

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
CENTRAL VALLEY REGION

CLEANUP AND ABATEMENT ORDER NO. R5-2008-0707

FOR  
MARTIN OPERATING PARTNERSHIP AND THE PORT OF STOCKTON  
MOLTEN SULFUR PROCESSING PLANT  
SAN JOAQUIN COUNTY

This Order is issued to Martin Operating Partnership and the Port of Stockton (hereafter together referred to as "Discharger") based on provisions of California Water Code Section 13304, which authorizes the Regional Water Quality Control Board, Central Valley Region, (hereafter Regional Water Board) to issue a Cleanup and Abatement Order, and California Water Code Section 13267, which authorizes the Regional Water Board to require the submittal of technical and monitoring reports.

The Executive Officer of the Regional Board finds, with respect to the Discharger's acts, or failure to act, the following:

1. Martin Operating Partnership (Martin) owns and operates a processing plant that converts molten sulfur into sulfur pellets (i.e., "prill"). The Port of Stockton (Port) owns and leases the land to Martin. Martin began prill operations in 1991.
2. The Discharger's facility is located at 2717 West Washington Street at the Port of Stockton. The 4.62-acre property is described by Assessor's Parcel Number 145-030-01 in Section 9, T1N, R6E, MDB&M. The site is within the Port's Eastside Complex, east of the San Joaquin River, and south of Wharf 10-11, as shown on Attachment A, which is incorporated herein and made a part of this Order by reference.
3. The facility receives molten sulfur in tanker trucks, transfers the liquid sulfur to a storage vault, and subsequently processes/pelletizes the molten sulfur into prill. An overhead conveyor moves the finished prill to the stockpile area. Prill is dropped from the overhead conveyor onto stockpiles. The stockpiles are uncovered and are stored outdoors on a 200x400' asphalt floor, referred to as the prill storage area. A windbreak encircles the stockpiles, but is below the top of the stockpiles. The Discharger stockpiles the prill until conveyed to cargo ships docked in the nearby Stockton Deep Water Shipping Channel. Shipping occurs approximately six to eight times per year.
4. The facility includes below-grade sumps, two ponds, one aboveground storage tank (AST), a prill conveyor system, a molten sulfur unloading area, vault, process/pelletizer area, and prill storage area. The Discharger's facility layout is shown on Attachment B, the Site Layout map, which is incorporated herein and made a part of this Order by reference.

5. Prill transport from the stockpiles to the docks is performed via an aboveground conveyor system. This conveyor system is owned and operated by others.
6. The prevailing winds are from the west and northwest.
7. The facility retains process water, leachate, and stormwater on site for reuse as quenching water in the prilling process. Due to acidic conditions caused by the contact of sulfur with water, the process water and leachate are pH-adjusted prior to reuse. The plant consumes 37,888 cubic feet (283,422 gallons) of water per month; a portion of which is obtained from stored rainwater and recycled/neutralized leachate. Water/leachate is contained in Hypalon-lined ponds or the AST located at the southern portion of the site, as shown on Attachment B.
8. The Discharger is enrolled under the State-Wide General Permit for Industrial Storm Water No. 97-03DWQ. The facility is not regulated by any waste discharge requirements.

#### **IMPACTS TO GROUNDWATER AND SURFACE WATER**

9. The prill stockpiles are located outside and are exposed to precipitation during storm events. In addition, the piles contain some moisture after processing. After water contacts and interacts with the prill, an acidic leachate is formed that flows through a below grade system to a below grade chamber and sump. The leachate has a low pH, and high concentrations of sulfur, sulfate, specific conductance, and total dissolved solids (TDS). This leachate is collected and routed to on-site water treatment equipment where leachate is neutralized and then transported to the AST for eventual reuse in the prilling process.
10. During transfer to the wharf, sulfur may drift or spill from the conveyor system onto the earth. During storm events an acidic leachate is generated where stormwater contacts the prill on bare earth.
11. At the October 2004 Regional Water Board meeting, the Regional Water Board requested that staff inspect the Discharger's facility and determine if the facility is degrading waters of the state or if the facility poses a threat to water quality.
12. On 30 March 2005, staff inspected the facility, obtained field samples, and recorded observations. Staff noted ponded water in contact with sulfur piles within the stockpile area; sulfur on bare earth in contact with ponded rainwater; and evidence of sulfur in storm ditches and sumps (i.e., high concentrations of electrical conductivity and a low pH). The field sample results had the following concentrations:

Location/Source	EC (umhos/cm)	pH (SU)
Ponded water adjacent to loading door at northeast side of stockpile area	3,900	3.5
Ponded water on bare earth adjacent to the north side of the stockpile area	18,000	2.1
Ponded water to the southwest of the stockpile area	3,000	2.6

13. An existing aboveground storage tank (AST), located adjacent to the Hypalon-lined ponds, has a 400,000-gallon storage capacity. During Regional Water Board staff's inspection on 1 December 2006, leachate with a pH of 1.5 SU was being discharged from the existing AST to ground.
14. Sulfur prill stockpiles are not adequately contained to protect waters of the State. Sulfur prill has been allowed to discharge outside the stockpile containment area to surrounding land and to come in contact with stormwater, ponded water, and surface drainage ditches, as documented in staff's inspections in March 2005, November 2006, and December 2006.
15. Based on the field test results, the low pH and high electrical conductivity are significantly greater than what would be expected from non-impacted stormwater. The results indicate sulfur-impacted water, and that the operations are impacting surface water and are a threat to groundwater.
16. A comparison between the groundwater monitoring data obtained in 1991 versus the data obtained in 2003 indicates that the shallow groundwater has been impacted. In 1991, four groundwater wells were installed (MW-1, MW-2, MW-3, and MW-4). Sulfate concentrations in 1991 ranged from 87 mg/L to 440 mg/L, and in 2003 ranged from 597 mg/L to 1780 mg/L. Samples collected in 2003 also had elevated concentration of electrical conductivity that ranged from 1,743 to 3,080 umhos/cm, and total dissolved solids (TDS) ranging from 1,310 to 2,512 mg/L. The discharge of sulfur at this facility has caused groundwater concentrations of sulfate to increase. The table below shows the changes over time to the sulfate concentration in shallow groundwater wells with respect to wells that were installed prior to the start of operations in 1991. Groundwater monitoring well MW-1 is sidegradient to the operations.

**Historical Sulfate Concentrations (milligrams/liter)**

Date	MW-1	MW-2	MW-3	MW-4
8 August 1991	410	87	400	440
23 June 2003	597	1780	1412	1478
15 November 2005	480	860	1200	1200
14 February 2007	450	not analyzed	1100	not analyzed
24 May 2007	410	not analyzed	1000	not analyzed
8 August 2007	470	not analyzed	1100	not analyzed

17. In a 12 April 2005 letter, staff informed the Discharger that the inspection observations, inspection data, and the case file review supports the conclusion that the sulfur piles are not adequately contained to protect waters of the state and that the facility appears to have impacted groundwater. Further, staff required submittal of a groundwater investigation work plan by 1 June 2005. Following the completion of the investigation, a report and a feasibility study were due thereafter.
18. The information was not submitted, and therefore on 2 June 2005 the Regional Water Board required that the Discharger submit technical reports pursuant to California Water Code Section 13267. Further, the Discharger was required to submit a short-term plan to manage sulfur in a manner that would prevent release outside the containment area or from the conveyance structures.
19. On 24 February 2006, the Discharger submitted a *Groundwater Investigation and Feasibility Study, Bulk Terminals Site* and recommended the installation and monitoring of additional groundwater wells. Subsequently, the Discharger installed eight groundwater monitoring wells into a lower sandy layer. The Discharger has monitored these new wells, has monitored two of the existing wells (installed in 1991), and has submitted three quarterly groundwater-monitoring reports (first, second, and third quarters of 2007). Attachment C shows the locations of all wells. The Discharger's 2006 investigation concluded that relatively elevated concentrations of total sulfur and sulfate are present in groundwater in the immediate vicinity of the site and in the general area of historical and current sulfur prill storage and operations.
20. On 1 August 2006, the Discharger submitted its sulfur management plan.
21. In a letter submitted 2 April 2008, the Discharger agreed to complete the following work to mitigate the impact of sulfur to surface water and groundwater:
  - a. Install a new concrete 481,000-gallon AST for storage of sulfur leachate;
  - b. On the east wall of the storage area, install a new wall to match existing east wall;
  - c. Install supports and 15-feet of netting (for windbreak) onto all four sides the stockpile area walls;
  - d. Relocate or remove the existing AST;
  - e. From the south area of the storage yard to the entrance road and the entire "bone yard" area, grade unpaved areas and place asphalt;
  - f. Epoxy coat all below-grade vaults, basins, and sumps; and
  - g. Remove the two Hypalon ponds from service and backfill the area.

### **REGULATORY CONSIDERATIONS**

22. The *Water Quality Control Plan Central Valley Region—Sacramento River and San Joaquin River Basins, Fourth Edition* (hereafter Basin Plan), designates beneficial

uses, establishes water quality objectives, and contains implementation plans and policies for all waters of the Basin.

23. The facility is in the San Joaquin River in the Sacramento-San Joaquin River Delta (Hydrologic Area 544) of the Basin Plan. The beneficial uses of the Sacramento-San Joaquin River Delta, as specified in the Basin Plan, are municipal and domestic supply, agricultural supply, industrial power supply, contact and non-contact water recreation, warm and cold freshwater habitat, migration of aquatic species, aquatic habitat for reproduction and early development, wildlife habitat, and groundwater recharge.
24. The beneficial uses of underlying groundwater, as stated in the Basin Plan, are municipal and domestic supply, agricultural supply, industrial service supply, and industrial process supply.
25. Section 13304(a) of the California Water Code provides that: *“Any person who has discharged or discharges waste into the waters of this state in violation of any waste discharge requirement or other order or prohibition issued by a Regional Water Board or the state board, or who has caused or permitted, causes or permits, or threatens to cause or permit any waste to be discharged or deposited where it is, or probably will be, discharged into the waters of the state and creates, or threatens to create, a condition of pollution or nuisance, shall upon order of the Regional Water Board, clean up the waste or abate the effects of the waste, or, in the case of threatened pollution or nuisance, take other necessary remedial action, including, but not limited to, overseeing cleanup and abatement efforts. A cleanup and abatement order issued by the state board or a Regional Water Board may require the provision of, or payment for, uninterrupted replacement water service, which may include wellhead treatment, to each affected public water supplier or private well owner. Upon failure of any person to comply with the cleanup or abatement order, the Attorney General, at the request of the board, shall petition the superior court for that county for the issuance of an injunction requiring the person to comply with the order. In the suit, the court shall have jurisdiction to grant a prohibitory or mandatory injunction, either preliminary or permanent, as the facts may warrant.”*
26. Section 13267(b)(1) of the California Water Code provides that: *“In conducting an investigation specified in subdivision (a), the regional board may require that any person who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge waste within its region, or any citizen or domiciliary, or political agency or entity of this state who has discharged, discharges, or is suspected of having discharged or discharging, or who proposes to discharge, waste outside of its region that could affect the quality of waters within its region shall furnish, under penalty of perjury, technical or monitoring program reports which the regional board requires. The burden, including costs, of these reports shall bear a reasonable relationship to the need for the report and the benefits to be obtained from the reports. In requiring those reports, the regional board shall provide the person*

*with a written explanation with regard to the need for the reports, and shall identify the evidence that supports requiring that person to provide the reports.”*

27. The technical reports required by this Order are necessary to ensure compliance with this Cleanup and Abatement Order, and to ensure the protection of the waters of the state. The Discharger owns and operates the facility that produces sulfur prill and leachate subject to this Order.
28. The issuance of this Order is an enforcement action taken by a regulatory agency and is exempt from the provisions of the California Environmental Quality Act, pursuant to California Code of Regulations, title 14, section 15321(a)(2).
29. Any person affected by this action of the Regional Water Board may petition the State Water Resources Control Board (State Water Board) to review the action in accordance with California Code of Regulations, Title 23, section 2050 through 2068. The petition must be received by the State Water Board within 30 days of the date of the issuance of this Order. Copies of the law and regulations applicable to filing petitions are available at <http://www.waterboards.ca.gov/wqpetitions/index.html> and will be provided upon request.

**IT IS HEREBY ORDERED** that, pursuant to Sections 13304 and 13267 of the California Water Code, Martin Operating Partnership and the Port of Stockton shall cleanup and abate, forthwith, the molten sulfur processing facility.

“Forthwith” means as soon as is reasonably possible. Compliance with this requirement shall include, but not be limited to, completing the tasks listed below.

Any person signing a document submitted under this Order shall make the following certification:

*“I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my knowledge and on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment.”*

1. **Beginning with the first quarter 2009**, the Discharger shall conduct quarterly groundwater monitoring according to the MRP R5-2008-0825
2. By **31 October 2008**, the Discharger shall submit the following:
  - a. A scaled Comprehensive Site Map showing the proposed location of the new AST, existing and proposed paved areas, bare earth areas, below grade vaults and sumps, any leachate drainage and collection/conveyance systems, any above ground conveyor, the prill storage area, stormwater sampling locations, and leachate

swales, ditches, and piping. The surface area of the prill stockpile and sulfur-contact areas shall be included. A hard copy (11"x17") and electronic format (i.e., PDF) file shall be submitted.

- b. A 12-month water balance with the local monthly mean precipitation (based on a 100-year precipitation event), inflow, storage capacity, outflow, evaporation, and rainfall from a 100-year 24-hour event storm event. Inflow shall include drainage from the sulfur-contact surface areas, leachate, process water, make-up water, any leachate that enter sumps, and any other liquid that enters the process. The source and monthly usage of supply water shall be included in the water balance.
  - c. An Operations and Maintenance Plan (O&M Plan) for any part of this facility that stores sulfur, stores or conveys leachate or liquids that have come in contact with sulfur, and for any structure that is designed to contain the sulfur, leachate, and prill. The O&M Plan shall contain a list of all sumps, ditches, swales, above ground storage tank (ASTs), and piping that contain or convey sulfur contact-water or leachate. The O&M Plan shall contain a copy of the comprehensive site map (described above). At a minimum, the O&M Plan shall contain a routine schedule, procedures, and logbooks or forms to document work, as follows:
    - i) The annual inspection and leak detection tests, repairs, and retests for the AST, all sumps, and leachate conveyance systems.
    - ii) Logbook (or similar) to record the leak detection test results.
    - iii) Logbook (or similar) to schedule and perform repairs on any equipment that failed the leak detection test.
    - iv) Measures to prevent prill from discharging outside the prill storage area, including measures to prevent the discharge of prill off of the overhead conveyor (that dumps prill onto the stockpiles).
    - v) Measures to prevent the formation of ponded surface water (with a pH less than 6.5 SU or greater than 8.5 SU) outside the prill storage area.
3. By **31 January 2009**, the Discharger shall submit the following:
- a. Certification that a new wall to match the existing east wall has been installed on the east side of the stockpile area.
  - b. Certification that the below grade vaults, sumps, and basins have been epoxy-coated.
  - c. Certification that the leachate sumps and leachate conveyance system have passed any leak detection tests.
  - d. Verification that poles and additional windscreens have been installed around the entire perimeter of the prill storage area.
  - e. Certification that stockpiles do not, and will not at any time in the future, extend above the upper limits of the windscreens. The certification must include the

maximum height of stockpiles and maximum height of windscreens. Additionally, the Discharger must maintain the stockpiles below that maximum value.

- f. Alternatively, the Discharger may submit a technical engineering report certifying that the windscreen height and extent, the dropping of prill from the conveyor onto stockpiles, and the windscreen material, locations, and gaps will prevent windblown sulfur and drift from leaving the prill storage area. The report must provide the height of the sulfur stockpiles and the height of the conveyor above which wind drift may occur. The Discharger must maintain the piles below that value. The report must be prepared under the direct supervision of a California Registered Civil Engineer and must be signed and stamped by the registered professional.
4. By **31 March 2009**, the Discharger shall submit a report certifying continuous and uninterrupted operation of the 481,000-gallon concrete AST has commenced; that the two Hypalon-lined ponds have been removed from service and the area has been backfilled; that pavement at the "bone yard" has been installed; and that pavement from the south end of the storage yard to the entrance road has been installed.

In accordance with California Business and Professions Code Sections 6735, 7835, and 7835.1, engineering and geologic evaluations and judgments shall be performed by or under the direction of registered professionals competent and proficient in the fields pertinent to the required activities. All technical reports specified herein that contain workplans for, that describe the conduct of investigations and studies, or that contain technical conclusions and recommendations concerning engineering and geology shall be prepared by or under the direction of appropriately qualified professional(s), even if not explicitly stated. Each technical report submitted by the Discharger shall contain the professional's signature and stamp of the seal.



If, in the opinion of the Executive Officer, the Discharger fails to comply with the provisions of this Order, the Executive Officer may refer this matter to the Attorney General for judicial enforcement or may issue a complaint for administrative civil liability.

Failure to comply with this Order may result in the assessment of an Administrative Civil Liability up to \$10,000 per day of violation pursuant to the California Water Code sections 13268, 13350 and/or 13385. The Regional Water Board reserves its right to take any enforcement actions authorized by law.

This Order is effective upon the date of signature.

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PAMELA C. CREEDON, Executive Officer

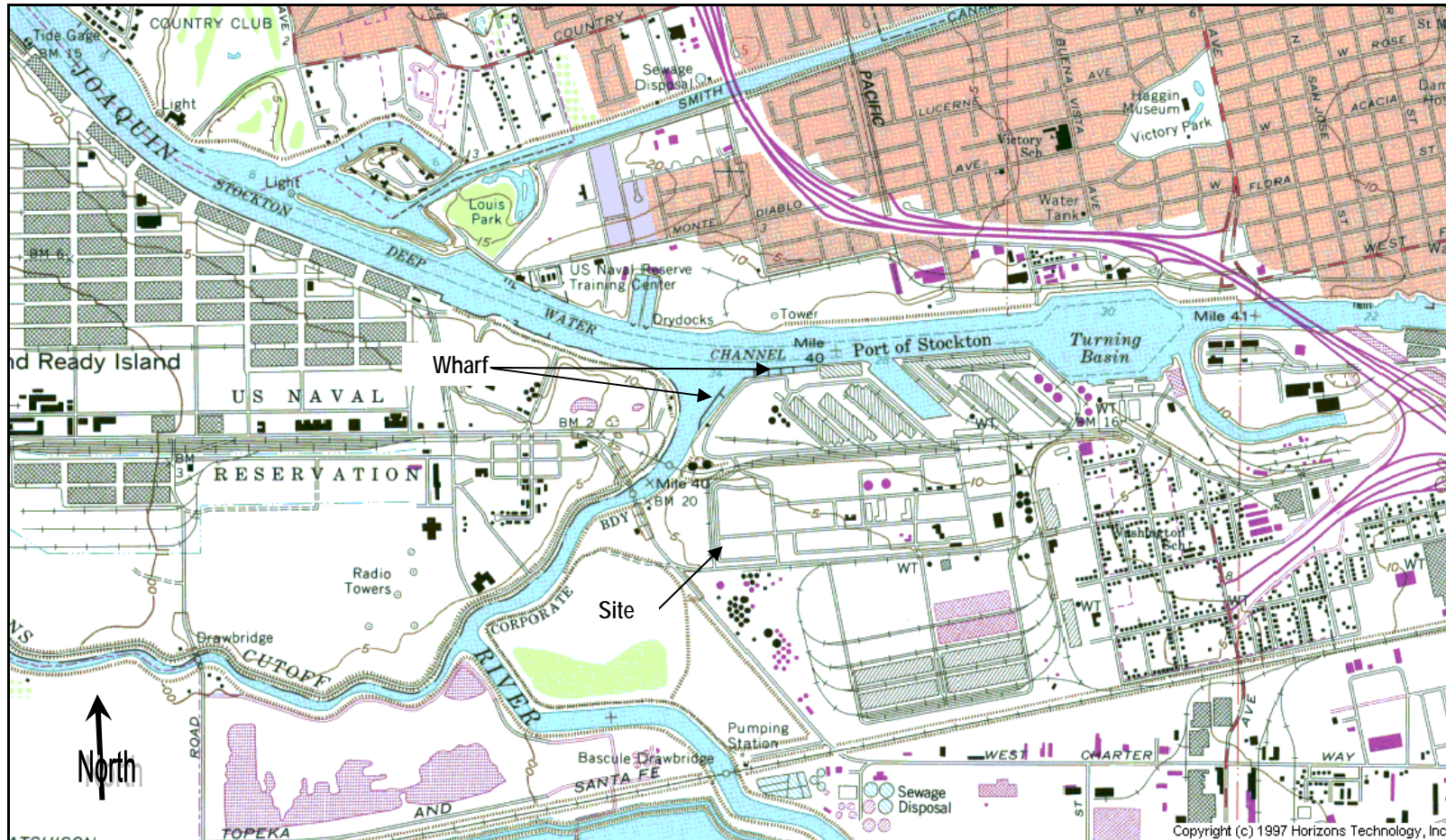
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July 23, 2008  
(Date)

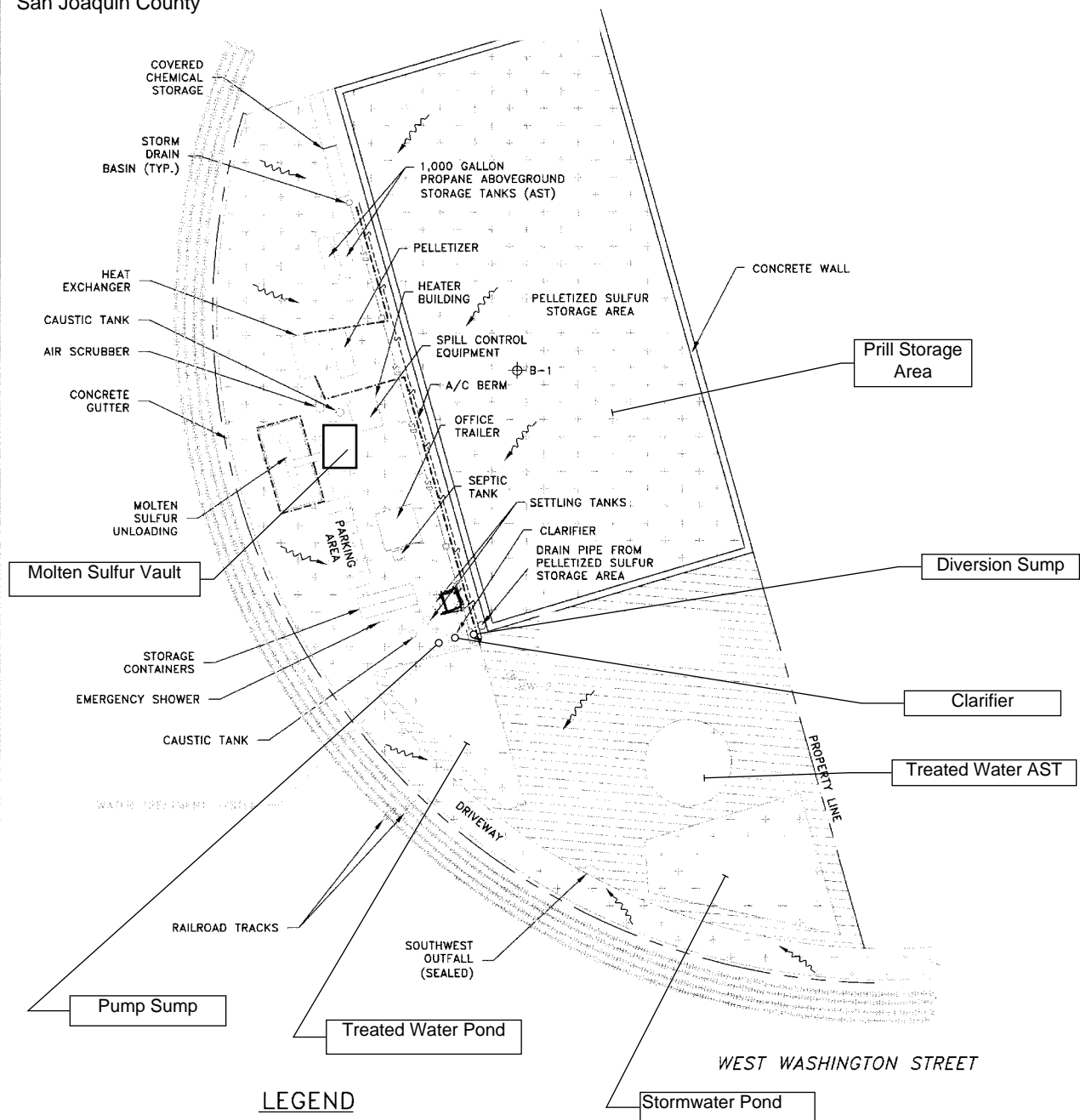
Attachments:

- Attachment A-Vicinity Map
- Attachment B-Site Layout
- Attachment C-Monitoring Well Locations

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MOLTEN SULFUR PROCESSING PLANT  
SAN JOAQUIN COUNTY

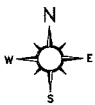


Martin Operating Partnership  
2717 West Washington Street, Stockton, CA  
Vicinity Map



**LEGEND**

- MW-2-45 GROUNDWATER MONITORING WELL
- B-1 SOIL BORING LOCATION
- UNDERGROUND SULFUR CONCRETE VAULT
- UNLOADING ISLAND
- STORM DRAIN
- SURFACE FLOW DRAIN
- CONTAINMENT BERM
- STORM WATER FLOW DIRECTION
- UNPAVED SURFACE
- IMPREVIOUS SURFACE



Martin Operating Partnership  
2717 West Washington Street  
Stockton, California

SITE LAYOUT

