Texas Commission on Environmental Quality

Waste Permits Division Correspondence Cover Sheet

Date: December 23, 2024
Facility Name: Ascend Performance Materials Texas Inc.
Permit or Registration No.: 50189

Nature of Correspondence:
☐ Initial/New
☒ Response/Revision to TCEQ Tracking No.: 30019169 (from subject line of TCEQ letter regarding initial submission)

Affix this cover sheet to the front of your submission to the Waste Permits Division. Check appropriate box for type of correspondence. Contact WPD at (512) 239-2335 if you have questions regarding this form.

Table 1 - Municipal Solid Waste Correspondence

Applications	Reports and Notifications
☐ New Notice of Intent	☐ Alternative Daily Cover Report
☐ Notice of Intent Revision	☐ Closure Report
☐ New Permit (including Subchapter T)	☐ Compost Report
☐ New Registration (including Subchapter T)	☐ Groundwater Alternate Source Demonstration
☐ Major Amendment	☐ Groundwater Corrective Action
☐ Minor Amendment	☐ Groundwater Monitoring Report
☐ Limited Scope Major Amendment	☐ Groundwater Background Evaluation
☐ Notice Modification	☐ Landfill Gas Corrective Action
☐ Non-Notice Modification	☐ Landfill Gas Monitoring
☐ Transfer/Name Change Modification	☐ Liner Evaluation Report
☐ Temporary Authorization	☐ Soil Boring Plan
☐ Voluntary Revocation	☐ Special Waste Request
☐ Subchapter T Disturbance Non-Enclosed Structure	☐ Other:
☐ Other:	

Table 2 - Industrial & Hazardous Waste Correspondence

Applications	Reports and Responses
☐ New	☐ Annual/Biennial Site Activity Report
☒ Renewal	☐ CPT Plan/Result
☐ Post-Closure Order	☐ Closure Certification/Report
☐ Major Amendment	☐ Construction Certification/Report
☐ Minor Amendment	☐ CPT Plan/Result
☐ CCR Registration	☐ Extension Request
☐ CCR Registration Major Amendment	☐ Groundwater Monitoring Report
☐ CCR Registration Minor Amendment	☐ Interim Status Change
☐ Class 3 Modification	☐ Interim Status Closure Plan
☐ Class 2 Modification	☐ Soil Core Monitoring Report
☐ Class 1 ED Modification	☐ Treatability Study
☐ Class 1 Modification	☐ Trial Burn Plan/Result
☐ Endorsement	☐ Unsaturated Zone Monitoring Report
☐ Temporary Authorization	☐ Waste Minimization Report
☐ Voluntary Revocation	☐ Other:
☐ 335.6 Notification	
☒ Other: R**esponse to Tech NOD#2**	

GSI Job No. 6932

December 23, 2024

Asmerom Russom, PE, Project Manager
Industrial and Hazardous Waste Permit Section
Waste Permits Division
Texas Commission on Environmental Quality

Via Email: [redacted]

RE: **Response to Technical Notice of Deficiency #2 – Permit Renewal**
RCRA Permit Renewal Application, Ascend Performance Materials Texas Inc., Alvin, Texas, Hazardous Waste Permit No. 50189, SWR No. 30138
EPA Identification No. TXD001700806
RN100238682/ CN60348281
Tracking No. 30019169

Dear Mr. Russom,

On behalf of Ascend Performance Materials Texas Inc. (Ascend), GSI Environmental Inc. (GSI) is submitting a response to the TCEQ Technical Notice of Deficiency (TNOD) issued on 12 December 2024, regarding the RCRA Permit Renewal Application. In accordance with TCEQ's request, provided are marked (redlined) and unmarked (clean) electronic copies of the response.

This submittal includes:

- A table summarizing the Technical NOD#2 comments and Ascend's responses (Attachment 1);
- Replacement pages associated with the Technical NOD (redlined versions; Attachment 2); and
- Replacement pages associated with the Technical NOD (clean versions; Attachment 3).

If you have any questions or comments regarding this submittal, please feel free to contact either Kevin Adams ([redacted] or 281-228-4975) or me [redacted] or 832-721-6595).

Sincerely,

James "Jim" M. McDade, PE
Vice President & Principal Engineer

Enclosure

cc (via email):

Karina Rocha, TCEQ Region 12
Kevin Adams, Ascend
Nandi Tissing, Ascend

GSI Job No. 6932

Hazardous Waste Permit Renewal Application
Ascend Performance Materials Texas Inc., Alvin, Texas

Hazardous Waste Permit No. 50189

Response to TCEQ Technical NOD#2

ATTACHMENTS

Attachment 1 – Comment Response Summary Table

Attachment 2 – Revised Application Documents (redlined)

Attachment 3 – Revised Application Documents (replacement pages - clean)

GSI Job No. 6932

Hazardous Waste Permit Renewal Application

Ascend Performance Materials Texas Inc., Alvin, Texas

Hazardous Waste Permit No. 50189

Response to TCEQ Technical NOD#2

Attachment 1 – Comment Response Summary Table

Application Deficiencies – Technical NOD # 2

ID[1]	App. Part	App. Section	Location[2]	Citation	Error Type[3]	TCEQ Deficiency Description/Resolution	Ascend Response
T1 from NOD1	A	Attachment "A"	Page 38 (Digital version)	Application Instructions	Missing	Locate or provide the access and easement agreement for the Shintech facilities. Property access and easement agreements between Ascend Performance Materials Chocolate Bayou Plant and MHBA have been received.	Ascend provided the access agreement for the Shintech property in the November 26, 2024, response to Technical NOD #1. The access agreement is reattached to this NOD response. The access agreement is between Shintech and Solutia Inc.; however, as noted in Clause 11 of the agreement, "*All covenants contained herein shall be deemed to be covenants that run with the land. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns and all subsequent owners of, and persons with interest in, their respective properties.*" Therefore, this agreement is effective between Shintech and Ascend, since Solutia Inc. sold the facility and land to Ascend.

ID[1]	App. Part	App. Section	Location[2]	Citation	Error Type[3]	TCEQ Deficiency Description/Resolution	Ascend Response
T2 from NOD1	A And B	Attachment "C" Part B, Section II,	Drawing Attachments C.4 Appendix II.1	Application Instructions	Missing	Clarify and provide consistent information regarding dikes within the property. Your response to Technical NOD 1 T2 indicates that there are no dikes around either the Closed Landfill or the Active Landfill. Part B, Section II, Appendix II.1, Section 3.0, discusses floodplains and perimeter dikes. Drawing Attachment C.4 also contains dikes south of the property.	Sections 3.0 and 14.0 of Appendix II.1 have been revised to indicate that the banks of the landfill cell are above the floodplain. This is consistent with actual site conditions and changes made in Technical NOD#1 On Attachment C.4 there is mention of dikes; however, these dikes are associated with the Active Dredge Spoils Area and closed RFI Unit I (SWMU I). These are not dikes used for run-on flood control. In the case of the Active Dredge Spoils Area, the dikes keep material dredged from the Barge Canal within the confines of that unit. Likewise, the dikes around SWMU I kept liquids within the confines of the unit. Note that SWMU I is a closed unit and has not accepted any waste since 1981; however, the dikes remain around the unit.
T5 from NOD1	T6	B	III.D.1	Table III.D	Missing	Please submit updated Table III.D to support your response for the annual inspection of the Cathodic Protection System.	Table III.D was inadvertently omitted from Ascend's response to Technical NOD #1. Table III.D is attached to this response and includes the annual inspection of the Cathodic Protection System for the IWPF Tanks.

ID[1]	App. Part	App. Section	Location[2]	Citation	Error Type[3]	TCEQ Deficiency Description/Resolution	Ascend Response
T17 from NOD1	B	V	Appendix V.C.1 – Engineering Report for IWPF Tanks *(note this should refer to Appendix V.C.2)*	270.14; 305.50(a)(7)	Incomplete	Provide a Professional Engineer (P.E.) seal, signature and date for the remaining Figures V.11.3 and V.11.4. Indicate the Figure sub-number for drawing Figure V.11.1.	Ascend cannot provide P.E.-seals on Figures V.11.3 and V.11.4 referenced in Comment T17 in Technical NOD #1. As noted in Ascend's response to the Technical NOD #1, Figures V.11.3 and V.11.4 could not be sealed, because these were the pre-construction design drawings that showed separate decant and filtrate tanks for the Solids Handling Unit. As noted previously, the decant and filtrate tanks were combined into one single wastewater tank during construction. This is shown on the P.E.-sealed Process Flow Diagram (PFD; pg. 656 of Volume 2 of the original permit application) that was provided in response to Comment T21 of Technical NOD #1. For the permit renewal application, the PFD that was provided in response to T21 of Technical NOD #1 can also be used as Figure V.11.1, replacing pg. 625 of Volume 2 of the original permit application. Attached is the sealed PFD labeled as Figure V.11.1. In addition, a note has been added to Figures V.11.3 and V.11.4 to indicate that the drawings show separate decant and filtrate tanks. However, the unit was constructed combining both tanks as shown in Figure V.11.1.

[1] Deficiency ID – Key: A#=Administrative deficiency (ex. A12); T#=Technical deficiency relating to Sections I-X and Sections XII-XIII of the Part B

application (ex. T10); C#=Comment only (ex. C1); CP#=Technical deficiency relating to Section XI-Compliance Plan of the Part B application (ex. CP14); Number in parenthesis (n) = nth instance of same deficiency (ex. T1(2) is the second instance of deficiency T1 originally identified in previous NOD).
[2] Location of deficiency in submittal/application. Items in square brackets [ ] refer to applicant's supplemental information submitted as attachments to the application form.
[3] Possible Error Types: Ambiguous, Incomplete, Inconsistent, Incorrect, Omitted, Typo, or Format.

GSI Job No. 6932

Hazardous Waste Permit Renewal Application
Ascend Performance Materials Texas Inc., Alvin, Texas

Hazardous Waste Permit No. 50189

Response to TCEQ Technical NOD#2

Attachment 3 – Revised Application Documents (replacement pages – clean)

Contents

- Part A, Attachment A: Shintech Waste Management, Access, and Pipeline Agreement
- Part B, Section II – Appendix II.1
- Part B, Section III – Table III.D
- Part B, Section V – Appendix V.C.1, Figures V.11.1, V.11.3, and V.11.4

GSI Job No. 6932

Hazardous Waste Permit Renewal Application

Ascend Performance Materials Texas Inc., Alvin, Texas

Hazardous Waste Permit No. 50189

Response to TCEQ Technical NOD#2

Part A, Attachment A: Shintech Waste Management, Access, and Pipeline Agreement

Doc# 2007028064
Doc# 2007029848

3

WASTE MANAGEMENT, ACCESS AND PIPELINE AGREEMENT

24
E24

THIS WASTE MANAGEMENT, ACCESS AND PIPELINE AGREEMENT (the "Agreement") is made and entered into as of this 17 day of May, 2007, between SHINTECH INCORPORATED, a Delaware corporation ("Shintech"), and SOLUTIA INC., a Delaware corporation ("Solutia").

WHEREAS, Solutia has previously owned that certain three thousand (3,000) acre tract of land which is described in Clerk's File No. 1997030692 of the Official Public Records of Brazoria County, Texas (the "Property"); and,

WHEREAS, Solutia, by its Special Warranty Deed dated May 17, 2007 and recorded in Clerk's File No. 2007028061 of the Official Public Records of Brazoria County, Texas, has conveyed to Shintech that certain portion of the Property which is located in the County of Brazoria, State of Texas and which is more particularly described on EXHIBIT A attached hereto and incorporated herein by reference and depicted on EXHIBIT B attached hereto and incorporated herein by reference (the "Conveyed Property"); and,

WHEREAS, the remainder of the Property is hereinafter referred to as "Solutia's Property"; and,

WHEREAS, the Conveyed Property bisects Solutia's Property; and,

WHEREAS, Solutia desires access to and from the northern portion of Solutia's Property and the southern portion of Solutia's Property by way of an existing gravel road which crosses the Conveyed Property; and,

WHEREAS, Solutia desires to operate and maintain the existing above-ground pipeline which crosses a certain portion of the Conveyed Property between the northern portion of Solutia's Property and the southern portion of Solutia's Property; and,

WHEREAS, Solutia is a party to that certain Corrective Measures Implementation Workplan, Units A, C, I, J and 02 Solutia Chocolate Bayou Facility Alvin, Texas Compliance Plan CP-50189 dated May 2, 2006 prepared by Groundwater Services, Inc. on behalf of Solutia, Inc., approved and modified by the Texas Commission on Environmental Quality (the "TCEQ") in a letter dated August 15, 2006 from TCEQ Project Manager Douglas Crist to Paul Richardson, Senior Environmental Specialist, Solutia, Inc. (the "Workplan") which addresses Solutia's obligation to remediate certain contamination affecting the Property, including the groundwater thereunder; and,

WHEREAS, Solutia desires access to the Conveyed Property in order to perform its obligations under the Workplan, including to access, inspect, utilize, repair, replace, maintain and close certain monitoring wells (the "Monitoring Wells") on the Conveyed Property which are depicted on EXHIBIT C attached hereto and incorporated herein by reference; and,

GF# 06500 382 filed

STLD01-1278051-11

STEWART TITLE-HOUSTON COMMERCIAL

Return to:
MR. JIM PUTNAM
STEWART TITLE - COMMERCIAL
1980 POST OAK BLVD., STE. #110
HOUSTON, TEXAS 77056

Unit 41

WHEREAS, Shintech desires to grant certain easements to Solutia over and across the Conveyed Property on the terms and conditions contained herein.

NOW, THEREFORE, in consideration of the mutual covenants and agreements herein contained and for other good and valuable consideration, the receipt and sufficiency of which is hereby acknowledged, the parties agree as follows:

1. Grant of Roadway Easement. Shintech hereby grants to Solutia a perpetual, non-exclusive, easement and right-of-way (the "Roadway Easement") on, over, and across the existing gravel roadway which is located on the Conveyed Property, the centerline of said Roadway Easement being depicted on EXHIBIT D attached hereto and incorporated herein by reference, for the purpose of providing vehicular and pedestrian access, ingress and egress from and to Solutia's Property. Solutia may use the Roadway Easement twenty-four (24) hours per day, seven (7) days per week

2. Fences and Gates. Shintech will have the right to install security gates on the Roadway Easement, and to cross over and under the Roadway Easement with pipelines, piperacks, roads, walkways and other facilities. However, Shintech shall not erect, construct, create or alter any gate, fence, or obstruction (collectively, a "Gate") located on or across the Roadway Easement without first providing to Solutia, at least ten days prior to the erection, construction, creation or alteration of such a Gate, a key or combination which is capable of opening and removing the Gate and permitting normal vehicular traffic over and across the Roadway Easement. In all events, Shintech agrees to occupy and possess the Conveyed Property in such a manner as to not unreasonably interfere with Solutia's use of the Roadway Easement.

3. Grant of Pipeline Easement. Shintech hereby grants to Solutia a perpetual, non-exclusive, easement (the "Pipeline Easement") in, to, on, over, and across that certain twenty (20) foot wide portion of the Conveyed Property, the centerline of which is depicted on EXHIBIT E attached hereto and incorporated herein by reference, for the following purposes: (a) laying, constructing, reconstructing, using, operating, inspecting, maintaining, repairing, and removing the existing above-ground pipeline, one or more additional pipelines, and the appurtenant facilities from time to time deemed by Solutia to be necessary or desirable in connection with the use and convenient operation of said pipeline(s) and (b) the transportation of any substance which can be transported through a pipeline. Shintech and Solutia hereby expressly agree that in order for Solutia to perform maintenance on, repair, replace, or remove said pipeline(s), a temporary workspace along or next to the Pipeline Easement may be necessary from time to time, and Shintech agrees not to unreasonably interfere with Solutia's use of said temporary workspace. Shintech will have the right to cross over and under the Pipeline Easement with pipelines, piperacks, roads, walkways and other facilities, so long as said pipelines, piperacks, roads, walkways and other facilities do not obstruct, impair or impede Solutia's use of the Pipeline Easement. In all events, Shintech agrees to occupy and possess the Conveyed Property in such a manner as to not unreasonably interfere with Solutia's use of the Pipeline Easement.

4. Grant of Ammonia and Hydrogen Pipeline Easement. Shintech hereby grants to Solutia a perpetual, non-exclusive, easement (the "Ammonia and Hydrogen Pipeline Easement")

in, to, on, over, and across that certain ten (10) foot wide portion of the Conveyed Property, the centerline of which is depicted on EXHIBIT F attached hereto and incorporated herein by reference and labeled the "Exist. 10' Wide P/L Corridor Containing a Buckeye 6' Ammonia Pipeline and an Air Liquide 10" Hydrogen Pipeline", for the following purposes: (a) laying, constructing, reconstructing, using, operating, inspecting, maintaining, repairing, and removing the existing subsurface ammonia and hydrogen pipelines, one or more additional pipelines, and the appurtenant facilities from time to time deemed by Solutia to be necessary or desirable in connection with the use and convenient operation of said pipeline(s) and (b) the transportation of any substance which can be transported through a pipeline. Shintech and Solutia hereby expressly agree that in order for Solutia to perform maintenance on, repair, replace, or remove said pipeline(s), a temporary workspace along or next to the Ammonia and Hydrogen Pipeline Easement may be necessary from time to time, and Shintech agrees not to unreasonably interfere with Solutia's use of said temporary workspace. Shintech will have the right to cross over and under the Ammonia and Hydrogen Pipeline Easement with a rail spur, pipelines, piperacks, roads, walkways and other facilities, so long as said rail spur, pipelines, piperacks, roads, walkways and other facilities do not obstruct, impair or impede Solutia's use of the Ammonia and Hydrogen Pipeline Easement. In all events, Shintech agrees to occupy and possess the Conveyed Property in such a manner as to not unreasonably interfere with Solutia's use of the Ammonia and Hydrogen Pipeline Easement.

5. Additional Utility Easements. The parties hereto acknowledge that, in addition to the pipelines which are located within Pipeline Easement and the Ammonia and Hydrogen Pipeline Easement, Solutia may be operating, as of the date of the execution of this Agreement, one or more existing pipelines or other utility lines on, over and across the Conveyed Property. Shintech hereby agrees that, within five (5) years after Shintech commences construction of improvements on the Conveyed Property, Shintech will, upon Solutia's written request, grant to Solutia for no consideration such perpetual, non-exclusive easements on, over and across the Conveyed Property as are necessary to permit Solutia to lay, construct, reconstruct, use, operate, inspect, maintain, repair, and remove said pipelines or utility lines. If the location of the pipeline will interfere with Shintech's siting of its plant on the Conveyed Property, upon Shintech's request, Solutia will, at its election, either (i) abandon the pipeline in place or (ii) move the pipeline to a location reasonably acceptable to both parties and Shintech will grant Solutia the required easement. Such abandonment or relocation by Solutia shall be done in a timely manner so as not to interfere with Shintech's construction schedule.

6. Compliance with Workplan. Solutia shall comply with all obligations which are imposed on Solutia pursuant to the Workplan, as the same may be amended or modified, to the extent such obligations directly affect the Conveyed Property and/or are to be performed on the Conveyed Property. Shintech hereby grants to Solutia a non-exclusive easement and right-of-way on, over, and across the Conveyed Property (the "Monitoring Well Access Easement"), including without limitation the roadways, streets, lanes, and paths which may exist from time to time on, at, or within the Conveyed Property, for the following limited purposes: (a) discharging its obligations under the Workplan or (b) accessing, inspecting, replacing, maintaining and closing the Monitoring Wells. Solutia's use of the Monitoring Well Access Easement shall be subject to the following provisions: (a) Solutia shall provide at least three (3) business days notice stating the date and purpose of the entry and the names and such other identifying

information as may reasonably be requested by Shintech, for those representatives of Solutia seeking entry, (b) such entry shall be between the hours of 8 a.m. and 4 p.m. on regular business days, and (c) Solutia and its representatives agree to abide by Shintech's safety and other policies and execute reasonable and customary releases. Shintech and Solutia hereby expressly agree that Solutia shall have the right under said Monitoring Well Access Easement to drive or walk "off road" across any portion of the Conveyed Property only to the extent that the roadways, streets, lanes, and paths which exist from time to time across the Conveyed Property are not sufficient to provide Solutia with reasonable access to the Monitoring Wells. Shintech may designate the exact location of the Monitoring Well Access Easement by prior notice to Solutia. Shintech may mark or construct an enclosure around the Monitoring Wells to protect the Monitoring Wells from construction activity on the Conveyed Property. In the event Shintech constructs an enclosure that requires a key, lock combination or other means to access the enclosure, Shintech shall provide such key, lock combination or other means to access the enclosure to Solutia upon such construction. The Monitoring Well Access Easement shall terminate when all obligations under the Workplan required to be performed on the Conveyed Property are completed and all the Monitoring Wells are closed.

7. Restrictive Covenants. To the extent that Solutia is from time to time obligated, in compliance with the Workplan, to record in the real property records of Brazoria County any restrictive covenants that directly affect the portion of the Conveyed Property identified on EXHIBIT B as Unit I: (i) Solutia will notify Shintech in advance of such request and allow Shintech to participate in negotiating such restrictive covenants with the TCEQ and (ii) Shintech shall cooperate with Solutia in negotiating and recording such restrictive covenants.

8. Notices. Formal notices, demands and communications between the parties will be sufficiently given if, and will not be deemed given unless, delivered personally, dispatched by certified mail, postage prepaid, return receipt requested, or sent by facsimile or a nationally recognized express delivery or overnight courier service, to the office of the parties shown as follows, or such other address as the parties may designate in writing from time to time:

Shintech:
Shintech Incorporated
3 Greenway Plaza, Suite 1150
Houston, Texas 77046
Attention: Y. Saitoh
Fax No.: (713) 965-0228

With a copy to:
Porter & Hedges, L.L.P.
1000 Main Street, 36th Floor
Houston, Texas 77002
Attention: W. David Tidholm
Fax No.: (713)226-6245

Solutia: Solutia Inc.
P.O. Box 711
Alvin, Texas 77512
Attention: Paul Cartlidge
Fax No.: (281) 228-4171

With a copy to: Renee H. Schenk
Solutia Counsel-Operations
Solutia Inc.
575 Maryville Centre Drive
St. Louis, Missouri 63141
Fax No.: (314) 674-5469

With a copy to: Blackwell Sanders Peper Martin LLP
720 Olive Street, 24th Floor
St. Louis, Missouri 63101
Attention: Kathleen T. Mueller, Esq.
Fax No.: (314) 345-6060

Such written notices, demands, and communications will be effective on the date shown on the delivery record as the date delivered (or the date on which delivery was refused) or in the case of registered mail two (2) business days following deposit of such instrument in the United States Mail, or in the case of a facsimile, on the date on which confirmation of the transmission is received.

9. Representations. Each party covenants, represents and warrants to the other party that it has the authority to enter into and perform this Agreement.

10. Maintenance, Repair or Replacement.

(a) Roadway Easement. Shintech, at its sole cost and expense, shall at all times maintain the Roadway Easement in good condition or repair. If Shintech fails to timely perform any maintenance or repair which is reasonably required in connection with the Roadway Easement, then Solutia, at its sole discretion, may at any time elect to, but shall not be obligated to, repair, maintain or replace any portion of the roadway which is located on and within the Roadway Easement. If Solutia performs such maintenance or repair, then Solutia shall deliver to Shintech an invoice, payable within thirty (30) days of Shintech's receipt of said invoice, which shall list the actual expenses incurred by Solutia in connection with its repair or maintenance of the Roadway Easement.

(b) Pipeline Easement and Ammonia and Hydrogen Pipeline Easement. All construction performed by Solutia within the Pipeline Easement and Ammonia and Hydrogen Pipeline Easement shall be performed in a good and workmanlike manner and in conformance with sound and acceptable engineering practices. Solutia covenants and agrees with Shintech that Solutia's use of the Pipeline Easement and Ammonia and Hydrogen Pipeline Easement and all work performed by Solutia within such easements

shall (i) be conducted in full compliance with all applicable federal, state and municipal or other laws, statutes, regulations, ordinances and orders, (ii) conform to all of Shintech's policies and procedures with respect to site safety and third-party conduct on the Conveyed Property, as made known from time to time and (iii) be done at times and in a manner which shall not impact or obstruct Shintech's use of the Conveyed Property.

(c) Monitoring Well Access Easement. Solutia, at its sole discretion, may at any time elect to repair, maintain or replace any portion of the roadways, streets, lanes or paths which are necessary to access the Monitoring Wells on the Conveyed Property.

11. Binding Effect. All covenants contained herein shall be deemed to be covenants that run with the land. This Agreement shall be binding upon and inure to the benefit of the parties hereto and their respective successors and assigns and all subsequent owners of, and persons with interest in, their respective properties. All references in this Agreement to Shintech, Solutia, or parties shall be deemed to include the respective party's employees, officers, directors, agents, contractors, licensees, invitees, successors, and assigns.

12. Attorneys' Fees. In the event that either party hereto brings an action or a proceeding for a declaration of the rights of the parties hereunder or for any alleged breach or default hereof or any other action arising out of this Agreement, the prevailing party in such action shall be entitled to an award of reasonable attorneys' fees and any costs incurred in addition to any other damages or relief awarded, regardless of whether such action proceeds to final judgment.

13. Captions. The captions of this Agreement are inserted only as a matter of convenience and for reference. They do not define, limit, or describe the scope or intent of this Agreement, and they shall not affect the interpretation hereof.

14. Amendment. This Agreement may be amended or otherwise modified only by a writing signed and acknowledged by both of the parties and recorded in the public records of Brazoria County, Texas.

IN WITNESS WHEREOF, the parties have entered into this Agreement as of the day and year first above written.

SHINTECH INCORPORATED

By: R. Mason

Name: R. Mason

Title: Secretary

STATE OF TEXAS)
) SS.
COUNTY OF HARRIS)

On this 17 day of MAY, 2007, before me appeared Richard Mason, to me personally known, who, being by me duly sworn, did say that he/she is the SECRETARY of SHINTECH INCORPORATED, a corporation of the State of Delaware, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation, by authority of its Board of Directors; and said Richard Mason acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal in the County and State aforesaid, the day and year first above written.

Notary Public

My term expires:_____

JAMES PUTNAM
Notary Public, State of Texas
My Commission Expires 06-22-2009

IN WITNESS WHEREOF, the parties have entered into this Agreement as of the day and year first above written.

SOLUTIA INC.

By: _____

Name: James M. Sullivan

Title: Senior Vice President, Chief Financial Officer and Treasurer

STATE OF MISSOURI)
) SS.
COUNTY OF ST. LOUIS)

On this 16th day of May, 2007, before me appeared James M. Sullivan, to me personally known, who, being by me duly sworn, did say that he is the Senior Vice President, Chief Financial Officer and Treasurer of SOLUTIA INC., a corporation of the State of Delaware, and that the seal affixed to the foregoing instrument is the corporate seal of said corporation, and that said instrument was signed and sealed in behalf of said corporation, by authority of its Board of Directors; and said James M. Sullivan acknowledged said instrument to be the free act and deed of said corporation.

IN TESTIMONY WHEREOF, I have hereunto set my hand and affixed my official seal in the County and State aforesaid, the day and year first above written.

_____
Notary Public

My term expires: 3-21-2009

Patricia A. Facea - Notary Public
Notary Seal, State of
Missouri - St. Louis County
Commission #05499121
My Commission Expires 3/21/2009

EXHIBIT A

(The Conveyed Property)

(Excerpted from a Survey Plat of 486.00 Acre Tract
prepared by Doyle & Wachtstetter, Inc. and dated May 14, 2007)

SHINTECH, INC. CHOCOLATE BAYOU 486.0000 ACRES
PERRY & AUSTIN LEAGUE NO. 2, ABSTRACT 107
BRAZORIA COUNTY, TEXAS
PAGE 1 OF 5

ALL THAT CERTAIN 486.0000 ACRE tract of land lying and situated in the Perry & Austin League No.2, Abstract 107 Brazoria County, Texas, being a portion of all that certain called 3000.00 acre tract of land conveyed by Special Warranty Deed on September 1, 1997 from Monsanto Company to Solutia, Inc., as recorded in Clerk's File No. 97 030692 of the Brazoria County Official Records (B.C.O.R.), the herein described 486.0000 acre tract hereby conveyed being more particularly described by metes and bounds, using survey terminology which refers to the Texas State Plane Coordinate System, South Central Zone (NAD83), in which the directions are Lambert grid bearings and the distances are surface level horizontal lengths (S.F.= 0.99986786539) as follows:

COMMENCING at a 6 inch x 6 inch concrete monument found marking the North corner of the said Solutia, Inc. called 3000.00 acre tract, same being the recognized North corner of the Perry and Austin League No.2, Abstract 107, same being the most Southerly West corner of the Perry and Austin League No.7, Abstract 110, and being located on the Southeastern boundary line of the Stephen F. Austin 1 ¾ League, Abstract 37 as established by A. R. Leckie in the March 1911 survey, found and confirmed by R. C. Wilcox in his May 1918 survey, located at Texas State Plane coordinate position X=3177076.95 and Y=13669847.58;

THENCE South 50°27'48" East, along the Northeastern boundary line of said Solutia, Inc. 3000.00 acre tract and the Northeastern boundary line of the Perry & Austin League No. 2, Abstract 107, same being the Southwest boundary line of the Perry and Austin League No.7, Abstract 110 and the Edmond Andrews League, Abstract 5, a distance of 7879.72 feet to a point, from which a 6 inch x 6 inch concrete monument found marking the East corner of the Perry and Austin League No.2, Abstract 107, same being the South corner of the Edmond Andrews League, Abstract 5, and being located on the Northwestern boundary line of the Perry and Austin League, Abstract 109, said monument established by A. R. Leckie in the March 1911 survey, found and confirmed by R. C. Wilcox in his May 1918 survey, bears South 50°27'48" East, a distance of 6231.13 feet, said 6 inch x 6 inch concrete monument located at position X=3187958.03 and Y=13660866.18;

THENCE South 39°32'12" West, at a distance of 70.00 feet pass the Southwestern boundary line of all that certain 70 foot wide Missouri Pacific Railroad right-of-way, as recorded in Volume 905, Page 218 of the Brazoria County Deed Records (B.C.D.R.), same being the Northeastern boundary line of all that certain 80 feet wide H. L. & P. electrical easement, as recorded in Volume 1024, Page 180 of the B.C.D.R., at a distance of 150 feet pass the Northeastern boundary line of the 120 feet wide State Texas Highway F.M. #2917 right-of-way, as recorded in Volume 917, Page 484 of the B.C.D.R., continuing a total distance of 270.00 feet to the **POINT OF BEGINNING**, at a set 5/8" iron rod with survey cap marked "WPD 4467", located in the Southwestern boundary line of the said 120 foot wide F.M. #2917, for the North corner of the herein described 486.0000 acre tract, at Texas State Plane coordinate position X=3182981.26 and Y=13664624.03;

THENCE South 50°27'48" East, coincident with the Southwestern right-of-way boundary line of the said Texas State Highway F.M. #2917, a distance of 1562.10 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for the most Northerly East corner of the herein described 486.0000 acre tract, at position X=3184185.82 and Y=13663629.76;

THENCE South 39°29'42" West, a distance of 3509.41 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", located in the Southwestern top bank of a 100 foot wide drainage ditch, for an interior corner of the herein described 486.0000 acre tract, at position X=3181954.09 and Y=13660921.99;

THENCE South 50°30'18" East, generally along the Southwestern limits of the said top bank of drainage ditch, a distance of 597.23 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an exterior corner of the herein described tract at a position X=3182414.90 and Y=13660542.19;

THENCE South 39°29'42" West, a distance of 546.25 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an interior corner of the herein described 486.0000 acre tract, at position X=3182067.52 and Y=13660120.72;

THENCE South 50°30'18" East, a distance of 1052.98 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an exterior corner of the herein described 486.0000 acre tract, at position X=3182879.98 and Y=13659451.10;

THENCE South 39°29'42" West, a distance of 2234.22 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an exterior corner of the herein described 486.0000 acre tract, at position X=3181459.18 and Y=13657727.22;

THENCE North 50°30'18" West, a distance of 1291.31 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an interior corner of the herein described 486.0000 acre tract, at position X=3180462.83 and Y=13658548.41;

THENCE South 39°29'42" West, a distance of 392.32 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an interior corner of the herein described 486.0000 acre tract, at position X=3180213.34 and Y=13658245.70;

THENCE South 50°30'18" East, a distance of 250.03 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an exterior corner of the herein described 486.0000 acre tract, at position X=3180406.26 and Y=13658086.69;

THENCE South 39°29'42" West, a distance of 2303.50 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an angle point of the herein described 486.0000 acre tract, at position X=3178941.40 and Y=13656309.37;

THENCE South 85°38'48" West, a distance of 897.89 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an interior angle point of the herein described 486.0000 acre tract, at position X=3178046.22 and Y=13656241.22;

THENCE South 39°29'42" West, a distance of 707.55 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an exterior corner of the herein described 486.0000 acre tract, at position X=3177596.26 and Y=13655695.29;

THENCE North 50°30'18" West, a distance of 348.47 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an interior corner of the herein described 486.0000 acre tract, at position X=3177327.39 and Y=13655916.89;

THENCE South 39°29'42" West, a distance of 1831.03 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an exterior corner of the herein described 486.0000 acre tract, at position X=3176162.99 and Y=13654504.12;

THENCE North 50°30'18" West, a distance of 390.26 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an interior corner of the herein described 486.0000 acre tract, at position X=3175861.87 and Y=13654752.30;

THENCE South 39°29'42" West, a distance of 545.80 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an interior angle point of the herein described 486.0000 acre tract, at position X=3175514.78 and Y=13654331.17;

THENCE South 10°30'20" East, a distance of 1214.22 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an exterior angle point of the herein described 486.0000 acre tract, at position X=3175736.14 and Y=13653137.45;

THENCE South 17°33'27" West, a distance of 539.14 feet to a point at the right ascending water's edge of Chocolate Bayou, same being a Southern boundary line of the aforementioned all that certain called 3000.00 acre tract of land conveyed by Special Warranty Deed on September 1, 1997 from Monsanto Company to Solutia, Inc., as recorded in Clerk's File No. 97 030692 of the B.C.O.R., for an exterior angle point of the herein described 486.0000 acre tract, at position X=3175573.53 and Y=13652623.50;

THENCE coincident with the right ascending water's edge of Chocolate Bayou and the Solutia, Inc. barge dock channel and its meanders as follows:

South 69°45'10" West, a distance of 131.08 feet;
South 50°48'56" West, a distance of 108.94 feet;
South 49°28'39" West, a distance of 84.44 feet;

North 49°56'49" West, a distance of 55.73 feet;
North 22°36'31" West, a distance of 47.32 feet;
North 8°33'57" West, a distance of 40.46 feet;
North 4°30'45" West, a distance of 226.62 feet;
North 5°32'04" West, a distance of 121.73 feet;
North 4°06'09" West, a distance of 234.88 feet;
North 13°33'54" West, a distance of 277.77 feet;
North 22°00'09" West, a distance of 388.27 feet;
North 26°14'30" West, a distance of 127.41 feet;
North 36°29'56" West, a distance of 205.68 feet;
North 44°31'54" West, a distance of 60.64 feet;

THENCE North 87°34'28" East, a distance of 207.28 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an interior angle point of the herein described 486.0000 acre tract, at position X=3174999.67 and Y=13654099.25;

THENCE North 39°29'42" East, a distance of 1302.45 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an exterior corner of the herein described 486.0000 acre tract, at position X=3175827.94 and Y=13655104.19;

THENCE South 50°30'18" East, a distance of 410.30 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an interior corner of the herein described 486.0000 acre tract, at position X=3176144.51and Y=13654843.27;

THENCE North 39°29'42" East, a distance of 1831.03 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an exterior corner of the herein described 486.0000 acre tract, at position X=3177308.91 and Y=13656256.05;

THENCE South 50°30'18" East, a distance of 328.47 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an interior corner of the herein described 486.0000 acre tract, at position X=3177562.35 and Y=13656047.17;

THENCE North 39°29'42" East, a distance of 244.83 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an interior corner of the herein described 486.0000 acre tract, at position X=3177718.05 and Y=13656236.07;

THENCE North 50°30'18" West, a distance of 406.52 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for an exterior corner of the herein described 486.0000 acre tract, at position X=3177404.39 and Y=13656494.59;

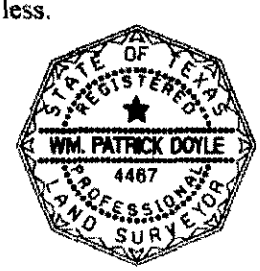
THENCE North 39°29'42" East, a distance of 1417.98 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for the point of curvature to the left of the herein described 486.0000 acre tract, having a central radius of 600.00 feet, at position X=3178306.12 and Y=13657588.67;

THENCE along said curve to the left, having a central radius of 600.00 feet, an arc length of 822.52 feet, a central angle of 78°31'34", and a chord bearing and distance of North 0°13'55" East, 759.46 feet, to a set 5/8" iron rod with survey cap marked "WPD 4467", for the point of tangency of the herein described 486.0000 acre tract, at position X=3178309.20 and Y=13658348.02;

THENCE North 39°01'52" West, a distance of 130.76 feet to a set 5/8" iron rod with survey cap marked "WPD 4467", for point of curvature to the right of the herein described 486.0000 acre tract, having a central radius of 400.00 feet, at a position of X=3178226.86 and Y=13658449.59;

THENCE along said curve to the right, having a central radius of 400.00 feet, an arc length of 322.39 feet, a central angle of 46°07'56", and a chord bearing and distance of North 15°57'54" West, 313.43 feet, to a set 5/8" iron rod with survey cap marked "WPD 4467", for the point in curve of the herein described 486.0000 acre tract, at position X=3178140.66 and Y=13658750.89;

THENCE North 39°29'42" East, a distance of 7611.86 feet to the **POINT OF BEGINNING,** containing 486.0000 acres of land, more or less.



Wm. Patrick Doyle
Registered Professional Land Surveyor
Texas Registration Number 4467
May 14, 2007

This description is based on a survey, a plat of which, dated November 30, 2006 is on file in the office of Doyle & Wachtstetter, Inc.
Legal\pat\Shintech Chocolate Bayou 486 0000 Acre Tract Rev2.doc

EXHIBIT B

(Depiction of the Conveyed Property) (Excerpted from a Survey Plat of 486.00 Acre Tract prepared by Doyle & Wachtstetter, Inc. and dated May 14, 2007)

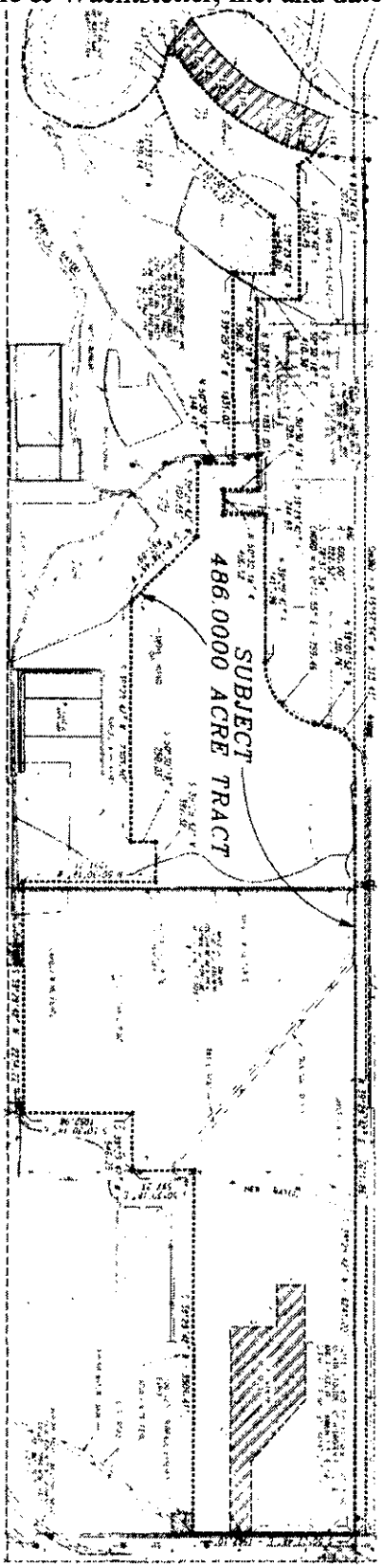
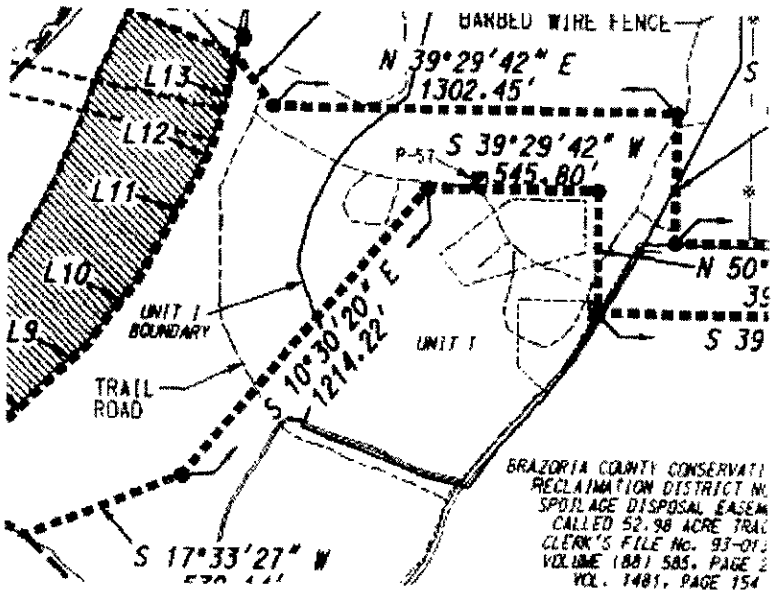


EXHIBIT C - (The Monitoring Wells)

(Excerpted from a Survey Plat of 486.00 Acre Tract
prepared by Doyle & Wachtstetter, Inc. and dated May 14, 2007)



LEGEND

●	SET 5/8" IRON ROD W/ SURVEY CAP "WPD 4467"
■	FOUND CONCRETE MONUMENT
●	POWER POLE
◩	MONITOR WELL
——————⊃	GUY ANCHOR
——OH——	OVERHEAD WIRE
——※——	CHAIN LINK FENCE
——X——	BARB WIRE FENCE
- - - - - - -	UNDERGROUND PIPELINE
- - - - - - -	ABOVE GROUND PIPELINE
———————	TRACT LINE
▲——▲——▲	TOP OF BANK
~~	EDGE OF WATER
=========	GRAVEL/DIRT ROAD (SURVEYED)
———————	TRAIL ROAD FROM AERIAL (NOT SURVEYED)
=========	ROAD FROM MAP (NOT SURVEYED)
- - - - - -	EASEMENT/R.O.W. LINE
■■■■■■■	SUBJECT PROPERTY LINE
— — — —	SOLUTIA TRACT LINE
———————	SOLID WASTE MANAGEMENT UNIT BOUNDARY
B.C.O.R.	BRAZORIA COUNTY OFFICIAL RECORD
B.C.D.R.	BRAZORIA COUNTY DEED RECORD

EXHIBIT D
(The Roadway Easement)

(Excerpted from a Survey Plat of 486.00 Acre Tract
prepared by Doyle & Wachtstetter, Inc. and dated May 14, 2007)

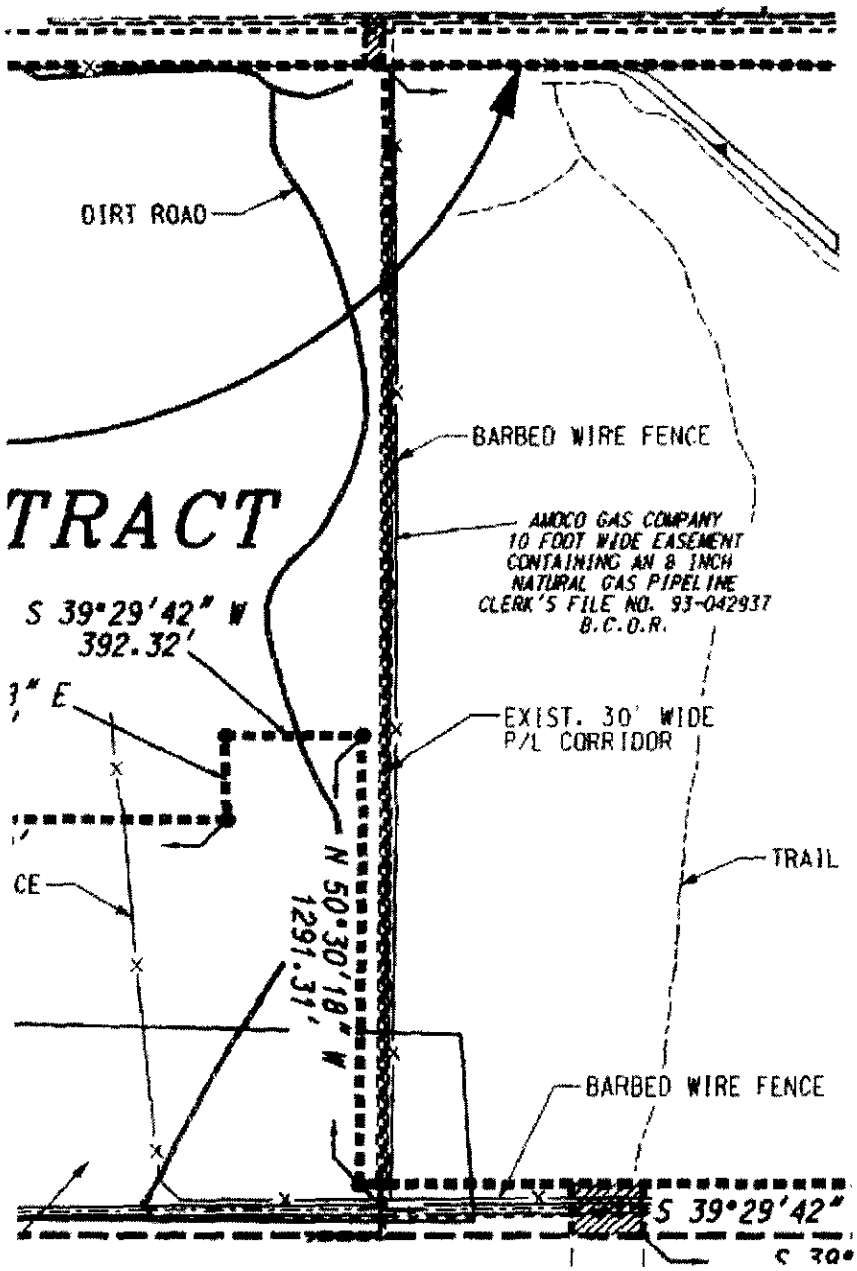


EXHIBIT E

(The Pipeline Easement)

(Excerpted from a Survey Plat of 486.00 Acre Tract
prepared by Doyle & Wachtstetter, Inc. and dated May 14, 2007)

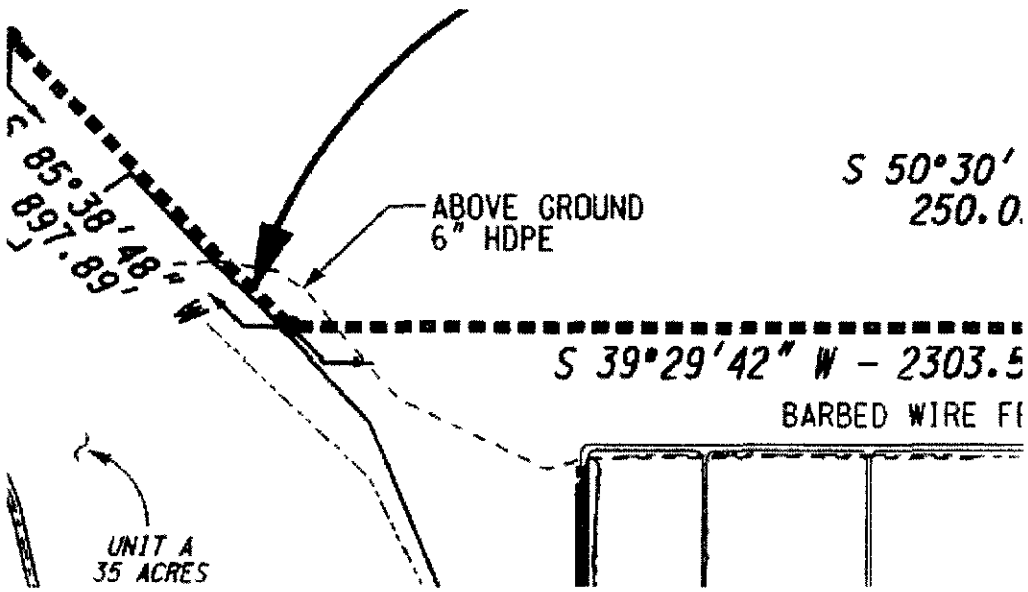
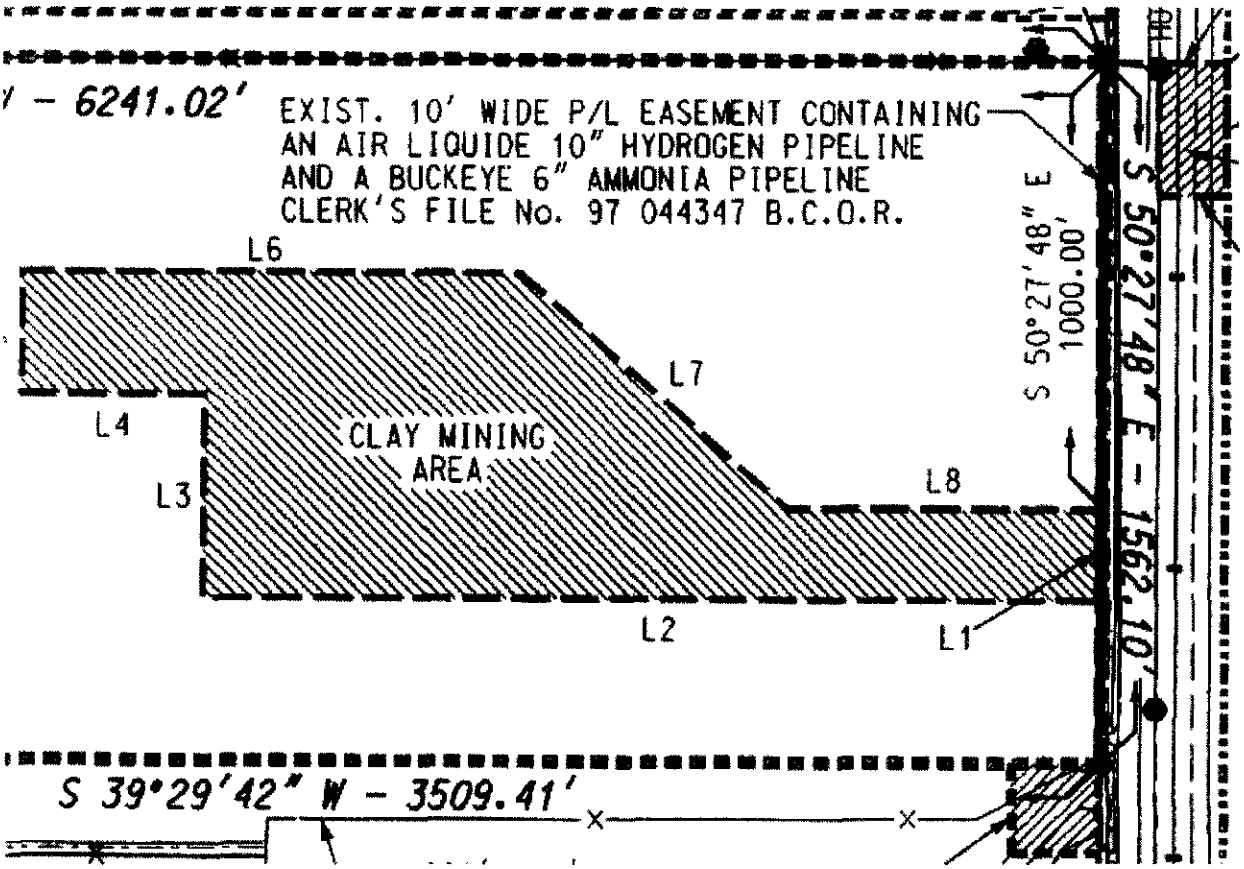
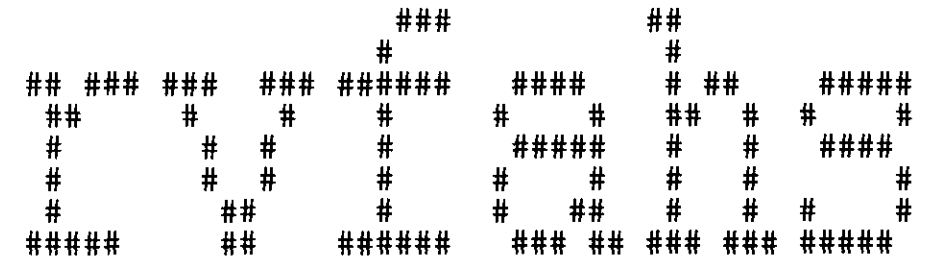


EXHIBIT F

(The Ammonia and Hydrogen Pipeline Easement)

(Excerpted from a Survey Plat of 486.00 Acre Tract
prepared by Doyle & Wachtstetter, Inc. and dated May 14, 2007)





Job : 42
Date: 5/16/2007
Time: 5:01:50 PM

ASSIGNMENT AND ASSUMPTION AGREEMENT

THIS ASSIGNMENT AND ASSUMPTION AGREEMENT ("**Agreement**") is made and entered into as of the ___ day of _____, _____ by and among **AMERICAN FILTER FILM DISTRIBUTORS**, a Texas corporation and **NORTH TEXAS JOBBER'S WAREHOUSE**, a Texas corporation (collectively, "**Sellers**"), and **CPFILMS INC.**, a Delaware corporation ("**Buyer**").

WHEREAS, pursuant to that certain Letter Agreement (the "**Purchase Agreement**") dated as of May ___, 2007, by and among Sellers, **LARRY WASSELL ("Larry")** and **NANCY WASSELL** ("**Nancy**", and collectively with Larry, the "**Owners**"), and Buyer, Sellers agreed to sell to Buyer and Buyer agreed to purchase from Sellers certain of the assets of Sellers. Capitalized terms used herein and not otherwise defined shall have the meaning assigned to them in the Purchase Agreement;

WHEREAS, pursuant to the Purchase Agreement, Sellers have agreed to sell and assign to Buyer all rights and interest of Sellers in, and Buyer has agreed to assume Sellers' obligations under, certain Assumed Contracts to which one or more of the Sellers is a party; and

NOW, THEREFORE, in consideration of these premises, the mutual covenants and agreements contained herein, and other good and valuable consideration, the receipt and sufficiency of which are hereby acknowledged, the parties hereto agree as follows:

1. **Assignment.** Sellers do hereby unconditionally and irrevocably sell, assign, transfer and convey to Buyer, and its successors and assigns, all of Sellers' legal, beneficial and other right, title and interest in, to and under those Contracts more particularly described on **Exhibit A** attached hereto (the "**Assigned Contracts**"), free and clear of any and all liens, charges and encumbrances.

2. **Assumption.** Buyer hereby assumes and agrees to pay, discharge and perform when due, from and after the date hereof, the obligations of Sellers (individually, jointly and/or severally) under the Assigned Contracts. Any obligation of the Sellers relating to the Assigned Contracts which accrued or relate to any period prior to the date hereof or which arise on account of the failure to obtain the consent of the third party thereto shall remain the sole and exclusive obligation of the Sellers.

3. **Further Assurances.** The parties hereto shall execute and deliver all such other and further documents and perform all further acts that may be reasonably necessary to effectuate the provisions of this Agreement.

4. **Subject to Purchase Agreement.** This Agreement is delivered pursuant to and is subject to the provisions of the Purchase Agreement including, without limitation, the representations, warranties and agreements set forth in the Purchase Agreement.

5. **Assignment of Assigned Contracts.** If any Assigned Contracts are not assignable without the consent of the other party or parties to the Assigned Contracts, any rights,

benefits or remedies of Sellers under or arising in connection with such Assigned Contracts shall then be held by Sellers for the benefit of Designee.

* * *

IN WITNESS WHEREOF, each of the parties hereto has caused this Agreement to be executed as of the day and year first written above.

AMERICAN FILTER FILM DISTRIBUTORS

By: _____

Name:

Title:

NORTH TEXAS JOBBER'S WAREHOUSE

By: _____

Name:

Title:

CPFILMS INC.

By: _____

Name:

Title:

EXHIBIT A

ASSIGNED CONTRACTS

Those Assumed Contracts as described in the Purchase Agreement between Sellers and the third parties listed on **Schedule 1** attached hereto.

SCHEDULE 1

ASSUMED CONTRACTS

Doc# 2007028064
Pages 24
05/18/2007 3:48PM
Official Records of
BRAZORIA COUNTY
JOYCE HUDMAN
COUNTY CLERK
Fees $108.00

Doc# 2007029848
Pages 24
05/29/2007 3:43PM
Official Records of
BRAZORIA COUNTY
JOYCE HUDMAN
COUNTY CLERK
Fees $108.00

GSI Job No. 6932

Hazardous Waste Permit Renewal Application
Ascend Performance Materials Texas Inc., Alvin, Texas

Hazardous Waste Permit No. 50189

Response to TCEQ Technical NOD#2

Part B, Section II – Appendix II.1

APPENDIX II.1
SITE SELECTION REPORT

Hazardous Waste Permit Renewal Application

Hazardous Waste Permit No. 50189
Ascend Performance Materials Texas Inc., Alvin, Texas

TABLE OF CONTENTS

APPENDIX II.1
SITE SELECTION REPORT

Hazardous Waste Permit Renewal Application

Hazardous Waste Permit No. 50189
Ascend Performance Materials Texas Inc., Alvin, Texas

TABLE OF CONTENTS

FIGURES

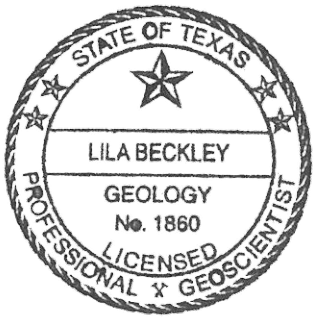
ATTACHMENTS

SITE SELECTION REPORT CERTIFICATION STATEMENT

Hazardous Waste Permit Renewal Application

Hazardous Waste Permit No. 50189
Ascend Performance Materials Texas Inc., Alvin, Texas

I, Lila Beckley, a registered professional geoscientist in the State of Texas, certify that the Siting Selection Report in the Hazardous Waste Permit Renewal Application for Ascend Performance Materials Texas Inc. facility in Alvin, Texas, has been prepared under my direction and supervision. Geoscience-related material was prepared in accordance with generally accepted geoscience principles and practices. The report was prepared to address requirements of the TCEQ RCRA Permit Application (TCEQ-00376 Revised 1 March 2023).



9 Aug 2024

Lila M. Beckley, P.G.
State of Texas Registration No. 1860
GSI Environmental Inc.
Registered Geoscience Firm No. 50243

1.0 SCOPE AND OBJECTIVES

This site selection report for the Ascend Performance Materials Texas Inc. (Ascend) facility in Alvin, Texas, has been prepared to document that the facility meets the site location criteria specified in 30 TAC 335 Subchapter G for the safe management of hazardous wastes. Provisions of 30 TAC 335.204 establish factors to be evaluated for the location of facilities used for the storage or processing of hazardous waste, including the proximity of the facility to the following:

- Floodplains;
- Wetlands;
- Recharge zones of sole-source aquifers;
- Areas overlying regional aquifers;
- Shallow soil characteristics;
- Direct drainage to lakes used to supply public drinking water;
- Active geologic processes, including faulting;
- Critical habitat of endangered plant or animal species;
- Established residences and other public areas;
- Coastal shoreline erosion; and
- Barrier islands and peninsulas.

The following sections provide information to demonstrate that the Ascend facility is in compliance with applicable regulatory requirements of 30 TAC 335 Subchapter G with regard to site selection.

2.0 GENERAL SITE DESCRIPTION

2.1 Overview of the Ascend Facility

The Ascend facility is located on road FM 2917, approximately 11 miles southeast of the City of Alvin in Brazoria County. The plant is a chemical manufacturing facility situated on approximately 2,500 acres of the Coastal Prairie portion of the Gulf Coast Physiographic Province. The area is characterized by tall grasslands and/or woods. Regional topography in the facility area is typical of the Gulf Coastal Plain, a nearly flat terrain sloping gently to the southeast across this region. The annual rainfall for Brazoria County is 52 inches and the mean annual temperature is 69°F (The Texas State Handbook Online, 2018).

The Ascend plant is bordered on the north by agricultural areas, to the east by agricultural areas, and to the south by industrial facilities. The western boundary of the site borders Chocolate Bayou, a stream that discharges into Chocolate Bay. Chocolate Bay is an arm of West Bay, located approximately 3 miles southeast of the Ascend property. Shintech Inc., a manufacturer of polyvinyl chloride, owns approximately 500 acres south of the Ascend manufacturing area adjacent to FM 2917 (see Figure II.1.5). The MHBA property lies between the Ascend manufacturing area and Shintech (Figure II.1.5) and is owned by MHBA CB LLLP, but operated by Ascend.

The central portion of the Ascend facility, encompassing approximately 1000 acres, includes the areas of active plant operations which involve the manufacture of chemical feedstocks and intermediates. The developed area of the plant contains pavement, buildings, roadways, equipment storage, pipelines, railways, and manufacturing units. Waste processing and storage units (i.e., Indoor, Outdoor and IWPF Container Storage Areas; IWPF Tanks; Thermal Desorption Unit; and AN Boilers) are located among or near the manufacturing areas within the developed central portion of the facility. Waste disposal areas (i.e., Closed Landfill, Active Landfill, and New Landfill) are located south of both the Ascend manufacturing area and the Shintech property, in areas that are mainly undeveloped and characterized by grasses and immature woods.

Manufacturing operations at the Ascend facility began in 1962 and continue to present day. The Ascend facility was initially permitted as a hazardous and nonhazardous industrial solid waste management site in October 1987. Originally permitted at 3,000 acres, the current Ascend facility is 2,472 acres, following a sale of 486 acres to Shintech Inc. in 2007 and 42 acres to MHBA CB LLLP in 2014.

2.2 Hazardous Waste Management Units at Ascend

This site selection report addresses the hazardous waste storage, processing, and disposal units, including active and post-closure care units at the Ascend facility, as follows:

Exhibit 1: Summary of Active and Post-Closure Hazardous Waste Management Areas

Hazardous Waste Management Unit	Permit Unit No.	Service Life (years)
Closed Landfill	01	1962 – 1995
Active Landfill	02	1991 – present
Closed IWPF Surface Impoundments	03	1962 – 1997
IWPF Tank 332T1-1	08	1994 – present
IWPF Tank 332T1-2	09	1994 – present
AN Boiler 30H5	11	1975 – present
AN Boiler 31H4	12	1975 – present
Outdoor Container Storage Area	13	1998 – present
New Landfill	16	Proposed
Solids Handling Unit Filtrate Tank 331T11	17	2021-present
Solids Handling Unit Decant Tank 1	18	Proposed
Solids Handling Unit Filtrate Tank 331T13	19	2021-present
Solids Handling Unit Filtrate Tank 331T14	20	2021-present
Solids Handling Unit Filtrate Tank 331T15	21	2021-present
Solids Handling Unit Filtrate Tank 331T16	22	2021-present
Outdoor Container Storage Area 2	23	Proposed

3.0 FLOODPLAIN

3.1 Regulatory Requirements

"A storage or processing facility (excluding storage surface impoundments) may not be located in the 100-year floodplain unless it is designed, constructed, operated, and maintained to prevent physical transport of any hazardous waste by a 100-year flood event." (30 TAC 335.204(a)(1))

"Except as provided in subparagraphs (A) and (B) of this paragraph, a landfill may not be located in the 100-year floodplain existing prior to site development except in areas with flood depths less than three feet. Any landfill within the 100-year floodplain must be designed, constructed, operated, and maintained to prevent physical transport of any hazardous waste by a 100-year flood event." (30 TAC §335.204(e)(1)).

3.2 Flood Elevations

Ground surface elevations on the Ascend facility property average approximately 10-15 ft mean sea level (MSL). The maximum elevation at the facility is approximately 30 feet MSL, and the minimum elevation is approximately 5 feet MSL along the eastern bank of Chocolate Bayou.

Base flood elevations corresponding to a 100-yr flood event on the property range from 11 to 16 ft MSL in locations where base flood elevations have been determined as indicated on Flood Insurance Rate Maps obtained from the Federal Emergency Management Agency for Brazoria County (i.e., Map Numbers 48039C0480K, 48039C0315K, and 48039C0320K dated 30 December 2020; FEMA, 2020). An overlay of these elevations on the Ascend facility indicates that a portion of the Ascend facility lies within the 100-yr floodplain (see Figure II.1.1). As shown on Figure II.1.1., dark gray zones correspond to Zone AE which shows areas within the 100-year floodplain. Light gray zones correspond to Zone X which shows areas outside of the 100-year floodplain.

Areas of the 100-yr floodplain subject to a coastal flood with velocity hazard from wave action are designated as Zone VE. None of the Ascend facility property lies within Zone VE (see Figure II.1.1).

3.3 Flood Protection Measures for Hazardous Waste Management Units

Ascend has designed and installed flood protection measures for hazardous waste storage and processing units and has developed a flood management program to prevent transport of hazardous waste in the event of a 100-yr flood event. A summary of flood protection measures for active hazardous waste management storage and processing units follows below.

- *Closed Landfill (Permit Unit 01), Active Landfill (Permit Unit 02), Closed IWPF Surface Impoundments (Permit Unit 03), and New Landfill (Permit Unit 16):* Ascend's hazardous waste landfills and the Closed IWPF Surface Impoundments are located in areas where predicted flood depths are less than 1 ft, and therefore, meet the criterion specified in 30 TAC 335.204(e)(1), that require such units be located in areas within

the 100-ft floodplain where the predicted flood depths are less than 3 ft. In addition, the banks of the landfill cells in the Active Landfill (Permit Unit 02) and New Landfill (Permit Unit 16) have a minimum nominal height of 8 ft above natural grade around each landfill cell. The predicted 100-yr flood elevation is 14 ft MSL in the vicinity of this unit, and top-of-dike elevations range from 20 to 21 ft MSL. Therefore, the banks of the landfill cells are a minimum of 5 ft higher than expected water levels during a 100-yr flood event.

- *IWPF Tanks 332T1-1 and 332T1-2 (Permit Units 08 and 09):* These aboveground tanks are located in an area where the predicted base elevation of the 100-yr flood is 11 to 13 ft MSL. The top of the reinforced concrete secondary containment dike surrounding the tanks has been constructed to an approximate elevation of 19 ft MSL, providing a minimum freeboard of 6 ft in the event of a 100-yr flood event.

- *AN Boilers 30H5 and 31H4 (Permit Units 11 and 12):* Flood protection for the AN boilers has been provided by entirely containing the hazardous waste managed in these units. Process piping is elevated, and therefore, no potential exists for rising flood waters to contact the wastes managed in the boilers. Additionally, the AN boilers in Permit Units 11 and 12 are located outside of the 100-year floodplain.

- *Outdoor Container Storage Area (Permit Unit 13):* Ground surface elevations in this unit average 14.5 ft MSL. In portions of this area, the estimated elevation of the 100-yr flood is 11 ft MSL. To prevent transport of hazardous waste or damage to containers from floating debris, protective measures (i.e., emptying, securing, or elevating the containers) will be implemented if a significant weather event and potential flooding are imminent.

- *Solids Handling Unit Tanks (Permit Units 17-22):* All tanks and associated equipment for the Solids Handling Unit (SHU) have been installed within a concrete secondary containment. The aboveground tanks in the SHU are located in an area where the predicted depth of the 100-yr flood is less than 1 ft. The reinforced concrete secondary containment dike surrounding the tanks is approximately 2.5 ft high, thereby providing a minimum freeboard of 1.5 ft in the event of a 100-yr flood event.

- *Outdoor Container Storage Area 2 (Permit Unit 23):* Ground surface elevations in this proposed unit are approximately 14 ft MSL. In portions of this area, the estimated elevation of the 100-yr flood is 13 ft MSL. To prevent transport of hazardous waste or damage to containers from floating debris, protective measures (i.e., emptying, securing, or elevating the containers) will be implemented if a significant weather event and potential flooding are imminent

Finding: Ascend meets the criterion of 30 TAC §335.204(a)(1) and 335.204(e)(1) regarding flood protection measures for waste management units located within the 100-yr floodplain.

4.0 WETLANDS

4.1 Regulatory Requirements

"A storage or processing facility (excluding storage surface impoundments) may not be located in wetlands." (30 TAC 335.204(a)(2))

"A landfill may not be located in wetlands." (30 TAC §335.204(e)(2))

4.2 Wetland Locations at the Ascend Facility

4.2.1 Wetlands Adjacent to Chocolate Bayou

Wetlands have been identified along the historic meander belt of Chocolate Bayou adjacent to the Ascend facility during the Galveston Bay National Estuary Program investigation (GBNEP, 1992). No hazardous waste management units have been located along the meander belt of Chocolate Bayou adjacent to the Ascend plant. An up-to-date wetland map for the Ascend facility with data from the U.S. Fish and Wildlife Service (USFWS, 2024a) is provided in Figure II.1.2.

4.2.2 Wetlands Near Proposed New Landfill

A jurisdictional determination has been obtained from the U.S. Army Corps of Engineers (USACE) regarding four borrow pits in the vicinity of the New Landfill. The USACE has determined that these borrow pits do not contain waters of the United States, including adjacent wetlands. Therefore, the four borrow pits are not subject to Section 404 of the Clean Water Act or Section 10 of the Rivers and Harbors Act, and a permit from the USACE is not required to fill or work in these pits (USACE, 2009; and Attachment II.1.1).

Finding: Current hazardous waste permitted units are not located in wetlands. Prior to construction of proposed new units, Ascend will obtain updated jurisdictional determinations, as applicable.

5.0 RECHARGE ZONE OF SOLE-SOURCE AQUIFER

5.1 Regulatory Requirements

"A storage or processing facility (excluding storage surface impoundments) may not be located on the recharge zone of a sole-source aquifer unless secondary containment is provided to preclude migration to groundwater from spills, leaks or discharges." (30 TAC 335.204(a)(3))

"A landfill may not be located on the recharge zone of a sole-source aquifer." (30 TAC §335.204(e)(3))

5.2 Chicot Aquifer Recharge Zone

No recharge zones of sole-source aquifers are located near the Ascend facility. The nearest sole-source aquifer to the Ascend facility is the portion of the Chicot Aquifer located in southwest Louisiana (USEPA, 2024). The recharge zone for this portion of the Chicot Aquifer occurs more than 80 miles east of the Ascend facility, extending from the Texas-Louisiana state line eastward to Alexandria, Louisiana.

Finding: The Ascend facility is not in the recharge zone of a sole-source aquifer.

6.0 AREA OVERLYING REGIONAL AQUIFERS

6.1 Regulatory Requirements

"A storage or processing facility (excluding storage surface impoundments) may not be located in areas overlying regional aquifers unless (A) the regional aquifer is separated from the facility by a minimum of ten feet of material with a hydraulic conductivity toward the aquifer not greater than 10-7 centimeters per second (cm/sec), or a thicker interval of more permeable material which provides equivalent or greater retardation to pollutant migration; or (B) secondary containment is provided to preclude migration to groundwater from spills, leaks or discharges." (30 TAC 335.204(a)(4))

"A landfill may not be located in areas overlying regional aquifers unless: (A) it is in an area where the average annual evaporation exceeds average annual rainfall by more than 40 inches and the depth to the regional aquifer is greater than 100 feet from the base of the containment structure; or (B) the regional aquifer is separated from the base of the containment structure by a minimum of ten feet of material with a hydraulic conductivity toward the aquifer not greater than 10-7 cm/sec or a thicker interval of more permeable material which provides equivalent or greater retardation to pollutant migration." (30 TAC §335.204(e)(4))

6.2 Aquifers Underlying the Ascend Facility

The Gulf Coast Aquifer is the only regional aquifer underlying the Ascend facility. In the vicinity of the Ascend facility in Brazoria County, the Gulf Coast Aquifer is subdivided into two aquifers capable of producing fresh water: the Chicot Aquifer and the Evangeline Aquifer. Together, the Chicot and Evangeline aquifers extend from the surface to a depth of approximately 4,300 feet below ground surface (bgs) in the vicinity of the Ascend facility (see Figure II.1.3; Young et al., 2012).

Beneath the Ascend facility, the Chicot Aquifer is composed of two distinct water-producing units, separated by a clayey bed, designated the Upper and Lower Chicot Aquifers (Sandeen and Wesselman, 1973). The Chicot extends from the surface to a depth of approximately 1,600 feet bgs in the vicinity of the Ascend facility (Young et al., 2012). The Chicot is dominantly a confined aquifer in the vicinity of the Ascend facility, although locally the uppermost portion can be unconfined (Sandeen and Wesselman, 1973).

The Evangeline Aquifer, corresponding to the Goliad and Upper Lagarto formations, is a series of alternating sands and clays occurring within the approximate depth interval of 1,600 to 4,500 feet bgs. In the vicinity of the Ascend facility, no fresh water, as defined by a total dissolved solids (TDS) content of less than 1,000 mg/L, is present within the Evangeline Aquifer. Less than 20% of the groundwater in the Evangeline aquifer has TDS content of less than 3,000 mg/L in the proximity of the Ascend facility (Young et al., 2012). The Evangeline is a confined aquifer in the Ascend Chocolate Bayou plant area.

6.3 Prevention of Releases to Groundwater

6.3.1 Prevention of Releases to Groundwater from Storage and Processing Units

Hazardous waste storage and processing units at the Ascend facility have been constructed with secondary containment in accordance with federal and Texas regulatory requirements for container storage areas, tanks, and miscellaneous units to prevent release of hazardous constituents to groundwater. These units are inspected on a regular basis for evidence of spills, leaks, and deterioration as required by the provisions of the Ascend Hazardous Waste Permit.

Ascend remedies any deterioration or malfunction of equipment or structures, which the inspection reveals on a schedule that ensures the problem does not lead to an environmental or human health hazard. Where a hazard is imminent or has already occurred, remedial action will be taken as soon as practicable.

6.3.2 Prevention of Releases to Groundwater from Disposal Units

The Ascend landfills (Closed Landfill, Active Landfill, and proposed New Landfill) have been designed and/or constructed with bottom liners, leachate collections systems, and engineered cover systems that effectively contain the wastes within each unit and prevent release of hazardous constituents to groundwater. The Active Landfill and proposed New Landfill have been constructed in accordance with Minimum Technological Requirements (MTR) and have a double liner with leachate collection and detection systems. Each of the Ascend landfills has a groundwater detection monitoring program designed in accordance with applicable regulatory requirements and the Ascend Hazardous Waste Permit. No release of hazardous constituents to shallow groundwater has occurred from these units.

Stratum II represents the uppermost groundwater-bearing unit (GWBU) beneath the Ascend property. Stratum II is separated from the Ascend landfills by a clay layer (Stratum I) that is approximately 10-15 ft thick below the Closed Landfill, and 20-25 ft thick beneath the Active Landfill and proposed New Landfill.

6.3.3 Response to Release to Groundwater from Closed IWPF Surface Impoundments

A groundwater corrective action program has been implemented at the Closed IWPF Surface Impoundments based on a confirmed detection of hazardous organic and inorganic constituents exceeding background levels within shallow groundwater (Stratum II) beneath the unit. Based on an evaluation of concentration trends and

hydrogeologic conditions, plume constituent concentrations were found to have stabilized at relatively low levels within the boundaries of the Ascend facility, and with no free phase-product detected. A groundwater corrective action program using Monitored Natural Attenuation (MNA) has been implemented for this unit in accordance with the Compliance Plan provisions of the Ascend Hazardous Waste Permit.

Finding: Hazardous waste management units at the Ascend facility have been designed and/or constructed with secondary containment or liners and leachate collection systems designed to prevent the release of hazardous constituents to groundwater, are separated from the uppermost GWBU by a clay layer at least 10-ft thick, and meet the criterion of 30 TAC §335.204(e)(4). A groundwater corrective action program has been successfully implemented to address a release to groundwater from the Closed IWPF Surface Impoundments.

7.0 SHALLOW SOIL CHARACTERISTICS

7.1 Regulatory Requirements

"A storage or processing facility (excluding storage surface impoundments) may not be located in areas where soil unit(s) within five feet of the containment structure have a Unified Soil Classification of GW, GP, GM, GC, SW, SP, or SM, or a hydraulic conductivity greater than 1E-05 cm/sec unless: (A) secondary containment is provided to preclude migration to groundwater or surface water from spills, leaks or discharges; or (B) the soil unit is not sufficiently thick and laterally continuous to provide a significant pathway for waste migration." (30 TAC 335.204(a)(5))

"A landfill may not be located in areas where soil unit(s) within five feet of the containment structure have a Unified Soil Classification of GW, GP, GM, GC, SW, SP, or SM, or a hydraulic conductivity greater than 1E-05 cm/sec unless: (A) it is in an area where the average annual evaporation exceeds average annual rainfall by more than 40 inches; or (B) the soil unit is not sufficiently thick and laterally continuous to provide a significant pathway for waste migration." (30 TAC §335.204(e)(5))

7.2 Waste Storage and Processing Units

Waste storage and processing units (i.e., Outdoor Container Storage Area, proposed Outdoor Container Storage Area 2, IWPF Tanks, AN Boilers, and SHU) are located among or near the manufacturing areas within the developed central portion of the facility. These units have been constructed with secondary containment that precludes the migration of hazardous constituents to groundwater or surface water from potential leaks or spills. In addition, the container storage areas, tanks, and thermal desorption unit have all been designed and constructed to comply with federal (40 CFR Part 264) and state (30 TAC Chapter 335 Subchapter F) regulatory requirements for secondary containment for collecting and holding spills, leaks, and precipitation.

7.3 Land-Based Waste Management Units

7.3.1 Shallow Stratigraphy beneath the Ascend facility

The Ascend facility is underlain by a sequence of unconsolidated sediments consisting of low-permeability clays interbedded with more permeable water-bearing silts and sands. Shallow stratigraphy from 0 to 140 ft bgs beneath the waste disposal units consists generally of the following stratigraphic units:

Exhibit 2: Shallow stratigraphy beneath land-based units.

Stratigraphic Unit	Lithologic Description	Active Landfill and New Landfill		Closed Landfill		Closed IWPF Surface Impoundments	
		Depth Interval (ft bgs)	Hydraulic Conduc-tivity (cm/sec)	Depth Interval (ft bgs)	Hydraulic Conduc-tivity (cm/sec)	Depth Interval (ft bgs)	Hydraulic Conduc-tivity (cm/sec)
I. Surface Clay	Mottled brown and gray CLAY (CH, CL)	0 - 45	7.50E-08	0 - 40	8.2E-08	0 - 30	2.7E-05
II. Upper Sand	Tan to gray, silty, fine SAND (SM, SC)	10 - 60	2.00E-06	5 - 60	1.1E-04	20 - 85	6.8E-04
III. Lower Clay	Gray CLAY, silty in part (CH, CL)	60 - 70	–	50-125+	1.4E-08	85 - 115	7.1E-10
IV. Lower Sand	Gray, silty, fine SAND (SM)	70 - 110	–	NP	–	115 - 140	–
V. Base Clay	Gray CLAY (CH)	85 -125	–	NP	–	140+	3.2E-09
VI. Silty Sand	Silty SAND (SM)	97+	–	NP	–	NP	–

Notes:
1. Stratigraphic data summarized from information provided in Monsanto, 1985, and Section VI Geology Report of this application. Depth intervals for each stratum represent the maximum and minimum depths of these strata as observed in soil borings located in the general vicinity of the units.
2. Geotechnical values are mean values of datasets.
3. NP = Not penetrated. bgs = Below ground surface. – No data available.

None of the stratigraphic units underlying the Ascend landfill units are classified as gravel soils (i.e., USCS designations of GW, GP, GM, or GC). Sand-dominant soils (i.e., USCS designations of SM, SC) are present at depths of greater than 5 ft beneath the base of the waste in the land-based units. (See cross-sections for the Active Landfill, Closed Landfill, and New Landfill in the Section VI Geology Report and cross-sections for the Closed IWPF Surface Impoundments in Attachment XI.2 of the Section XI Compliance Plan).

Finding: Waste storage processing and storage units have been constructed with secondary containment that precludes the migration of hazardous constituents to groundwater or surface water from potential leaks or spills, thereby meeting the criteria of 30 TAC §335.204(e)(5). In general, units are underlain by at least 5 feet of surficial clay. Moreover, land-based units are constructed or designed with at least a 5-ft separation between the base of the waste and the shallowest unit having a USCS classification of SM or SC, thereby meeting the criteria of 30 TAC §335.204(e)(5).

8.0 LAKES USED FOR PUBLIC WATER SUPPLIES

8.1 Regulatory Requirements

"A storage or processing facility (excluding storage surface impoundments) may not be located in areas of direct drainage within one mile of a lake at its maximum conservation pool level, if the lake is used to supply public drinking water through a public water system, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from a release in such areas." (30 TAC 335.204(a)(6))

"A landfill may not be located in areas of direct drainage within one mile of a lake at its maximum conservation pool level, if the lake is used to supply public drinking water through a public water system, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from a release in such areas." (30 TAC §335.204(e)(8))

8.2 Public Water Supplies Near the Ascend Facility

No lakes or other surface water bodies used for public drinking water supply are located within one mile of the Ascend facility. Public water supply systems in Brazoria County, Texas obtain drinking water from groundwater and purchased surface water systems including the Brazos River, Chocolate, Mustang, and Hall bayous, and the Gulf Coast Aquifer (Region H WPG, 2020). In addition, drainage from the Ascend facility is discharged to Chocolate Bayou under the Texas Pollutant Discharge Elimination System (TPDES) Permit Nos. TXR05BQ25 and WQ0000001000. Chocolate Bayou discharges into Chocolate Bay, and neither Chocolate Bayou nor Chocolate Bay are used for public water supply downstream of the Ascend facility (TCEQ, 2024).

Finding: The Ascend facility is not located within one mile of a lake used to supply public drinking water, and therefore the hazardous waste units meet the criterion of 30 TAC 335.204(a)(6) and 335.204(e)(6).

9.0 ACTIVE GEOLOGIC PROCESSES

9.1 Regulatory Requirements

"A storage or processing facility (excluding storage surface impoundments) may not be located in areas of active geologic processes unless the design, construction, and operational features of the facility will prevent adverse effects resulting from the geologic processes." (30 TAC 335.204(a)(7))

"A landfill may not be located in areas of active geologic processes unless the design, construction, and operational features of the facility will prevent adverse effects resulting from the geologic processes." (30 TAC §335.204(e)(9))

"A storage or processing facility may not be located within 30 feet of the upthrown side or 50 feet of the downthrown side of the actual or inferred surface expression of a fault that has reasonably been shown to have caused displacement of shallow Quaternary sediments or of man-made structures, unless the design, construction, and operational

features of the facility will prevent adverse effects resulting from fault movement." (30 TAC §335.204(a)(9))

"A landfill may not be located within 30 feet of the upthrown side or 50 feet of the downthrown side of the actual or inferred surface expression of a fault that has reasonably been shown to have caused displacement of shallow Quaternary sediments or of man-made structures, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from fault movement." (30 TAC §335.204(e)(13))

Active geological processes in the region that could hypothetically impact the hazardous waste management units at the Ascend facility include the following: erosion, subsidence and submergence, faulting associated with sediment loading/gravity tectonics or salt domes, and earthquakes. As documented below, none of these geologic processes will adversely impact the capacity of the Ascend hazardous waste management units to prevent a release of hazardous constituents.

9.2 Erosion

9.2.1 Erosion Due to Rainfall

The potential for erosion by surface runoff is considered negligible, since the surface in the vicinity of and within the hazardous waste units is covered by concrete surfaces, roads, vegetation, and/or clayey soils that diminish the effects of erosion. Regular maintenance of protective measures along Chocolate Bayou, concrete surfaces, roads, and secondary containment areas ensure that erosion continues to be negligible. The surface relief is nearly flat except for the area directly adjacent to Chocolate Bayou, so surface runoff will not have the velocity to cause erosion.

An evaluation of the engineered covers of the Ascend disposal units has determined that the potential for erosion is negligible for the Active Landfill, Closed Landfill, Closed IWPF Surface Impoundments, and the proposed New Landfill. Calculations completed using the Universal Soil Loss Equation (USLE; USDA, 1976) to estimate the erosion potential for the covers determined a maximum erosion rate of 3.3E-04 feet per year (GSI, 2001). The USLE estimates erosion rates as a function of cover area, materials of construction, rainfall, and surface vegetation. Based on calculated erosion rates, the disposal unit covers will maintain adequate thickness (i.e., ≥2 ft) for the 30-year post-closure care period (GSI, 2001). Ascend manages erosion of the final disposal unit covers and the side slopes by design of the covers with a 2 – 5% grade to minimize erosion effects, visual inspection of the disposal units, repair of identified problems, and provision of financial assurance for long-term control and maintenance of the disposal units.

Finding: The potential for surficial erosion of the Ascend disposal unit covers by rainfall runoff is considered negligible; therefore, these units meet the criterion of 30 TAC §335.204(e)(9).

9.2.2 Erosion from Alluvial Flooding and Meandering Rivers

Hazardous waste management units at the Ascend facility have not been impacted by alluvial flooding and stream meandering. Although the Ascend facility lies adjacent to

Chocolate Bayou, erosion associated with fluvial processes (i.e., meandering and bank undercutting) is not expected, as meandering of the Chocolate Bayou channel has been curtailed by routine maintenance dredging by the USACE (USACE, 2012). Maintenance dredging of the channel occurs approximately every four years to ensure navigability of the waterway (USACE, 2012).

Distances from the disposal units to Chocolate Bayou range from approximately 2,400 ft for the Closed IWPF Surface Impoundments to almost two miles for the Active and New Landfills. Given these distances, potential erosion of the disposal units as a result of stream meandering and bank undercutting is negligible.

Finding: The potential for erosion of the Ascend disposal unit covers by the fluvial processes of flooding and stream meandering is considered negligible; therefore, these units meet the criterion of 30 TAC §335.204(e)(9).

9.3 Subsidence and Submergence

Investigations conducted near the Ascend facility suggest that little subsidence has occurred in the vicinity of the plant. The subsidence reported in the area of the Ascend facility was approximately 1 foot in the 73-year period from 1906 to 1978. Furthermore, between 1978 and 2020, subsidence was reported to be less than 0.5 feet (Ellis et al., 2023; see Figures VI.A.2 and VI.A.3 in Section VI.A of this application). Effects from subsidence are not expected to impact the hazardous waste management units at the Ascend facility.

Land surface subsidence in the broader Gulf Coast Region has primarily been a consequence of the groundwater pumping and withdrawal that began mostly in the early twentieth century, as well as from the withdrawal of oil and gas and associated groundwater. The approximate subsidence reported from the region ranges from less than 1 ft to a maximum of over 10 ft for the period of 1906 to 1921 (Ellis et al., 2023). The maximum reported subsidence was in the Pasadena Ship Channel area, 40 miles northeast of the Ascend facility. However, regional subsidence has slowed significantly following reduction of groundwater withdrawal in the areas of greatest subsidence (Ellis et al., 2023); therefore, regional subsidence is not anticipated to impact the Ascend facility's hazardous waste management units.

Finding: Subsidence is not expected to impact the Ascend facility's hazardous waste management units.

9.4 Faulting

As discussed in Section VI.A.1.a of Section VI.A of this application, no evidence of surface or near-surface faulting has been identified at the Ascend facility. Available evidence pertaining to faulting in the area includes both published studies and site-specific data collection efforts regarding both salt domes and faults (Everett and Reid, 1981; St. Clair et al., 1975; Monsanto, 1985).

Faulting in the Texas Gulf Coast region are products of either i) the upward movement of salt or shale diapirs (domes), or ii) growth faults associated with depositional loading of older, poorly consolidated strata and gulfward creep of the sediment mass.

The Ascend plant is located approximately 7 miles north of the Hoskins Mound salt dome and approximately 7 miles east of the Danbury Dome. No other salt domes or their associated faulting are present near the Ascend facility.

Active or potentially active faults or lineaments have been mapped crossing the Ascend facility within or near the Ascend facility based on lineament or grain displayed on available aerial photographs (See Figure II.1.4; Fisher et al., 1972). In order to confirm the presence or absence of such faults, investigations were conducted at the Ascend facility that consisted of: i) reviewing electric logs and previous faulting studies conducted in the area; ii) reviewing aerial photographs; and iii) field inspections of the plant area for evidence of faulting. These investigations concluded that there is no evidence of surface or near-surface faulting at the Ascend facility (Everett and Reid, 1981; Monsanto, 1985). The closest fault found to the Ascend site is located approximately 6,200 feet south of the facility; however, no displacement has been demonstrated to exist for this fault shallower than 2,000 feet depth (Envirocorp, 1996).

Finding: No evidence of active faulting has been identified sufficiently close to the Ascend facility to adversely affect the hazardous waste management units.

9.5 Earthquakes

The Texas coastal plain is classified as a Seismic Design Category A (i.e., lowest hazard) per the American Society of Civil Engineers Code (ASCE, 2024). Although over 300 surface faults have been identified in the nearby Houston, Texas, metropolitan area (Engelkemeir and Khan, 2008), the Houston metropolitan area (including Brazoria County) is located in a very low seismic potential zone (USGS, 2022). Faults in the Texas coastal plain generally do not release measurable amounts of seismic energy due to the lack of stress build-up in the rocks on opposing sides of faults. Consequently, there is little potential energy to be released in an earthquake, and consequently low seismic hazard risk. Engelkemeir and Khan (2008) note that fault motion by aseismic creep is inferred on active faults since there are no recorded earthquake epicenters in the Houston area. A review of seismic activity from 1 January 1976 through 30 May 2024, confirmed that no earthquakes above magnitude 2.5 were detected in Brazoria County during this historical period (USGS, 2024).

Finding: There is little or no potential energy to be released when movement occurs along Gulf Coast faults in the vicinity of the Ascend facility; therefore, no earthquake risk is present to the Ascend disposal units.

10.0 CRITICAL HABITAT

10.1 Regulatory Requirements

"A storage or processing facility may not be located in the critical habitat of an endangered species of plant or animal unless the design, construction, and operational features of the

facility will prevent adverse effects on the critical habitat of the endangered species." (30 TAC 335.204(a)(8))

"A landfill may not be located in the critical habitat of an endangered species of plant or animal unless the design, construction, and operational features of the facility will prevent adverse effects on the critical habitat of the endangered species." (30 TAC §335.204(e)(11))

10.2 Critical Habitat at the Ascend Facility

No critical habitat has been identified on the Ascend facility (USFWS, 2024b). Critical habitats are areas identified by the U.S. Fish & Wildlife Service as specific geographic areas that contain features essential for the conservation of a threatened or endangered species, and that require special management and protection.

As described above, waste processing and storage units (i.e., Outdoor Container Storage Area, Outdoor Container Storage Area 2, IWPF Tanks, AN Boilers, and Solids Handling Unit) are located among or near the manufacturing areas within the developed central portion of the facility. Waste disposal areas are located south of the central manufacturing area, in areas that are characterized as Gulf Coast Prairies and Marshes (TPWD, 2011). No threatened or endangered species have been observed in this area.

Finding: No critical habitat has been identified on the Ascend facility. The hazardous waste storage, processing, and landfill units present at the Ascend facility are not located in critical habitat and therefore meet the criterion of 30 TAC §335.204(a)(8) and 30 TAC §335.204(e)(11).

11.0 PUBLIC AREAS

11.1 Regulatory Requirements

"A landfill may not be located within 1,000 feet of an established residence, church, school, day care center, surface water body used for a public drinking water supply, or dedicated public park which is in use at the time the notice of intent to file a permit application is filed with the commission, or if no such notice is filed, at the time the permit application is filed with the commission. The measurement of distances required for a new hazardous waste landfill shall be taken from a perimeter around the proposed new hazardous waste landfill. The perimeter shall be not more than 75 feet from the edge of the proposed new hazardous waste landfill unit." (30 TAC §335.204(e)(6))

11.2 Residential and Public Developments Near the Ascend Facility

The Ascend facility encompasses approximately 2,500 acres and is bordered on the north by agricultural areas, to the east by agricultural areas, to the south by industrial facilities, and to the west by Chocolate Bayou. The undeveloped portions of the facility consist of approximately 1500 acres of pasture and woods, much of which is leased for cattle grazing.

The nearest residential development (i.e., Amsterdam) is located northwest of the Ascend property, across Chocolate Bayou, a distance of approximately 2 miles from the manufacturing area. According to The Texas State Handbook Online (2018), the population of Amsterdam was 193 in 2014. The nearest incorporated community is Liverpool, Texas, approximately 5 miles northwest of the Ascend facility, with a population of 404 residents in 2000 (Texas State Handbook Online, 2018). Several churches are located in Liverpool. Schools and daycare centers are located in Danbury (8.3 miles from Ascend) and Alvin (11 miles from Ascend).

Finding: The Ascend facility meets the criteria of 30 TAC §335.204(e)(6) pertaining to landfills not being located within 1,000 ft of established residences, churches, schools, day care centers, and surface water bodies used for a public drinking water supply (see also Section 8.2 above).

12.0 COASTAL SHORELINE EROSION

"A landfill may not be located within 1,000 feet of an area subject to active coastal shoreline erosion, if the area is protected by a barrier island or peninsula, unless the design, construction, and operational features of the facility will prevent adverse effects resulting from storm surge and erosion or scouring by water." (30 TAC §335.204(e)(10))

The Ascend facility is located on approximately 2,500 acres in Brazoria County, Texas. The Gulf of Mexico is approximately 12 miles from the Ascend facility. Chocolate Bay is located about five to six miles from the Ascend facility.

Finding: The Ascend facility is located at a distance greater than 1,000 ft of an active coastal shoreline erosion area and meets the criterion of 30 TAC §335.204(e)(10).

13.0 BARRIER ISLANDS AND PENINSULAS

"A landfill may not be located on a barrier island or peninsula." (30 TAC §335.204(e)(12))

The Ascend facility is located on approximately 2,500 acres of land in Brazoria County, Texas. The hazardous waste management units owned and operated by Ascend are located on the plant property and not on a barrier island or peninsula.

Finding: Landfills at the Ascend facility are not located on a barrier island or peninsula, and therefore meet the criterion of 30 TAC §335.204(e)(12).

14.0 ADDITIONAL INFORMATION

14.1 Land Disposal Unit Documentation

"For existing land disposal facility units provide documentation that the information required by 30 TAC 335.5 has been placed in the county deed records. If previously submitted, please reference the submittal by date and registration number." (TCEQ Part B Application Rev. 3/1/2023, II. Facility Siting Criteria, Item G.6)

Information has been filed in the Brazoria County deed records for each hazardous waste management unit that has been used for land disposal of wastes at the Ascend facility (i.e., the Closed Landfill, the Active Landfill, the Closed IWPF Surface Impoundments, and Solid Waste Management Units (SWMUs); see Attachments II.1.2 – II.1.5 in this application). The information placed in the county deed records includes: i) a metes and bounds description of the land on which disposal occurred; ii) a description of the wastes disposed; and iii) contact information where further information may be obtained.

14.2 Exposure Information: Landfills

"If a surface impoundment or landfill (including post-closure) is to be permitted, provide exposure information to accompany this application and in accordance with 30 TAC 305.50(a)(8) and 40 CFR 270.10(j). This information will be considered separately from the TCEQ application completeness determination." (TCEQ Part B Application Rev. 3/1/2023, II. Facility Siting Criteria, Item G.7)

14.2.1 General Exposure Prevention

As a primary means of preventing on-site public exposure, Ascend has implemented procedures to prevent unauthorized access to the facility (see the Security Plan in Section III of this application). Access to the facility is monitored and controlled on a 24-hour basis by on-site security personnel. Perimeter fencing prevents unauthorized access to the active portion of the plant. The Closed Landfill (Permit Unit 01) and Closed IWPF Surface Impoundments (Permit Unit 03) are located in plant operating areas that require persons entering these areas to pass through the unit/department control room. The Active Landfill (Permit Unit 02) and New Landfill (Permit Unit 16) are surrounded by secured perimeter fencing, including a gate with a lock.

14.2.2 Air and Soil Exposure Prevention

No surface soils containing hazardous constituents are exposed at the Ascend landfills. Final disposal unit soil covers or caps and side slopes have been designed to minimize erosion effects, and are visually inspected on a monthly basis for evidence of deterioration, cracks, cave-ins, and ponding. As described in Section 14.1 of this report above, closed disposal areas have been deed recorded to indicate the location and dimensions of the closed landfill area with respect to permanently surveyed benchmarks.

During disposal operations, unit procedures to minimize exposure include: i) operating only one cell at a time to limit the area of potential waste exposure; ii) managing wastes to avoid producing particulates or vapors; and iii) excluding wastes containing free liquids from the landfill. Standard operating procedures prevent on-site or off-site exposures to hazardous constituents via inhalation of volatile vapors or ingestion of windborne dust or particulates resulting from spills or releases of waste materials. Preventive measures include: i) a long distance to the nearest residence (i.e., more than 2 miles); ii) unit operating procedures that provide for precautions to limit the number of spills or releases; and iii) emergency response procedures that call for immediate clean-up of any releases.

14.2.3 Groundwater Exposure Prevention

The Ascend landfills (Closed Landfill, Active Landfill, and proposed New Landfill) have been designed and/or constructed with bottom liners, leachate collections systems, and/or engineered cover systems that effectively contain the wastes within each unit and prevent release of hazardous constituents to groundwater. The Active Landfill has been constructed in accordance with MTR and has a double liner with leachate collection and detection systems. Comparable plans are in place for the proposed New Landfill. Each of the Ascend landfills, including the Closed Landfill, has a groundwater detection monitoring program designed in accordance with applicable regulatory requirements and the Ascend hazardous waste permit. No release of hazardous constituents to shallow groundwater has occurred from these units.

A groundwater corrective action program has been implemented at the Closed IWPF Surface Impoundments pursuant to a confirmed detection of hazardous organic and inorganic constituents exceeding background levels within shallow groundwater (Stratum II) beneath the unit. Based on an evaluation of concentration trends and hydrogeologic conditions, plume constituent concentrations were found to have stabilized at relatively low levels within the boundaries of the Ascend facility and with no free phase-product detected. A groundwater corrective action program using MNA has been implemented for this unit in accordance with the Compliance Plan provisions of the Ascend Hazardous Waste Permit No. 50189.

14.2.4 Surface Water Exposure Prevention

The potential for release of wastes or waste constituents to surface water as a result of facility operations is low due to the facility's operating practices and its location. Surface water and flood protection is provided by the diversion of run-on and run-off to prevent inundation during periods of intense precipitation. Stormwater management and run-on and run-off controls utilized by the facility are described further in the engineering reports for each hazardous waste management unit included in Section V of this application.

As described in Section 3.3 of this report, Ascend has implemented flood control protection measures to prevent transport of hazardous waste in the event of a 100-yr flood event. Ascend's hazardous waste landfills and the Closed IWPF Surface Impoundments are located in areas where predicted flood depths are less than 1 ft. In addition, the banks for the landfill cells at the Active Landfill (Permit Unit 02) and New Landfill (Permit Unit 16) have a minimum nominal height of 8 ft above natural grade around each landfill cell. The predicted 100-yr flood elevation is 14 ft MSL in the vicinity of this unit, and top-of-landfill cell bank elevations range from 20 to 21 ft MSL. Therefore, the banks of the landfill cells are a minimum of 5 ft higher than expected water levels during a 100-yr flood event.

15.0 REFERENCES

American Society of Civil Engineers (ASCE), "2024. ASCE 7 Hazard Tool", Internet: https://asce7hazardtool.online/; accessed 30 May, 2024.

Ellis, J.H., Knight, J.E., White, J.T., Sneed, M., Hughes, J.D., Ramage, J.K., Braun, C.L., Teeple, A., Foster, L., Rendon, S.H., and Brandt, J., 2023, Hydrogeology, land-surface subsidence, and documentation of the Gulf Coast Land Subsidence and Groundwater-Flow (GULF) model, southeast Texas, 1897–2018: U.S. Geological Survey Professional Paper 1877, 407 p.

Engelkemeir, R.M., and S.D. Khan, 2008. *Lidar mapping of faults in Houston, Texas USA,* Geological Society of America, Geosphere; February 2008; v. 4; no. 1; p. 170–182; doi: 10.1130/GES00096.1.

Envirocorp, 1996. "Waste Disposal Well No. 13 Permit Renewal Application, Monsanto Company, Alvin, Texas," Envirocorp Services and Technology, Inc., Houston, Texas, Envirocorp Project No. 10A3786, March 1996.

Everett, J.R., and W.M. Reid, 1981. "Active Faults in the Houston Texas Area as Observed on Lansat Imagery," in Houston Area Environmental Geology: Surface Faulting, Ground Subsidence, Hazard Liability, Houston Geological Society, pp. 15-22.

FEMA, 2020. Flood Insurance Rate Maps, Brazoria County, Texas, and Incorporated Areas, Panels 315, 320, and 480, Map Numbers 48039C0315K, 48039C0320K, and 48039C0480K, Federal Emergency Management Agency, 30 December 2020.

Fisher, W.L., J.R. McGowen, L.F. Brown, Jr., and C.G. Groat, 1972. *Environmental Geologic Atlas, Texas Coastal Zone, Galveston-Houston Sheet,* The University of Texas, Bureau of Economic Geology.

GSI, 2001. Solutia Response to Second Technical Notice of Deficiency (NOD), Radioactive Material License (RML) Renewal Application, RML No. RW-0219, Solutia Inc., Alvin, Texas, GSI Environmental Inc., Houston, Texas, November 30, 2001.

Monsanto, 1985, "RCRA Permit Application Submittal," Monsanto Company, Alvin, Texas, 1985.

Region H Water Planning Group, 2020. 2021 Regional Water Plan. Prepared for the Texas Water Development Board. October 2020.

Sandeen, W. M., and Wesselman, J. B., 1973. Ground-Water Resources of Brazoria County, Texas, Texas Water Development Board, Report 163, February 1973 (reprinted December 1982).

St. Clair, A.E., Proctor Jr., C.V., Fisher, W.L., Kreitler, C.W., and J.H. McGowen, 1975. Land Resource Laboratory Map Sheets, The University of Texas, Bureau of Economic Geology.

TCEQ, 2024. Texas Water Rights Viewer. Updated February 15, 2024, https://tceq.maps.arcgis.com/home/item.html?id=44adc80d90b749cb85cf39e04027dbdc

Texas State Handbook Online, 2018. www.tshaonline.org, accessed 10 June 2024.

TPWD, 2011. Natural Regions of Texas. Texas Parks & Wildlife Department. 28 January 2011, https://tpwd.texas.gov/publications/pwdpubs/media/pwd_mp_e0100_1070t_08.pdf

USACE, 2009. SWG-2006-01980, Jurisdictional Determination, Four Active Borrow Pits, Solutia Incorporated, Solutia Chocolate Bayou Facility, Southern Brazoria County, Texas, Department of the Army, Galveston District, Corps of Engineers, Galveston, Texas, 7 July 2009.

USACE, 2012. Chocolate Bayou (DMMP), TX. Fact Sheet as of February 21, 2012. U.S. Army Corps of Engineers – Galveston (SWG) District. 21 February 2012.

USDA, 1976. Erosion and Sediment Control Guidelines for Developing Areas in Texas, United States Department of Agriculture Soil Conservation Service, 1976.

USEPA, 2024. *Map of Sole Source Aquifers Locations,* Internet: https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=9ebb047ba3ec41ada1877155fe31356b; accessed 6 June 2024.

USFWS, 2024a. National Wetlands Inventory, U.S. Fish and Wildlife Survey, Internet, https://fwsprimary.wim.usgs.gov/wetlands/apps/wetlands-mapper/, accessed by Banks Environmental Data 13 May 2024.

USFWS, 2024b. Critical Habitat for Threatened and Endangered Species Map Viewer, U.S. Fish and Wildlife Survey, Internet, https://ecos.fws.gov/ecp/report/table/critical-habitat.html, accessed 7 June 2024.

USGS, 2022. National Seismic Hazard Model, United States Geological Survey, Updated 9 March 2022. https://www.usgs.gov/programs/earthquake-hazards/science/national-seismic-hazard-maps#overview

USGS, 2024. United States Geological Survey Earthquake Catalog Online. https://earthquake.usgs.gov/earthquakes/search/, accessed 30 May 2024.

Young, S.C., Ewing, T., Hamlin, S., Baker, E., and D. Lupton, 2012. Final Report – Updating the Hydrogeologic Framework for the Northern Portion of the Gulf Coast Aquifer. Texas Water Development Board, June 2012, 285 p.

GSI Job No. 6932

Hazardous Waste Permit Renewal Application
Ascend Performance Materials Texas Inc., Alvin, Texas

Hazardous Waste Permit No. 50189

Response to TCEQ Technical NOD#2

Part B, Section III – Table III.D

Table III.D – Inspection Schedule

Facility Unit(s) and Basic Elements	Possible Error, Malfunction, or Deterioration	Frequency of Inspection
Closed Landfill (Permit Unit 01)	• Access and Perimeter Roads: Impeded access to groundwater monitoring wells and cap • Signs: Missing or illegible • Final Cover (including banks of landfill): Erosion, burrows, settlement/subsidence, ponded water, deep-rooted plans growing on cap • Site Drainage: Perimeter ditches contain blockages, slope not routing run-off off cap • Groundwater Monitoring Wells: Damage to well caps, surface casings, protective pads, or guard posts; wells not secured, wells deteriorating (e.g., silting in) • Elevation Benchmarks: Settlement or subsidence of landfill cap	Semiannually
	• Leachate Collection System: Evidence of excess leachate presence, evidence of malfunction	Monthly
Active Landfill (Permit Unit 02)	• Wind Dispersal Control: Deterioration, erosion • Run-On/Run-Off Control Systems: Deterioration, obstructions, erosion, slumping, animal burrows • Leachate Collection and Leak Detection Systems: Evidence of malfunction, amount of liquids removed greater than Action Leakage Rate (ALR).	Weekly and after storm events (active cell only)
	• Cap: Deterioration, cracks, cave-in, ponding • Banks: Deterioration, cracks, cave-in • Leachate Collection and Leak Detection Systems: Evidence of malfunction, amount of liquids removed greater than ALR	Weekly (closed cells only)

Facility Unit(s) and Basic Elements	Possible Error, Malfunction, or Deterioration	Frequency of Inspection
Closed IWPF Surface Impoundment (Permit Unit 03)	• Access and Perimeter Roads: Impeded access to groundwater monitoring wells and cap • Security Fencing and Signs: Missing or illegible • Final Cover: Erosion, burrows, settlement/subsidence, ponded water, deep-rooted plans growing on cap • Site Drainage: Perimeter ditches contain blockages, slope not routing run-off off cap • Groundwater Monitoring Wells: damage to well caps, surface casings, protective pads, or guard posts; wells not secured, wells deteriorating (e.g., silting in) • Elevation Benchmarks: settlement or subsidence of landfill cap	Semiannually
IWPF Tanks (Permit Units 08 and 09)	• Overfill Control Equipment: Malfunction • Above Ground Tank Exterior: Corrosion, leaks • Data Gathered from Monitoring and Leak Detection Equipment: tank system malfunction • Tank Construction Materials and Area Immediately Surrounding Externally Accessible Portion of Tank System: Corrosion, erosion or signs of release (e.g., wet spots) • Secondary Containment: Cracks, corrosion, deterioration • Secondary Containment Area: Accumulated precipitation • Piping and Valves: Leaks, corrosion	Daily
	• Corrosion (Cathodic) Protection System: Readings from electrical resistance probes indicate corrosion rate has exceeded allowable rate for tank design thickness	Monthly
	• Cathodic Protection System: Inspect and confirm proper operation	Annually

Facility Unit(s) and Basic Elements	Possible Error, Malfunction, or Deterioration	Frequency of Inspection
AN Boilers 30H5 and 31H4 (Permit Units 11 and 12)	• Boilers, Pumps, Valves, and Piping: Presence of leaks, spills, fugitive emissions, evidence of tampering • CO and O_2 CEMS: Calibration check and system audit	Daily
	• Automatic Waste Feed Cutoff and Alarms: Operation malfunction	Weekly (when burning hazardous waste)
	• CO and O_2 CEMS: Calibration error test	Quarterly
	• CO and O_2 CEMS: Calibration drift test, response time test, and alternative relative accuracy test per 40 CFR Part 266, Appendix IX, Sections 2.1.9, 2.1.10.1, 2.1.4.2, and 2.1.4.5	Annual
Outdoor Container Storage Area (Permit Unit 13)	• Loading/Unloading Areas: Spills • Secondary Containment Area: Spills • Secondary Containment Area: Accumulated precipitation	Daily (during loading/unloading)
	• Storage Areas: Leaking containers • Containers: Deterioration, labels illegible	Weekly
New Landfill (Permit Unit 16; proposed)	• Wind Dispersal Control: Deterioration, erosion • Run-On/Run-Off Control Systems: Deterioration, obstructions, erosion, slumping, animal burrows • Leachate Collection and Leak Detection Systems: Evidence of leachate presence, evidence of malfunction, amount of liquids removed greater than Action Leakage Rate (ALR)	Weekly and after storm events (active cell only)
	• Cap: Deterioration, cracks, cave-in, ponding • Banks: Deterioration, cracks, cave-in • Leachate Collection and Leak Detection Systems: Evidence of malfunction, amount of liquids removed greater than ALR	Weekly *(closed cells only)*

Facility Unit(s) and Basic Elements	Possible Error, Malfunction, or Deterioration	Frequency of Inspection
Solids Handling Unit Filtrate Tank 1; Decant Tank 2; Mix Tanks 3, 4, 5, and 6 (Permit Unit Nos. 17-22)	• Overfill Control Equipment: Malfunction • Tank Exteriors: Corrosion, leaks • Data Gathered from Monitoring and Leak Detection Equipment: tank system malfunction • Tank Construction Materials and Area Immediately Surrounding Externally Accessible Portion of Tank System: Corrosion, erosion or signs of release (e.g., wet spots) • Secondary Containment: Cracks, corrosion, deterioration • Secondary Containment Area: Accumulated precipitation • Piping and Valves: Leaks, corrosion • Loading/Unloading Areas: Spills	Daily (when waste is being processed)
Outdoor Container Storage Area 2 (Permit Unit 23; proposed)	• Loading/Unloading Areas: Spills • Secondary Containment Area: Spills • Secondary Containment Area: Accumulated precipitation	Daily (during loading/unloading)
	• Storage Areas: Leaking containers • Containers: Deterioration, labels illegible	Weekly

Facility Unit(s) and Basic Elements	Possible Error, Malfunction, or Deterioration	Frequency of Inspection
Emergency Response/Safety Equipment	• Alarm Systems: Power failure, verified • Emergency Eyewash/Showers: Water pressure, leakage, drainage	Monthly
	• Fire Protection Equipment: Fire extinguishers.	Monthly
	• Spill Control Equipment, Stores Location: Absorbent socks/snakes, absorbent pads, and absorbent booms.	• Consumables are checked at least monthly and after each use • Equipment checked per manufacturer's specifications
	• Spill Control Equipment, Manufacturing and Process Areas (as needed for each area): Booms, absorbent material (kitty litter), absorbent socks/snakes, spill kits (comprised of Overpacks, plastic and metals drums, spill booms and pads, soda ash, vermiculite and kitty litter), soda ash (for neutralization), vacuum trucks, HAZMAT suits, PPE, caustic (for neutralization), water supply for removing neutralization agents.	• Consumables are checked at least monthly and after each use • Equipment checked per manufacturer's specifications
	• Decontamination Equipment: HAZMAT decon stations (comprised of water, scrubbers, collection vessels/buckets), soda ash/caustic for neutralization, soap, water supply, steam source, and high-pressure water.	• Consumables are checked at least monthly and after each use • Equipment checked per manufacturer's specifications
	• Self-Contained Breathing Apparatus: Tank empty, delivery system, quantity	Monthly/after use
	• Respirators/Gas Masks: Seals, valves, appropriate quantity and sizes	Annually, after use
Security	• Fence: Breach, damage • Gates: Damage, operable • Warning Signs: Deterioration, missing, illegible	Monthly

GSI Job No. 6932

Hazardous Waste Permit Renewal Application

Ascend Performance Materials Texas Inc., Alvin, Texas

Hazardous Waste Permit No. 50189

Response to TCEQ Technical NOD#2

Part B, Section V – Appendix V.C.1, Figures V.11.1, V.11.3, and V.11.4

"WORK SAFELY" 15 14 13 12 1 10 9 8 7 6 5 4 3 2 "WORK SAFELY"

NITROGEN
D-321FD-38B
FROM HEADER

PLANT AIR
D-321FD-84
FROM HEADER

DE IN BAGS

UTILITY WATER
D-321FD-110
FROM HEADER

COAGULANT
FROM TRUCK

150# STEAM
D-321FD-96
FROM HEADER

25% CAUSTIC
D-320FD-6A
FROM DISTRIBUTION

SLUDGE
D-331FD-9
FROM 331T5-1 & 2

POTABLE WATER
D-321FD-93
FROM HEADER

TO SAFETY SHOWERS AND DECON TRAILERS

331T18 DE MIX TANK
331P23 DE TRANSFER PUMP
331F12 331F13 CARBON BED FILTERS
ATM
331T21 AIR TANK
AIR SKID
331T19 COAGULANT TANK
331P21 COAGULANT PUMP
331X4 STATIC MIXER
331X5 STATIC MIXER
331P22 COAGULANT PUMP
COAGULANT DILUTION SKID
331T13 MIX TANK
331T14 MIX TANK
331T15 MIX TANK
331T16 MIX TANK
331P19 DECANT PUMP
PUMP SKID
331P13 FILTER PRESS FEED PUMP
331P14 FILTER PRESS FEED PUMP
331X7 STEAM/WATER MIXER
331T17 ACETIC ACID TOTE
331P20 ACETIC ACID PUMP
331P18 SUMP PUMP
331F11 FILTER PRESS
331M1 FILTER PRESS CONVEYOR
FILTER SKID
CONTAINMENT
331Z11 SUMP WATER TANK
331X3 PRECOAT EDUCTOR
331T20 PRECOAT TANK
331P16 PRECOAT PUMP (RENTAL)
331P17 PRECOAT MIX PUMP (RENTAL)
331T11 WASTEWATER TANK
331P15 WASTEWATER TRANSFER PUMP
DE IN BAGS
DUAL USE FILTRATE TO 332T1-1/2 & SLUDGE FROM 332T1-1/2 200 GPM
D-332FD-4
TO DITCH
331X6 EDUCTOR
331Z13 ROLL-OFF BIN
331Z12 FOR ROLL-OFF BOX CONTAINMENT
FILTER CAKE TO RCRA STORAGE

331M1	331F11	331Z13	331X3	331P21	331P13	331P14	331P15	331P16	331P17	331P18	331P19	331P23	331P22
FILTER PRESS CONVEYOR	FILTER PRESS	ROLL OFF BIN 25 CU. YD. (RENTAL)	PRECOAT EDUCTOR	COAGULANT PUMP 90 GPH 10 PSIG	FILTER PRESS FEED PUMP 100-600 GPM 10-40 PSIG	FILTER PRESS FEED PUMP 20-100 GPM 40-100 PSIG	WASTEWATER TRANSFER PUMP 100 GPM 20 PSIG	PRECOAT PUMP 1500 GPM 15 PSIG	PRECOAT MIX PUMP 250 GPM 20 PSIG	SUMP PUMP 200 GPM 25 PSIG	DECANT PUMP 200 GPM 20 PSIG	DE TRANSFER PUMP	COAGULANT PUMP 90 GPH 10 PSIG

331Z11	331Z12	331X4	331X5	331T21	331T18	331T19	331T20	331T13/14/15/16	331T11	331T17	331P20	331F12	331F13	331X6	331X7
SUMP WATER TANK	SUMP WATER TANK	STATIC MIXER	STATIC MIXER	AIR TANK	DE MIX TANK	COAGULANT TANK	PRECOAT TANK	MIX TANKS	WASTEWATER TANK	ACETIC ACID TOTE	ACETIC ACID PUMP	CARBON BED FILTER	CARBON BED FILTER	EDUCTOR	STEAM/WATER MIXER

STATE OF TEXAS
Basil Michaels
152322
LICENSED
PROFESSIONAL ENGINEER

REV	BY	DESCRIPTION	CHKD	APPD
0	J. SULLIVAN 4533 4/20		CNS	VVL
CEA	PHONE/DATE			

ASCEND PERFORMANCE MATERIALS LLC.
CHOCOLATE BAYOU PLANT
P.O. BOX 711
FM 2917
ALVIN, TEXAS 77512

ASCEND PERFORMANCE MATERIALS

COMPANY ASCEND | PLANT CHOCOLATE BAYOU

ECU DEPT. 331 PFD
SLUDGE TREATMENT

DRAWN BY:	J. SULLIVAN	APPROVED	DATE	APPROVED	DATE
PHONE/DATE	4533 4/20	LANIER	4/20		
CHKD/DATE	CNS 4/20	MULLER	4/20		

C.E.REG.	PLANT	DEPT	ZONE	TYPE	NUMBER	REV
TX21230 EWN3297	1046	D	331	FD	35	0

PLANT DRAWING NO.
D-331FD-35

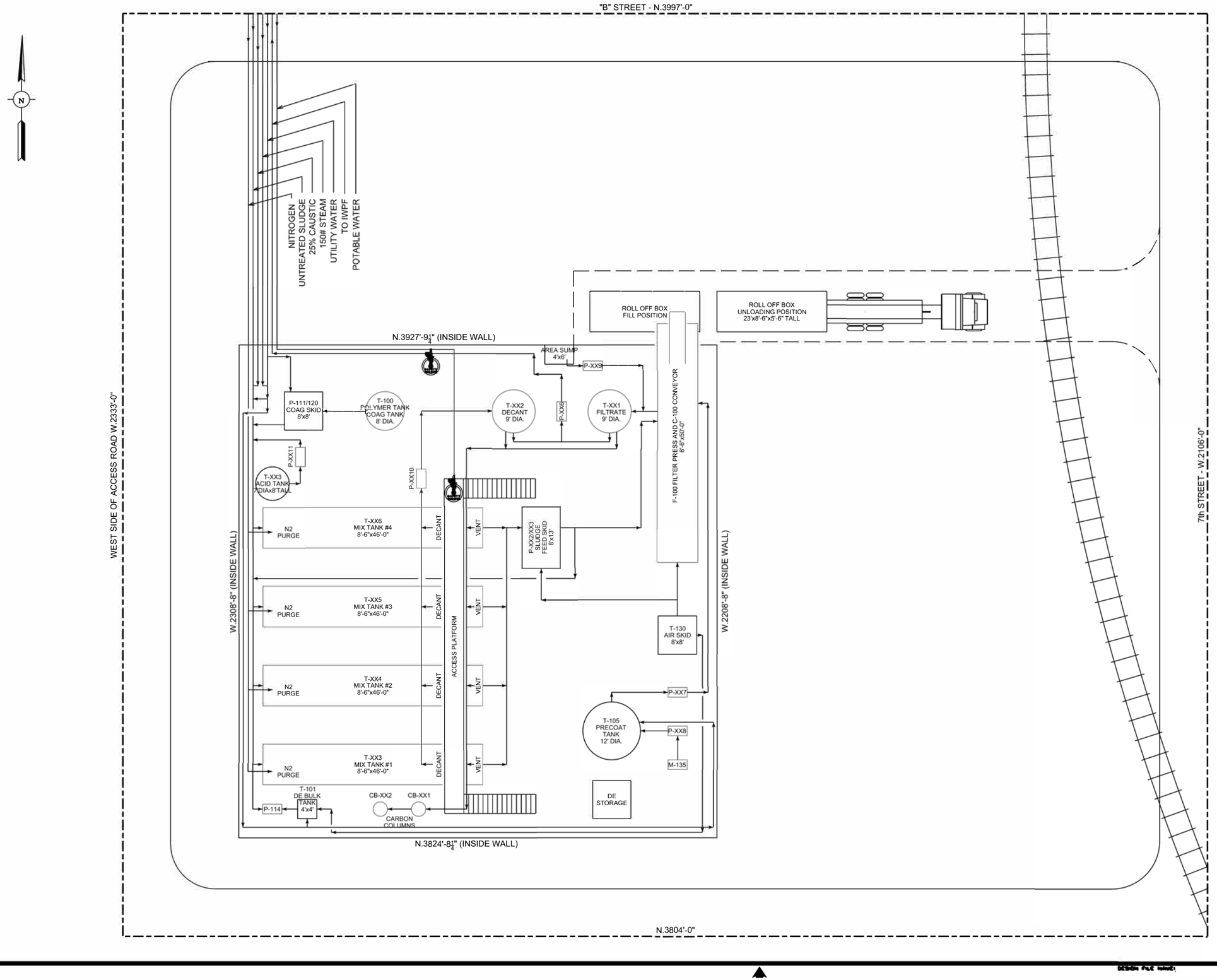
CAD FILENAME: DATE REV 8/98

SCALING RULES

331fd00035.dgn 6/14/2021 9:34:06 AM

Figure V.11.3
Ascend Performance Materials Texas Inc., Alvin, Texas
Hazardous Waste Permit No. 50189

This drawing is a pre-construction drawing and shows separate decant and filtrate tanks. However, the unit was constructed combining both tanks as shown in Figure V.11.1.



REV	CEA	BY	DESCRIPTION	CHKD
		PHONE	DATE	APPD

PLANT ENGINEERING DEPARTMENT
CHOCOLATE BAYOU PLANT
ALVIN, TEXAS 77512

ASCEND PERFORMANCE MATERIALS

COMPANY | PLANT

SLUDGE TREATMENT & DEWATERING SYSTEM
ECU - DEPARTMENT 331
GENERAL ARRANGEMENT

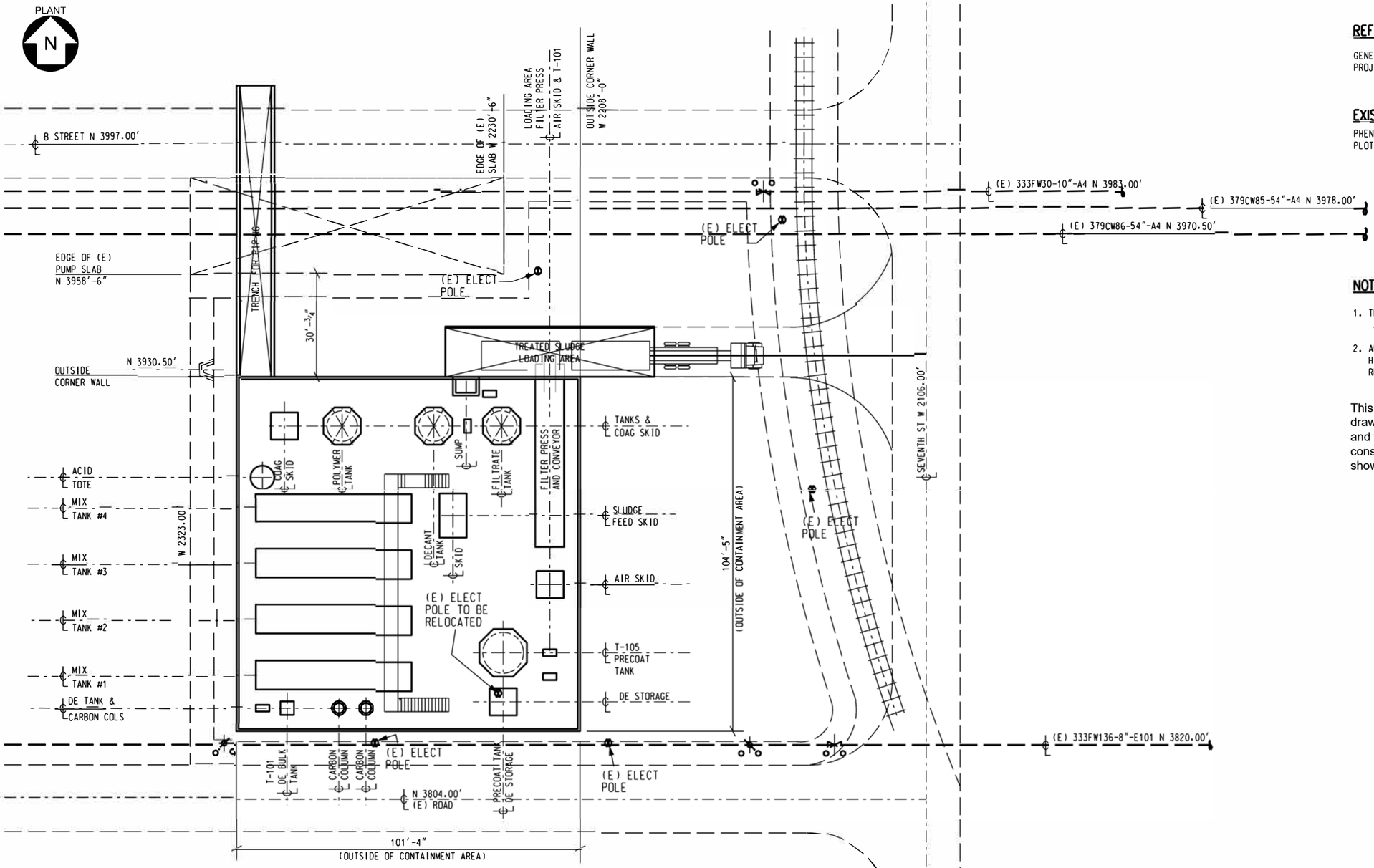
DRAWN BY:		APPROVED	DATE	APPROVED	DATE
PHONE/DATE					
CHKD/DATE					
SCALE	1" =10'-0"				

C.E.A.NO.	PLANT	SIZE	ZONE	TYPE	NUMBER	REV
		D				

PLANT DRAWING NO.
D-331GA-9

DESIGN FILE NAME: | PRINTS ISSUED TO FIELD BY | DATE | REV

PLOTTED ON AND AT: $$$$DATE&TIME$$$$ PLOTTED BY: $USER$



FOUNDATION LOCATION PLAN
SCALE: 1/16" = 1'-0"

REFERENCE DRAWINGS

GENERAL ARRANGEMENT	D331-GA-9
PROJECT LOCATION PLAN	D331-FO-PLOTPLAN

EXISTING REFERENCE DRAWINGS

PHENOL STORAGE AREA ADDITIONS	D-320 GP 63
PLOT PLAN CHEMICAL LOADING AND UNLOADING AREA	D-323 GP 3

NOTES

1. THE OVERALL THICKNESS OF THE SLAB SHALL BE SUFFICIENT TO SUPPORT ALL OF THE SKIDS AND EQUIPMENT.
2. ALL EQUIPMENT AND SKIDS SHALL BE ANCHORED USING "HILTI" HIT-HY 200 ADHESIVE ANCHORING SYSTEM PER MANUFACTURER'S RECOMMENDATIONS OR EQUAL APPROVED.

This drawing is a pre-construction drawing and shows separate decant and filtrate tanks. However, the unit was constructed combining both tanks as shown in Figure V.11.1.

REV	BY	DATE	DESCRIPTION	CHKD
A	JL SOLIS	08-14-19	ISSUED FOR PERMITTING	RG KWH
	CEA			APPD

ASCEND PERFORMANCE MATERIALS

ASCEND PERFORMANCE MATERIALS LLC.
CHOCOLATE BAYOU PLANT
P.O. BOX 711
FM 2917
ALVIN, TEXAS 77512

THIS DRAWING NOT VALID WITHOUT THE DATED SIGNATURE AND SEAL OF A TEXAS LICENSED ENGINEER.

TEXAS LICENSED ENGINEER:
KENNETH W. HEISNER, P.E.
LICENSE NUMBER: 115722

FOR PERMITTING PURPOSES ONLY
NOT FOR CONSTRUCTION

Texas Firm #8018
hargrove engineers+constructors
4005 Technology Dr Ste. 2000
Angleton, TX 77515
979.291.2080 - hargrove-epc.com

COMPANY	PLANT
ASCEND	CHOCOLATE BAYOU

SLUDGE TREATMENT & DEWATERING SYSTEM
EXISTING TANK FOUNDATION PLAN
OVERALL LOCATION PLAN

DRAWN BY:	JL SOLIS		APPROVED	DATE	APPROVED	DATE
PHONE/DATE	2315	08/12/19				
CHKD/DATE						
SCALE	1" = 1'-0"					

C.E.A.NO.	PLANT	SIZE	ZONE	TYPE	NUMBER	REV
TX21230	46	D	331	FO	XXXX	A

PLANT DRAWING NO.
D331-FO-LOCATIONPLAN

DESIGN FILE NAME: PRINTS ISSUED TO FIELD BY DATE REV

PLOTTED ON AND AT: $SSSS DATE&TIME $SSSS PLOTTED BY: $USERS