and discharge location.
- Authorized NSWDs must meet the conditions provided in Section D (pages 5-6) of the General Permit.
- Make additional copies of this form as necessary.

QUARTER: **JULY-SEPT.** DATE: __/__/__	**Observers Name:** _____ **Title:** _____ **Signature:** _____	**WERE ANY AUTHORIZED NSWDs DISCHARGED DURING THIS QUARTER?**	☐ **YES** ☐ **NO** If **YES**, complete reverse side of this form.
QUARTER: **OCT.-DEC.** DATE: __/__/__	**Observers Name:** _____ **Title:** _____ **Signature:** _____	**WERE ANY AUTHORIZED NSWDs DISCHARGED DURING THIS QUARTER?**	☐ **YES** ☐ **NO** If **YES**, complete reverse side of this form.
QUARTER: **JAN.-MARCH** DATE: __/__/__	**Observers Name:** _____ **Title:** _____ **Signature:** _____	**WERE ANY AUTHORIZED NSWDs DISCHARGED DURING THIS QUARTER?**	☐ **YES** ☐ **NO** If **YES**, complete reverse side of this form.
QUARTER: **APRIL-JUNE** DATE: __/__/__	**Observers Name:** _____ **Title:** _____ **Signature:** _____	**WERE ANY AUTHORIZED NSWDs DISCHARGED DURING THIS QUARTER?**	☐ **YES** ☐ **NO** If **YES**, complete reverse side of this form.

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SIDE B

FORM 2-QUARTERLY VISUAL OBSERVATIONS OF AUTHORIZED NON-STORM WATER DISCHARGES (NSWDs)

DATE /TIME OF OBSERVATION	SOURCE AND LOCATION OF AUTHORIZED NSWD EXAMPLE: Air conditioner Units on Building C	NAME OF AUTHORIZED NSWD EXAMPLE: Air conditioner condensate	DESCRIBE AUTHORIZED NSWD CHARACTERISTICS Indicate whether authorized NSWD is clear, cloudy, or discolored, causing staining, contains floating objects or an oil sheen, has odors, etc.		DESCRIBE ANY REVISED OR NEW BMPs AND PROVIDE THEIR IMPLEMENTATION DATE
			At the NSWD Source	At the NSWD Drainage Area and Discharge Location	
/ / : ☐AM ☐PM					
/ / : ☐AM ☐PM					
/ / : ☐AM ☐PM					
/ / : ☐AM ☐PM					
/ / : ☐AM ☐PM					

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SIDE A

ANNUAL REPORT
FORM 3-QUARTERLY VISUAL OBSERVATIONS OF UNAUTHORIZED NON-STORM WATER DISCHARGES (NSWDs)

- Unauthorized NSWDs are discharges (such as wash or rinse waters) that do not meet the conditions provided in Section D (pages 5-6) of the General Permit.
- Quarterly visual observations are required to observe current and detect prior unauthorized NSWDs.
- Quarterly visual observations are required during dry weather and at all facility drainage areas.
- Each unauthorized NSWD source, impacted drainage area, and discharge location must be identified and observed.
- Unauthorized NSWDs that can not be eliminated within 90 days of observation must be reported to the Regional Board in accordance with Section A.10.e of the General Permit.
- Make additional copies of this form as necessary.

QUARTER: **JULY-SEPT.** **DATE/TIME OF OBSERVATIONS** __/__/__ __:__ ☐ AM ☐ PM	**Observers Name:** _____ **Title:** _____ **Signature:** _____	**WERE UNAUTHORIZED NSWDs OBSERVED?** ☐ YES ☐ NO **WERE THERE INDICATIONS OF PRIOR UNAUTHORIZED NSWDs?** ☐ YES ☐ NO	If **YES** to either question, complete reverse side.
QUARTER: **OCT.-DEC.** **DATE/TIME OF OBSERVATIONS** __/__/__ __:__ ☐ AM ☐ PM	**Observers Name:** _____ **Title:** _____ **Signature:** _____	**WERE UNAUTHORIZED NSWDs OBSERVED?** ☐ YES ☐ NO **WERE THERE INDICATIONS OF PRIOR UNAUTHORIZED NSWDs?** ☐ YES ☐ NO	If **YES** to either question, complete reverse side.
QUARTER: **JAN.-MARCH** **DATE/TIME OF OBSERVATIONS** __/__/__ __:__ ☐ AM ☐ PM	**Observers Name:** _____ **Title:** _____ **Signature:** _____	**WERE UNAUTHORIZED NSWDs OBSERVED?** ☐ YES ☐ NO **WERE THERE INDICATIONS OF PRIOR UNAUTHORIZED NSWDs?** ☐ YES ☐ NO	If **YES** to either question, complete reverse side.
QUARTER: **APRIL-JUNE** **DATE/TIME OF OBSERVATIONS** __/__/__ __:__ ☐ AM ☐ PM	**Observers Name:** _____ **Title:** _____ **Signature:** _____	**WERE UNAUTHORIZED NSWDs OBSERVED?** ☐ YES ☐ NO **WERE THERE INDICATIONS OF PRIOR UNAUTHORIZED NSWDs?** ☐ YES ☐ NO	If **YES** to either question, complete reverse side.

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SIDE B

FORM 3 QUARTERLY VISUAL OBSERVATIONS OF UNAUTHORIZED NON-STORM WATER DISCHARGES (NSWDs)

OBSERVATION DATE (FROM REVERSE SIDE)	NAME OF UNAUTHORIZED NSWD EXAMPLE: Vehicle Wash Water	SOURCE AND LOCATION OF UNAUTHORIZED NSWD EXAMPLE: NW Corner of Parking Lot	DESCRIBE UNAUTHORIZED NSWD CHARACTERISTICS Indicate whether unauthorized NSWD is clear, cloudy, discolored, causing stains; contains floating objects or an oil sheen, has odors, etc.		DESCRIBE CORRECTIVE ACTIONS TO ELIMINATE UNAUTHORIZED NSWD AND TO CLEAN IMPACTED DRAINAGE AREAS. PROVIDE UNAUTHORIZED NSWD ELIMINATION DATE.
			AT THE UNAUTHORIZED NSWD SOURCE	AT THE UNAUTHORIZED NSWD AREA AND DISCHARGE LOCATION	
/ / ☐ AM ☐ PM					
/ / ☐ AM ☐ PM					
/ / ☐ AM ☐ PM					
/ / ☐ AM ☐ PM					

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ANNUAL REPORT

FORM 4-MONTHLY VISUAL OBSERVATIONS OF STORM WATER DISCHARGES

SIDE A

- Storm water discharge visual observations are required for at least one storm event per month between October 1 and May 31.
- Visual observations must be conducted during the first hour of discharge at all discharge locations.
- Discharges of temporarily stored or contained storm water must be observed at the time of discharge.
- Indicate "None" in the first column of this form if you did not conduct a monthly visual observation.
- Make additional copies of this form as necessary.
- Until a monthly visual observation is made, record any eligible storm events that do not result in a storm water discharge and note the date, time, name, and title of who observed there was no storm water discharge.

Observation Date: October ____ 2011 Observers Name: _____ Title: _____ Signature: _____	Drainage Location Description	#1	#2	#3	#4
	Observation Time	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
	Time Discharge Began	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐
Observation Date: November____ 2011 Observers Name: _____ Title: _____ Signature: _____	Drainage Location Description	#1	#2	#3	#4
	Observation Time	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
	Time Discharge Began	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐
Observation Date: December____ 2011 Observers Name: _____ Title: _____ Signature: _____	Drainage Location Description	#1	#2	#3	#4
	Observation Time	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
	Time Discharge Began	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐
Observation Date: January____ 2012 Observers Name: _____ Title: _____ Signature: _____	Drainage Location Description	#1	#2	#3	#4
	Observation Time	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
	Time Discharge Began	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.	: ☐ P.M. ☐ A.M.
	Were Pollutants Observed (If yes, complete reverse side)	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐	YES ☐ NO ☐

2011- 2012
ANNUAL REPORT

SIDE B

FORM 4-MONTHLY VISUAL OBSERVATIONS OF STORM WATER DISCHARGES

DATE/TIME OF OBSERVATION (From Reverse Side)	DRAINAGE AREA DESCRIPTION EXAMPLE: Discharge from material storage Area #2	DESCRIBE STORM WATER DISCHARGE CHARACTERISTICS Indicate whether storm water discharge is clear, cloudy, or discolored; causing staining; containing floating objects or an oil sheen, has odors, etc.	IDENTIFY AND DESCRIBE SOURCE(S) OF POLLUTANTS EXAMPLE: Oil sheen caused by oil dripped by trucks in vehicle maintenance area.	DESCRIBE ANY REVISED OR NEW BMPs AND THEIR DATE OF IMPLEMENTATION
/ / : ☐ AM ☐ PM				
/ / : ☐ AM ☐ PM				
/ / : ☐ AM ☐ PM				
/ / : ☐ AM ☐ PM				
/ / : ☐ AM ☐ PM				

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ANNUAL REPORT

SIDE A

FORM 5-ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY BMP STATUS

EVALUATION DATE: ___/___/___ INSPECTOR NAME: ____________ TITLE: ____________ SIGNATURE: ____________

POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)	**HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED?** ☐ **YES** ☐ **NO** **ARE ADDITIONAL/REVISED BMPs NECESSARY?** ☐ **YES** ☐ **NO**	If yes, to either question, complete the next two columns of this form	**Describe deficiencies in BMPs or BMP implementation**	**Describe additional/revised BMPs or corrective actions and their date(s) of implementation**
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)	**HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED?** ☐ **YES** ☐ **NO** **ARE ADDITIONAL/REVISED BMPs NECESSARY?** ☐ **YES** ☐ **NO**	If yes, to either question, complete the next two columns of this form	**Describe deficiencies in BMPs or BMP implementation**	**Describe additional/revised BMPs or corrective actions and their date(s) of implementation**
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)	**HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED?** ☐ **YES** ☐ **NO** **ARE ADDITIONAL/REVISED BMPs NECESSARY?** ☐ **YES** ☐ **NO**	If yes, to either question, complete the next two columns of this form	**Describe deficiencies in BMPs or BMP implementation**	**Describe additional/revised BMPs or corrective actions and their date(s) of implementation**
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)	**HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED?** ☐ **YES** ☐ **NO** **ARE ADDITIONAL/REVISED BMPs NECESSARY?** ☐ **YES** ☐ **NO**	If yes, to either question, complete the next two columns of this form	**Describe deficiencies in BMPs or BMP implementation**	**Describe additional/revised BMPs or corrective actions and their date(s) of implementation**

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ANNUAL REPORT

SIDE B

FORM 5 (Continued)-ANNUAL COMPREHENSIVE SITE COMPLIANCE EVALUATION POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY BMP STATUS

EVALUATION DATE: ___/___/___ INSPECTOR NAME: ____________ TITLE: ____________ SIGNATURE: ____________

POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED? ☐YES ☐NO ARE ADDITIONAL/REVISED BMPs NECESSARY? ☐YES ☐NO	If yes, to either question, complete the next two columns of this form.	Describe deficiencies in BMPs or BMP implementation	Describe additional/revised BMPs or corrective actions and their date(s) of implementation
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED? ☐YES ☐NO ARE ADDITIONAL/REVISED BMPs NECESSARY? ☐YES ☐NO	If yes, to either question, complete the next two columns of this form	Describe deficiencies in BMPs or BMP implementation	Describe additional/revised BMPs or corrective actions and their date(s) of implementation
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED? ☐YES ☐NO ARE ADDITIONAL/REVISED BMPs NECESSARY? ☐YES ☐NO	If yes, to either question, complete the next two columns of this form	Describe deficiencies in BMPs or BMP implementation	Describe additional/revised BMPs or corrective actions and their date(s) of implementation
POTENTIAL POLLUTANT SOURCE/INDUSTRIAL ACTIVITY AREA (as identified in your SWPPP)	HAVE ANY BMPs NOT BEEN FULLY IMPLEMENTED? ☐YES ☐NO ARE ADDITIONAL/REVISED BMPs NECESSARY? ☐YES ☐NO	If yes, to either question, complete the next two columns of this form	Describe deficiencies in BMPs or BMP implementation	Describe additional/revised BMPs or corrective actions and their date(s) of implementation

EXHIBIT 6

From: Scott Sloan <ssloan@schn.com>
Sent: Monday, October 01, 2012 11:57 AM
To: Christine Boschen (cboschen@waterboards.ca.gov)
Cc: Pat Christopher; Michael Henderson; Tom Zelenka; John Hare; Luc Ong; Chris Orsolini; Rosegay, Margaret; Peter Zawislanski; Bruce Rieser
Subject: Submittal of Comments to Tentative CAO - Schnitzer Steel Products Oakland Facility
Attachments: SSPC Comment Letter - Tentative CAO - 10.01.2012.pdf

Importance: High

Dear Ms. Boschen,

Per the San Francisco Bay Regional Water Quality Control Board's (Regional Board's) August 27, 2012 transmittal, please find Schnitzer Steel Products Company's comment letter associated with the Tentative Cleanup and Abatement Order (CAO) for our Oakland facility attached.

We'd like to reiterate our thanks to Regional Board staff for meeting with us on September 14, 2012. We believe our discussions were beneficial and that additional discussion regarding the progress of improvements underway at the facility, our comments to the CAO, and potential alternative regulatory approaches would be productive. Once Regional Board staff have had a chance to fully review our comments we would like to schedule a meeting. We will contact you in a week or two to discuss potential scheduling for a meeting. It's our understanding, based on discussions during our previous meeting, that this matter is not likely to be presented to the Executive Officer before mid-November 2012.

We look forward to working with the Regional Board as we proceed with additional stormwater improvement projects at our Oakland facility. Please contact me at your earliest convenience if you have any questions or need additional information.

Thank you,

Scott B. Sloan, R.G., L.Hg.
National Environmental Director
Schnitzer Steel MRB
425-420-1863 – Office
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Schnitzer Steel Products Company
1101 Embarcadero West
Oakland, CA 94607

October 1, 2012

Christine Boschen
San Francisco Bay Regional Water Quality Control Board
1515 Clay Street, Suite 1400
Oakland, CA 94612

Re: Comments on Tentative Cleanup Abatement Order for
Schnitzer Steel Products Facility, 1101 Embarcadero West, Oakland, CA

Dear Ms. Boschen:

Schnitzer Steel Products Company hereby submits comments on the tentative Cleanup and Abatement Order (CAO) that was sent to us on August 27, 2012 by Shin-Roei Lee, Chief, Watershed Management Division, San Francisco Bay Regional Water Quality Control Board (Regional Board), concerning our scrap metal recycling facility in Oakland, California. Before presenting our comments on the tentative order, I wish to thank you and other Regional Board and State Board staff for taking the time to meet with us on September 14, 2012 to discuss the tentative order. While we were disappointed that we did not have an opportunity to discuss this matter with you at an earlier point in time, we found the meeting to be very useful, and we intend to continue to work cooperatively with staff to resolve all of the concerns identified during the March 29, 2012 inspection and in the tentative CAO.

As discussed near the close of our September 14, 2012 meeting, Regional Board staff is currently reviewing an update to the facility's Stormwater Quality Management Plan (SQMP) which was submitted to the Regional Board on August 14, 2012 per your earlier request. The updated SQMP incorporates a Stormwater Pollution Prevention Plan (SWPPP) for the Oakland facility. We understand that Regional Board staff may have several comments regarding the contents of the SQMP/SWPPP, and we would like to reiterate our intent to work cooperatively with Regional Board staff to respond to any questions you have and to reach consensus on appropriate final content for the facility's SQMP/SWPPP. In addition to integration of any revisions and/or additions to address the issues staff may already have identified, we believe that much, if not most of the information requested in the Technical Reports described in Section C of the tentative CAO can be included in the facility's SWPPP, either as revisions to the text or in technical appendices. Specifically, operation and maintenance of the facility's water recycling system, and management and control of material storage piles, are inter-related topics which have a significant effect on stormwater quality and on-site water storage capacity. Because these issues are logically part of the SWPPP, we are proposing to address them in the context of that document rather than in separate Technical Reports. Further, by incorporating this information

directly into the SWPPP, it will be subject to on-going review and revision as necessary to conform with changing site conditions over time. Further discussion of this issue is contained in Item 7 below.

General Overview of Comments

Industrial Storm Water Permit Considerations. As discussed at the September 14 meeting, we believe we have demonstrated our willingness to significantly improve storm water management practices at the facility and to minimize or eliminate, to the extent reasonably possible, the potential for process-related pollutants to contaminate storm water at and near the facility. We are already in the process of implementing many new and enhanced Best Management Practices (BMPs) to address the findings identified in the Inspection Report and tentative CAO, and we hope that the Regional Board will agree it is not necessary to issue a CAO at this point. Detailed information on each of these BMPs was presented at the September 14 meeting and is documented below in our comments.

Schnitzer Steel has a very strong corporate culture of environmental compliance, and the company requires all facilities and personnel to comply with applicable environmental laws and regulations, including permit conditions. With respect to our Oakland facility, our focus has always been on capturing and containing 100% of the storm water that falls on the facility so that the water can be beneficially reused and recycled in our operations. There are no storm water outfalls at the facility that flow to the Bay, and there are no drain inlets on-site that are connected to the municipal separate storm sewer system (MS4). Additional information concerning the facility's internal storm water management system and containment capacity is provided below. By collecting, storing and reusing the water on-site as cooling water in the shredder or for dust control, we have consistently avoided any discharge of storm water to the Bay and have always considered the facility to be a zero-discharge facility. In the past, to our knowledge, facility structures were not considered "conveyances" for purposes of the General Permit, and storm water run-off from these structures was not considered a "point source" discharge.

In addition, there are no municipal storm drains along the frontage road that leads to the facility (Embarcadero West), or along the western boundary of the facility, adjacent to the area where most of the heavy truck traffic occurs. The nearest municipal storm drain that could be affected by vehicle track-out is located at the corner of Embarcadero West and Market Street, near the entrance to Howard Terminal (Port of Oakland). We also regularly sweep the entire length of Embarcadero Street from our security gate to Market Street, as well as all internal paved roads, to minimize the amount of dirt on the roads.[1] Accordingly, we did not believe that track-out from heavy trucks traveling in these areas constituted a regulated "discharge" under the General Permit since the dirt is not likely to become entrained in storm water that has a potential to flow into a storm drain. Based on our observations over a period of many years, we believe that the vast majority of the storm water that falls onto Embarcadero West in the vicinity of the facility infiltrates and/or evaporates before reaching the storm drain.

[1] The tentative CAO uses the term "process sediment" to refer to the loose dirt and mud that is characteristic of our operations and that is susceptible to being tracked out of the yard by vehicles, either onto Embarcadero Road or onto the concrete pier that leads out to the dock where ships are berthed.

Our understanding of the scope of the General Industrial Storm Water Permit, as described above, has been reinforced over the years by the Regional Board's acceptance of our Annual Reports, which have not identified any storm water discharges. Nor have we submitted any storm water sampling data to the Regional Board since there have been no discharges to sample. We have never received any Notices of Violation under the storm water program despite repeated inspections by Alameda County and periodic inspections by the Regional Board over a period of many years. Prior to the Regional Board's inspection in March 2012, we believed that our operations were in full compliance.

Nevertheless, going forward, we are willing to accept staff's position that track-out and off-site dispersal of other materials related to our operations are considered regulated "discharges" if they have a potential, however slight, to enter the MS4. Similarly, in the future, we will consider run-off from docks, piers, conveyors and other over-water structures that may carry process pollutants into the water as regulated discharges, and we will develop a means of sampling this water during storm events under our Monitoring and Reporting Program. We acknowledge that BMPs must be implemented to eliminate or minimize the potential for pollutants associated with our operations to come into contact with storm water that can reach the Bay, either directly or via the MS4. To this end, we are already actively engaged in implementing significant new or enhanced structural BMPs and have already corrected, or are in the process of correcting, most of the concerns identified in the Inspection Report. If additional BMPs are needed after the currently planned corrective actions are completed, we believe we should be given an opportunity to engage in the iterative process available to all dischargers under the General Permit. In short, a number of intermediary steps were bypassed by the Regional Board in deciding to proceed directly with a CAO. Typically, a facility is given notice that its storm water management practices are considered deficient and given a reasonable opportunity to correct the situation. The "quantum leap" from compliance to tentative CAO is unusual given our experience at other facilities within this Regional Board's jurisdiction and other areas of California. We believe we should be allowed an opportunity to work with Regional Board staff to address their concerns in a more measured and typical manner. If the typical approach is ultimately not successful, the Regional Board has the authority to issue a CAO at any point in the future.

Apart from our procedural concerns, we believe it would be fundamentally unfair to issue a CAO under the circumstances stated above, and that adoption of the CAO would represent a disproportionately harsh enforcement response. Even putting aside our historical record of compliance, following the Regional Board's inspection in March 2012, we made several requests to meet with staff to discuss the concerns that had been raised and to describe the steps Schnitzer Steel is taking on its own initiative to improve storm water management at the facility and to further minimize the potential for direct discharge of material from the facility. Our purpose was to engage in a collaborative dialogue that would lead to completion of site improvements to address the Regional Board's concerns in an expeditious and cooperative manner. These requests to meet were declined until the September 14 meeting. Prior to receipt of the tentative order, the only written communication we received from the Regional Board was the July 5, 2012 letter revoking the sampling and analysis reduction certification that was approved in 1997 and that has been in effect since that time. Until receiving the tentative CAO on August 27, we never received any other formal communication from the Regional Board, either in the form of an Inspection Report documenting the results of the inspection or a Notice of Violation alleging

specific violations of the Industrial Storm Water General Permit or other requirements of law. Under these circumstances, we believe it would be very unfair to place us under the stigma of a CAO, especially given our degree of cooperation and prompt, proactive efforts to implement corrective action.

Groundwater Considerations. With respect to the remaining provisions of the tentative CAO that relate, ultimately, to the condition of groundwater beneath the facility, we believe these issues are most appropriately addressed through a request for a technical report under Water Code section 13267, rather than under a CAO. In our opinion, the Regional Board currently lacks substantial evidence that facility operations have adversely affected beneficial uses of groundwater. To the contrary, groundwater monitoring data collected over a period of 20 years demonstrate that beneficial uses are being protected (see Attachment 1). These data were collected from wells that were installed in accordance with a plan approved by the Regional Board in or around 1992, and the Regional Board has never previously questioned the location or sufficiency of the wells. While the general appearance of the facility (particularly during the rainy season) and the very heavy industrial nature of our activities may appear to be adversely affecting water quality, we do not believe this to be the case. That being said, we are willing to conduct additional groundwater sampling to demonstrate this to the Regional Board's satisfaction. However, pending the receipt of data that indicates our current understanding of site conditions is incorrect, there is no reasonable basis for concluding that any "cleanup or abatement" of soil or groundwater at the site is needed. Hence, we strongly believe that a CAO is not the proper mechanism to address the Regional Board's desire for additional information regarding groundwater conditions at the facility.

In addition to our general comments as set forth above, we have the following specific comments on the tentative order.

I. ***Storm water discharges from Schnitzer Steel's Oakland facility are not polluting the waters of the Oakland Estuary, the Inner Harbor or San Francisco Bay.***

The tentative order states that Schnitzer Steel has discharged "process sediment, industrial process waste water and metal shredding by-products into the estuary and waterway areas of the Oakland Estuary and Inner Harbor or San Francisco Bay," and that "process sediment, industrial waste water, and metal shredder fluff from the Site continue to pollute the waters of the State and United States." See Findings 1 and 3 of the tentative order. While we acknowledge that pollutants from our operations have the potential to become entrained in storm water discharges, we believe the tentative order is based on factual assumptions that represent an overstatement of actual circumstances at the facility. The vast majority of storm water at the site is fully contained and reused on-site, and we strongly dispute that the minor discharges that may be occurring are adversely affecting beneficial uses or causing exceedences of Water Quality Objectives in any waters of the state or United States. We also note that the General Permit does not prohibit discharges of storm water associated with industrial activities, but rather requires the implementation of BMPs to minimize pollutant loadings as necessary to comply with BAT/BCT and applicable water quality standards. We believe these basic requirements of the permit are being satisfied.

Relative to the total amount of scrap metal and related process materials at the facility, the volume of material actually discharged from the facility is extremely small. These discharges occur in the form of (i) vehicle track-out, most of which is swept up before it can become entrained in storm water; (ii) wind-blown dispersion of light fibrous material[2] onto an adjacent property where some amount of it may be washed into storm drains; and (iii) intermittent run-off, drippage or falling debris from docks and other over-water structures. Since the March 29 inspection, we have taken steps to minimize or eliminate each of these potential sources of pollutants. These actions are described under Item 2 below. We do not believe our operations have adversely affected water quality or that there is a demonstrated need for "cleanup and abatement of wastes" beyond the implementation of these additional BMPs.

2. ***Schnitzer Steel has already implemented, or is in the process of implementing, significant new or enhanced BMPs at the Oakland facility that will effectively minimize or eliminate the potential for storm water discharges to contain process pollutants.***

As described in our August 14, 2012 letter to the Regional Board and at the September 14 meeting, we have undertaken or completed each of the following action items to improve storm water management and quality at the facility:

Dock and Pier Cleaning

This work was conducted September 6-14, 2012 and is complete. Schnitzer Steel retained NRC Environmental Services to perform this work based on its significant experience in projects of this nature. All surface areas were power washed and all wash water and debris were collected and fully contained in a barge that was positioned immediately below the areas being cleaned. There were no discharges of wash water or debris to the Bay. Before and after pictures were taken and clearly show a marked improvement in the condition of the structures. We are also in the process of modifying our SWPPP to provide for more frequent inspections and periodic cleaning of these structures to prevent future accumulations of mud, dirt and debris that could be conveyed into the Bay during storm events.

Track Out Controls

We are in the process of installing heavy duty commercial wheel washing systems at the exit from the facility and at the entrance to the concrete dock. The system that will be installed at the dock must be specially designed and manufactured to accommodate the extreme weight of fully loaded mine trucks that haul shredded metal and heavy steel out to the ship. Both of these systems will collect and recycle the water that is used to wash dirt from the tires, and the recycled water will be reused in the wheel wash system. Installation of the system at the facility exit is currently underway and is scheduled for completion by October 1, 2012. Installation of the system at the dock entrance is scheduled for completion by December 1, 2012.

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[2] The tentative order refers to this light fibrous material as "shredder fluff." This material is actually the non-metallic component of "aggregate," which is the mixture of non-metallic material and non-ferrous metals that remains after ferrous metals are removed from the shredder output. Because the non-ferrous recovery process is conducted partially outdoors and is not fully contained, some amount of the fibrous material can escape.

Concrete Dock Improvements

In order to minimize the potential for pollutants to be washed off the surface of the concrete dock and into the water below, we are installing an Ertec™ perimeter storm water filtration system along the entire length of the dock, on all sides of the structure. The Ertec™ barrier is a filter fabric that traps sediment and allows water to pass out the other side. Collected sediment will be manually removed from the edges of the filter using a portable vacuum system as part of regularly scheduled maintenance. Installation of the system is expected to be completed by October 31, 2012.

Conveyor Pier Improvements

The conveyor is used to transport shredded metal into the hold of a ship. The conveyor is constructed on a wooden pier that extends outward from the shoreline. Each side of the pier is fitted with rubber shields to help prevent materials that fall onto the pier from entering the water. The uppermost portion of the conveyor that extends over open water, past the end of the pier, was fully enclosed a number of years ago except for a narrow opening at the top of the housing. This enclosure effectively prevents water, metal and other debris which could potentially fall off this portion of the conveyor from falling or running directly onto the pier or into the water below. The lower portion of the conveyor is partially contained. The upper one-third of the lower conveyor is equipped with similar bottom and side containment as described above for the upper conveyor portion which extends over water. The bottom two-thirds of the lower conveyor is not currently contained. In order to provide more complete containment, a stainless steel catchment tray will be installed beneath the bottom two-thirds of the lower conveyor, up to the point where it is already enclosed. Material that falls off the conveyor will land on the tray where it can be retrieved and returned to the conveyor (this material is now being retrieved off the pier itself and returned to the conveyor). This new catchment tray will also allow drippage from dust control water or storm water to be collected and returned to the yard for reuse. An additional containment structure will be designed and fabricated to collect water and debris which can fall from the lower conveyor's tensioning system located in the approximate center of the lower conveyor.

We are also in the process of designing a system that will capture the small amount of water that "backflows" down the enclosed upper portion of the conveyor (dust control water or storm water). Currently, there is no means of capturing this water and it can drip to the pier below. The water that is collected will be returned to the yard and recycled. The conveyor pier improvements are in the design stage at this time. We hope to implement these improvements in January 2013.

Improvements to Torch Cutting Area

In July 2012, we relocated the torch cutting station to a paved, contained area to minimize the potential for storm water exposures associated with torch cutting operations. The torch cutting area is paved with concrete and overlain with gravel (torch cutting cannot safely be conducted on a concrete surface as overheated concrete has a tendency to explode). The gravel also prevents pollutants associated with this operation from escaping the immediate area. The gravel bed will be replenished or replaced as needed, with spoils properly characterized and disposed.

Expansion of Covered Maintenance Area

The covered (tented) maintenance area is in the process of being expanded to approximately twice its current size, and where possible, maintenance activities that are now conducted outdoors will be relocated to the new covered area. The tent structure has been purchased and fabrication is underway. This project is scheduled to be completed by October 31, 2012.

Installation of Drain in Non-ferrous Retail Area

A slot drain has been installed at the entrance to the non-ferrous retail area to prevent any run-off from this area from flowing out onto Embarcadero West. This project was completed in May 2012.

Control of Light Fibrous Material

As is the case with all metal shredding and non-ferrous metal separation operations, there is a potential for light, fibrous material produced by these operations to become airborne and subject to dispersal by wind and water. Schnitzer Steel has many BMPs in place to prevent the off-site dispersion of this material, but we recognize that a greater effort is needed to more effectively contain this material on-site. Control of this material, as well as other particulate materials and wastes produced by our operations (e.g., aggregate and shredder residue).[3] is currently the subject of ongoing regulatory processes initiated by the Bay Area Air Quality Management District (BAAQMD) and the Department of Toxic Substances Control (DTSC). BAAQMD is developing a rule that will require the development of an Emissions Minimization Plan to control particulate and visible emissions from metal recycling operations; these plans will be subject to review and approval by the Air Pollution Control Officer and will become enforceable requirements once approved. Similarly, DTSC is working on a new regulatory framework for shredder residue that will eventually replace the declassification letters that have been in effect for the past 25 years.

In addition to our participation in these regulatory development processes, we are in the process of obtaining internal approval to purchase and install a 30-foot high windscreen/debris barrier along the eastern (predominantly downwind) property boundary that will help significantly to contain this fibrous material on-site. Any material that collects on the windscreen will be removed as part of regularly scheduled maintenance activities. We are also in communication with SSA Terminals and have agreed to conduct more frequent inspections and removal of fibrous material from their property if observed. Other than observed accumulations of the fibrous material (that can readily be vacuumed or picked up), we are not aware of any contaminated soil at the SSA Terminal that is attributable to our operations.

[3] "Aggregate" is the mixture of non-ferrous metals and non-metallic materials that remains after the ferrous metal has been removed from the shredder output by magnets. Aggregate is an intermediate processing stream, as it contains a significant percentage of valuable recoverable non-ferrous metal. Shredder residue is the non-metallic debris that remains after the non-ferrous metal separation process has been completed. Shredder residue is treated and used as alternative daily landfill cover.

Additional Boundary Containment

As the Regional Board is aware, in 1990, Schnitzer Steel constructed a 2,200 foot concrete containment wall that runs along the entire shoreline of the facility. The purpose of this barrier is several-fold: to prevent surface flow of storm water from the property into the Bay, to provide a buffer between the shoreline and stockpiled materials that are awaiting export, and to prevent facility soils from being tracked or washed into the Bay. In August 2012, we extended this wall from its western terminus by approximately 600 feet, so that it now turns inland and parallels the western property boundary. The wall will provide more effective containment along the western boundary of the property, and will supplement the fencing and K-rails that are still in place. In addition, we have cleaned up the miscellaneous trash and other debris that was observed in this area during the inspection and have inspected the APL and Port properties to the west for any evidence of other process-related materials, including "shredder fluff." No additional materials were identified. We are therefore uncertain of the basis for the statement in the tentative order that "[a]dditional accumulated shredder fluff was observed throughout the Port of Oakland paved lot and on the APL Limited property, both west of the Site." See Finding 3.c., p. 4. This apparent observation is also inconsistent with the direction of prevailing winds (to the east).

Photographs documenting completed, or in progress, BMP enhancement projects are provided in Attachment 2.

3. ***Schnitzer Steel is not violating SCR Order No. 88-023; facility operations have not degraded groundwater beneath the facility or adversely affected beneficial uses.***

SCR Order No. 88-023 was issued to Schnitzer Steel in 1988 following the discovery in 1986 of contaminated soils that had been excavated as part of a construction project at the facility and lawfully disposed of at a local landfill. Those soils were subsequently removed and disposed of at an alternative location. The Regional Board required Schnitzer Steel to conduct an investigation in the area of the construction to determine whether there was a need for additional remediation at the facility. These investigations were conducted under the auspices of the Regional Board and the Department of Health Services (now DTSC) and were completed in 1987, prior to issuance of SCR Order No. 88-023. Sampling results indicated that soils contained elevated levels of heavy metals and PCBs, but groundwater samples from the shoreline area "contained no PCBs, and metals at levels below those of concern to beneficial uses of the bay should they migrate to the bay." SCR Order No. 88-023, Finding 4. It is important to note that Schnitzer Steel has operated in this location since the early 1960's, and that the site was historically owned by Moore Dry Dock and used for ship repair and rebuilding.

Based on the results of the 1987 investigation, Schnitzer Steel proposed to construct the concrete wall that now extends along the entire length of the shoreline to prevent movement of soil into the Bay and to ensure that storm water could not flow into the Inner Harbor. Construction of the wall was approved by the Regional Board and DTSC as an appropriate site-wide remedy. The top of the berm is three feet higher than the lowest point of the facility, creating an internal area that has sufficient capacity to contain the water from a 10-15 year storm event, exclusive of storage tank capacity. The wall is in excellent condition and does not have any cracks, gaps or conduits that would allow storm water to run through it. Storm water is also contained on-site through grading and collection via internal sump structures and pumps that route water to the

1.2-million gallon aboveground storage tank, various storm water retention areas within the facility, or to an on-site centralized treatment device (a clarifier/thickener). Other than water that may infiltrate unpaved areas or evaporate, all storm water is collected and reused for on-site operational needs, e.g., use in the shredder (for cooling) or for dust control. None of this storm water, or any supplemental process water, is discharged off-site. Schnitzer has never experienced a breach of the perimeter wall, and cannot envision any reasonably plausible scenario in which storm water or process water from the yard could overtop the wall and enter the harbor.

We believe it is misleading to state that SCR Order No. 88-023 "was issued . . . to cleanup and abate the soil and groundwater pollution at the Site." See Finding 4.a., p. 4. To the contrary, the 1988 order did not require any additional excavation or other remediation of soils, nor did it require remediation of "groundwater pollution" since none was found. The 1988 Order did require us to conduct regular monitoring of the groundwater, which has continued to this day without any evidence of adverse impacts. Groundwater monitoring results from 1992 to 2012 are presented in Attachment 1. These results consistently show either non-detect or very low concentrations of a few metals (all below MCLs) and no material difference in groundwater quality between the upgradient well (MW-4) and downgradient wells (MW-1, 2 and 3). These data indicate that operations in the central area of the site are neither resulting in degradation of groundwater quality, nor posing any concern to beneficial uses of the Bay (as is confirmed by the Regional Board's discussion of the 2011 data near the end of Finding 4.a., p. 4). As noted in Footnote 2 of the tentative CAO (p. 5), there is no known use of groundwater underlying the site, and the primary consideration in this portion of the groundwater basin is protection of beneficial uses of surface water.[4] As evidenced by the high conductivity in the wells along the shoreline (particularly MW-1 and MW-2, and to a lesser extent MW-3), saltwater intrusion is obviously occurring at the site. Groundwater that contains ≥3,000 mg/l TDS is excluded from drinking water beneficial use (MUN). State Water Board Resolution No. 89-39 ("Sources of Drinking Water"). Any attempt to extract groundwater from beneath or near the facility would certainly result in saltwater intrusion encroaching further into the facility.

These facts regarding limited beneficial uses of groundwater near the margins of the San Francisco Bay are further supported by our consultant's Technical Memorandum which outlines significant precedent within the Regional Board's jurisdiction that beneficial groundwater uses near the margin of the Bay are essentially confined to groundwater's potential effects on surface water quality (Attachment 3). As is noted in Attachment 3, this precedent is based primarily on a determination of whether site groundwater contains an average total dissolved solids (TDS) concentration in excess of 3,000 mg/L, even if some wells on the site don't meet this criterion. The Regional Board has granted beneficial use exemptions for sites where groundwater in some areas of the site is known to contain TDS concentrations below 3,000 mg/L, provided that the average site TDS concentration exceeds 3,000 mg/L. The Schnitzer Oakland facility certainly conforms to criteria noted in previous Regional Board beneficial use exemptions as the average TDS concentration of all groundwater samples collected from the site since 2005 exceeds 15,000 mg/L.

[4] The Oakland facility lies within the northwest reach of the Santa Clara Valley: East Bay Plain Groundwater Basin, ID # 2-9.04. See Basin Plan, Ch. 2.

The tentative order suggests that the commingling and on-site ponding of storm water has contributed to the contamination of groundwater at the site. For example, Finding 3.b.i. states that "[s]tanding water was in contact with scrap, product and waste piles and errant debris throughout the Site. Various sheens were seen on the standing water, indicating the presence of pollutants." Similarly, Finding 12 states that "[t]he standing water on the Site that has been in contact with the shredding and recycling processes indicates that heavy metals and other pollutants have likely leached into the groundwater below." While we agree that water that is contained on-site may contain sediment and other process-related constituents, there is no evidence to support the assertion that groundwater has been contaminated. In fact, the available evidence is to the contrary.

We also disagree with the assertion in the tentative CAO that we are violating SCR Order No. 88-023. See Finding 4.c. The 1988 Order did not address the types of storm water-related discharges that were identified by the Regional Board during the March 29 inspection, but rather was focused on preventing surface or subsurface transport of soil contaminants to the Bay. None of the prohibitions of the order has been violated. Specifically, there have been no discharges of pollutants that have degraded water quality or adversely affected beneficial uses; there has been no migration of constituents through subsurface transport to deeper water bearing zones; and there has been no lateral migration of constituents through subsurface transport to the Inner Harbor that has degraded water quality or adversely affected its beneficial uses. Chemical and toxicological analysis of dredged sediments from periodic maintenance dredging activities at the Schnitzer dock has consistently demonstrated that sediment quality is consistent with ambient conditions around the Bay and that the sediments are acceptable for unconfined aquatic disposal in the Bay. Please see the attached report entitled "Sediment Characterization Sampling and analysis Results," documenting sediment quality at the facility in 2010 (Attachment 4).

The tentative order expressly acknowledges that "no PCBs have been detected [in the groundwater] and the metal detections have been below levels of concern." Finding 4.a., p. 4. The further statement in Finding 4.a. – that the groundwater wells at the site are "sentinel wells, just inside the shoreline concrete cap" and "do not necessarily reflect the groundwater conditions closer to the areas where waste discharges have been observed by Water Board staff" - is not a sufficient basis upon which to issue a cleanup and abatement order. Orders issued under Water Code section 13304 must be based upon substantial evidence of unlawful discharges that have caused or threaten to cause adverse effects to water quality or impairment of beneficial uses. The groundwater monitoring record for the site (Attachment 1) conversely indicates a lack of the required substantial evidence of beneficial use impairment.

4. ***If further groundwater assessment is required at the facility, this work should be conducted pursuant to a request for technical report under Water Code section 13267, rather than under a Cleanup and Abatement Order.***

As indicated above, Schnitzer Steel is willing to work with Regional Board staff to develop an expanded groundwater monitoring program to more thoroughly assess groundwater conditions at the facility, pursuant to a stand-alone request for technical report under Water Code section 13267. In fact, the tentative order already relies on Section 13267 to require submission of such report, and issuance of the CAO is unnecessary to secure performance of the desired study.

Given the lack of use of the groundwater throughout the facility's +50-year history, the occurrence of saltwater intrusion over a significant portion of the site, and the very remote possibility that shallow groundwater beneath the site might be used in the future, the purpose of any further groundwater investigation must remain focused on the quality of groundwater that is intercepting the Bay. Given the relatively small size of the facility, and the fact that the operations have been conducted in essentially the same manner over the years, we believe it is reasonable to conclude that at least some evidence of impact to water quality at the Bay margin would have become apparent by now if it was occurring. Accordingly, we would like to have a better understanding of the staff's rationale for requiring this additional assessment.

If significant impairment of beneficial water uses is identified, new Site Cleanup Requirements, or amendments to Order 88-023, could be issued at that time. These SCRs could rescind or amend the 1988 SCRs and require Schnitzer Steel to conduct such further investigation, risk assessment or other evaluations as needed to determine whether cleanup of the groundwater is warranted, taking into account all of the considerations outlined in State Water Board Resolution 92-49.

5. ***The tentative CAO inappropriately presumes that cleanup of the facility will be required, beyond the corrective actions and other measures that have already been implemented or are already in progress.***

We are very concerned about Finding 10 of the tentative order which states that "[g]iven the Regional Water Board's past experience with groundwater pollution cases of this type, it is unlikely that background levels of water quality can be restored. This initial conclusion will be verified when a remedial action plan is prepared." Similarly, Finding 12 states that information required by the order is needed "to determine appropriate cleanup methods for the Site . . . The standing water on the Site that has been in contact with the shredding and recycling processes indicates that heavy metals and other pollutants have likely leached into the groundwater below." These statements are speculative in nature, are not supported by substantial evidence (Attachment 1), and presume that remedial action will be required before it has been demonstrated that the groundwater is contaminated and, if so, to a degree that affects beneficial uses and thus requires remediation.

We are even more concerned about the implications of these findings, which suggest that the Regional Board staff believes it may be inappropriate to allow water to pond on the site. We do not believe the materials that are stockpiled at the site are susceptible to substantial leaching under ambient conditions. While there are typically piles of incoming and processed scrap metal, aggregate and shredder residue stockpiled at the facility, the material in these piles is constantly changing. Even if the material were susceptible to leaching by contact with storm water or process water, it is not exposed for long enough periods of time to result in significant leaching. We have also conducted periodic testing of treated shredder residue using landfill leachate as an extraction medium, as specified in the WDRs for the landfills where the material is used as alternative daily cover. The results from these analyses confirm that the treated residue is essentially non-leachable.

As we discussed at the September 14 meeting, it is essential that our operations be conducted outdoors, where they are inevitably exposed to rain. It is also imperative that the materials be

regularly sprayed with water to control dust in an effort to comply with a number of regulatory requirements, not the least of which are the Storm Water General Permit requirements to control non-stormwater discharges. The site is not engineered to prevent ponding. Schnitzer Steel has already installed a 1.2-million gallon tank for storage of storm water. This tank takes up a large amount of room that was previously used for product storage, and we cannot sacrifice additional space for construction of additional tankage. The cost of installing and maintaining additional concrete paved areas of the facility is also cost-prohibitive, given the extreme wear and tear that is caused by the heavy equipment used at the site. Staff's concern over ponding contradicts our ability to operate in a cost-effective manner, and is inconsistent with the facility storm water management strategy that has been implemented since 1988, with the full approval of the Regional Board.

We also believe the discussion regarding preliminary cleanup goals may be premature and overly conservative. See Finding 13. The requirement that groundwater ingestion and vapor intrusion exposure pathways be considered in developing groundwater screening levels is not defensible given that there is no current or reasonably anticipated use of site groundwater (particularly as a potential source of drinking water), and all operations are conducted outdoors or in structures that are open to the outside, thus obviating any indoor air risk. See Finding 13.a. Moreover, because fuels are drained from vehicles before they are accepted into the facility, there is minimal likelihood of contamination by volatile organic compounds at the facility. We strongly disagree with the direction that "the Discharger should assume that groundwater is a potential source of drinking water" or that there is any basis for requiring a soil gas study. See Findings 13.b, and 13.c.

6. ***The Tasks outlined in the tentative order do not consider the fundamental nature of Schnitzer Steel's scrap metal recycling operations.***

The tasks outlined in the tentative order assume the need for a comprehensive, site-wide soil and groundwater investigation and wholesale cleanup of the facility, with attention to all potential "contaminants" and "pollutants" that may come into contact with process water, soil, groundwater or storm water at the site. See Tasks 1-4, pps. 9-11. The scope of remediation contemplated by the order includes ongoing soil vapor and groundwater extraction, even though all vehicles are drained of fuels before they enter the facility and there is no existing evidence of groundwater contamination based on 20 years of monitoring data. See Task 5, p. 11. Additionally, the tentative order calls for implementation of measures that are infeasible in the context of scrap metal recycling operations, such as:

- "preventing materials, wastes, and associated pollutants from moving around the Site"
- implementing "procedures designed to sequester pollutants within the shredder waste, bulk material, non-ferrous metals and ferrous metals"
- installing "water tight measures to ensure full . . . storm water containment" at the conveyor loading system, pier crane dock and bridge
- "minimize[ing] on-site truck traffic contact with contaminated sediments and standing water"

If literally interpreted, Task 6, p. 12 of the CAO will put Schnitzer Steel out of business, as there is no way that the business can function in a manner consistent with the requirements outlined above.

The substances that the Regional Board is labeling as "contaminants or pollutants" are, for the most part, the very metals that Schnitzer Steel is recycling through its metal shredding and downstream non-ferrous recovery plant. It is not possible to recycle scrap metal on the scale of Schnitzer's operations without placing metals and metal-containing materials on the ground where they may become entrained in site soils. The piles of inbound scrap contain crushed automobiles, buses and other vehicles, household appliances, and a vast array of other types of scrap metals from individual households, municipalities, commercial businesses, industrial operations, transportation infrastructure, manufacturing facilities, heavy equipment and many, many other sources. The shredding process pulverizes the scrap, and the resulting stockpiles of product and intermediate streams are stored outdoors on the ground where they are able to be moved by grapples, cranes, front-end loaders, mine trucks and a variety of other heavy duty equipment. These stockpiles contain pieces of metal ranging in size from tiny bits of copper wire to fist-sized and larger chunks. Other grades of scrap (e.g., railroad track, segments of bridges) are reduced in size by a shear and stockpiled, while others are baled and stacked pending shipment from the facility. The facility's many heavy industrial operations cannot be conducted in a sterile and process sediment-free manner as staff seems to envision. Despite regular and thorough sweeping, dirt and mud are ubiquitous, especially during the wet season.

We recognize that we cannot operate our business in a manner that results in unlawful (unpermitted) discharges to the waters of the United States or that adversely affect beneficial uses of surface waters or groundwater. To this end, as described above, we have already implemented, or are in the process of implementing, improvements to address each interim corrective action item listed under Task 4. We have also implemented, or are in the process of implementing, many of the BMPs listed under Task 6. We will continue to enhance these efforts, as necessary, through implementation or improvement of BMPs which can be reasonably and feasibly implemented given the constraints of scrap metal recycling operations. We have indicated our willingness to conduct a further assessment of groundwater conditions at the site under a stand-alone Section 13267 request. That process would entail developing a list of constituents of concern reasonably related to the scrap metal recycling industry (CAO Task 1) and development of a Sampling and Analysis Plan (CAO Task 2). Depending on the results, it may be appropriate to propose a formal long-term groundwater monitoring program that could include expansion of the existing groundwater monitoring program. However, rather than the approach described in the tentative order in which we would be required to "identify all pollution sources on the Site," we believe it would be far more efficient – and equally informative in terms of determining whether any site cleanup is required – to begin with the assessment of groundwater. If we are able to confirm that groundwater conditions across the site are acceptable, and that beneficial uses are not being adversely affected, there would be no reason to identify or sample individual "pollution sources." Sampling of site soils, process sediment, process water, or shredder residue will inevitably reveal the presence of various metals and possibly other constituents that are found in the materials processed at the facility. By themselves, these sampling results are not determinative if site operations have been demonstrated not to be adversely affecting beneficial uses of water and an on-going groundwater monitoring program is in place to ensure acceptable conditions persist.

By proposing this alternative approach, we wish to reiterate that we understand the need to prevent non-authorized, non-storm water discharges from the facility that have a potential to enter surface waters. In addition to improving containment of process-related materials, our enhanced BMPs include regular, thorough cleaning of the conveyor and other over-water structures so that they do not accumulate dirt and debris that can be washed off into the Bay. We also understand the need to thoroughly clean up any dirt that has been tracked out onto Embarcadero West or the concrete dock, and to remove the light fibrous material or other debris that has been observed in off-site locations or other locations where it could be carried off-site. Much of this cleanup has already been completed, and more is being done. However, given the nature of our operations, it is not reasonable to expect us to sample each discrete potential "pollution source" at the facility for the purpose of defining the lateral and vertical extent of pollution (CAO Task 2) and to prepare a report that "describe[s] the vertical and lateral extent of pollution in soil and groundwater beneath the Site down to concentrations at or below typical cleanup standards for soil and groundwater" (CAO Task 3). While we recognize that this may be the standard approach to site investigation and cleanup, this approach is infeasible in the context of a scrap metal recycling facility like the Oakland facility, unnecessary to evaluate potential beneficial use impairment relevant to the site location, and does not meet the cost-effectiveness requirement of Water Code section 13267(b).

We also question the Regional Board's rationale for requiring sampling of off-site areas that have already been cleaned up, and that are affected by municipal storm water run-off and industrial operations by numerous other sources. For example, the tentative order requires that the storm drain on Embarcadero West (which is located near the entrance to Howard Terminal) be sampled. Samples for sediment collected from a municipal storm drain, or from storm drains located on SSA Terminals that are affected by SSA's own operations, are not representative of conditions at Schnitzer Steel and could not serve as a reliable basis for imposing cleanup obligations on Schnitzer Steel. As stated above, we agree that we are obligated to identify and remove facility-sourced material found on off-site properties, but that obligation does not extend to pollutants that have been contributed by others or that are of a regional nature.

7. ***The requests for technical reports outlined in Section C of the tentative CAO are unnecessary, as Schnitzer Steel is willing to revise its SWPPP to include the requested information.***

Section C of the tentative order requires the preparation and submission of two technical reports. The first of these reports would evaluate all aspects of the on-site water recycling system that manages process water and storm water at the facility, and is claimed to be necessary because "process and stormwater are essentially commingled on the Site and has, or threatens to discharge off-site to or near the Oakland Estuary and Inner Harbor." See Technical and Monitoring Reports, Section C.1 (p. 13). The second report would describe how the various storage piles at the facility are managed and controlled, including incoming scrap and sorted product piles, and is claimed to be necessary because "water on the Site is likely washing pollutants off of these piles and into the water recycling system and/or being discharged offsite." See Technical and Monitoring Reports, Section C.2 (p. 14). While we disagree with the Regional Board's stated reasons for requesting the reports, we agree that much of the requested information is related to, or affects, storm water management at the facility. For this reason, we agree that it would be appropriate, if not beneficial, to incorporate this discussion into the

facility's SWPPP. As previously noted, we believe reports describing operation and maintenance of the facility's water recycling system, and identifying management and control of material storage piles, are inter-related topics which have a significant effect on stormwater quality and on-site water storage capacity. As such, this information reasonably belongs in the SWPPP where it is subject to periodic review and revision as necessary to conform to changing site conditions over time.

Of greater concern to us is that these requests for technical reports appear to indicate that Regional Board staff questions the accuracy of Schnitzer Steel's representation that the Oakland facility is a zero-discharge facility. With the exception of the three categories of discharges that are discussed above at length, and that we have agreed to address (track-out, drippage from over-water structures, and wind-blown dispersion of light fibrous material), the Regional Board does not have a sufficient basis to doubt the zero-discharge status of the facility. We readily acknowledge that process water and stormwater commingle at the site, and that this water ponds on-site after heavy rain events. This water is pumped to our 1.2-million gallon storage tank based on the rated capacity of the pumps and other factors, but some portion of the water infiltrates in areas of the yard that are unpaved. We do not try to prevent infiltration of ponded water, and have no reasonable means of doing so. Similarly, we do not try to prevent "deposition" of process water onto the ground. Water is essential for use in dust control operations at the facility and of necessity is sprayed on stockpiles and directly onto the ground. We do not believe that either of these long-standing and standard operational practices is contrary to provisions of the Water Code or the Clean Water Act in the absence of discharges to surface waters or impacts to beneficial uses.

The Oakland facility has no storm water outfalls and, based on its topography and grading, is capable of retaining almost 3 million gallons of water on-site before any discharge to the Estuary or Inner Harbor would even be threatened. We have never experienced a discharge of process water or stormwater from the yard, and we are unaware of any evidence to indicate that such discharges have occurred or were seriously threatened. There is also no evidence of groundwater contamination at the facility, and sediment quality in the immediate vicinity of the facility is consistent with ambient conditions around the Bay and suitable for unconfined aquatic disposal in the Bay. We are willing to provide additional information to the Regional Board about our on-site water recycling system, but we do not believe we should be required to do so under an assertion that stormwater discharges have occurred or are threatened at the facility. We also note that the General Permit does not prohibit discharges of industrial stormwater. If the facility were to experience a discharge as a consequence of extreme storm conditions, such discharges would not be a violation of the permit given the many structural and non-structural BMPs that are implemented at the facility. In our judgment, these BMPs collectively constitute BAT/BCT.

Given the facility's ability to contain and reuse all of the commingled process water/storm water that is collected in the yard, the water that is applied to storage piles for dust control purposes has no ability to discharge off-site. We question the nature of the Regional Board's concern over "pollutants" (i.e., metals) that might be washing off these piles and into the water recycling system. Sediments routinely collect in these types of systems and are periodically removed and disposed of off-site as necessary. We are willing to provide information to the Regional Board concerning our dust suppression and fire suppression procedures, but do not believe it is necessary to invoke Section 13267 for that purpose.

8. ***Schnitzer Steel is willing to enter into an agreement with the Regional Board for cost recovery.***

Notwithstanding our many significant concerns with the tentative CAO, and our disagreement with staff's belief that issuance of a cleanup and abatement order is warranted in the circumstances, we recognize that the Regional Board is proceeding in good faith and that it has expended considerable time and effort on this matter and in connection with review of the recent revision of the facility SQMP/SWPPP. We also understand that additional staff time will be needed to bring all of the issues raised by the tentative order and our comments to a reasonable resolution which respects both parties' interests. If the Regional Board agrees to the proceed in the alternative manner requested by Schnitzer Steel in this letter (i.e., addressing stormwater issues through SWPPP revisions and groundwater issues through a Section 13267 letter, rather than through a CAO), we will enter into a voluntary, enforceable written agreement with the Regional Board for payment of all reasonable costs incurred by the Board, just as if the matter were proceeding under Water Code section 13304.

*****

We appreciate the opportunity to submit these comments, and are hopeful that Regional Board and State Board staff will agree that the issues raised by the tentative order can be addressed more expediently and fairly in the alternative manner(s) discussed in this letter. We would appreciate an opportunity to meet with you again to discuss these comments and to explore potential alternatives in greater detail.

Thank you for your consideration.

Very truly yours,

Schnitzer Steel Products Company

Scott B. Sloan
National Environmental Director

Bruce Rieser
Regional Director

Enclosure(s)

cc: Pat Christopher
Michael Henderson
Tom Zelenka
John Hare
Luc Ong
Chris Orsolini
Margaret Rosegay
Peter Zawislanski

Attachment 1

Groundwater Monitoring Data (Table 1)

Table 1

Summary of Groundwater Monitoring Data

1992 – 2012

Schnitzer Steel Products Company

Oakland, CA

2012	Metals	Detection Limit (mg/l)	MW 1	MW 2	MW 3	MW 4
	Cadmium	0.0025	ND	ND	ND	ND
	Chromium	0.01	ND	ND	ND	ND
	Copper	0.02	ND	ND	ND	ND
	Mercury	0.0002	0.00023	0.00024	0.00021	0.00031
	Nickel	0.01	ND	ND	ND	ND
	Lead	0.005	ND	ND	ND	ND
	Zinc	0.02	ND	ND	ND	ND
2012	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	0.51	ND	ND	ND	ND
	Aroclor 1221	0.51	ND	ND	ND	ND
	Aroclor 1232	0.51	ND	ND	ND	ND
	Aroclor 1242	0.51	ND	ND	ND	ND
	Aroclor 1248	0.51	ND	ND	ND	ND
	Aroclor 1254	0.51	ND	ND	ND	ND
	Aroclor 1260	0.51	ND	ND	ND	ND
2011	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.01	ND	ND	ND	ND
	Copper	0.01	ND	ND	ND	ND
	Mercury	0.0005	ND	0.0009	ND	ND
	Nickel	0.01	ND	ND	ND	ND
	Lead	0.01	ND	ND	ND	ND
	Zinc	0.01	0.0184	ND	0.0101	0.0556
2011	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	1	ND	ND	ND	ND
	Aroclor 1221	1	ND	ND	ND	ND
	Aroclor 1232	1	ND	ND	ND	ND
	Aroclor 1242	1	ND	ND	ND	ND
	Aroclor 1248	1	ND	ND	ND	ND
	Aroclor 1254	1	ND	ND	ND	ND
	Aroclor 1260	1	ND	ND	ND	ND
	Aroclor 1262	1	ND	ND	ND	ND
2010	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.01	ND	ND	ND	ND
	Copper	0.01	ND	ND	ND	ND
	Mercury	0.0005	ND	ND	ND	ND
	Nickel	0.01	ND	ND	ND	ND
	Lead	0.01	ND	ND	ND	ND
	Zinc	0.01	ND	0.0111	ND	0.0135

2010	PCBs	Detection Limit (ug/l)	MW 1	MW 2	MW 3	MW 4
	Aroclor 1016	1	ND	ND	ND	ND
	Aroclor 1221	1	ND	ND	ND	ND
	Aroclor 1232	1	ND	ND	ND	ND
	Aroclor 1242	1	ND	ND	ND	ND
	Aroclor 1248	1	ND	ND	ND	ND
	Aroclor 1254	1	ND	ND	ND	ND
	Aroclor 1260	1	ND	ND	ND	ND
	Aroclor 1262	1	ND	ND	ND	ND
2009	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.005	ND	ND	ND	ND
	Chromium	0.005	ND	ND	ND	ND
	Copper	0.005	ND	ND	ND	ND
	Mercury	0.0005	ND	ND	ND	ND
	Nickel	0.005	0.0257	0.0052	ND	ND
	Lead	0.01	0.014	ND	ND	ND
	Zinc	0.01	0.0289	0.0105	0.0162	ND
2009	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	1	ND	ND	ND	ND
	Aroclor 1221	1	ND	ND	ND	ND
	Aroclor 1232	1	ND	ND	ND	ND
	Aroclor 1242	1	ND	ND	ND	ND
	Aroclor 1248	1	ND	ND	ND	ND
	Aroclor 1254	1	ND	ND	ND	ND
	Aroclor 1260	1	ND	ND	ND	ND
	Aroclor 1262	1	ND	ND	ND	ND
2008 (Feb.)	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.005	ND	ND	ND	ND
	Chromium	0.005	ND	ND	ND	ND
	Copper	0.005	ND	ND	ND	ND
	Mercury	0.0005	ND	ND	ND	ND
	Nickel	0.005	ND	ND	ND	ND
	Lead	0.01	ND	ND	ND	ND
	Zinc	0.01	0.0144	0.0175	0.0299	ND
	Zinc	0.10				ND
2008 (Feb.)	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	1	ND	ND	ND	ND
	Aroclor 1221	1	ND	ND	ND	ND
	Aroclor 1232	1	ND	ND	ND	ND
	Aroclor 1242	1	ND	ND	ND	ND
	Aroclor 1248	1	ND	ND	ND	ND
	Aroclor 1254	1	ND	ND	ND	ND
	Aroclor 1260	1	ND	ND	ND	ND
	Aroclor 1262	1	ND	ND	ND	ND

2008 (July)	Metals	Detection Limit (mg/l)	MW 1	MW 2	MW 3	MW 4
	Cadmium	0.005	ND	ND	ND	ND
	Chromium	0.005	ND	ND	ND	ND
	Copper	0.005	0.0052	ND	ND	ND
	Mercury	0.0005	ND	ND	ND	ND
	Nickel	0.005	ND	ND	ND	ND
	Lead	0.01	ND	ND	ND	ND
	Zinc	0.01	0.037	0.0318	0.0219	0.0241
2008 (July)	PCBs	Detection Limit (ug/l)	MW 1	MW 2	MW 3	MW 4
	Aroclor 1016	1	ND	ND	ND	ND
	Aroclor 1221	1	ND	ND	ND	ND
	Aroclor 1232	1	ND	ND	ND	ND
	Aroclor 1242	1	ND	ND	ND	ND
	Aroclor 1248	1	ND	ND	ND	ND
	Aroclor 1254	1	ND	ND	ND	ND
	Aroclor 1260	1	ND	ND	ND	ND
	Aroclor 1262	1	ND	ND	ND	ND
2007	Metals	Detection Limit (mg/l)	MW 1	MW 2	MW 3	MW 4
	Cadmium	0.005	ND	ND	ND	ND
	Chromium	0.005	ND	ND	ND	ND
	Copper	0.005	ND	ND	ND	ND
	Mercury	0.0005	ND	ND	ND	ND
	Nickel	0.005	ND	ND	ND	ND
	Lead	0.01	ND	ND	ND	ND
	Zinc	0.01	0.0558	0.0671	0.133	0.0161
2007	PCBs	Detection Limit (ug/l)	MW 1	MW 2	MW 3	MW 4
	Aroclor 1016	1		ND	ND	ND
	Aroclor 1221	1		ND	ND	ND
	Aroclor 1232	1		ND	ND	ND
	Aroclor 1242	1		ND	ND	ND
	Aroclor 1248	1		ND	ND	ND
	Aroclor 1254	1		ND	ND	ND
	Aroclor 1260	1		ND	ND	ND
	Aroclor 1262	1		ND	ND	ND
2006	Metals	Detection Limit (mg/l)	MW 1	MW 2	MW 3	MW 4
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.05	ND	ND	ND	ND
	Zinc	0.10	ND	ND	ND	ND

2006	PCBs	Detection Limit (ug/l)	MW 1	MW 2	MW 3	MW 4
	Aroclor 1016	1	ND	ND	ND	ND
	Aroclor 1221	1	ND	ND	ND	ND
	Aroclor 1232	1	ND	ND	ND	ND
	Aroclor 1242	1	ND	ND	ND	ND
	Aroclor 1248	1	ND	ND	ND	ND
	Aroclor 1254	1	ND	ND	ND	ND
	Aroclor 1260	1	ND	ND	ND	ND
	Aroclor 1262	1	ND	ND	ND	ND
2005	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.05	ND	ND	ND	ND
	Zinc	0.10	ND	ND	ND	ND
2005	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	1	ND	ND	ND	ND
	Aroclor 1221	1	ND	ND	ND	ND
	Aroclor 1232	1	ND	ND	ND	ND
	Aroclor 1242	1	ND	ND	ND	ND
	Aroclor 1248	1	ND	ND	ND	ND
	Aroclor 1254	1	ND	ND	ND	ND
	Aroclor 1260	1	ND	ND	ND	ND
	Aroclor 1262	1	ND	ND	ND	ND
2004	**Metals**	**Detection Limit (mg/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Cadmium	0.01	ND	ND	ND	ND
	Chromium	0.05	ND	ND	ND	ND
	Copper	0.10	ND	ND	ND	ND
	Mercury	0.002	ND	ND	ND	ND
	Nickel	0.05	ND	ND	ND	ND
	Lead	0.05	ND	ND	ND	ND
	Zinc	0.05	ND	ND	ND	ND
2004	**PCBs**	**Detection Limit (ug/l)**	**MW 1**	**MW 2**	**MW 3**	**MW 4**
	Aroclor 1016	1		ND	ND	ND
	Aroclor 1221	1		ND	ND	ND
	Aroclor 1232	1		ND	ND	ND
	Aroclor 1242	1		ND	ND	ND
	Aroclor 1248	1		ND	ND	ND
	Aroclor 1254	1		ND	ND	ND
	Aroclor 1260	1		ND	ND	ND
	Aroclor 1262	1		ND	ND	ND