Notice of Meeting of the Port Commission of the Port of Corpus Christi Authority of Nueces County, Texas, on Tuesday, January 16, 2018, at 9:00 AM At the Solomon P. Ortiz International Center 402 North Harbor Drive, Corpus Christi, Texas

The Agenda for this meeting of the Port Commission ("Commission") of the Port of Corpus Christi Authority ("PCCA") is set forth below.

Persons with disabilities who plan to attend this meeting and who may need auxiliary aids or services are requested to contact Sherry DuBois at 885-6174 at least 48 hours in advance so that appropriate arrangements can be made.

Si usted se dirige a la junta y cree que su inglés es limitado, habrá un intéprete inglés español en la reunión de la junta para ayudarle.

Members of the audience will be provided an opportunity to address the Port Commission. Please speak into the microphone located at the podium and state your name and address. Your presentation will be limited to three minutes.

PUBLIC NOTICE is given that the Commission may go into executive session at any time during the meeting to discuss matters listed on the agenda when authorized to do so by the provisions of Section 418.183 or Chapter 551 of the Texas Government Code. In the event the Commission elects to go into executive session regarding any agenda item, the presiding officer will publicly announce the section or sections of the Texas Government Code authorizing the executive session.

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1. **Call to Order**
2. **Safety Briefing**
3. **Pledge of Allegiance**
4. **Invocation**
5. **Receive Conflict of Interest Affidavits**
6. **Minutes**

6.a. Approve minutes of the November 30, December 6 and December 12, 2017 Commission meetings.
November 30, 2017 - Minutes
December 6, 2017 - Minutes
December 12, 2017 - Minutes

7. Administer Oath of Office to Port Commissioners Charlie Zahn, Richard Bowers and Wayne Squires and elect officers of the Port Commission for 2018.

8. Standing and Special Commission Committees Appointments

8.a. Appointment of members and chairs of the following:

1) Audit Committee
2) Capital Finance Committee
3) Long-Range Planning Committee
4) Office Building Committee
5) Security Committee

9. Governing Boards and Committees of Outside Organizations

9.a. Appointment of PCCA's representatives on the following:

1) Coastal Bend Bays and Estuaries Program
2) Corpus Christi Regional Economic Development Corporation
3) Corpus Christi United Chamber of Commerce
4) Robstown Area Development Corporation
5) Robstown Improvement Development Corporation
6) San Patricio County Economic Development Corporation
7) South Texas Military Facilities Task Force

10. Public Comment - *(Each speaker is limited to 3 minutes)*

11. Standing Committee Reports

11.a. Receive Report from Audit Committee

11.b. Receive Report from Long-Range Planning Committee

11.c. Receive Report from Office Building Committee

11.d. Receive Report from Security Committee

11.e. Receive Report from the Capital Finance Committee

12. Presentations

13. Open Agenda

13.a. Approve Resolution for Raymond Cantu for 33 years of service.
Resolution of Appreciation - Ray Cantu

13.b. Approve a Resolution of Appreciation for the Corpus Christi Port Readiness Committee.
Port Readiness - Memo
Port Readiness - Resolution

13.c. Award a Construction Contract in the Amount of $392,788.00 to Derrick Construction Company Inc., the Lowest and Best Bidder Based on Bids Received December 22, 2017, for the Rincon B Mitigation Project.
Rincon B Mitigation - Memo
Rincon B Mitigation - Exhibit
Rincon B Mitigation - Bid Tab

13.d. Approve an Increase in Contingency in the amount of $250,000 and a Change Order with JM Davidson, Ltd in the Amount of $258,866.88 associated with the Construction of the Bulk Liquid Handling Facilities at Bulk Terminal Dock 3.
BD3 CO - Memo
BD3 CO - Change Order

14. Consent Agenda - *The Port Commissioners have been furnished with supporting documentation and staff's recommendation for each of the following items. All Consent Agenda items will be approved, in accordance with the respective staff recommendations, by one vote without being discussed separately unless a Port Commissioner requests otherwise*

14.a. Approve a Resolution changing the PCCA officers authorized to act on behalf of PCCA in connection with the Hillcrest neighborhood acquisition plan and relocation program.
Hillcrest - Resolution

14.b. Authorize Consulting Services Contract Amendment to conduct additional soil sampling and analysis associated with the Baseline Environmental Site Assessment of the Maverick Terminals Lease site, in the Amount of $9,600.
Maverick Terminals - Memo
Maverick Terminals - Exhibit

14.c. Approve Second Amendment and Supplement of Professional Engineering Services Contract for an amount of $27,273 with Lockwood, Andrews & Newnam, Inc. for Limited Engineering Services for Storm Water Quality Improvements Project at the Bulk Terminal.
LAN - Memo
LAN - Amendment

14.d. Approve Service Order No. 7 in the Amount of $32,800 with Tricord Consulting, LLC, Under Professional Services Master Agreement No. 07-16, for Environmental Consulting Services to Prepare an Air Permit Amendment at Bulk Dock 3 for Future Expansion.
Tricord SO 7 - Memo
Tricord SO 7 - Service Order

14.e. Approve Service Order No. 8 in the Amount of $35,000 with Tricord Consulting, LLC, Under Professional Services Master Agreement No. 07-16, for Environmental Consulting Services to Prepare an Air Permit Amendment Application for the Bulk Terminal.
Tricord SO 8 - Memo
Tricord SO 8 - Service Order

14.f. Approval of Project Change Order 001 to the Master SAAS Subscription and Services Terms and Conditions Agreement with Intelex Technologies Inc. in the Amount of $7,300 for Enhancements to Phase I Configuration.
Intelex - Memo
Intelex - Change Order

14.g. Authorize Additional Purchase of Lighting Retrofit Supplies and Services for the Ortiz Center from Facility Solutions Group Through Existing Co-Op Contract Under the State of Texas BuyBoard Cooperative Program in the Amount of $18,800.
FSG Ortiz Center Lighting Retrofit - Memo

14.h. Authorize Staff to Include Payment of a Stipend in the Request for Proposals for the Design-Build Project to Construct a New North Bank Cargo Dock in an Amount of $30,000 for Each and up to Four Unsuccessful Proposers, for a Total of up to $120,000.
Design-Build Stipend - Memo
Design-Build Stipend - Exhibit

14.i. Approve a Deductive Change Order in the Amount of ($72,580) with H & S Constructors, Inc. for the Fire Pressurization Upgrades at Oil Docks 1, 2 & 15 Project.
OD Fire Press - Memo
OD Fire Press CO - Exhibit
OD Fire Press CO - Change Order

14.j. Approve an Easement and Right of Way Agreement with AEP Texas, Inc. for Electric Service to Maverick Terminals Corpus, LLC, 41 acre Terminal Site located on the South Side of Joe Fulton Corridor and the Easterly side of the Bulk Terminal, Nueces County, Texas.
AEP Easement Maverick - Memo
AEP Easement Maverick - Exhibit
AEP Easement Maverick - Agreement

14.k. Approve a Pipeline Relocation Agreement by and between EOG Resources, Inc., Maverick Terminals Corpus, LLC and the Port of Corpus Christi Authority for the Relocation of an Existing EOG Pipeline Located on the South Side of the Joe Fulton International Corridor to the North Side of the Joe Fulton International Corridor, Nueces County Texas.
EOG Pipeline Relocation - Memo
EOG Pipeline Relocation - Exhibit
EOG Pipeline Relocation - Agreement

14.l. Authorize disposition of PCCA Surplus and Salvage Personal Property.
Surplus Property - Memo

14.m. Approve purchase of vehicles using Government pricing from the State of Texas Buy Board Cooperative Program.
Vehicles - Memo
Vehicles - Bid Tab

14.n. Authorize purchase of five (5) copiers from Ricoh USA, Inc. using Government Pricing from the State of Texas Cooperative Program in the amount of $60,188.40.
Copiers - Memo
Copiers - Agreement

14.o. Approve Amendment No. 1 to Professional Engineering Services Contract for Additional Services Related to the Procurement of A New Crane for Bulk Dock 1 with Cardno, Inc for an Amount of $42,548.
Cardno - Memo
Cardno - Agreement

14.p. Approve a Master Services Agreement and Service Order No. 1 in the

amount of $79,600 with Lanier & Associates Consulting Engineers, Inc., for Engineering Services associated with New Oil Dock 20.
Oil Dock 20 Lanier MSA - Memo
Oil Dock 20 Lanier MSA - Exhibit
Oil Dock 20 Lanier MSA - Agreement
Oil Dock 20 Lanier MSA - Service Order

14.q. Approval of Tetra Tech, Inc. as successful proposer on RFP for FEMA Public Assistance Program Grant Management Services Project #17-522A.
Tetra Tech - Memo
Tetra Tech - Agreement

14.r. Approve a Development Services Agreement with South Texas Military Facilities Task Force for 2018 in the amount of $75,000.
STMFTF - Memo
STMFTF - Agreement

14.s. Approve a Pipeline Easement Agreement with POTAC, LLC for Nine (9) Pipelines Crossing the Tule Lake Channel and the South Shore Dredge Material Placement Area (Cell C) Together with a 200' X 300' Surface Site Situated Along the East Side of Mike Carrell Road.
POTAC, LLC EA - Memo

15. Executive Director, Chief Executive Officer, and Commissioners' Comments

15.a. Receive Executive Director and Chief Executive Officer's Report on upcoming PCCA and community events, and activities of the following PCCA departments during the preceding month - Safety, Community Relations, Communications, Government Affairs, Business Development, Human Resources, Security, Operations, Engineering Services, Finance, Emergency Management, and Environmental.

16. Recess Open Meeting and Convene Executive Session - *The Port Commissioners will deliberate the purchase, exchange, lease or value of real property in executive session only if deliberation in an open meeting would have a detrimental effect on PCCA's position in negotiations with a third person.*

16.a. The Commission will go into executive session pursuant to §551.074 of the Texas Government Code to deliberate the performance of the Executive Director and the Deputy Executive Director/Chief Operating Officer.

16.b. The Commission will go into executive session pursuant to §551.072 of the Texas Government Code to deliberate acquiring real property in Nueces County.

16.c. The Commission will go into executive session pursuant to §551.072 of the Texas Government Code to deliberate leasing PCCA real property on the north side of the Inner Harbor.

16.d. The Commission will go into executive session pursuant to §551.071 of the Texas Government Code to receive legal advice from PCCA counsel regarding Port of Corpus Christi Authority v. Sherwin Alumina Company, LLC et al.

16.e. The Commission will go into executive session pursuant to 551.071 of the Texas Government Code to receive legal advice from PCCA counsel regarding the condemnation of certain real property in Nueces County.

17. Reconvene Open Meeting

17.a. Authorize Staff to submit a proposal for assets in M&G Waters and M&G Resins bankruptcies.

17.b. Consider awarding year-end bonuses to the Executive Director for 2017 and the Deputy Executive Director/Chief Operating Officer for 2017.

17.c. Approve First Amendment to Consulting Services Contract with Nova Infrastructure, LLC.
NOVA - Amendment

17.d. Approve Interlocal Agreement with the City of Corpus Christi regarding the evaluation of Desalination Plant and proposal.
Interlocal Agreement

18. Adjourn

OFFICIAL MINUTES OF PORT COMMISSION MEETING
November 30, 2017

The Port Commissioners of the Port of Corpus Christi Authority convened at the Ruben Bonilla Center for Global Trade, located at 222 Power Street, Corpus Christi, Texas, on Thursday, November 30, 2017, at 8:00 a.m., for a special called meeting of the Port Commission.

Present:	Mr. Charles Zahn Ms. Barbara Canales Mr. David P. Engel Mr. Richard Valls Mr. Richard L. Bowers
Absent:	Mr. Wayne Squires Mr. Wes Hoskins
Present:	Mr. John P. LaRue Mr. Sean Strawbridge Mr. Dennis DeVries Mr. Jarl Pedersen Mr. Kent Britton Ms. Patricia Cardenas Ms. Rosie Collin Mr. Kresten Cook Mr. Tyler Fuhrken Ms. Sarah Garza Mr. David Krams Mr. Ruben Medina Mr. Tom Mylett Ms. Nelda Olivo Mr. Eric Battersby Ms. Audre Debler Ms. Lynn Angerstein Ms. Sherry DuBois Mr. Brett Flint Ms. Natasha Fudge Ms. Sonya Sosa-Lopez Ms. Carol Rodriguez Ms. Maggie Turner
Others Present:	Mr. Leo J. Welder, Jr. Mr. Dane Bruun
Others Present:	Mr. Roger TenNapel Flint Hills Resources

Mr. Joseph Leto
EAI
Ms. Darcy Schroeder
Valero
Mr. John Michael

1. Chairman Zahn called the meeting to order.

2. The Commission and audience received a safety briefing.

3. The Pledge of Allegiance was recited.

4. The invocation was given.

5. Chairman Zahn asked for Conflict of Interest Affidavits. None were received.

6. Chairman Zahn asked for comments from the public. None were received.

7. **Recess Open Session and Convene Executive Session:** At 8:04 a.m., Mr. Zahn announced the Commission would go into executive session pursuant to Sections 418.175-418.183, 551.072, and 551.076 of the Texas Government Code to deliberate agenda items 7a and 7b, which were described in the agenda of the meeting as follows:

7a. The Commission will go into executive session pursuant to Sections 418.175-418.183 and 551.076 of the Texas Government Code to deliberate security related matters.

7b. The Commission will go into executive session pursuant to Section 551.072 of the Texas Government Code to deliberate leasing a portion of PCCA real property in Nueces and San Patricio counties.

8. **Reconvene Open Session:** The Chairman reconvened the meeting in open session at 9:25 a.m. to consider agenda items 8a, 8b, and 8c.

8a. The Commission received a presentation from Energy Analysts International.

8b. The Commission received and discussed PCCA's proposed 2018 Operating and Capital Budgets and related matters at a Budget Workshop.

8c. The Commission discussed PCCA's Health & Dental Benefits Plan.

9. **Adjourn:** On motion duly made and seconded, the meeting was adjourned at 11:43 a.m.

OFFICIAL MINUTES OF PORT COMMISSION MEETING
December 6, 2017

The Port Commissioners of the Port of Corpus Christi Authority convened at the Ruben Bonilla Center for Global Trade, located at 222 Power Street, Corpus Christi, Texas, on Wednesday, December 6, 2017, at 2:00 p.m., for a special called meeting of the Port Commission.

Present:	Mr. Charles Zahn Mr. Wayne Squires Ms. Barbara Canales Mr. David P. Engel Mr. Richard Valls Mr. Richard L. Bowers
Absent:	Mr. Wes Hoskins
Present:	Mr. John P. LaRue Mr. Sean Strawbridge Mr. Dennis DeVries Mr. Jarl Pedersen Mr. Kent Britton Ms. Patricia Cardenas Ms. Rosie Collin Mr. Kresten Cook Mr. Tyler Fuhrken Ms. Sarah Garza Mr. David Krams Mr. Ruben Medina Mr. Tom Mylett Ms. Nelda Olivo Mr. Eric Battersby Ms. Audre Debler Ms. Lynn Angerstein Ms. Sherry DuBois Mr. Brett Flint Ms. Natasha Fudge Ms. Sonya Sosa-Lopez Ms. Carol Rodriguez Ms. Maggie Turner
Others Present:	Mr. Leo J. Welder, Jr. Mr. Dane Bruun

Others Present: Mr. Roger TenNapel
Flint Hills Resources
Ms. Darcy Schroeder
Capt. Joe Harrington
Valero
Mr. Stefani Alvarez
Alvarez Business Consultants

1. Chairman Zahn called the meeting to order.

2. The Commission and audience received a safety briefing.

3. The Pledge of Allegiance was recited.

4. The invocation was given.

5. Chairman Zahn asked for Conflict of Interest Affidavits. None were received.

6. Chairman Zahn asked for comments from the public. None were received.

Point of Order: Chairman Zahn pointed out that the supporting materials for all items on this agenda were delivered to the Commissioners after the deadline stated in the Commission's Operating Rules. On motion made by Mr. Valls and seconded by Mr. Squires, the Commission unanimously agreed to consider all the agenda items.

7. Open Agenda

7a. ***Agreement with voestalpine Texas Holdings, LLC:*** Staff recommended approval, in the form presented to the meeting, of an agreement to renew, extend, and restate an existing agreement with voestalpine Texas Holdings, LLC ("voestalpine") regarding handling of Mechanic's and Materialmen's Liens under the terms of voestalpine's lease with PCCA. The agreement postpones PCCA's right to demand the immediate release of all Mechanic's and Materialmen's Liens ("M&M Liens") to allow time for voestalpine to arbitrate disputes with its contractors. Renewal terms would be until July 31, 2018.

Action: On motion made by Mr. Engel and seconded by Mr. Valls, the Commission approved Staff's recommendation.

7b. ***Development Services Agreements:*** Staff recommended approval, in the form presented to the meeting, of the following Development Services Agreements for calendar year 2018:

A) Coastal Bend Bays & Estuaries Program in the amount of $160,000.00;

B) Corpus Christi Regional Economic Development Corp. in the amount of $320,000.00;

C) San Patricio Economic Development Corp. in the amount of $85,000.00;

D) United Corpus Christi Chamber of Commerce in the amount of $45,000.00; and

E) Robstown Improvement Development Corp. in the amount of $50,000.00

Action: On motion made by Mr. Bowers and seconded by Mr. Squires, the Commission approved Staff's recommendation.

7c. ***Professional Services Agreements:*** Staff recommended approval of Professional Services Agreements or Consulting Agreements, in the form presented to the meeting or as described in the respective Commission memos, with each of the following persons or entities for calendar year 2018:

A) Alvarez Business Consultants;
B) Baker-Wotring, LLP;
C) Berlanga Business Consultants;
D) Borski Associates;
E) Cassidy & Associates;
F) Erben & Yarbrough;
G) Jorge Canavati;
H) Morehead, Dotts & Ryback;
I) Pathfinder Public Affairs;
J) Welder Leshin, LLP;
K) Porter, Rogers, Dahlman & Gordan, PC; and
L) Husch & Blackwell

Action: On motion made by Mr. Engel and seconded by Mr. Squires, the Commission approved Staff's recommendation.

7d. ***PCCA Pipeline and Utility Easement Fee Producer Price Index (PPI) Adjustment for 2018:*** Staff recommended approval of a PPI adjustment of +3.63% to PCCA's Pipeline and Utility Easement fee schedules effective January 1, 2018.

Action: On motion made by Mr. Squires and seconded by Mr. Bowers, the Commission approved the following Pipeline and Utility Easement fee schedules for 2018:

PORT OF CORPUS CHRISTI AUTHORITY
PIPELINE AND UTILITY
EASEMENT FEE SCHEDULE A
Effective January 01, 2018
For Port Customers Using Public Docks or
Private Docks Covered by a Current
Franchise Agreement*

For pipeline, casing pipe, wireline and conduit installations along, across, under or within railroad right-of-way, submerged lands, or other lands:

DESCRIPTION	Proposed 2018	2017	
	10-Yr Rate	10-Yr Rate	
Not over 8" Diameter	$ 58.92	$ 56.86	per rod
Minimum	$ 1,767.40	$ 1,705.49	per line
Over 8" but not over 16" Diameter	$ 70.70	$ 68.22	per rod
Minimum	$ 2,120.88	$ 2,046.59	per line
Over 16" but not over 32" Diameter	$ 129.61	$ 125.07	per rod
Minimum	$ 2,945.67	$ 2,842.49	per line
Over 32" but not over 48" Diameter	$ 206.19	$ 198.97	per rod
Minimum	$ 5,302.21	$ 5,116.48	per line
Over 48" but not over 64" Diameter	$ 282.78	$ 272.88	per rod
Minimum	$ 6,480.47	$ 6,253.47	per line
Over 64" but not over 80" Diameter	$ 371.03	$ 358.04	per rod
Minimum	$ 7,658.74	$ 7,390.47	per line
Over 80" but not over 96" Diameter	$ 453.64	$ 437.75	per rod
Minimum	$ 9,426.14	$ 9,095.96	per line
96" or over	$ 530.23	$ 511.65	per rod
Minimum	$ 11,193.55	$ 10,801.45	per line
12 KV Electrical Transmission	$ 47.13	$ 45.48	per rod
Minimum	$ 1,413.92	$ 1,364.39	per line
35 KV	$ 53.02	$ 51.16	per rod
Minimum	$ 1,555.32	$ 1,500.84	per line
69 KV	$ 58.92	$ 56.86	per rod
Minimum	$ 1,696.70	$ 1,637.27	per line
138 KV	$ 88.37	$ 85.27	per rod
Minimum	$ 1,767.40	$ 1,705.49	per line
345 KV	$ 106.05	$ 102.33	per rod
Minimum	$ 2,120.88	$ 2,046.59	per line
Wooden Support Poles	$ 294.57	$ 284.25	each
Steel Tower Supports	$ 1,178.27	$ 1,137.00	each

* Also for governmental agencies.

Measurement determined by outside diameter of pipe including coating or insulation

PORT OF CORPUS CHRISTI AUTHORITY
PIPELINE AND UTILITY

EASEMENT FEE SCHEDULE B

Effective January 01, 2018
For Companies that are not Port Customers or
Use Private Docks Not Covered by a Current
Franchise Agreement

For pipeline, casing pipe, wireline and conduit installations along, across, under or within railroad right-of-way, submerged lands, or other lands:

DESCRIPTION	Proposed 2018	2017	
	10-Yr Rate	10-Yr Rate	
Not over 8" Diameter	$ 176.75	$ 170.55	per rod
Minimum	$ 5,302.21	$ 5,116.48	per line
Over 8" but not over 16" Diameter	$ 212.08	$ 204.65	per rod
Minimum	$ 6,362.65	$ 6,139.77	per line
Over 16" but not over 32" Diameter	$ 388.83	$ 375.21	per rod
Minimum	$ 8,837.01	$ 8,527.46	per line
Over 32" but not over 48" Diameter	$ 618.59	$ 596.93	per rod
Minimum	$ 15,906.62	$ 15,349.43	per line
Over 48" but not over 64" Diameter	$ 848.36	$ 818.64	per rod
Minimum	$ 19,441.42	$ 18,760.42	per line
Over 64" but not over 80" Diameter	$ 1,113.46	$ 1,074.46	per rod
Minimum	$ 22,976.23	$ 22,171.40	per line
Over 80" but not over 96" Diameter	$ 1,360.90	$ 1,313.23	per rod
Minimum	$ 28,278.43	$ 27,287.88	per line
96" or over	$ 1,590.67	$ 1,534.95	per rod
Minimum	$ 33,580.64	$ 32,404.36	per line
12 KV Electrical Transmission	$ 141.40	$ 136.44	per rod
Minimum	$ 4,241.76	$ 4,093.18	per line
35 KV	$ 159.07	$ 153.49	per rod
Minimum	$ 4,665.94	$ 4,502.50	per line
69 KV	$ 176.75	$ 170.55	per rod
Minimum	$ 5,090.12	$ 4,911.82	per line
138 KV	$ 265.11	$ 255.83	per rod
Minimum	$ 5,302.21	$ 5,116.48	per line
345 KV	$ 318.13	$ 306.99	per rod
Minimum	$ 6,362.65	$ 6,139.77	per line
Wooden Support Poles	$ 883.71	$ 852.75	each
Steel Tower Supports	$ 3,534.80	$ 3,410.99	each

Measurement determined by outside diameter of pipe including coating or insulation

7e. ***PCCA Tariff 100-A Producer Price Index (PPI) Adjustment for 2018:*** Staff recommended approval of a PPI adjustment of +3.63% to (a) the wharfage and dockage charges under PCCA Tariff 100-A, (b) the wharfage and dockage charges under Bulk Terminal Tariff 1-A, and Item 342 (Charges for Use of Traveling Gantry Crane), Item 344 (Charges for Use of Radial Ship Loader) and Item 346 (Unloading of Rail Cars at Bulk Dock 2) under Bulk Terminal Tariff 1-A effective January 1, 2018.

Action: On motion made by Mr. Squires and seconded by Mr. Bowers, the Commission approved Staff's recommendations.

7f. ***Dredge Material Placement Area Depletion Fees Producer Price Index (PPI Adjustment for 2018:*** Staff recommended approval of a PPI adjustment of +3.63% to PCCA's dredge material placement area depletion fees effective January 1, 2018.

Action: On motion made by Mr. Bowers and seconded by Mr. Squires, the Commission approved the following Dredge Material Placement Area Depletion Fee Schedule for 2018:

2018
Dredge Material Placement Area Depletion Fee Schedule
As of January 1, 2018

$500.00 Application Fee Plus

Dredge Material Placement Area No. 1 and Herbie Maurer Dredge Material Placement Area (USACE Name: IH-PA 1 and IH-PA 2)	Port Fee Corps Fee	$4.62/CY *
South Shore Dredge Material Placement Cells A, B & C (USACE Name: IH-:PA 3, Cells A, B & C)	Port Fee Corps Fee	$4.62/CY *
Tule Lake Dredge Material Placement Area No. 6 (USACE Name: IH-PA6)	Port Fee Corps Fee	$4.62/CY *
Suntide Dredge Material Placement Area (USACE Name: IH-PA8)	Port Fee Corps Fee	$4.62/CY *
Placement Areas from port Aransas to Ingleside Point Dredge Material Placement Areas 4, 6, 7, 8, 9 & 10 (USACE Name: Pas, 4, 6, 7, 8, 9 & 10)	Port Fee Corps Fee	$4.62/CY *
Dredge Material Placement Area No. 13 (USACE Name: PA 13)	Port Fee Corps Fee	$4.62/CY *
Good Hope Dredge Material Placement Area USACE Name: N/A	Port Fee Corps Fee	$4.62/CY N/A
Dredge Material Placement Area No. 14	Port Fee	$4.62/CY

USACE Name: N/A Corps Fee N/A
*Corps fee to be determined by U.S. Army Corps of Engineers

7g. ***Security Surcharge Increase for 2018:*** Staff recommended approval of an increase in PCCA's Security Surcharge from the current 7.5% added to all wharfage and dockage billed to customers to 10.0% added to wharfage and dockage billed to customers, effective January 1, 2018.

Action: On motion made by Mr. Engel and seconded by Mr. Bowers, the Commission approved Staff's recommendation.

7h. ***PCCA's Promotion and Development Fund for 2018:*** Staff recommended approval of a resolution authorizing funding of the Port of Corpus Christi Promotion and Development Fund for 2018 and matters related thereto in an amount not to exceed two percent (2%) of PCCA's 2018 gross income from operations.

Action: On motion made by Mr. Valls and seconded by Ms. Canales, the Commission adopted the following resolution:

RESOLUTION AUTHORIZING FUNDING OF THE PORT OF CORPUS CHRISTI PROMOTION AND DEVELOPMENT FUND FOR 2018 AND MATTERS RELATING THERETO

WHEREAS, Port of Corpus Christi Authority of Nueces County, Texas ("PCCA") established the *Port of Corpus Christi Promotion and Development Fund* (the "Development Fund") on December 14, 2004, pursuant to the authority granted in Subchapter H of Chapter 60 of the Texas Water Code ("Subchapter H"); and

WHEREAS, Section 60.202 of the Texas Water Code ("Water Code") provides that PCCA may set aside out of current income from its operations a promotion and development fund of not more than five percent of its gross income from operations in each calendar year; and

WHEREAS, Section 60.203 of the Water Code provides that money in a promotion and development fund shall be spent by the Port Commission or as the Port Commission may direct to pay any expenses connected with (1) any activity or matter incidental to the advertising, development, or promotion of the Port or its ports, waterways, harbors, or terminals; (2) furthering the general welfare of the Port and its facilities; or (3) the betterment of the Port's relation with steamship and rail lines, shippers, consignees of freight, governmental officials, or others interested or sought to be interested in [its] ports, waterways, harbors, or terminals; and

WHEREAS, Section 60.205 of the Water Code provides that Subchapter H authorizes disbursements from the Development Fund for unusual purposes and occasions not covered by other law;

NOW, THEREFORE, BE IT RESOLVED BY THE PORT COMMISWSION OF THE PORT OF CORPUS CHRISTI AUTHORITY OF NUECES COUNTY, TEXAS THAT:

Section 1. For purposes of this Resolution, the term "Business/Community Development Expenses" means (a) the Business/Community Development expenditures included in the Port of Corpus Christi Authority 2018 Annual Budget, (b) community event sponsorships, and (c) the amounts payable under PCCA's agreements, such as its Port Development Services Agreements, in effect during all or part of 2018 which provide by their terms that PCCA's payment obligations thereunder will be paid with money in the Development Fund (collectively, the "Development Contracts").

Section 2. During the calendar year 2018, an amount of money equal to the Business/Community Development Expenses shall be set aside in the Development Fund; provided, however, that the amount of money allocated to the Development Fund during 2018 shall not exceed two percent (2%) of PCCA's gross income from operations for that year.

Section 3. The Port Commission hereby authorizes and directs the Executive Director to use the money in the Development Fund to pay PCCA's obligations under the Development Contracts when due and to pay for other Business/Community Development Expenses at such times and in such amounts as he sees fit.

Section 4. The Financial Controller will be responsible for recording the allocations and the expenditures from the Development Fund.

Section 5. A copy of this Resolution shall be delivered to the Financial Controller.

7i. ***TXDOT Rider 45 Grant:*** Staff requested authorization to apply for the Texas Department of Transportation Rider 45 grant to widen the Joe Fulton International Trade Corridor and construct a Truck Queuing Lane to relieve congestion and safety concerns created by the queuing of semi-truck traffic during peak harvest times. The project is estimated to have a construction cost of up to $2.4 million.

Action: On motion made by Mr. Engel and seconded by Ms. Canales, the Commission approved Staff's recommendation.

7.j. ***Consulting Services Contract with SMART Development:*** Staff requested authorization for payment of approved reimbursable expenses related to the SMART Development Consulting Services Contract in an amount not to exceed $12,000 incurred during contract period of February 1, 2017 through December 31, 2017.

Action: On motion made by Mr. Valls and seconded by Mr. Bowers, the Commission approved Staff's recommendation.

7k. ***PCCA's 2018 Operating and Capital Budgets and related matters:*** Discussion and action on this item was postponed until the December 12, 2017 Commission meeting.

8. Recess Open Session and Convene Executive Session: At 2:53 p.m., Mr. Zahn announced the Commission would go into executive session pursuant to §551.074 of the Texas Government Code to deliberate item 8a, which was described in the agenda of the meeting as follows:

8a. The Commission will go into executive session pursuant to §55.074 of the Texas Government Code to evaluate the performance of its Executive Director and Deputy Executive Director & Chief Operating Officer.

9. Adjourn: On motion duly made and seconded, the meeting was adjourned at 5:00 p.m.

OFFICIAL MINUTES OF PORT COMMISSION MEETING
DECEMBER 12, 2017

The Port Commissioners of the Port of Corpus Christi Authority convened at the Solomon P. Ortiz International Center, 402 Harbor Drive, Corpus Christi, Texas, on Tuesday, December 12, 2017 at 8:00 a.m., for the regular monthly meeting of the Port Commission.

Present:
Mr. Charles Zahn
Mr. Wayne Squires
Ms. Barbara Canales
Mr. David P. Engel
Mr. Richard Valls
Mr. Richard L. Bowers
Mr. Wes Hoskins

Present:
Mr. John P. LaRue
Mr. Sean Strawbridge
Mr. Dennis DeVries
Mr. Jarl Pedersen
Mr. Kent Britton
Mr. Darrin Aldrich
Ms. Patricia Cardenas
Ms. Rosie Collin
Mr. Kresten Cook
Mr. Russell Cordo
Mr. Tyler Fuhrken
Ms. Sarah Garza
Mr. David Krams
Mr. Ruben Medina
Ms. Sandra Terrell-Davis
Ms. Nelda Olivo
Mr. Gilbert Acevedo
Ms. Lynn Angerstein
Mr. Steven Ashley
Mr. Eric Battersby
Mr. Bland Chamberlain
Ms. Audre Debler
Ms. Sherry DuBois
Mr. Sam Esquivel
Mr. Brett Flint
Ms. Natasha Fudge
Mr. James Haley
Mr. T.J. Gonzalez
Mr. Erin Hall

Ms. Donna James-Spruce
Mr. Dan Koesema
Ms. Sonya Lopez
Mr. Dave Michaelsen
Ms. Leslie Ruta
Mr. David Villarreal
Mr. Bennie Benavides
Ms. Sandy Escobar
Ms. Teresa Longoria
Ms. Jennifer Powell
Mr. Jesse Samu
Ms. Pamela Mota
Mr. Miguel Rivera
Mr. Michael Cross
Mr. Austin DeGaish
Ms. Annie Archuleta
Mr. Craig Smith
Mr. Thomas Rios
Ms. Veronica Ramos
Ms. Rita Aracaju

Others Present: Mr. Leo J. Welder, Jr.
Mr. Dane Bruun

Others Present: Mr. Bob Paulison
Port Industries
Mr. Richard Whiting
JSWC
Mr. Sheldon Schroeder
Fresch Architects
Mr. Kyle McElroy
Mott MacDonald
Mr. Abel Herrero
State Representative
Mr. Gasper D'Anna
John Bludworth Shipyard
Ms. Doreen Harwell
KCS/PR
Ms. Darcy Schroeder
Capt. Joe Harrington
Valero
Mr. Joe Guzman
South Texas Military Facilities Task Force
Capt. Jay Rivera
Aransas/CC Pilots
Mr. Josh Macklin

Ms. Gayle Snyder
Signet Maritime
Mr. Xavier Valverde
G&H Towing
Mr. Roger TenNapel
Flint Hills Resources
Mr. Ray Allen
Ms. Kiersten Stanzel
Ms. Kathryn Tunnell
CB Bays & Estuaries Program
Mr. John Davenport
PLW Waterworks
Mr. Capt. Mike Kershaw
Consultant
Mr. Kevin Miller
CITGO
Mr. Rob Tully
ExxonMobile
Mr. Robert Morris
Security Title
Ms. Elva Lopez
Robstown Area Development Corp.
Mr. Thomas Moore
Consultant

1. Meeting called to order.

2. Safety briefing presented.

3. Pledge of Allegiance recited.

4. Invocation given.

5. Conflict of Interest Affidavits: None were received.

Point of Order: Chairman Zahn pointed out that the supporting materials for all the items on this agenda were delivered to the Commissioners after the deadline stated in the Commission's Operating Rules. On motion made by Mr. Valls and seconded by Mr. Squires, the Commission unanimously agreed to consider all the agenda items.

6. Minutes.

6a. ***Action:*** On motion made by Mr. Squires and seconded by Mr. Valls, the Commission approved the minutes of the November 14, 2017 Commission meeting in the form presented to the meeting.

7. Public Comments: Terry Mills with the NAACP presented John LaRue with the NAACP Man of the Year Award for 2017. Gloria Taylor with Communities in School, thanked the Port for Christmas trees received through the annual Tree for All Program.

8. Standing Committee Reports:

8a. Audit Committee Report: The Chairman of the committee reported on the committee's activities since the last regular Commission meeting.

8b. Long-Range Planning Committee Report: The Chairman of the committee reported on the committee's activities since the last regular Commission meeting.

8c. Office Building Committee: The Chairman of the committee reported on the committee's activities since the last regular Commission meeting.

8d. Security Committee: The Chairman of the committee reported on the committee's activities since the last regular Commission meeting.

9. Presentations: There were no presentations received.

10. Open Session Agenda:

10a. *PCCA's 2018 Operating and Capital Budgets:*

Action: Mr. Engel moved the approval of the 2018 Operating and Capital Budgets, in the form presented to the meeting, except for the Employee Services line item under the heading Operating Expenses. Mr. Squires seconded the motion and the motion passed, with Ms. Canales voting against the motion.

10b. *Recognition of 20th Year of "Tree for All":* The Commission recognized Port staff for their dedicated service to the program over the past 20 years.

10c. *Construction Contract for the Rincon West Storage Area Development Project:* In connection with the development of a 25-acre storage yard in the Rincon Industrial Park, Staff recommended award of a construction contract to Haas-Anderson Construction Ltd. in the total amount of $4,389,524.65, consisting of the Base Bid ($1,877,303.25) and Additive Bid Item #1 ($2,512,221.40). Staff also recommended that the Director of Engineering Services be granted a [2]% contingency in accordance with PCCA's standard contingency guidelines for general construction projects. Total possible construction contract cost for this project, including contingency is $4,828,477.12.

Action: On motion made by Mr. Bowers and seconded by Mr. Squires, the Commission approved Staff's recommendation.

10d. ***Fifth Amendment of Lease with Maritime Berthing Inc.:*** Staff recommended approval of the Fifth Amendment of Lease Agreement with Maritime Berthing Inc. (MBI) for the Cargo Dock 14/15 tract to extend the term of the lease agreement from January 1, 2018 to March 31, 2018.

Action: On motion made by Mr. Valls and seconded by Mr. Squires, the Commission approved Staff's recommendation.

10e. ***Lease Option Agreement for 22.14 acres of land in the Inner Harbor:*** Vitol Inc. and Arrowhead Eagle Ford Pipeline, LLC ("Lessee Group") are interested in leasing a 22-acre tract of PCCA property on the north side of the ship channel near Public Oil Dock 14 for development of a marine terminal facility. Staff presented to the meeting a six-month Lease Option Agreement with the Lessee Group for this property and recommended approval of the agreement.

Action: On motion made by Mr. Engel and seconded by Mr. Valls, the Commission approved Staff's recommendation.

10f. ***Design-Build Stipend for New Port of Corpus Christi Office Facility Project:*** Staff reported that (1) PCCA had received Statements of Qualifications from a number of proposers interested in designing and constructing PCCA's new office facility, (2) the evaluation committee will select a short list of three to five proposers and ask these proposers to submit additional information on engineering and architectural design of the facility, and (3) ultimately the Commission will select the proposal offering the best value for PCCA. Staff also reported that Section 60.460(i) of the Water Code requires PCCA to pay each unsuccessful design-build firm that submits a response to PCCA's additional information request a stipulated amount of up to one-half of one percent of the final contract price for reasonable costs incurred in preparing its proposal. Staff recommended that each of the unsuccessful proposers (up to four) be paid $80,000 pursuant to Section 60.460(i).

Action: On motion made by Mr. Engel and seconded by Mr. Valls, the Commission approved Staff's recommendation.

10g. ***Professional Services Agreement with Gateway Partners Government Affairs LLP:*** Staff recommended approval, in the form presented to the meeting, of a Lobbyist Consulting Services Contract with Gateway Partners Government Affairs LLP for 2018 for the services described in the contract.

Action: On motion made by Mr. Valls and seconded by Mr. Bowers the Commission approved Staff's recommendation.

10h. ***Consulting Services Agreement with Daniel J. Edelman, Inc.:*** Staff recommended approval, in the form presented to the meeting, of a Consulting Services Agreement with Daniel J. Edelman, Inc. for 2018 for the services described in the contract.

Action: On motion made by Mr. Valls and seconded by Mr. Engel, the Commission approved Staff's recommendation.

10i. ***Resolution Approving a Real Estate Sales Contract with Hamilton-Ingleside Limited, et al.:*** Staff recommended approval of a resolution approving a Real Estate Sales Contract between PCCA, as purchaser, and Hamilton-Ingleside Limited, et al, as seller, for property located between La Quinta Channel and Hwy 361

Action: On motion made by Mr. Valls and seconded by Mr. Hoskins, the following resolution was adopted:

RESOLUTION APPROVING A REAL ESTATE SALES CONTRACT BETWEEN THE PORT OF CORPUS CHRISTI AUTHORITY OF NUECES COUNTY, TEXAS, AS PURCHASER, AND HAMILTON-INGLESIDE LIMITED ET AL, AS SELLER, AND AUTHORIZING THE EXECUTION OF THE CONTRACT AND RELATED CLOSING DOCUMENTS

WHEREAS, the Hamilton-Ingleside Limited, Edwards 1976 Trust "A", R.H. Welder Heirs, Ltd., Helen Ford Allen Non-Exempt Trust and Grace Ford Powers Non-Exempt Trust ("***Sellers"***) are the owners of 38.06 acres of land, more or less, in San Patricio County, Texas, which is more particularly described in **Exhibit A** and **Exhibit B** attached hereto ("***Property***"); and

WHEREAS, the Port Commission of the Port of Corpus Christi Authority of Nueces County, Texas ("***PCCA***"), has considered a Real Estate Sales Contract ("***Contract***") for the purchase of the Property at this meeting; and

WHEREAS, PCCA's staff recommends approval of the Contract;

NOW, THEREFORE, BE IT RESOLVED BY THE PORT COMMISSION THAT:

Section 1. The purchase of the Property from Sellers in accordance with the terms and conditions of the Contract in substantially the form presented to this meeting (the "***Transaction***") is hereby approved.

Section 2. The Chairman, Executive Director, and Deputy Executive Director & Chief Operating Officer are each hereby severally authorized and directed, for and on behalf of PCCA, to close the Transaction pursuant to and in accordance with the terms and conditions of the Contract without any further actions or approvals by the Port Commission.

Section 3. In connection with the closing of the Transaction, the Executive Director, and Deputy Executive Director & Chief Operating Officer are each hereby severally authorized and directed, for and on behalf of PCCA, to execute and deliver the following documents after the legal form of such documents has been approved by PCCA's counsel: (i) closing statement and any other documents required by the title company in order to close the Transaction; and (ii) any other documents or certificates necessary to close the Transaction.

Section 4. The Executive Director and Deputy Executive Director & Chief Operating Officer are each hereby severally authorized and directed to execute, attest, seal, and deliver any and all additional certificates, documents, affidavits, or other papers and to do any and all things he deems necessary to close the Transaction and to carry out the intent and purposes of this Resolution.

Section 5. This Resolution is hereby adopted by the Port Commission on December 12, 2017.

Note: **Exhibit A** and **Exhibit B** to the Resolution are attached to these minutes.

10j. ***Changes to Health & Dental Benefits Plan:*** Staff recommended approval of certain changes to the 2018 Employee Health and Dental Benefit Plan:

Action: On motion made by Mr. Engel and seconded by Mr. Valls, the Commission approved the following Plan changes effective January 1, 2018:

The Port of Corpus Christi
2018 Employee Health and Dental Benefit Plan Changes

	IN- NETWORK PROVIDERS		NON- NETWORK PROVIDERS	
Family Monthly Deductible Per Single/ Family Unit **Maximum of 6 per Calendar Year** *(Co-payments do not apply)*	$500 Family Monthly Deductible applies to first dollar coverage not including Copays and Coinsurance.		$5,000 Family Monthly Deductible applies to first dollar coverage not including Copays and Coinsurance.	
Maximum Out-of-Pocket *(Includes Deductible, Coinsurance & Copays)* ***Individuals & Families***	$3,000 Family *The **out-of-pocket limit** is the most you could pay during a coverage period (usually one year) for your share of the cost of covered services. This limit helps your plan for health care expenses*		$15,000 Family *The **out-of-pocket limit** is the most you could pay during a coverage period (usually one year) for your share of the cost of covered services. This limit helps your plan for health care expenses*	
PRESCRIPTION DRUG SERVICES				
	Preferred	Standard	Preferred	Standard
	30 Day Supply		90 Day Supply/Mail order	
Generic Drugs	$5 Copay	$10 Copay	$7.50 Copay	$15 Copay
Brand Name Drugs	$55 Copay	$70 Copay	$82.50 Copay	$105 Copay
Specialty Drugs	$200 Copay		Not Available	
Compound Drugs (Benefit Limited to $300 per prescription)	$55 Copay	$70 Copay	Not Available	

DENTAL BENEFITS	
MAXIMUM – DENTAL Calendar Year Maximum	$2,000

Benefit Changes Effective 1/1/2018. All other benefits remain unchanged.

10k. ***Reinsurance Provider for Health & Dental Benefits Plan:*** Staff recommended approval of Companion Life Insurance Company as the reinsurance provider for the Health and Dental Benefits Plans for 2018.

Action: On motion made by Mr. Engel and seconded by Mr. Valls, the Commission approved Staff's recommendation.

10l. ***PCCA's Annual Employer Contribution Rate, and Vesting and Retirement Eligibility changes for TCDRS for 2018:*** Staff recommended maintaining the Port's current Employer Elected Contribution Rate of 7% for 2018 and changing the vesting period to 5 years and retirement eligibility to the Rule of 75 beginning January 1, 2018.

Action: On motion made by Mr. Engel and seconded by Mr. Bowers, the Commission approved Staff's recommendation.

11. Consent Agenda: Mr. Bowers moved the approval of the Consent Agenda Items by one vote (the "Consent Agenda Motion"), in accordance with the respective staff recommendations and agreements furnished to the Commission at the meeting. Mr. Hoskins seconded the motion and the motion passed without objection.

11a. By approval of the Consent Agenda Motion, the Commission approved the Easement and Right-of-Way Agreement with AEP Texas, Inc. for underground electrical service to the Bulk Liquid Handling Facility Bulk Dock 3, Nueces County, Texas.

11b. By approval of the Consent Agenda Motion, the Commission approved an Amendment to a Professional Services Contract with HDR Engineering Inc. in an amount not to exceed $80,000 for additional services associated with the development of a Planning Document and Business Plan for the Corpus Christi Ship Channel – Channel Improvement Project.

11c. By approval of the Consent Agenda Motion, the Commission approved an increase in contingency in the amount of $75,000 and a Change Order with Garrett Construction Company in the amount of $68,404 associated with the Bulk Terminal Paving Improvement Project.

11d. By approval of the Consent Agenda Motion, the Commission authorized the renewal of Workers' Compensation Insurance and Claims Management Services with Texas Mutual Insurance and Scarbrough, Medlin & Associates, Inc. in the amount of $87,347.

11e. By approval of the Consent Agenda Motion, the Commission approved an as-needed Marine Services Contract with Fire Barge Caption Joe Harrington.

11f. By approval of the Consent Agenda Motion, the Commission approved the Port of Corpus Christi Authority assessment (share) of the Refinery Terminal Fire Company 2018 Operating and Capital Budget.

12. Executive Director Report and Commissioner Comments:

12a. The Executive Director submitted his report on upcoming community events, PCCA events and activities of the following PCCA departments during the preceding month – Safety, Community Relations, Communications, Government Affairs, Business Development, Foreign Trade Zone, Ortiz Center, Human Resources, Security, Operations, Engineering Services, Finance, Real Estate, and Environmental.

12b. Mr. Zahn then asked for comments from the Commissioners.

13. Recess Open Session and Convene Executive Session: At 9:50 a.m., Mr. Zahn announced the Commission would go into executive session pursuant to §551.071, §551.072 and §551.074, of the Texas Government Code to deliberate agenda items 13a, 13b, 13c, and 13d, which were described in the agenda of the meeting as follows:

13a. The Port Commission will go into executive session pursuant to §551.071 and §551.072 of the Texas Government Code to deliberate purchase of real property in the vicinity of the Inner Harbor and to receive legal advice concerning this acquisition.

13b. The Commission will go into executive session pursuant to §551.072 of the Texas Government Code to deliberate leasing and the value of certain PCCA real property in Nueces and San Patricio Counties.

13c. The Commission will go into executive session pursuant to §551.074 of the Texas Government Code to deliberate the employment and duties of the Executive Director.

13d. The Commission will go into executive session pursuant to §551.074 of the Texas Government Code to deliberate the employment and duties of the Deputy Executive Director.

14. Reconvene Open Session: The Chairman reconvened the meeting in open session at 10:50 a.m. to consider agenda item 14a.

14a. *Lease Agreement, Heavy Haul Road Easement Agreement, and Pipeline Easement Agreement with GCGV Asset Holding LLC:* Staff recommended approval, in the form presented to the meeting, of a Lease Agreement, Heavy Haul Road Easement Agreement, and Pipeline Easement Agreement with GCGV Asset Holding LLC on certain PCCA real property in Nueces and San Patricio Counties for use in connection with the construction and operation of GCGV's plant in San Patricio County. Staff also recommended

approval, in the form presented to the meeting, of a letter agreement with GCGV concerning notice and cure periods under these agreements.

Action: On motion made by Mr. Valls and seconded by Mr. Squires, the Commission approved Staff's recommendation.

At 10:56 a.m., Mr. Zahn announced that the Commission would resume the closed session to discuss the remaining executive session agenda items..

At 12:16 p.m.*, *the Chairman reconvened the meeting in open session to take the following action on agenda items 14b, 14c, and 14d:

14b. ***Amendment to the Executive Director's Employment Agreement:*** In executive session, the Commission deliberated the employment and duties of John P. LaRue. On motion made by Ms. Canales and seconded by Mr. Squires, the Commission approved the Second Amendment to the Executive Director's Amended and Restated Employment Contract as discussed in executive session, authorized counsel to prepare the amendment, and authorized the Chairman to execute the amendment effective as of January 1, 2018.

14c. ***Amended and Restated Employment Agreement for the Deputy Executive Director and Chief Operating Officer:*** In executive session, the Commission deliberated the employment and duties of Sean C. Strawbridge. On motion made by Ms. Canales and seconded by Mr. Valls, the Commission approved, in the form presented to the meeting, the Amended and Restated Employment Agreement for Sean C. Strawbridge, which provides among other things that Mr. Strawbridge will be PCCA's Chief Executive Officer effective as of January 1, 2018, and authorized the Chairman to execute the agreement. Mr. Hoskins voted no on this item.

14d. ***Amendment to Professional Services Contract with Amec, Foster, Wheeler, Environment & Infrastructure, Inc.:*** Staff recommended approval, in the form presented to the meeting, of Amendment No. 1 to PCCA's Professional Engineering Services Contract for Supplemental Services with Amec, Foster, Wheeler, Environment & Infrastructure, Inc. (Regional Water Supply Desalination Project), in an amount not to exceed $40,000.

Action: On motion made by Mr. Valls, and seconded by Mr. Squires, the Commission approved Staff's recommendation.

15. Adjourn: On motion duly made and seconded, the meeting was adjourned at 12:19 p.m.

EXHIBIT "A

Being 38.06 acres of land, more or less, out of 783.575 acre Tract in San Patricio County, Texas, said 783.575 acre tract Being out of the T. T. Williamson Survey, A-292, the T. T. Williamson Survey, A-293, the T. T. Williamson Survey, A-143, The Heirs of Rosa Teal Survey, A-262, the William McDonough Survey, A-184, and the Day, Land and Cattle Company Survey, A-387, and said 783.575 acre survey described as Tract 1 in File No. 36441B, Real Property Records of San Patricio County, Texas, and this 38.06 acre tract being more particularly Described by metes and bounds as follows:

BEGINNING at a found fence corner post for the southeast corner Of this tract, the same being the southmost southeast corner of Said 783.575 acre tract and said corner being on the north Boundary of the Robert H. Welder Tract;

THENCE S 87°01'13" W with the south boundary of this tract and Said 783.575 acre tract, the same being the north boundary of Said Welder Tract, 36.19 feet, to a set 5/8-inch iron rod for The southwest corner of this tract;

THENCE N 03°04'21" W with the west boundary of this tract 3537.50 feet to a set 5/8-inch iron rod for the northwest Corner of this tract, said corner being on the southerly north boundary line of said 783.575 acre tract;

THENCE S 55°53'29" E with the north boundary of this tract and The southerly north boundary line of said 783.575 acre tract, 1075.08 feet, to a found hole at the former location of a fence corner post for the northeast corner of this tract and a southerly northeast corner of said 783.575 acre tract;

THENCE S 34°08'00" W, 266.79 feet to a found fence corner post For an interior corner of this tract and said 783.575 acre tract;

THENCE, S 00°33'00" E. with the east boundary of this tract and The southerly east boundary of said 783.575 acre tract, 1788.73 feet, to a found corner post for a southeast corner of this tract and said 783.575 acre tract;

THENCE, S 88°41'45" W, 545.70 feet, to a found fence corner Post for an interior corner of this tract and said 783.575 acre Tract;

THENCE, S 00°52'01" E, 905.88 feet to the point of beginning and containing 38.06 acres of land, more or less.

EXHIBIT
B

54223

METES AND BOUNDS DESCRIPTION
OF A
THIRTY FOOT WIDE
INGRESS/EGRESS EASEMENT

Being a thirty foot wide ingress/egress easement located within a 119.00 acre tract, said 119.00 acre tract being out of a 1229.47 acre Welder Tract being out of the Day Land and Cattle Company Survey, A-387 and the T. T. Williamson Survey, A-292, and this thirty foot wide access easement being more particularly described by metes and bounds as follows;

Beginning at the northeast corner of this easement, said corner being on the east boundary of said 119.00 acre tract and bearing S 01-45-09 E, 85.00 feet, from the northeast corner of said 119.00 acre tract, said northeast corner of said 119.00 acre tract bearing S 88-14-51 W, 2017.57 feet, from the northeast corner of said 1229.47 acre tract;

Thence S 01-45-09 E with the east boundary of this easement and said 119.00 acre tract, at 15.00 feet pass the approximate centerline of an existing caliche road, in all 30.00 feet to the southeast corner of this easement;

Thence S 88-14-51 W with the south boundary of this easement and running 115.00 feet south of and parallel to the north boundary of said 119.00 acre tract and also running approximately 15 feet south of and parallel to said existing caliche road, 2225.00 feet, to the southwest corner of this easement;

Thence N 01-45-09 W with the west boundary of this easement, at 15 feet pass the approximate centerline of said existing caliche road, in all 115.00 feet to the northwest corner of this easement, said corner being on the north boundary of said 119.00 acre tract, the same being the north boundary of said 1229.47 acre tract;

Thence N 88-14-51 E with the west boundary of this easement and said 119.00 acre tract and said 1229.47 acre tract, 30.00 feet, to the westmost northeast corner of this easement;

Thence S 01-45-09 E with the westmost east boundary of this easement, 85.00 feet, to an interior corner of this easement;

Thence N 88-14-51 E with the north boundary of this easement and running 85.00 feet, south of and parallel to the north boundary of said 119.00 acre tract and said 1229.47 acre tract, and also running 30.00 feet north of and parallel to the south boundary of this easement and approximately 15 feet north of and parallel to said existing caliche road, 2195.00 feet, to the point of beginning and containing 1.591 acres of land, more or less.



6/14/07

Note: Bearings are State Plane Grid bearings.

RESOLUTION OF APPRECIATION
FOR
RAYMOND "RAY" CANTU

WHEREAS, for 33 years, Raymond has worked diligently and conscientiously for the Port of Corpus Christi Authority for the Grain Elevator and Maintenance Department; and

WHEREAS, on December 11th 1984, **Ray** was hired as a Laborer at the Grain Elevator for 8 years; and

WHEREAS, On February 5th 1993, Ray was transferred to the Maintenance Department as a Maintenance Worker; and

WHEREAS, On March 11th 1996, Ray was promoted to Senior Maintenance Worker. Soon after being promoted Ray became a certified Welder by the American Welding Society; and

WHEREAS, Ray is known as being very quiet, family orientated and reserved and is never afraid to speak his mind. He has worked for a total of nearly 25 years at the Maintenance department; and

WHEREAS, Ray worked diligently to successfully perform the duties required of each area of responsibility; and

WHEREAS, Ray has performed such duties with integrity, self-esteem, dedication and candor; and

NOW THEREFORE BE IT RESOLVED, upon his retirement, effective January 22nd 2018, the Port Commission of the Port of Corpus Christi Authority, for itself and on behalf of the Port staff and the Port community as a whole expresses its sincere gratitude and appreciation for the decades of services that Raymond Cantu has given to the Port of Corpus Christi Authority, the citizens of the Coastal Bend, and to the maritime industry; and

BE IT FURTHER RESOLVED, this resolution be made a part of the permanent minutes of this Port Commission meeting, January 16th 2018 and that a signed original of this Resolution be furnished to Raymond Cantu and presented to Raymond, his spouse, Diane, their two sons, Adrian Cantu and Daniel Cantu and daughter Rebecca Cantu.

WISHING YOU A RETIREMENT FILLED WITH MANY BLESSINGS

PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: Tom Mylett
Director, Port Security
tom@pocca.com
(361) 885-6180

Adopt Resolution of Appreciation For
The Corpus Christi Port Readiness Committee

SUMMARY: Staff requests the Port Commission adopt a resolution of appreciation for the Corpus Christi Port Readiness Committee.

BACKGROUND: The Corpus Christi Port Readiness Committee (PRC) is comprised of individuals from federal, state, and local governments, as well as private industry and rail, including the U.S. Army Corps of Engineers, Military Surface Deployment and Distribution Command, 842nd Transportation Battalion, U.S. Maritime Administration, Military Sealift Command, U.S. Coast Guard, Transportation Security Administration, Texas Department of Public Safety, Corpus Christi Police Department, and Port of Corpus Christi Police & Security Department. The attached resolution recognizes the PRC for exceptional public service from December 2016 through December 2017, while ensuring the safety and security of numerous military equipment outloads within the Port of Corpus Christi.

ALTERNATIVES: N/A

CONFORMITY TO PORT POLICY: This project supports Strategic Goal 3 to Operate the Port's Facilities in a Safe, Secure and Efficient Manner.

EMERGENCY: No

FINANCIAL IMPACT: None.

STAFF RECOMMENDATION: Staff recommends that the Port Commission adopt the attached Resolution of Appreciation for the Corpus Christi Port Readiness Committee.

222 Power Street 78401 | PO Box 1541 78403 | Corpus Christi, Texas | T 361 882 5633 F 361 882 7110 | portofcorpuschristi.com

DEPARTMENTAL CLEARANCES:

Originating Department	Port Security
Reviewed & Approved	Tom Mylett
Senior Staff	Sean Strawbridge
	John LaRue
	Port Security Committee
Legal	Dane Bruun

LIST OF SUPPORTING DOCUMENTS:

A – Resolution

Resolution of Appreciation
For
The Corpus Christi
Port Readiness Committee

WHEREAS, the Corpus Christi Port Readiness Committee (PRC) is comprised of individuals from federal, state, and local governments, as well as private industry and rail, including the U.S. Army Corps of Engineers, Military Surface Deployment and Distribution Command, 842nd Transportation Battalion, U.S. Maritime Administration, Military Sealift Command, U.S. Coast Guard, Transportation Security Administration, Texas Department of Public Safety, Corpus Christi Police Department, and Port of Corpus Christi Police & Security Department. The PRC is recognized for exceptional public service from December 2016 through December 2017, while ensuring the safety and security of numerous military equipment outloads within the Port of Corpus Christi.

WHEREAS, the PRC displayed exceptional planning, preparedness and organization while spearheading the vast coordination and readiness efforts for twelve military equipment outload operations within the Port of Corpus Christi. The PRC was tremendously successful in coordinating the participation of federal, state, and local tactical surface, air, dive and K-9 resources to ensure safe and secure vessel, and pier side, operations - cargo transportation, staging, loading, stowage, vessel transits and shipboard safety systems.

WHEREAS, these critical military equipment outloads supported **Operation Inherent Resolve**, the fight against ISIS, as well as, **Operation Atlantic Resolve's** mission to reassure European allies in light of Russia's invasion of Ukraine.

WHEREAS, in preparation for these operations, an Incident Action Plan (IAP) using the Incident Command System (ICS) was jointly developed by the unified efforts of all members of the PRC. PRC members executed maritime safety and security measures which included vessel escorts, over flights, fixed and moving security zones, facility security sweeps, underwater pier sweeps, harbor patrols, etc. In total, nearly 10,000 pieces of vital military equipment transited the Port of Corpus Christi. The collaboration and superb cooperation, adaptability and flexibility displayed during these operations illustrates the power of teamwork and the benefits of port partnerships.

NOW THEREFORE BE IT RESOLVED that the Port Commission of the Port of Corpus Christi Authority, for itself and on behalf of Port staff and the Port community as a whole, expresses its sincere appreciation to the members of the PRC, who through their dedication and devotion to duty have contributed to the efforts of our armed forces and allies through their support of Department of Defense overseas contingency operations and their combatant commanders.

PORT CORPUS CHRISTI

DRAFT AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: David L. Krams, P.E.
Director of Engineering Services
Krams@pocca.com
(361) 885-6134

Award a Construction Contract in the Amount of $392,788.00 to Derrick Construction Company Inc., the Lowest and Best Bidder Based on Bids Received December 22, 2017, for the Rincon B Mitigation Project.

SUMMARY: Staff recommends the award of a contract to Derrick Construction Company, Inc. for construction of the Rincon B Mitigation project. On December 22, 2017, we received one response to our Notice to Bidders (see attached Bid Tabulation). Derrick Construction Company, Inc., submitted the lowest and best bid for $392,788.00.

BACKGROUND: The Rincon B Mitigation project is required as part of the U.S. Army Corps of Engineers permit for construction of waterfront improvements along the east side of Rincon Canal B. Though construction of the physical bulkhead portion of the project has yet to begin, the first phase of construction was initiated in 2013 for site preparation, grading, and providing some structural backfill for the future bulkhead, triggering the need to perform the required mitigation.

The mitigation site is located near the north end of the Rincon B West Dredged Material Placement Area along the shoreline of Nueces Bay, and the project generally consists of excavating areas of the site to construct habitat benches and water exchange channels and the planting of an approximate one-half acre of marsh vegetation. See the attached exhibit.

Derrick Construction Company, Inc. submitted the lowest and best bid for $392,788.00 for the Base Bid. Derrick has successfully completed several projects for the PCCA in the past and is currently constructing the Viola Barge Basin Bulkhead Addition project.

ALTERNATIVES: N/A. This mitigation project was included as a requirement of the USACE regulatory permit.

CONFORMITY TO PORT POLICY: The project conforms to the PCCA's Strategic Plan (Strategic Goal #2 – Provide Facilities and Services to Meet Customer Needs, Strategic Objective #2B – Provide Public Docks and Support Private Facilities to Facilitate Maritime

and Industrial Development, Action #4 – Develop Process to Support Private Customer Projects).

EMERGENCY: No. However, the permit requirement is outstanding and needs to be addressed.

FINANCIAL IMPACT: The 2018 Engineering budget included an estimated construction cost of $550,000. If awarded, the majority of the construction contract funds will be expended in 2018.

STAFF RECOMMENDATION: Staff recommends award of a contract to Derrick Construction Company, Inc. in the amount of $392,788.00 for the Rincon B Mitigation project. Staff further recommends that the Director of Engineering Services be granted an 8% contingency ($31,423.04) in accordance with the PCCA's standard contingency guidelines for marine construction projects. Therefore, the total possible construction contract cost for this project based on staff's recommendation is $424,211.04.

DEPARTMENTAL CLEARANCES:

Originating Department	Engineering Services
Reviewed & Approved	David Krams
	Dave Michaelsen
Legal	Used Port's Standard Construction Contract Template
Senior Staff	John LaRue
	Sean Strawbridge
	Dennis DeVries

LIST OF SUPPORTING DOCUMENTS:

Map Exhibit
Bid Tabulation

PORT CORPUS CHRISTI®
Moving America's Energy

Rincon B Mitigation Construction



PORTCORPUSCHRISTI

BID TABULATION FOR
RINCON B MITIGATION CONSTRUCTION
PROJECT NO. 13-041C
Bid Opening: December 22, 2017 - 11 AM

Company Name	Bid Bond or Check	Base Bid[A]	Contractor Qualification Statement (Y/N)
Derrick Construction Company, Inc.	5% GAB	$392,788.00	Y

The work to be executed under this contract will be commenced within ten (10) calendar days of the date of the written Notice to Proceed with excavation and fill work to be completed to by March 15, 2018. (Replanting, if necessary, and if not completed by May 31, 2018, shall occur during the month of September 2018 and be completed no later than September 30, 2018.)

[A] **BASE BID**: The work consists of excavating and disposing of the existing material at the project site to create the mitigation berms within the specified template; planting of Spartina alterniflora; post-plant survival survey of the planted vegetation including preparation of survival survey reports and replanting, if necessary; protection of the environment; erosion control; construction surveying; and cleanup. This is a Lump Sum bid item.

Read By: David L. Krams, Director of Engineering Services

Tabulated By: Cindy Hamilton

Checked & Prepared By: Procurement

Date: 12/22/17

PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: David L. Krams, P.E.
Director of Engineering Services
krams@pocca.com
361-885-6134

ANTICIPATED STAFF PRESENTER: Jacob Morales, P.E.
Senior Project Engineer

Approve an Increase in Contingency in the amount of $250,000 and a Change Order with J.M. Davidson, Ltd in the Amount of $258,866.88 associated with the Construction of the Bulk Liquid Handling Facilities at Bulk Terminal Dock 3.

SUMMARY: Staff requests approval of an increase in contingency in the amount of $250,000 and a Change Order in the amount of $258,866.88 with J.M. Davidson, Ltd for changes and additions primarily related to the piping for the construction of bulk liquid handling facilities at Bulk Terminal Dock 3.

BACKGROUND: On September 19, 2017, the Commission awarded a construction contract to JM Davidson, Ltd. in the amount of $6,621,987 for the construction of petroleum liquids and vapor handling facilities at Bulk Terminal Dock 3. In addition, a 4% contingency ($264,879.48) was approved should adjustment or changes be required during construction. The completed project will allow the transfer of refined petroleum products to and from barges and ocean going vessels berthed at Bulk Dock 3 including serving the adjacent Maverick Terminals Corpus, LLC (Howard Energy) terminal currently under construction. The scope of work involved dock modification, additional mooring structures, and extensive amounts of mechanical process, electrical, and instrumentation disciplined construction activities to be completed in an accelerated schedule.

To date, $79,194.30 in contingency has been expended, leaving a current balance of $185,685.18. However, given the need to make several additional contract changes, both unforeseen and those presented by the PCCA's design consultant during construction, additional contingency is being requested to complete the project. Known remaining modifications and included in the attached Change Order generally include the following and primarily consist of modifications and additions to the piping and related equipment:

- Changes and Additions for Operation and Safety Requirements – Design and bid documents were based on incorporating customer provided transloaders for the rail loading component of the facility. The devices reportedly included some anticipated safety devises. However, the actual loaders did not meet the reported

specifications; therefore, modifications to piping and the addition of safety devices, instrumentation, and valves are required. In addition, the new vapor combustor unit is required to be upgraded to include detonation arresters, fire-safe valves, fail-safe actuators, pressure switches, and heat shield.

- Adjustments for Repositioning the Spud Barge Mounted Loading Tower – The design of the original piping and supports was based on a certain position of the barge and spuds (piles) being driven into the ground to secure the barge relative to the Bulk Dock 3 structure and being safely offset from the recorded location of three underground pipelines crossing the ship channel. However, when confirming the pipelines' actual location post project award, the barge location required adjustments to maintain a safe distance from the pipelines, resulting in the re-design and modifications to multiple new pipelines and pipe supports on the Bulk Dock 3 structure and on the shoreline.

- Adjustments to Accommodate Existing Landside Underground Piping – The design and positioning of new equipment, structures, and pipelines was based on recorded locations of buried existing pipelines. However, during construction, it was discovered that the buried pipelines were not exactly located where expected. Therefore, modifications are required to accommodate these adjustments by reconfiguring VCU#1 foundation, adding additional pipe supports, and modifying the route of piping for landside activities.

Costs to make these changes, unfortunately, are greater than what normally would be anticipated in a project; however, given the very aggressive schedule required to meet the Contract and needs of the PCCA's customers, some of the pipe components requiring change had already been fabricated, and therefore, the costs for modifying included covering already sunk costs borne by the Contractor. Staff negotiated the attached Change Order for those items generally described above and additional items that are common for unforeseen, unanticipated adjustments during construction and changes in site conditions, in the amount of $258,866.88. To cover the cost of this Change Order and to provide additional contingency to complete the project, should it be needed, staff is recommending the Commission approve an additional $250,000 (approximately 3.8% of the original contract award) in contingency for this project.

ALTERNATIVES: N/A

CONFORMITY TO PORT POLICY: The project conforms to the PCCA's Strategic Plan (Strategic Goal #2 – Provide Facilities and Services to Meet Customer Needs, Strategic Objective #2B – Provide Public Docks and Support Private Facilities to Facilitate Maritime and Industrial Development, Action #4 – Develop Process to Support Private Customer Projects).

EMERGENCY: Although this is not an emergency action, construction services are required to provide an operating facility that will meet the commercial needs and established schedule of the customer.

FINANCIAL IMPACT: The 2018 Engineering Services Budget includes $2,600,000 to complete the construction of this strategic capital project. The Commission approved $264,879.48 in contingency for this project, and $79,194.30 has been expended to date, leaving a current balance of $185,685.18. To accommodate the proposed $258,866.88 Change Order, $73,181,70 in additional contingency is needed. The requested $250,000 in contingency exceeds the current requirement by $176,818,30, should it be needed to complete the project. By approving the additional contingency, the budget for 2018 will not be exceeded.

STAFF RECOMMENDATION: Staff requests approval of an increase in contingency in the amount of $250,000 and approval of the attached Change Order with J.M. Davidson, Ltd in the amount of $258,866.88 for additional work associated with the construction of bulk liquid handling facilities at Bulk Terminal Dock 3.

DEPARTMENTAL CLEARANCES:

Originating Department	Engineering
Reviewed & Approved	David Krams
	Jacob Morales
	Dave Michaelsen
Legal	Used standard template
Senior Staff	John LaRue
	Sean Strawbridge
	Dennis DeVries

LIST OF SUPPORTING DOCUMENTS:

Change Order

PORT CORPUS CHRISTI

CHANGE ORDER

Change Order No. 3
Date: January 16, 2018

PROJECT:	Bulk Liquid Handling Facility at Bulk Dock 3
PROJECT NUMBER:	17-033B
CONTRACTOR:	J.M. Davidson Ltd.

This contract will be modified to include the changes listed below, and the contract price and/or contract time will be changed to reflect these modifications:

Add the following mechanical piping revision drawings sets into the Contract Documents. The revisions result in the modifications, additions, and deletions of piping, fittings, valves, gaskets, hardware, and related appurtenances for the construction of the Bulk Liquid Handling Facility at Bulk Dock 3.

- **Revision Drawings (36 sheets) dated 10-18-2017 (attached as Exhibit A)**
- **Revision Drawings (30 sheets) dated 10-26-2017 (attached as Exhibit B)**
- **Revision Drawings (47 sheets) dated 11-14-2017 (attached as Exhibit C)**

Detailed breakdown of mechanical piping system changes and costs are included in attached Exhibit D.

Increase in Contract Price:	$	258,866.88
Increase in Contract Time:		20 Days
Original Contract Amount:	$	6,621,987.00
Total Amount of Previous Change Orders:	$	79,194.30
Amount of this Change Order:	$	258,866.88
Revised Contract Amount:	$	6,960,048.18
Notice To Proceed Date:		October 03, 2017
Original Contract Time:		89 Days
Previous Changes in Contract Time:		13 Days
Calendar Days for this Change Order:		20 Days
Revised Contract Time:		122 Days
Required Completion Date:		February 02, 2018

The change in contract price incorporates all costs for this Change Order including but not limited to the following—direct and indirect costs, overhead, profit, insurance, bonds, labor, materials, equipment, supervision, and delays. This Change Order is accepted and executed by the Port of Corpus Christi Authority and J.M. Davidson Ltd., as signed by their duly authorized representatives below.

Port of Corpus Christi Authority

By: _____
Jacob Morales, P.E.
Senior Project Engineer

By: _____
David L. Krams, P.E.
Director of Engineering Services

Date: January 16, 2018

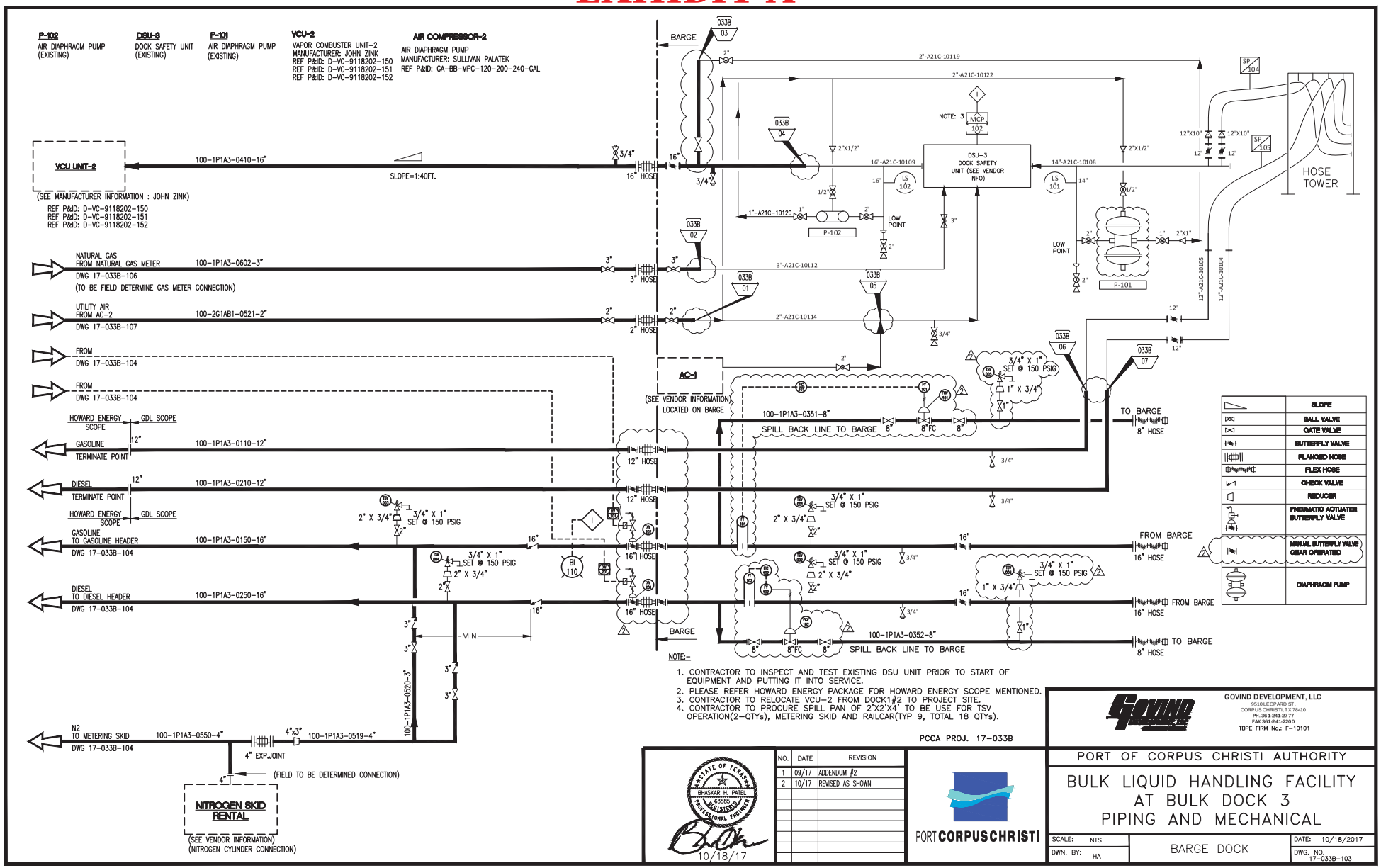
J.M. Davidson Ltd.

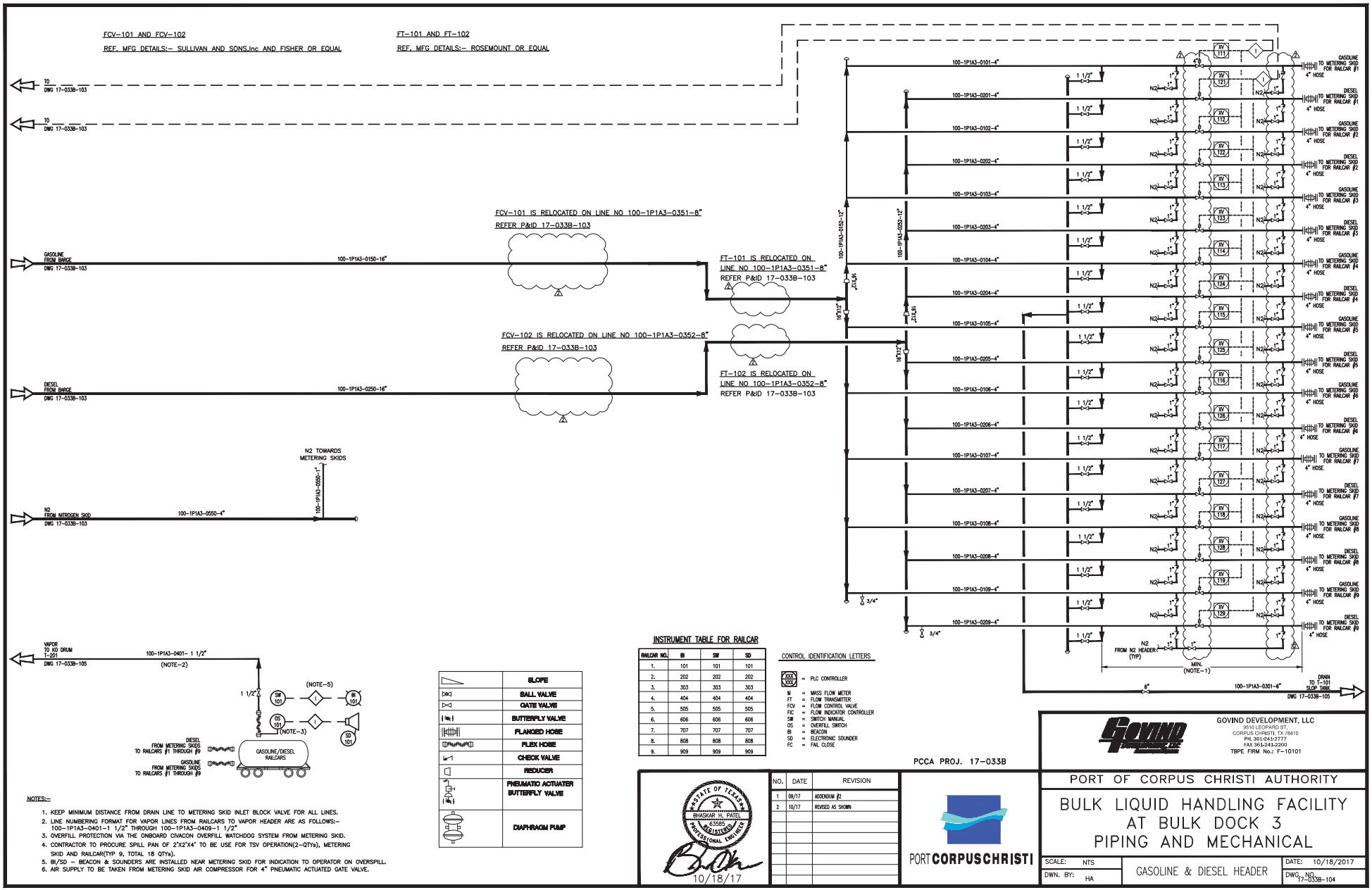
By: _____
James Olivarez
Chief Estimator/Planner

Date: _____

222 Power Street 78401 | PO Box 1541 78403 | Corpus Christi, Texas | T 361 882 5633 F 361 882 7110 | portofcorpuschristi.com

EXHIBIT A


P-102
AIR DIAPHRAGM PUMP
(EXISTING)
DSU-3
DOCK SAFETY UNIT
(EXISTING)
P-101
AIR DIAPHRAGM PUMP
(EXISTING)
VCU-2
VAPOR COMBUSTER UNIT-2
MANUFACTURER: JOHN ZINK
REF P&ID: D-VC-9118202-150
REF P&ID: D-VC-9118202-151
REF P&ID: D-VC-9118202-152
AIR COMPRESSOR-2
AIR DIAPHRAGM PUMP
MANUFACTURER: SULLIVAN PALATEK
REF P&ID: GA-BB-MPC-120-200-240-GAL
VCU UNIT-2
(SEE MANUFACTURER INFORMATION : JOHN ZINK)
REF P&ID: D-VC-9118202-150
REF P&ID: D-VC-9118202-151
REF P&ID: D-VC-9118202-152
100-1P1A3-0410-16"
SLOPE=1:40FT.
NATURAL GAS
FROM NATURAL GAS METER
DWG 17-033B-106
(TO BE FIELD DETERMINE GAS METER CONNECTION)
100-1P1A3-0602-3"
UTILITY AIR
FROM AC-2
DWG 17-033B-107
100-2G1AB1-0521-2"
FROM
DWG 17-033B-104
FROM
DWG 17-033B-104
HOWARD ENERGY SCOPE
GDL SCOPE
GASOLINE
TERMINATE POINT
100-1P1A3-0110-12"
DIESEL
TERMINATE POINT
100-1P1A3-0210-12"
HOWARD ENERGY SCOPE
GDL SCOPE
GASOLINE
TO GASOLINE HEADER
DWG 17-033B-104
100-1P1A3-0150-16"
DIESEL
TO DIESEL HEADER
DWG 17-033B-104
100-1P1A3-0250-16"
100-1P1A3-0520-3"
MIN.
N2
TO METERING SKID
DWG 17-033B-104
100-1P1A3-0550-4"
4"x3"
100-1P1A3-0519-4"
4" EXP.JOINT
(FIELD TO BE DETERMINED CONNECTION)
NITROGEN SKID RENTAL
(SEE VENDOR INFORMATION)
(NITROGEN CYLINDER CONNECTION)
BARGE
AC-1
(SEE VENDOR INFORMATION)
LOCATED ON BARGE
100-1P1A3-0351-8"
SPILL BACK LINE TO BARGE
100-1P1A3-0352-8"
SPILL BACK LINE TO BARGE
TO BARGE
8" HOSE
FROM BARGE
16" HOSE
DSU-3
DOCK SAFETY
UNIT (SEE VENDOR
INFO)
P-102
P-101
LOW POINT
HOSE TOWER
3/4" X 1"
SET @ 150 PSIG
2" X 3/4"
1" X 3/4"
SLOPE
BALL VALVE
GATE VALVE
BUTTERFLY VALVE
FLANGED HOSE
FLEX HOSE
CHECK VALVE
REDUCER
PNEUMATIC ACTUATED BUTTERFLY VALVE
MANUAL BUTTERFLY VALVE GEAR OPERATED
DIAPHRAGM PUMP
NOTE:-
1. CONTRACTOR TO INSPECT AND TEST EXISTING DSU UNIT PRIOR TO START OF EQUIPMENT AND PUTTING IT INTO SERVICE.
2. PLEASE REFER HOWARD ENERGY PACKAGE FOR HOWARD ENERGY SCOPE MENTIONED.
3. CONTRACTOR TO RELOCATE VCU-2 FROM DOCK1#2 TO PROJECT SITE.
4. CONTRACTOR TO PROCURE SPILL PAN OF 2'X2'X4" TO BE USE FOR TSV OPERATION(2-QTYs), METERING SKID AND RAILCAR(TYP 9, TOTAL 18 QTYs).
PCCA PROJ. 17-033B
GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101
PORT OF CORPUS CHRISTI AUTHORITY
BULK LIQUID HANDLING FACILITY
AT BULK DOCK 3
PIPING AND MECHANICAL
BARGE DOCK
SCALE: NTS
DWN. BY: HA
DATE: 10/18/2017
DWG. NO. 17-033B-103
NO. DATE REVISION
1 09/17 ADDENDUM #2
2 10/17 REVISED AS SHOWN
STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17
PORT CORPUS CHRISTI
JOB NO. 17POCO139



INSTRUMENT TABLE FOR RAILCAR

RAILCAR NO.	BI	SW	SD
1.	101	101	101
2.	202	202	202
3.	303	303	303
4.	404	404	404
5.	505	505	505
6.	606	606	606
7.	707	707	707
8.	808	808	808
9.	909	909	909

CONTROL IDENTIFICATION LETTERS

XXX / YYY = PLC CONTROLLER
M = MASS FLOW METER
FT = FLOW TRANSMITTER
FCV = FLOW CONTROL VALVE
FIC = FLOW INDICATOR CONTROLLER
SW = SWITCH MANUAL
OS = OVERFILL SWITCH
BI = BEACON
SD = ELECTRONIC SOUNDER
FC = FAIL CLOSE

	SLOPE
	BALL VALVE
	GATE VALVE
	BUTTERFLY VALVE
	FLANGED HOSE
	FLEX HOSE
	CHECK VALVE
	REDUCER
	PNEUMATIC ACTUATED BUTTERFLY VALVE
	DIAPHRAGM PUMP

NOTES:-

1. KEEP MINIMUM DISTANCE FROM DRAIN LINE TO METERING SKID INLET BLOCK VALVE FOR ALL LINES.
2. LINE NUMBERING FORMAT FOR VAPOR LINES FROM RAILCARS TO VAPOR HEADER ARE AS FOLLOWS:- 100-1P1A3-0401-1 1/2" THROUGH 100-1P1A3-0409-1 1/2"
3. OVERFILL PROTECTION VIA THE ONBOARD CIVACON OVERFILL WATCHDOG SYSTEM FROM METERING SKID.
4. CONTRACTOR TO PROCURE SPILL PAN OF 2'X2'X4" TO BE USE FOR TSV OPERATION(2-QTYs), METERING SKID AND RAILCAR(TYP 9, TOTAL 18 QTYs).
5. BI/SD -- BEACON & SOUNDERS ARE INSTALLED NEAR METERING SKID FOR INDICATION TO OPERATOR ON OVERSPILL.
6. AIR SUPPLY TO BE TAKEN FROM METERING SKID AIR COMPRESSOR FOR 4" PNEUMATIC ACTUATED GATE VALVE.

PCCA PROJ. 17-033B

STATE OF TEXAS BHASKAR H. PATEL 83581 REGISTERED PROFESSIONAL ENGINEER
10/18/17

NO.	DATE	REVISION
1	09/17	ADDENDUM #2
2	10/17	REVISED AS SHOWN

PORT CORPUS CHRISTI

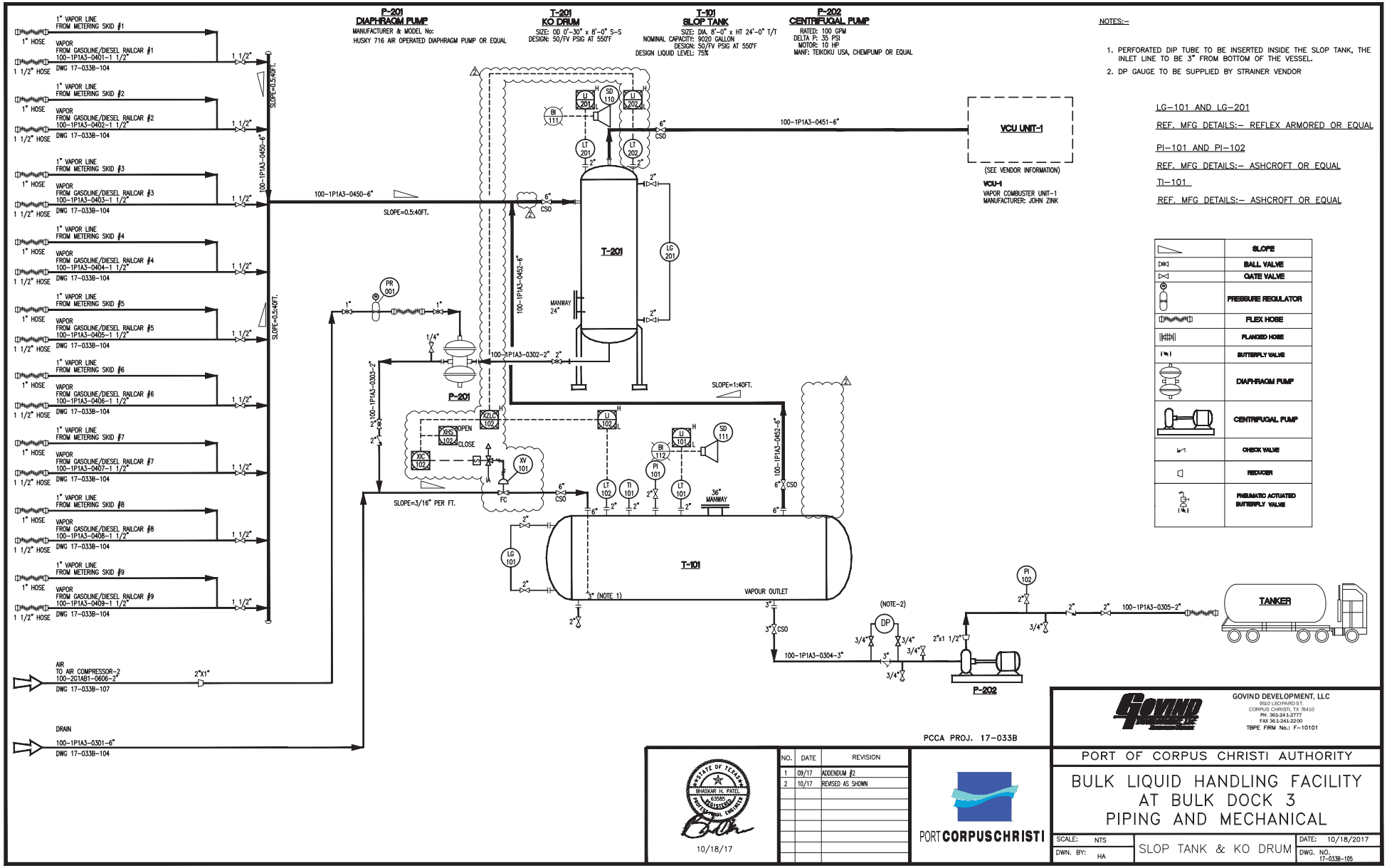
GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST,
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING AND MECHANICAL

SCALE: NTS	GASOLINE & DIESEL HEADER	DATE: 10/18/2017
DWN. BY: HA		DWG. NO. 17-033B-104

JOB NO. 17POC0139



PCCA PROJ. 17-033B

GOVIND DEVELOPMENT, LLC
8510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH: 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

NO.	DATE	REVISION
1	09/17	ADDENDUM #2
2	10/17	REVISED AS SHOWN

STATE OF TEXAS
BHASKAR H. PATEL
63585
LICENSED
PROFESSIONAL ENGINEER
10/18/17

PORT CORPUSCHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING AND MECHANICAL

SCALE: NTS
DWN. BY: HA
SLOP TANK & KO DRUM
DATE: 10/18/2017
DWG. NO. 17-033B-105

JOB NO. 17POC0139

BILL OF MATERIAL FOR PIPING AND ACCESORIES

MARK	QTY	DESCRIPTION	SIZE	LENGTH (LF)	TOTAL LINEAR FOOTAGE
1	1	PIPE, S.80 PE. ASTM A-106 GR.B - SMLS	1"	246	246
2	1	PIPE, S.80 PE. ASTM A-106 GR.B - SMLS	1-1/2"	118	118
3	1	PIPE, S.80 BE ASTM A-106, GR. B-SMLS	2"	340	340
4	1	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	3"	327	327
5	1	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	4"	918	918
6	1	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	6"	1550	1550
7	1	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	8"	80	80
8	1	PIPE, STD BE. ASTM A53, GR. B - SMLS	12"	1382	1382
9	1	PIPE, STD BE. ASTM A53, GR. B - SMLS	16"	880	880
10	9	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1"	150	150
11	9	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1-1/2"	400	400
12	1	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	2"	24	24
13	1	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	3"	24	24
14	27	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	4"	270	270
15	2	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	8"	20	20
16	2	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	12"	84	84
17	2	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	16"	84	84
18	72	90 DEG ELL, 3000# SW, ASTM A-105	1"		
19	36	90 DEG ELL, 3000# SW, ASTM A-105	1-1/2"		
20	25	90 DEG LR ELL,BW ASTM A-234 GR WPB,S.80	2"		
21	16	90 DEG LR ELL,BW ASTM A-234 GR WPB,S.40	3"		
22	38	90 DEG LR ELL,BW ASTM A-234 GR WPB,S.40	4"		
23	36	90 DEG LR ELL,BW ASTM A-234 GR WPB,S.40	6"		
24	4	90 DEG LR ELL,BW ASTM A-234 GR WPB,S.40	8"		
25	26	90 DEG LR ELL,BW ASTM A-234 GR WPB,STD	12"		
26	26	90 DEG LR ELL,BW ASTM A-234 GR WPB,STD	16"		
27	3	45 DEG LR ELL, BW, ASTM A-234 GR WPB,S.80	2"		
28	3	45 DEG LR ELL, BW, ASTM A-234 GR WPB,S.40	3"		
29	2	45 DEG LR ELL, BW, ASTM A-234 GR WPB,S.40	6"		
30	2	45 DEG LR ELL, BW, ASTM A-234 GR WPB,STD	12"		
31	1	45 DEG LR ELL, BW, ASTM A-234 GR WPB,STD	16"		
32	1	TEE, STR.3000#, SW, ASTM A-105	3/4"		
33	2	TEE, STR. S.40, ASTM A-234 GR WPB, BW	2"		
34	2	TEE, STR. S.40, ASTM A-234 GR WPB, BW	3"		
35	2	TEE, STR. S.40, ASTM A-234 GR WPB, BW	4"		
36	5	TEE, STR. S.40, ASTM A-234 GR WPB, BW	6"		
37	2	TEE, STR. STD, ASTM A-234 GR WPB, BW	16"		
38	9	TEE, RED.3000#, SW, ASTM A-105	1-1/2"x1"		
39	1	TEE, REDUCING S.40, ASTM A-234 GR WPB, BW	3"x2"		
40	2	REDUCER, CONC S.40, ASTM A-234 GR WPB, BW	4"x3"		
41	4	REDUCER, CONC S.40, ASTM A-234 GR WPB, BW	6"x4"		
42	4	REDUCER, CONC STD, ASTM A-234 GR WPB, BW	16"x12"		
43	2	SWAGE, CONC. S.80, ASTM A-234 GR WPB PLE-PSE	2"x3/4"		
44	1	SWAGE, CONC. S.80, ASTM A-234 GR WPB PLE-PSE	2"x1"		
45	1	SWAGE, CONC. S.80, ASTM A-234 GR WPB PLE-PSE	2"x1-1/2"		
46	2	CAP, S.40, ASTM A-234 GR WPB, BW	4"		
47	4	CAP, S.40, ASTM A-234 GR WPB, BW	6"		
48	4	CAP, STD, ASTM A-234 GR WPB, BW	12"		
49	1	SOCKOLET, 3000# , ASTM A-105	2"x1/4"		
50	2	SOCKOLET, 3000# , ASTM A-105	2"x3/4"		
51	4	SOCKOLET, 3000# , ASTM A-105	3"x3/4"		
52	4	SOCKOLET, 3000# , ASTM A-105	4"x3/4"		
53	39	SOCKOLET, 3000# , ASTM A-105	4"x1"		
54	15	SOCKOLET, 3000# , ASTM A-105	4"x1-1/2"		
55	27	SOCKOLET, 3000# , ASTM A-105	6"x1-1/2"		
56	3	SOCKOLET, 3000# , ASTM A-105	12"x3/4"		
57	12	SOCKOLET, 3000# , ASTM A-105	16"x3/4"		
58	1	SOCKOLET, 3000# , ASTM A-105	16"x2"		
59	1	WELDOLET ASTM A-105	6"x2"		
60	18	WELDOLET ASTM A-105	12"x4"		
61	2	WELDOLET ASTM A-105	16"x3"		
62	2	WELDOLET ASTM A-105	16"x6"		
63	32	ORIFICE NIPPLE, S.160 PBE.ASTM A106, GR. B - SMLS	3/4"	1.20	
64	1	STRAINER, 150# FLGD.	3"		
65	15	THRD PLUG	3/4"		
66	2	CPLG, SW 3000# , ASTM A-105	3/4"		
67	9	CPLG, SW 3000# , ASTM A-105	1"		
68	9	CPLG, SW 3000# , ASTM A-105	1-1/2"		

NOTE:

1. CONSIDER 15% MARGIN ON PIPE LF LENGTH
2. CONSIDER 3% TO 5% MARGIN ON VALVE & FITTINGS

PCCA PROJ. 17-033B

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17

NO.	DATE	REVISION
1	09/17	ADDENDUM #2
2	09/17	ADDENDUM #5
3	10/17	REVISED AS SHOWN

PORT CORPUS CHRISTI

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361.241.2777
FAX 361.241.2200
TBPE FIRM No.: F-10101

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY
AT BULK DOCK 3
PIPING AND MECHANICAL

SCALE: NTS	BILL OF MATERIAL-1	DATE: 10/18/17
DWN. BY: SH		DWG. NO. 17-033B-133

JOB NO. 17POC0139

BILL OF MATERIAL FOR PIPING ACCESORIES

69	1	FLG, 150# SW ASTM A105, S.80	1"		
70	1	FLG, 150# SW ASTM A105, S.80	1-1/2"		
71	15	FLG, 150# RFWN ASTM A105, S.80 BORE	2"		
72	25	FLG, 150# RFWN ASTM A105, S.40 BORE	3"		
73	64	FLG, 150# RFWN ASTM A105, S.40 BORE	4"		
74	10	FLG, 150# RFWN ASTM A105, S.40 BORE	6"		
75	14	FLG, 150# RFWN ASTM A105, STD BORE	12"		
76	32	FLG, 150# RFWN ASTM A105, STD BORE	16"		
77	1	FLG, RF BLIND 150# S.40, ASTM A-105	4"		
78	2	FLG, RF BLIND 150# STD, ASTM A-105	12"		
79	2	"(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH,ASTM A194 GR. 2H" ASTM A194 GR. 2H"	3/4"	0.30	0.60
80	1	(8) STUD BOLTS W/ NUTS	3/4"	0.30	0.30
81	30	"(4) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H"	5/8"	0.30	9
82	56	"(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H"	5/8"	0.30	16.80
83	7	"(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H"	7/8"	0.40	2.80
84	24	"(16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H"	1"	0.50	12
85	1	(16) STUD BOLTS W/ NUTS	1"	0.50	0.50
86	1	"GASKET 1/8"" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	1"		
87	1	"GASKET 1/8"" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	1-1/2"		
88	15	"GASKET 1/8"" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	2"		
89	25	"GASKET 1/8"" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	3"		
90	64	"GASKET 1/8"" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	4"		
91	11	"GASKET 1/8"" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	6"		
92	2	"GASKET, 1/8"" THK, 150#304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	6"		
93	14	"GASKET 1/8"" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	12"		
94	30	"GASKET 1/8"" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	16"		
95	1	"GASKET, 1/8"" THK, 150#304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	16"		
96	24	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	3/4"	0.20	
97	40	GATE VALVE,800#SW F6/STEL BB,OS&Y, VOGT ST 2801 OR EQ.	1"		
98	18	GATE VALVE, 800# SWxNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1-1/2"	0.30	
99	1	GATE VALVE, 150# FLGD F6/STEL BB,OS&Y,CRANE 47XUF OR EQ.	2"	0.60	
100	3	GATE VALVE, 150# FLGD F6/STEL BB,OS&Y,CRANE 47XUF OR EQ.	3"	0.70	
101	3	GATE VALVE, 150# FLGD F6/STEL BB,OS&Y,CRANE 47XUF OR EQ.	6"	0.90	
102	1	GATE VALVE, 150# FLGD.	8"		

103	36	CHECK VALVE, 800# SW	1"	0.30		
104	2	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15CMF OR EQ.	2"	0.70		
105	2	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15CMF OR EQ.	3"	0.80		
106	1	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15CMF OR EQ.	4"	1.00		
107	2	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15CMF OR EQ.	6"	1.20		
108	2	CHECK VALVE,150# FLGD F6/STEL BC,SWING TYPE,CRANE 147XU OR EQ.	8"			
109	2	CHECK VALVE, 150# WAFER 410 SPLIT DISC, DUOCHEK X15SPF OR EQ.	16"	2.80		
110	1	"BALL VALVE, 800# SW 316 3PC, RED PORT, LEVER OP, JAMESBURY 4CB-2236-MTT OR EQ."	3/4"	0.10		
111	12	"BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ."	2"	0.60		
112	4	"BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ."	3"	0.70		
113	1	"BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ."	4"	0.80		
114	2	BUTTERFLY VALVE, 150# FLGD,	8"			
115	7	BUTTERFLY VALVE, 150# FLGD.	16"	0.30		
116	18	GATE VALVE (PNEUMATIC ACTUATED - AIR OPERATED)	4"	0.80		
117	4	BUTTERFLY VALVE,MANUAL GEAR OPERATED 150# FLGD.	12"	0.30		
118	2	BUTTERFLY CL 150 LUG TYPE (PNEUMATIC ACTUATED - AIR OPERATED) : POSI SEAL #132	16"			
119	4	RELIEF VALVE, 800# THRD	3/4"x1"	0.00		REMOVED
120	2	CONTROL VALVE, 150# FLGD.	4"	1.20		
121	2	CONTROL VALVE, 150# FLGD.	8"			
122	1	PIPE, S.80 T&C ASTM A53, GR. B - SMLS, HOT DIPPED GALVANIZED AFTER FABRICATION	3/4"	1.70		
123	1	"PIPE, S.80 T&C ASTM A53, GR. B - SMLS, HOT DIPPED GALVANIZED AFTER FABRICATION"	2"	450	450	
124	1	90 DEG ELL, 3000# THRD ASTM A105, ZINC METALIZED COATED	3/4"			
125	20	90 DEG LR ELL,3000# THRD ASTM A105, ZINC METALIZED COATED	2"			
126	2	TEE, RED.3000#, SW, ASTM A-105	2"			
127	2	TEE, RED.3000#, SW, ASTM A-105	3/4"			
128	2	REDUCER, 3000# THRD ASTM A105, ZINC METALIZED COATED	2"x3/4"			
129	2	"SWAGE, CONC REDUCER 3000# THRD ASTM A105, ZINC METALIZED COATED"	2"x3/4"			
130	2	ORIFICE NIPPLE, S.160 TBE ASTM A53, GR. B - SMLS, HOT DIPPED GALVANIZED	3/4"	1.20	2.40	
131	1	CPLG, 3000# THRD ASTM A105, ZINC METALIZED COATED	3/4"			
132	1	CPLG, 3000# THRD ASTM A105, ZINC METALIZED COATED	2"			
133	10	"FLG, 150# THRD ASTM A105, SCHEDULE TO MATCH PIPE, HOT DIPPED GALVANIZED AFTER FABRICATION"	2"			
134	10	"(4)ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H"	5/8"	0.30		
135	10	"GASKET, 1/16"" THICK FLAT RING TFE GORE TEX (FOOD GRADE) OR EQ., ASME B16.21"	2"			
136	2	"BALL VALVE,150# FLGD 316 UNIBODY, QUADRANT VALVE F1-R-C-S-V-G-LH-1F OR EQ."	2"	0.60		
137	2	"BALL VALVE,150# FLGD 316 UNIBODY, QUADRANT VALVE F1-R-C-S-V-G-LH-1F OR EQ."	3/4"	0.10		
138	19	SPILL PAN NEW PIG OR EQ	4'x4'X2'			
139	2	BUTTERFLY VALVE,MANUAL GEAR OPERATED 150# FLGD.	16"			
140	2	RED.3000#, SW, ASTM A-105	1"x3/4"			
141	1	GATE VALVE (PNEUMATIC ACTUATED - AIR OPERATED)	6"			

NOTE:

1. CONSIDER 15% MARGIN ON PIPE LF LENGTH
2. CONSIDER 3% TO 5% MARGIN ON VALVE & FITTINGS

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TBPE FIRM No.: F-10101

PCCA PROJ. 17-033B

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17

NO.	DATE	REVISION
1	09/17	ADDENDUM #2
2	09/17	ADDENDUM #3
3	09/17	ADDENDUM #5
4	10/17	REVISED AS SHOWN

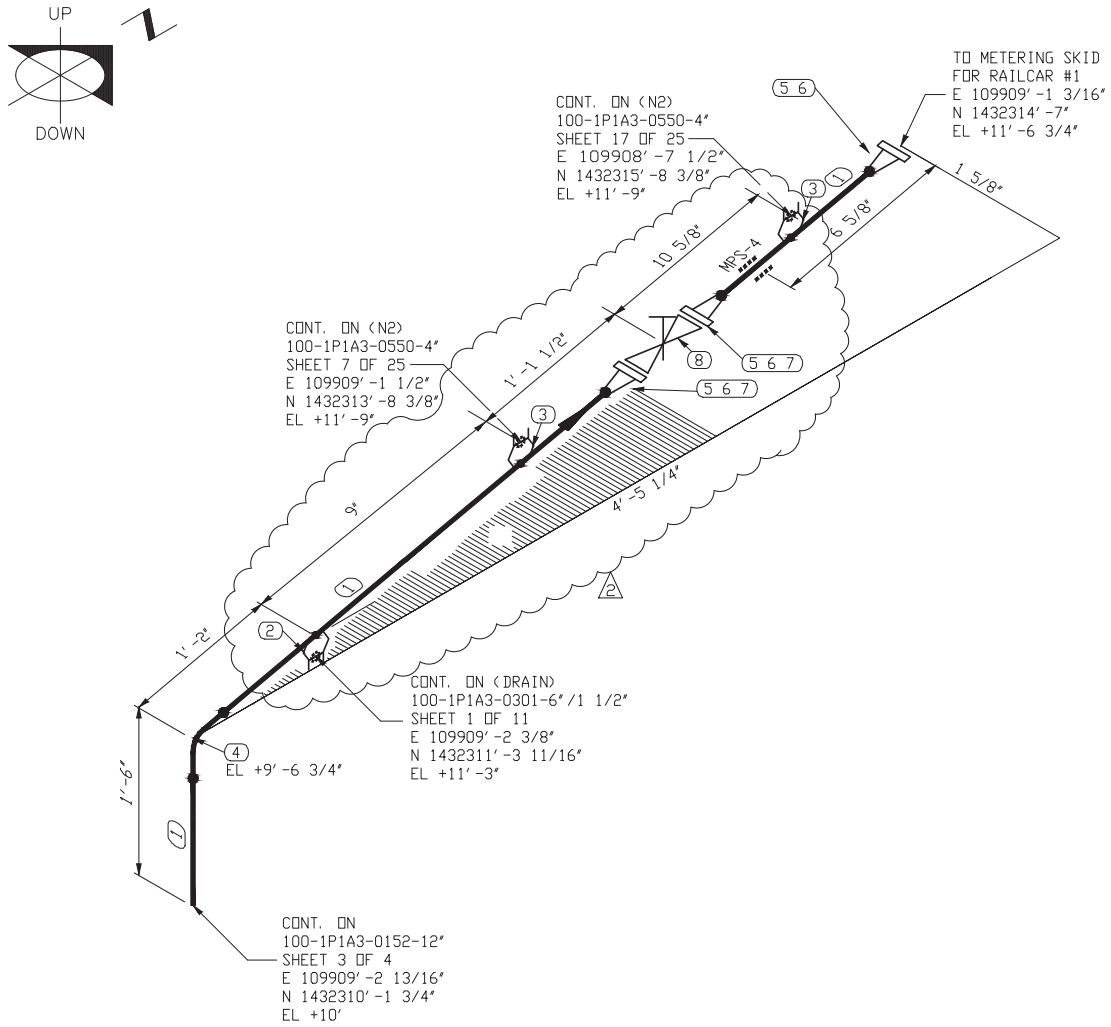
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY
AT BULK DOCK 3
PIPING AND MECHANICAL

SCALE: NTS
DWN. BY: SH
BILL OF MATERIAL-2
DATE: 10/18/2017
DWG. NO. 17-033B-134

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE ASTM A53, GR. B-SMLS	3′5″
2	4X1 1/2	SOCKOLET, 3000# , ASTM A-105	1
3	4X1	SOCKOLET, 3000# , ASTM A-105	2
4	4	90 LR ELL, BW, ASTM A-234 GR WPB, S.40	1
5	4	FLG, 150# WN ASTM A105, S.40	3
6	4	GASKET 1/8″ THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
8	4	PNEUMATIC ACTUATED GATE VALVE, 150# FLGD	1

REFERENCE DRAWINGS FOR SUPPORTS:–

1. REFER DWG. 17–033B–20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17–033B–03 OVERALL PLAN
3. REFER DWG. 17–033B–128 PIPE GUIDE (WELD AREA)

NOTE:–

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/2017

PCCA PROJ. 17–033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

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TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

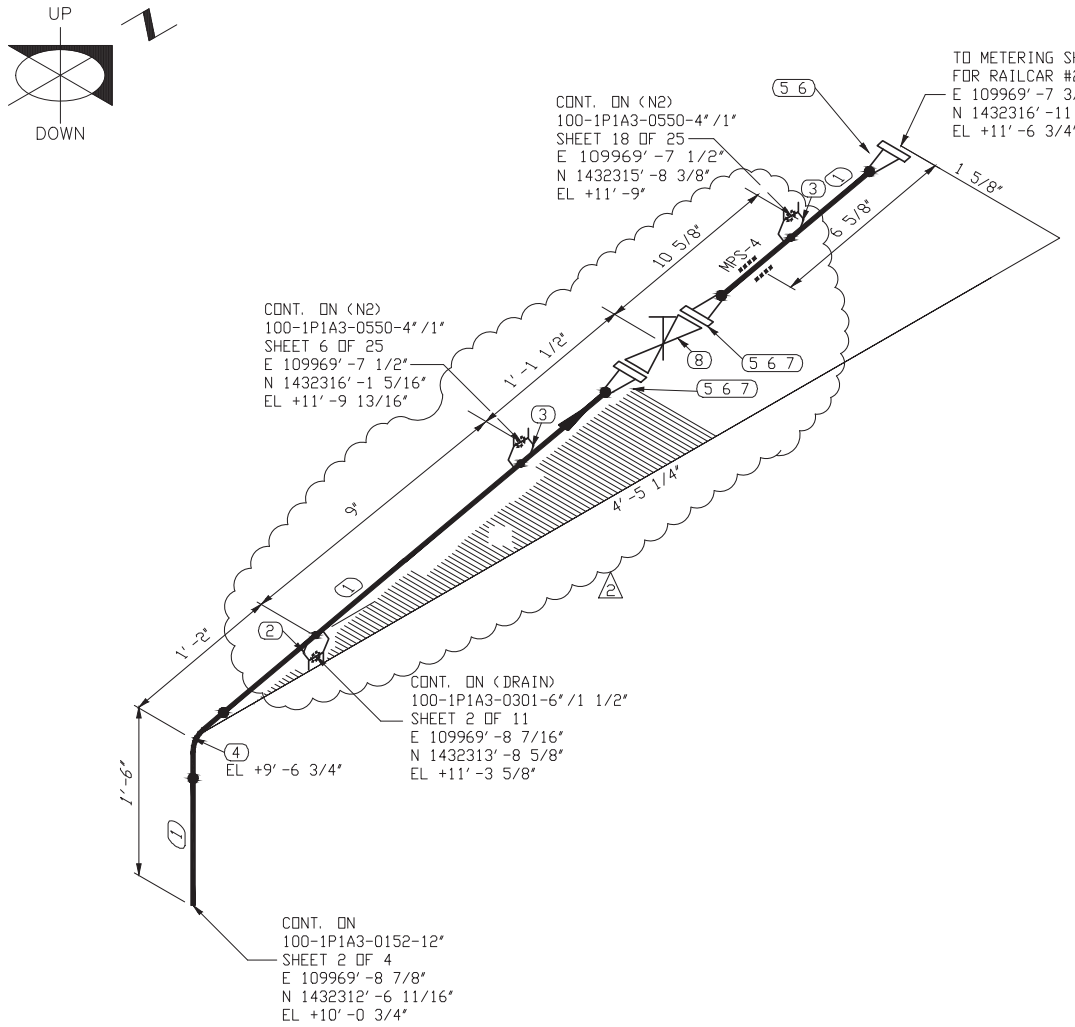
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0101-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE ASTM A53, GR. B-SMLS	3'5"
2	4X1 1/2	SOCKOLET, 3000# , ASTM A-105	1
3	4X1	SOCKOLET, 3000# , ASTM A-105	2
4	4	90 LR ELL, BW, ASTM A-234 GR WPB, S.40	1
5	4	FLG, 150# WN ASTM A105, S.40	3
6	4	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
8	4	PNEUMATIC ACTUATED GATE VALVE, 150# FLGD	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/2017

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

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TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

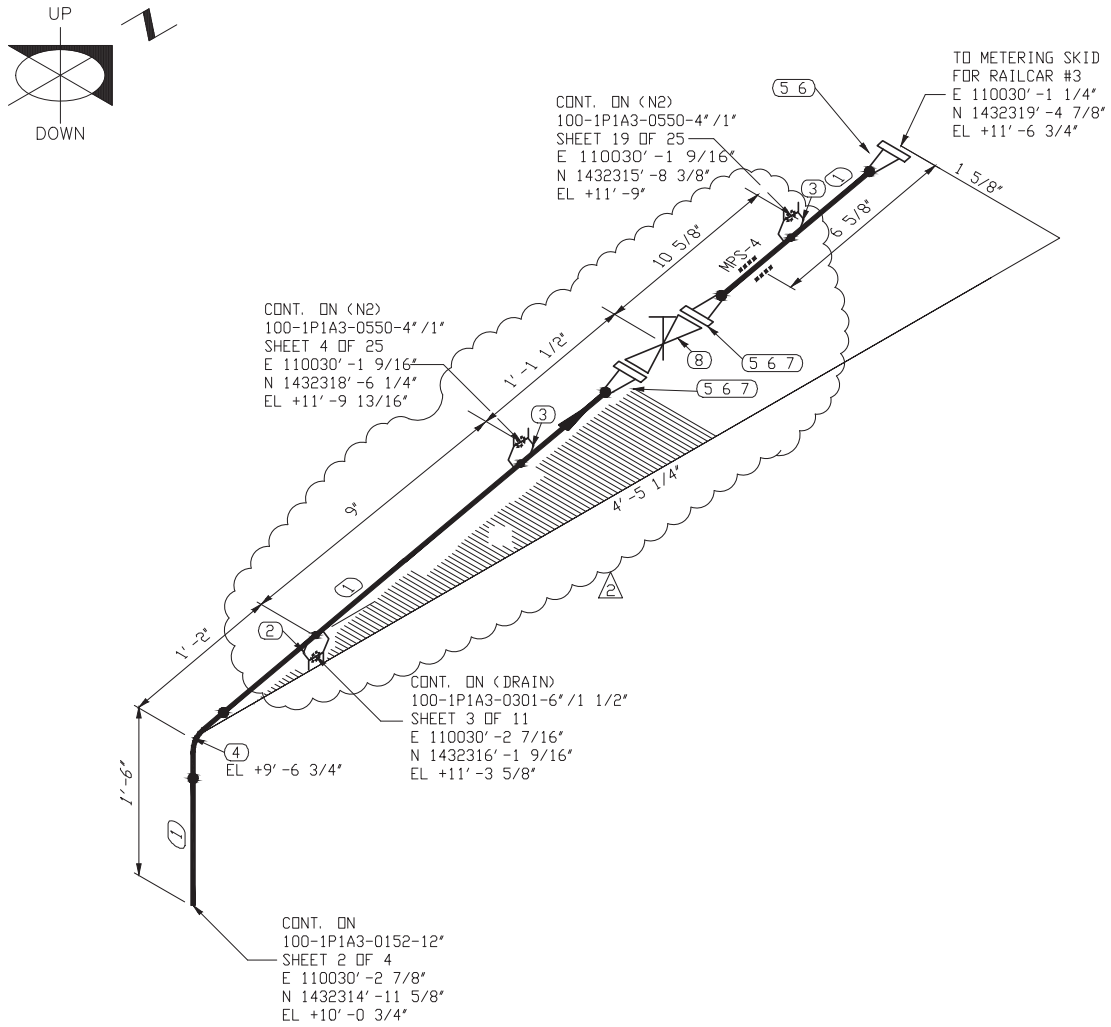
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0102-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE ASTM A53, GR. B-SMLS	3'5"
2	4X1 1/2	SOCKOLET, 3000# , ASTM A-105	1
3	4X1	SOCKOLET, 3000# , ASTM A-105	2
4	4	90 LR ELL, BW, ASTM A-234 GR WPB, S.40	1
5	4	FLG, 150# WN ASTM A105, S.40	3
6	4	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
8	4	PNEUMATIC ACTUATED GATE VALVE, 150# FLGD	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
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3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/2017

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

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FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

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CAD FILE NO.

DR.	HA	DATE	10/18/17
CHK.		DATE	
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OPER. APPR.		DATE	
MAINT. APPR.		DATE	

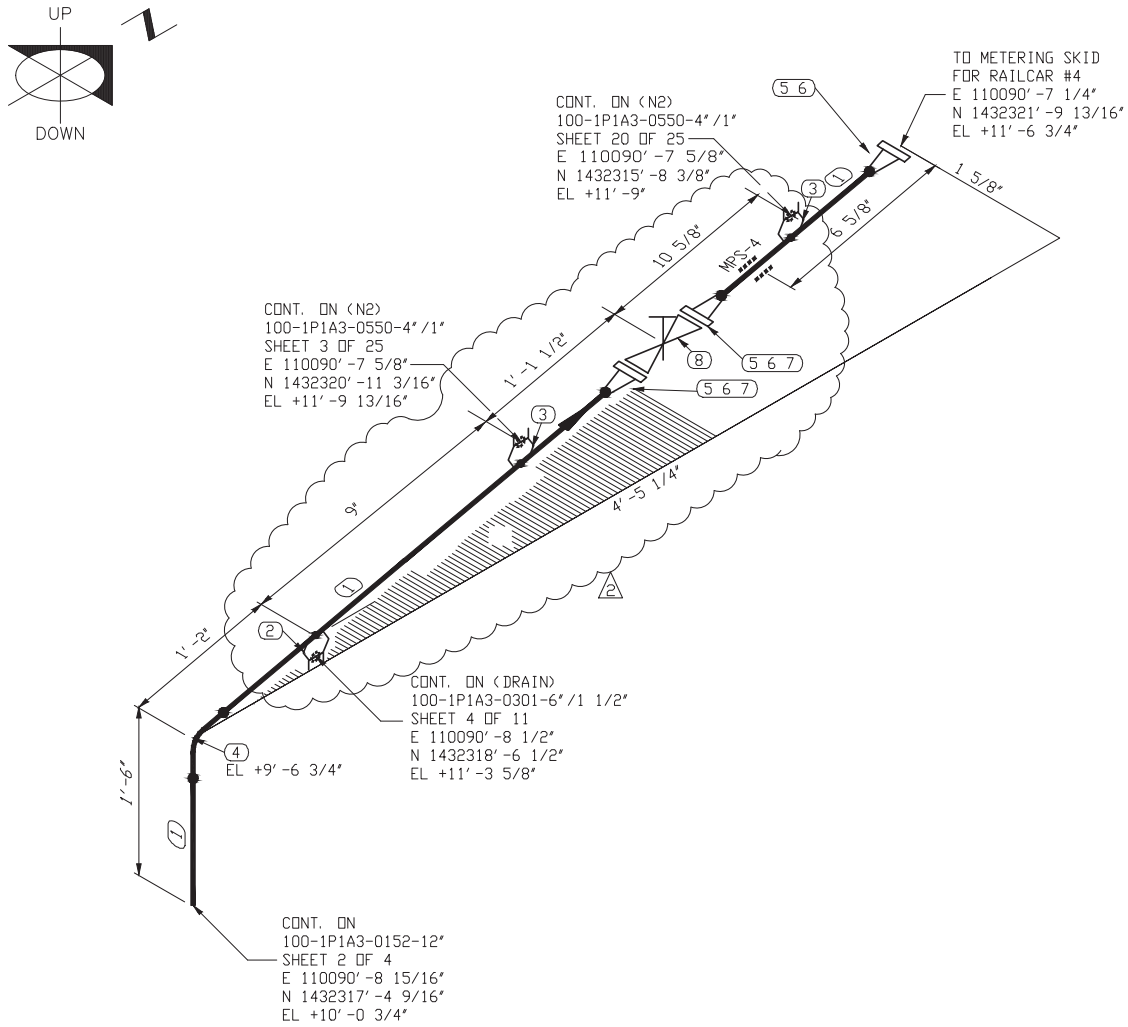
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0103-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE ASTM A53, GR. B-SMLS	3'5"
2	4X1 1/2	SOCKOLET, 3000# , ASTM A-105	1
3	4X1	SOCKOLET, 3000# , ASTM A-105	2
4	4	90 LR ELL, BW, ASTM A-234 GR WPB, S.40	1
5	4	FLG, 150# WN ASTM A105, S.40	3
6	4	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
8	4	PNEUMATIC ACTUATED GATE VALVE, 150# FLGD	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

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STATE OF TEXAS
BHASKAR H. PATEL
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10/18/2017

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

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PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

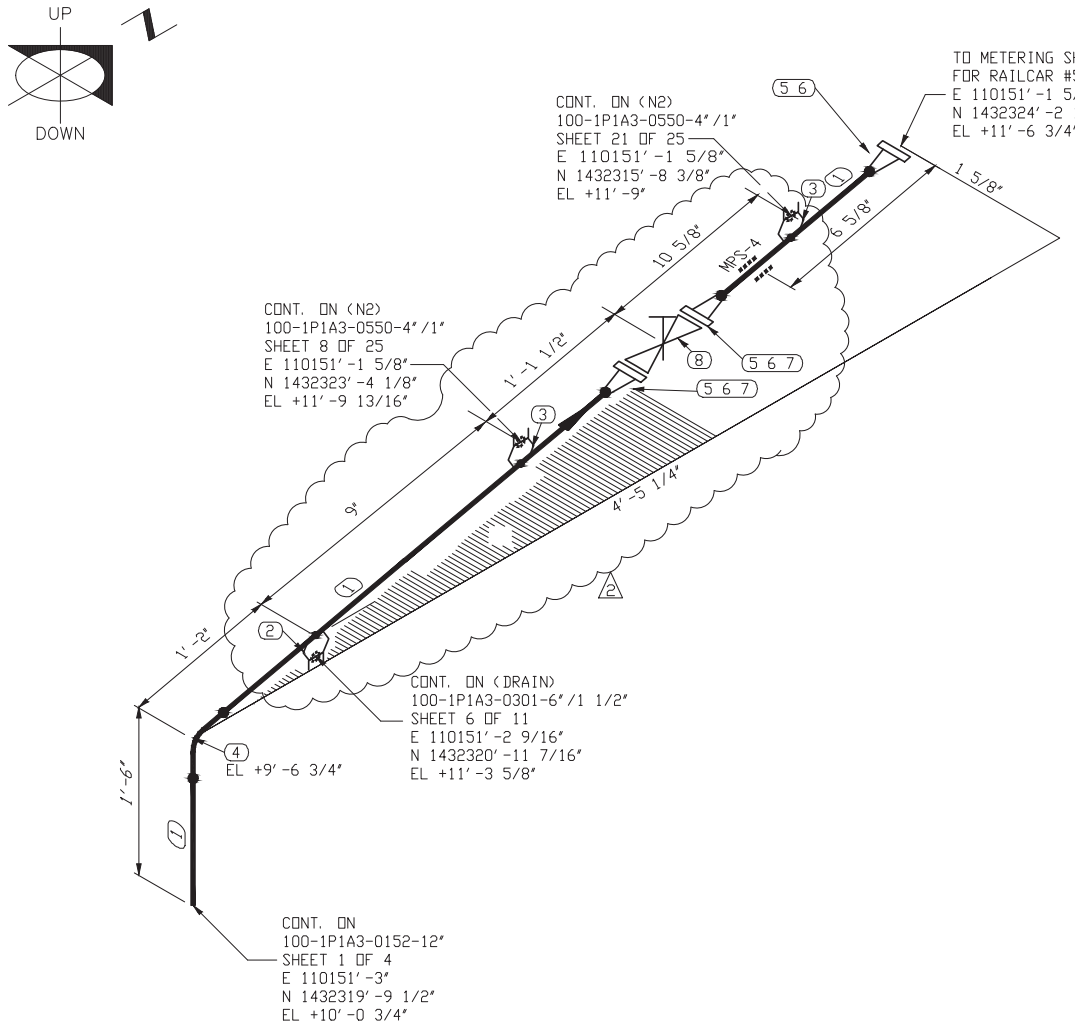
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0104-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE ASTM A53, GR. B-SMLS	3'5"
2	4X1 1/2	SOCKOLET, 3000# , ASTM A-105	1
3	4X1	SOCKOLET, 3000# , ASTM A-105	2
4	4	90 LR ELL, BW, ASTM A-234 GR WPB, S.40	1
5	4	FLG, 150# WN ASTM A105, S.40	3
6	4	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
8	4	PNEUMATIC ACTUATED GATE VALVE, 150# FLGD	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/2017

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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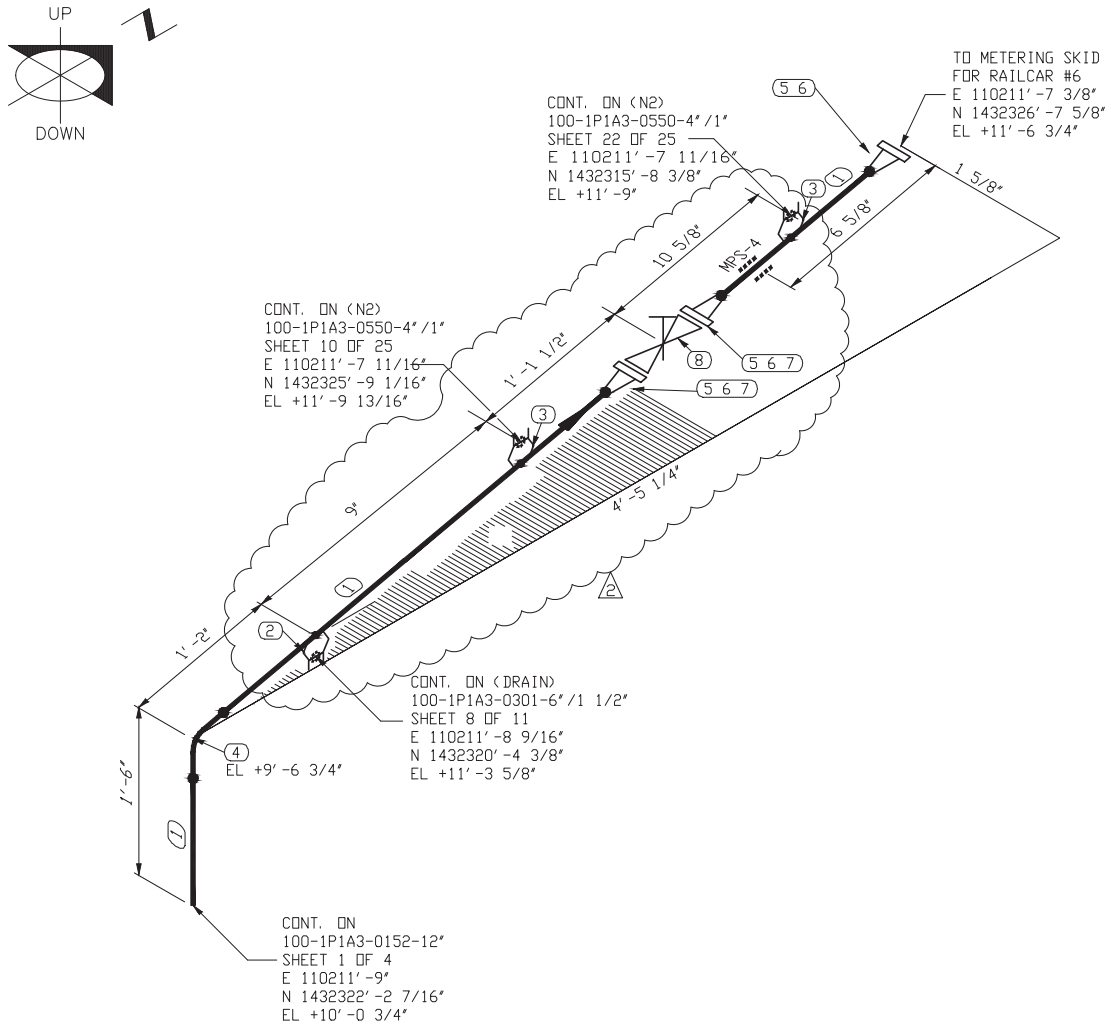
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0105-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE ASTM A53, GR. B-SMLS	3'5"
2	4X1 1/2	SOCKOLET, 3000# , ASTM A-105	1
3	4X1	SOCKOLET, 3000# , ASTM A-105	2
4	4	90 LR ELL, BW, ASTM A-234 GR WPB, S.40	1
5	4	FLG, 150# WN ASTM A105, S.40	3
6	4	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
8	4	PNEUMATIC ACTUATED GATE VALVE, 150# FLGD	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/2017

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

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9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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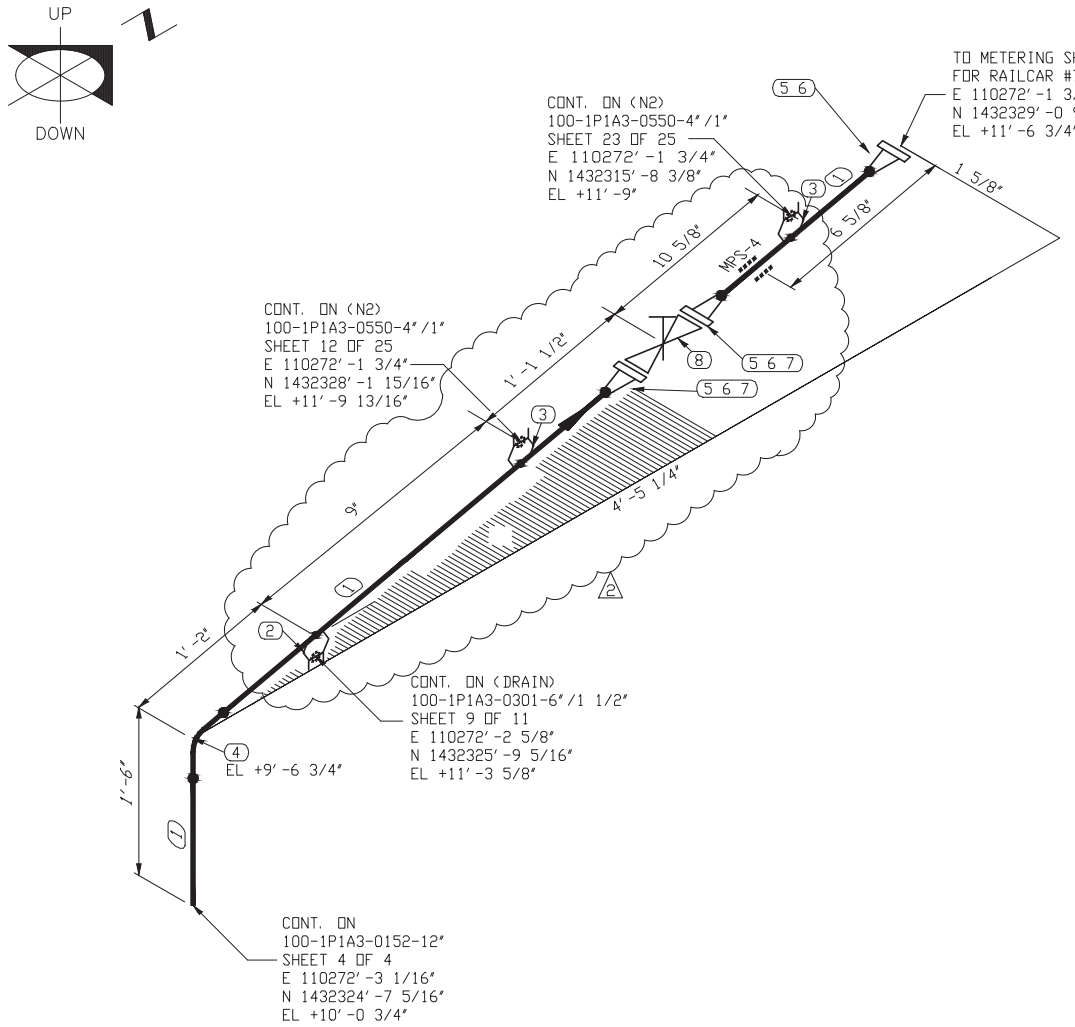
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0106-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE ASTM A53, GR. B-SMLS	3'5"
2	4X1 1/2	SOCKOLET, 3000# , ASTM A-105	1
3	4X1	SOCKOLET, 3000# , ASTM A-105	2
4	4	90 LR ELL, BW, ASTM A-234 GR WPB, S.40	1
5	4	FLG, 150# WN ASTM A105, S.40	3
6	4	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
8	4	PNEUMATIC ACTUATED GATE VALVE, 150# FLGD	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
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3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/2017

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

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9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

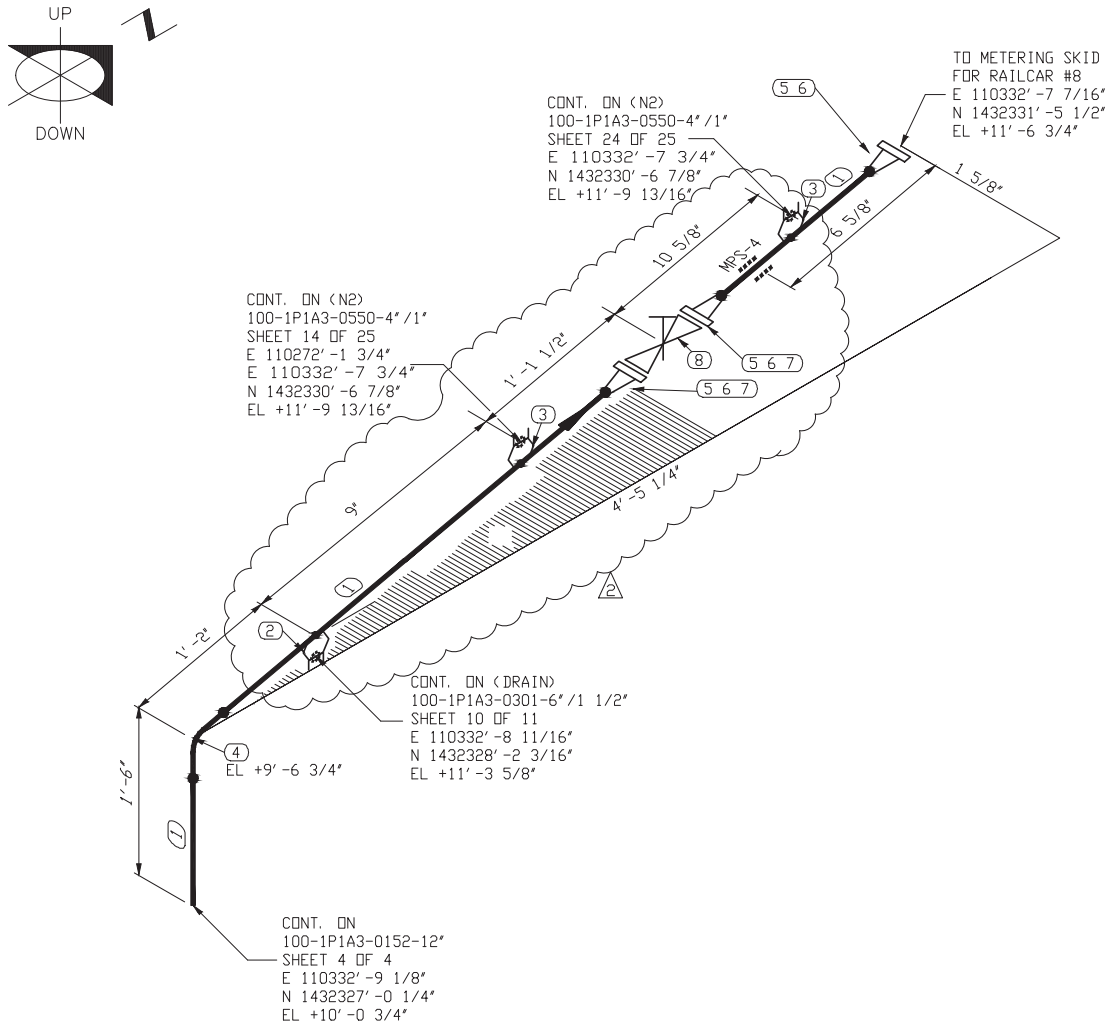
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0107-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE ASTM A53, GR. B-SMLS	3'5"
2	4X1 1/2	SOCKOLET, 3000# , ASTM A-105	1
3	4X1	SOCKOLET, 3000# , ASTM A-105	2
4	4	90 LR ELL, BW, ASTM A-234 GR WPB, S.40	1
5	4	FLG, 150# WN ASTM A105, S.40	3
6	4	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
8	4	PNEUMATIC ACTUATED GATE VALVE, 150# FLGD	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

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STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/2017

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

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9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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MAINT. APPR.		DATE	

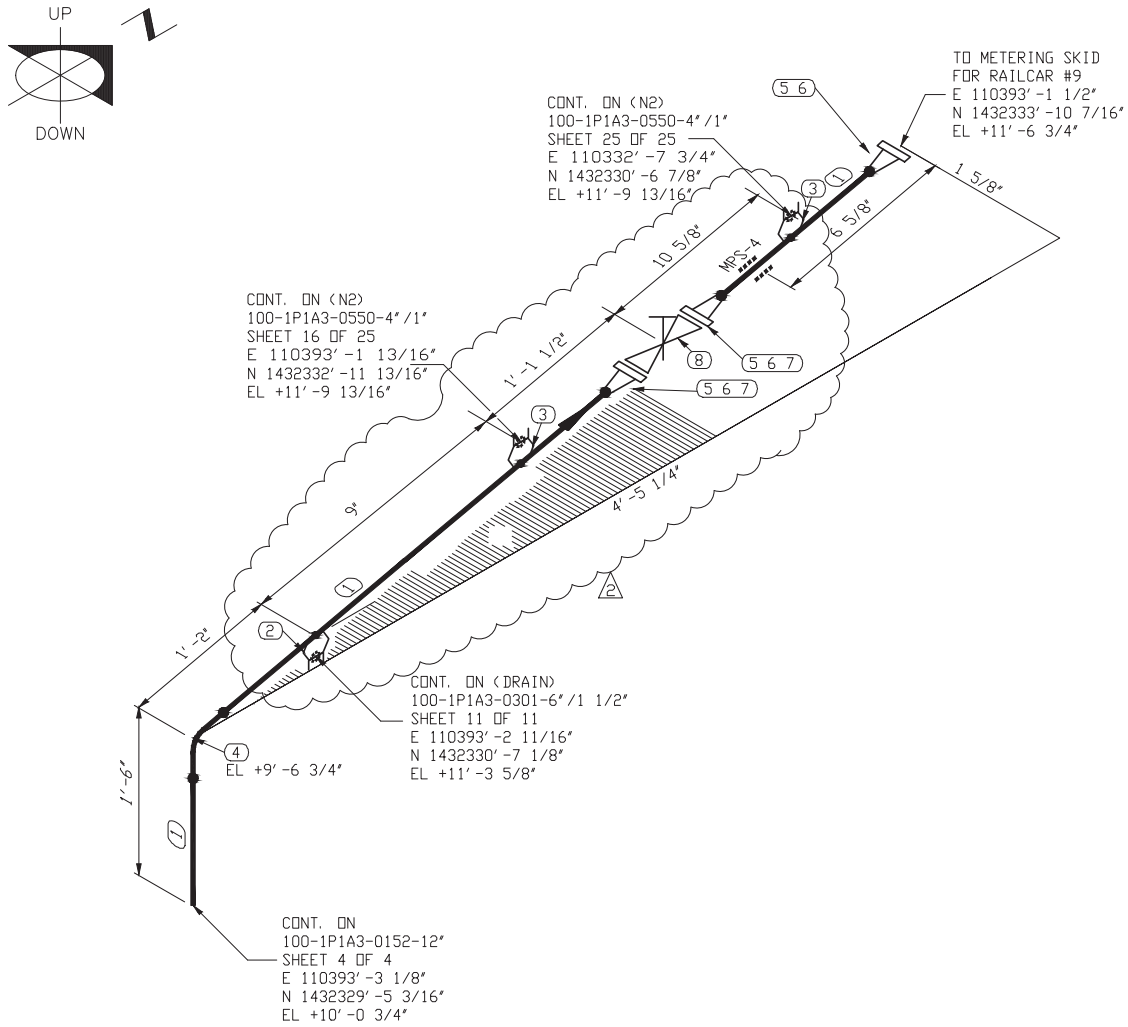
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0108-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE ASTM A53, GR. B-SMLS	3'5"
2	4X1 1/2	SOCKOLET, 3000# , ASTM A-105	1
3	4X1	SOCKOLET, 3000# , ASTM A-105	2
4	4	90 LR ELL, BW, ASTM A-234 GR WPB, S.40	1
5	4	FLG, 150# WN ASTM A105, S.40	3
6	4	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
8	4	PNEUMATIC ACTUATED GATE VALVE, 150# FLGD	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

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STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/2017

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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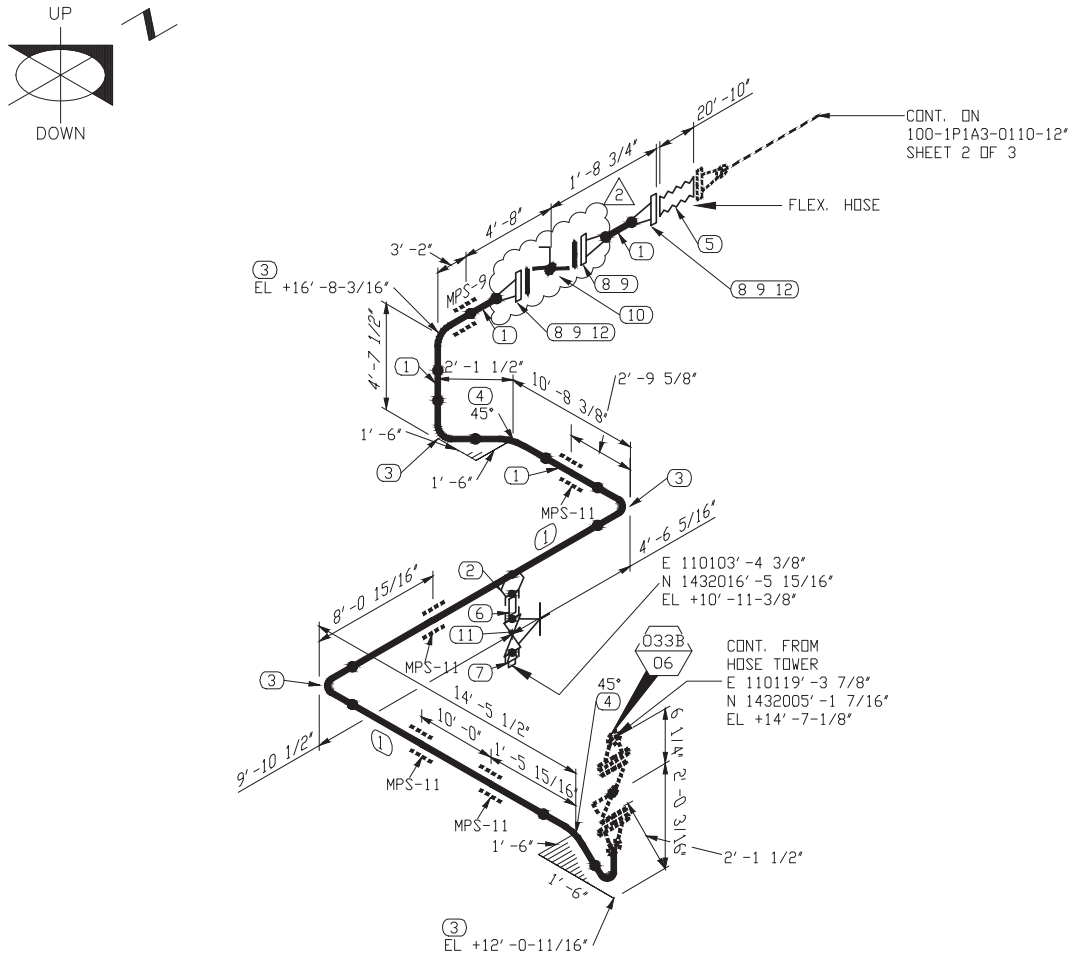
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0109-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	12	PIPE, STD BE. ASTM A53, GR. B - SMLS	40'8"
2	12X3/4	SOCKOLET, 3000# FS, ASTM A-105	1
3	12	90 LR ELL, BW ASTM A-234 GR WPB, STD	5
4	12	45 LR ELL, BW, ASTM A-234 GR WPB, STD	2
5	12	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1
6	3/4	ORIFICE NIPPLE, S.160 PBE. ASTM A106, GR. B - SMLS (4" LG)	1
7	3/4	THRD, PLUG	1
8	12	FLG, 150# WN ASTM A105, STD	3
9	12	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
2 10	12	BUTTERFLY VALVE, 150# FLGD, GEAR OPERATED	1
11	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1
12	7/8X4 3/4	(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

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STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/2017

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 1	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX. 78410
PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 3

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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1	ADDENDUM#2	HA	09/17				

REVISIONS

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PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

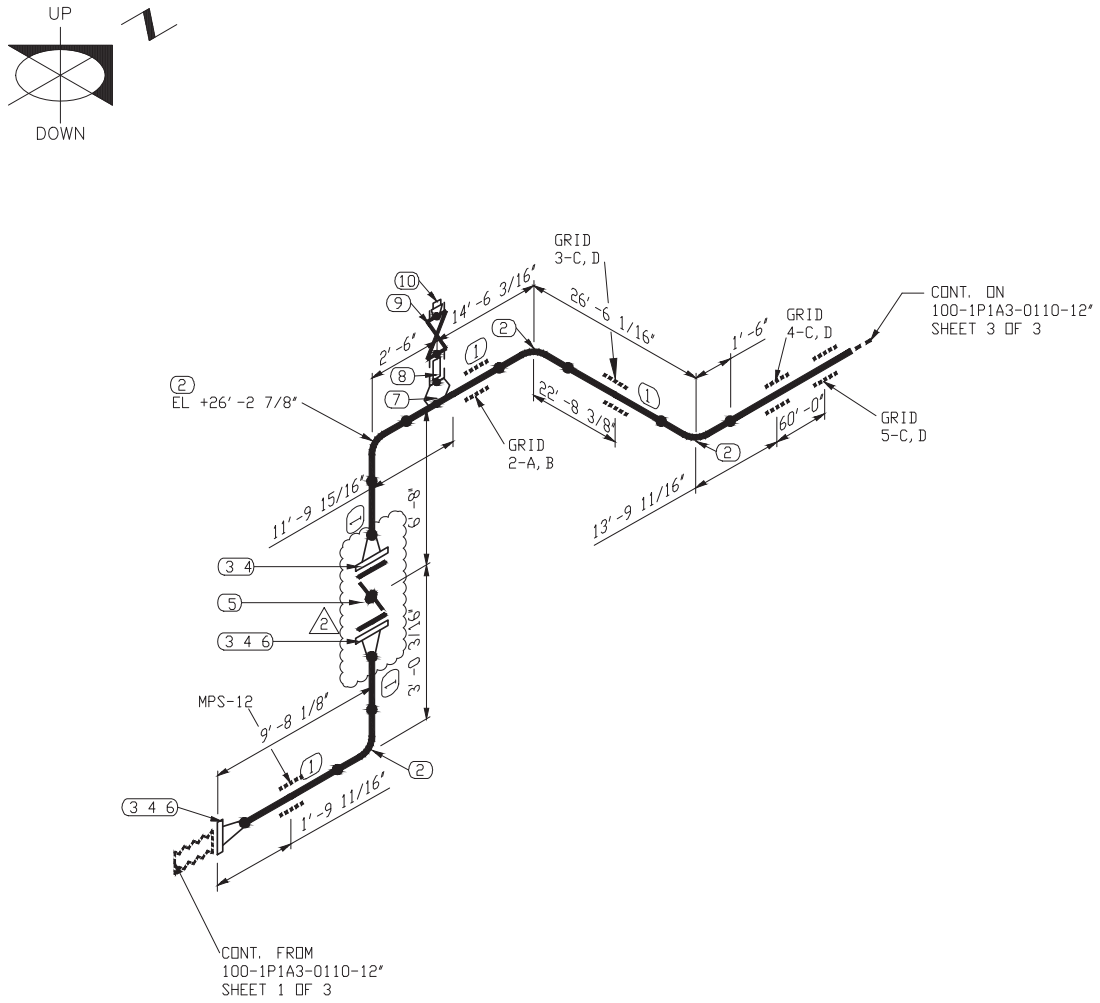
BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS
DWN. BY: HA

ISOMETRICS

DATE: 10/18/2017
LINE NO. 100-1P1A3-0110-12"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	12	PIPE, STD BE. ASTM A53, GR. B -SMLS	48'6"
2	12	90 LR ELL, BW ASTM A-234 GR WPB, STD	4
3	12	FLG, 150# WN ASTM A105, STD	3
4	12	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
5	12	BUTTERFLY VALVE, 150# FLGD, GEAR OPERATED	1
6	7/8X4 3/4	(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	3
7	16X3/4	SOCKOLET, 3000# FS, ASTM A-105	1
8	3/4	ORIFICE NIPPLE, S.160 PBE. ASTM A106, GR. B - SMLS (4" LG)	1
9	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	2
10	3/4	THRD PLUG	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/2017

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 1	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-8777
FAX 361-241-8200
TBPE FIRM No.: F-10101

SHEET 2 OF 3

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■	■	
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION			
			STRESS REL.		■	
			STRESS CHK.		■	

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM#2	HA	09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/18/2017
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

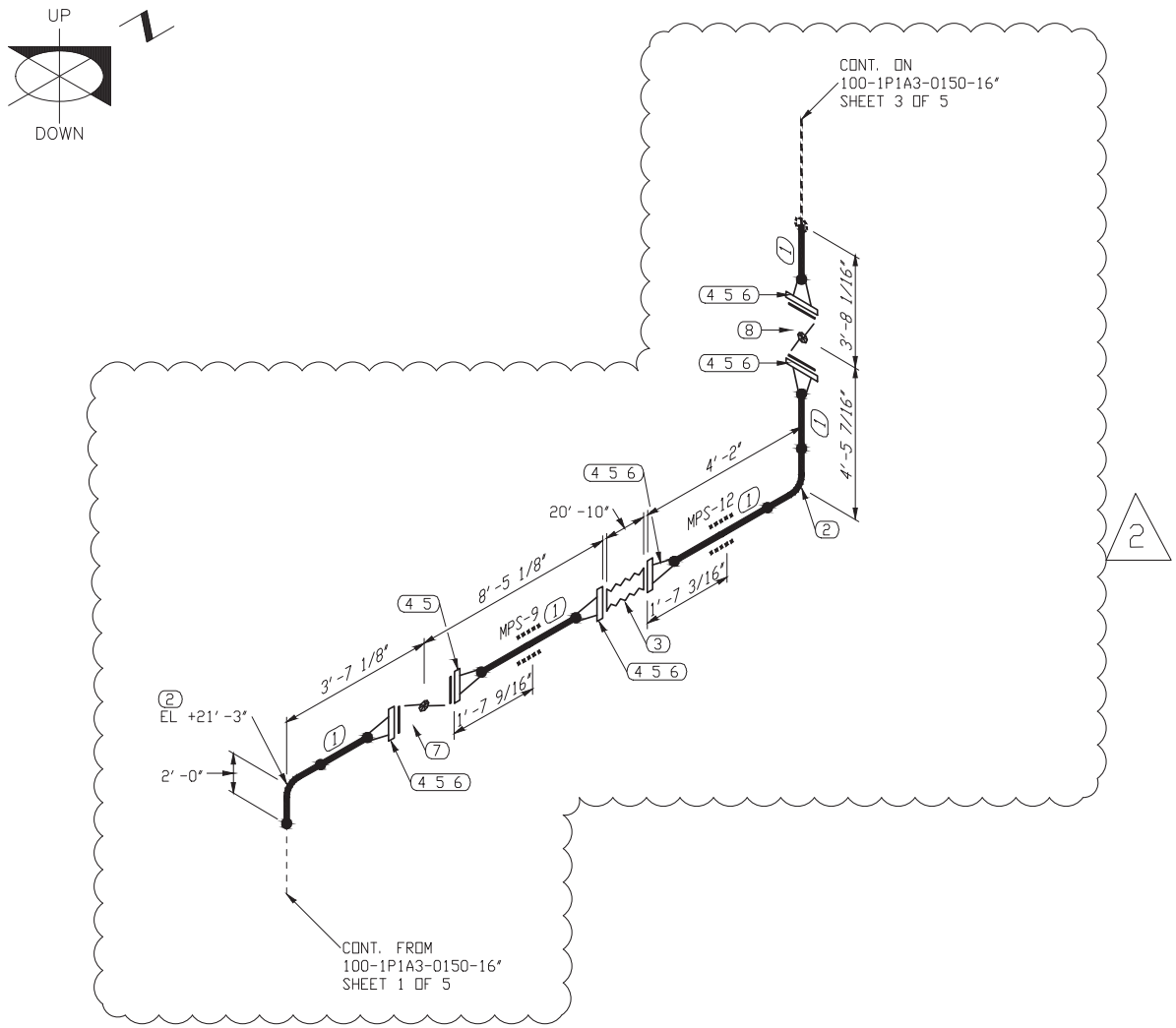
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/2017
DWN. BY: HA		LINE NO. 100-1P1A3-0110-12"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS BBE	15'2"
2	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	2
3	16	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1
4	16	FLG, 150# WN ASTM A105, STD	6
5	16	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	6
6	1X5 1/2	(16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	5
7	16	BUTTERFLY VALVE, 150# FLGD, LUG BUNA-N GEAR OP, CENTERLINE 200 OR EQ.	1
8	16	BUTTERFLY CL 150 LUG TYPE (PNEUMATIC ACTUATED-AIR OPERATED): POSI SEAL #132.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

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STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
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CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 2 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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1	ADDENDUM #2		09/17				

REVISIONS

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CAD FILE NO.

DR.	HA	DATE	10/18/17
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PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0150-16"

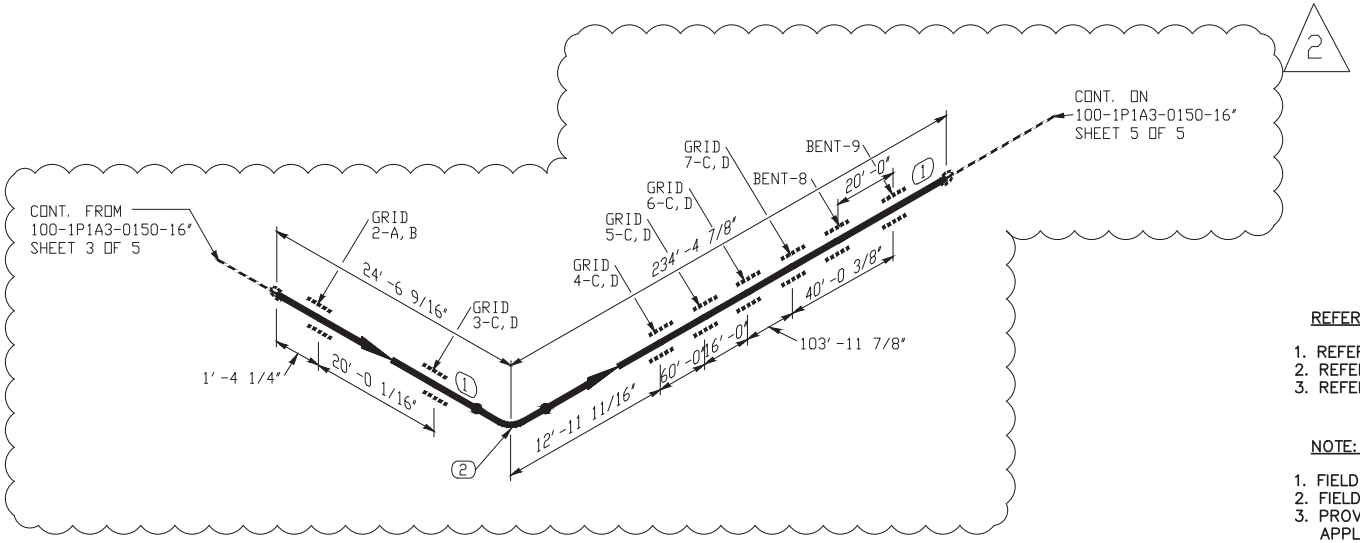
JOB NO. 17POC0139

UP

DOWN

BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS BBE	255'
2	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	1



REFERENCE DRAWINGS FOR SUPPORTS:–

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:–

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STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 4 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

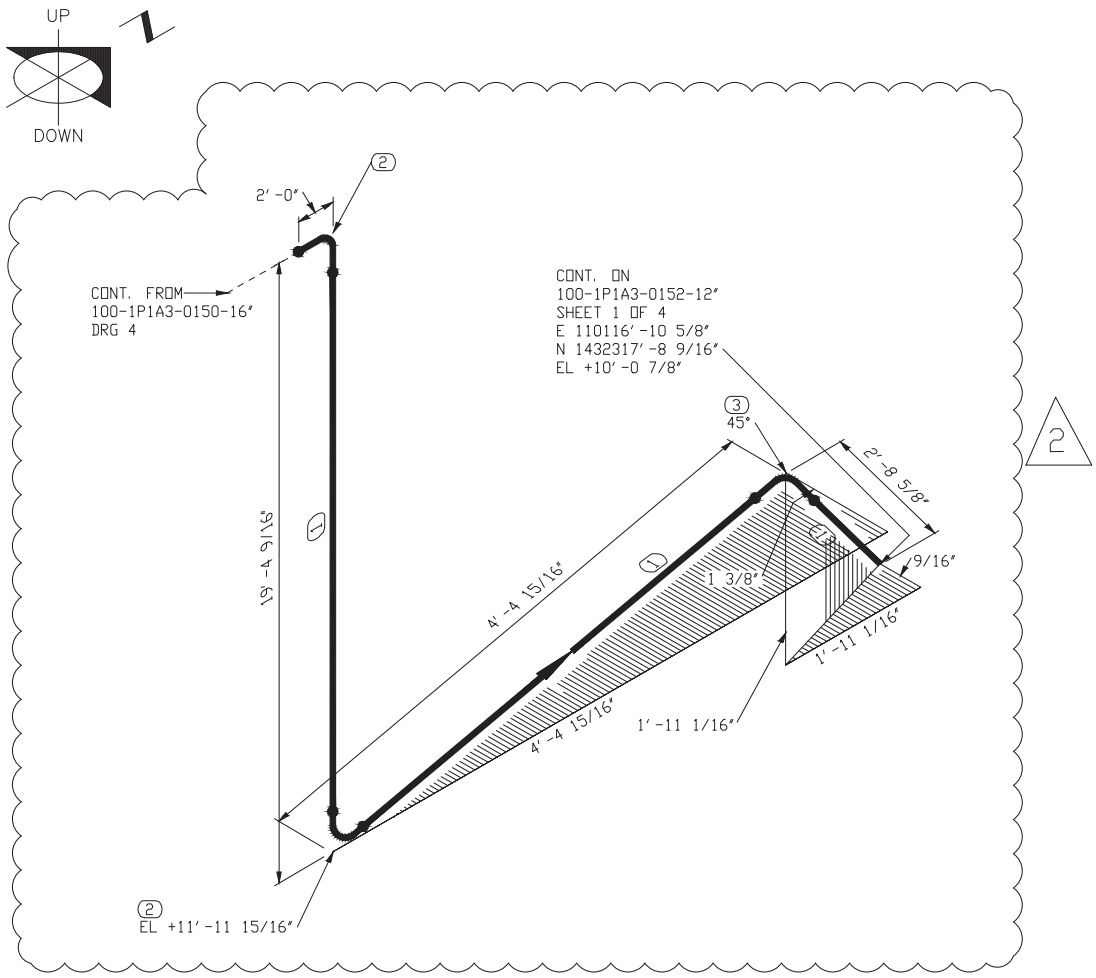
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0150-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS BBE	18' 11"
2	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	2
3	16	45 LR ELL, BW, ASTM A-234 GR WPB, STD	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

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STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

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FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 5 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

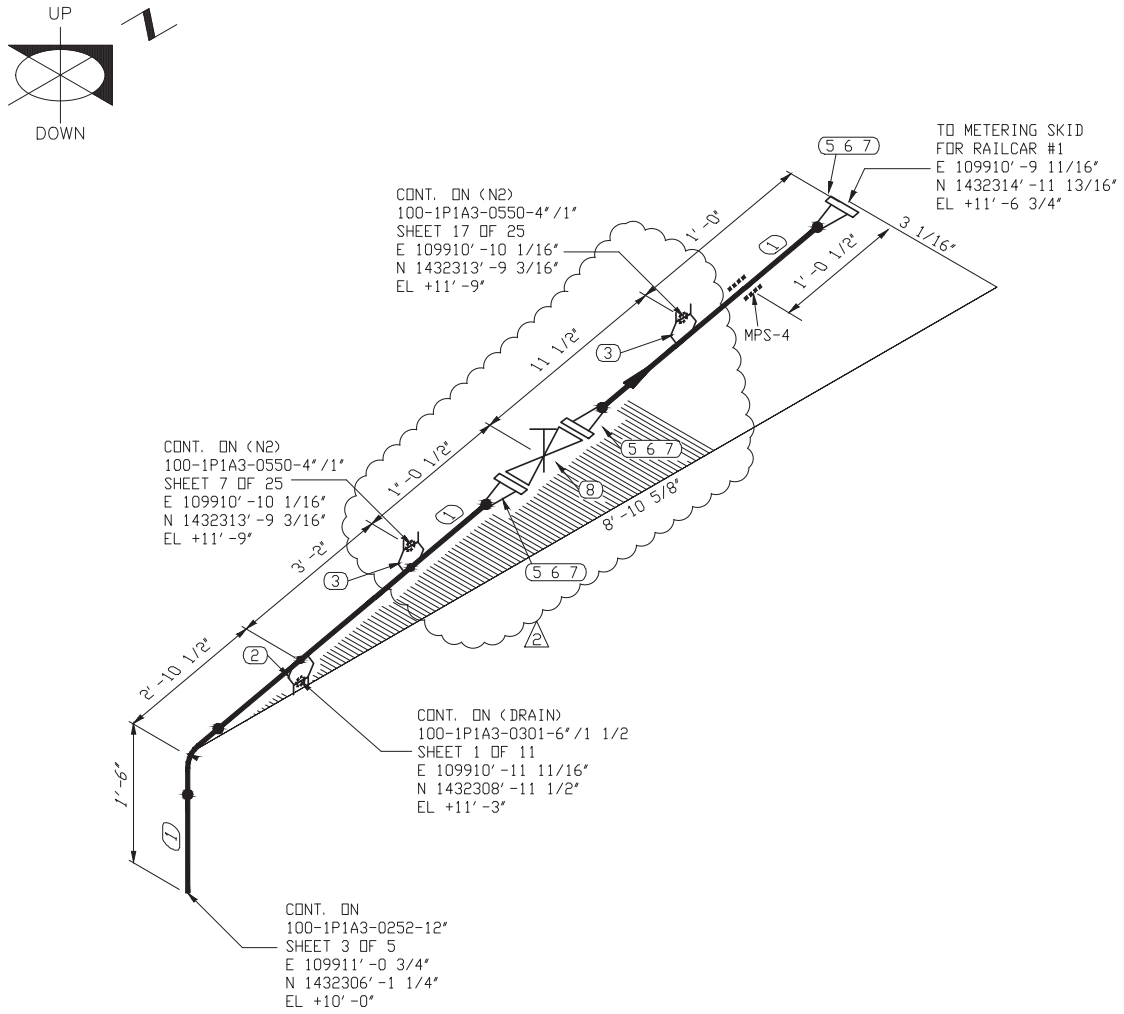
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0150-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE ASTM A53, GR. B-SMLS	7'11"
2	4X1 1/2	SOCKOLET, 3000# , ASTM A-105	1
3	4X1	SOCKOLET, 3000# , ASTM A-105	2
4	4	90 LR ELL, BW, ASTM A-234 GR WPB, S.40	1
5	4	FLG, 150# WN ASTM A105, S.40	3
6	4	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	3
8	4	PNEUMATIC ACTUATED GATE VALVE, 150# FLGD	1

REFERENCE DRAWINGS FOR SUPPORTS:–

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:–

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BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
STATE OF TEXAS
10/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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2	REVISED AS SHOWN	AW	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE No.

DR.	AW	DATE	10/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

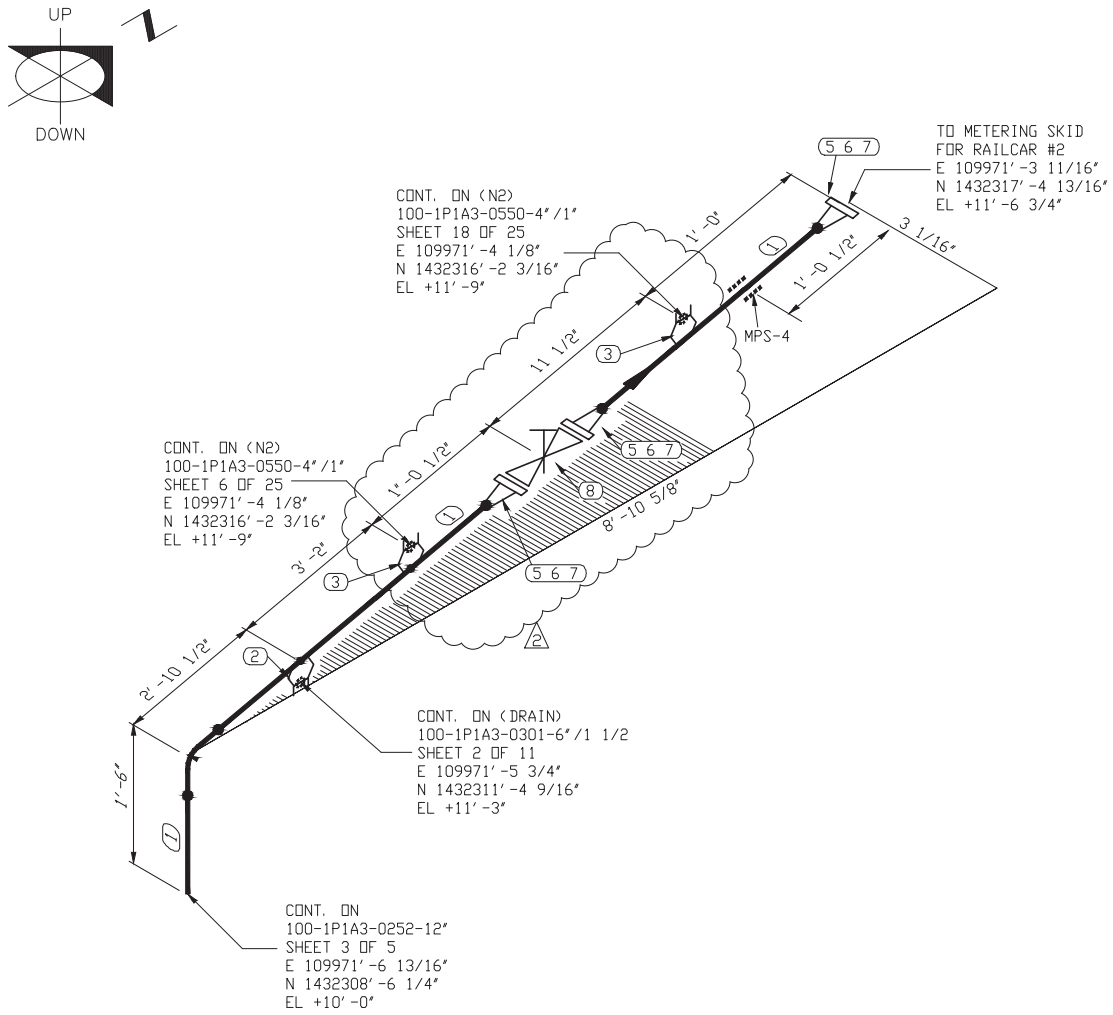
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: AW		LINE NO. 100-1P1A3-0201-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE ASTM A53, GR. B-SMLS	7'11"
2	4X1 1/2	SOCKOLET, 3000# , ASTM A-105	1
3	4X1	SOCKOLET, 3000# , ASTM A-105	2
4	4	90 LR ELL, BW, ASTM A-234 GR WPB, S.40	1
5	4	FLG, 150# WN ASTM A105, S.40	3
6	4	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	3
8	4	PNEUMATIC ACTUATED GATE VALVE, 150# FLGD	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

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BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
STATE OF TEXAS
10/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

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PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REVISIONS

BOM No.
CAD FILE NO.

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CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

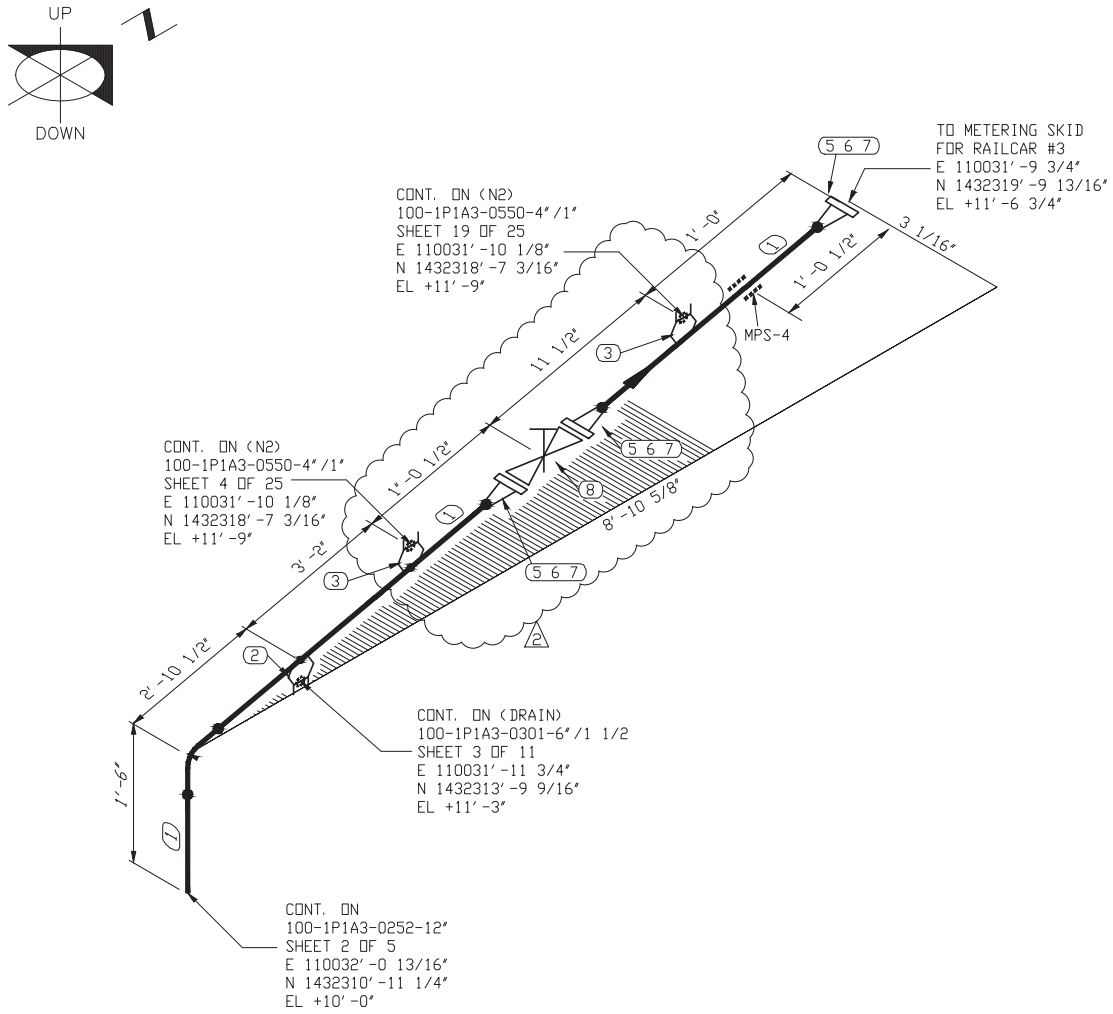
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PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: AW		LINE NO. 100-1P1A3-0202-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE ASTM A53, GR. B-SMLS	7'11"
2	4X1 1/2	SOCKOLET, 3000# , ASTM A-105	1
3	4X1	SOCKOLET, 3000# , ASTM A-105	2
4	4	90 LR ELL, BW, ASTM A-234 GR WPB, S.40	1
5	4	FLG, 150# WN ASTM A105, S.40	3
6	4	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	3
8	4	PNEUMATIC ACTUATED GATE VALVE, 150# FLGD	1

REFERENCE DRAWINGS FOR SUPPORTS:–

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3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:–

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STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

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PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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1	ADDENDUM #2		09/17				

REVISIONS

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CAD FILE NO.

DR.	AW	DATE	10/18/17
CHK.		DATE	
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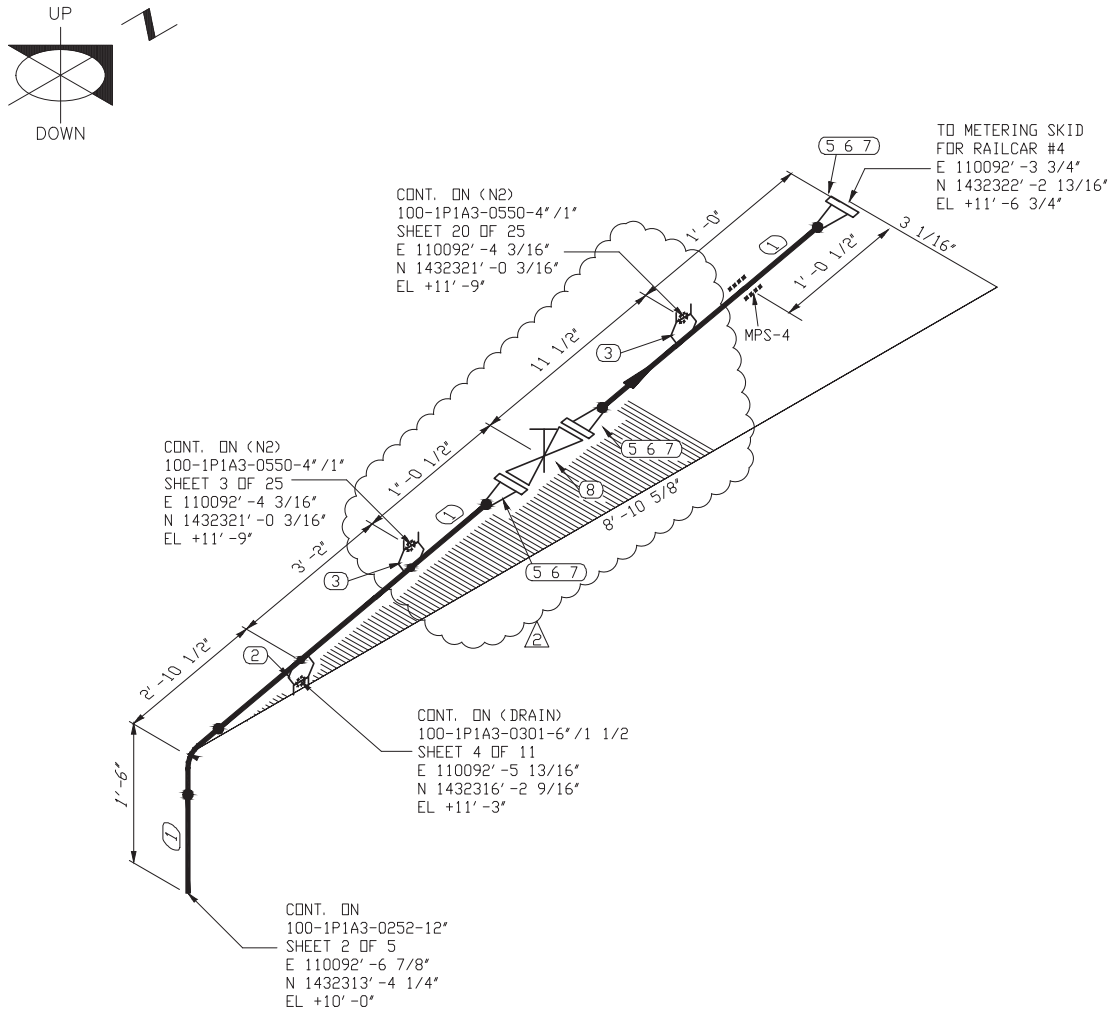
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: AW		LINE NO. 100-1P1A3-0203-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE ASTM A53, GR. B-SMLS	7'11"
2	4X1 1/2	SOCKOLET, 3000# , ASTM A-105	1
3	4X1	SOCKOLET, 3000# , ASTM A-105	2
4	4	90 LR ELL, BW, ASTM A-234 GR WPB, S.40	1
5	4	FLG, 150# WN ASTM A105, S.40	3
6	4	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	3
8	4	PNEUMATIC ACTUATED GATE VALVE, 150# FLGD	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX. 78410
PH. 361-241-8777
FAX 361-241-8200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION			
			STRESS REL.		■	
			STRESS CHK.			

ALL REVISIONS MADE TO THIS DRAWING SHALL BE MADE WITH CAD, AND IN ACCORDANCE WITH PORT OF CORPUS CHRISTI'S STANDARDS FOR CAD GENERATED DRAWINGS. THIS DRAWING CONTAINS PROPRIETARY INFORMATION BELONGING TO PORT OF CORPUS CHRISTI WHICH MAY NOT BE USED OR REPRODUCED WITHOUT PERMISSION. THIS DRAWING REMAINS THE PROPERTY OF PORT OF CORPUS CHRISTI AND IS TO RETURNED ON DEMAND.

REVISIONS

REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVISED AS SHOWN	AW	10/17				
1	ADDENDUM #2		09/17				

BOM No.
CAD FILE NO.

DR.	AW	DATE	10/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

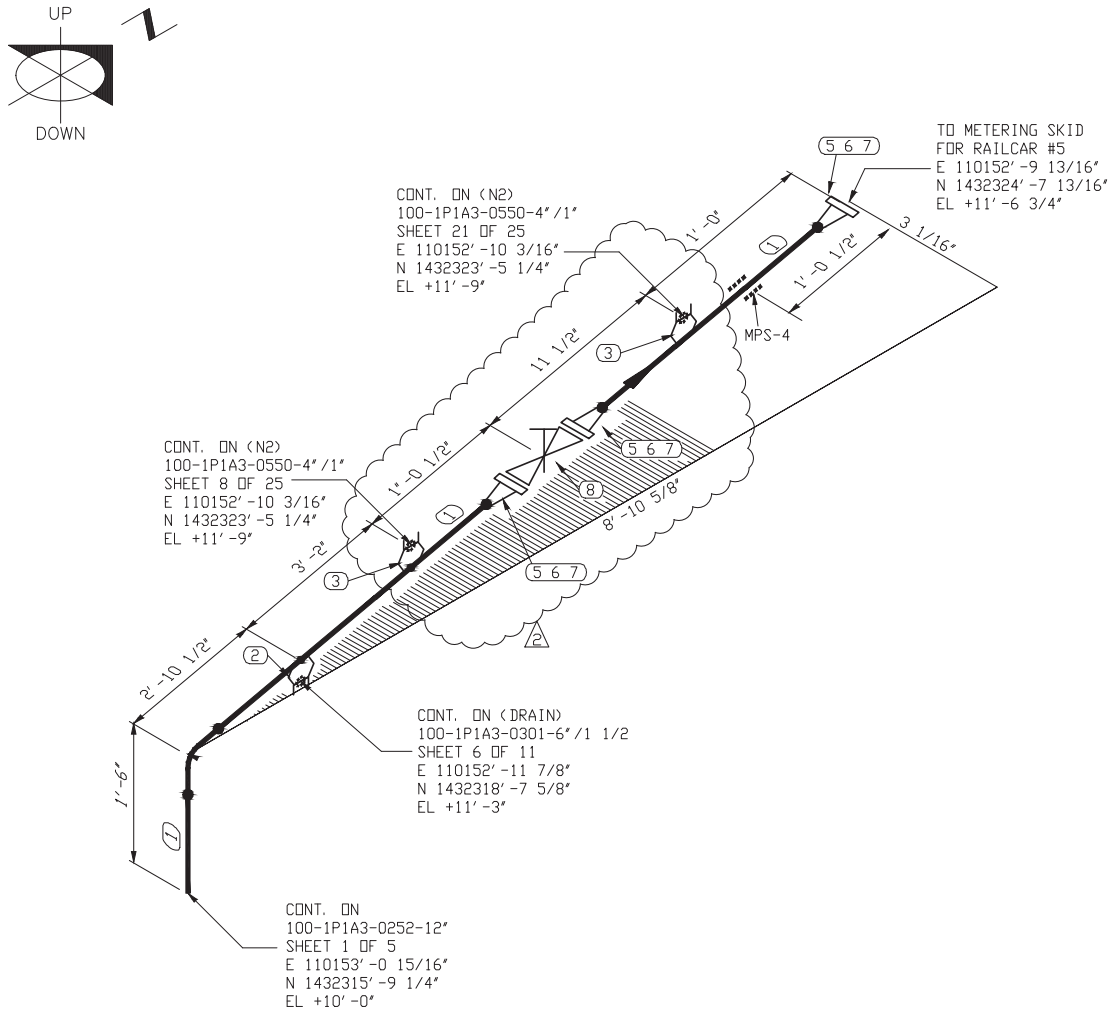
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: AW		LINE NO. 100-1P1A3-0204-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE ASTM A53, GR. B-SMLS	7'11"
2	4X1 1/2	SOCKOLET, 3000# , ASTM A-105	1
3	4X1	SOCKOLET, 3000# , ASTM A-105	2
4	4	90 LR ELL, BW, ASTM A-234 GR WPB, S.40	1
5	4	FLG, 150# WN ASTM A105, S.40	3
6	4	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	3
8	4	PNEUMATIC ACTUATED GATE VALVE, 150# FLGD	1

REFERENCE DRAWINGS FOR SUPPORTS:–

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:–

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

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CORPUS CHRISTI, TX. 78410
PH. 361-241-8777
FAX 361-241-8200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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2	REVISED AS SHOWN	AW	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	AW	DATE	10/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

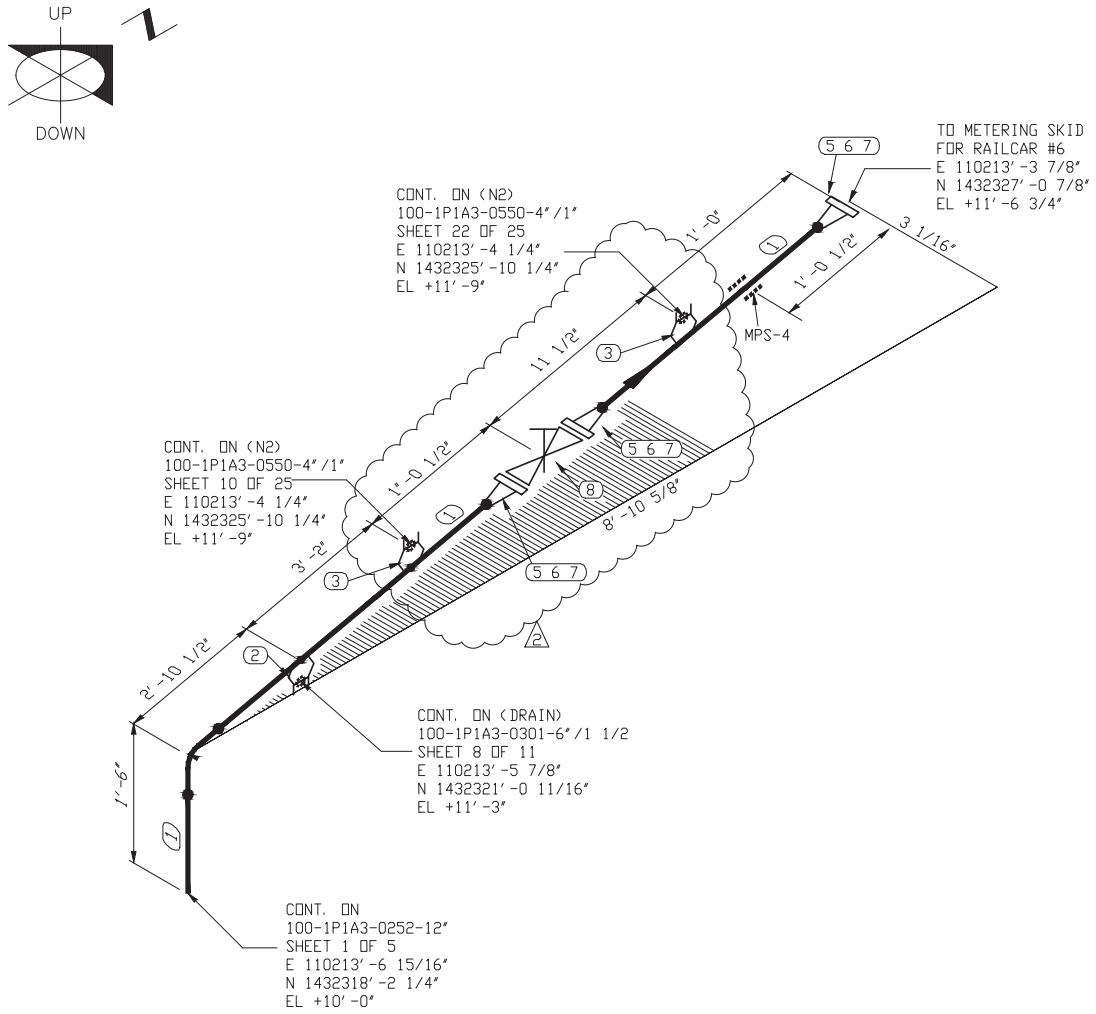
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: AW		LINE NO. 100-1P1A3-0205-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE ASTM A53, GR. B-SMLS	7'11"
2	4X1 1/2	SOCKOLET, 3000# , ASTM A-105	1
3	4X1	SOCKOLET, 3000# , ASTM A-105	2
4	4	90 LR ELL, BW, ASTM A-234 GR WPB, S.40	1
5	4	FLG, 150# WN ASTM A105, S.40	3
6	4	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	3
8	4	PNEUMATIC ACTUATED GATE VALVE, 150# FLGD	1

REFERENCE DRAWINGS FOR SUPPORTS:–

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:–

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
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PH. 361-241-8777
FAX 361-241-8200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION			
			STRESS REL.		■	
			STRESS CHK.			

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1	ADDENDUM #2		09/17				

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PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

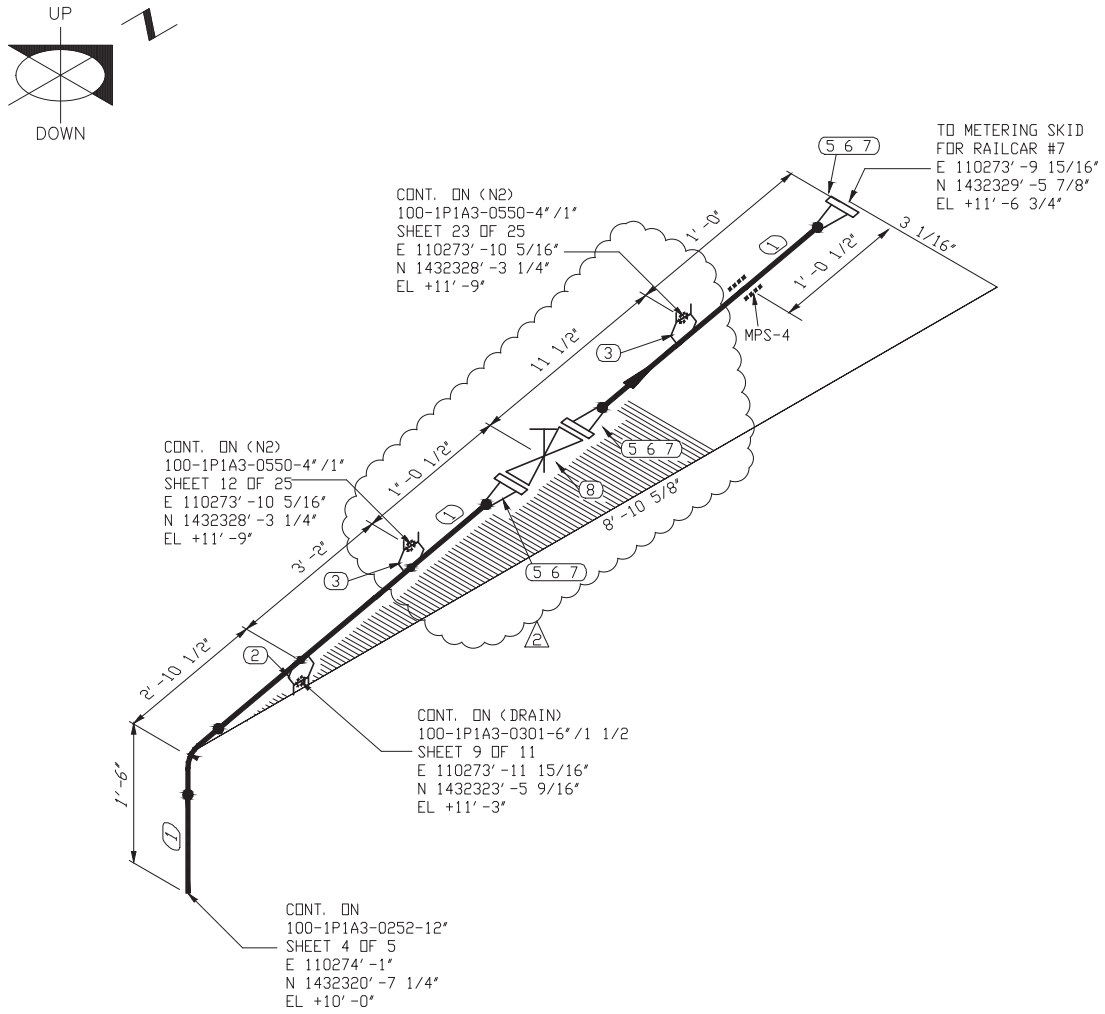
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: AW		LINE NO. 100-1P1A3-0206-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE ASTM A53, GR. B-SMLS	7'11"
2	4X1 1/2	SOCKOLET, 3000# , ASTM A-105	1
3	4X1	SOCKOLET, 3000# , ASTM A-105	2
4	4	90 LR ELL, BW, ASTM A-234 GR WPB, S.40	1
5	4	FLG, 150# WN ASTM A105, S.40	3
6	4	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	3
8	4	PNEUMATIC ACTUATED GATE VALVE, 150# FLGD	1

REFERENCE DRAWINGS FOR SUPPORTS:–

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:–

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

BHASKAR H. PATEL 63585 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS
10/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

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PH. 361-241-8777
FAX 361-241-8200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■	■	
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION			
			STRESS REL.		■	
			STRESS CHK.			

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1	ADDENDUM #2		09/17				

REVISIONS

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CAD FILE NO.

DR.	AW	DATE	10/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

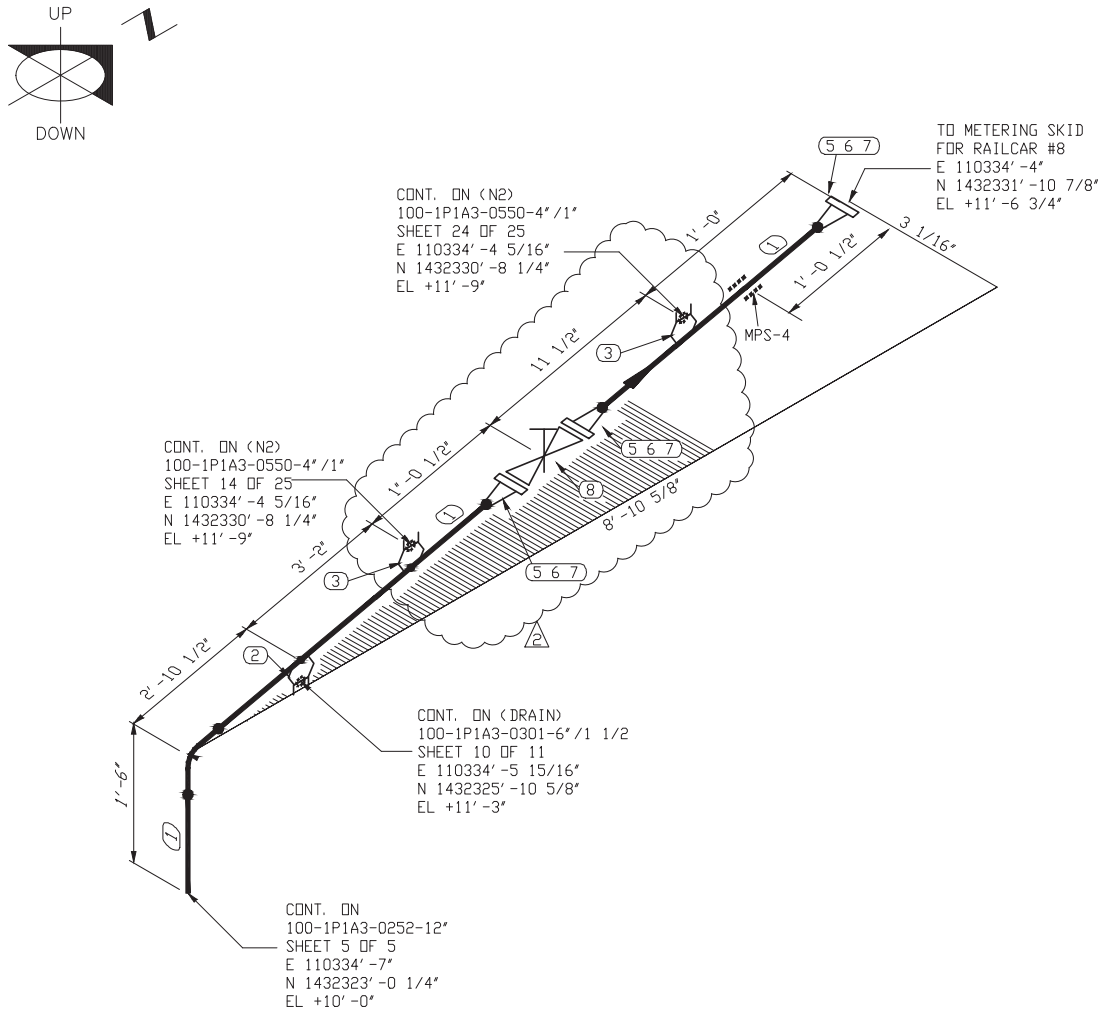
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: AW		LINE NO. 100-1P1A3-0207-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE ASTM A53, GR. B-SMLS	7'11"
2	4X1 1/2	SOCKOLET, 3000# , ASTM A-105	1
3	4X1	SOCKOLET, 3000# , ASTM A-105	2
4	4	90 LR ELL, BW, ASTM A-234 GR WPB, S.40	1
5	4	FLG, 150# WN ASTM A105, S.40	3
6	4	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	3
8	4	PNEUMATIC ACTUATED GATE VALVE, 150# FLGD	1

REFERENCE DRAWINGS FOR SUPPORTS:–

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:–

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

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PH. 361-241-8777
FAX 361-241-8200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■	■	
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION			
			STRESS REL.		■	
			STRESS CHK.			

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REVISIONS

REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVISED AS SHOWN	AW	10/17				
1	ADDENDUM #2		09/17				

BOM No.
CAD FILE NO.

DR.	AW	DATE	10/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

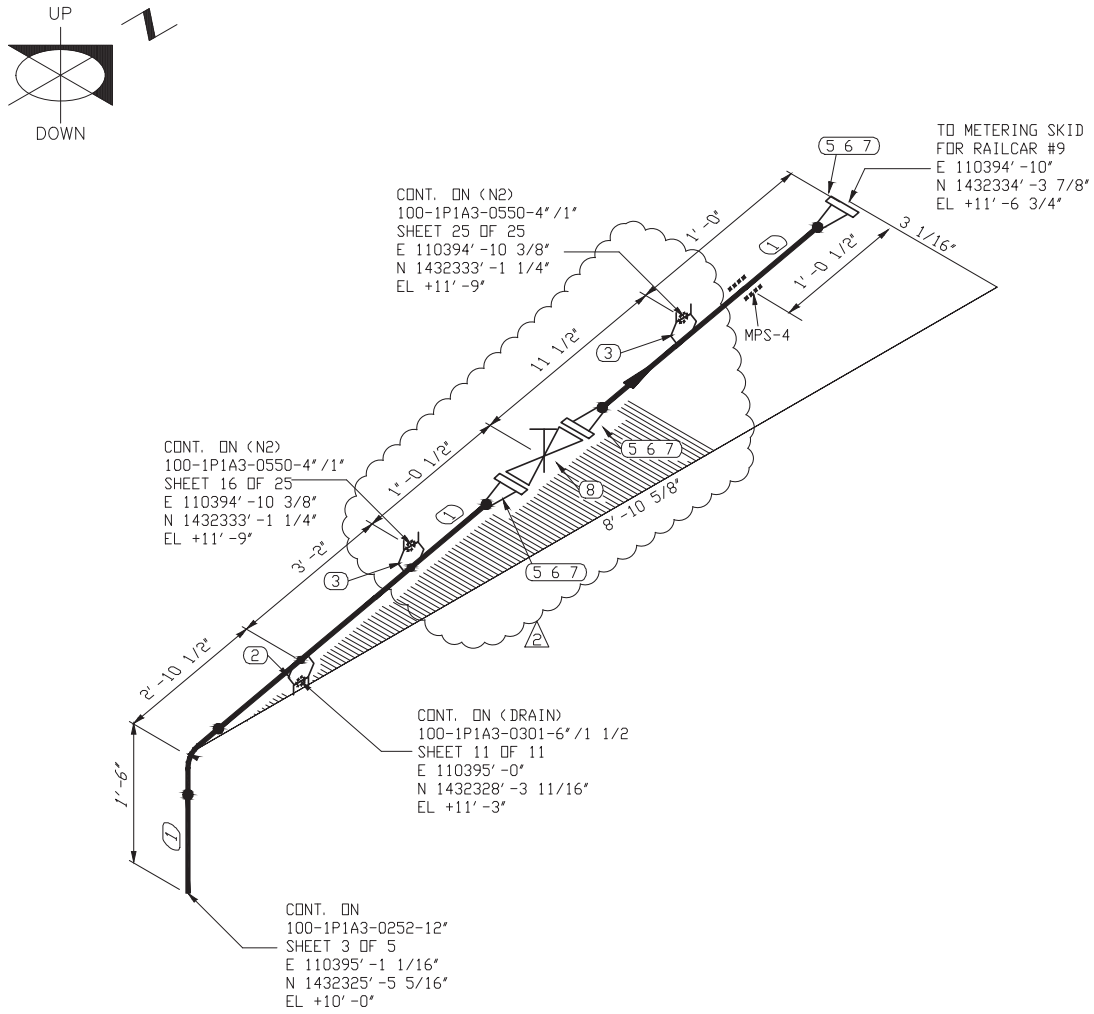
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: AW		LINE NO. 100-1P1A3-0208-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE ASTM A53, GR. B-SMLS	7′ 11″
2	4X1 1/2	SOCKOLET, 3000# , ASTM A-105	1
3	4X1	SOCKOLET, 3000# , ASTM A-105	2
4	4	90 LR ELL, BW, ASTM A-234 GR WPB, S.40	1
5	4	FLG, 150# WN ASTM A105, S.40	3
6	4	GASKET 1/8″ THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	3
8	4	PNEUMATIC ACTUATED GATE VALVE, 150# FLGD	1

REFERENCE DRAWINGS FOR SUPPORTS:–

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:–

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

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CORPUS CHRISTI, TX. 78410
PH. 361-241-8777
FAX 361-241-8200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION			
			STRESS REL.		■	
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVISED AS SHOWN	AW	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	AW	DATE	10/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

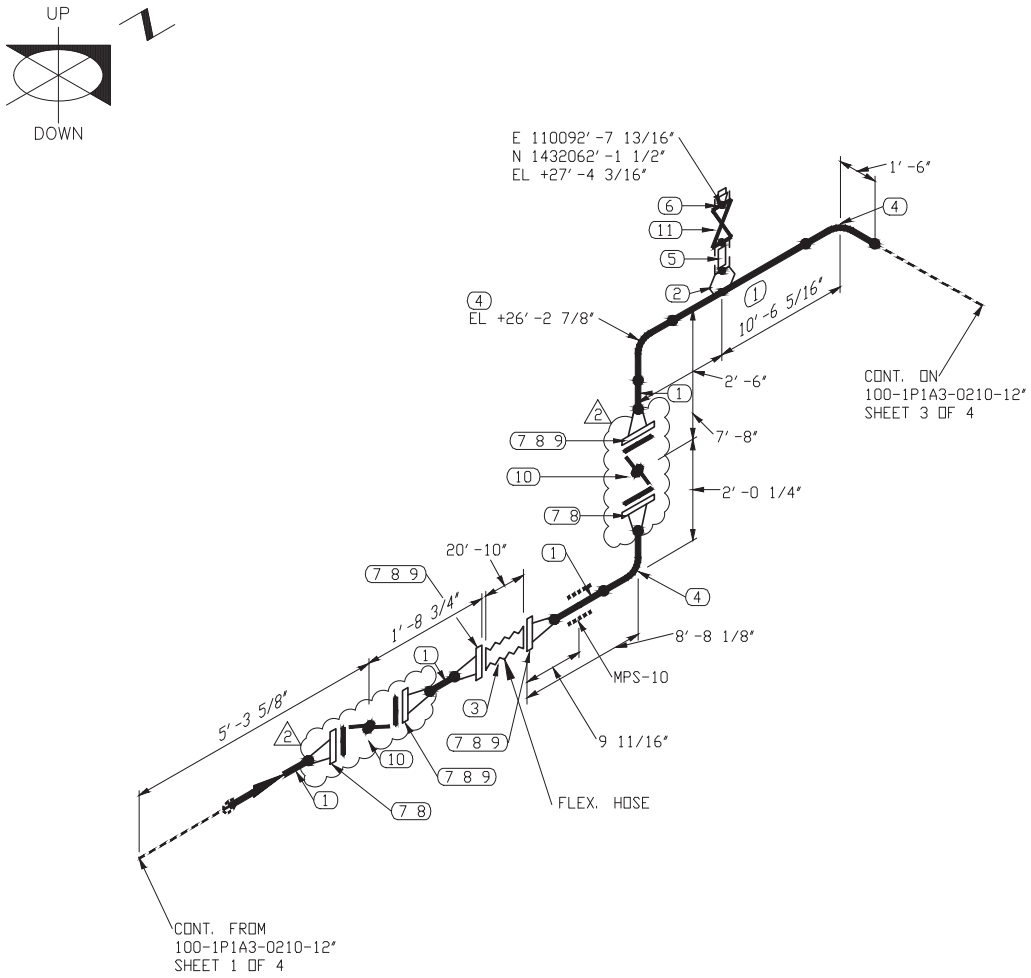
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: AW		LINE NO. 100-1P1A3-0209-4″

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	12	PIPE, STD BE. ASTM A53, GR. B - SMLS	30' 2"
2	12X3/4	SOCKOLET, 3000# FS, ASTM A-105	1
3	16	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1
4	12	90 LR ELL, BW ASTM A-234 GR WPB, STD	3
5	3/4	ORIFICE NIPPLE, S. 160 PBE. ASTM A106, GR. B - SMLS (4" LG)	1
6	3/4	THRD, PLUG	1
7	12	FLG, 150# WN ASTM A105, STD	6
8	12	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	6
9	7/8X4 3/4	(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	4
2 10	12	BUTTERFLY VALVE, 150# FLGD, GEAR OPERATED	2
11	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 1	OPERATING	80	80
		HYDRO. TEST	428	

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PH. 361-241-8777
FAX 361-241-8200
TBPE FIRM No.: F-10101

SHEET 2 OF 4

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM#2	HA	09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

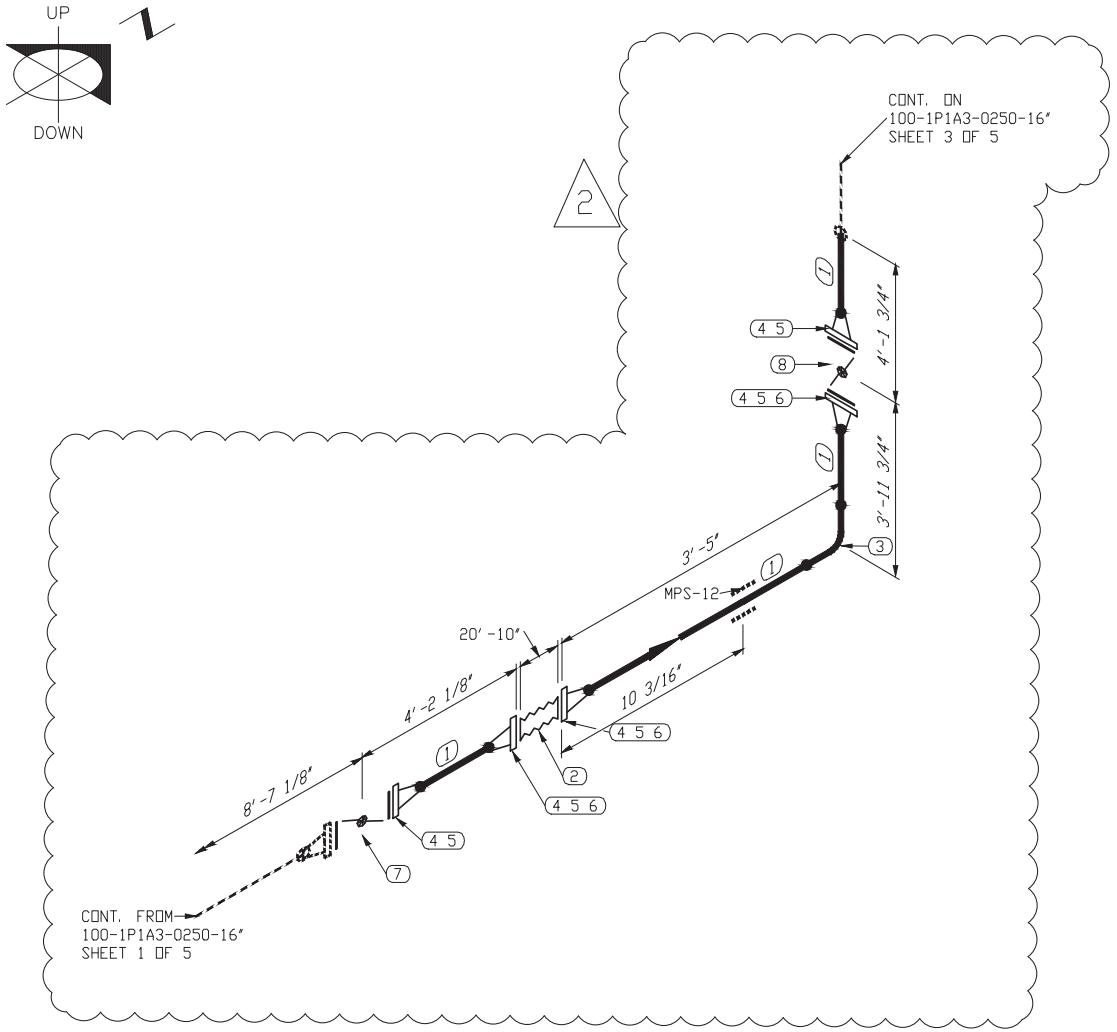
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0210-12"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS	9'2"
3	16	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1
3	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	1
4	16	FLG, 150# WN ASTM A105, STD	5
5	16	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	5
6	1X5 1/2	(16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	3
7	16	BUTTERFLY VALVE, 150# FLGD, LUG BUNA-N GEAR OP, CENTERLINE 200 OR EQ.	1
8	16	BUTTERFLY VALVE, 150# FLGD, (PNEUMATIC ACTUATED-AIR OPERATED): POSI SEAL #132	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2000
TBPE FIRM No.: F-10101

SHEET 2 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0250-16"

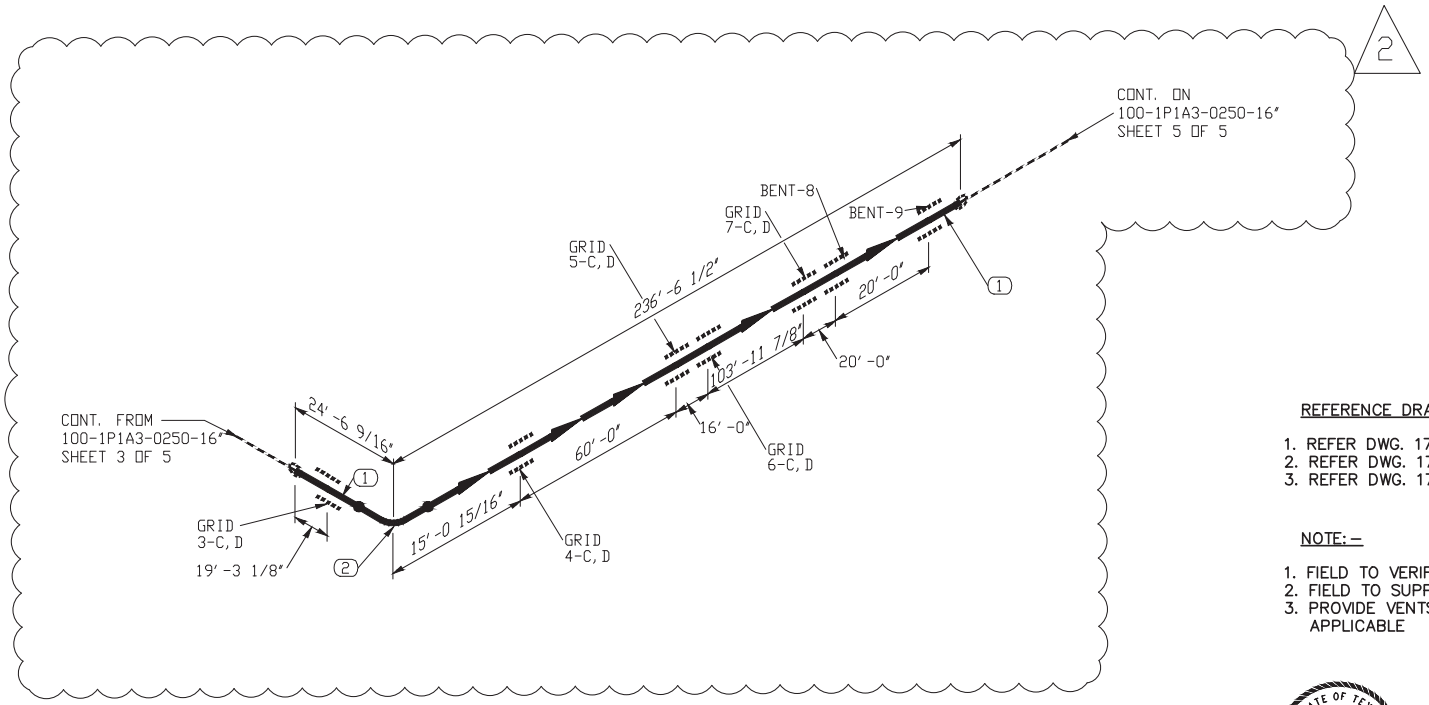
JOB NO. 17POC0139

UP

DOWN

BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS	257' 2"
2	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	1



REFERENCE DRAWINGS FOR SUPPORTS: –

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE: –

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2000
TBPE FIRM No.: F-10101

SHEET 4 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REVISIONS								
REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

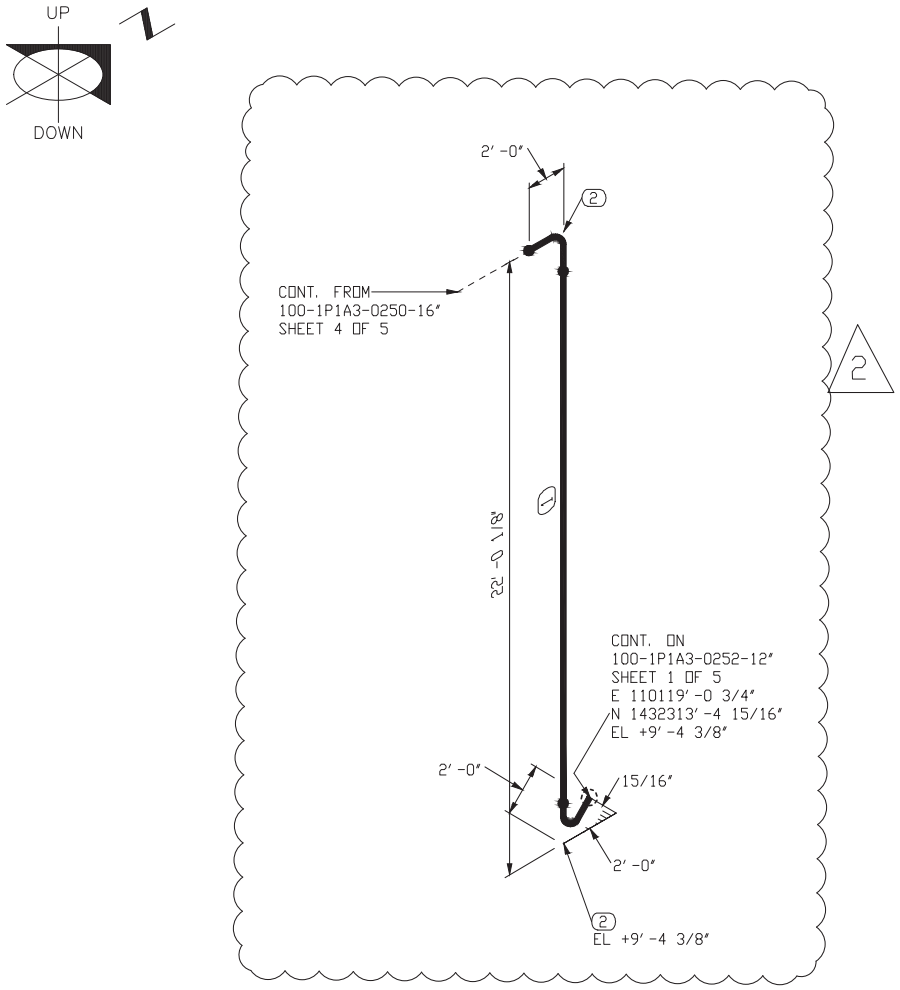
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0250-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE ASTM A-53, GR. B-SMLS	18' 1"
2	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	2

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2000
TBPE FIRM No.: F-10101

SHEET 5 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

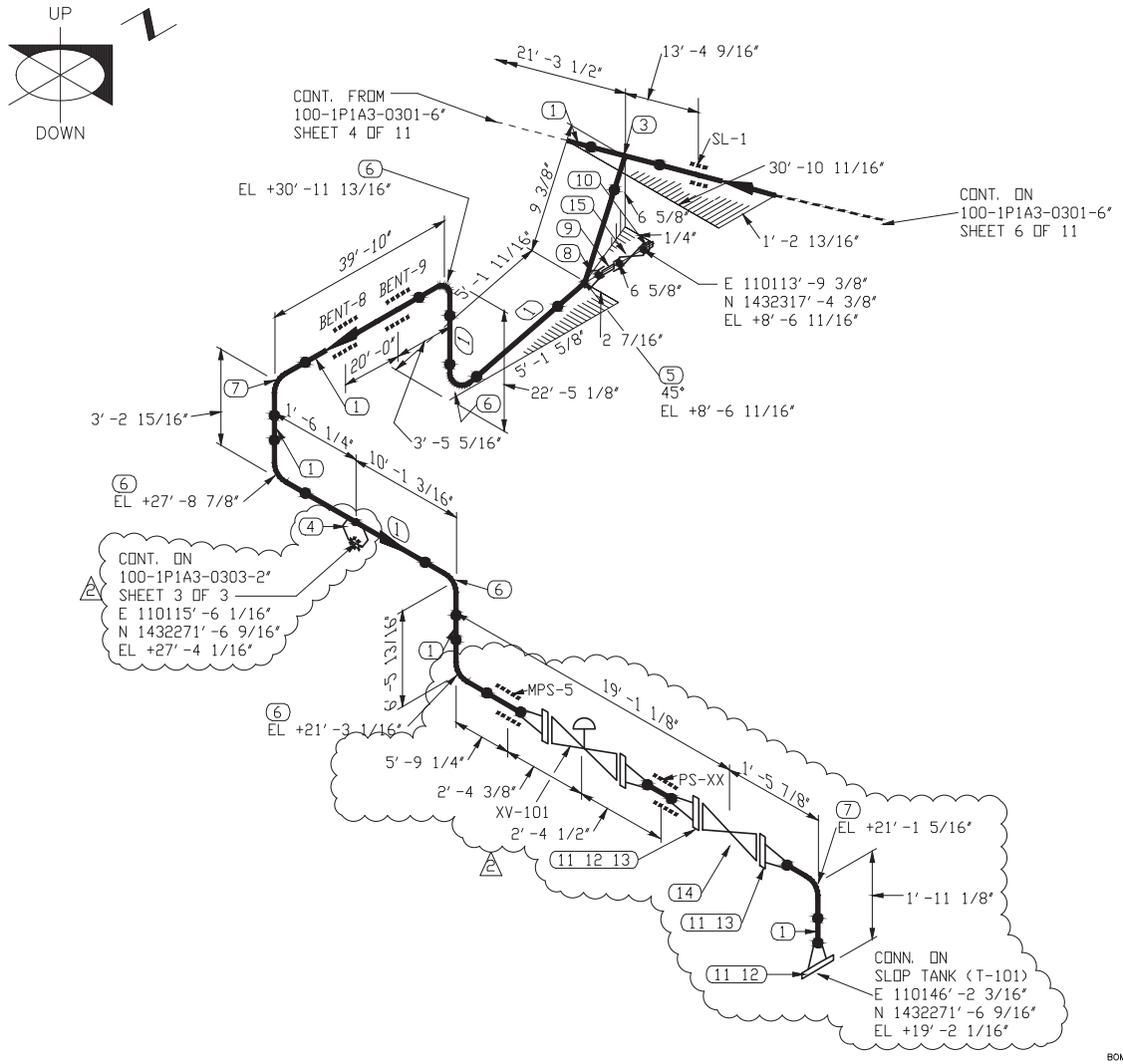
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0250-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	6	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	128'8"
3	6X6	TEE, STR. S.40, ASTM A-234 GR WPB	1
4	6X2	WELDOLET, S.40, ASTM A-105	1
5	6	45 LR ELL, BW, ASTM A-234 GR WPB, S.40	1
6	6	90 LR ELL, BW ASTM A-234 GR WPB, S.40	5
7	6	ELL, 90 LR S/STD, ASTM A-234 GR WPB	2
8	3/4	SOCKOLET, 3000# , ASTM A-105	1
9	3/4	ORIFICE NIPPLE, S.160 TBE. ASTM A106, GR. B - SMLS (4" LG)	1
10	3/4	THRD PLUG	1
11	6	FLG, RFWN 150LB S.40 BORE, ASTM A-105	5
12	6	GASKET, 1/8" THK, 150#	5
13	3/4X4	(8) STUD BOLTS W/ NUTS	5
14	6	GATE VALVE, 150# FLG	1
15	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, ~~HS&Y, VOGT TSW-1311~~ OR EQ.	1
16	6	GATE VALVE, 150#, PNEUMATIC ACTUATED	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DRAIN	DESIGN	283	105
	REVISION: 2	OPERATING	VACCUM	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX. 78410
PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 5 OF 11

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

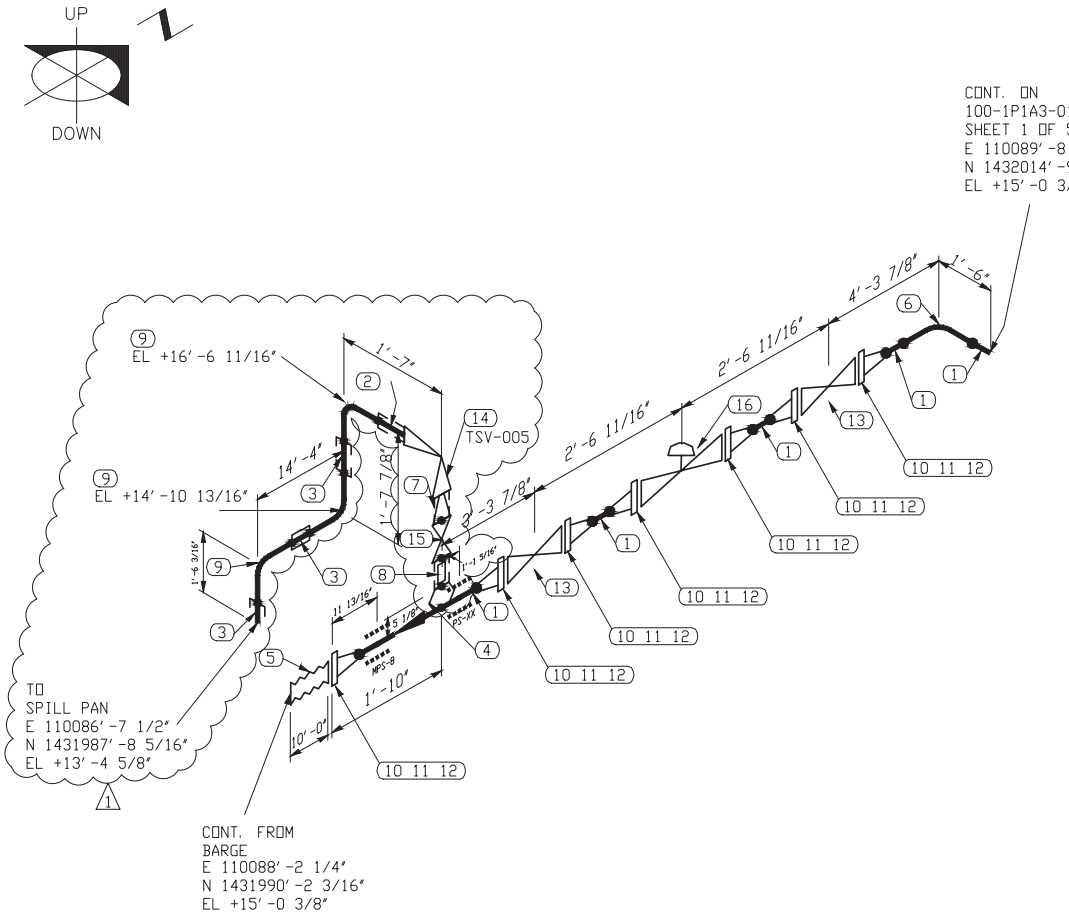
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0301-6"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	8	PIPE, S.40 BE. ASTM A53, GR.B - SMLS BBE	8'0"
2	1	PIPE, S.80 PE. ASTM A-106 GR.B - SMLS PDE-TDE	1'5"
3	1	PIPE, S.80 PE. ASTM A-106 GR.B - SMLS PBE	17'2"
4	8X1	SOCKOLET, 3000# , ASTM A-105	1
5	8	FLEXIBLE HOSE CONNECTION	1
6	8	90 LR ELL, BW ASTM A-234 GR WPB, S.40	1
7	1X3/4	SWAGE, CONC. S/80, ASTM A-234 GR WPB m-PSE	1
8	1	ORIFICE NIPPLE, S.160 TBE. ASTM A106, GR. B - SMLS (4" LG)	1
9	1	90 ELL, 3000# SW, ASTM A-105	3
10	8	FLG, 150# WN ASTM A105, S.40	7
11	8	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	7
12	3/4X4 1/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	7
13	8	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	2
14	1X3/4	RELIEF VALVE, 800# THRD	1
15	1	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1
16	8	CONTROL VALVE, 150# FLG .	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17

PCCA PROJ. 17-033B

AREA 100	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 1	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-8777
FAX 361-241-2000
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES		
QTY.	FIG. No.	REF. DWG.

	YES	NO	REMARKS
PAINT			
STEAM TRACE			
X-RAY			10%
INSULATION			
STRESS REL.			
STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
1	REVISED AS SHOWN	HA	10/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

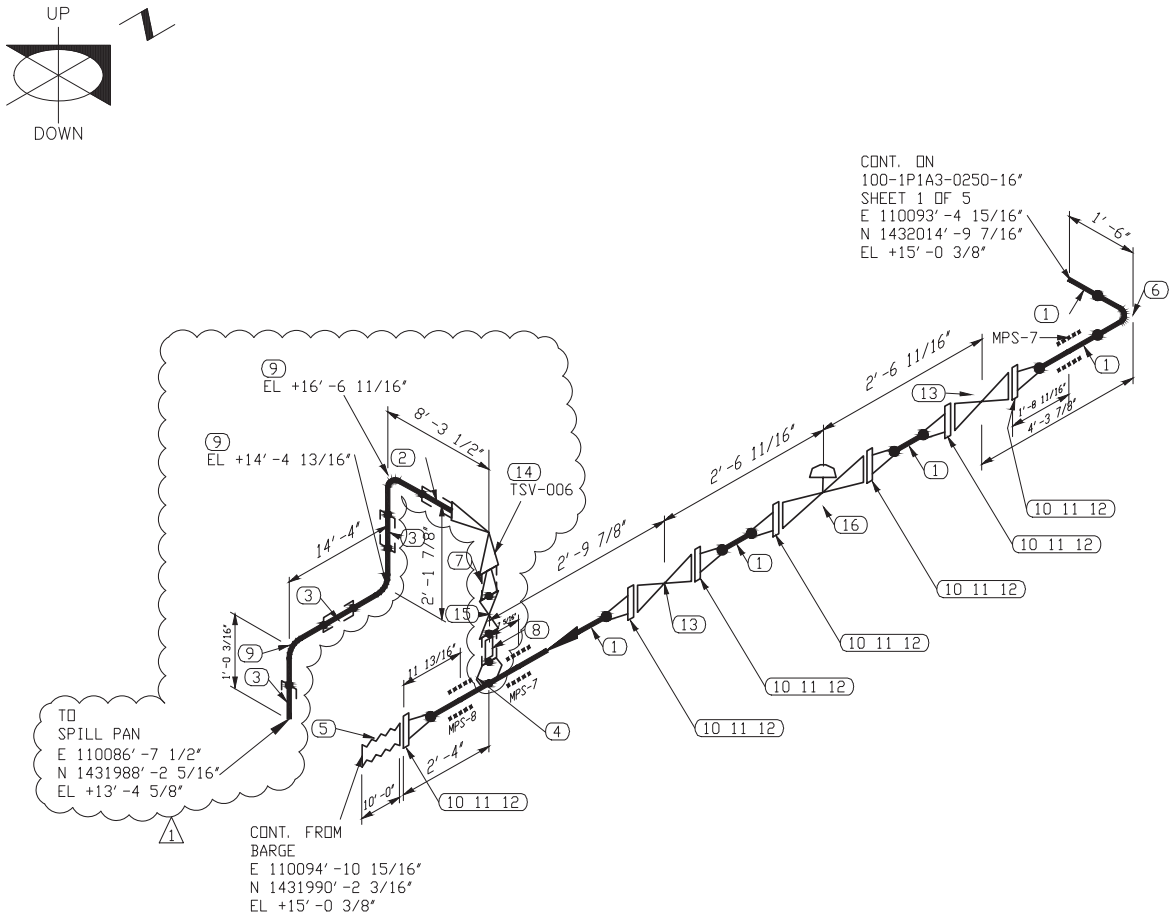
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0351-8"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	8	PIPE, S.40 BE. ASTM A53, GR.B - SMLS BBE	8'0"
2	1	PIPE, S.80 PE. ASTM A-106 GR.B - SMLS POE-TOE	8'2"
3	1	PIPE, S.80 PE. ASTM A-106 GR.B - SMLS PBE	17'2"
4	8X1	SOCKOLET, 3000# , ASTM A-105	1
5	8	FLEXIBLE HOSE CONNECTION	1
6	8	90 LR ELL, BW ASTM A-234 GR WPB, S.40	1
7	1X3/4	SWAGE, CONC. S/80, ASTM A-234 GR WPB m-PSE	1
8	1	ORIFICE NIPPLE, S.160 TBE. ASTM A106, GR. B - SMLS (4" LG)	1
9	1	90 ELL, 3000# SW, ASTM A-105	3
10	8	FLG, 150# WN ASTM A105, S.40	7
11	8	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	7
12	3/4X4 1/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	7
13	8	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	2
14	1X3/4	RELIEF VALVE, 800# THRD	1
15	1	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1
16	8	CONTROL VALVE, 150# FLG.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 1	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-8777
FAX 361-241-8200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
1	REVISED AS SHOWN	HA	10/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
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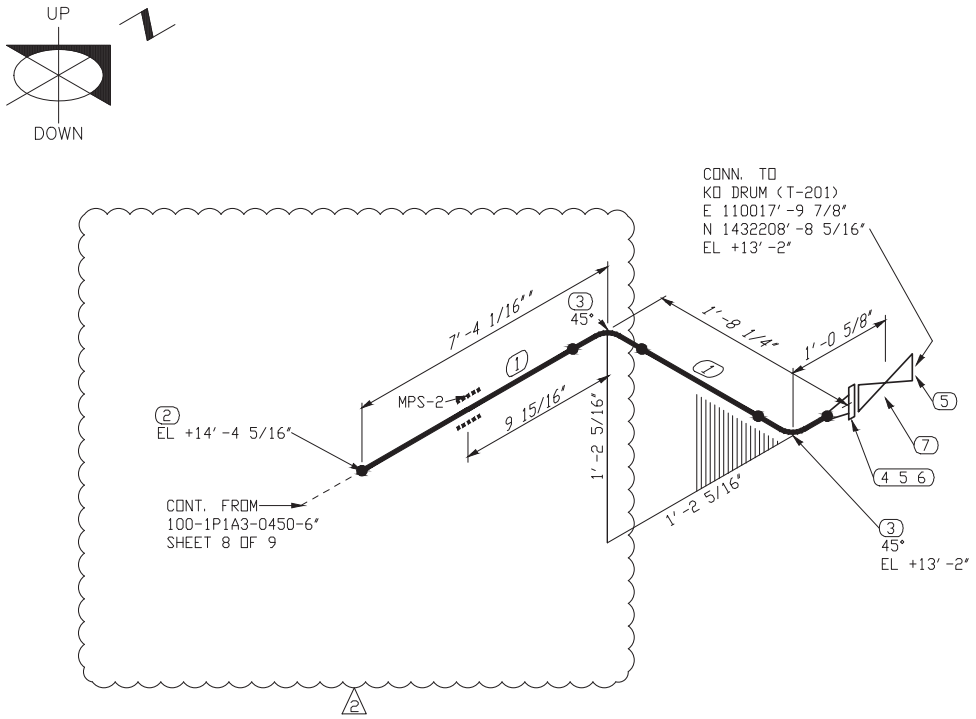
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0352-8"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	6	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	2'0"
3	6	45 LR ELL, BW, ASTM A-234 GR WPB, S.40	2
4	6	FLG, 150# WN ASTM A105, S.40	1
5	6	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
6	3/4X4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	1
7	6	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	-1	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX. 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 9 OF 9

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM # 2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

PORT CORPUS CHRISTI

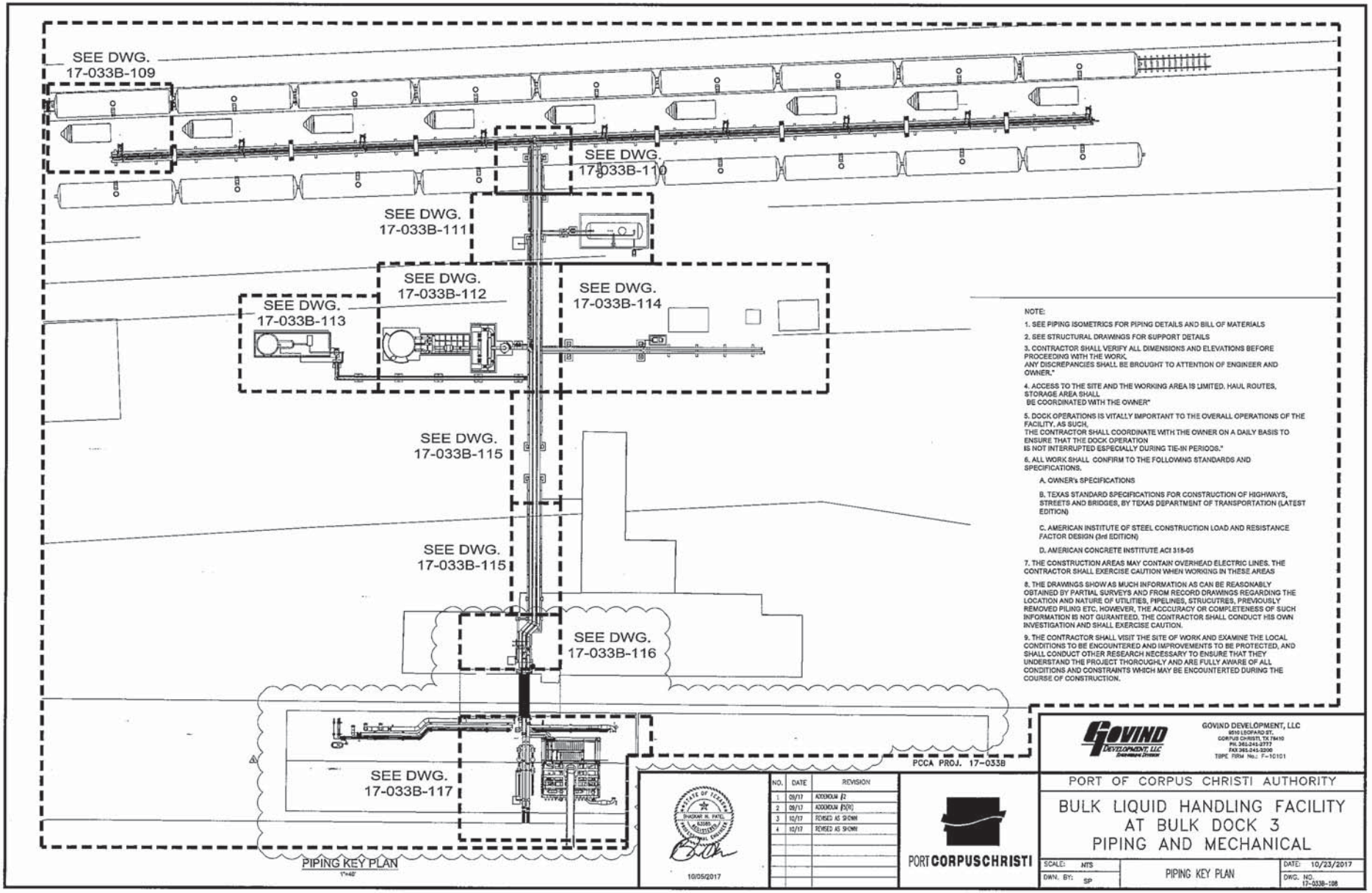
PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

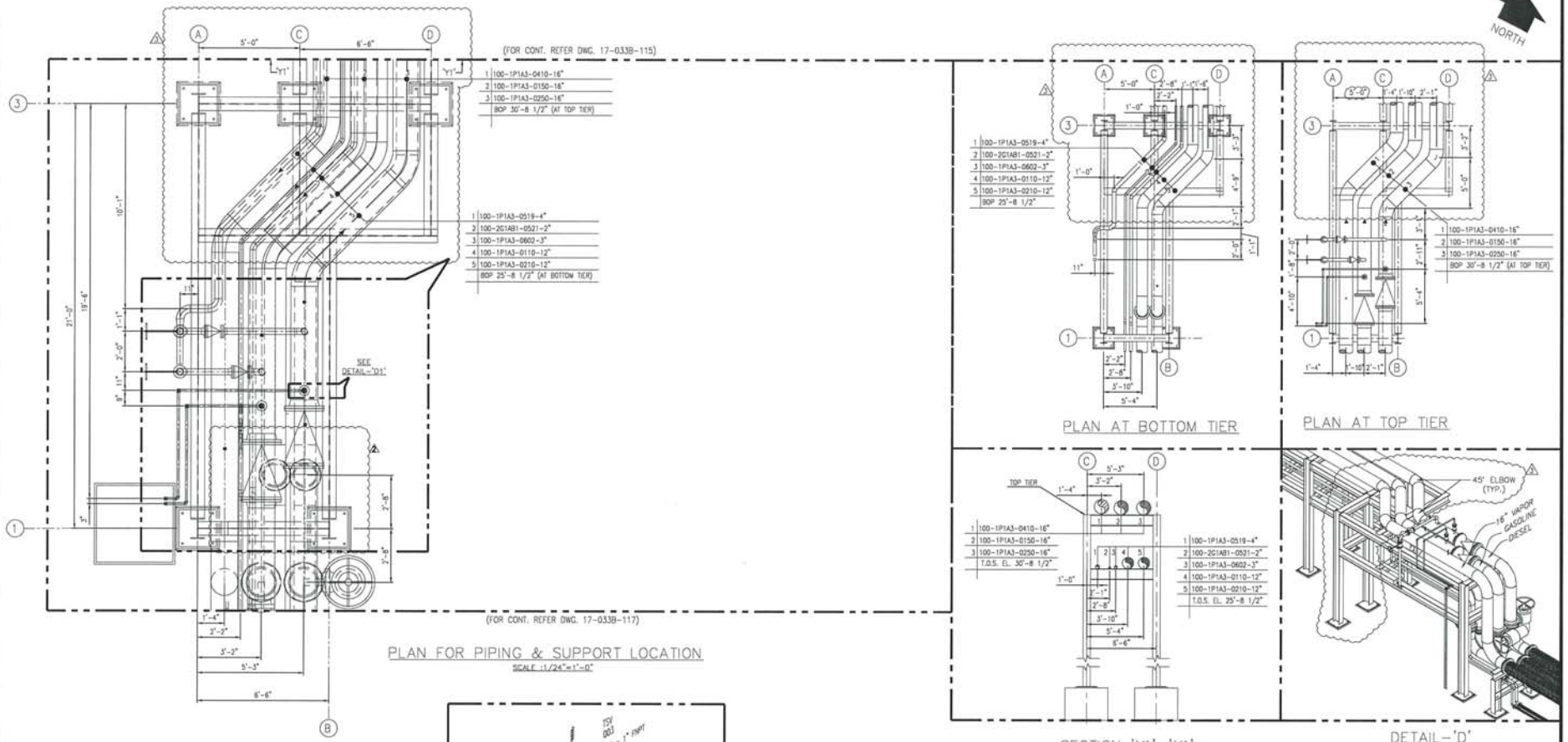
SCALE: NTS	ISOMETRICS	DATE: 10/18/17
DWN. BY: HA		LINE NO. 100-1P1A3-0450-6"

JOB NO. 17P0C0139

EXHIBIT B



JOB NO. 17POC0139



NOTE:
1. SEE PIPING ISOMETRICS FOR PIPING DETAILS
2. SEE STRUCTURAL DRAWINGS FOR SUPPORT DETAILS
3. CONTRACTOR TO PROCURE SPILL PAN OF 2'x2'x4" TO BE USE FOR TSV OPERATION(2 QTYs), METERING SKID AND RAIL CAR (TOTAL 18 QTYs)

PCCA PROJ. 17-033B

GOVIND DEVELOPMENT, LLC
80 ST. LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-245-8206
TBPE FIRM No.: F-10101

NO.	DATE	REVISION
1	09/17	ADDENDUM #1
2	10/17	REVISED AS SHOWN
3	10/17	REVISED AS SHOWN

STATE OF TEXAS — BHASKAR H. PATEL — 63585 — REGISTERED PROFESSIONAL ENGINEER
10/24/17

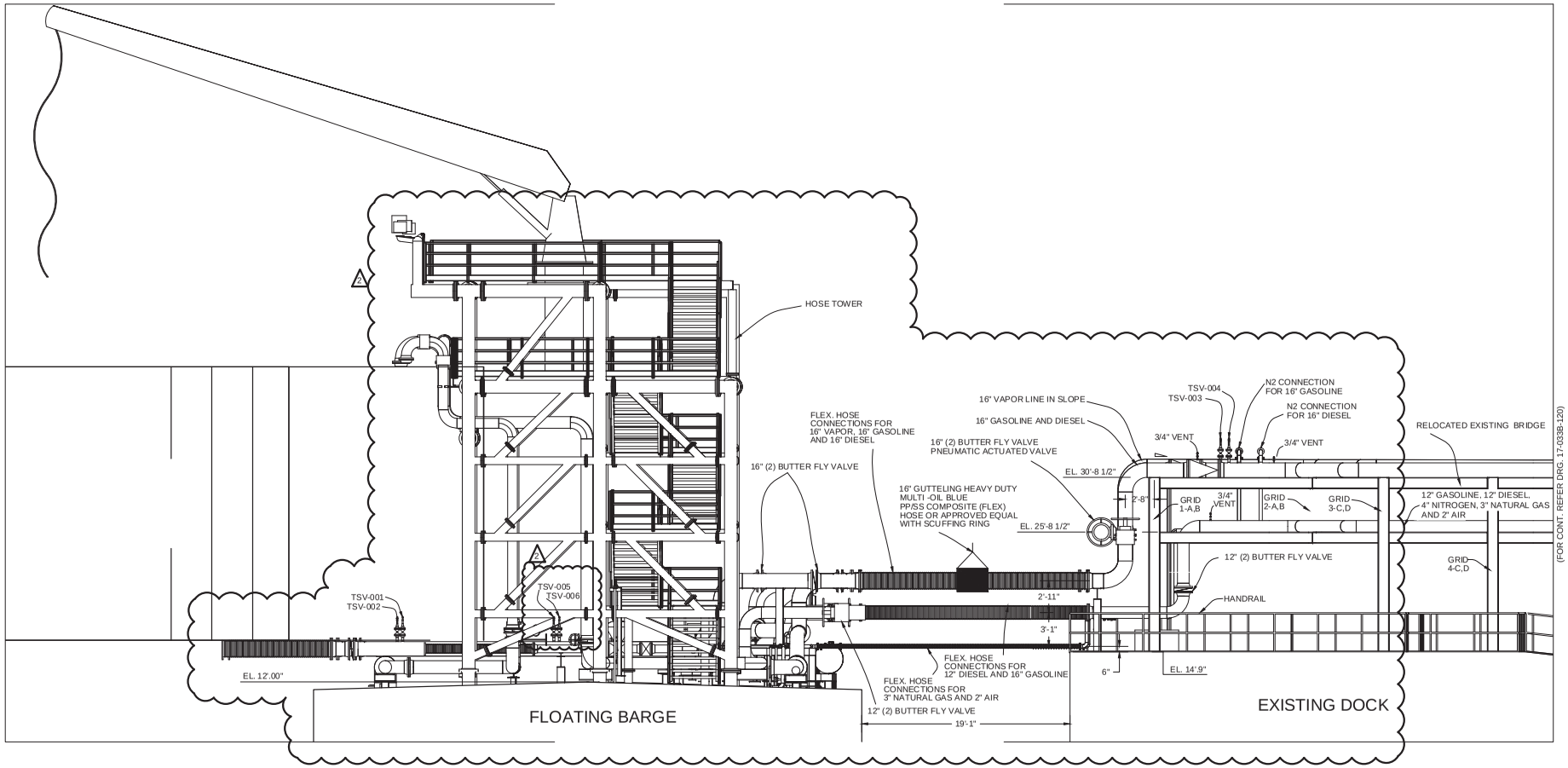
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING AND MECHANICAL

SCALE: NTS
DWN. BY: SP
PIPING AND SUPPORT LOCATION PLAN
DATE: 10/25/2017
DWG. NO. 17-033B-118

JOB NO. 17POC0139



SECTION VIEW

PCCA PROJ. 17-033B

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361.241.2777
FAX 361.241.2200
TBPE FIRM No.: F-10101

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/25/17

NO.	DATE	REVISION
1	09/17	ADDENDUM #2
2	10/17	REVISED AS SHOWN

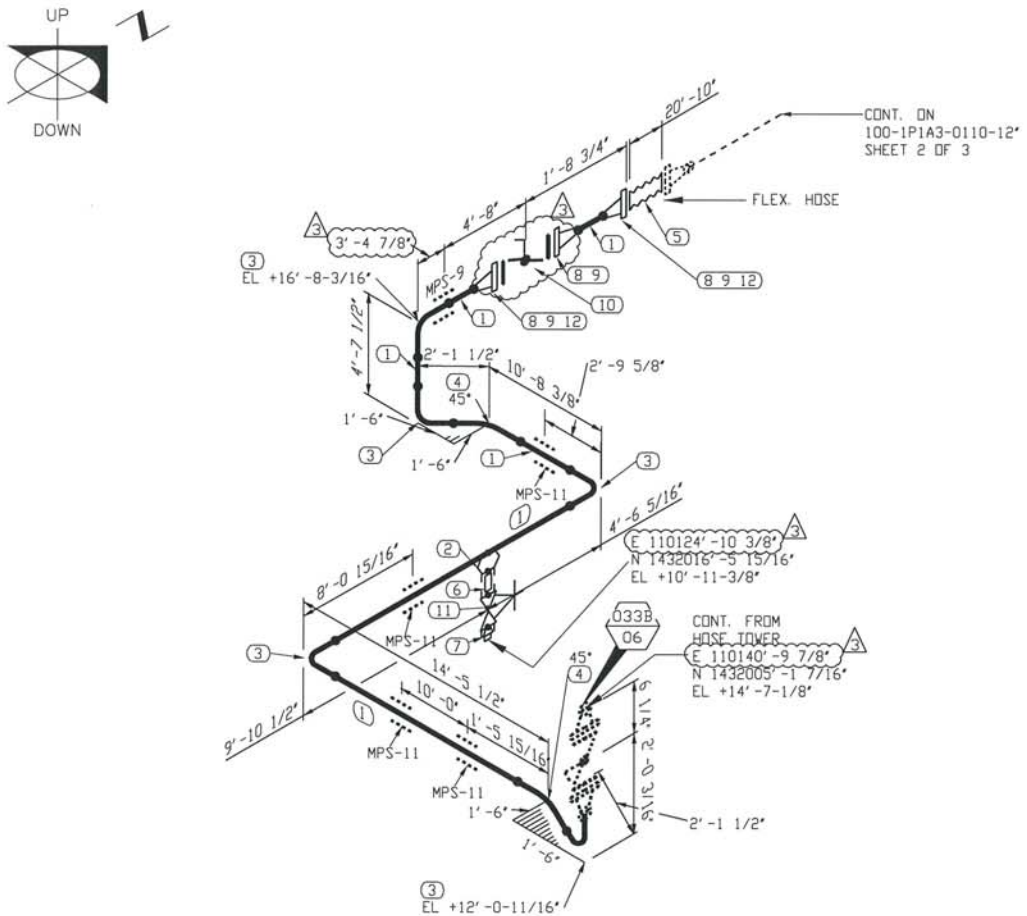
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING AND MECHANICAL

SCALE: NTS	OVERALL SECTIONAL VIEW DRAWING	DATE: 10/25/2017
DWN. BY: SP		DWG. NO. 17-033B-119

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	12	PIPE, STD BE. ASTM A53, GR. B - SMLS	40' 8"
2	12X3/4	SOCKOLET, 3000# FS, ASTM A-105	1
3	12	90 LR ELL, BW ASTM A-234 GR WPB, STD	5
4	12	45 LR ELL, BW, ASTM A-234 GR WPB, STD	2
5	12	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1
6	3/4	ORIFICE NIPPLE, S. 160 PBE. ASTM A106, GR. B - SMLS (4" LG)	1
7	3/4	THRD, PLUG	1
8	12	FLG, 150# WN ASTM A105, STD	3
9	12	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
10	12	BUTTERFLY VALVE, 150# FLGD, LUG BUNA-N GEAR OP. CENTERLINE 200 OR EQ.	1
11	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1
12	7/8X4 3/4	(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/25/2017

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 1	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-8777
FAX 361-241-0200
TBPE FIRM No.: F-10101

SHEET 1 OF 3

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2	HA	09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/25/2017
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

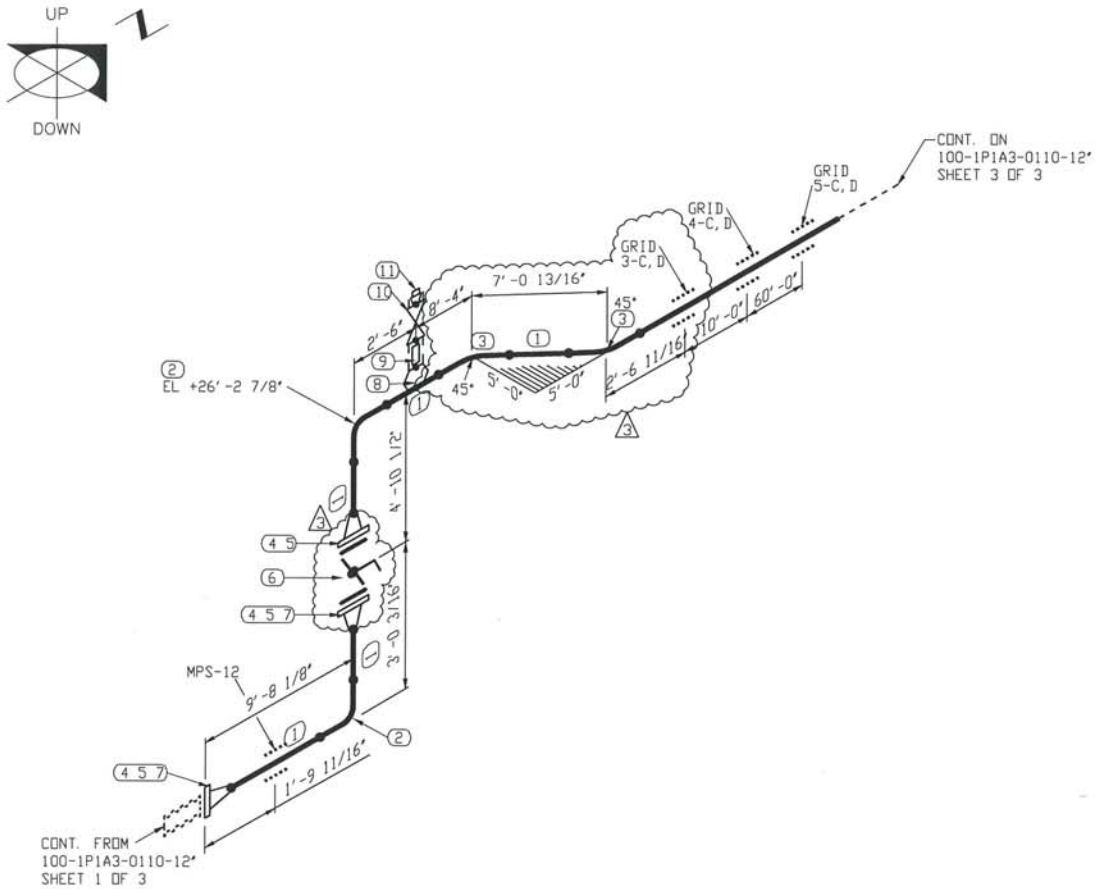
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/2017
DWN. BY: HA		LINE NO. 100-1P1A3-0110-12"

JOB NO. 17P0C0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	12	PIPE, STD WT, ASTM A53, GR. B -SMLS	27' -0"
2	12	90 LR ELL, BW ASTM A-234 GR WPB, STD	2
3	12	45 LR ELL, BW ASTM A-234 GR WPB, STD	2
4	12	FLG, 150# WN ASTM A105, STD	3
5	12	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
6	12	BUTTERFLY VALVE, 150# FLGD, LUG BUNA-N GEAR OP. CENTERLINE 200 OR EQ.	1
7	7/8X4 3/4	(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	3
8	16X3/4	SOCKOLET, 3000# FS, ASTM A-105	1
9	3/4	ORIFICE NIPPLE, S. 160 PBE. ASTM A106, GR. B - SMLS (4" LG)	1
10	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	2
11	3/4	THRD PLUG	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
83585
REGISTERED
PROFESSIONAL ENGINEER
10/25/2017

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 1	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST
CORPUS CHRISTI, TX 78410
PH 361-241-2777
FAX 361-241-2220
TBPE FIRM No: F-10101

SHEET 2 OF 3

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2	HA	09/17				

REVISIONS

BOM No.

CAD FILE NO.

DR.	HA	DATE	10/25/2017
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

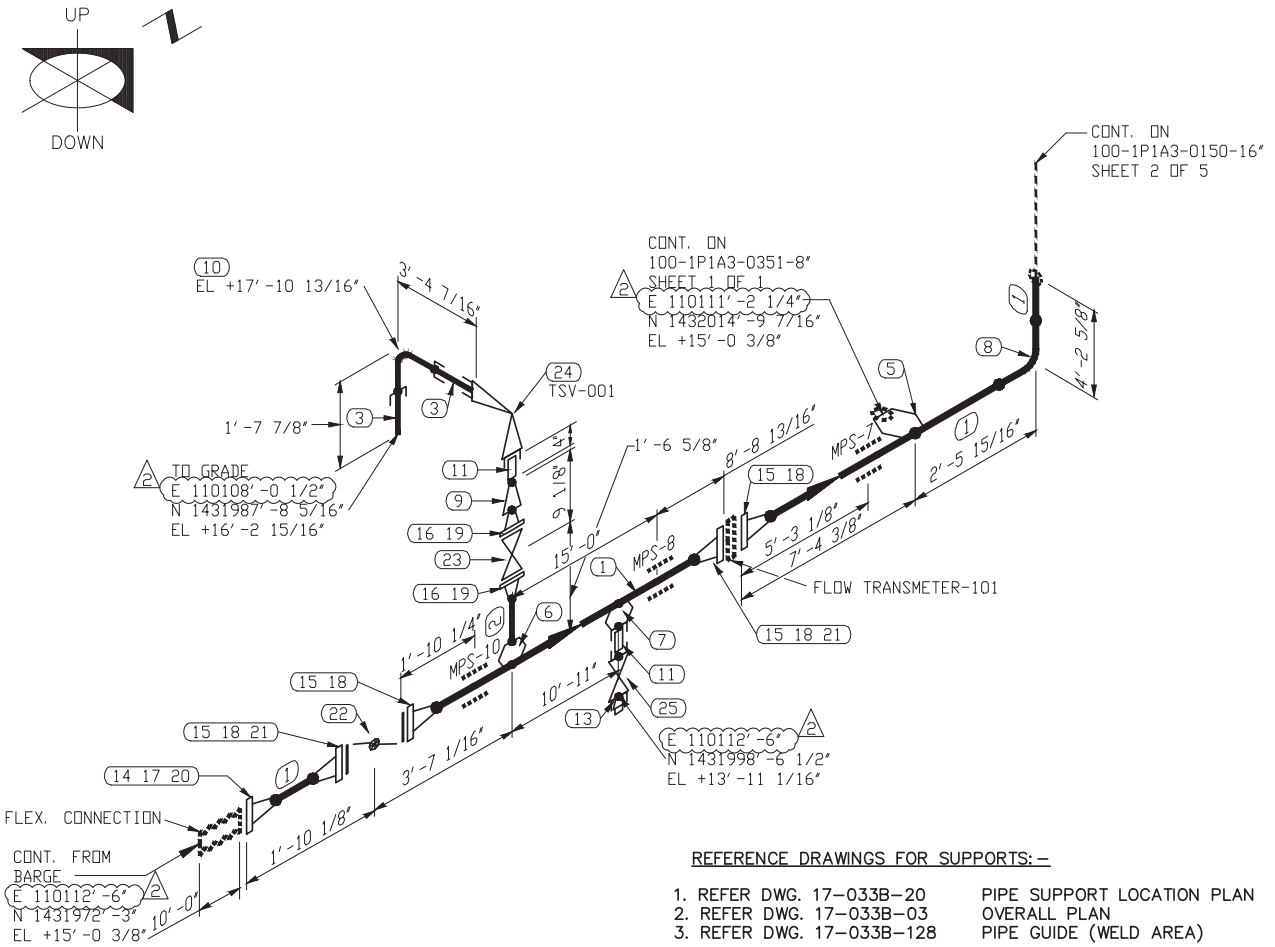
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/2017
DWN. BY: HA		LINE NO. 100-1P1A3-0110-12"

JOB NO. 17P0C0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS BBE	34' 2"
2	2	PIPE, S. 80 BE ASTM A-106, GR. B-SMLS BBE	0' 4"
3	1	PIPE, S. 80 PE. ASTM A-106 GR. B - SMLS PBE	4' 11"
5	16X8	WELDOLET, SCH STD, ASTM A-105	1
6	16X2	WELDOLET, SCH STD, ASTM A-105	1
7	16X3/4	SOCKOLET, 3000# , ASTM A-105	1
8	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	1
9	2X3/4	REDUCER, CONC S. 80, ASTM A-234 GR WPB	1
10	1	90 ELL, 3000# SW, ASTM A-105, S. 80	1
11	3/4	ORIFICE NIPPLE, S. 160 TBE. ASTM A106, GR. B - SMLS (4" LG)	2
13	3/4	THRD, PLUG	1
14	16	FLG, RFWN 150#STD BORE, ASTM A-105	1
15	16	FLG, 150# WN ASTM A105, STD	4
16	2	FLG, 150# WN ASTM A105, S. 80	2
17	16	GASKET, 1/8" THK, 150#	1
18	16	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16. 20	4
19	2	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16. 20	2
20	1X5 1/2	(16) STUD BOLTS W/ NUTS	1
21	1X5 1/2	(16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
22	16	BUTTERFLY VALVE, 150# FLGD,	1
23	2	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	1
24	1X3/4	RELIEF VALVE, 800# THRD	1
25	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS: –

1. REFER DWG. 17–033B–20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17–033B–03 OVERALL PLAN
3. REFER DWG. 17–033B–128 PIPE GUIDE (WELD AREA)

NOTE: –

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/25/17

PCCA PROJ. 17–033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.

CAD FILE NO.

DR.	HA	DATE	10/25/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

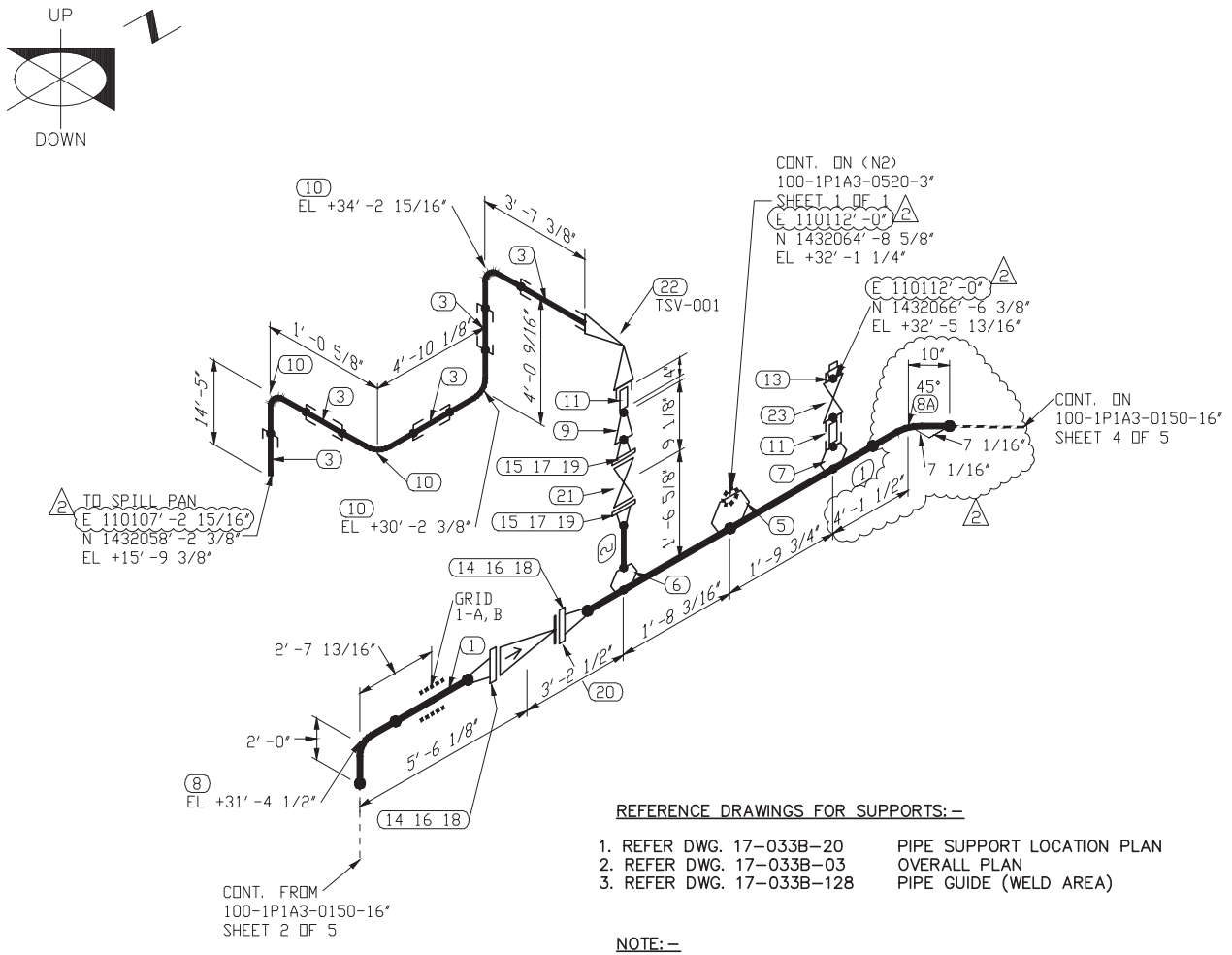
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0150-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS BBE	9' 0"
2	2	PIPE, S. 80 BE ASTM A-106, GR. B-SMLS BBE	0' 4"
3	1	PIPE, S. 80 PE. ASTM A-106 GR. B - SMLS PBE	27' 6"
5	16X3	WELDOLET, SCH STD, ASTM A-105	1
6	16X2	WELDOLET, SCH STD, ASTM A-105	1
7	16X3/4	SOCKOLET, 3000# , ASTM A-105	1
8	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	1
8A	16	45 LR ELL, BW ASTM A-234 GR WPB, STD	1
9	2X3/4	REDUCER, CONC S. 80, ASTM A-234 GR WPB	1
10	1	90 ELL, 3000# SW, ASTM A-105, S. 80	4
11	3/4	ORIFICE NIPPLE, S. 160 TBE. ASTM A106, GR. B - SMLS (4" LG)	2
13	3/4	THRD PLUG,	1
14	16	FLG, 150# WN ASTM A105, STD	2
15	2	FLG, 150# WN ASTM A105, S. 80	2
16	16	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
17	2	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
18	1X5 1/2	(16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
19	5/8X3 1/4	(4) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
20	16	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15SMF OR EQ.	1
21	2	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	1
22	1X3/4	RELIEF VALVE, 800LB THRD	1
23	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS: –

1. REFER DWG. 17–033B–20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17–033B–03 OVERALL PLAN
3. REFER DWG. 17–033B–128 PIPE GUIDE (WELD AREA)

NOTE: –

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE
4. MANUFACTURER FOR SPILL PAN : NEW PIG OR EQ

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/25/17

PCCA PROJ. 17–033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 3 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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1	ADDENDUM #2		09/17				

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CAD FILE NO.

DR.	HA	DATE	10/25/17
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OPER. APPR.		DATE	
MAINT. APPR.		DATE	

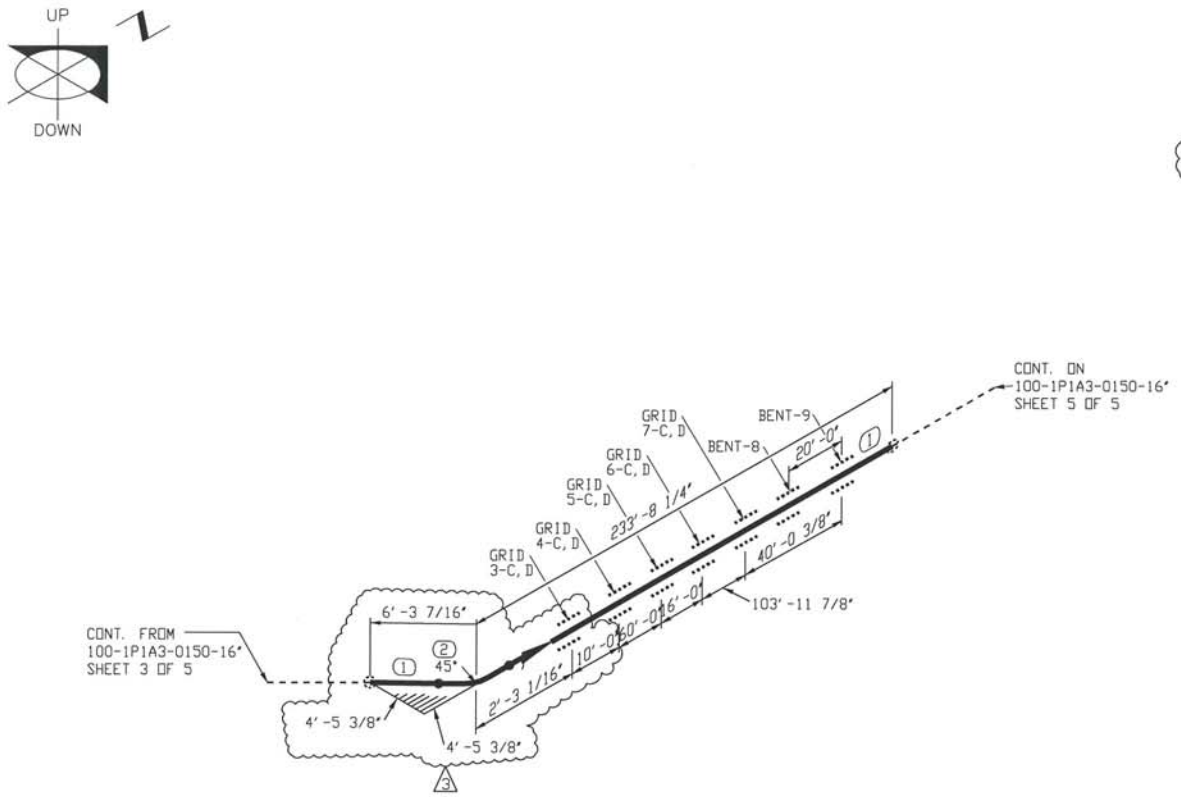
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0150-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE, ASTM A53, GR. B - SMLS BBE	233'-6"
2	16	45 LR ELL, BW ASTM A-234 GR WPB, STD	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

BHASKAR H. PATEL 63585 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS
10/25/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST
CORPUS CHRISTI, TX 78410
PH. 361-241-2727
FAX 361-241-2820
TBPE FIRM No.: F-10101

SHEET 4 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

ALL REVISIONS MADE TO THIS DRAWING SHALL BE MADE WITH CAD, AND IN ACCORDANCE WITH PORT OF CORPUS CHRISTI'S STANDARDS FOR CAD GENERATED DRAWINGS. THIS DRAWING CONTAINS PROPRIETARY INFORMATION BELONGING TO PORT OF CORPUS CHRISTI, WHICH MAY NOT BE USED OR REPRODUCED WITHOUT PERMISSION. THIS DRAWING REMAINS THE PROPERTY OF PORT OF CORPUS CHRISTI AND IS TO RETURNED ON DEMAND.

REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/25/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

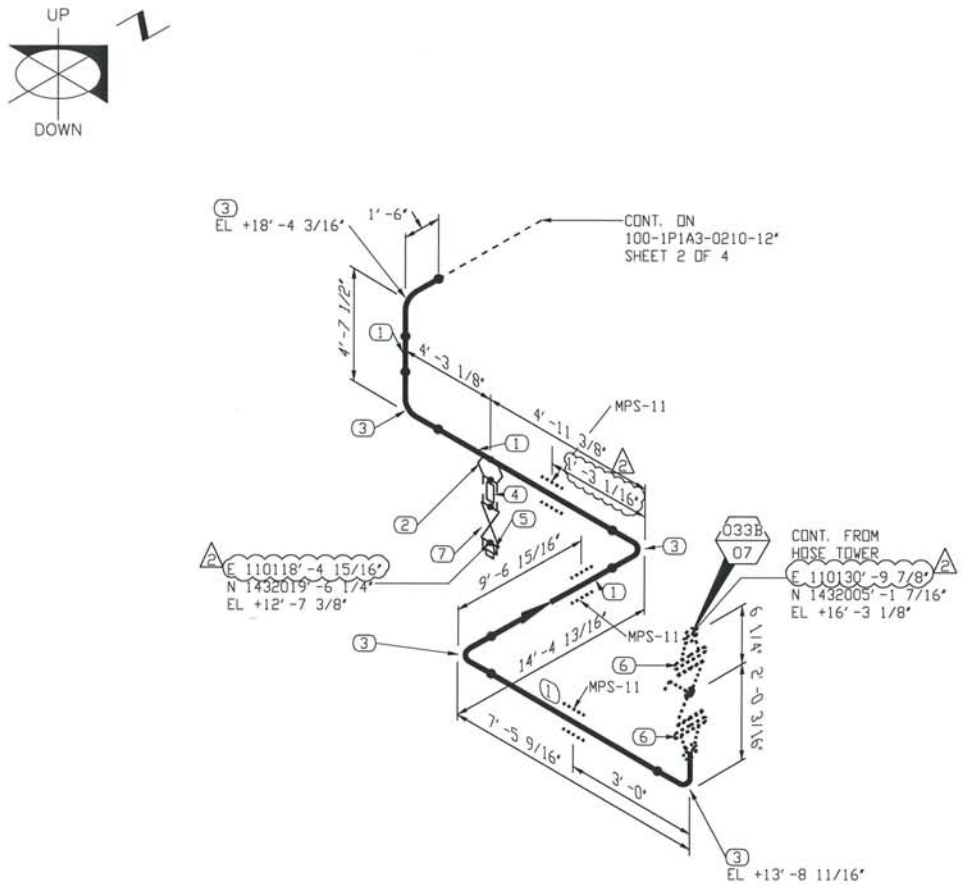
PORT CORPUSCHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0150-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	12	PIPE, STD BE. ASTM A53, GR. B - SMLS	23'9"
2	12X3/4	SOCKOLET, 3000# FS, ASTM A-105	1
3	12	90 LR ELL, BW ASTM A-234 GR WPB, STD	5
4	3/4	ORIFICE NIPPLE, S.160 PBE. ASTM A106, GR. B - SMLS (4" LG)	1
5	3/4	THRD, PLUG	1
6	7/8X4 3/4	(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
7	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/25/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 1	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2000
TBPE FIRM No.: F-10101

SHEET 1 OF 4

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
-	-	-	-				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2	HA	09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/25/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

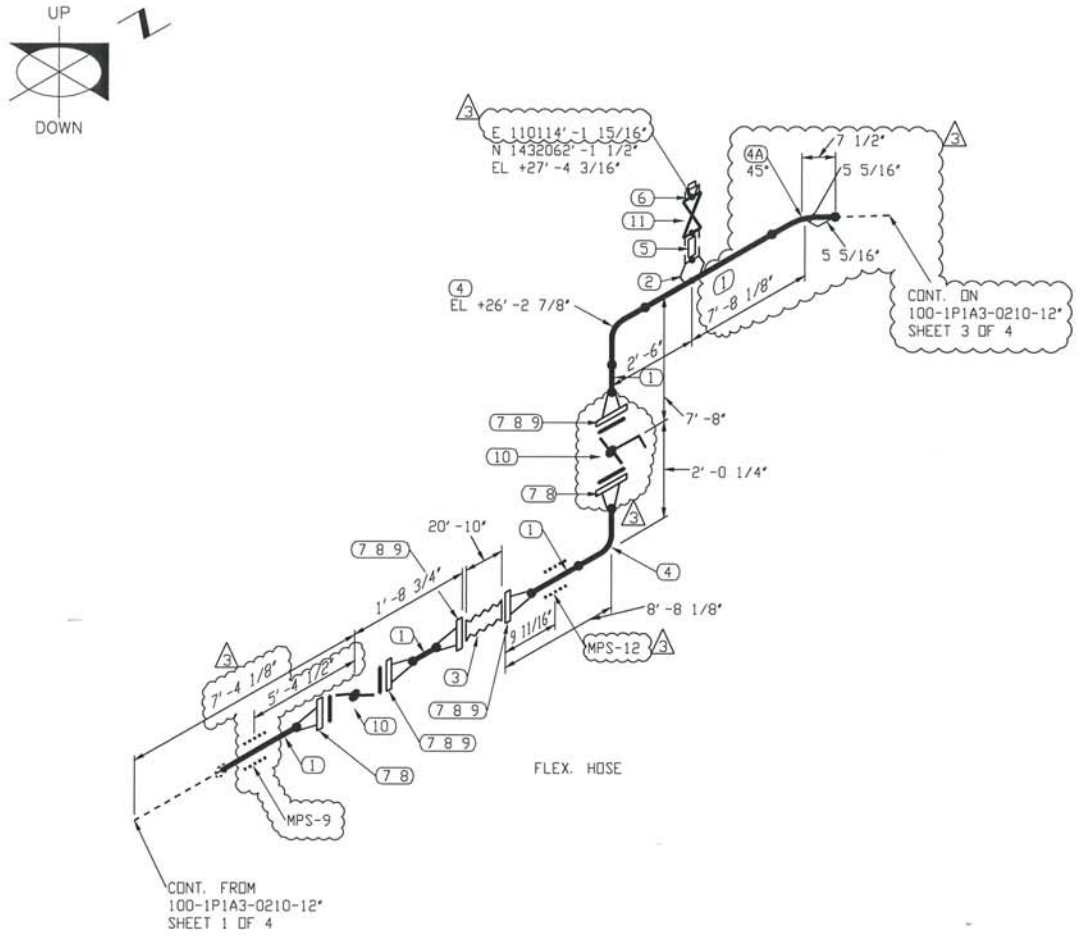
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0210-12"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	12	PIPE, STD BE. ASTM A53, GR. B - SMLS	26'5"
2	12X3/4	SOCKOLET, 3000# FS, ASTM A-105	1
3	16	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1
4	12	90 LR ELL, BW ASTM A-234 GR WPB, STD	2
4A	12	45 SR ELL, BW ASTM A-234 GR WPB, STD	1
5	3/4	ORIFICE NIPPLE, S.160 PBE ASTM A106, GR. B - SMLS (4" LG)	1
6	3/4	THRD, PLUG	1
7	12	FLG, 150# WN ASTM A105, STD	6
8	12	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	6
9	7/8X4 3/4	(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	4
10	12	BUTTERFLY VALVE, 150# FLGD, LUG BUNA-N GEAR OP, CENTERLINE 200 OR EQ.	2
11	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS: -

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE: -

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
83585
REGISTERED
PROFESSIONAL ENGINEER
10/25/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 1	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST
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PH. 361-241-2777
FAX 361-241-2020
TBPE FIRM No. F-10101

SHEET 2 OF 4

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVISED AS SHOWN	SH	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2	HA	09/17				

REVISIONS

BOM No.
CAD FILE No.

DR.	HA	DATE	10/25/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

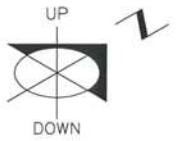
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

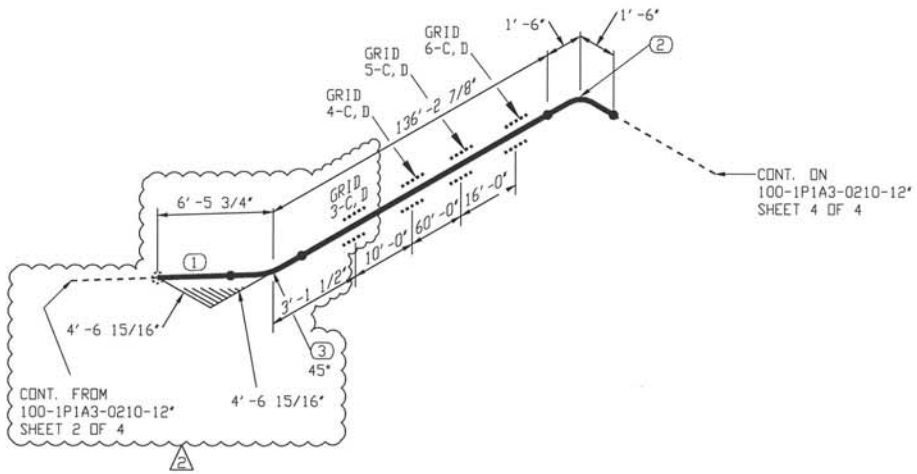
SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0210-12"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	12	PIPE, STD BE. ASTM A53, GR. B -SMLS	140'-0"
2	12	90 LR ELL, BW ASTM A-234 GR WPB, STD	2
3	12	45 LR ELL, BW ASTM A-234 GR WPB, STD	1



REFERENCE DRAWINGS FOR SUPPORTS: –

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE: –

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/25/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 1	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 3 OF 4

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
–	–	–	–				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2	HA	09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/25/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

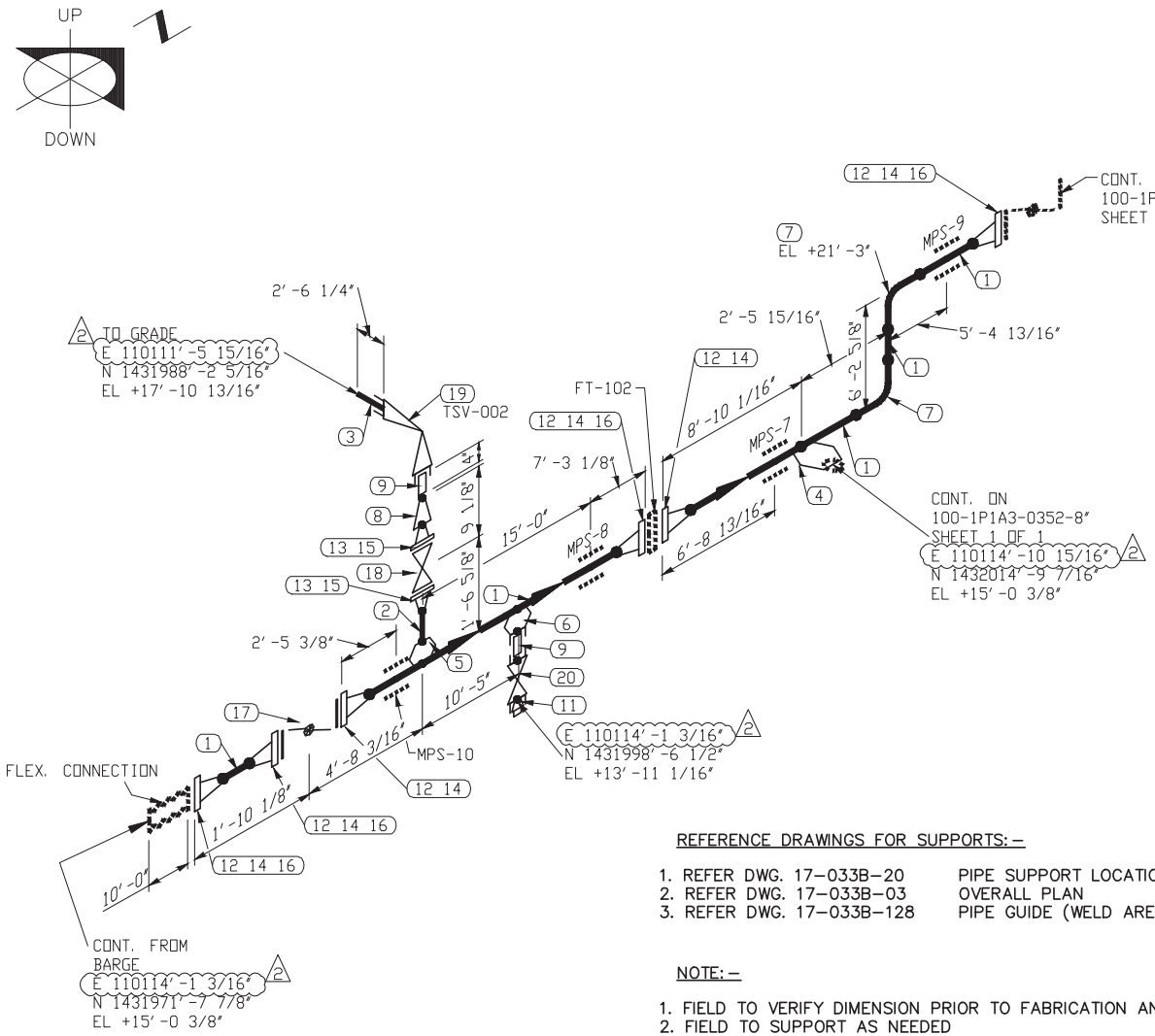
PORT CORPUSCHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0210-12"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS	40' 9"
2	2	PIPE, S. 80 BE ASTM A-106, GR. B-SMLS BBE	0' 4"
3	1	PIPE, S. 80 PE. ASTM A-106 GR. B - SMLS PBE	2' 7"
4	16X8	WELDOLET, SCH STD, ASTM A-105	1
5	16X2	WELDOLET, SCH STD, ASTM A-105	1
6	16X3/4	SOCKOLET, 3000# , ASTM A-105	1
7	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	2
8	2X3/4	REDUCER, CONC S. 80, ASTM A-234 GR WPB	1
9	3/4	ORIFICE NIPPLE, S. 160 TBE. ASTM A106, GR. B - SMLS (4" LG)	2
11	3/4	THRD PLUG	1
12	16	FLG, 150# WN ASTM A105, STD	6
13	2	FLG, 150# WN ASTM A105, S. 80	2
14	16	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	6
15	2	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
16	1X5 1/2	(16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	5
17	16	BUTTERFLY VALVE, 150# FLGD,	1
18	2	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	1
19	1X3/4	RELIEF VALVE, 800# THRD	1
20	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS: –

1. REFER DWG. 17–033B–20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17–033B–03 OVERALL PLAN
3. REFER DWG. 17–033B–128 PIPE GUIDE (WELD AREA)

NOTE: –

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/25/17

PCCA PROJ. 17–033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
			10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/25/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

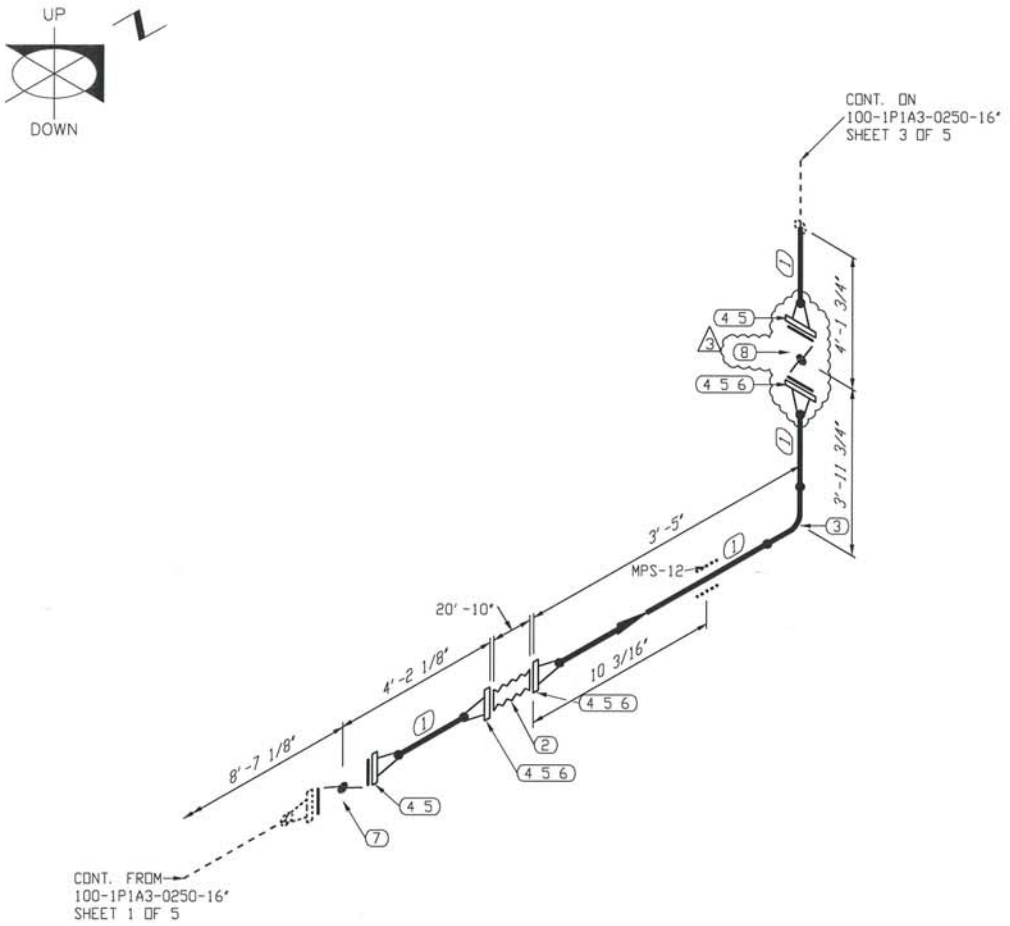
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0250-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS	9' 2"
3	16	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1
3	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	1
4	16	FLG, 150# WN ASTM A105, STD	5
5	16	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	5
6	1X5 1/2	(16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	3
7	16	BUTTERFLY VALVE, 150# FLGD, LUG BUNA-N GEAR OP, CENTERLINE 200 OR EQ.	1
8	16	BUTTERFLY VALVE, 150# FLGD, (PNEUMATIC ACTUATED-AIR OPERATED): POSI SEAL #132	1

REFERENCE DRAWINGS FOR SUPPORTS: –

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE: –

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/25/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST
CORPUS CHRISTI, TX 78410
Ph. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 2 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/25/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

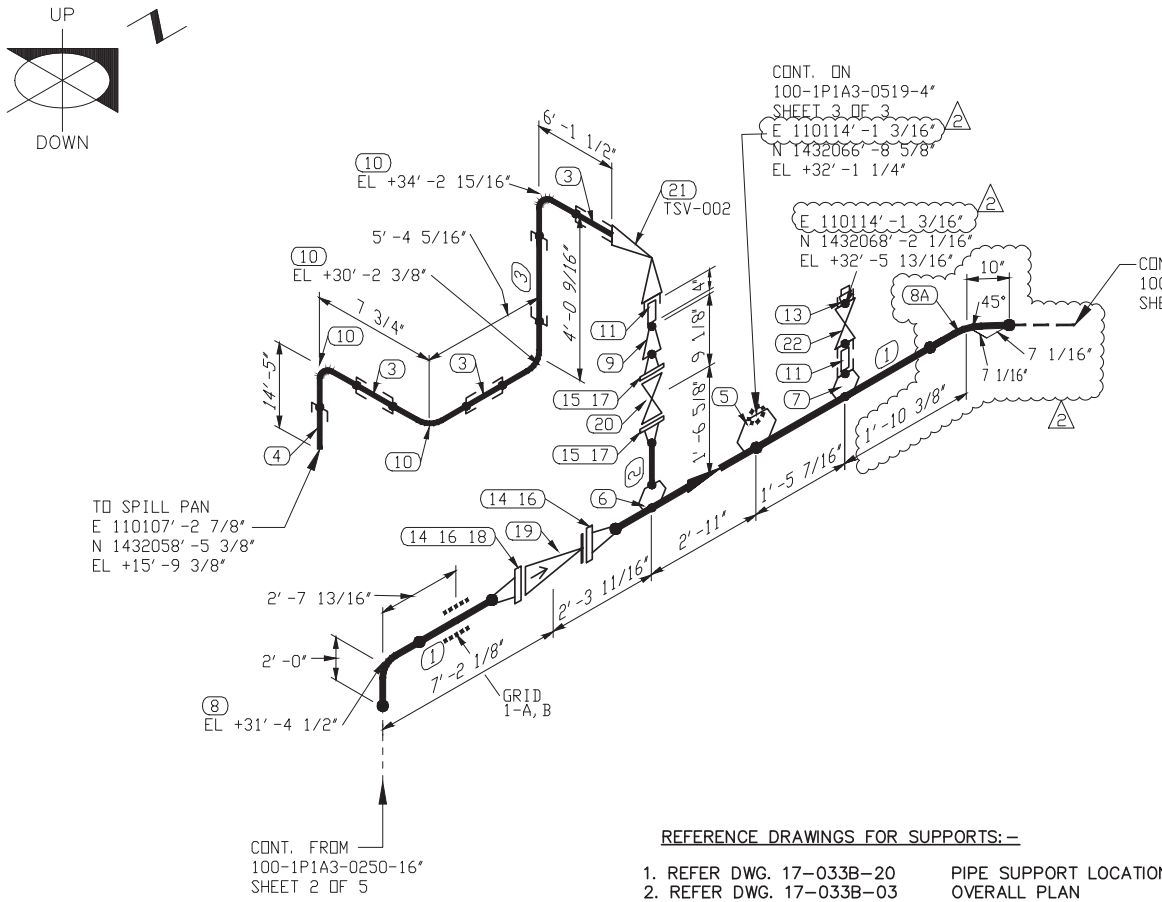
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0250-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS	10' 11"
2	2	PIPE, S. 80 BE ASTM A-106, GR. B-SMLS BBE	0' 4"
3	1	PIPE, S. 80 PE. ASTM A-106 GR. B - SMLS	30' 1"
5	16X3	WELDOLET, SCH STD, ASTM A-105	1
6	16X2	WELDOLET, SCH STD, ASTM A-105	1
7	16X3/4	SOCKOLET, 3000# , ASTM A-105	1
8	16	90 LR ELL BW ASTM A-234 GR WPB STD	1
8A	16	45 LR ELL BW ASTM A-234 GR WPB STD	1
9	2X3/4	REDUCER, CONC S. 80, ASTM A-234 GR WPB	1
10	1	90 ELL, 3000# SW, ASTM A-105	4
11	3/4	ORIFICE NIPPLE, S. 160 TBE. ASTM A106, GR. B - SMLS (4" LG)	2
13	3/4	THRD PLUG	1
14	16	FLG, 150# WN ASTM A105, STD	2
15	2	FLG, 150# WN ASTM A105, S. 80	2
16	16	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
17	2	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
18	1X5 1/2	(16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
19	16	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15SMF OR EQ.	1
20	2	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	1
21	1X3/4	RELIEF VALVE, 800# THRD	1
22	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS: –

1. REFER DWG. 17–033B–20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17–033B–03 OVERALL PLAN
3. REFER DWG. 17–033B–128 PIPE GUIDE (WELD AREA)

NOTE: –

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE
4. MANUFACTURER FOR SPILL PAN : NEW PIG OR EQ

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/25/17

PCCA PROJ. 17–033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 3 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/25/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

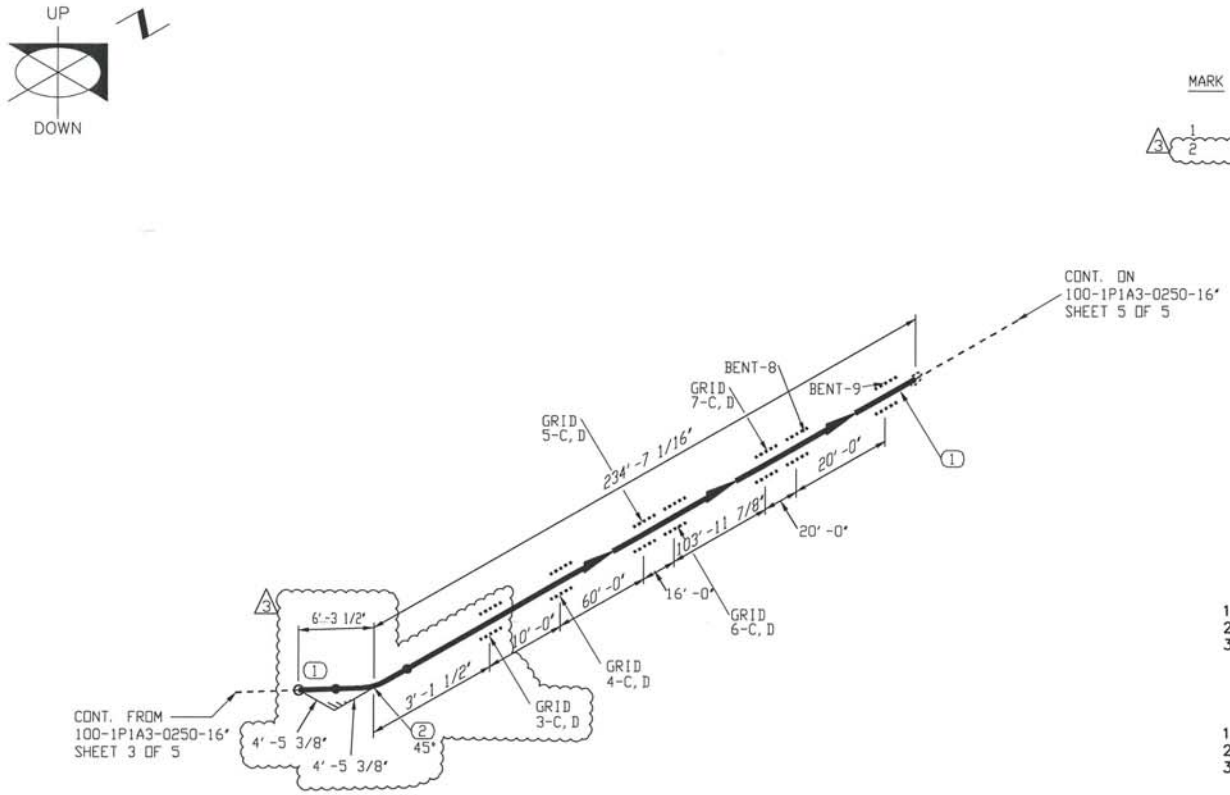
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0250-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE, ASTM A53, GR. B - SMLS	236' 6"
2	16	45 LR ELL, BW ASTM A-234 GR WPB, STD	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/25/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
951G LEOPARD ST
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2000
TBPE FIRM No.: F-10101

SHEET 4 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHK'D.	DATE	APPR.	DATE
3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE No.

DR.	HA	DATE	10/25/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

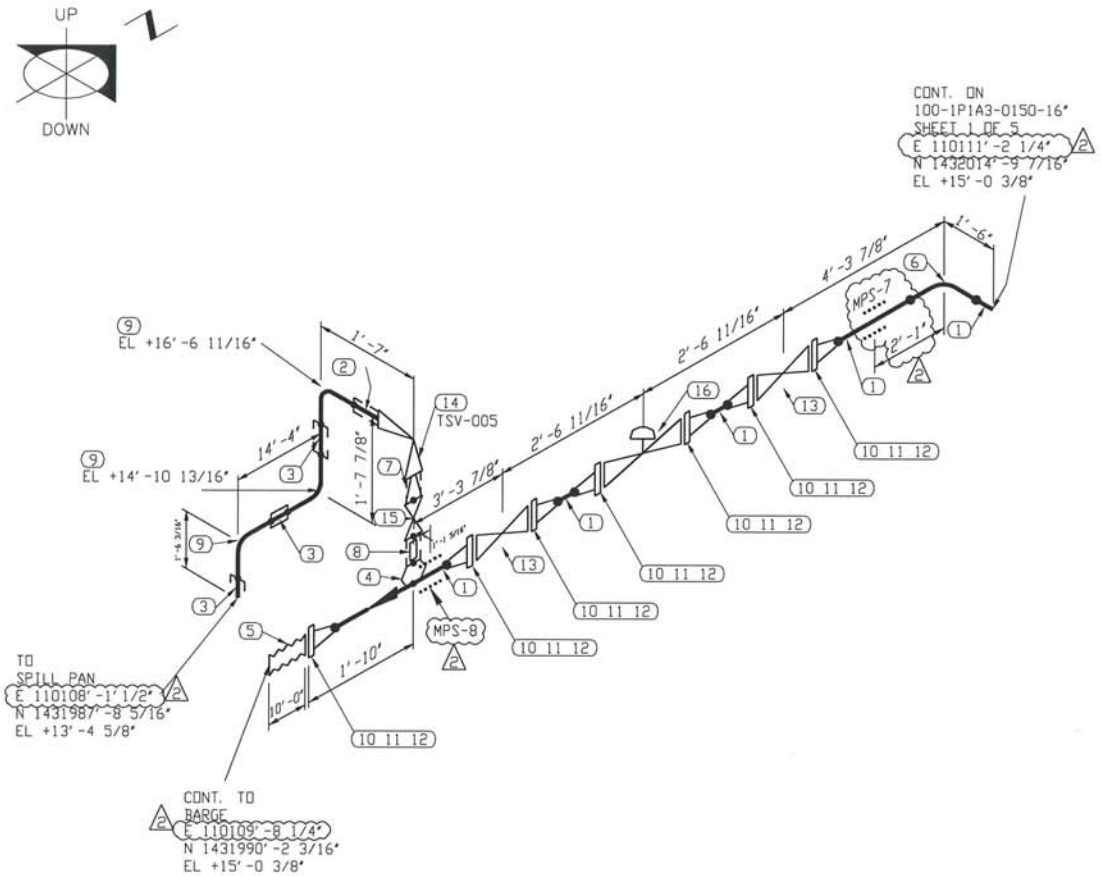
PORT CORPUSCHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0250-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	8	PIPE, S. 40 BE. ASTM A53, GR. B - SMLS BBE	8'0"
2	1	PIPE, S. 80 PE. ASTM A-106 GR. B - SMLS PDE-TDE	1'5"
3	1	PIPE, S. 80 PE. ASTM A-106 GR. B - SMLS PBE	17'2"
4	8X1	SOCKOLET, 3000# , ASTM A-105	1
5	8	FLEXIBLE HOSE CONNECTION	1
6	8	90 LR ELL, BW ASTM A-234 GR WPB, S. 40	1
7	1X3/4	SWAGE, CONC. S/80, ASTM A-234 GR WPB m-PSE	1
8	1	ORIFICE NIPPLE, S. 160 TBE. ASTM A106, GR. B - SMLS (4" LG)	1
9	1	90 ELL, 3000# SW, ASTM A-105	3
10	8	FLG, 150# WN ASTM A105, S. 40	7
11	8	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	7
12	3/4X4 1/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	7
13	8	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	2
14	1X3/4	RELIEF VALVE, 800# THRD	1
15	1	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1
16	8	CONTROL VALVE, 150# FLG .	1

REFERENCE DRAWINGS FOR SUPPORTS: -

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE: -

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/25/17

PCCA PROJ. 17-033B

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVISED AS SHOWN	HA	10/17				
1	REVISED AS SHOWN	HA	10/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/25/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

PORT CORPUS CHRISTI

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 1	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9310 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH: 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

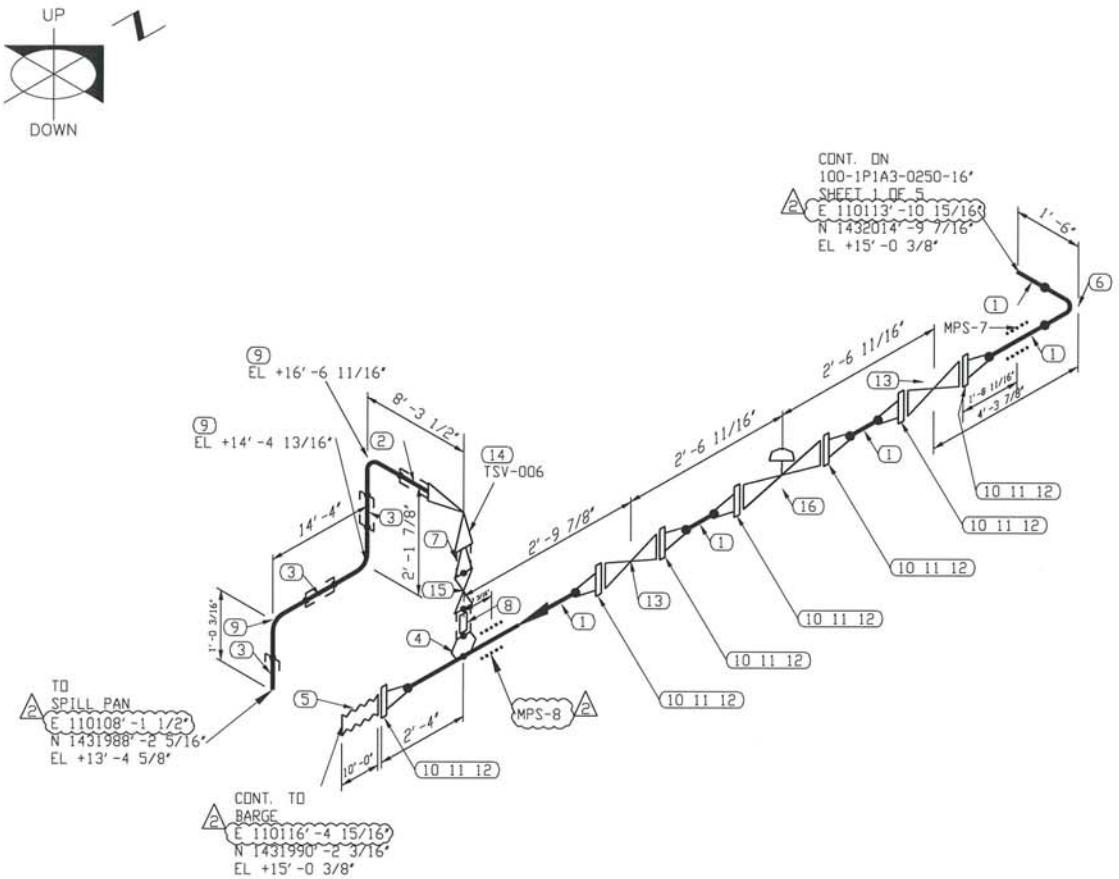
SHEET 1 OF 1

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0351-8"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	8	PIPE, S. 40 BE. ASTM A53, GR. B - SMLS BBE	8' 0"
2	1	PIPE, S. 80 PE. ASTM A-106 GR. B - SMLS POE-TOE	8' 2"
3	1	PIPE, S. 80 PE. ASTM A-106 GR. B - SMLS PBE	17' 2"
4	8X1	SOCKOLET, 3000# , ASTM A-105	1
5	8	FLEXIBLE HOSE CONNECTION	1
6	8	90 LR ELL, BW ASTM A-234 GR WPB, S. 40	1
7	1X3/4	SWAGE, CONC. S/80, ASTM A-234 GR WPB m-PSE	1
8	1	ORIFICE NIPPLE, S. 160 TBE. ASTM A106, GR. B - SMLS (4" LG)	1
9	1	90 ELL, 3000# SW, ASTM A-105	3
10	8	FLG, 150# WN ASTM A105, S. 40	7
11	8	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	7
12	3/4X4 1/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	7
13	8	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	2
14	1X3/4	RELIEF VALVE, 800# THRD	1
15	1	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1
16	8	CONTROL VALVE, 150# FLG.	1

REFERENCE DRAWINGS FOR SUPPORTS: -

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE: -

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/25/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 1	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9010 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2000
TBPE Firm No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVISED AS SHOWN	HA	10/17				
1	REVISED AS SHOWN	HA	10/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/25/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

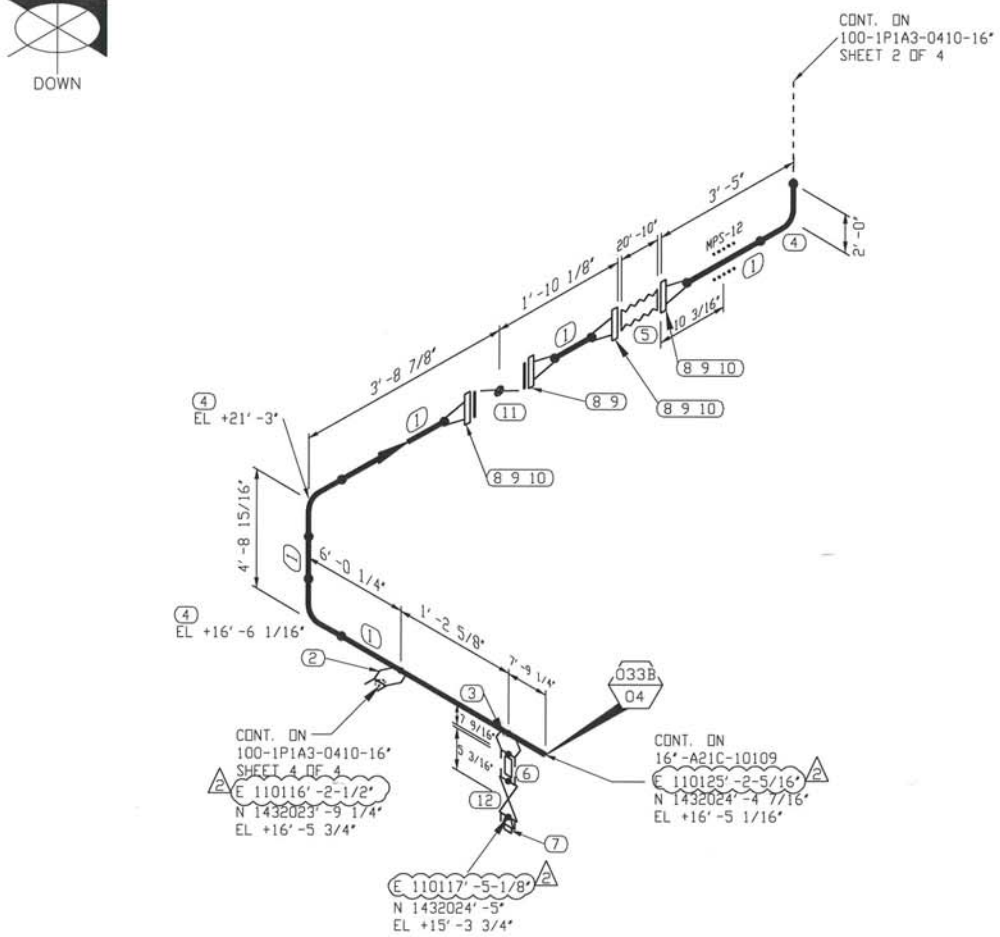
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0352-8"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS	16'9"
2	16X2	SOCKOLET, 3000#, ASTM A-105	1
3	16X3/4	SOCKOLET, 3000#, ASTM A-105	1
4	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	3
5	16	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1
6	3/4	ORIFICE NIPPLE, S. 160 PBE. ASTM A106, GR. B - SMLS (4" LG)	1
7	3/4	THRD PLUG	1
8	16	FLG, 150# WN ASTM A105, STD	4
9	16	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	4
10	1X5 1/2	(16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	3
11	16	BUTTERFLY VALVE, 150# FLGD,	1
12	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/25/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: VAPOR	DESIGN	283	100
	REVISION: 1	OPERATING	-1	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST
CORPUS CHRISTI, TX 78410
PH: 361-241-2777
FAX 361-241-8000
TBPE FIRM No.: F-10101

SHEET 1 OF 4

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVISED AS SHOWN	HA	10/17				
1	REVISED AS SHOWN	HA	09/17				

REVISIONS

BOM No.
CAD FILE No.

DR.	HA	DATE	10/25/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

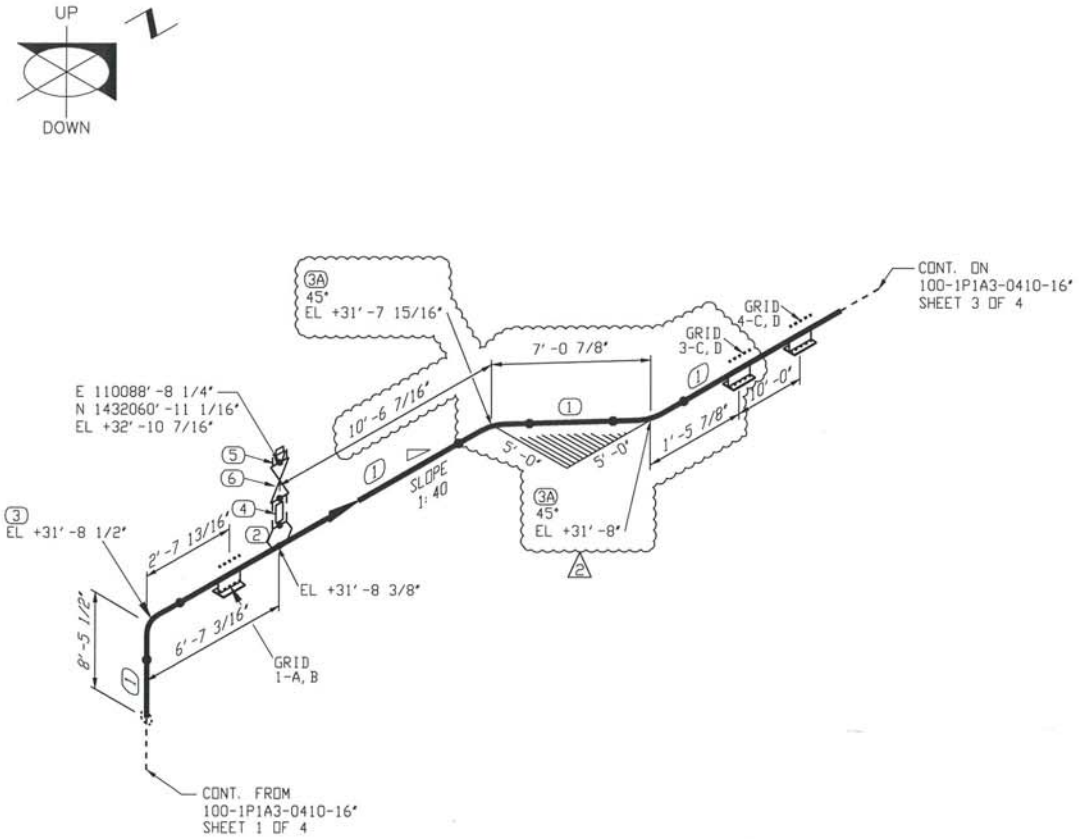
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS
DWN. BY: HA
ISOMETRICS
DATE: 10/25/17
LINE NO. 100-1P1A3-0410-16"

JOB NO. 1



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS	66'10"
2	16X3/4	SOCKOLET, 3000# , ASTM A-105	1
3	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	1
3A	16	45 LR ELL, BW ASTM A-234 GR WPB, STD	2
4	3/4	ORIFICE NIPPLE, S. 160 PBE. ASTM A106, GR. B - SMLS (4" LG)	1
5	3/4	THRD PLUG	1
6	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

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2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

BHASKAR H. PATEL 63585 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS
09/20/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: VAPOR	DESIGN	283	100
	REVISION: 1	OPERATING	-1	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
951G LEOPARD ST
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2205
TBPE FIRM No.: F-10101

SHEET 2 OF 4

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVISED AS SHOWN	HA	10/17				
1	REVISED AS SHOWN	HA	09/17				

REVISIONS

BOM No.
CAD FILE No.

DR.	HA	DATE	09/20/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

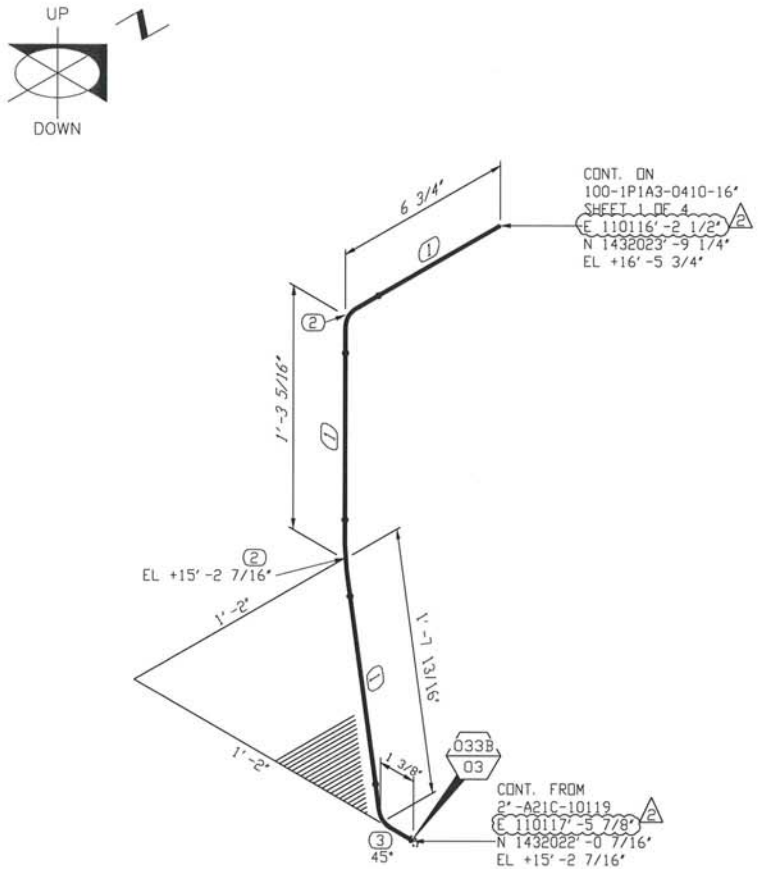
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 09/20/17
DWN. BY: HA		LINE NO. 100-1P1A3-0410-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	2	PIPE, S. 80 BE ASTM A-106, GR. B-SMLS	2'5"
2	2	90 LR ELL, BW ASTM A-234 GR WPB, S. 80	2
3	2	45 LR ELL, BW, ASTM A-234 GR WPB, S. 80	1

REFERENCE DRAWINGS FOR SUPPORTS: –

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE: –

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
09/20/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: VAPOR	DESIGN	283	100
	REVISION: 1	OPERATING	-1	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST
CORPUS CHRISTI, TX 78410
PH: 361-241-2777
FAX 361-241-8000
TBPE FIRM No.: F-10101

SHEET 4 OF 4

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVIEW AS SHOWN	HA	10/17				
1	ADDENDUM #2	HA	09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	09/20/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

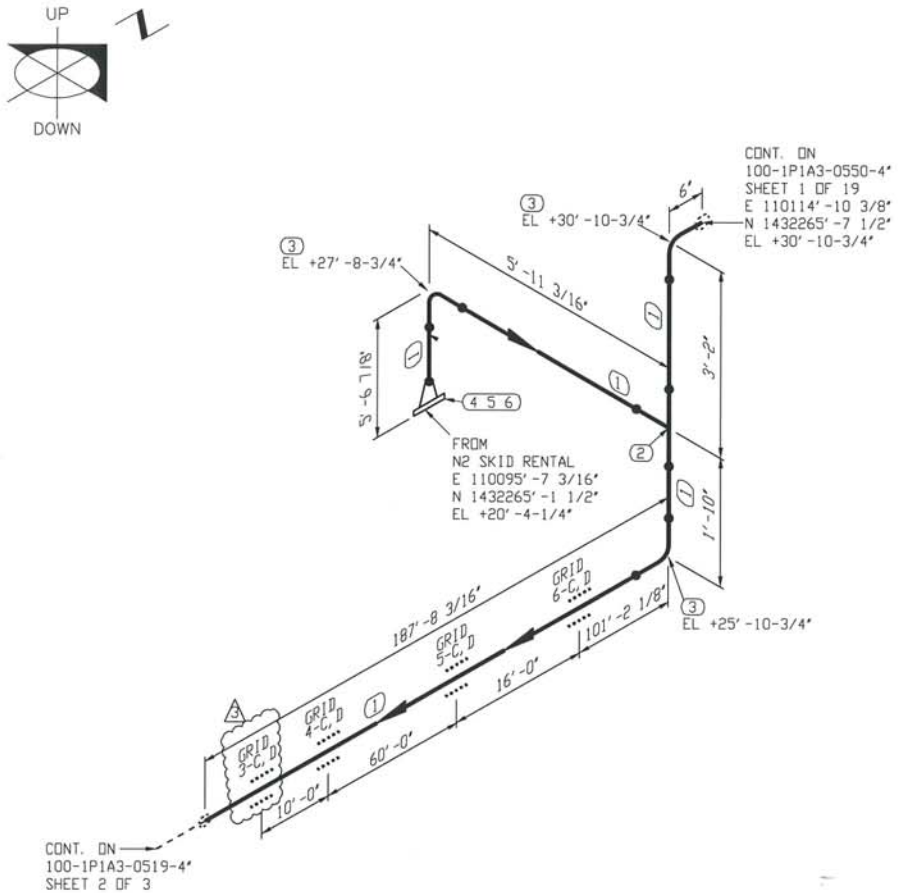
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 09/20/17
DWN. BY: HA		LINE NO. 100-1P1A3-0410-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S. 40 BE. ASTM A53, GR. B - SMLS	201'7"
2	4X4	TEE, STR. S. 40, ASTM A-234 GR WPB	1
3	4	90 LR ELL, BW ASTM A-234 GR WPB, S. 40	3
4	4	FLG, 150# WN ASTM A105, S. 40	1
5	4	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	1
6	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/25/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: NITROGEN	DESIGN	283	105
	REVISION: 2	OPERATING	150	80
		HYDRO. TEST	428	

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PH. 361-241-2777
FAX 361-241-2020
TBPE FIRM No.: F-10101

SHEET 1 OF 3

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM # 2	HA	09/17				

REVISIONS

BOM No.
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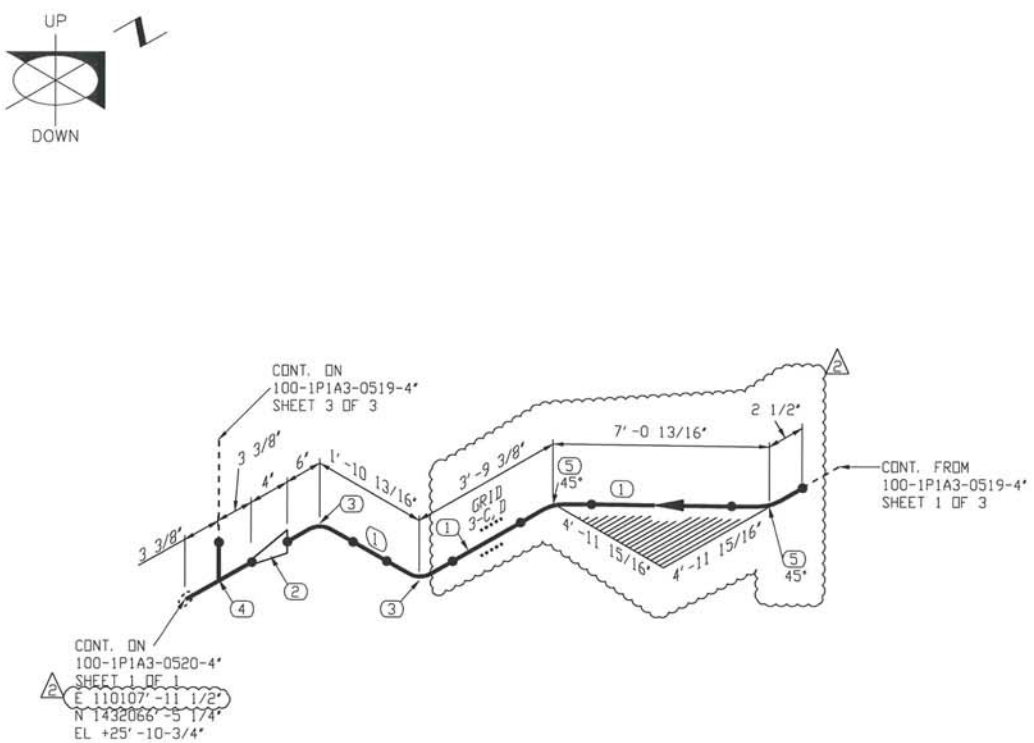
PORT CORPUSCHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0519-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE ASTM A53, GR. B-SMLS	13'1"
2	4X3	REDUCER, CONC S.40, ASTM A-234 GR WPB,	1
3	4	90 LR ELL, BW ASTM A-234 GR WPB, S.40	2
4	3X3	TEE, STR, S.40, ASTM A-234 GR WPB	1
5	4	45 LR ELL, BW, ASTM A-234 GR WPB	2

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

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STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
09/20/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: NITROGEN	DESIGN	283	105
	REVISION: 1	OPERATING	150	80
		HYDRO. TEST	428	

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PH: 361-241-2777
FAX 361-241-2000
TBPE FIRM No.: F-10101

SHEET 2 OF 3

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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1	ADDENDUM #2	HA	09/17				

REVISIONS

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DR.	HA	DATE	09/20/17
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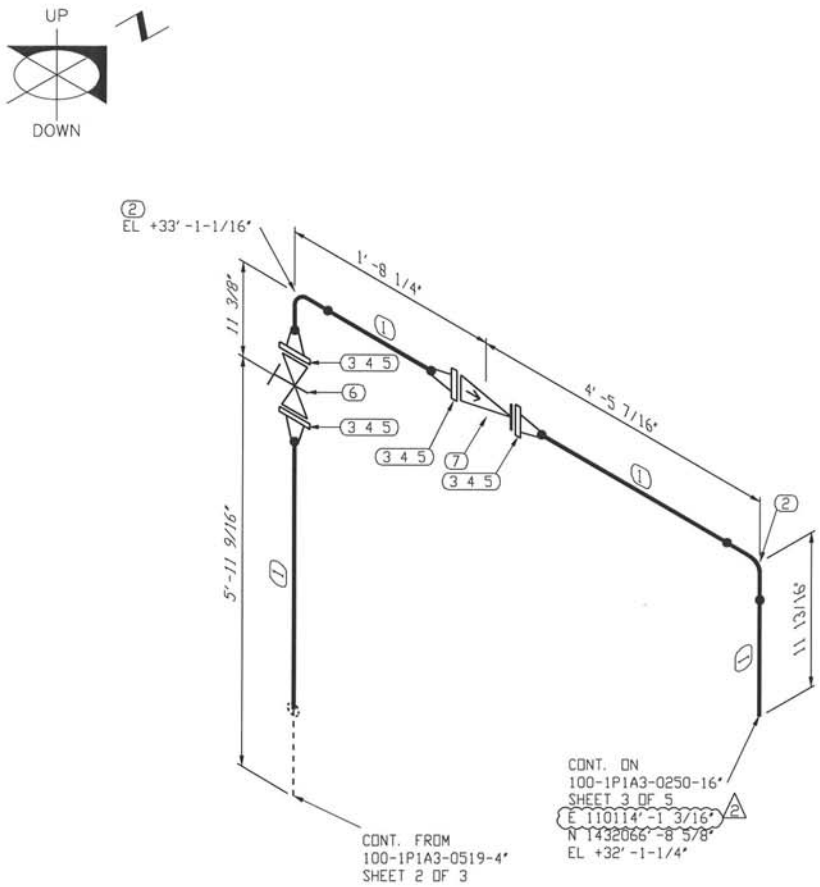
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 09/20/17
DWN. BY: HA		LINE NO. 100-1P1A3-0519-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	3	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	10'2"
2	3	90 LR ELL, BW ASTM A-234 GR WPB, S.40	2
3	3	FLG, 150# WN ASTM A105, S.40	4
4	3	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	4
5	5/8X3 3/4	(4) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	4
6	3	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	1
7	3	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15CMF OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

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STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
09/20/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: NITROGEN	DESIGN	283	105
	REVISION: 1	OPERATING	150	80
		HYDRO. TEST	426	

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9010 LEOPARD ST
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PH: 361-241-2777
FAX 361-241-8000
TBPE FIRM No.: F-10101

SHEET 3 OF 3

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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PROC. APPR.		DATE	
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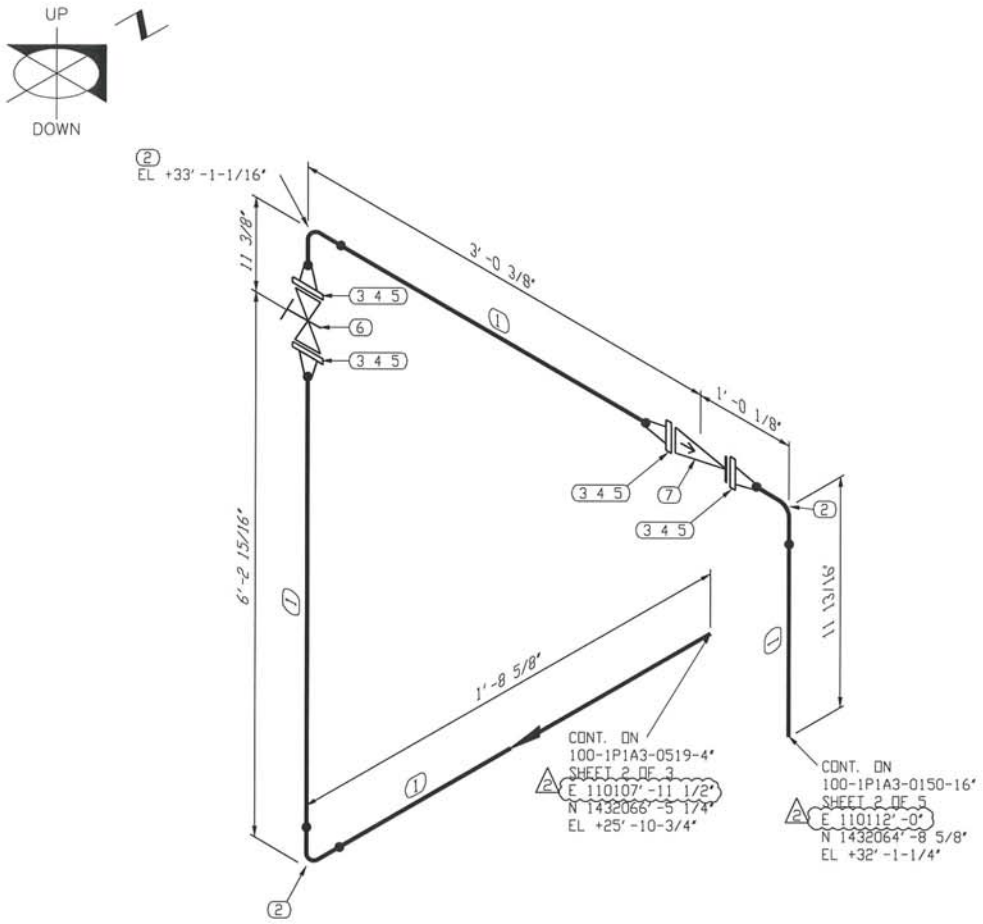
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 09/20/17
DWN. BY: HA		LINE NO. 100-1P1A3-0519-4"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	3	PIPE, S. 40 BE. ASTM A53, GR. B - SMLS	9' 4"
2	3	90 LR ELL, BW ASTM A-234 GR WPB, S. 40	3
3	3	FLG, 150# WN ASTM A105, S. 40	4
4	3	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16. 20	4
5	5/8X3 3/4	(4) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	4
6	3	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	1
7	3	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15CMF OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS: -

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE: -

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STATE OF TEXAS
BHASKAR H. PATEL
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09/20/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (F)
100	SERVICE: NITROGEN	DESIGN	283	105
	REVISION: 1	OPERATING	150	80
		HYDRO. TEST	426	

GOVIND DEVELOPMENT, LLC
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PH. 361-241-2777
FAX 361-241-8000
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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MAINT. APPR.		DATE	

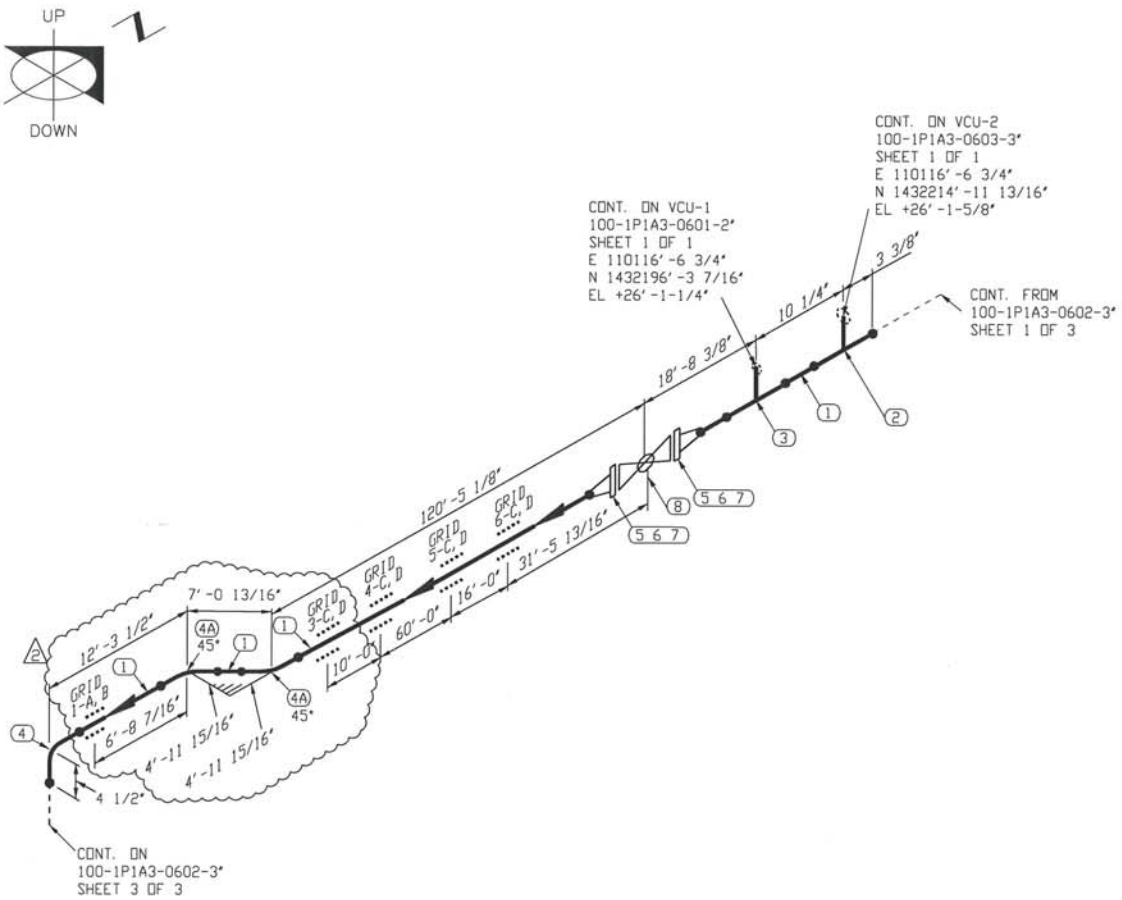
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 09/20/17
DWN. BY: HA		LINE NO. 100-1P1A3-0520-3"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	3	PIPE, S. 40 BE. ASTM A53, GR. B - SMLS	157'-6"
2	3X3	TEE, STR. S. 40, ASTM A-234 GR WPB	1
3	3X2	TEE, REDUCING S. 40, ASTM A-234 GR WPB	1
4	3	90 LR ELL, BW ASTM A-234 GR WPB, S. 40	1
4A	3	45 LR ELL, BW, ASTM A-234 GR WPB	2
5	3	FLG, 150# WN ASTM A105, S. 40	2
6	3	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
7	5/8X3 3/4	(4) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
8	3	BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS: -

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE: -

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STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/25/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GAS	DESIGN	283	105
	REVISION: 1	OPERATING	150	80
		HYDRO. TEST	428	

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PH: 361-241-2777
FAX 361-241-2000
TBPE FIRM No.: F-10101

SHEET 2 OF 3

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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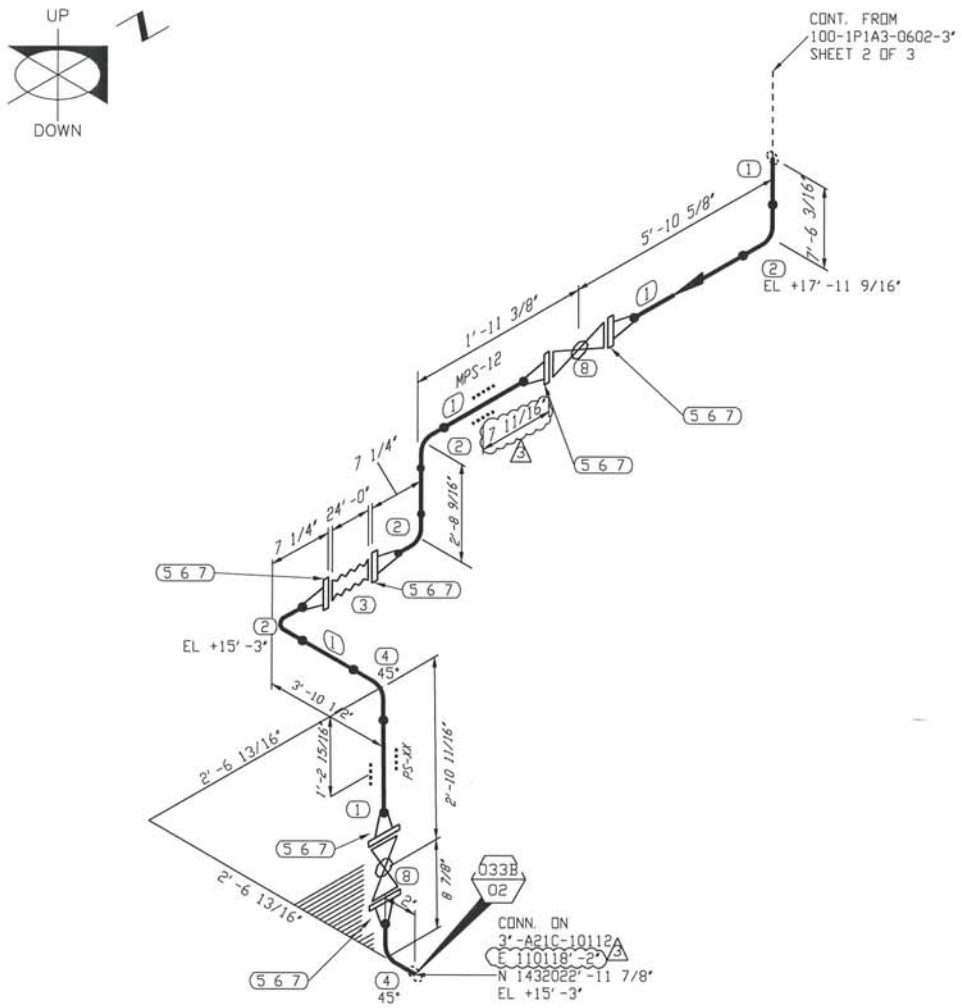
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0602-3"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	3	PIPE, S. 40 BE. ASTM A53, GR. B - SMLS	20' 7"
2	3	90 LR ELL, BW ASTM A-234 GR WPB, S. 40	4
3	3	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1
4	3	45 LR ELL, BW, ASTM A-234 GR WPB, S. 40	2
5	3	FLG, 150# WN ASTM A105, S. 40	6
6	3	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	6
7	5/8X3 3/4	(4) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	6
8	3	BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ.	2

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
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STATE OF TEXAS
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10/25/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GAS	DESIGN	283	105
	REVISION: 2	OPERATING	150	80
		HYDRO. TEST	428	

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PH. 361-241-2777
FAX 361-241-2000
TBPE FIRM No.: F-10101

SHEET 3 OF 3

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY
AT BULK DOCK 3
PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0602-3"

JOB NO. 17POC0139

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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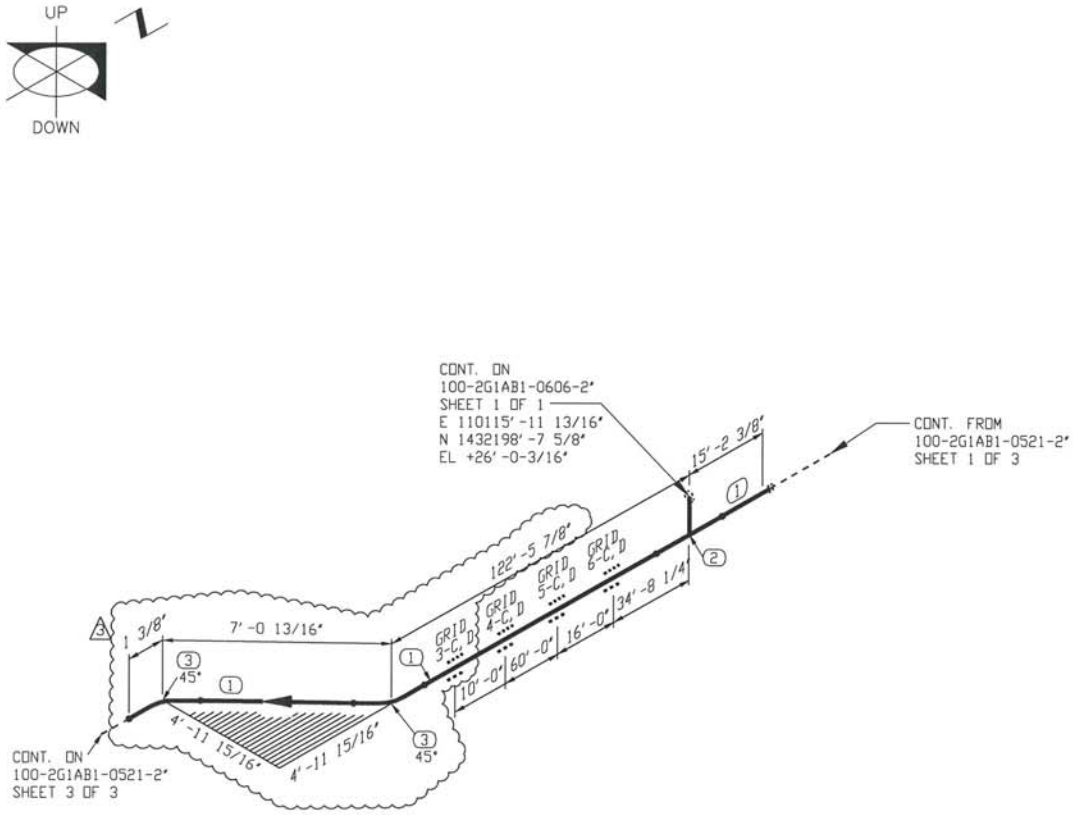
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2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

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MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

PORT CORPUS CHRISTI



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	2	PIPE, S. 80 T&C ASTM A53, GR. B - SMLS, HOT DIPPED GALVANIZED AFTER FABRICATION	163' 3"
2	2X2	TEE, STR. 3000#, THRD, ASTM A-105 METALIZED COATED	1
3	2	45 LR ELL, 3000# THRD ASTM A105, ZINC METALIZED COATED	2

REFERENCE DRAWINGS FOR SUPPORTS: –

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE: –

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/05/17

PCCA PROJ. 17-033B

AREA	SPEC: 2G1AB1	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: AIR	DESIGN	200	105
	REVISION: 2	OPERATING	150	80
		HYDRO. TEST	225	

GOVIND DEVELOPMENT, LLC
9516 LEOPARD ST
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2050
TBPE FIRM No.: F-10101

SHEET 2 OF 3

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

ALL REVISIONS MADE TO THIS DRAWING SHALL BE MADE WITH CAD, AND IN ACCORDANCE WITH PORT OF CORPUS CHRISTI'S STANDARDS FOR CAD GENERATED DRAWINGS. THIS DRAWING CONTAINS PROPRIETARY INFORMATION BELONGING TO PORT OF CORPUS CHRISTI, WHICH MAY NOT BE USED OR REPRODUCED WITHOUT PERMISSION. THIS DRAWING REMAINS THE PROPERTY OF PORT OF CORPUS CHRISTI AND IS TO BE RETURNED ON DEMAND.

REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM # 2	HA	09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/05/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

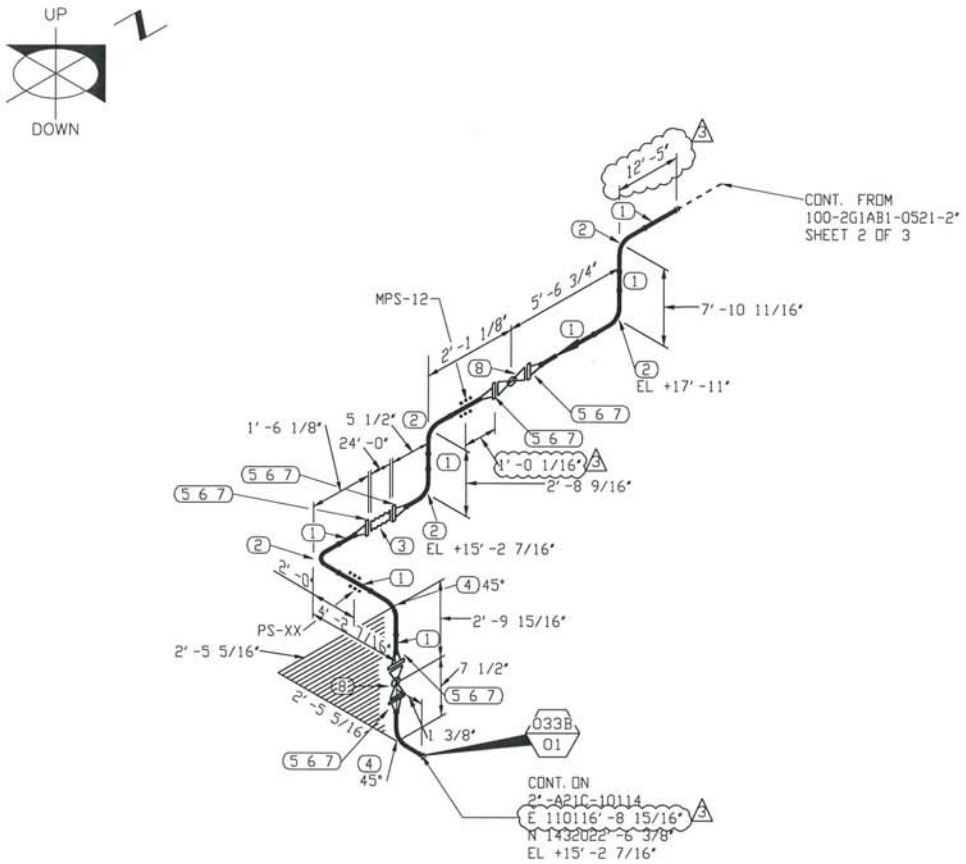
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-2G1AB1-0521-2"

JOB NO. 17P0C0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	2	PIPE, S. 80 T&C ASTM A53, GR. B - SMLS, HOT DIPPED GALVANIZED AFTER FABRICATION	35' 1"
2	2	90 LR ELL, 3000# THRD ASTM A105, ZINC METALIZED COATED	5
3	2	FLEXIBLE HOSE CONNECTION	1
4	2	45 LR ELL, 3000# THRD ASTM A105, ZINC METALIZED COATED	2
5	2	FLG, 150# THRD ASTM A105, S. 80	6
6	2	GASKET 1/16" THICK FLAT RING TFE GORE TEX (FOOD GRADE) OR EQ. ASME B 16.21	6
7	5/8X3 1/4	(4) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	6
8	2	BALL VALVE, 150# FLGD 316 UNIBODY, QUADRANT VALVE F1-R-C-S-V-G-LH-1F OR EQ.,	2

REFERENCE DRAWINGS FOR SUPPORTS: -

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE: -

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/05/17

PCCA PROJ. 17-033B

AREA	SPEC: 2G1AB1	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: AIR	DESIGN	200	105
	REVISION: 2	OPERATING	150	80
		HYDRO. TEST	225	

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TBPE FIRM No.: F-10101

SHEET 3 OF 3

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

ALL REVISIONS MADE TO THIS DRAWING SHALL BE MADE WITH CAD, AND IN ACCORDANCE WITH PORT OF CORPUS CHRISTI'S STANDARDS FOR CAD GENERATED DRAWINGS. THIS DRAWING CONTAINS PROPRIETARY INFORMATION BELONGING TO PORT OF CORPUS CHRISTI WHICH MAY NOT BE USED OR REPRODUCED WITHOUT PERMISSION. THIS DRAWING REMAINS THE PROPERTY OF PORT OF CORPUS CHRISTI AND IS TO RETURNED ON DEMAND.

REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM # 2	HA	09/17				

REVISIONS

BOM No.
CAD FILE No.

DR.	HA	DATE	10/05/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-2G1AB1-0521-2"

JOB NO. 17POC0139

BILL OF MATERIAL FOR PIPING AND ACCESORIES

MARK	QTY	DESCRIPTION	SIZE	LENGTH (LF)	TOTAL LINEAR FOOTAGE	
1	1	PIPE, S.80 PE. ASTM A-106 GR.B - SMLS	1"	246	246	
2	1	PIPE, S.80 PE. ASTM A-106 GR.B - SMLS	1-1/2"	118	118	
3	1	PIPE, S.80 BE ASTM A-106, GR. B-SMLS	2"	320	320	4
4	1	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	3"	307	307	
5	1	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	4"	900	900	
6	1	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	6"	1550	1550	
7	1	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	8"	80	80	
8	1	PIPE, STD BE. ASTM A53, GR. B - SMLS	12"	1362	1362	4
9	1	PIPE, STD BE. ASTM A53, GR. B - SMLS	16"	860	860	
10	9	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1"	150	150	
11	9	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1-1/2"	400	400	
12	1	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	2"	24	24	
13	1	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	3"	24	24	
14	27	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	4"	270	270	
15	2	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	8"	20	20	
16	2	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	12"	84	84	
17	2	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	16"	84	84	
18	72	90 DEG ELL, 3000# SW, ASTM A-105	1"			
19	36	90 DEG ELL, 3000# SW, ASTM A-105	1-1/2"			
20	23	90 DEG LR ELL,BW ASTM A-234 GR WPB,S.80	2"			
21	14	90 DEG LR ELL,BW ASTM A-234 GR WPB,S.40	3"			4
22	36	90 DEG LR ELL,BW ASTM A-234 GR WPB,S.40	4"			
23	36	90 DEG LR ELL,BW ASTM A-234 GR WPB,S.40	6"			
24	4	90 DEG LR ELL,BW ASTM A-234 GR WPB,S.40	8"			
25	22	90 DEG LR ELL,BW ASTM A-234 GR WPB,STD	12"			
26	22	90 DEG LR ELL,BW ASTM A-234 GR WPB,STD	16"			
27	5	45 DEG LR ELL, BW, ASTM A-234 GR WPB,S.80	2"			4
28	5	45 DEG LR ELL, BW, ASTM A-234 GR WPB,S.40	3"			
29	2	45 DEG LR ELL, BW, ASTM A-234 GR WPB,S.40	6"			
30	6	45 DEG LR ELL, BW, ASTM A-234 GR WPB,STD	12"			
31	6	45 DEG LR ELL, BW, ASTM A-234 GR WPB,STD	16"			4
32	1	TEE, STR.3000#, SW, ASTM A-105	3/4"			
33	2	TEE, STR. S.40, ASTM A-234 GR WPB, BW	2"			
34	2	TEE, STR. S.40, ASTM A-234 GR WPB, BW	3"			
35	2	TEE, STR. S.40, ASTM A-234 GR WPB, BW	4"			
36	5	TEE, STR. S.40, ASTM A-234 GR WPB, BW	6"			
37	2	TEE, STR. STD, ASTM A-234 GR WPB, BW	16"			
38	9	TEE, RED.3000#, SW, ASTM A-105	1-1/2"x1"			
39	1	TEE, REDUCING S.40, ASTM A-234 GR WPB, BW	3"x2"			
40	2	REDUCER, CONC S.40, ASTM A-234 GR WPB, BW	4"x3"			
41	4	REDUCER, CONC S.40, ASTM A-234 GR WPB, BW	6"x4"			
42	4	REDUCER, CONC STD, ASTM A-234 GR WPB, BW	16"x12"			
43	2	SWAGE, CONC. S.80, ASTM A-234 GR WPB PLE-PSE	2"x3/4"			
44	1	SWAGE, CONC. S.80, ASTM A-234 GR WPB PLE-PSE	2"x1"			
45	1	SWAGE, CONC. S.80, ASTM A-234 GR WPB PLE-PSE	2"x1-1/2"			
46	2	CAP, S.40, ASTM A-234 GR WPB, BW	4"			
47	4	CAP, S.40, ASTM A-234 GR WPB, BW	6"			
48	4	CAP, STD, ASTM A-234 GR WPB, BW	12"			
49	1	SOCKOLET, 3000# , ASTM A-105	2"x1/4"			
50	2	SOCKOLET, 3000# , ASTM A-105	2"x3/4"			
51	4	SOCKOLET, 3000# , ASTM A-105	3"x3/4"			
52	4	SOCKOLET, 3000# , ASTM A-105	4"x3/4"			
53	39	SOCKOLET, 3000# , ASTM A-105	4"x1"			
54	15	SOCKOLET, 3000# , ASTM A-105	4"x1-1/2"			
55	27	SOCKOLET, 3000# , ASTM A-105	6"x1-1/2"			
56	3	SOCKOLET, 3000# , ASTM A-105	12"x3/4"			
57	12	SOCKOLET, 3000# , ASTM A-105	16"x3/4"			
58	1	SOCKOLET, 3000# , ASTM A-105	16"x2"			
59	1	WELDOLET ASTM A-105	6"x2"			
60	18	WELDOLET ASTM A-105	12"x4"			
61	2	WELDOLET ASTM A-105	16"x3"			
62	2	WELDOLET ASTM A-105	16"x6"			
63	32	ORIFICE NIPPLE, S.160 PBE.ASTM A106, GR. B - SMLS	3/4"	1.20		
64	1	STRAINER, 150# FLGD.	3"			
65	15	THRD PLUG	3/4"			
66	2	CPLG, SW 3000# , ASTM A-105	3/4"			
67	9	CPLG, SW 3000# , ASTM A-105	1"			
68	9	CPLG, SW 3000# , ASTM A-105	1-1/2"			

NOTE:

1. CONSIDER 15% MARGIN ON PIPE LF LENGTH
2. CONSIDER 3% TO 5% MARGIN ON VALVE & FITTINGS

PCCA PROJ. 17-033B

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/05/17

NO.	DATE	REVISION
1	09/17	ADDENDUM #2
2	09/17	ADDENDUM #5
3	10/17	REVISED AS SHOWN
4	10/17	REVISED AS SHOWN

PORT CORPUS CHRISTI

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY
AT BULK DOCK 3
PIPING AND MECHANICAL

SCALE: NTS
DWN. BY: SH
BILL OF MATERIAL-1
DATE: 10/25/17
DWG. NO. 17-033B-133

JOB NO. 17POC0139

BILL OF MATERIAL FOR PIPING ACCESORIES

69	1	FLG, 150# SW ASTM A105, S.80	1"		
70	1	FLG, 150# SW ASTM A105, S.80	1-1/2"		
71	15	FLG, 150# RFWN ASTM A105, S.80 BORE	2"		
72	25	FLG, 150# RFWN ASTM A105, S.40 BORE	3"		
73	64	FLG, 150# RFWN ASTM A105, S.40 BORE	4"		
74	10	FLG, 150# RFWN ASTM A105, S.40 BORE	6"		
75	14	FLG, 150# RFWN ASTM A105, STD BORE	12"		
76	32	FLG, 150# RFWN ASTM A105, STD BORE	16"		
77	1	FLG, RF BLIND 150# S.40, ASTM A-105	4"		
78	2	FLG, RF BLIND 150# STD, ASTM A-105	12"		
79	2	"(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH,ASTM A194 GR. 2H" ASTM A194 GR. 2H"	3/4"	0.30	0.60
80	1	(8) STUD BOLTS W/ NUTS	3/4"	0.30	0.30
81	30	"(4) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H"	5/8"	0.30	9
82	56	"(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H"	5/8"	0.30	16.80
83	7	"(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H"	7/8"	0.40	2.80
84	24	"(16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H"	1"	0.50	12
85	1	(16) STUD BOLTS W/ NUTS	1"	0.50	0.50
86	1	"GASKET 1/8"" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	1"		
87	1	"GASKET 1/8"" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	1-1/2"		
88	15	"GASKET 1/8"" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	2"		
89	25	"GASKET 1/8"" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	3"		
90	64	"GASKET 1/8"" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	4"		
91	11	"GASKET 1/8"" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	6"		
92	2	"GASKET, 1/8"" THK, 150#304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	6"		
93	14	"GASKET 1/8"" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	12"		
94	30	"GASKET 1/8"" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	16"		
95	1	"GASKET, 1/8"" THK, 150#304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	16"		
96	24	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	3/4"	0.20	
97	40	GATE VALVE,800#SW F6/STEL BB,OS&Y, VOGT ST 2801 OR EQ.	1"		
98	18	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1-1/2"	0.30	
99	1	GATE VALVE, 150# FLGD F6/STEL BB,OS&Y,CRANE 47XUF OR EQ.	2"	0.60	
100	3	GATE VALVE, 150# FLGD F6/STEL BB,OS&Y,CRANE 47XUF OR EQ.	3"	0.70	
101	3	GATE VALVE, 150# FLGD F6/STEL BB,OS&Y,CRANE 47XUF OR EQ.	6"	0.90	
102	1	GATE VALVE, 150# FLGD.	8"		
103	36	CHECK VALVE, 800# SW	1"	0.30	
104	2	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15CMF OR EQ.	2"	0.70	
105	2	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15CMF OR EQ.	3"	0.80	
106	1	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15CMF OR EQ.	4"	1.00	
107	2	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15CMF OR EQ.	6"	1.20	
108	2	CHECK VALVE,150# FLGD F6/STEL BC,SWING TYPE,CRANE 147XU OR EQ.	8"		
109	2	CHECK VALVE, 150# WAFER 410 SPLIT DISC, DUOCHEK X15SPF OR EQ.	16"	2.80	
110	1	"BALL VALVE, 800# SW 316 3PC, RED PORT, LEVER OP, JAMESBURY 4CB-2236-MTT OR EQ."	3/4"	0.10	
111	12	"BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ."	2"	0.60	
112	4	"BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ."	3"	0.70	
113	1	"BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ."	4"	0.80	
114	2	BUTTERFLY VALVE, 150# FLGD,	8"		
115	7	BUTTERFLY VALVE, 150# FLGD.	16"	0.30	
116	18	GATE VALVE (PNEUMATIC ACTUATED - AIR OPERATED)	4"	0.80	
117	4	BUTTERFLY VALVE,MANUAL GEAR OPERATED 150# FLGD.	12"	0.30	
118	2	BUTTERFLY CL 150 LUG TYPE (PNEUMATIC ACTUATED - AIR OPERATED) ; POSI SEAL #132	16"		
119	4	RELIEF VALVE, 800# THRD	3/4"x1"	0.00	
121	2	CONTROL VALVE, 150# FLGD.	8"		
122	1	PIPE, S.80 T&C ASTM A53, GR. B - SMLS, HOT DIPPED GALVANIZED AFTER FABRICATION	3/4"	1.70	
123	1	"PIPE, S.80 T&C ASTM A53, GR. B - SMLS, HOT DIPPED GALVANIZED AFTER FABRICATION"	2"	450	450
124	1	90 DEG ELL, 3000# THRD ASTM A105, ZINC METALIZED COATED	3/4"		
125	20	90 DEG LR ELL,3000# THRD ASTM A105, ZINC METALIZED COATED	2"		
126	2	TEE, RED.3000#, SW, ASTM A-105	2"		
127	2	TEE, RED.3000#, SW, ASTM A-105	3/4"		
128	2	REDUCER, 3000# THRD ASTM A105, ZINC METALIZED COATED	2"x3/4"		
129	2	"SWAGE, CONC REDUCER 3000# THRD ASTM A105, ZINC METALIZED COATED"	2"x3/4"		
130	2	ORIFICE NIPPLE, S.160 TBE ASTM A53, GR. B - SMLS, HOT DIPPED GALVANIZED	3/4"	1.20	2.40
131	1	CPLG, 3000# THRD ASTM A105, ZINC METALIZED COATED	3/4"		
132	1	CPLG, 3000# THRD ASTM A105, ZINC METALIZED COATED	2"		
133	10	"FLG, 150# THRD ASTM A105, SCHEDULE TO MATCH PIPE, HOT DIPPED GALVANIZED AFTER FABRICATION"	2"		
134	10	"(4)ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H"	5/8"	0.30	
135	10	"GASKET, 1/16"" THICK FLAT RING TFE GORE TEX (FOOD GRADE) OR EQ., ASME B16.21"	2"		
136	2	"BALL VALVE,150# FLGD 316 UNIBODY, QUADRANT VALVE F1-R-C-S-V-G-LH-1F OR EQ."	2"	0.60	
137	2	"BALL VALVE,150# FLGD 316 UNIBODY, QUADRANT VALVE F1-R-C-S-V-G-LH-1F OR EQ."	3/4"	0.10	
138	19	SPILL PAN NEW PIG OR EQ	4'x4'X2'		
139	2	BUTTERFLY VALVE,MANUAL GEAR OPERATED 150# FLGD.	16"		
140	2	RED.3000#, SW, ASTM A-105	1"x3/4"		
141	1	GATE VALVE (PNEUMATIC ACTUATED - AIR OPERATED)	6"		
142	2	45 DEG LR ELL, BW, ASTM A-234 GR WPB,S.40'	4"		

5

NOTE:

1. CONSIDER 15% MARGIN ON PIPE LF LENGTH
2. CONSIDER 3% TO 5% MARGIN ON VALVE & FITTINGS

GOVIND DEVELOPMENT, LLC
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TBPE FIRM No.: F-10101

PCCA PROJ. 17-033B

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/05/17

NO.	DATE	REVISION
1	09/17	ADDENDUM #2
2	09/17	ADDENDUM #3
3	09/17	ADDENDUM #5
4	10/17	REVISED AS SHOWN
5	10/17	REVISED AS SHOWN

PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING AND MECHANICAL

SCALE: NTS
DWN. BY: SH

BILL OF MATERIAL-2

DATE: 10/25/2017
DWG. NO. 17-033B-134

JOB NO. 17POC0139

EXHIBIT C

BILL OF MATERIAL FOR PIPING AND ACCESORIES

MARK	QTY	DESCRIPTION	SIZE	LENGTH (LF)	TOTAL LINEAR FOOTAGE	
1	1	PIPE, S.80 PE. ASTM A-106 GR.B - SMLS	1"	270	270	
2	1	PIPE, S.80 PE. ASTM A-106 GR.B - SMLS	1-1/2"	118	118	
3	1	PIPE, S.80 BE ASTM A-106, GR. B-SMLS	2"	400	400	
4	1	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	3"	320	320	
5	1	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	4"	900	900	
6	1	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	6"	1420	1420	
7	1	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	8"	16	16	
8	1	PIPE, STD BE. ASTM A53, GR. B - SMLS	12"	1720	1720	
9	1	PIPE, STD BE. ASTM A53, GR. B - SMLS	16"	700	700	
10	9	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1"	15	135	
11	9	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1-1/2"	15	135	
12	2	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	2"	25	50	5
13	1	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	3"	25	25	
14	27	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	4"	10	270	
15	2	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	8"	50	100	5
16	6	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	12"	25	150	
17	2	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	12"	50	100	
18	124	90 DEG ELL, 3000# SW, ASTM A-105	1"			
19	36	90 DEG ELL, 3000# SW, ASTM A-105	1-1/2"			
20	30	90 DEG LR ELL,BW ASTM A-234 GR WPB,S.80	2"			
21	18	90 DEG LR ELL,BW ASTM A-234 GR WPB,S.40	3"			
22	26	90 DEG LR ELL,BW ASTM A-234 GR WPB,S.40	4"			
23	19	90 DEG LR ELL,BW ASTM A-234 GR WPB,S.40	6"			
24	2	90 DEG LR ELL,BW ASTM A-234 GR WPB,S.40	8"			
25	33	90 DEG LR ELL,BW ASTM A-234 GR WPB,STD	12"			
26	8	90 DEG LR ELL,BW ASTM A-234 GR WPB,STD	16"			
27	5	45 DEG LR ELL, BW, ASTM A-234 GR WPB,S.80	2"			
28	4	45 DEG LR ELL, BW, ASTM A-234 GR WPB,S.40	3"			
29	2	45 DEG LR ELL, BW, ASTM A-234 GR WPB,S.40	6"			
30	6	45 DEG LR ELL, BW, ASTM A-234 GR WPB,STD	12"			
31	7	45 DEG LR ELL, BW, ASTM A-234 GR WPB,STD	16"			
32	2	TEE, STR. S.40, ASTM A-234 GR WPB, BW	2"			
33	2	TEE, STR. S.40, ASTM A-234 GR WPB, BW	3"			
34	2	90 DEG SR ELL,BW ASTM A-234 GR WPB,S.40	6"			
35	3	TEE, REDUCING S.40, ASTM A-234 GR WPB, BW	16"x12"			5
36	2	WELDOLET ASTM A-105	12"x8"			
37	2	REDUCER, ECC S.40, ASTM A-234 GR WPB, BW	16"x12"			
38	2	WELDOLET ASTM A-105	12"x2"			
39	2	ORIFICE NIPPLE, S.160 PBE.ASTM A106, GR. B - SMLS	1"	4"		
40	10	TEE, STR.3000#, SW, ASTM A-105	1"			
41	9	CROSS TEE,.3000#, SW, ASTM A-105	1"			
42	1	SOCKOLET 3000# THRD ASTM A105,	6"x3/4"			
43	2	SOCKOLET 3000# THRD ASTM A105,	8"x1"			
44	14	FLG, 150# RFWN ASTM A105, S.40 BORE	8"			
45	14	"GASKET, 1/8"" THK, 150#304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	8"			
46	112	"(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H"	3/4"	0.375		
48	2	TEE, STR. S.40, ASTM A-234 GR WPB, BW	4"			
49	3	TEE, STR. S.40, ASTM A-234 GR WPB, BW	6"			
50	2	TEE, STR. STD, ASTM A-234 GR WPB, BW	16"			
51	9	TEE, RED.3000#, SW, ASTM A-105	1-1/2"x1"			
52	1	TEE, REDUCING S.40, ASTM A-234 GR WPB, BW	3"x2"			
53	2	REDUCER, CONC S.40, ASTM A-234 GR WPB, BW	4"x3"			
54	5	REDUCER, CONC STD, ASTM A-234 GR WPB, BW	16"x12"			
55	6	SWAGE, CONC. S.80, ASTM A-234 GR WPB PLE-PSE	2"x3/4"			
56	3	SWAGE, CONC. S.80, ASTM A-234 GR WPB PLE-PSE	2"x1"			
57	19	SWAGE, CONC. S.80, ASTM A-234 GR WPB PLE-PSE	2"x1-1/2"			5
58	2	CAP, S.40, ASTM A-234 GR WPB, BW	4"			
59	4	CAP, S.40, ASTM A-234 GR WPB, BW	6"			
60	4	CAP, STD, ASTM A-234 GR WPB, BW	12"			
61	3	SOCKOLET, 3000# , ASTM A-105	2"x3/4"			
62	4	SOCKOLET, 3000# , ASTM A-105	3"x3/4"			
63	48	SOCKOLET, 3000# , ASTM A-105	4"x1"			
64	15	SOCKOLET, 3000# , ASTM A-105	4"x1-1/2"			
65	27	SOCKOLET, 3000# , ASTM A-105	6"x1-1/2"			
66	5	SOCKOLET, 3000# , ASTM A-105	12"x3/4"			
67	3	SOCKOLET, 3000# , ASTM A-105	16"x3/4"			
68	2	WELDOLET, 3000# , ASTM A-105	16"x2"			
69	1	WELDOLET ASTM A-105	6"x2"			
70	18	WELDOLET ASTM A-105	12"x4"			
71	2	WELDOLET ASTM A-105	16"x3"			
72	21	ORIFICE NIPPLE, S.160 PBE.ASTM A106, GR. B - SMLS	3/4"	1.20		
73	1	STRAINER, 150# FLGD.	3"			
74	11	THRD PLUG	3/4"			
75	2	CPLG, SW 3000# , ASTM A-105	3/4"			
76	11	CPLG, SW 3000# , ASTM A-105	1"			
77	9	CPLG, SW 3000# , ASTM A-105	1-1/2"			

NOTE:

1. CONSIDER 15% MARGIN ON PIPE LF LENGTH
2. CONSIDER 3% TO 5% MARGIN ON VALVE & FITTINGS

PCCA PROJ. 17-033B

GOVIND DEVELOPMENT, LLC
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TBPE FIRM No.: F-10101

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/14/17

NO.	DATE	REVISION
1	09/17	ADDENDUM #2
2	09/17	ADDENDUM #5
3	10/17	REVISED AS SHOWN
4	10/17	REVISED AS SHOWN
5	11/17	REVISED AS SHOWN

PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY
AT BULK DOCK 3
PIPING AND MECHANICAL

SCALE: NTS	BILL OF MATERIAL-1	DATE: 11/14/17
DWN. BY: SH		DWG. NO. 17-033B-133

JOB NO. 17POC0139

BILL OF MATERIAL FOR PIPING ACCESORIES

78	1	FLG, 150# SW ASTM A105, S.80	1"			
79	1	FLG, 150# SW ASTM A105, S.80	1-1/2"			6
80	44	FLG, 150# RFWN ASTM A105, S.80 BORE	2"			
81	29	FLG, 150# RFWN ASTM A105, S.40 BORE	3"			
82	64	FLG, 150# RFWN ASTM A105, S.40 BORE	4"			
83	12	FLG, 150# RFWN ASTM A105, S.40 BORE	6"			
84	52	FLG, 150# RFWN ASTM A105, STD BORE	12"			6
85	1	FLG, 150# RFWN ASTM A105, STD BORE	16"			
86	1	FLG, RF BLIND 150# S.40, ASTM A-105	4"			
87	2	FLG, RF BLIND 150# STD, ASTM A-105	12"			
88	14	HOSE FLG 150#	12"			
89	2	HOSE FLG 150#	2"			6
90	2	HOSE FLG 150#	3"			
91	2	HOSE FLG 150#	8"			
92	20	"(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH,ASTM A194 GR. 2H" ASTM A194 GR. 2H"	3/4"	0.30		
93	2	(8) STUD BOLTS W/ NUTS	3/4"	0.30		
94	53	"(4) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H"	5/8"	0.30		6
95	56	"(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H"	5/8"	0.30		
96	39	"(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H"	7/8"	0.40		
97	1	"(16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H"	1"	0.50		
98	1	"GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	1"			
99	1	"GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	1-1/2"			
100	45	"GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	2"			6
101	27	"GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	3"			
102	64	"GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	4"			
103	11	"GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	6"			
104	2	"GASKET, 1/8" THK, 150#304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	6"			
105	50	"GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	12"			6
106	1	"GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20"	16"			
107	15	GATE VALVE, 800# SWxFNPT F6/STEL BB, DS&Y, VOGT TSW-13111 OR EQ.	3/4"	0.20		
108	40	GATE VALVE,800#SW F6/STEL BB,DS&Y, VOGT ST 2801 OR EQ.	1"			
109	27	GATE VALVE, 800# SWxFNPT F6/STEL BB, DS&Y, VOGT TSW-13111 OR EQ.	1-1/2"	0.30		
110	12	GATE VALVE, 150# FLGD F6/STEL BB,DS&Y,CRANE 47XUF OR EQ.	2"	0.60		
111	3	GATE VALVE, 150# FLGD F6/STEL BB,DS&Y,CRANE 47XUF OR EQ.	3"	0.70		
112	5	GATE VALVE, 150# FLGD F6/STEL BB,DS&Y,CRANE 47XUF OR EQ.	6"	0.90		
113	4	GATE VALVE, 150# FLGD.	8"			
114	36	CHECK VALVE, 800# SW	1"			
115	2	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15CMF OR EQ.	2"			
116	2	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15CMF OR EQ.	3"			
117	1	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15CMF OR EQ.	4"			
118	2	CHECK VALVE, 150# WAFER 410 SPLIT DISC, DUOCHEK X15SPF OR EQ.	12"			6
119	2	"BALL VALVE, 800# SW 316 3PC, RED PORT, LEVER OP, JAMESBURY 4CB-2236-MTT OR EQ."	3/4"			
120	5	"BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ."	2"			
121	4	"BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ."	3"			
122	1	"BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ."	4"			
123	2	"BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ."	2"			
124	18	GATE VALVE (PNEUMATIC ACTUATED - AIR OPERATED)	4"			
125	10	BUTTERFLY VALVE,MANUAL GEAR OPERATED 150# FLGD.	12"			6
126	2	BUTTERFLY CL 150 LUG TYPE (PNEUMATIC ACTUATED - AIR OPERATED) : POSI SEAL #132	12"			
127	6	RELIEF VALVE, 800# THRD	3/4"x1"			
128	2	CONTROL VALVE, 150# FLGD.	8"			
129	1	PIPE, S.80 T&C ASTM A53, GR. B - SMLS, HOT DIPPED GALVANIZED AFTER FABRICATION	3/4"	170	170	
130	1	"PIPE, S.80 T&C ASTM A53, GR. B - SMLS, HOT DIPPED GALVANIZED AFTER FABRICATION"	2"	526	526	6
131	1	90 DEG ELL, 3000# THRD ASTM A105, ZINC METALIZED COATED	3/4"			
132	29	90 DEG LR ELL,3000# THRD ASTM A105, ZINC METALIZED COATED	2"			6
133	2	TEE, RED.3000#, SW, ASTM A-105	2"			
134	2	TEE, RED.3000#, SW, ASTM A-105	3/4"			
135	2	REDUCER, 3000# THRD ASTM A105, ZINC METALIZED COATED	2"x3/4"			
136	2	"SWAGE, CONC REDUCER 3000# THRD ASTM A105, ZINC METALIZED COATED"	2"x3/4"			6
137	3	ORIFICE NIPPLE, S.160 TBE ASTM A53, GR. B - SMLS, HOT DIPPED GALVANIZED	3/4"	4"		
138	1	CPLG, 3000# THRD ASTM A105, ZINC METALIZED COATED	3/4"			
139	1	CPLG, 3000# THRD ASTM A105, ZINC METALIZED COATED	2"			
140	16	"FLG, 150# THRD ASTM A105, SCHEDULE TO MATCH PIPE, HOT DIPPED GALVANIZED AFTER FABRICATION"	2"			
141	16	"(4)ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H"	5/8"	3 1/4"		6
142	16	"GASKET, 1/16" THICK FLAT RING TFE GORE TEX (FOOD GRADE) OR EQ., ASME B16.21"	2"			
143	4	"BALL VALVE,150# FLGD 316 UNIBODY, QUADRANT VALVE F1-R-C-S-V-G-LH-1F OR EQ."	2"			
144	4	"BALL VALVE,800# FLGD 316 UNIBODY, QUADRANT VALVE F1-R-C-S-V-G-LH-1F OR EQ."	3/4"			
145	19	SPILL PAN NEW PIG OR EQ	4'x4'X2"			6
146	2	BUTTERFLY VALVE,MANUAL 150# FLGD.	12"			
147	3	SWAGE CONC .3000#, SW, ASTM A-105	1"x3/4"			
148	1	GATE VALVE (PNEUMATIC ACTUATED - AIR OPERATED)	6"			
149	2	45 DEG LR ELL, BW, ASTM A-234 GR WPB,S.40"	4"			
150	15	"(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H"	7/8"	0.60		
151	2	45 DEG LR ELL,3000# THRD ASTM A105, ZINC METALIZED COATED	2"			6
152	1	TEE, RED. 3000#, SW, ASTM A-105	1"x3/4"			
153	1	REDUCER, 3000# THRD ASTM A105, ZINC METALIZED COATED	2"x1"			

NOTE:

1. CONSIDER 15% MARGIN ON PIPE LF LENGTH
2. CONSIDER 3% TO 5% MARGIN ON VALVE & FITTINGS

PCCA PROJ. 17-033B

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TBPE FIRM No.: F-10101

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/14/17

NO.	DATE	REVISION
1	09/17	ADDENDUM #2
2	09/17	ADDENDUM #3
3	09/17	ADDENDUM #5
4	10/17	REVISED AS SHOWN
5	10/17	REVISED AS SHOWN
6	11/17	REVISED AS SHOWN

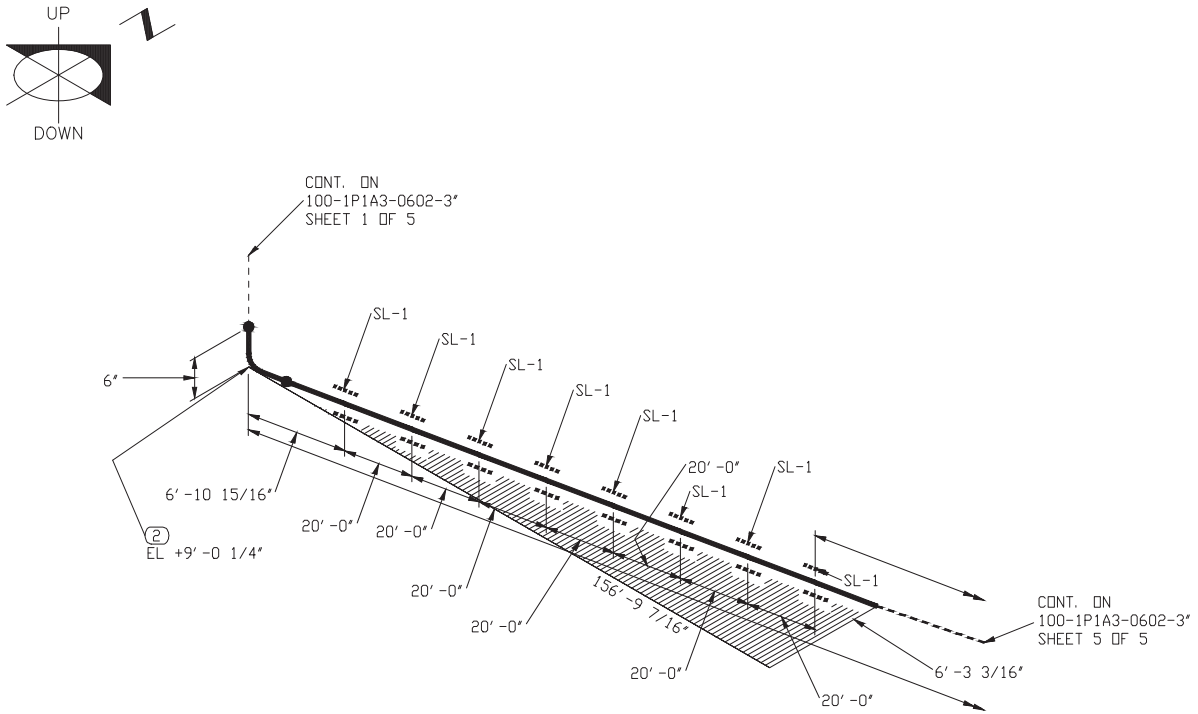
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY
AT BULK DOCK 3
PIPING AND MECHANICAL

SCALE: NTS	BILL OF MATERIAL-2	DATE: 11/14/17
DWN. BY: SH		DWG. NO. 17-033B-134

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	156'5"
2	4	90 LR ELL, BW ASTM A-234 GR WPB, S.40	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
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PROFESSIONAL ENGINEER
11/16/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GAS	DESIGN	283	105
	REVISION: 1	OPERATING	150	80
		HYDRO. TEST	428	

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SHEET 4 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■	■	
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
1	ADDENDUM#2	SP	11/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	11/16/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

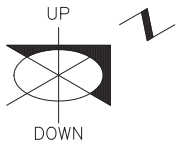
PORT CORPUS CHRISTI

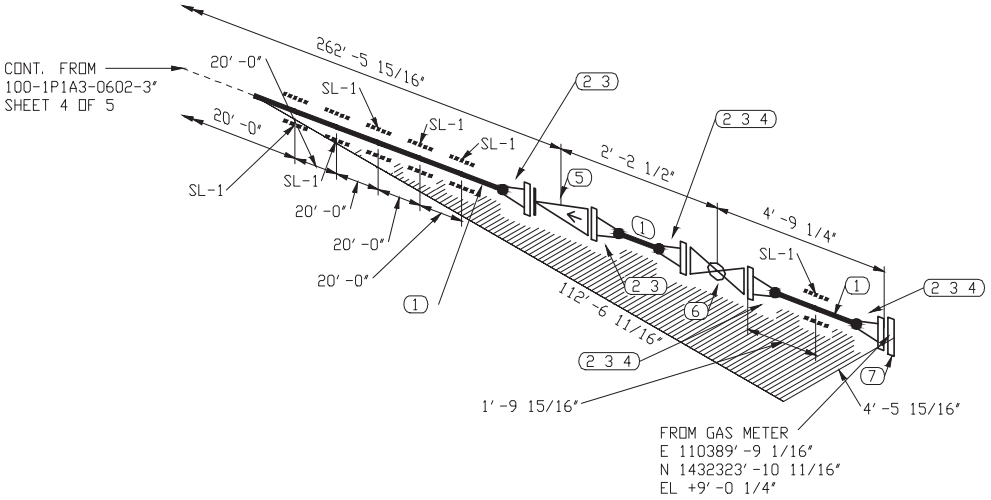
PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/16/17
DWN. BY: HA		LINE NO. 100-1P1A3-0602-3"

JOB NO. 17POC0139





BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	109'7"
2	4	FLG, 150# WN ASTM A105, S.40	5
3	4	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	5
4	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	3
5	4	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15SMF OR EQ.	1
6	4	BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ.	1
7	4	FLG, RF BLIND 150#, ASTM A-105,	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/16/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GAS	DESIGN	283	105
	REVISION: 1	OPERATING	150	80
		HYDRO. TEST	428	

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TBPE FIRM No.: F-10101

SHEET 5 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■	■	
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION			
			STRESS REL.		■	
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
1	ADDENDUM #2	SP	11/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	11/16/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

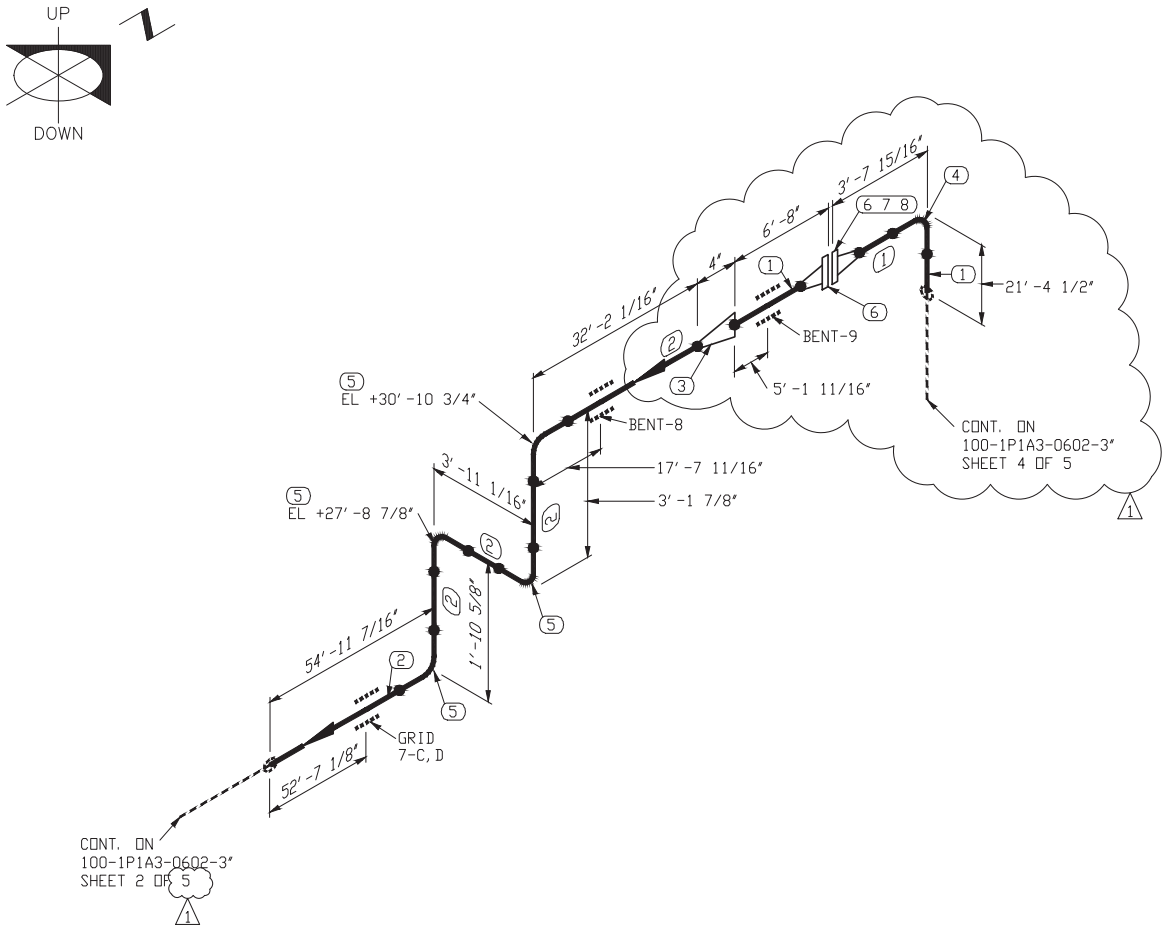
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/16/17
DWN. BY: HA		LINE NO. 100-1P1A3-0602-3"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	4	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	30'3"
2	3	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	93'2"
3	4X3	REDUCER, CONC S.40, ASTM A-234 GR WPB	1
4	4	90 LR ELL, BW ASTM A-234 GR WPB, S.40	1
5	3	90 LR ELL, BW ASTM A-234 GR WPB, S.40	4
6	4	FLG, 150# WN ASTM A105, S.40	2
7	4	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	1
8	5/8X3 3/4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/16/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GAS	DESIGN	283	105
	REVISION: 1	OPERATING	150	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX. 78410
PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
1	REVISED AS SHOWN.	SP	11/16				
0	ISSUED FOR CONSTRUCTION	HA	09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	11/16/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

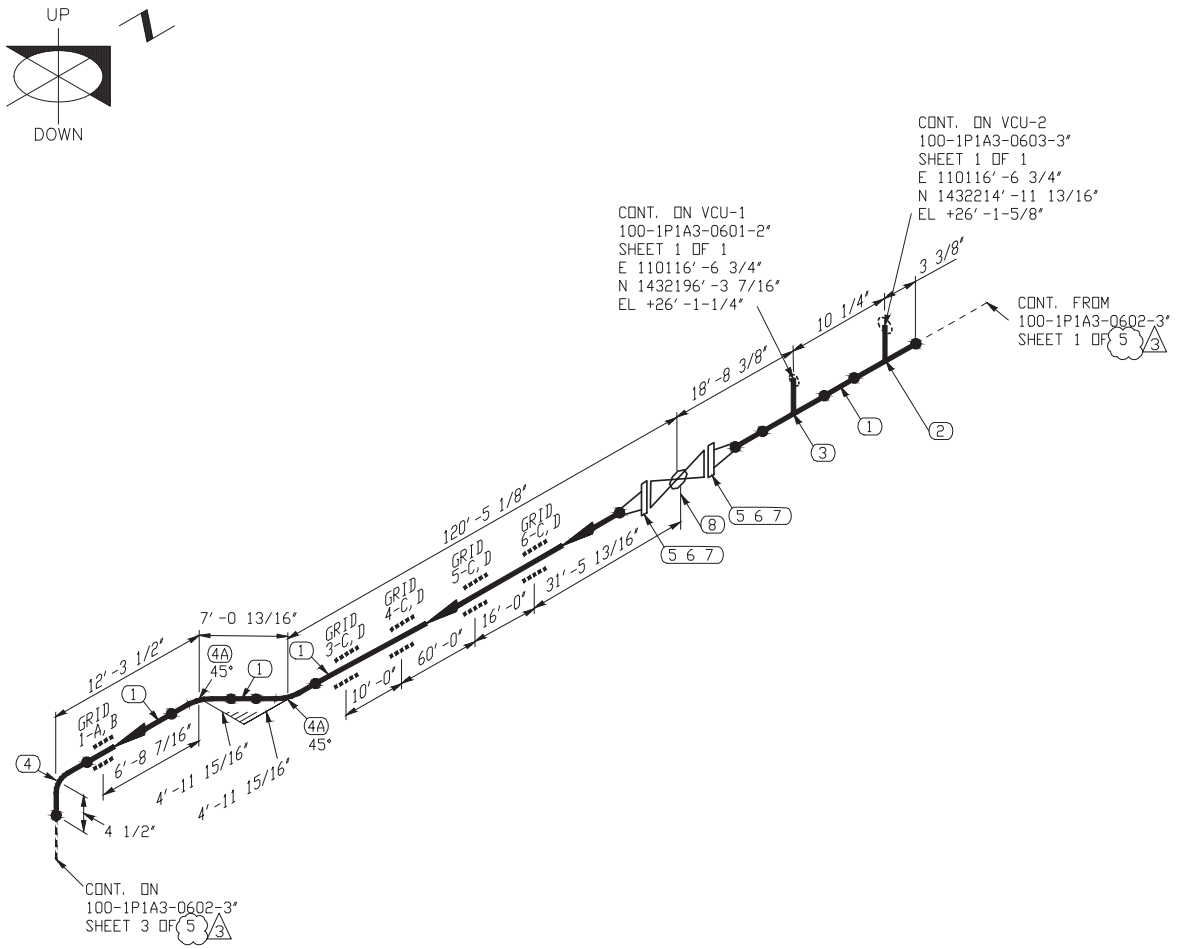
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/16/17
DWN. BY: HA		LINE NO. 100-1P1A3-0602-3"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	3	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	157'6"
2	3X3	TEE, STR. S.40, ASTM A-234 GR WPB	1
3	3X2	TEE, REDUCING S.40, ASTM A-234 GR WPB	1
4	3	90 LR ELL, BW ASTM A-234 GR WPB, S.40	1
4A	3	45 LR ELL, BW, ASTM A-234 GR WPB	2
5	3	FLG, 150# WN ASTM A105, S.40	2
6	3	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
7	5/8X3 3/4	(4) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
8	3	BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR N. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/16/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GAS	DESIGN	283	105
	REVISION: 1	OPERATING	150	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-8777
FAX 361-241-8200
TBPE FIRM No.: F-10101

SHEET 2 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVISED AS SHOWN	SP	11/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2	HA	09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	11/16/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

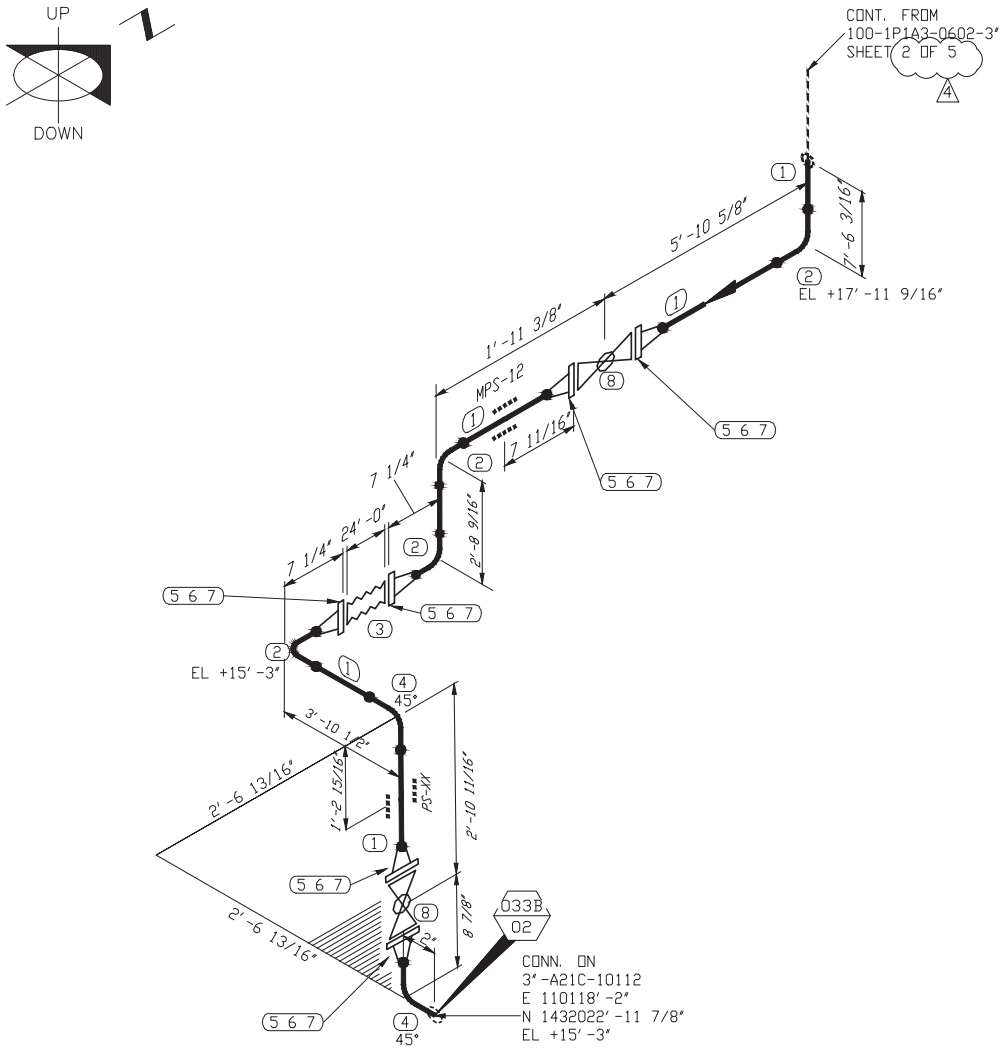
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/16/17
DWN. BY: HA		LINE NO. 100-1P1A3-0602-3"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	3	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	20'7"
2	3	90 LR ELL, BW ASTM A-234 GR WPB, S.40	4
3	3	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1
4	3	45 LR ELL, BW, ASTM A-234 GR WPB, S.40	2
5	3	FLG, 150# WN ASTM A105, S.40	6
6	3	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	6
7	5/8X3 3/4	(4) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	6
8	3	BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ.	2

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/16/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GAS	DESIGN	283	105
	REVISION: 2	OPERATING	150	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX. 78410
PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

4
SHEET 3 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
4	REVISED AS SHOWN	SP	11/17				
3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	11/16/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

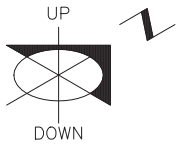
PORT CORPUS CHRISTI

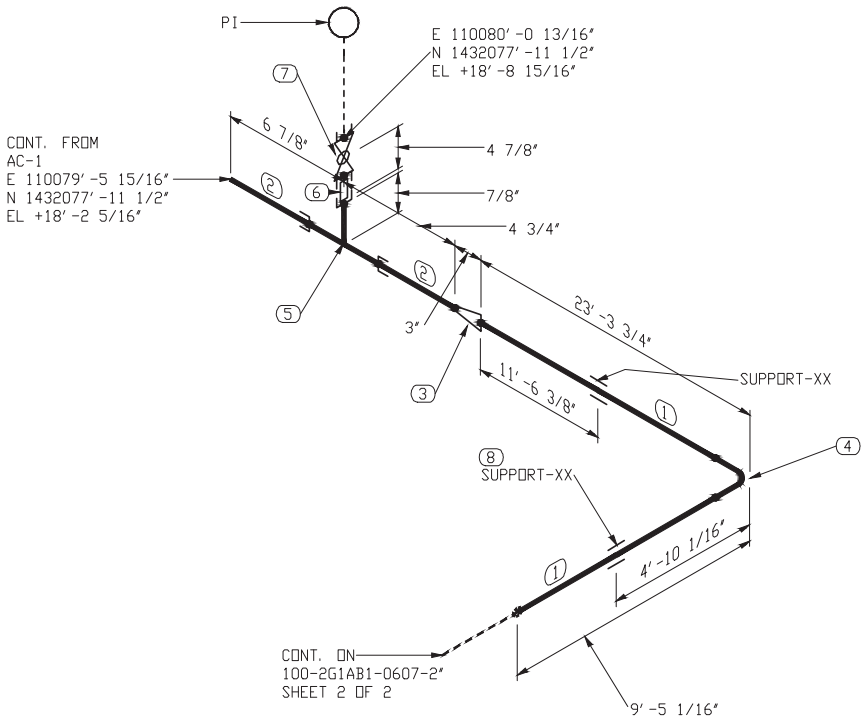
PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/16/17
DWN. BY: HA		LINE NO. 100-1P1A3-0602-3"

JOB NO. 17POC0139





BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	2	PIPE, S.80 T&C ASTM A53, GR. B - SMLS, HOT DIPPED GALVANIZED AFTER FABRICATION	32′ 3″
2	1	PIPE, S.80 T&C ASTM A53, GR. B - SMLS, HOT DIPPED GALVANIZED AFTER FABRICATION	0′ 10″
3	2X1	REDUCER, 3000# THRD ASTM A105, ZINC METALIZED COATED	1
4	2	90 DEG LR ELL, 3000# THRD ASTM A105, ZINC METALIZED COATED	1
5	1X3/4	TEE, RED. 3000#, SW, ASTM A-105	1
6	3/4	ORIFICE NIPPLE, S.160 TBE ASTM A53, GR.B - SMLS, HOT DIPPED GALVANIZED.	1
7	3/4	BALL VALVE, 800# FLGD 316 UNIBODY, QUADRANT VALVE F1-R-C-S-V-G-LH-1F OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:–

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:–

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/16/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GAS	DESIGN	283	105
	REVISION: 1	OPERATING	150	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 2

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■	■	
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
1	ADDENDUM #2	SP	11/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	11/16/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

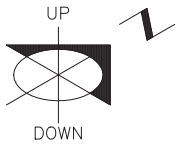
PORT CORPUS CHRISTI

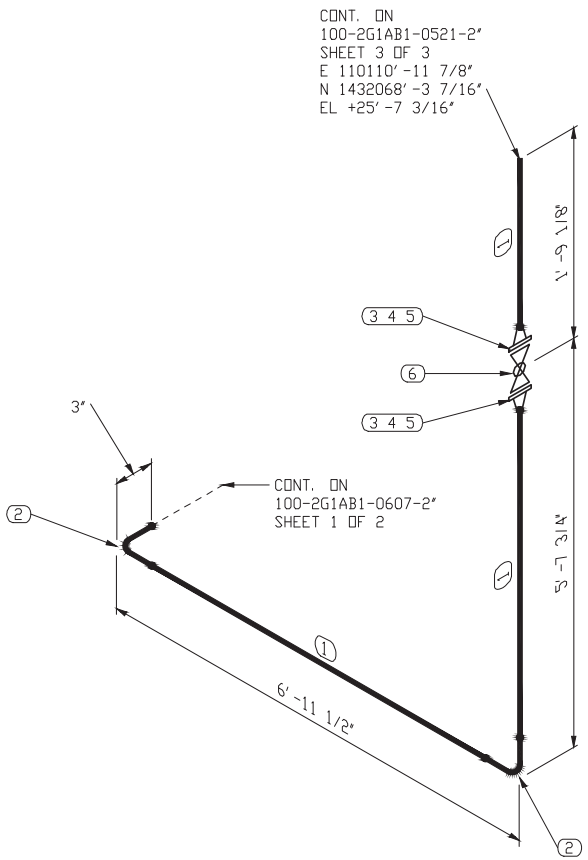
PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/16/17
DWN. BY: HA		LINE NO. 100-2G1AB1-0607-2"

JOB NO. 17P0C0139





BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	2	PIPE, S.80 T&C ASTM A53, GR. B - SMLS, HOT DIPPED GALVANIZED AFTER FABRICATION	12'8"
2	2	90 DEG LR ELL, 3000# THRD ASTM A105, ZINC METALIZED COATED	2
3	2	FLG, 150# THRD ASTM A105, S.80, HOT DIPPED GALVANIZED AFTER FABRICATION	2
4	2	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
5	5/8X3 1/4	(4) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
6	2	BALL VALVE, 150# FLGD 316 UNIBODY, QUADRANT VALVE F1-R-C-S-V-G-LH-1F OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE



11/16/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GAS	DESIGN	283	105
	REVISION: 1	OPERATING	150	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX. 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 2 OF 2

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
1	ADDENDUM #2	SP	11/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	11/16/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

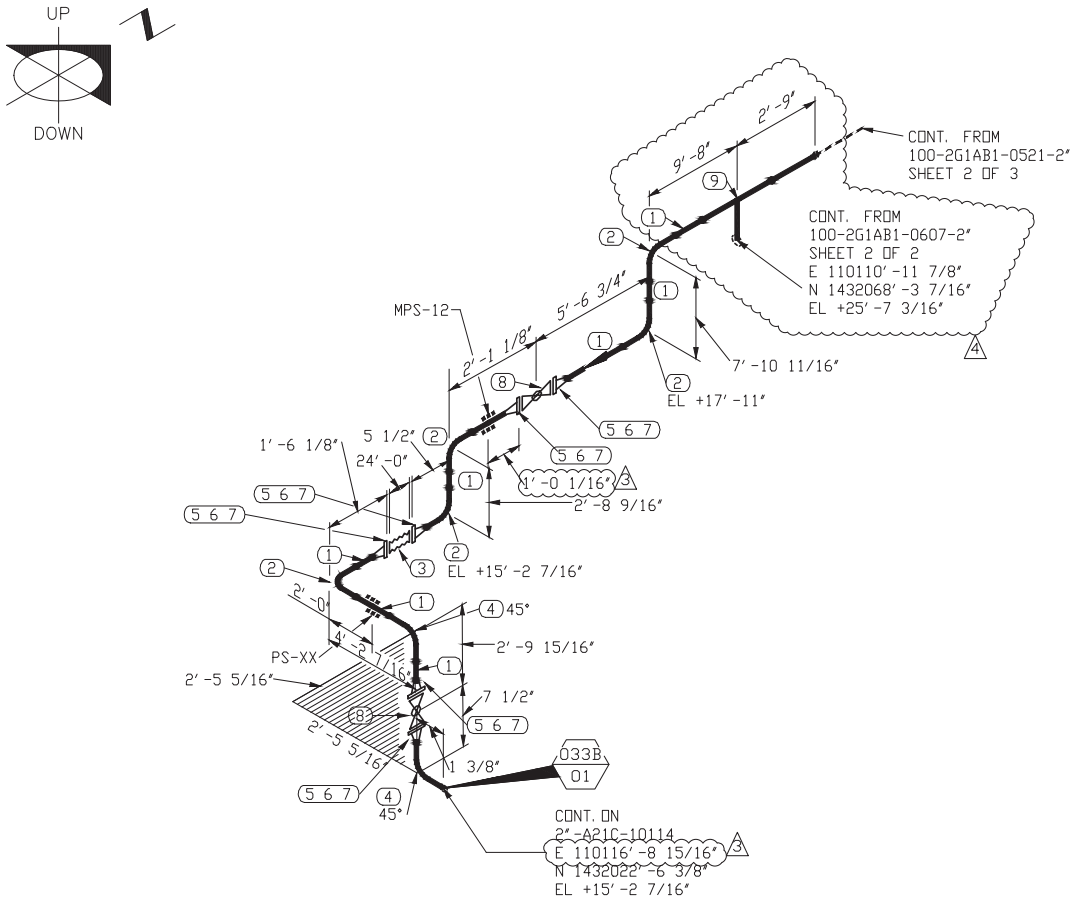
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/16/17
DWN. BY: HA		LINE NO. 100-2G1AB1-0607-2"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	2	PIPE, S. 80 T&C ASTM A53, GR. B - SMLS, HOT DIPPED GALVANIZED AFTER FABRICATION	35' 1"
2	2	90 LR ELL, 3000# THRD ASTM A105, ZINC METALIZED COATED	5
3	2	FLEXIBLE HOSE CONNECTION	1
4	2	45 LR ELL, 3000# THRD ASTM A105, ZINC METALIZED COATED	2
5	2	FLG, 150# THRD ASTM A105, S. 80	6
6	2	GASKET 1/16" THICK FLAT RING TFE GORE TEX (FOOD GRADE) OR EQ. ASME B 16.21	6
7	5/8X3 1/4	(4) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	6
8	2	BALL VALVE, 150# FLGD 316 UNIBODY, QUADRANT VALVE F1-R-C-S-V-G-LH-1F OR EQ.	2
9	2	TEE, STR. 3000# THRD ASTM A105, ZINC METALIZED COATED	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/18/17

PCCA PROJ. 17-033B

AREA	SPEC: 2G1AB1	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: AIR	DESIGN	200	105
	REVISION: 4	OPERATING	150	80
		HYDRO. TEST	225	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX. 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 3 OF 3

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
4	REVISED AS SHOWN	SP	11/17				
3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM # 2	HA	09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	11/18/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

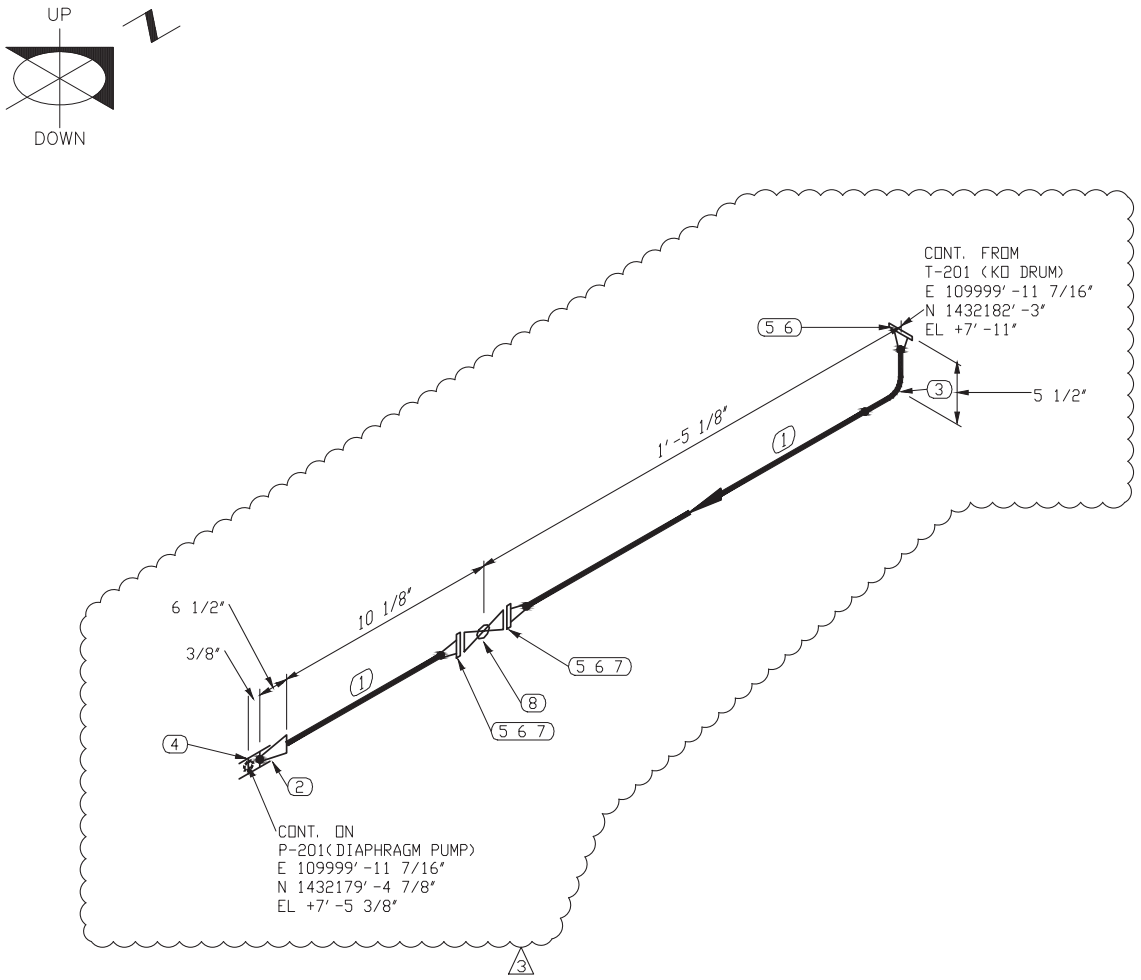
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/18/17
DWN. BY: HA		LINE NO. 100-2G1AB1-0521-2"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	2	PIPE, S.80 BE ASTM A-106, GR. B-SMLS	1'0"
2	2X3/4	SWAGE, CONC. S/80, ASTM A-234 GR WPB PLE-PSE	1
3	2	90 LR ELL, BW ASTM A-234 GR WPB, S.80	1
4	3/4	CPLG, SW 3000#, ASTM A-105	1
5	2	FLG, 150# WN ASTM A105, S.80	3
6	2	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 1/4	(4) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
8	2	BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

BHASKAR H. PATEL 63585 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS
11/14/17

PCCA PROJ. 17-033B

AREA 100	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
	SERVICE: DRAIN	DESIGN	283	100
	REVISION: 3	OPERATING	-1	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2000
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVISED AS SHWON	SP	11/17				
2	REVISED AS SHWON	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

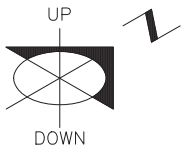
PORT CORPUS CHRISTI

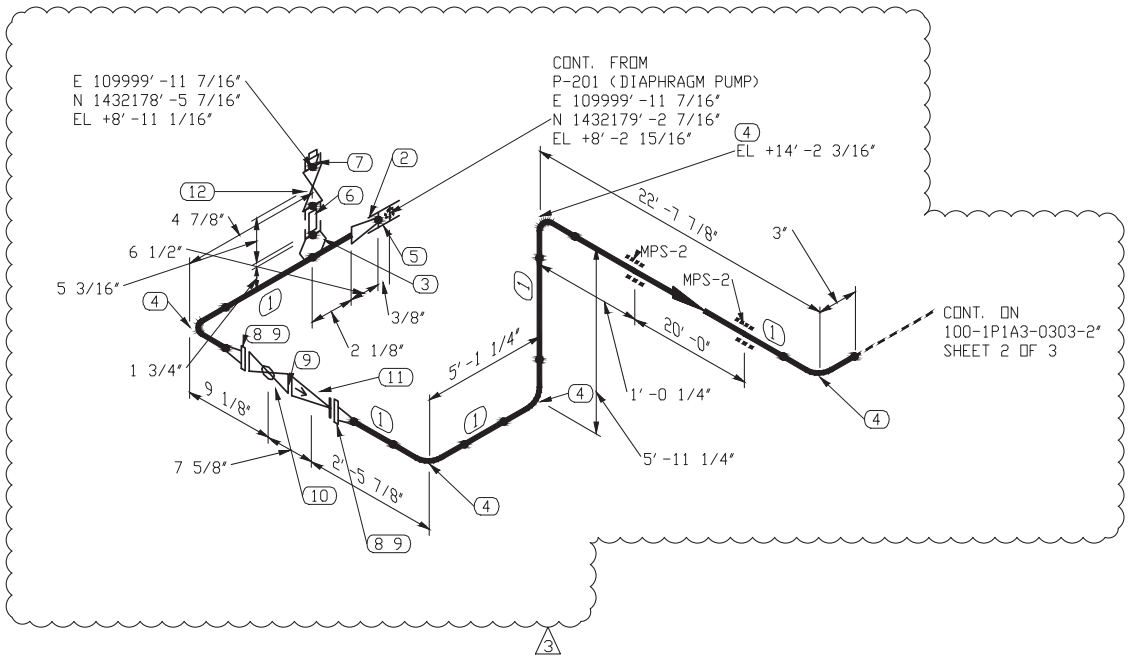
PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100-1P1A3-0302-2"

JOB NO. 17POC0139





BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	2	PIPE, S.80 BE ASTM A-106, GR. B-SMLS	34'3"
2	2X3/4	SWAGE, CONC. S/80, ASTM A-234 GR WPB PLE-PSE	1
3	2X3/4	SOCKOLET, 3000#, ASTM A-105	1
4	2	90 LR ELL, BW ASTM A-234 GR WPB, S.80	5
5	3/4	CPLG, SW 3000#, ASTM A-105	1
6	3/4	ORIFICE NIPPLE, S.160 TBE. ASTM A106, GR. B - SMLS (4" LG)	1
7	3/4	THRD PLUG,	1
8	2	FLG, 150# WN ASTM A105, S.80	2
9	2	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
10	2	BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ.	1
11	2	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15SMF OR EQ.	1
12	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

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2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

BHASKAR H. PATEL 63585 REGISTERED PROFESSIONAL ENGINEER
11/14/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DRAIN	DESIGN	283	100
	REVISION: 3	OPERATING	35	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 3

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVISED AS SHWON	SP	11/17				
2	REVISED AS SHWON	HA	10/17				
1	ADDEDNUM #2		09/17				

REVISIONS

BOM No.

CAD FILE No.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100-1P1A3-0303-2"

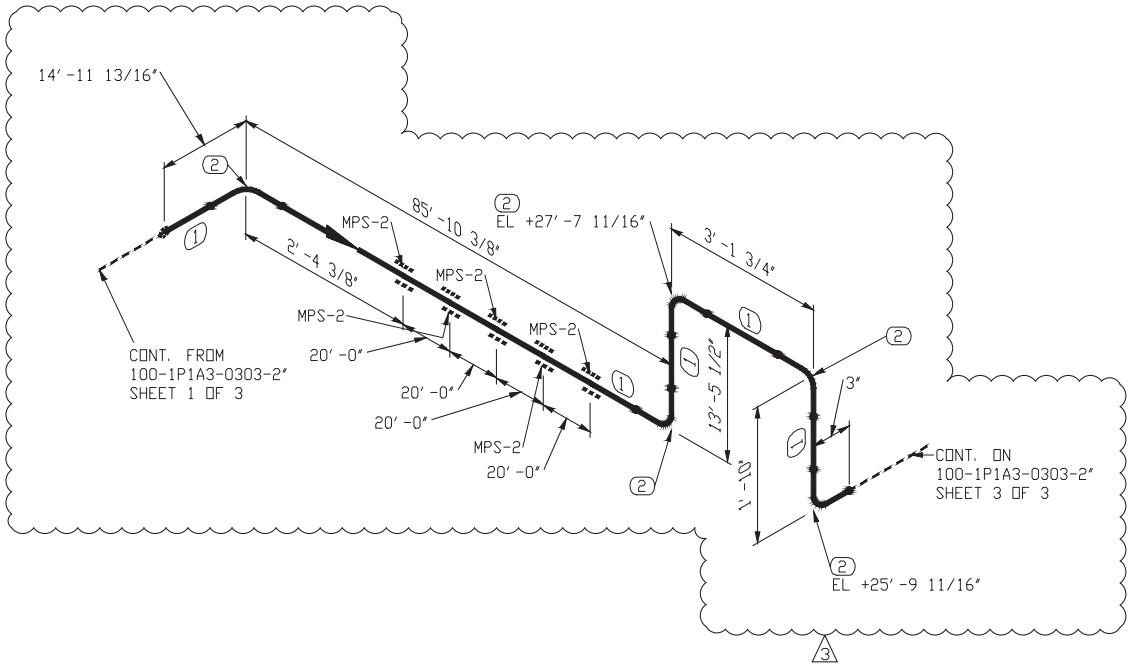
JOB NO. 17POC0139

UP

DOWN

BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	2	PIPE, S.80 BE ASTM A-106, GR. B-SMLS	117'1"
2	2	90 LR ELL, BW ASTM A-234 GR WPB, S.80	5



REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

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STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/14/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DRAIN	DESIGN	283	100
	REVISION: 3	OPERATING	35	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 2 OF 3

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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3	REVISED AS SHWON	SP	11/17				
2	REVISED AS SHWON	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.

CAD FILE No.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

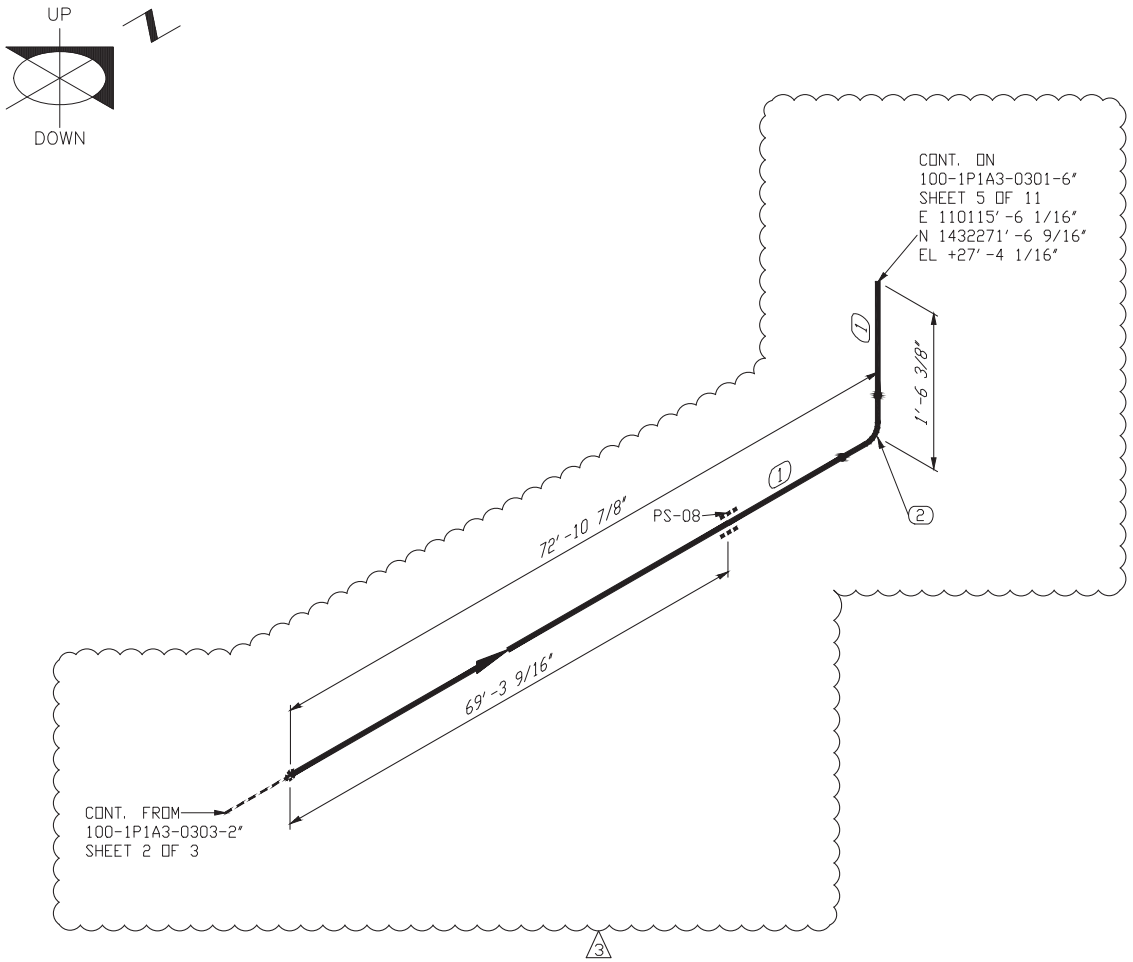
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100-1P1A3-0303-2"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	2	PIPE, S.80 BE ASTM A-106, GR. B-SMLS	74'0"
2	2	90 LR ELL, BW ASTM A-234 GR WPB, S.80	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

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2. FIELD TO SUPPORT AS NEEDED
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BHASKAR H. PATEL 63585 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS
11/14/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DRAIN	DESIGN	283	100
	REVISION: 3	OPERATING	35	80
		HYDRO. TEST	428	

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PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 3 OF 3

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVISED AS SHWON	SP	11/17				
2	REVISED AS SHWON	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE No.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

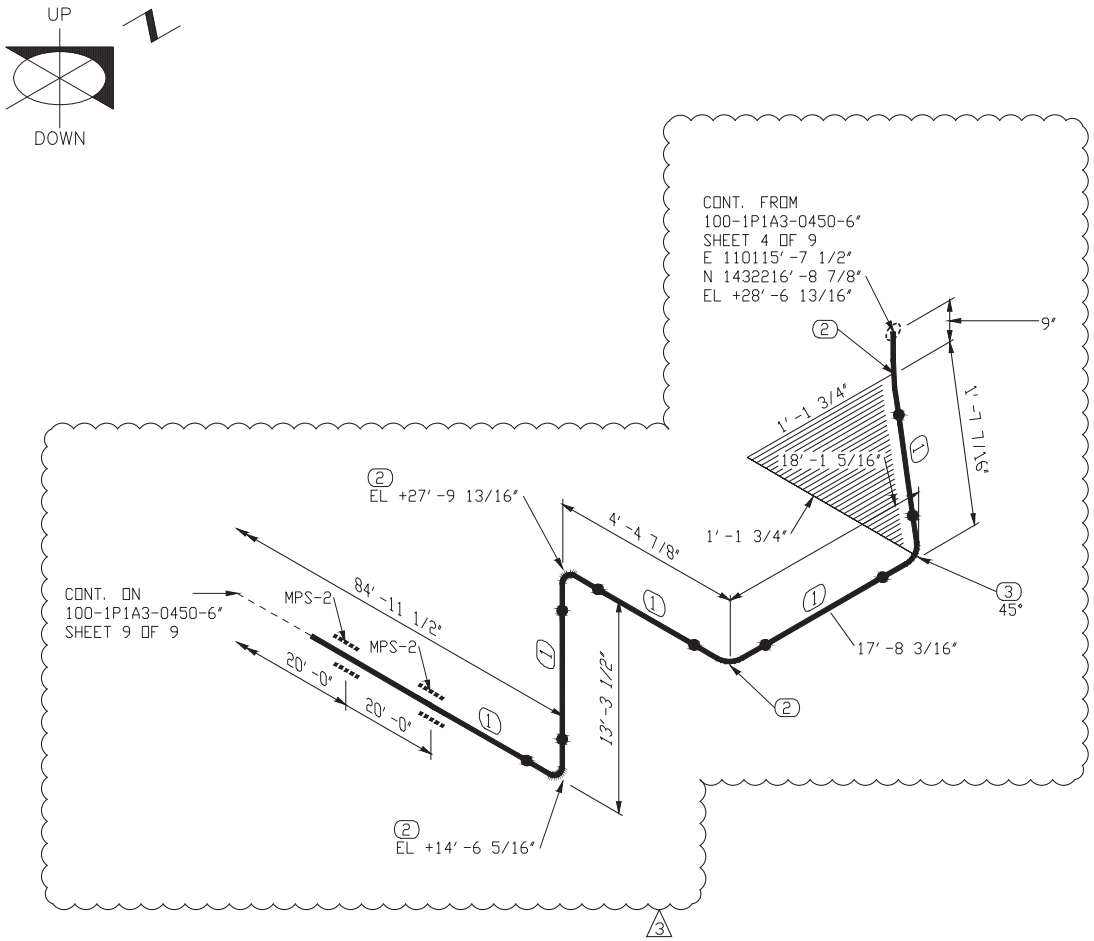
PORT CORPUSCHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100-1P1A3-0303-2"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	6	PIPE, S.40 BE ASTM A-106, GR. B-SMLS	55'2"
2	6	90 LR ELL, BW ASTM A-234 GR WPB, S.40	4
3	6	45 LR ELL, BW, ASTM A-234 GR WPB, S.40	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

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2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/14/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 3	OPERATING	-1	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 8 OF 9

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVISED AS SHWON	SP	11/17				
2	REVISED AS SHWON	HA	10/17				
1	ADDENDUM # 2		09/17				

REVISIONS

BOM No.
CAD FILE No.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

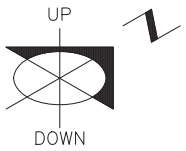
PORT CORPUS CHRISTI

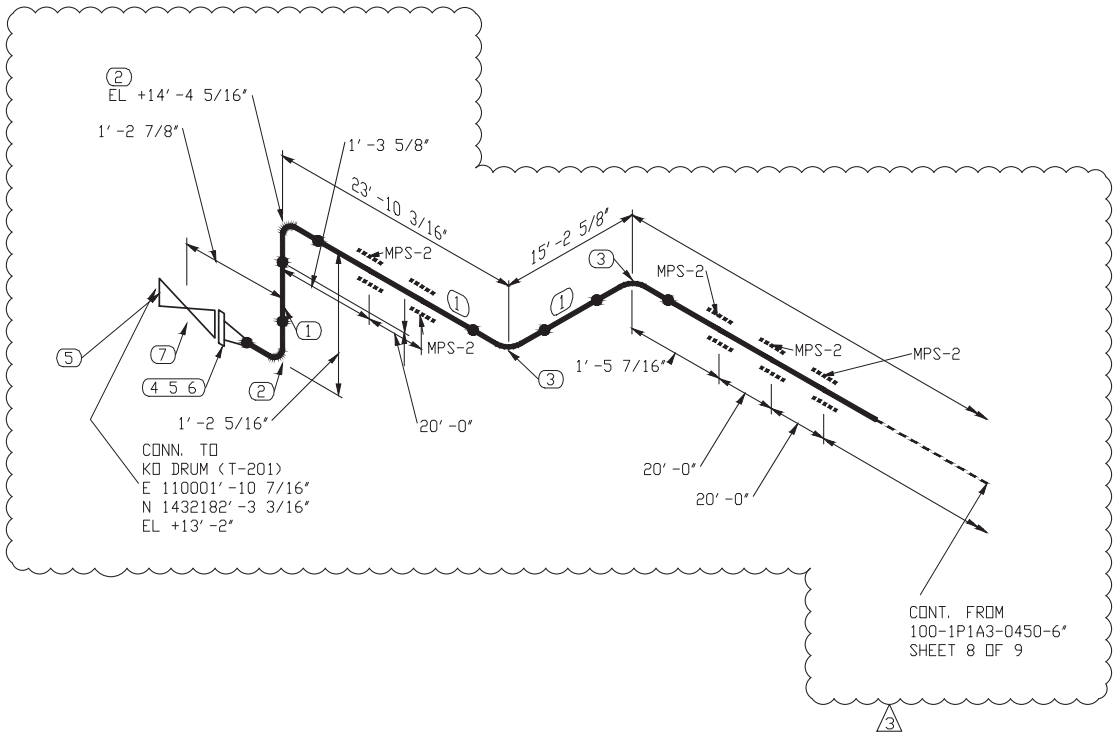
PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100-1P1A3-0450-6"

JOB NO. 17POC0139





BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	6	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	97' 3"
2	6	90 SR ELL, BW ASTM A-234 GR WPB, S.40	2
3	6	90 LR ELL, BW ASTM A-234 GR WPB, S.40	2
4	6	FLG, 150# WN ASTM A105, S.40	1
5	6	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
6	3/4X4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	1
7	6	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS: –

1. REFER DWG. 17–033B–20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17–033B–03 OVERALL PLAN
3. REFER DWG. 17–033B–128 PIPE GUIDE (WELD AREA)

NOTE: –

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
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BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
STATE OF TEXAS
11/14/17

PCCA PROJ. 17–033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 3	OPERATING	–1	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
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PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 9 OF 9

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVISED AS SHWON	SP	11/17				
2	REVISED AS SHWON	HA	10/17				
1	ADDENDUM # 2		09/17				

REVISIONS

BOM No.

CAD FILE No.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

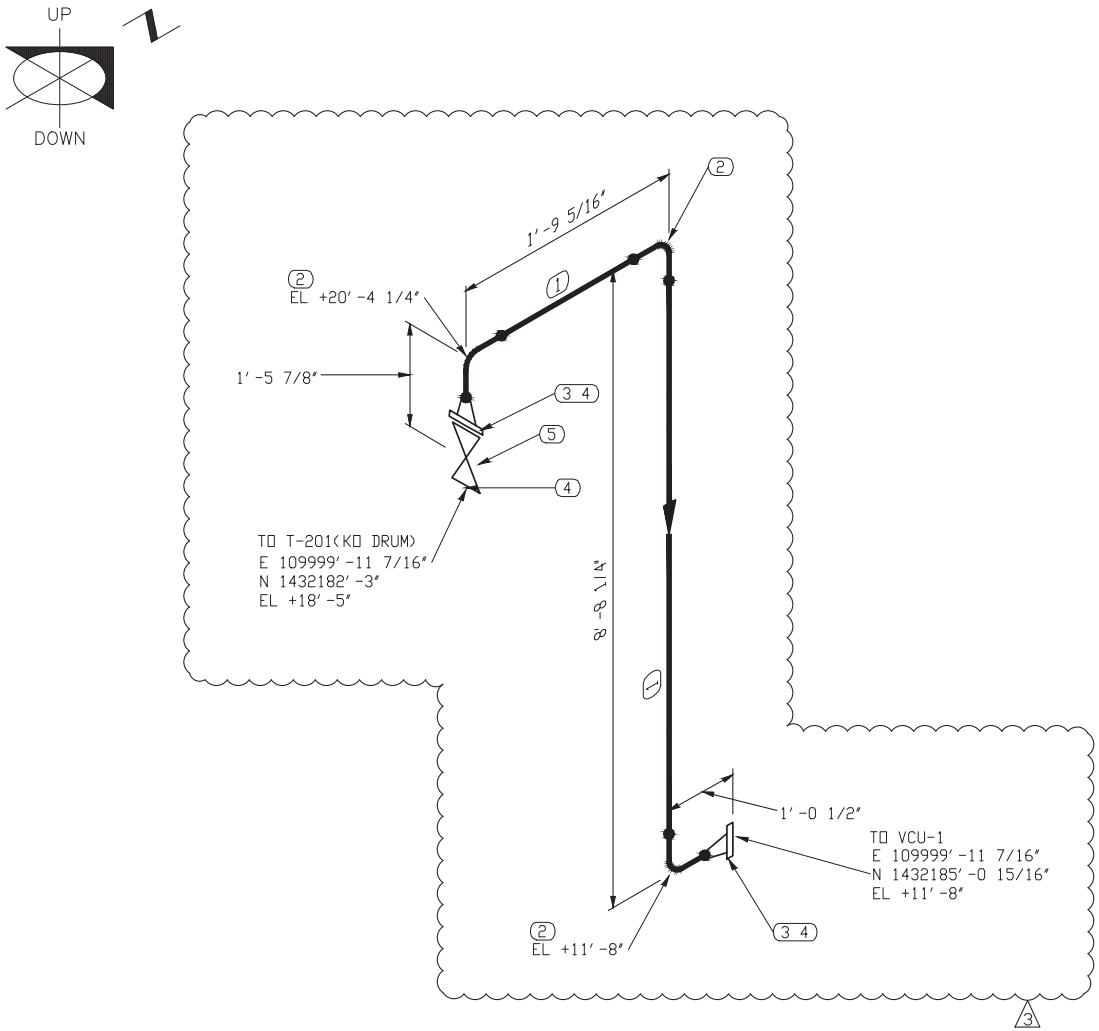
PORT CORPUSCHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100–1P1A3–0450–6"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	6	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	7'6"
2	6	90 LR ELL, BW ASTM A-234 GR WPB, S.40	3
3	6	FLG, 150# WN ASTM A105, S.40	2
4	6	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
5	6	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

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NOTE:-

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BHASKAR H. PATEL 63585 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS
11/14/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: VAPOR	DESIGN	283	100
	REVISION: 3	OPERATING	-1	80
		HYDRO. TEST	428	

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CORPUS CHRISTI, TX 78410
PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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3	REVISED AS SHWON	SP	11/17				
2	REVISED AS SHWON	HA	10/17				
1	ADDENDUM # 2		09/17				

REVISIONS

BOM No.
CAD FILE No.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

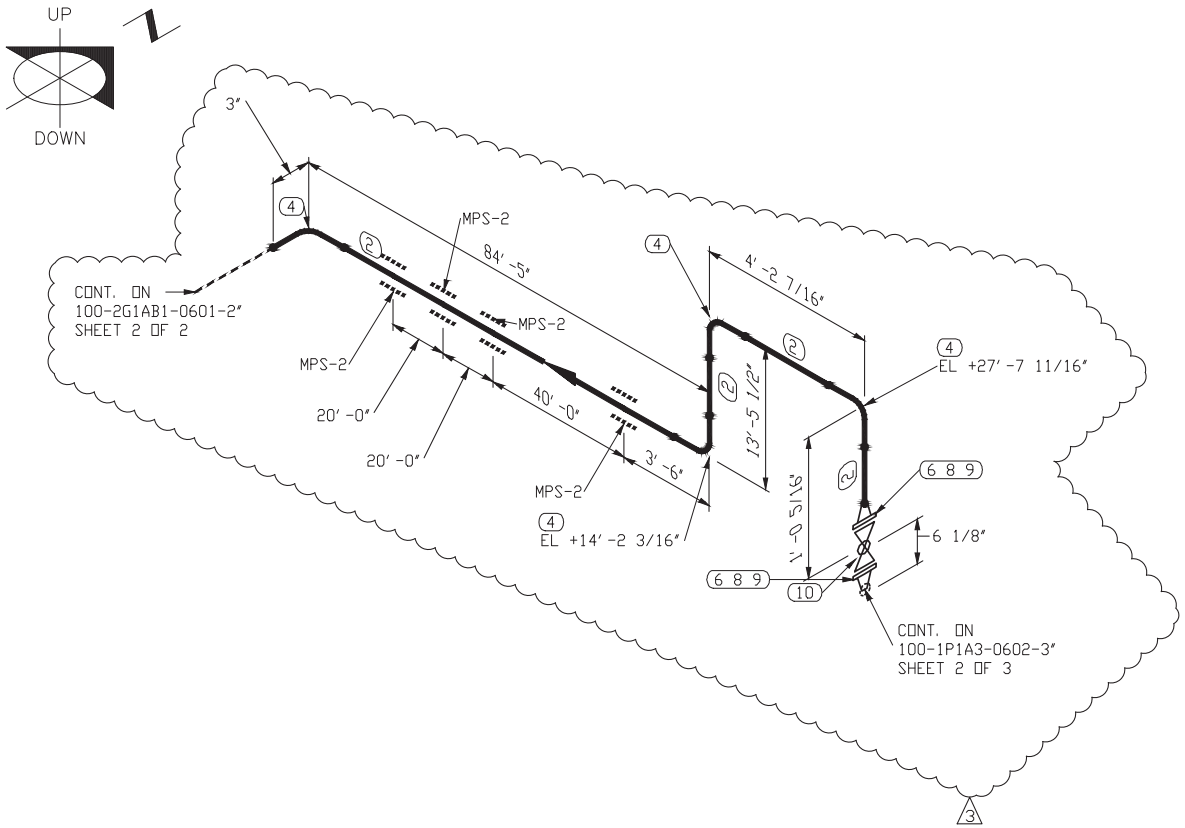
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100-1P1A3-0451-6"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	-	REMOVED	
2	2	PIPE, S.80 BE ASTM A-106, GR. B-SMLS	100' 11"
4	2	90 LR ELL, BW ASTM A-234 GR WPB, S.80	4
5	-	REMOVED	
6	2	FLG, 150# WN ASTM A105, S.80	2
7	-	REMOVED	
8	2	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
9	5/8X3 1/4	(4) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
10	2	BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS: –

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE: –

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
STATE OF TEXAS
11/14/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GAS	DESIGN	283	105
	REVISION: 3	OPERATING	150	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 2

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			
		REV-1, IFC				

ALL REVISIONS MADE TO THIS DRAWING SHALL BE MADE WITH CAD, AND IN ACCORDANCE WITH PORT OF CORPUS CHRISTI'S STANDARDS FOR CAD GENERATED DRAWINGS. THIS DRAWING CONTAINS PROPRIETARY INFORMATION BELONGING TO PORT OF CORPUS CHRISTI WHICH MAY NOT BE USED OR REPRODUCED WITHOUT PERMISSION. THIS DRAWING REMAINS THE PROPERTY OF PORT OF CORPUS CHTISTI AND IS TO RETURNED ON DEMAND.

REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVISED AS SHOWN	SP	11/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE No.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

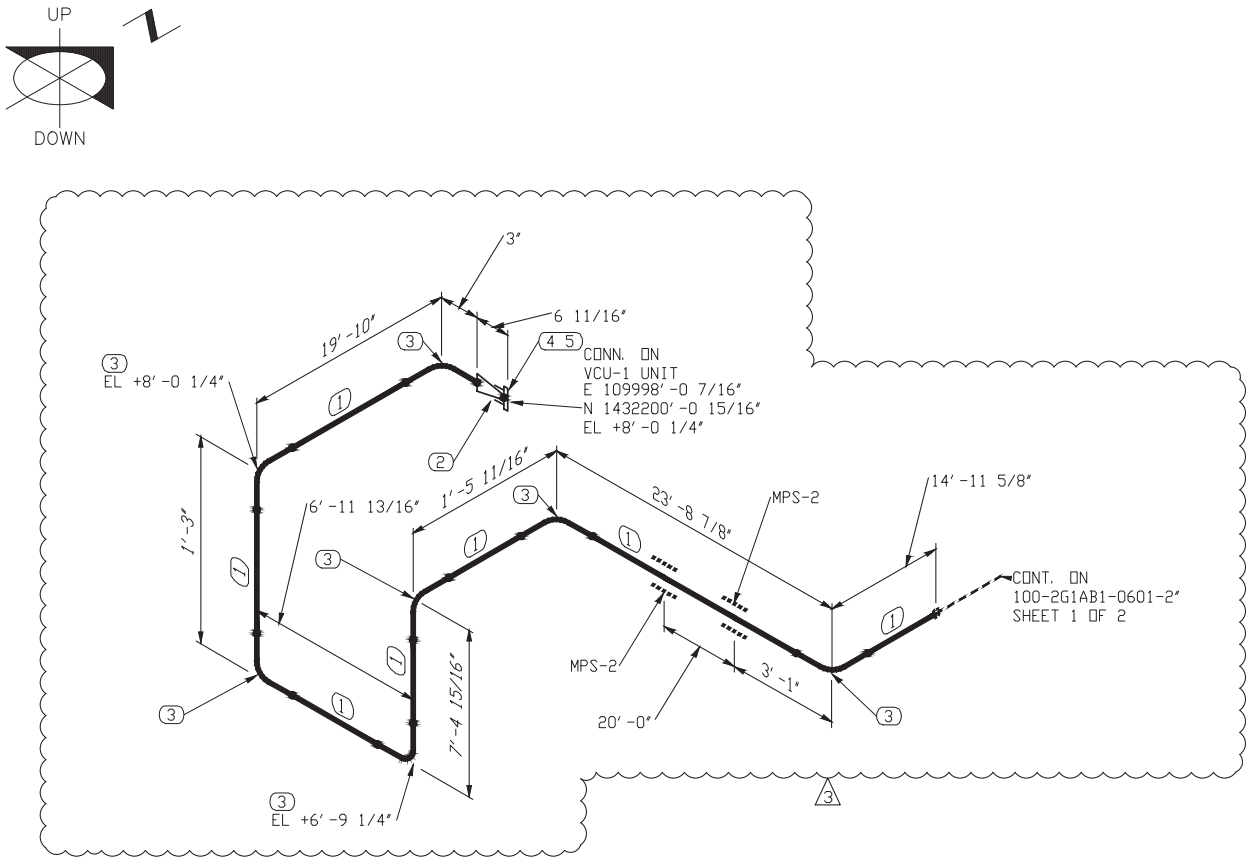
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100-2G1AB1-0601-2"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	2	PIPE, S.80 BE ASTM A-106, GR. B-SMLS	72'5"
2	2X1	SWAGE, CONC. S/80, ASTM A-234 GR WPB PLE-PSE	1
3	2	90 LR ELL, BW ASTM A-234 GR WPB, S.80	7
4	1	FLG, 150# SW ASTM A105, S.80	1
5	1	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/14/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GAS	DESIGN	283	105
	REVISION: 3	OPERATING	150	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 2 OF 2

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			
		REV-1, IFC				

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3	REVISED AS SHWON	SP	11/17				
2	REVISED AS SHWON	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.

CAD FILE No.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

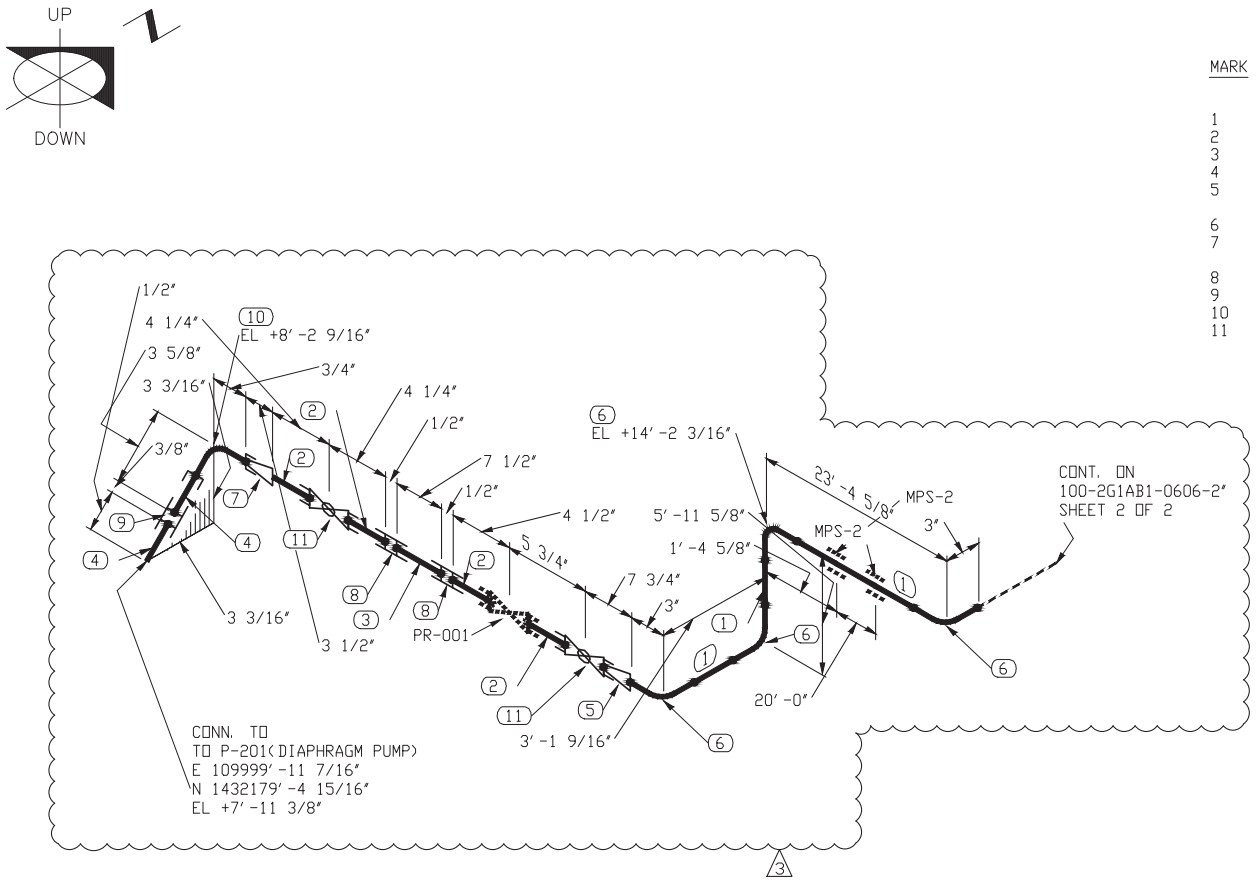
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100-2G1AB1-0601-2"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY	WEIGHT
1	2	PIPE, S.80 BE ASTM A-106, GR. B-SMLS	31'0"	
2	1	PIPE, S.80 T&C. ASTM A-106 GR B - SMLS	1'0"	
3	1	EXPANSION JOINT	0'8"	
4	3/4	PIPE, S.80 T&C. ASTM A-106 GR B - SMLS	0'4"	
5	2X1	SWAGE, CONC. S/80, ASTM A-234 GR WPB M-PSE M-PSE	1	
6	2	90 LR ELL, BW ASTM A-234 GR WPB	4	
7	1X3/4	SWAGE, CONC. S/80, ASTM A-234 GR WPB M-PSE	1	
8	1	CPLG, SW 3000#, ASTM A-105	2	
9	3/4	CPLG, SW 3000#, ASTM A-105	1	
10	3/4	90 ELL, 3000# SW, ASTM A-105	1	
11	1	BALL VALVE, 800# SW 316 3PC, RED PORT, LEVER OP, JAMESBURY 4CB-2236-MTT OR EQ.	2	

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

BHASKAR H. PATEL
63585
REGISTERED PROFESSIONAL ENGINEER
STATE OF TEXAS
11/14/17

PCCA PROJ. 17-033B

AREA	SPEC: 2G1AB1	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: AIR	DESIGN	200	105
	REVISION: 3	OPERATING	150	80
		HYDRO. TEST	225	

GOVIND DEVELOPMENT, LLC
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CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 2

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVISED AS SHWON	SP	11/17				
2	REVISED AS SHWON	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.

CAD FILE No.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100-2G1AB1-0606-2"

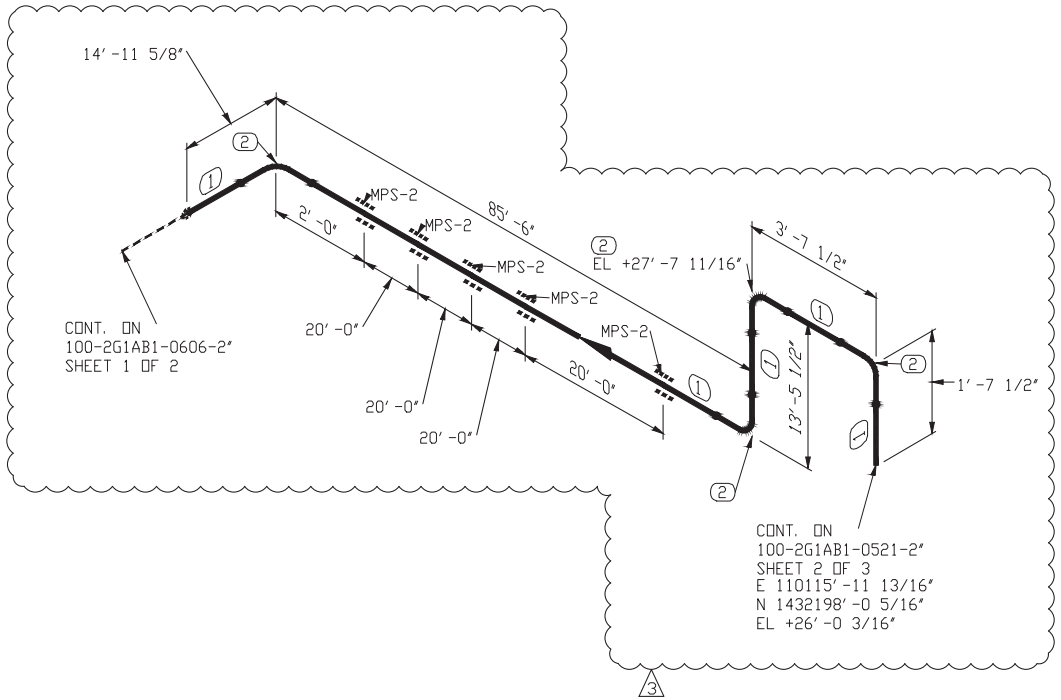
JOB NO. 17POC0139

UP

DOWN

BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY	WEIGHT
1	2	PIPE, S. 80 BE ASTM A-106, GR. B-SMLS	117' 3"	
2	2	90 LR ELL, BW ASTM A-234 GR WPB	4	



REFERENCE DRAWINGS FOR SUPPORTS: –

1. REFER DWG. 17–033B–20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17–033B–03 OVERALL PLAN
3. REFER DWG. 17–033B–128 PIPE GUIDE (WELD AREA)

NOTE: –

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/14/17

PCCA PROJ. 17–033B

AREA	SPEC: 2G1AB1	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: AIR	DESIGN	200	105
	REVISION: 3	OPERATING	150	80
		HYDRO. TEST	225	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 2 OF 2

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVISED AS SHWON	SP	11/17				
2	REVISED AS SHWON	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.

CAD FILE No.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

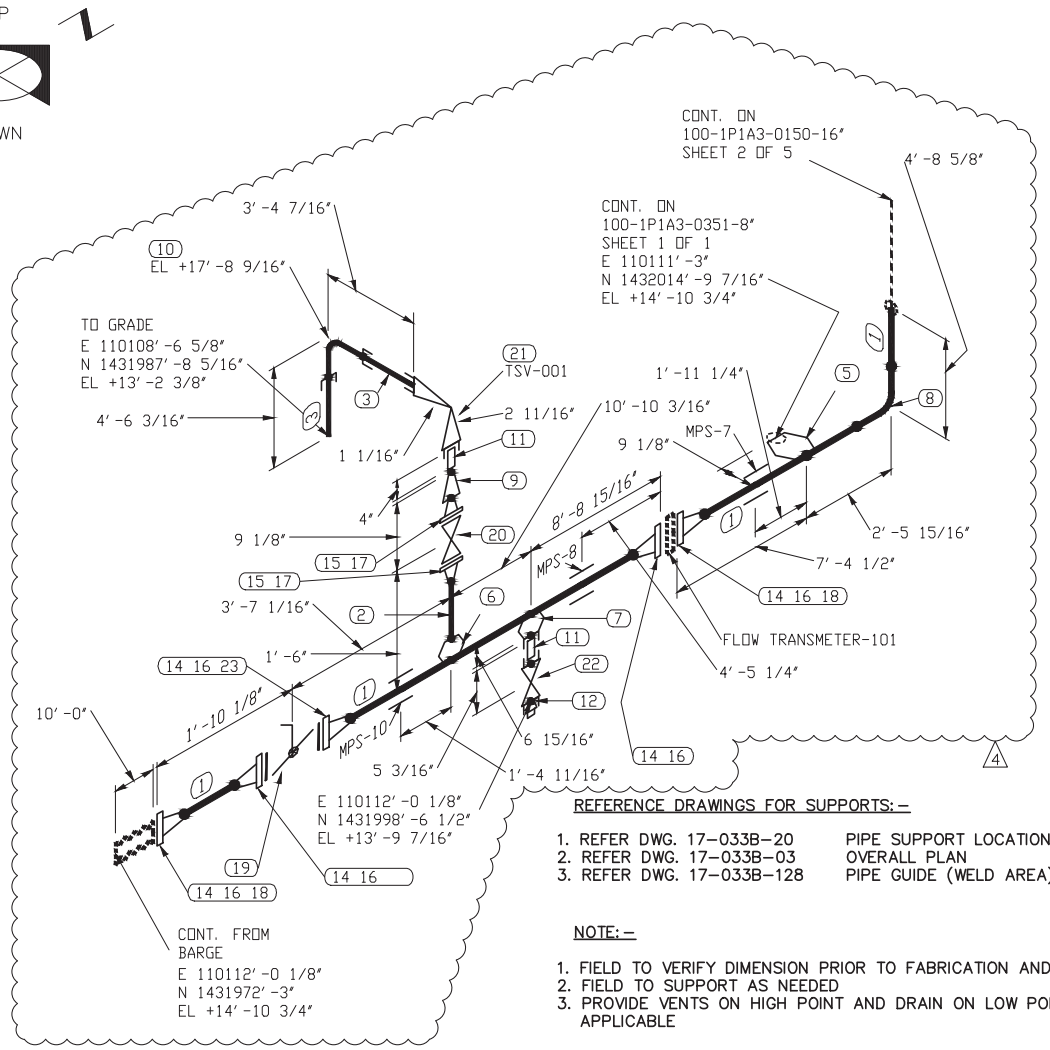
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100-2G1AB1-0606-2"

JOB NO. 17POC0139



REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	12	PIPE, STD BE. ASTM A53, GR. B - SMLS BBE	34'6"
2	2	PIPE, S.80 BE ASTM A-106, GR. B-SMLS BBE	0'4"
3	1	PIPE, S.80 PE. ASTM A-106 GR.B - SMLS PBE	7'10"
4	DELETED		
5	12X8	WELDOLET, SCH STD, ASTM A-105	1
6	12X2	WELDOLET, SCH STD, ASTM A-105	1
7	12X3/4	SOCKOLET, 3000#, ASTM A-105	1
8	12	90 LR ELL, BW ASTM A-234 GR WPB	1
9	2X3/4	REDUCER, CONC S.80, ASTM A-234 GR WPB	1
10	1	90 ELL, 3000# SW, ASTM A-105, S.80	1
11	3/4	ORIFICE NIPPLE, S.160 TBE. ASTM A106, GR. B - SMLS (4" LG)	2
12	3/4	THRD PLUG,	1
13	DELETED		
14	12	FLG, 150# WN ASTM A105, STD	5
15	2	FLG, 150# WN ASTM A105, S.80	2
16	12	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	5
17	2	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
18	7/8X4 3/4	(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	3
19	12	BUTTERFLY VALVE, 150# FLGD,	1
20	2	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	1
21	1X3/4	RELIEF VALVE, 800# THRD	1
22	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1
23	7/8X7 1/4	(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	1

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/14/17

PCCA PROJ. 17-033B

AREA 100	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 4	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX. 78410
PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
4	REVISED AS SHOWN	SP	11/17				
3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

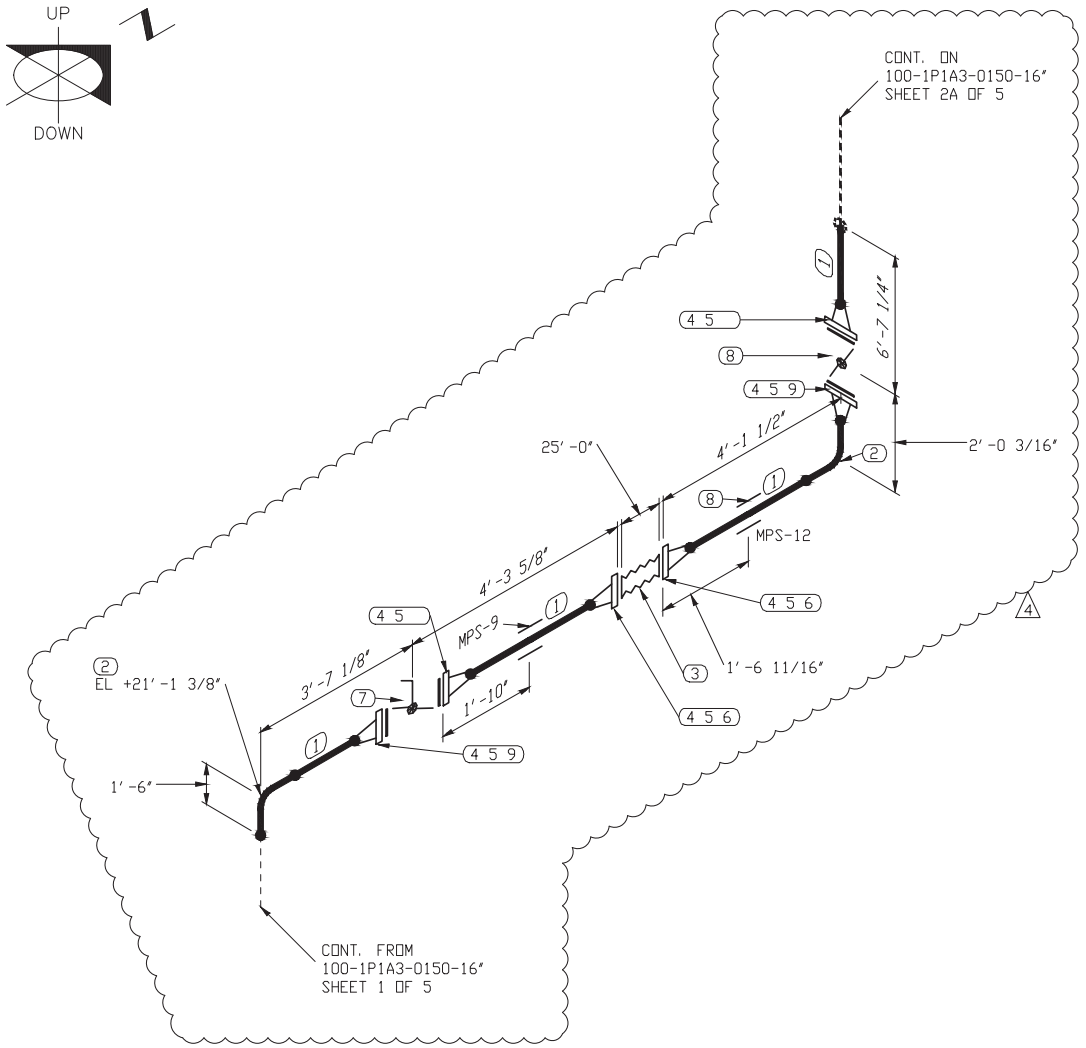
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100-1P1A3-0150-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	12	PIPE, STD BE. ASTM A53, GR. B - SMLS BBE	13'4"
2	12	90 LR ELL, BW ASTM A-234 GR WPB, STD	2
3	12	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1
4	12	FLG, 150# WN ASTM A105, STD	6
5	12	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	6
6	7/8X4 3/4	(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
7	12	BUTTERFLY VALVE, 150# FLGD, LUG BUNA-N GEAR OP, CENTERLINE 200 OR EQ.	1
8	12	BUTTERFLY VALVE, 150# FLGD, (PNEUMATIC ACTUATED-AIR OPERATED): POSI SEAL #132	1
9	7/8X7 1/4	(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/14/17

PCCA PROJ. 17-033B

AREA 100	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 4	OPERATING	80	80
		HYDRO. TEST	428	

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CORPUS CHRISTI, TX 78410
PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 2 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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4	REVISED AS SHOWN	SP	11/17				
3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

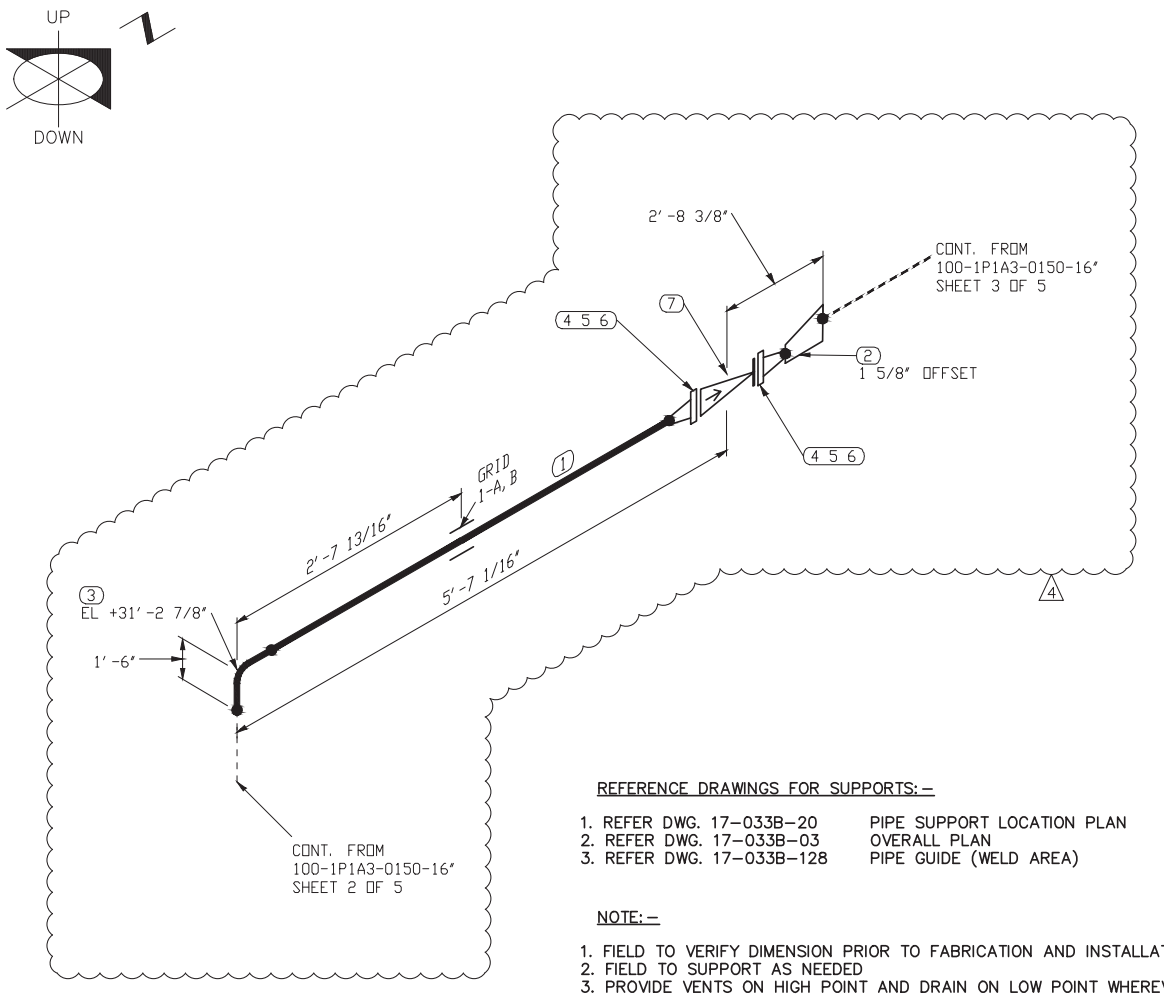
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100-1P1A3-0150-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	12	PIPE, STD BE. ASTM A53, GR. B - SMLS BBE	2'7"
2	16X12	REDUCER, ECC S/STD, ASTM A-234 GR WPB	1
3	12	90 LR ELL, BW ASTM A-234 GR WPB, STD	1
4	12	FLG, 150# WN ASTM A105, STD	2
5	12	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
6	7/8X4 3/4	(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
7	12	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15SMF OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE
4. MANUFACTURER FOR SPILL PAN : NEW PIG OR EQ

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/14/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 4	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 2A OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
4	REVISED AS SHOWN	SP	11/17				
3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

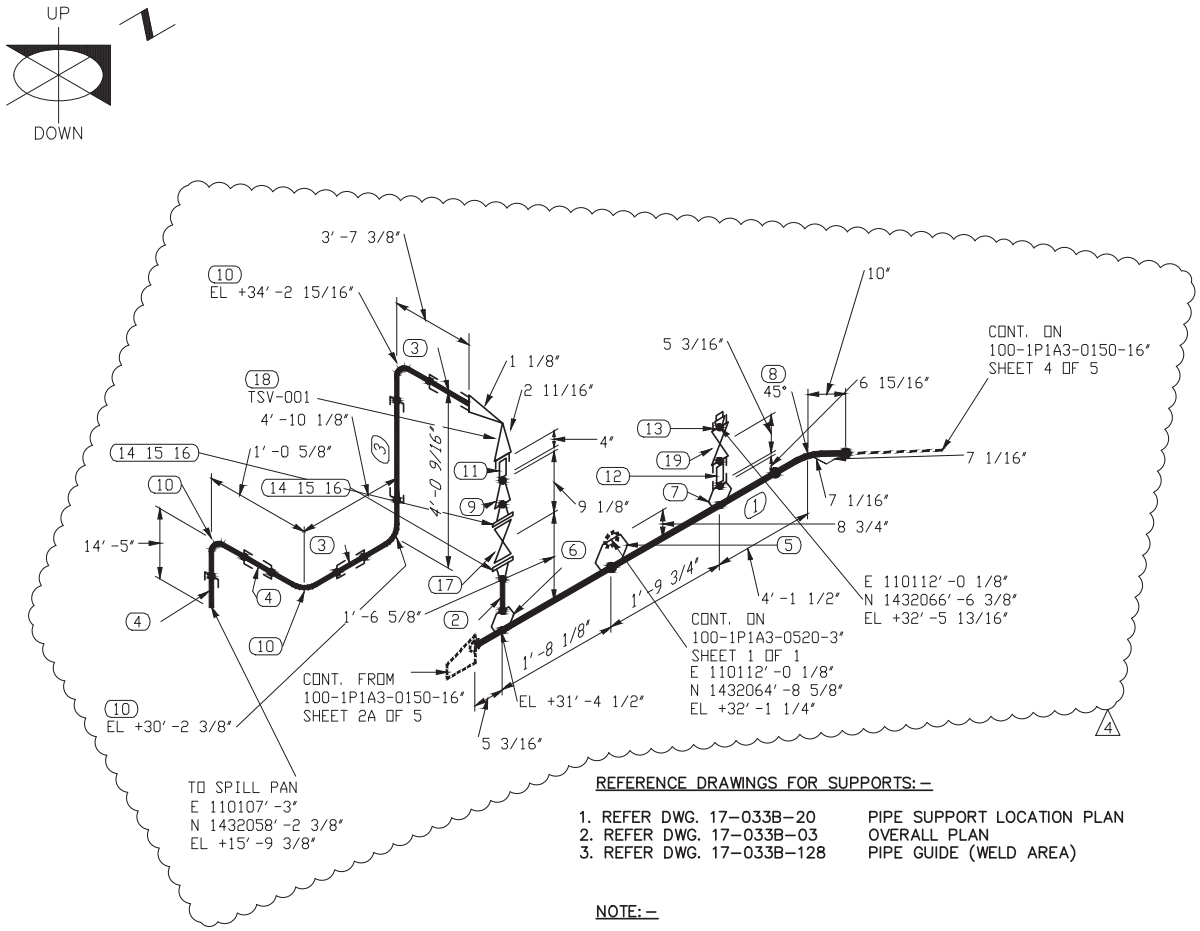
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

ISOMETRICS

SCALE: NTS
DWN. BY: HA
DATE: 11/14/17
LINE NO. 100-1P1A3-0150-16"



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS BBE	7' 3"
2	2	PIPE, S. 80 BE ASTM A-106, GR. B-SMLS BBE	0' 4"
3	1	PIPE, S. 80 PE. ASTM A-106 GR. B - SMLS PBE	27' 6"
4	-	DELETED	
5	16X3	WELDOLET, SCH STD, ASTM A-105	1
6	16X2	WELDOLET, SCH STD, ASTM A-105	1
7	16X3/4	SOCKOLET, 3000#, ASTM A-105	1
8	16	45 LR ELL, BW, ASTM A-234 GR WPB, STD	1
9	2X3/4	REDUCER, CONC S. 80, ASTM A-234 GR WPB	1
10	1	90 ELL, 3000# SW, ASTM A-105, S. 80	4
11	3/4	ORIFICE NIPPLE, S. 160 TBE. ASTM A106, GR. B - SMLS PBE (4.0000" LG)	1
12	3/4	ORIFICE NIPPLE, S. 160 TBE. ASTM A106, GR. B - SMLS (4" LG)	1
13	3/4	THRD PLUG,	1
14	2	FLG, 150# WN ASTM A105, S. 80	2
15	2	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
16	5/8X3 1/4	(4) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
17	2	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	1
18	1X3/4	RELIEF VALVE, 800LB THRD	1
19	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS: -

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE: -

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE
4. MANUFACTURER FOR SPILL PAN : NEW PIG OR EQ

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/14/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 4	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX. 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 3 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

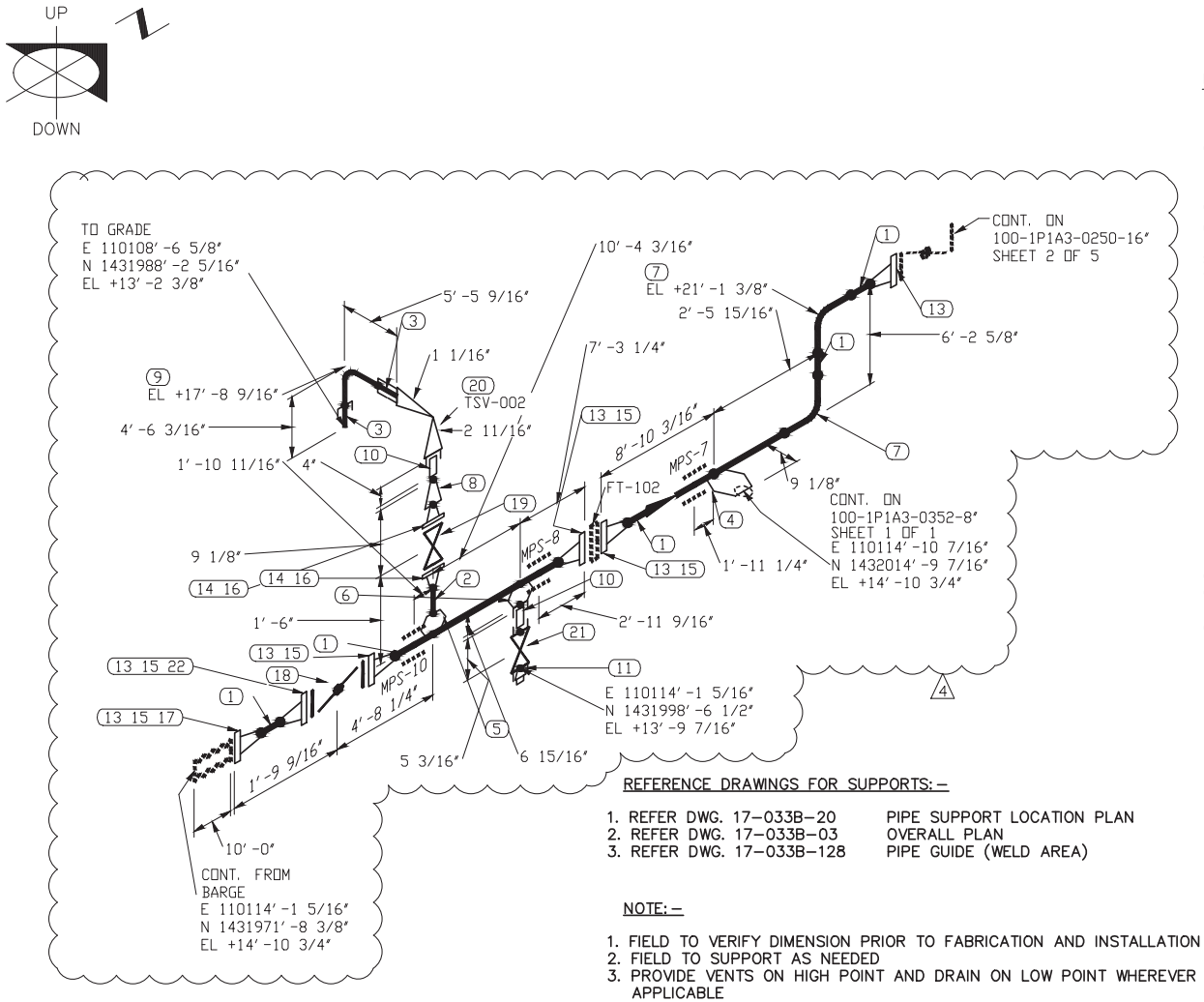
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100-1P1A3-0150-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	12	PIPE, STD BE. ASTM A53, GR. B - SMLS	39' 9"
2	2	PIPE, S. 80 BE ASTM A-106, GR. B-SMLS BBE	0' 4"
3	1	PIPE, S. 80 PE. ASTM A-106 GR. B - SMLS PBE	9' 11"
4	12X8	WELDOLET, SCH STD, ASTM A-105	1
5	12X2	WELDOLET, SCH STD, ASTM A-105	1
6	12X3/4	SOCKOLET, 3000# FS, ASTM A-105	1
7	12	90 LR ELL, BW ASTM A-234 GR WPB	2
8	2X3/4	REDUCER, CONC S. 80, ASTM A-234 GR WPB	1
9	1	90 ELL, 3000# SW, ASTM A-105	1
10	3/4	ORIFICE NIPPLE, S. 160 TBE. ASTM A106, GR. B - SMLS (4" LG)	2
11	3/4	PLUG THRD	1
13	12	FLG, 150# WN ASTM A105, STD	6
14	2	FLG, 150# WN ASTM A105, S. 80	2
15	12	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16. 20	5
16	2	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16. 20	2
17	7/8X4 3/4	(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
18	12	BUTTERFLY VALVE, 150# FLGD	1
19	2	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	1
20	1X3/4	RELIEF VALVE, 800# THRD	1
21	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1
22	7/8X7 1/4	(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	1

REFERENCE DRAWINGS FOR SUPPORTS: –

1. REFER DWG. 17–033B–20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17–033B–03 OVERALL PLAN
3. REFER DWG. 17–033B–128 PIPE GUIDE (WELD AREA)

NOTE: –

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2. FIELD TO SUPPORT AS NEEDED
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STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/14/17

PCCA PROJ. 17–033B

AREA 100	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX. 78410
PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■	■	
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

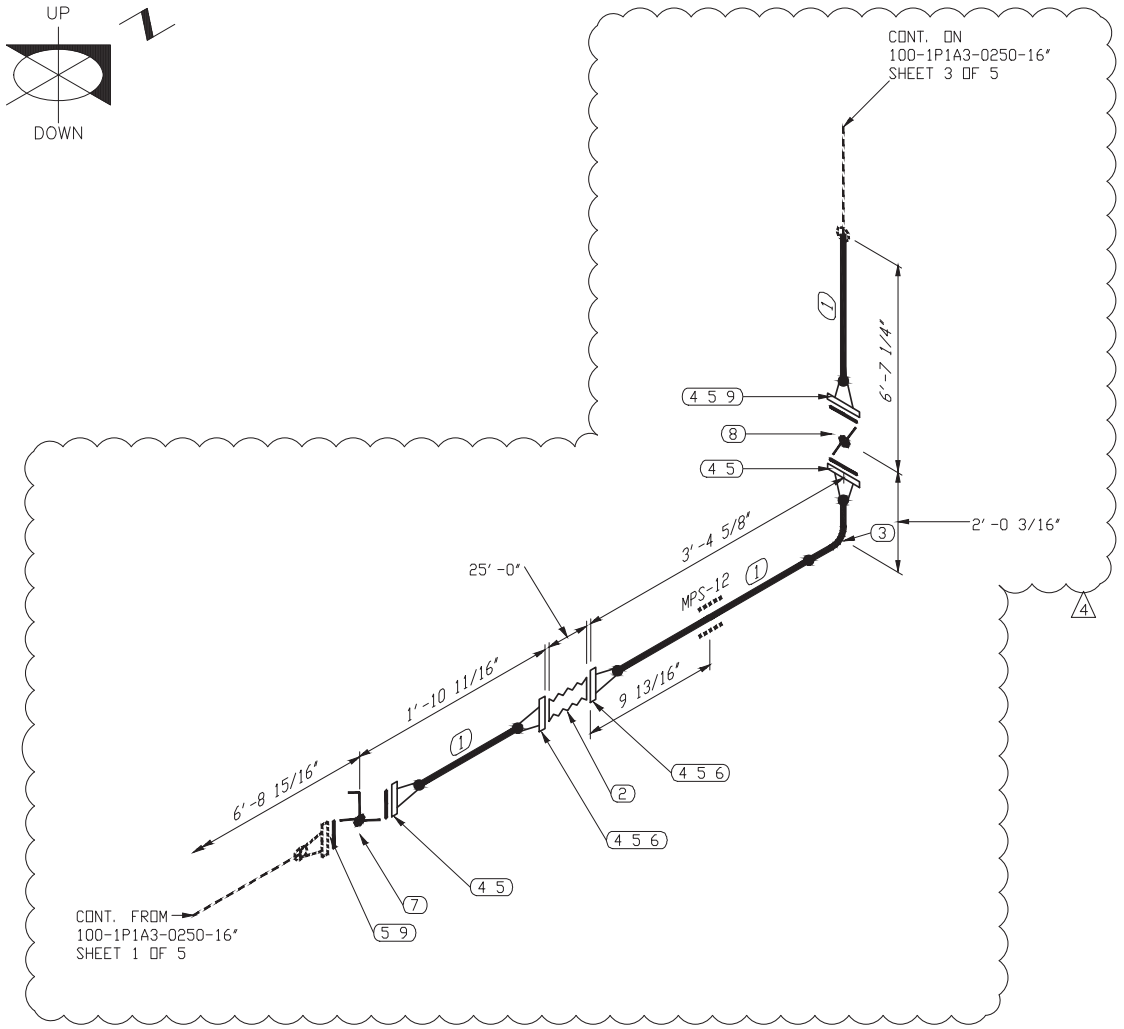
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100-1P1A3-0250-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	12	PIPE, STD BE. ASTM A53, GR. B - SMLS	8'8"
2	12	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1
3	12	90 LR ELL, BW ASTM A-234 GR WPB, STD	1
4	12	FLG, 150# WN ASTM A105, STD	5
5	12	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	6
6	7/8X4 3/4	(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
7	12	BUTTERFLY VALVE, 150# FLGD, LUG BUNA-N GEAR OP, CENTERLINE 200 OR EQ.	1
8	12	BUTTERFLY VALVE, 150# FLGD, (PNEUMATIC ACTUATED-AIR OPERATED) POSI SEAL #132	1
9	7/8X7 1/4	(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/14/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 4	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
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PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 2 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION			
			STRESS REL.		■	
			STRESS CHK.			

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3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

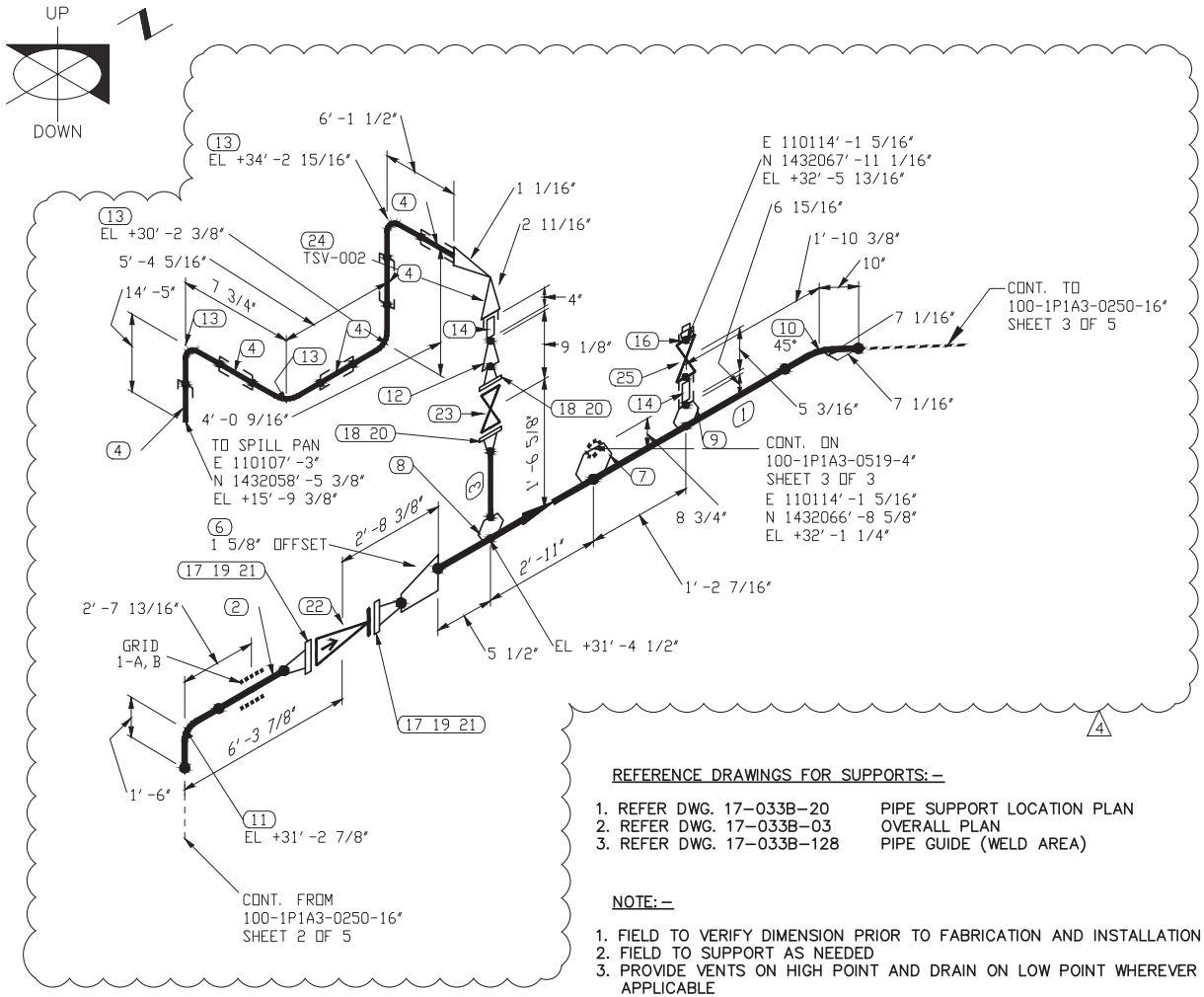
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100-1P1A3-0250-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS	5'8"
2	12	PIPE, STD BE. ASTM A53, GR. B - SMLS	3'4"
3	2	PIPE, S.80 BE ASTM A-106, GR. B-SMLS BBE	0'4"
4	1	PIPE, S.80 PE. ASTM A-106 GR.B - SMLS PBE	30'1"
5	-	DELETED	
6	16X12	REDUCER, ECC S/STD, ASTM A-234 GR WPB	1
7	16X3	WELDOLET, SCH STD, ASTM A-105	1
8	16X2	WELDOLET, SCH STD, ASTM A-105	1
9	16X3/4	SOCKOLET, 3000# ASTM A-105	1
10	16	45 LR ELL, BW, ASTM A-234 GR WPB	1
11	12	90 LR ELL, BW ASTM A-234 GR WPB	1
12	2X3/4	REDUCER, CONC S/XS, ASTM A-234 GR WPB	1
13	1	90 ELL, 3000# SW, ASTM A-105	4
14	3/4	ORIFICE NIPPLE, S.160 TBE. ASTM A106, GR. B - SMLS PBE (4" LG)	2
15	-	DELETED	
16	3/4	PLUG THRD	1
17	12	FLG, 150# WN ASTM A105, STD	2
18	2	FLG, 150# WN ASTM A105, S.80	2
19	12	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
20	2	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
21	7/8X4 3/4	(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
22	12	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15SMF OR EQ.	1
23	2	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	1
24	1X3/4	RELIEF VALVE, 800LB THRD	1
25	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS: –

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE: –

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE
4. MANUFACTURER FOR SPILL PAN : NEW PIG OR EQ

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/14/17

PCCA PROJ. 17-033B

AREA 100	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 4	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX. 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 3 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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4	REVISED AS SHOWN	SP	11/17				
3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

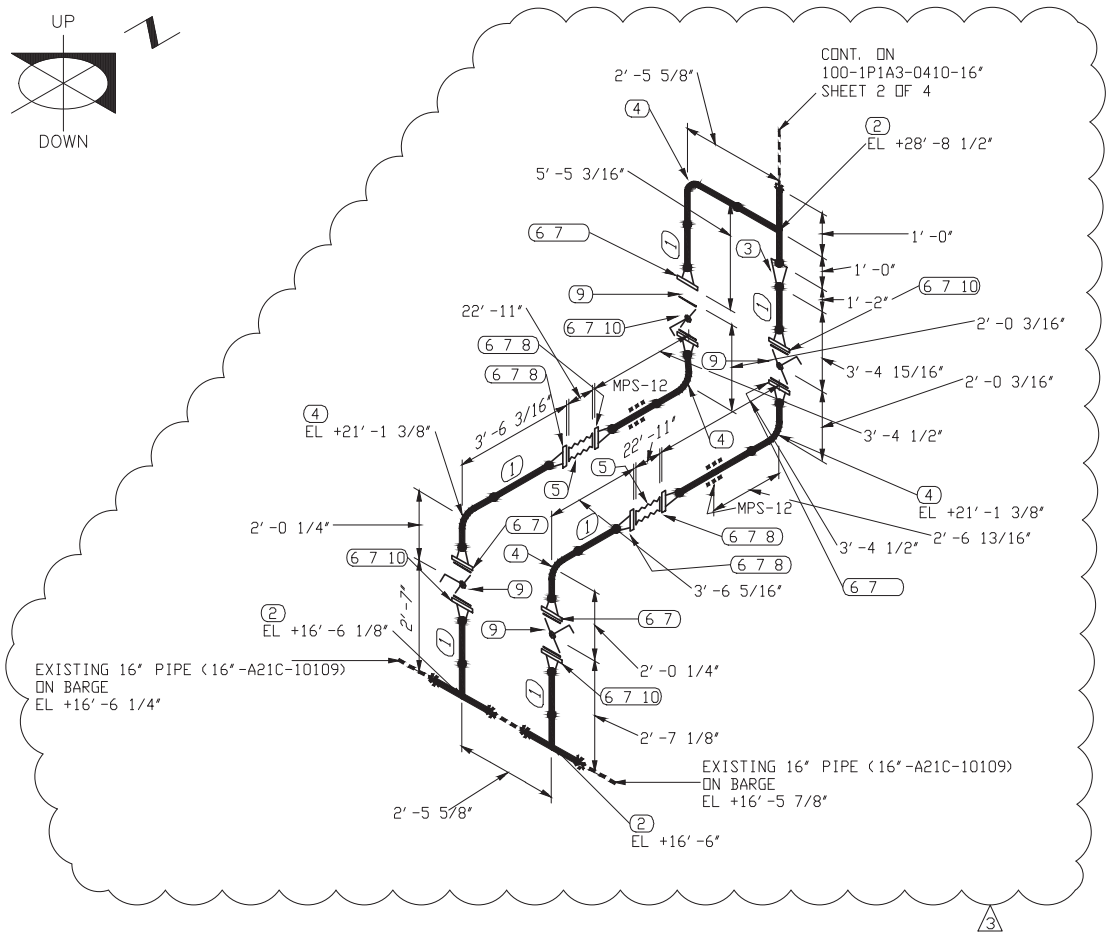
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100-1P1A3-0250-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	12	PIPE, STD BE. ASTM A53, GR. B - SMLS	15'0"
2	16X12	TEE, REDUCING S/STD, ASTM A-234 GR WPB	3
3	16X12	REDUCER, CONC S/STD, ASTM A-234 GR WPB	1
4	12	90 LR ELL, BW ASTM A-234 GR WPB, STD	5
5	12	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	2
6	12	FLG, 150# WN ASTM A105, SCHEDULE TO	12
7	12	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	12
8	7/8X4 3/4	(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	6
9	12	BUTTERFLY VALVE, 150# FLGD,	4
10	7/8X7 1/4	(12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	4

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

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STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/14/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: VAPOR	DESIGN	283	100
	REVISION: 3	OPERATING	-1	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 4

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVISED AS SHOWN	SP	11/17				
2	REVISED AS SHOWN	HA	10/17				
1	REVISED AS SHOWN	HA	09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

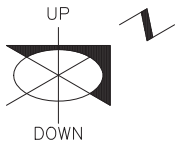
PORT CORPUS CHRISTI

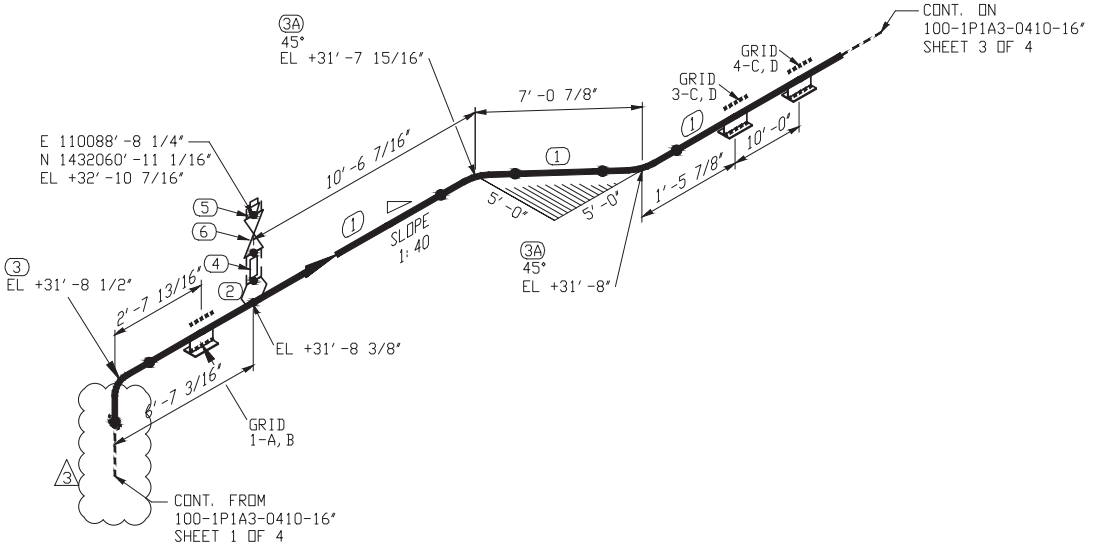
PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100-1P1A3-0410-16"

JOB NO. 1





BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS	59'-10" (3)
2	16X3/4	SOCKOLET, 3000# , ASTM A-105	1
3	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	1
3A	16	45 LR ELL, BW ASTM A-234 GR WPB, STD	2
4	3/4	ORIFICE NIPPLE, S. 160 PBE. ASTM A106, GR. B - SMLS (4" LG)	1
5	3/4	THRD PLUG	1
6	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/14/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: VAPOR	DESIGN	283	100
	REVISION: 3	OPERATING	-1	80
		HYDRO. TEST	428	

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CORPUS CHRISTI, TX 78410
PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 2 OF 4

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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3	REVISED AS SHOWN	SP	11/17				
2	REVISED AS SHOWN	HA	10/17				
1	REVISED AS SHOWN	HA	09/17				

REVISIONS

BOM No.

CAD FILE NO.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

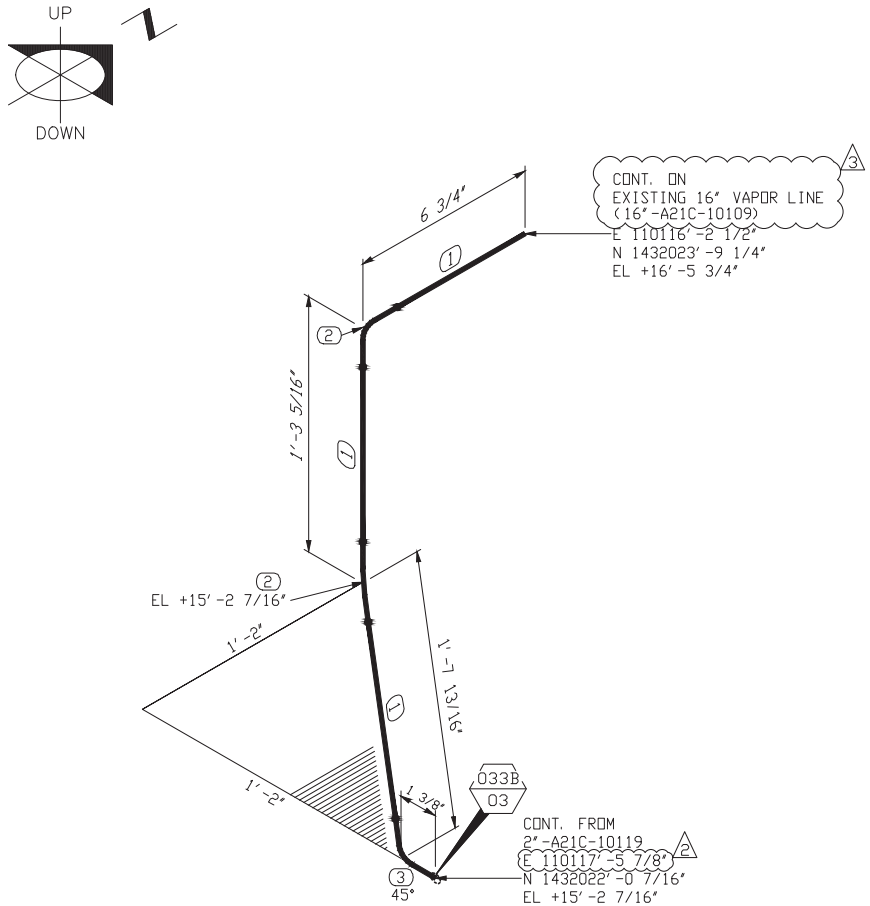
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100-1P1A3-0410-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	2	PIPE, S.80 BE ASTM A-106, GR. B-SMLS	2'5"
2	2	90 LR ELL, BW ASTM A-234 GR WPB, S.80	2
3	2	45 LR ELL, BW, ASTM A-234 GR WPB, S.80	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
11/14/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: VAPOR	DESIGN	283	100
	REVISION: 3	OPERATING	-1	80
		HYDRO. TEST	428	

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FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 4 OF 4

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■	■	
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVIEW AS SHOWN	SP	11/17				
2	REVIEW AS SHOWN	HA	10/17				
1	ADDENDUM #2	HA	09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	11/14/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

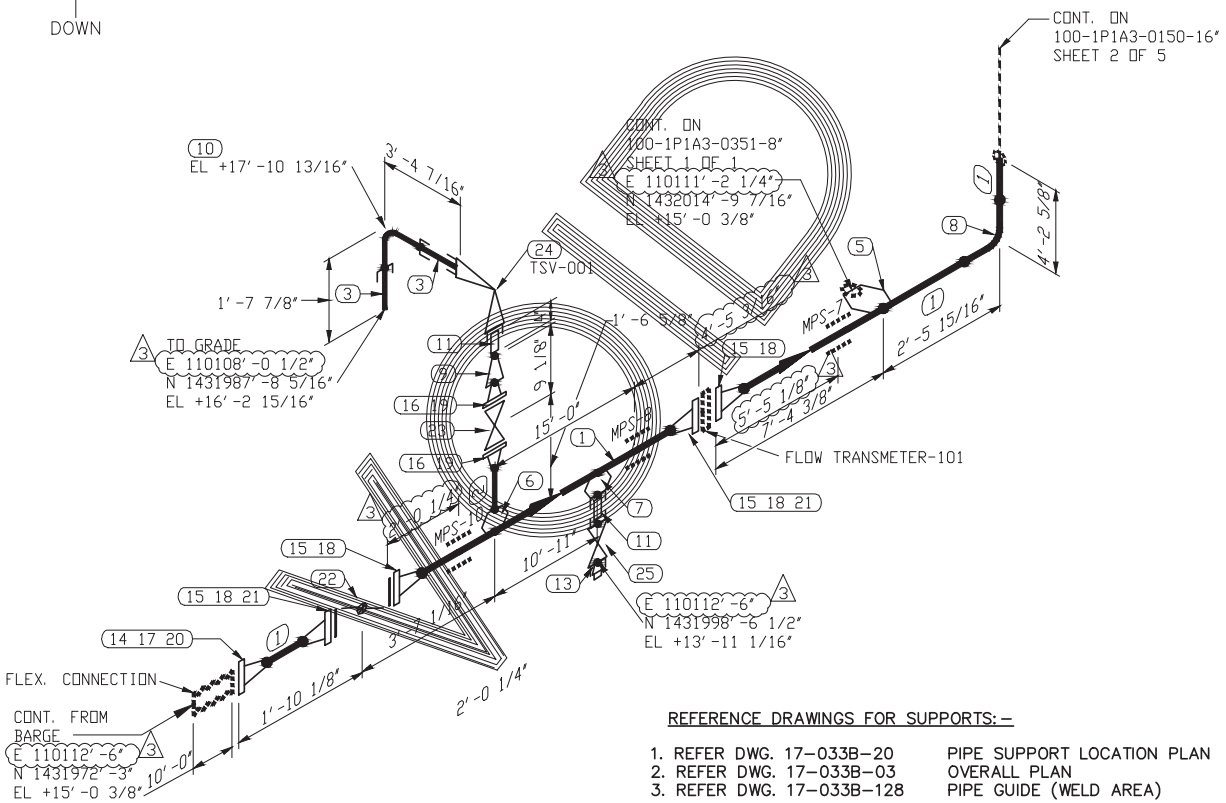
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 11/14/17
DWN. BY: HA		LINE NO. 100-1P1A3-0410-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS BBE	34' 2"
2	2	PIPE, S. 80 BE ASTM A-106, GR. B-SMLS BBE	0' 4"
3	1	PIPE, S. 80 PE. ASTM A-106 GR. B - SMLS PBE	4' 11"
5	16X8	WELDOLET, SCH STD, ASTM A-105	1
6	16X2	WELDOLET, SCH STD, ASTM A-105	1
7	16X3/4	SOCKOLET, 3000# , ASTM A-105	1
8	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	1
9	2X3/4	REDUCER, CONC S. 80, ASTM A-234 GR WPB	1
10	1	90 ELL, 3000# SW, ASTM A-105, S. 80	1
11	3/4	ORIFICE NIPPLE, S. 160 TBE. ASTM A106, GR. B - SMLS (4" LG)	2
13	3/4	THRD, PLUG	1
14	16	FLG, RFWN 150#STD BORE, ASTM A-105	1
15	16	FLG, 150# WN ASTM A105, STD	4
16	2	FLG, 150# WN ASTM A105, S. 80	2
17	16	GASKET, 1/8" THK, 150#	1
18	16	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	4
19	2	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
20	1X5 1/2	(16) STUD BOLTS W/ NUTS	1
21	1X5 1/2	(16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
22	16	BUTTERFLY VALVE, 150# FLGD,	1
23	2	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	1
24	1X3/4	RELIEF VALVE, 800# THRD	1
25	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS: -

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE: -

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS · BHASKAR H. PATEL · 63585 · REGISTERED · PROFESSIONAL ENGINEER
10/25/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

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PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE No.

DR.	HA	DATE	10/25/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

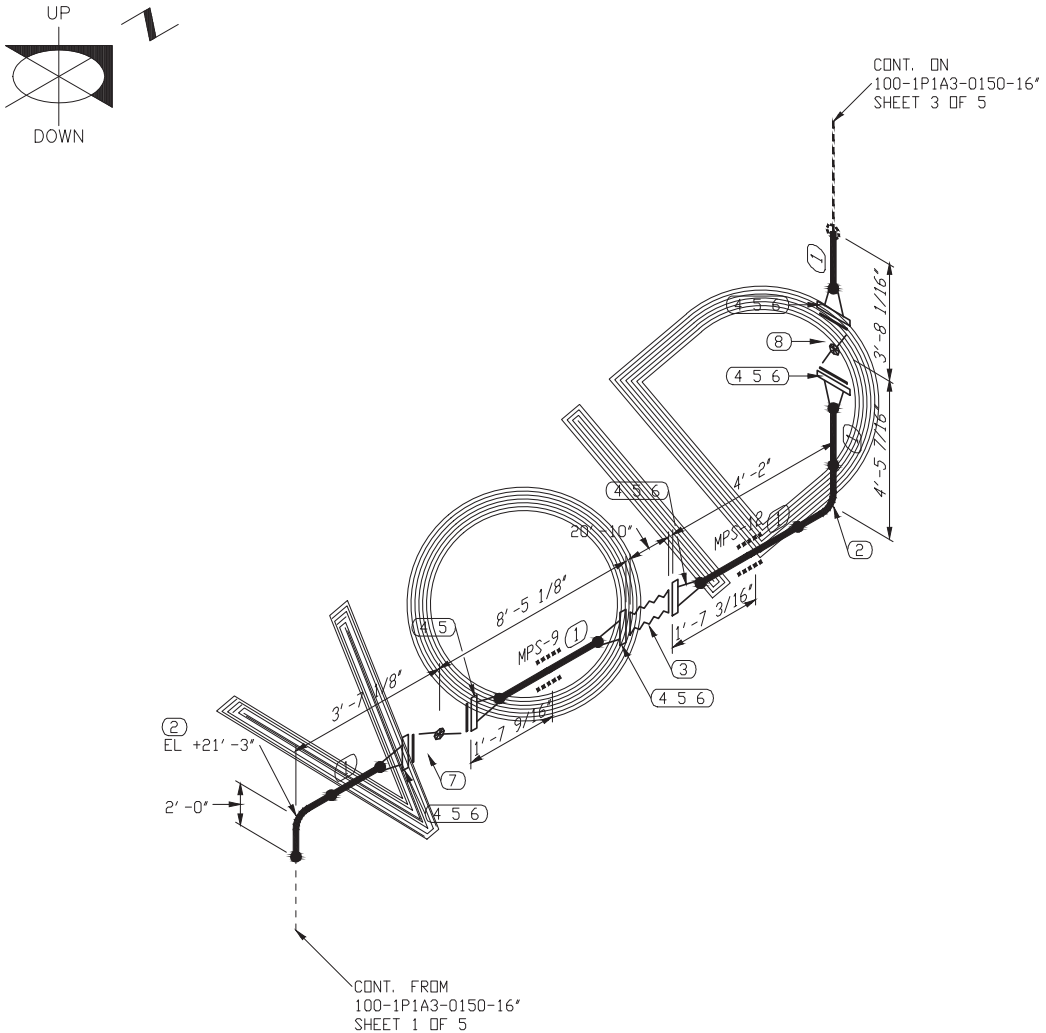
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0150-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS BBE	15'2"
2	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	2
3	16	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1
4	16	FLG, 150# WN ASTM A105, STD	6
5	16	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	6
6	1X5 1/2	(16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	5
7	16	BUTTERFLY VALVE, 150# FLGD, LUG BUNA-N GEAR OP CENTERLINE 200 OR EQ.	1
8	16	BUTTERFLY VALVE, 150# FLGD, (PNEUMATIC ACTUATED-AIR OPERATED): POSI SEAL #132	1

1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

BHASKAR H. PATEL 63585 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS
10/25/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

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9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 2 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE No.

DR.	HA	DATE	10/25/17
CHK.		DATE	
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OPER. APPR.		DATE	
MAINT. APPR.		DATE	

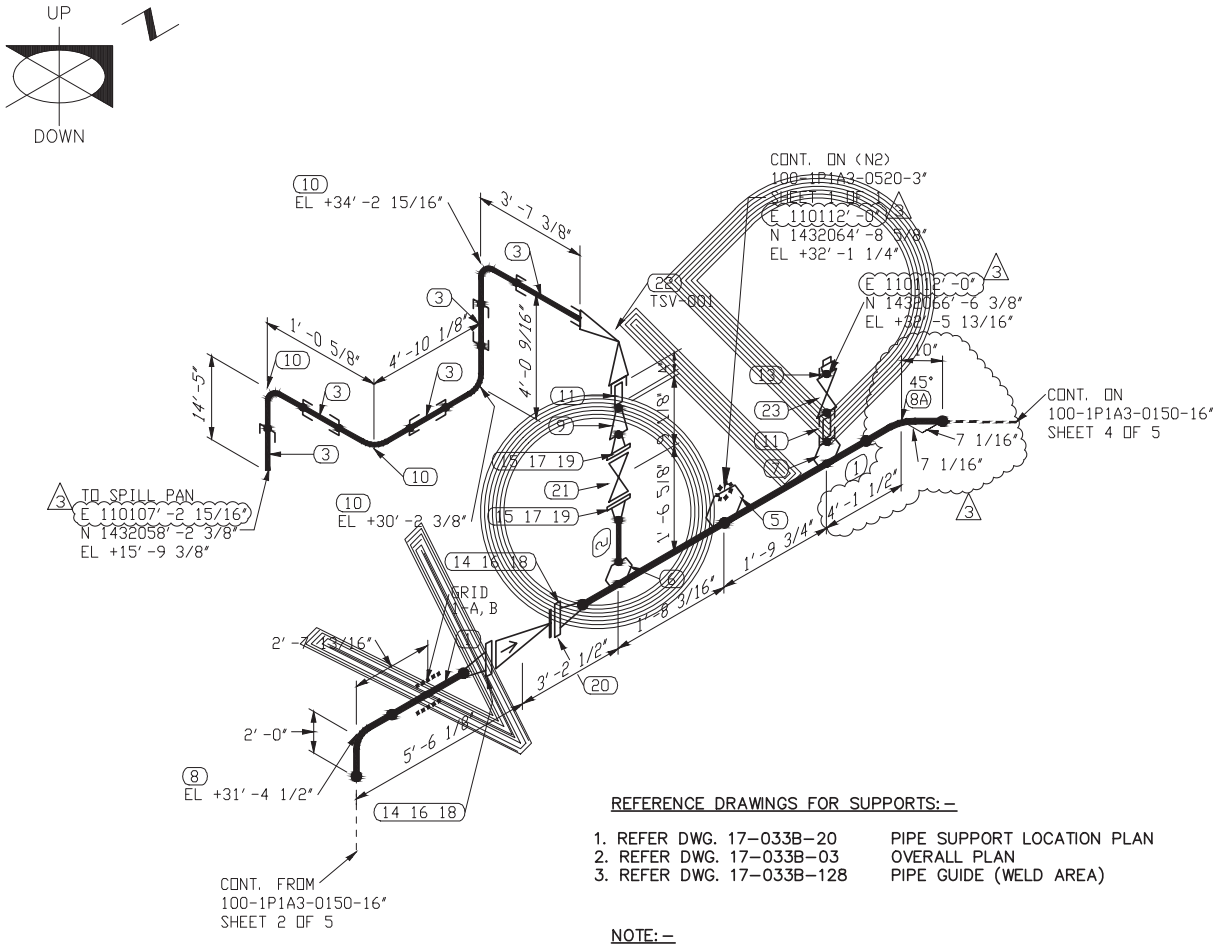
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0150-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
			3 (9' 0", 0' 4")
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS BBE	
2	2	PIPE, S. 80 BE ASTM A-106, GR. B-SMLS BBE	
3	1	PIPE, S. 80 PE. ASTM A-106 GR. B - SMLS PBE	27' 6"
5	16X3	WELDOLET, SCH STD, ASTM A-105	1
6	16X2	WELDOLET, SCH STD, ASTM A-105	1
7	16X3/4	SOCKOLET, 3000# , ASTM A-105	1
8	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	1
8A	16	45 LR ELL, BW ASTM A-234 GR WPB, STD	1
9	2X3/4	REDUCER, CONC S. 80, ASTM A-234 GR WPB	1
10	1	90 ELL, 3000# SW, ASTM A-105, S. 80	4
11	3/4	ORIFICE NIPPLE, S. 160 TBE. ASTM A106, GR. B - SMLS (4" LG)	2
13	3/4	THRD PLUG,	1
14	16	FLG, 150# WN ASTM A105, STD	2
15	2	FLG, 150# WN ASTM A105, S. 80	2
16	16	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
17	2	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
18	1X5 1/2	(16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
19	5/8X3 1/4	(4) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
20	16	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15SMF OR EQ.	1
21	2	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	1
22	1X3/4	RELIEF VALVE, 800LB THRD	1
23	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS: –

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE: –

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE
4. MANUFACTURER FOR SPILL PAN : NEW PIG OR EQ

BHASKAR H. PATEL 63585 REGISTERED PROFESSIONAL ENGINEER STATE OF TEXAS
10/25/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GASOLINE	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

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TBPE FIRM No.: F-10101

SHEET 3 OF 5

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE No.

DR.	HA	DATE	10/25/17
CHK.		DATE	
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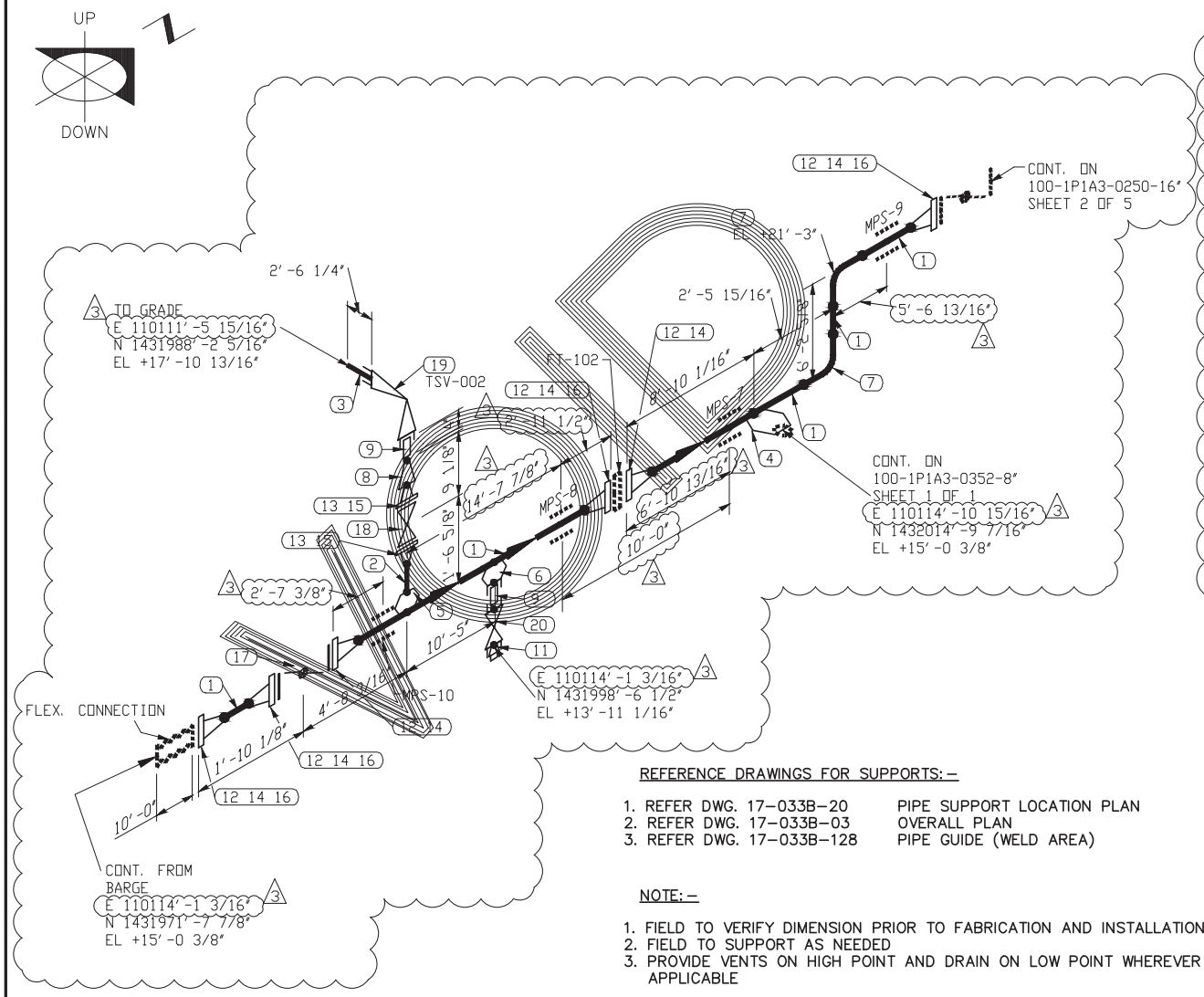
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0150-16"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS	40' 9"
2	2	PIPE, S. 80 BE ASTM A-106, GR. B-SMLS BBE	0' 4"
3	1	PIPE, S. 80 PE. ASTM A-106 GR. B - SMLS PBE	2' 7"
4	16X8	WELDOLET, SCH STD, ASTM A-105	1
5	16X2	WELDOLET, SCH STD, ASTM A-105	1
6	16X3/4	SOCKOLET, 3000# , ASTM A-105	1
7	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	2
8	2X3/4	REDUCER, CONC S. 80, ASTM A-234 GR WPB	1
9	3/4	ORIFICE NIPPLE, S. 160 TBE. ASTM A106, GR. B - SMLS (4" LG)	2
11	3/4	THRD PLUG	1
12	16	FLG, 150# WN ASTM A105, STD	6
13	2	FLG, 150# WN ASTM A105, S. 80	2
14	16	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	6
15	2	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
16	1X5 1/2	(16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	5
17	16	BUTTERFLY VALVE, 150# FLGD,	1
18	2	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	1
19	1X3/4	RELIEF VALVE, 800# THRD	1
20	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS: –

1. REFER DWG. 17–033B–20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17–033B–03 OVERALL PLAN
3. REFER DWG. 17–033B–128 PIPE GUIDE (WELD AREA)

NOTE: –

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/25/17

PCCA PROJ. 17–033B

AREA 100	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 5

SHOE/CRADLES		
QTY.	FIG. No.	REF. DWG.

	YES	NO	REMARKS
PAINT	■		
STEAM TRACE		■	
X-RAY	■		10%
INSULATION		■	
STRESS REL.		■	
STRESS CHK.		■	

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE No.

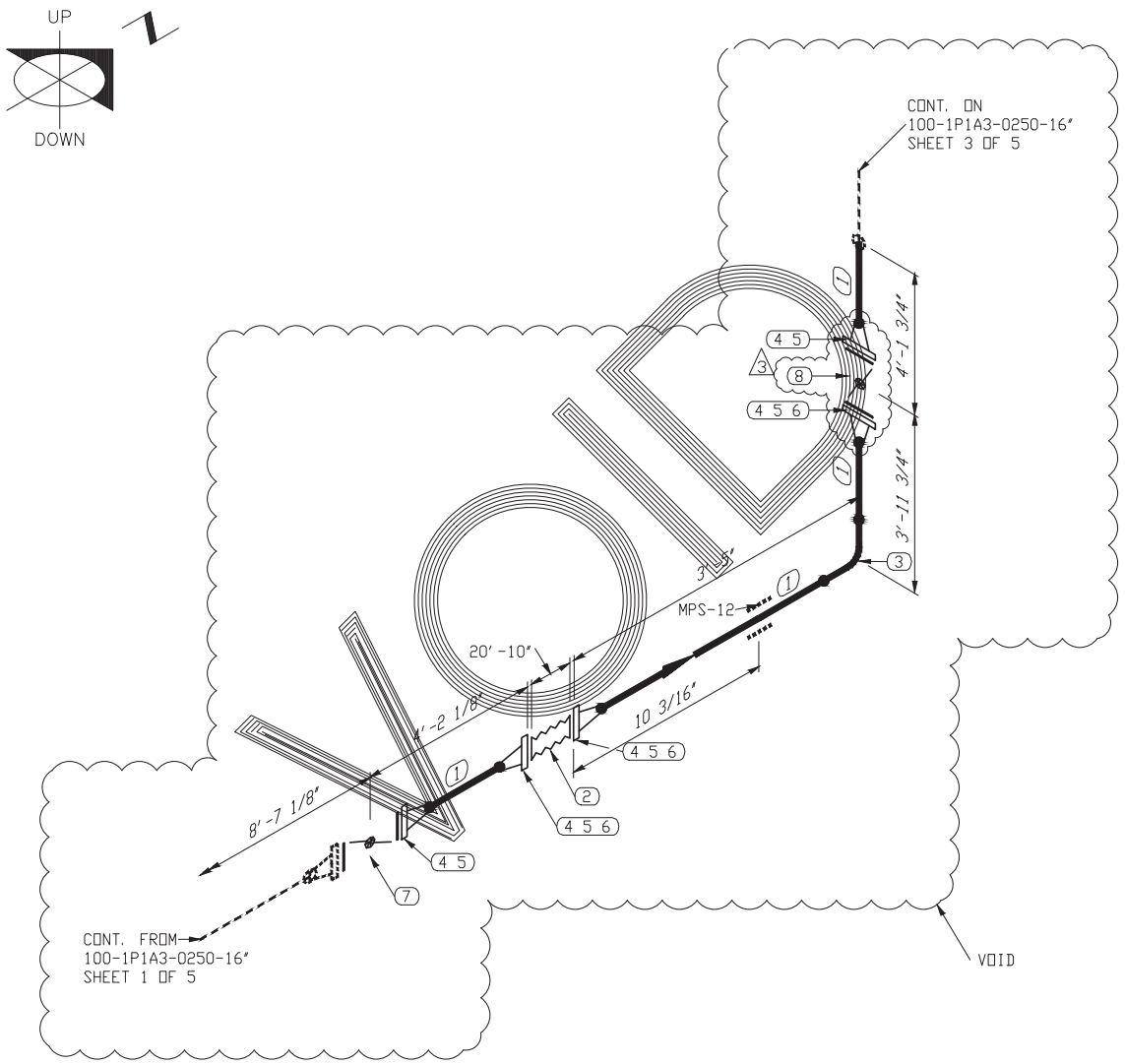
DR.	HA	DATE	10/25/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0250-16"



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS	9'2"
3	16	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1
3	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	1
4	16	FLG, 150# WN ASTM A105, STD	5
5	16	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	5
6	1X5 1/2	(16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	3
7	16	BUTTERFLY VALVE, 150# FLGD, LUG BUNA-N GEAR OP, CENTERLINE 200 OR EQ.	1
3 8	16	BUTTERFLY VALVE, 150# FLGD, (PNEUMATIC ACTUATED-AIR OPERATED): POSI SEAL #132	1

VOID

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/25/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 2 OF 5

SHOE/CRADLES		
QTY.	FIG. No.	REF. DWG.

	YES	NO	REMARKS
PAINT	■		
STEAM TRACE		■	
X-RAY	■		10%
INSULATION		■	
STRESS REL.		■	
STRESS CHK.		■	

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3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

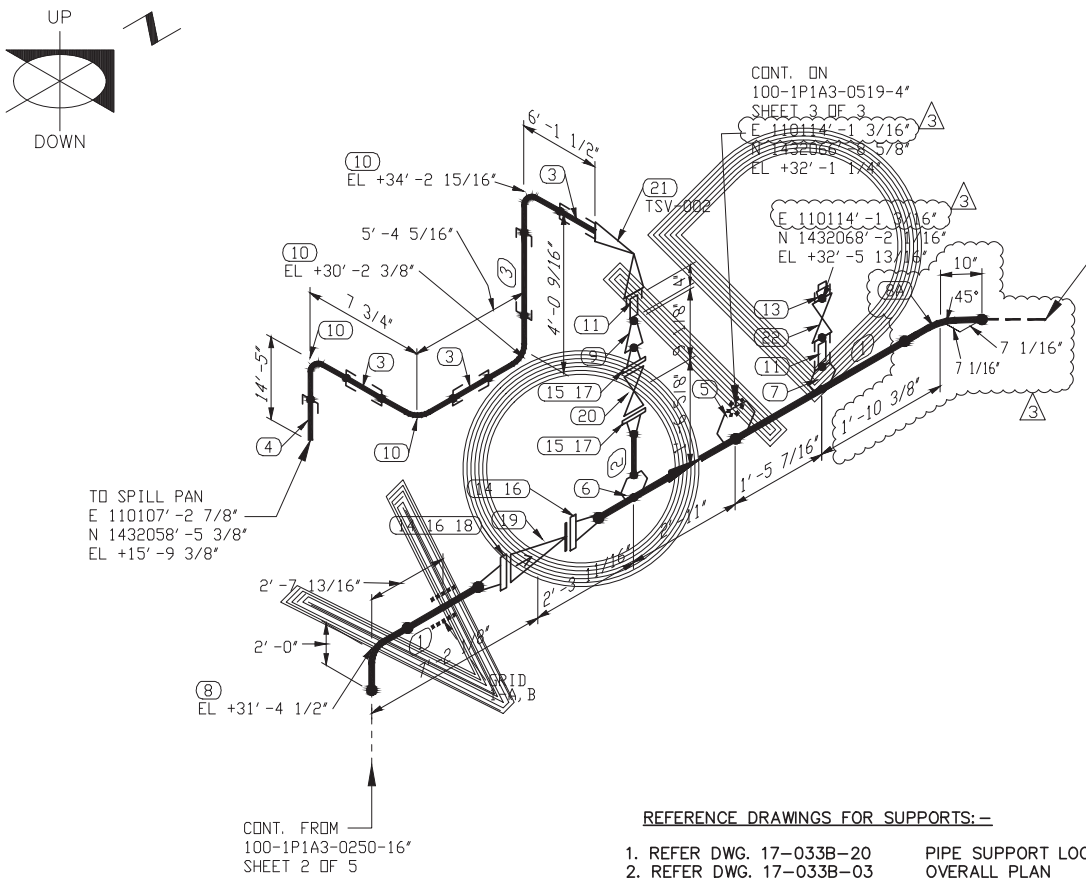
DR.	HA	DATE	10/25/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0250-16"



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS	10' 11"
2	2	PIPE, S. 80 BE ASTM A-106, GR. B-SMLS BBE	0' 4"
3	1	PIPE, S. 80 PE. ASTM A-106 GR. B - SMLS	30' 1"
5	16X3	WELDOLET, SCH STD, ASTM A-105	1
6	16X2	WELDOLET, SCH STD, ASTM A-105	1
7	16X3/4	SOCKOLET, 3000# , ASTM A-105	1
8	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	1
8A	16	45 LR ELL, BW ASTM A-234 GR WPB, STD	1
9	2X3/4	REDUCER, CONC S. 80, ASTM A-234 GR WPB	1
10	1	90 ELL, 3000# SW, ASTM A-105	4
11	3/4	ORIFICE NIPPLE, S. 160 TBE. ASTM A106, GR. B - SMLS (4" LG)	2
13	3/4	THRD PLUG	1
14	16	FLG, 150# WN ASTM A105, STD	2
15	2	FLG, 150# WN ASTM A105, S. 80	2
16	16	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
17	2	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
18	1X5 1/2	(16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
19	16	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15SMF OR EQ.	1
20	2	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	1
21	1X3/4	RELIEF VALVE, 800# THRD	1
22	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS: –

1. REFER DWG. 17–033B–20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17–033B–03 OVERALL PLAN
3. REFER DWG. 17–033B–128 PIPE GUIDE (WELD AREA)

NOTE: –

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE
4. MANUFACTURER FOR SPILL PAN : NEW PIG OR EQ

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/25/17

PCCA PROJ. 17–033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	80	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 3 OF 5

SHOE/CRADLES		
QTY.	FIG. No.	REF. DWG.

	YES	NO	REMARKS
PAINT	■		
STEAM TRACE		■	
X-RAY	■		10%
INSULATION		■	
STRESS REL.		■	
STRESS CHK.		■	

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
3	REVISED AS SHOWN	HA	10/17				
2	REVISED AS SHOWN	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

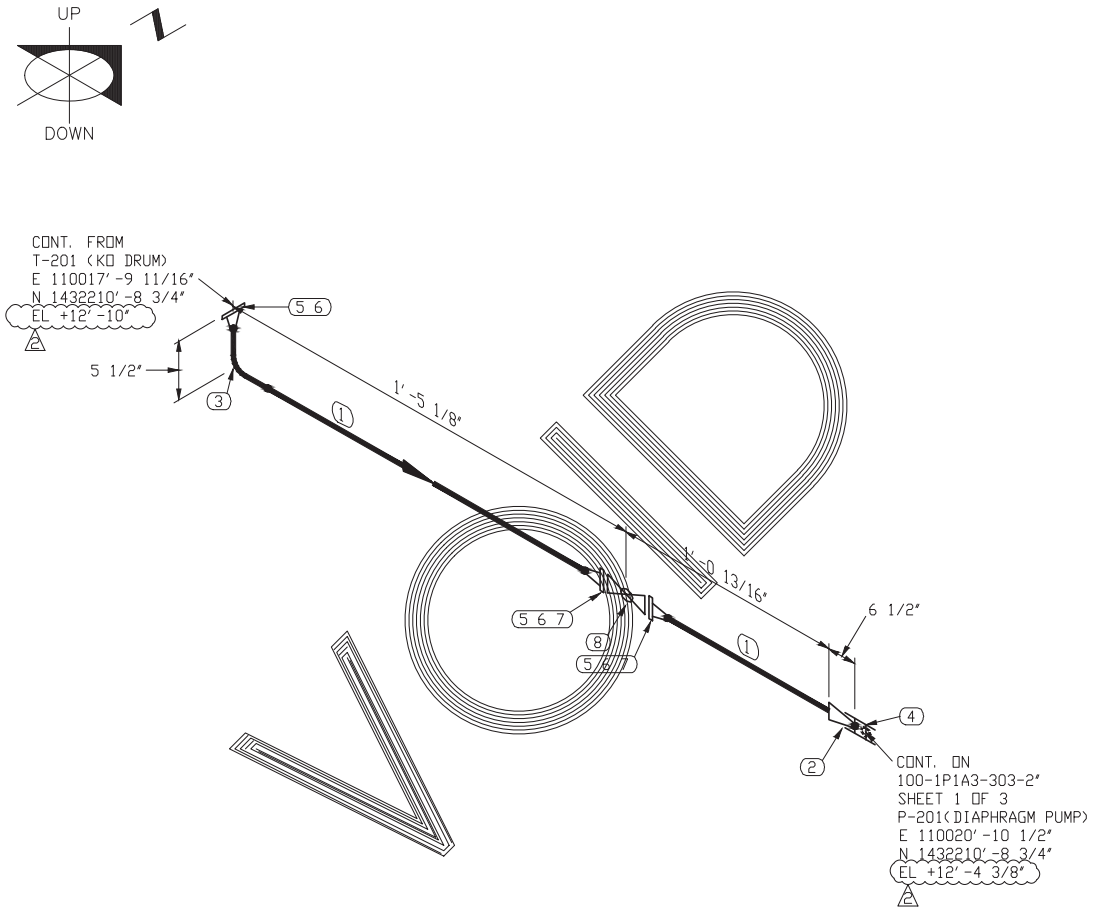
DR.	HA	DATE	10/25/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0250-16"



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	2	PIPE, S.80 BE ASTM A-106, GR. B-SMLS	1'3"
2	2X3/4	SWAGE, CONC. S/80, ASTM A-234 GR WPB PLE-PSE	1
3	2	90 LR ELL, BW ASTM A-234 GR WPB, S.80	1
4	3/4	CPLG, SW 3000# , ASTM A-105	1
5	2	FLG, 150# WN ASTM A105, S.80	3
6	2	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
7	5/8X3 1/4	(4) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
8	2	BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/05/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DRAIN	DESIGN	283	100
	REVISION: 2	OPERATING	-1	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	ISSUED FOR CONSTRUCTION	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/05/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

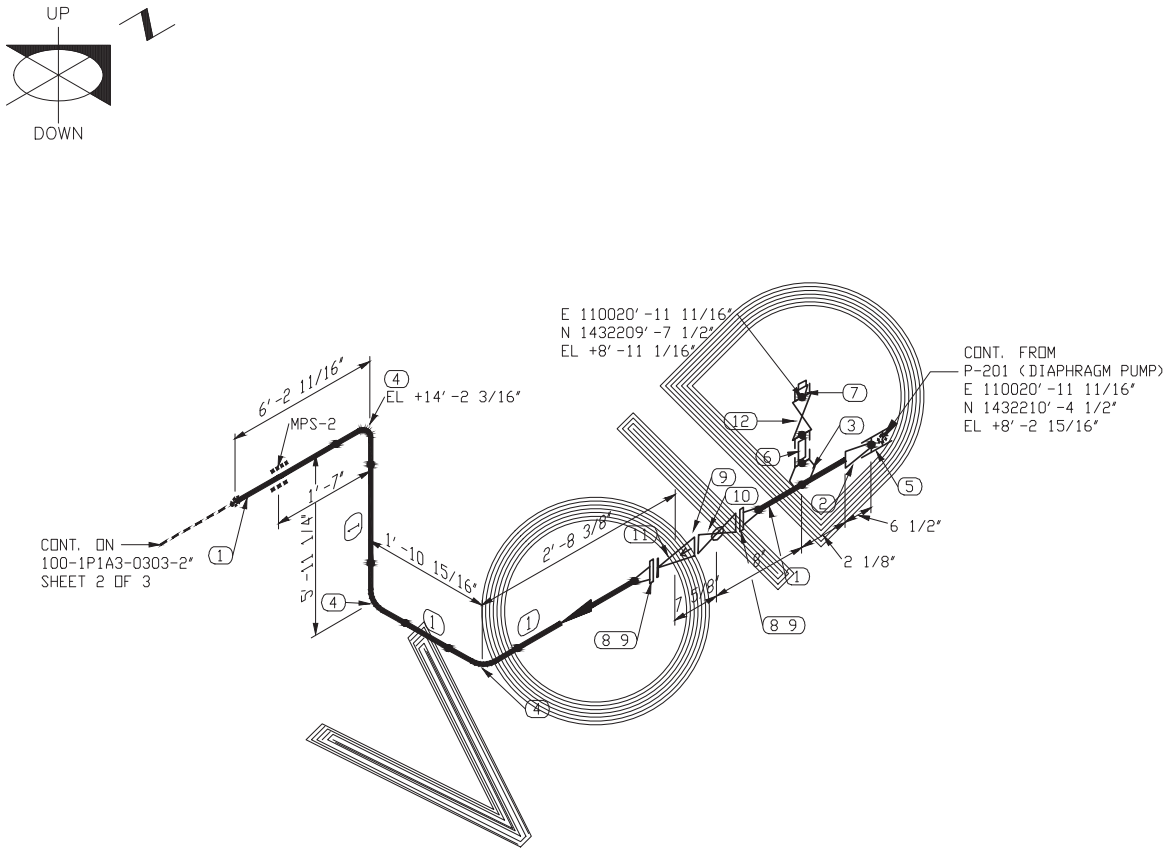
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/05/17
DWN. BY: HA		LINE NO. 100-1P1A3-0302-2"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	2	PIPE, S.80 BE ASTM A-106, GR. B-SMLS	15'1"
2	2X3/4	SWAGE, CONC. S.80, ASTM A-234 GR WPB PLE-PSE	1
3	2X3/4	SOCKOLET, 3000# , ASTM A-105	1
4	2	90 LR ELL, BW ASTM A-234 GR WPB, S.80	3
5	3/4	CPLG, SW 3000#, ASTM A-105	1
6	3/4	ORIFICE NIPPLE, S.160 TBE. ASTM A106, GR. B - SMLS (4" LG)	1
7	3/4	THRD PLUG	1
8	2	FLG, 150# WN ASTM A105, S.80	2
9	2	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
10	2	BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ.	1
11	2	CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEK G15SMF OR EQ.	1
12	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/05/17

PCCA PROJ. 17-033B

AREA 100	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
	SERVICE: DRAIN	DESIGN	283	100
	REVISION: 2	OPERATING	35	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 3

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	ISSUED FOR CONSTRUCTION	HA	10/17				
1	ADDEDNUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/05/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

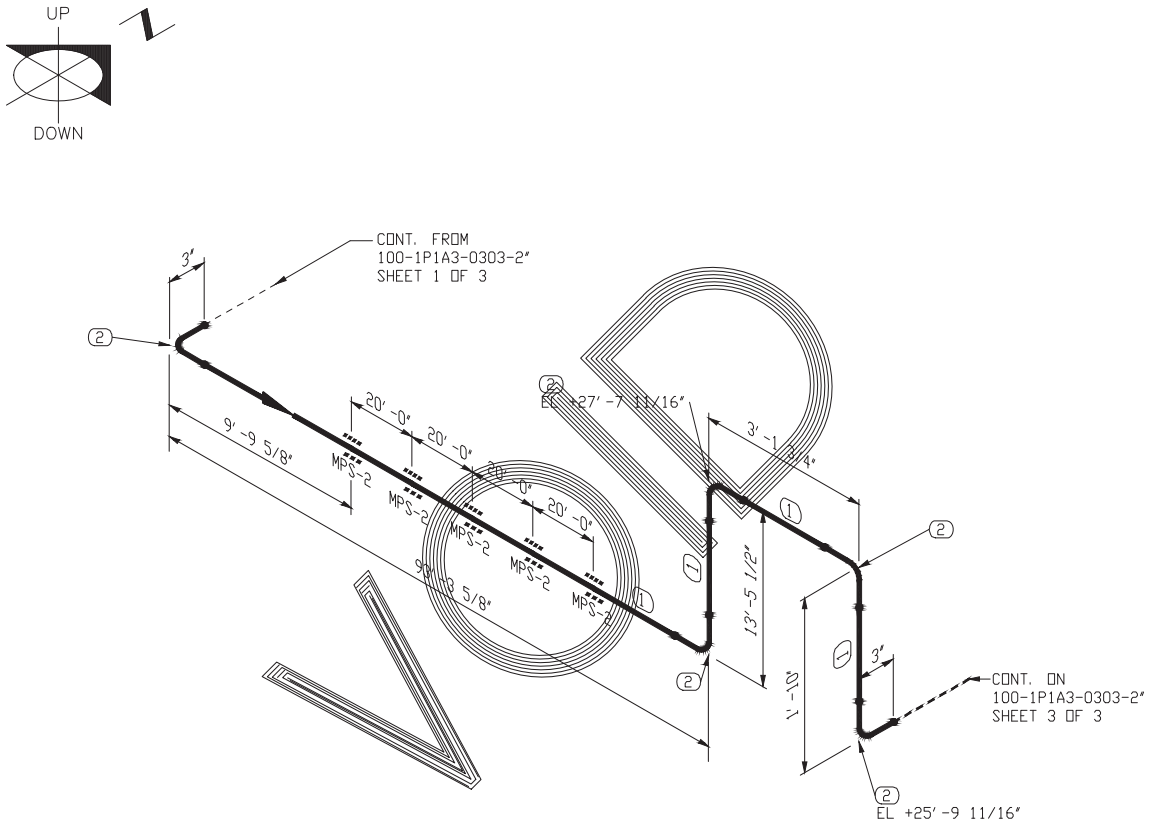
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/05/17
DWN. BY: HA		LINE NO. 100-1P1A3-0303-2"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	2	PIPE, S.80 BE ASTM A-106, GR. B-SMLS	109'9"
2	2	90 LR ELL, BW ASTM A-234 GR WPB, S.80	5

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
STATE OF TEXAS
10/05/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DRAIN	DESIGN	283	100
	REVISION: 2	OPERATING	35	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 2 OF 3

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	ISSUED FOR CONSTRUCTION	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/05/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

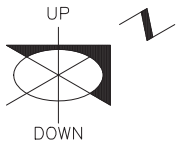
PORT CORPUS CHRISTI

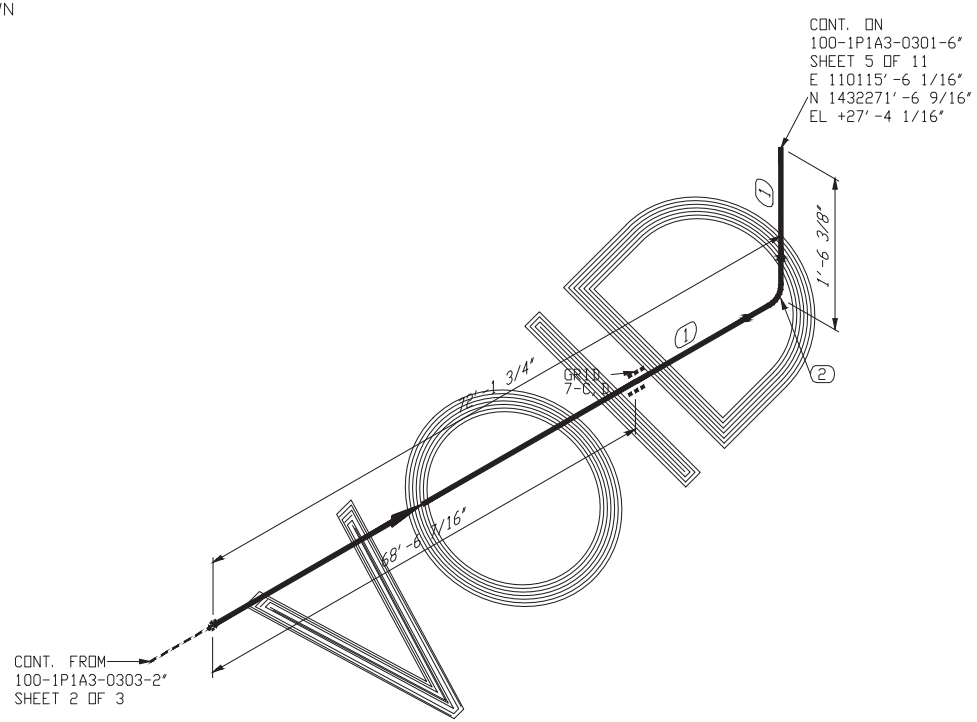
PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/05/17
DWN. BY: HA		LINE NO. 100-1P1A3-0303-2"

JOB NO. 17POC0139





BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	2	PIPE, S.80 BE ASTM A-106, GR. B-SMLS	73' 3"
2	2	90 LR ELL, BW ASTM A-234 GR WPB, S.80	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE



PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DRAIN	DESIGN	283	100
	REVISION: 2	OPERATING	35	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 3 OF 3

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■	■	
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	ISSUED FOR CONSTRUCTION	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/05/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

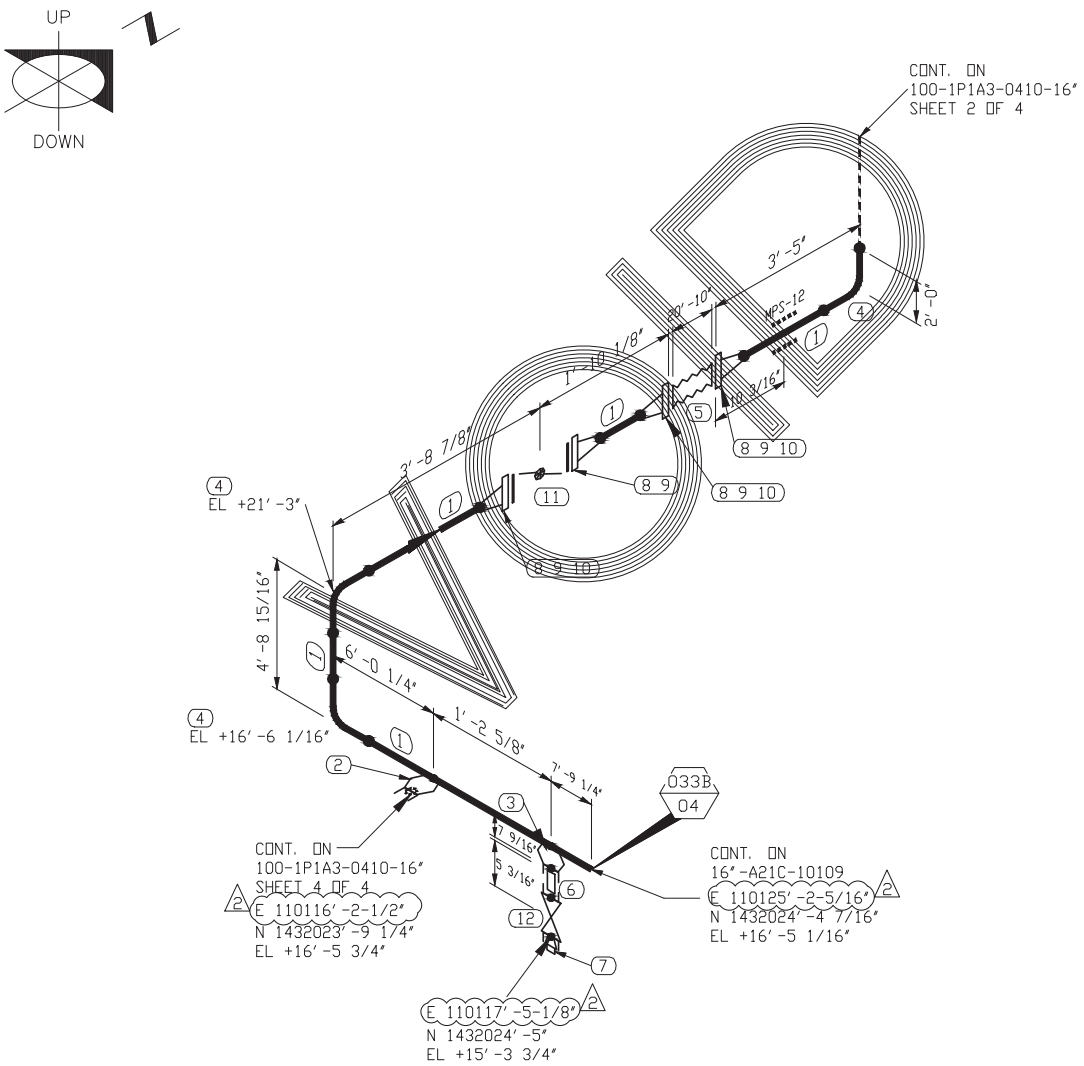
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/05/17
DWN. BY: HA		LINE NO. 100-1P1A3-0303-2"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	16	PIPE, STD BE. ASTM A53, GR. B - SMLS	16'9"
2	16X2	SOCKOLET, 3000#, ASTM A-105	1
3	16X3/4	SOCKOLET, 3000#, ASTM A-105	1
4	16	90 LR ELL, BW ASTM A-234 GR WPB, STD	3
5	16	FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	1
6	3/4	ORIFICE NIPPLE, S.160 PBE. ASTM A106, GR. B - SMLS (4" LG)	1
7	3/4	THRD PLUG	1
8	16	FLG, 150# WN ASTM A105, STD	4
9	16	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	4
10	1X5 1/2	(16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	3
11	16	BUTTERFLY VALVE, 150# FLGD,	1
12	3/4	GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/25/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: VAPOR	DESIGN	283	100
	REVISION: 1	OPERATING	-1	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 4

SHOE/CRADLES		
QTY.	FIG. No.	REF. DWG.

	YES	NO	REMARKS
PAINT	■		
STEAM TRACE		■	
X-RAY	■		10%
INSULATION		■	
STRESS REL.		■	
STRESS CHK.		■	

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REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	REVISED AS SHOWN	HA	10/17				
1	REVISED AS SHOWN	HA	09/17				

REVISIONS

BOM No.
CAD FILE NO.

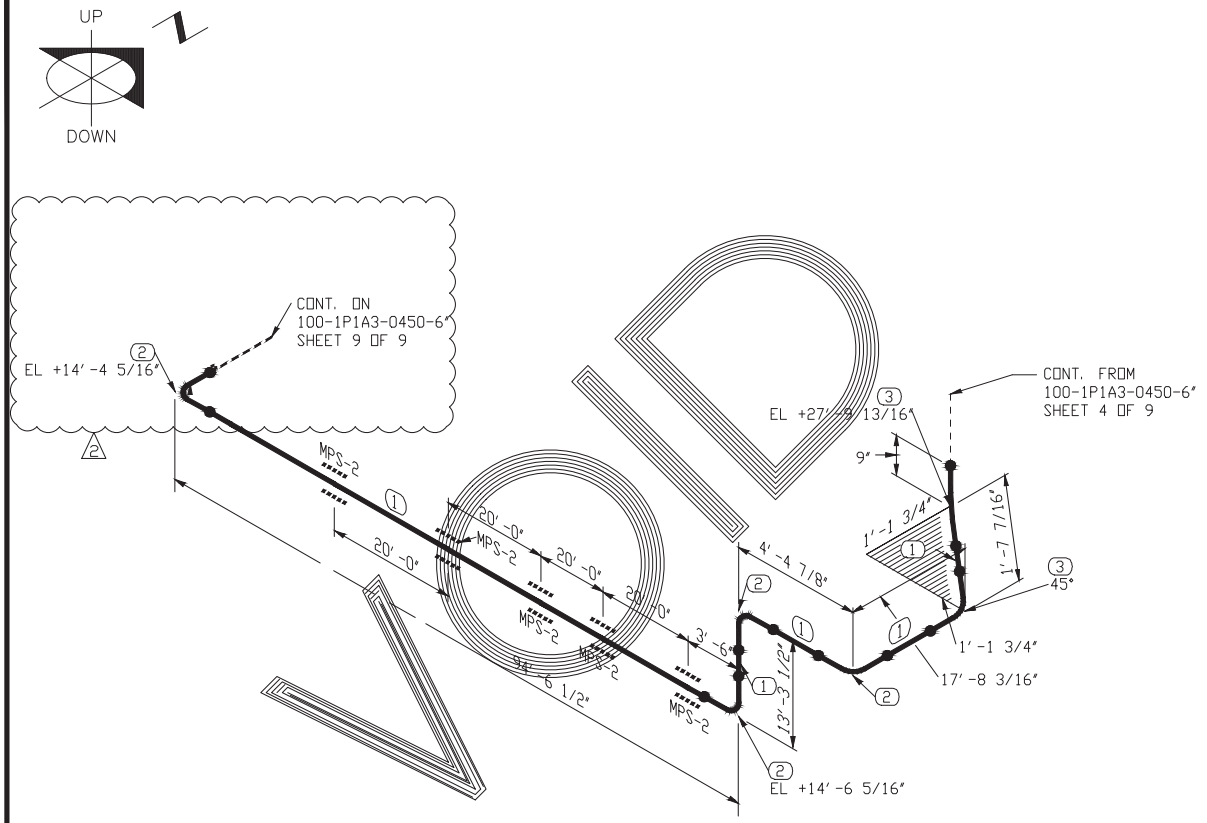
DR.	HA	DATE	10/25/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/25/17
DWN. BY: HA		LINE NO. 100-1P1A3-0410-16"



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	6	PIPE, S.40 BE ASTM A-106, GR. B-SMLS	122'8"
2	6	90 LR ELL, BW ASTM A-234 GR WPB, S.40	5
3	6	45 LR ELL, BW, ASTM A-234 GR WPB , S.40	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

1. FIELD TO VERIFY DIMENSION PRIOR TO FABRICATION AND INSTALLATION
2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/05/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	-1	80
		HYDRO. TEST	428	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
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PH. 361-241-8777
FAX 361-241-8200
TBPE FIRM No.: F-10101

SHEET 8 OF 9

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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REVISIONS								
REV	DESCRIPTION	BY	DATE	CHKD.	DATE	APPR.	DATE
2	ISSUED FOR CONSTRUCTION	HA	10/17				
1	ADDENDUM # 2		09/17				

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/05/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

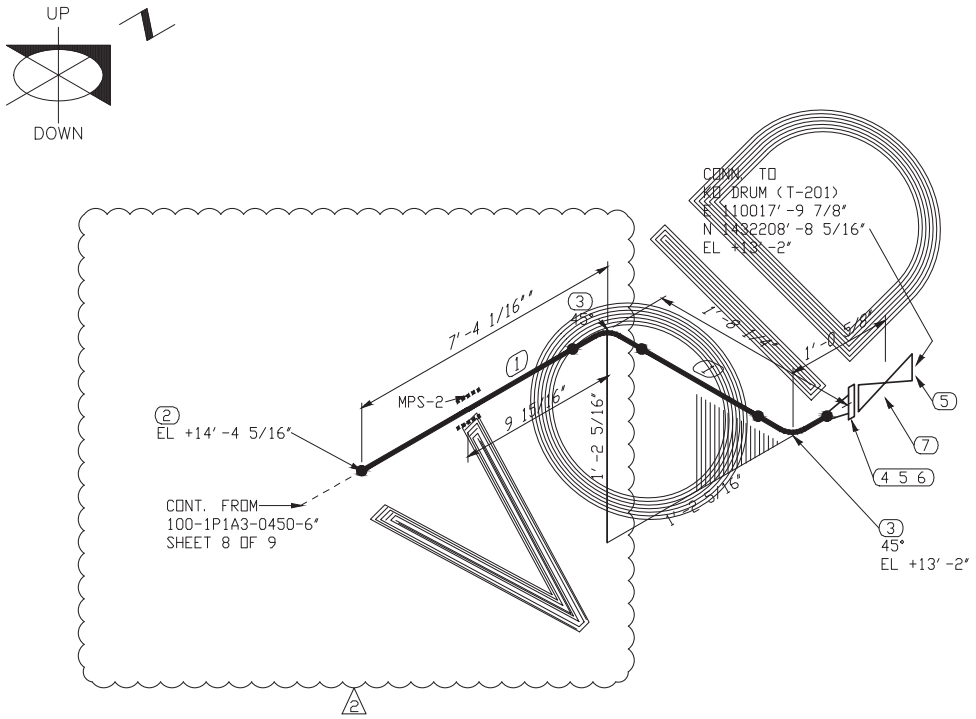
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/05/17
DWN. BY: HA		LINE NO. 100-1P1A3-0450-6"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	6	PIPE, S.40 BE. ASTM A53, GR.B - SMLS	2'0"
3	6	45 LR ELL, BW, ASTM A-234 GR WPB, S.40	2
4	6	FLG, 150# WN ASTM A105, S.40	1
5	6	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
6	3/4X4	(8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	1
7	6	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

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STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/05/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: DIESEL	DESIGN	283	105
	REVISION: 2	OPERATING	-1	80
		HYDRO. TEST	428	

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PH. 361-241-8777
FAX 361-241-8200
TBPE FIRM No.: F-10101

SHEET 9 OF 9

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■		
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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2	ISSUED FOR CONSTRUCTION	HA	10/17				
1	ADDENDUM # 2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/05/17
CHK.		DATE	
MECH. APPR.		DATE	
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OPER. APPR.		DATE	
MAINT. APPR.		DATE	

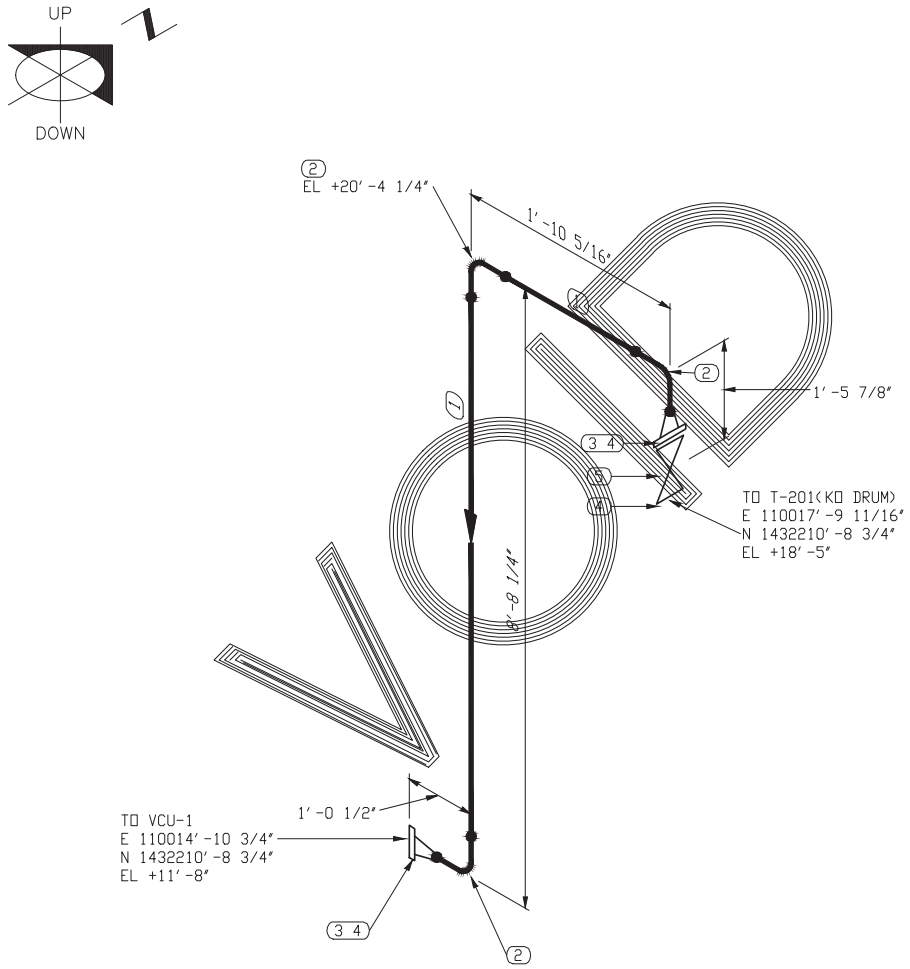
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/05/17
DWN. BY: HA		LINE NO. 100-1P1A3-0450-6"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	6	PIPE, S. 40 BE. ASTM A53, GR. B - SMLS	7' 7"
2	6	90 LR ELL, BW ASTM A-234 GR WPB, S. 40	3
3	6	FLG, 150# WN ASTM A105, S. 40	2
4	6	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	3
5	6	GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

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STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/05/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: VAPOR	DESIGN	283	100
	REVISION: 2	OPERATING	-1	80
		HYDRO. TEST	428	

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9510 LEOPARD ST.
CORPUS CHRISTI, TX 78410
PH. 361-241-2777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT	■	■	
			STEAM TRACE		■	
			X-RAY	■		10%
			INSULATION		■	
			STRESS REL.		■	
			STRESS CHK.		■	

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REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/05/17
CHK.		DATE	
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OPER. APPR.		DATE	
MAINT. APPR.		DATE	

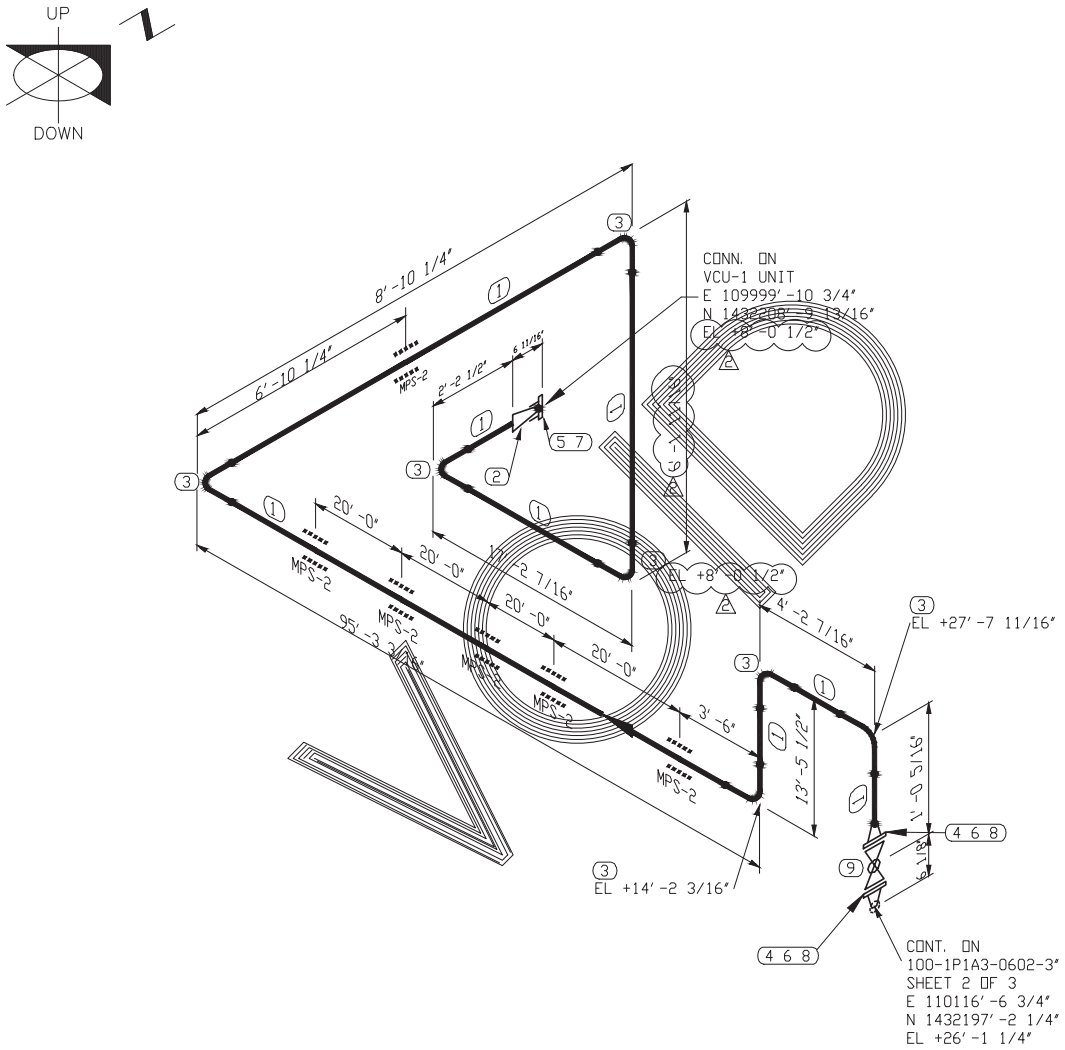
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/05/17
DWN. BY: HA		LINE NO. 100-1P1A3-0451-6"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	2	PIPE, S. 80 BE ASTM A-106, GR. B-SMLS	139'6"
2	2X1	SWAGE, CONC. S. 80, ASTM A-234 GR WPB PLE-PSE	1
3	2	90 LR ELL, BW ASTM A-234 GR WPB, S. 80	7
4	2	FLG, 150# WN ASTM A105, S. 80	2
5	1	FLG, 150# SW ASTM A105, S. 80	1
6	2	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	2
7	1	GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	1
8	5/8X3 1/4	(4) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	2
9	2	BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ.	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

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2. FIELD TO SUPPORT AS NEEDED
3. PROVIDE VENTS ON HIGH POINT AND DRAIN ON LOW POINT WHEREVER APPLICABLE

STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/05/17

PCCA PROJ. 17-033B

AREA	SPEC: 1P1A3	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: GAS	DESIGN	283	105
	REVISION: 2	OPERATING	150	80
		HYDRO. TEST	428	

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9510 LEOPARD ST.
CORPUS CHRISTI, TX. 78410
PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			
		REV-1, IFC				

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2	ISSUED FOR CONSTRUCTION	HA	10/17				
1	ADDENDUM #2		09/17				

REVISIONS

BOM No.
CAD FILE NO.

DR.	HA	DATE	10/05/17
CHK.		DATE	
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OPER. APPR.		DATE	
MAINT. APPR.		DATE	

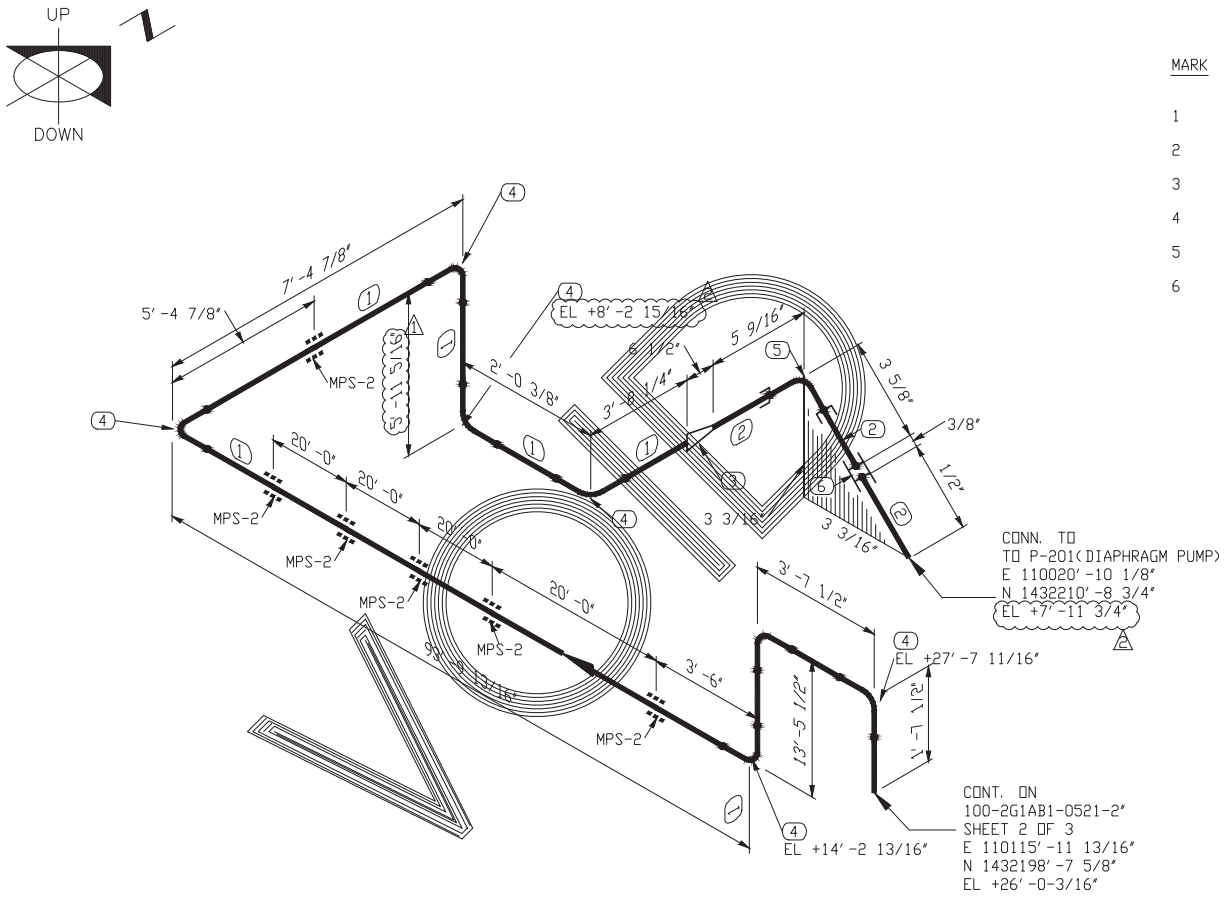
PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/05/17
DWN. BY: HA		LINE NO. 100-2G1AB1-0601-2"

JOB NO. 17POC0139



BILL OF MATERIAL

MARK	SIZE	DESCRIPTION	QTY
1	2	PIPE, S. 80 T&C ASTM A53, GR. B - SMLS, HOT DIPPED GALVANIZED AFTER FABRICATION	126' 0"
2	3/4	PIPE, S. 80 T&C ASTM A53, GR. B - SMLS, HOT DIPPED GALVANIZED AFTER FABRICATION	0' 9"
3	2X3/4	SWAGE, REDUCER, 3000# THRD CONC ASTM A-105 ZINC METALIZED COATED	1
4	2	90 LR ELL, 3000# THRD ASTM A105, ZINC METALIZED COATED	7
5	3/4	90 LR ELL, 3000# THRD ASTM A105, ZINC METALIZED COATED	1
6	3/4	CPLG, THRD 3000#, ASTM A-105 ZINC METALIZED COATED	1

REFERENCE DRAWINGS FOR SUPPORTS:-

1. REFER DWG. 17-033B-20 PIPE SUPPORT LOCATION PLAN
2. REFER DWG. 17-033B-03 OVERALL PLAN
3. REFER DWG. 17-033B-128 PIPE GUIDE (WELD AREA)

NOTE:-

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STATE OF TEXAS
BHASKAR H. PATEL
63585
REGISTERED
PROFESSIONAL ENGINEER
10/05/17

PCCA PROJ. 17-033B

AREA	SPEC: 2G1AB1	CONDITION	PRESS.(PSIG)	TEMP. (°F)
100	SERVICE: AIR	DESIGN	200	105
	REVISION: 2	OPERATING	150	80
		HYDRO. TEST	225	

GOVIND DEVELOPMENT, LLC
9510 LEOPARD ST.
CORPUS CHRISTI, TX. 78410
PH. 361-241-8777
FAX 361-241-2200
TBPE FIRM No.: F-10101

SHEET 1 OF 1

SHOE/CRADLES				YES	NO	REMARKS
QTY.	FIG. No.	REF. DWG.	PAINT			
			STEAM TRACE			
			X-RAY			10%
			INSULATION			
			STRESS REL.			
			STRESS CHK.			

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1	ADDENDUM #2		09/17				

REVISIONS

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CAD FILE NO.

DR.	HA	DATE	10/05/17
CHK.		DATE	
MECH. APPR.		DATE	
PROC. APPR.		DATE	
OPER. APPR.		DATE	
MAINT. APPR.		DATE	

PORT CORPUS CHRISTI

PORT OF CORPUS CHRISTI AUTHORITY

BULK LIQUID HANDLING FACILITY AT BULK DOCK 3 PIPING & MECHANICAL

SCALE: NTS	ISOMETRICS	DATE: 10/05/17
DWN. BY: HA		LINE NO. 100-2G1AB1-0606-2"

JOB NO. 17POC0139

Exhibit D

Drawing No.	Rev. Date	Description	UofM	Qty Added	Qty Deleted	Notes	Unit Price	Added	Deleted	
101	10/18/2017	4x1 Sockolet #3000	Ea	1			$761.25	$761.25	$0.00	
102	10/18/2017	4x1 Sockolet #3000	Ea	1			$761.25	$761.25	$0.00	
103	10/18/2017	4x1 Sockolet #3000	Ea	1			$761.25	$761.25	$0.00	Branch lines
104	10/18/2017	4x1 Sockolet #3000	Ea	1			$761.25	$761.25	$0.00	100's Rail-loadout Gasoline
105	10/18/2017	4x1 Sockolet #3000	Ea	1			$761.25	$761.25	$0.00	
106	10/18/2017	4x1 Sockolet #3000	Ea	1			$761.25	$761.25	$0.00	
107	10/18/2017	4x1 Sockolet #3000	Ea	1			$761.25	$761.25	$0.00	
108	10/18/2017	4x1 Sockolet #3000	Ea	1			$761.25	$761.25	$0.00	
109	10/18/2017	4x1 Sockolet #3000	Ea	1			$761.25	$761.25	$0.00	
201	10/18/2017	4x1 Sockolet #3000	Ea	1	0.00		$761.25	$761.25	$0.00	
202	10/18/2017	4x1 Sockolet #3000	Ea	1	0.00		$761.25	$761.25	$0.00	
203	10/18/2017	4x1 Sockolet #3000	Ea	1	0.00		$761.25	$761.25	$0.00	
204	10/18/2017	4x1 Sockolet #3001	Ea	1	0.00		$761.25	$761.25	$0.00	Branch lines
205	10/18/2017	4x1 Sockolet #3000	Ea	1	0.00		$761.25	$761.25	$0.00	200's Rail-loadout Diesel
206	10/18/2017	4x1 Sockolet #3000	Ea	1	0.00		$761.25	$761.25	$0.00	
207	10/18/2017	4x1 Sockolet #3000	Ea	1	0.00		$761.25	$761.25	$0.00	
208	10/18/2017	4x1 Sockolet #3000	Ea	1	0.00		$761.25	$761.25	$0.00	
209	10/18/2017	4x1 Sockolet #3000	Ea	1	0.00		$761.25	$761.25	$0.00	
210	10/18/2017	12" Std Pipe	LF		(19.00)		$241.63	$0.00	-$4,590.97	
351	10/25/2017	1" 90 Ell 3000#	Ea	3	0.00	Per P&ID & Meeting with Govind ISO Spool Added	172.02	$516.06	$0.00	
351	10/25/2017	1" Gate Valve 800#	Ea	1	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$492.91	$492.91	$0.00	
351	10/25/2017	1" Orifice Nipple, Sch 160 - 4" LG	Ea	1	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$107.24	$107.24	$0.00	
351	10/25/2017	1" Sch. 80 Pipe	LF	1.42	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$58.73	$83.40	$0.00	
351	10/25/2017	1" Sch. 80 Pipe	LF	17.17	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$58.73	$1,008.39	$0.00	
351	10/25/2017	1x3/4 Relief Valve #800 thrd	Ea	1	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$553.50	$553.50	$0.00	Barge
351	10/25/2017	1x3/4 Swage, Conc Sch 80	Ea	1	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$214.13	$214.13	$0.00	351's Rail-loadout Gasoline Spillback
351	10/25/2017	3/4x4 1/4 (8) Alloy Steel Studs	Ea	7	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$27.29	$191.03	$0.00	
351	10/25/2017	8" 90 LR Ell Sch 40	Ea	1	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$593.01	$593.01	$0.00	
351	10/25/2017	8" Control Valve, 150# Flg	Ea	1	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$0.00	$0.00	$0.00	
351	10/25/2017	8" Flexible Hose Connection	Ea	1	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$6,712.35	$6,712.35	$0.00	
351	10/25/2017	8" Flg, 150# Sch 40	Ea	7	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$897.23	$6,280.61	$0.00	
351	10/25/2017	8" Gasket 1/8" Thick	Ea	7	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$27.43	$192.01	$0.00	
351	10/25/2017	8" Gate Valve 150# Flgd	Ea	2	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$2,671.65	$5,343.30	$0.00	
351	10/25/2017	8x1 Sockolet 3000#	Ea	1	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$862.50	$862.50	$0.00	
352	10/25/2017	1" 90 Ell 3000#	Ea	3	0.00	Per P&ID & Meeting with Govind ISO Spool Added	172.02	$516.06	$0.00	
352	10/25/2017	1" Gate Valve 800#	Ea	1	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$492.91	$492.91	$0.00	
352	10/25/2017	1" Orifice Nipple, Sch 160 - 4" LG	Ea	1	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$107.24	$107.24	$0.00	
352	10/25/2017	1" Sch. 80 Pipe	LF	8.17	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$58.73	$479.82	$0.00	
352	10/25/2017	1" Sch. 80 Pipe	LF	17.17	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$58.73	$1,008.39	$0.00	
352	10/25/2017	1x3/4 Relief Valve #800 thrd	Ea	1	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$553.50	$553.50	$0.00	
352	10/25/2017	1x3/4 Swage, Conc Sch 80	Ea	1	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$214.13	$214.13	$0.00	Barge
352	10/25/2017	3/4x4 1/4 (8) Alloy Steel Studs	Ea	7	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$27.29	$191.03	$0.00	352's Rail load-out Spill Back Desiel
352	10/25/2017	8" 90 LR Ell Sch 40	Ea	1	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$593.01	$593.01	$0.00	
352	10/25/2017	8" Control Valve, 150# Flg	Ea	1	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$0.00	$0.00	$0.00	
352	10/25/2017	8" Flexible Hose Connection	Ea	1	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$6,712.35	$6,712.35	$0.00	
352	10/25/2017	8" Flg, 150# Sch 40	Ea	7	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$897.23	$6,280.61	$0.00	
352	10/25/2017	8" Gasket 1/8" Thick	Ea	7	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$27.43	$192.01	$0.00	
352	10/25/2017	8" Gate Valve 150# Flgd	Ea	2	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$2,671.65	$5,343.30	$0.00	
352	10/25/2017	8x1 Sockolet 3000#	Ea	1	0.00	Per P&ID & Meeting with Govind ISO Spool Added	$862.50	$862.50	$0.00	
110 (1 of 3)	10/25/2017	12" Butterfly Valve Gear Driven	Ea	1	0.00		$1,999.80	$1,999.80	$0.00	Barge
110 (1 of 3)	10/25/2017	12" Butterfly Valve Pneumatic	Ea	0	(1.00)		$5,234.63	$0.00	-$5,234.63	110's Howard Energy Gasoline
110 (2 of 3)	10/25/2017	12" Butterfly Valve Gear Driven	Ea	1	0.00		$1,999.80	$1,999.80	$0.00	
110 (2 of 3)	10/25/2017	12" Butterfly Valve Pneumatic	Ea	0	(1.00)		$5,234.63	$0.00	-$5,234.63	
150 (1 of 5)	10/25/2017	1" 90 Ell 3000# Sch. 80	Ea	1			172.02	$172.02	$0.00	
150 (1 of 5)	10/25/2017	1" Sch. 80 Pipe	LF		(1.33)		$58.73	$0.00	-$78.11	
150 (1 of 5)	10/25/2017	16" Butterfly Valve 150# Flg Pneaumatic	Ea	0	(2.00)		$5,513.00	$0.00	-$11,026.00	
150 (1 of 5)	10/25/2017	16" Flexible Hose Connection	Ea		(1.00)		$0.00	$0.00	$0.00	
150 (1 of 5)	10/25/2017	16" Flg 150# WN Std	Ea		(4.00)		$1,937.25	$0.00	-$7,749.00	
150 (1 of 5)	10/25/2017	16" Gasket 1/8" Thk	Ea		(4.00)		$25.31	$0.00	-$101.24	
150 (1 of 5)	10/25/2017	16x2 Weldolet Std	Ea	1			$2,798.01	$2,798.01	$0.00	
150 (1 of 5)	10/25/2017	16x3/4 Sockolet 3000#	Ea		(1.00)		$1,598.00	$0.00	-$1,598.00	
150 (1 of 5)	10/25/2017	16x8 Weldolet Std	Ea	1			$3,191.29	$3,191.29	$0.00	
150 (1 of 5)	10/25/2017	1x5 1/2 (16) Alloy Steel Studs	Ea		(2.00)		$25.00	$0.00	-$50.00	
150 (1 of 5)	10/25/2017	2" Flg 150# WN Sch 80	Ea	2			$168.40	$336.80	$0.00	
150 (1 of 5)	10/25/2017	2" Gasket 1/8" thk	Ea	2			$10.59	$21.18	$0.00	
150 (1 of 5)	10/25/2017	2" Gate Valve 150# Flgd	Ea	1			$512.55	$512.55	$0.00	
150 (1 of 5)	10/25/2017	2" Sch. 80 Pipe	LF	0.33			$122.27	$40.35	$0.00	
150 (1 of 5)	10/25/2017	2X3/4 Reducer Conc. Sch 80	Ea	1			$255.83	$255.83	$0.00	
150 (1 of 5)	10/25/2017	3/4 Orifice Nipple sch 160 4" Lg	Ea		(1.00)		$121.92	$0.00	-$121.92	
150 (1 of 5)	10/25/2017	3/4" Gate Valve 800#	Ea		(1.00)		$369.75	$0.00	-$369.75	
150 (1 of 5)	10/25/2017	3/4" Orifice Nipple S 160 - 6" Lg	Ea		(3.00)		$141.07	$0.00	-$423.21	
150 (2 of 5)	10/18/2017	1" 90 Ell 3000#	Ea		(4.00)		172.02	$0.00	-$688.08	
150 (2 of 5)	10/18/2017	1" Sch. 80 Pipe	LF		(28.25)		$58.73	$0.00	-$1,659.12	
150 (2 of 5)	10/18/2017	16" 90 Ell Std	Ea	0	(2.00)		$1,843.88	$0.00	-$3,687.76	
150 (2 of 5)	10/18/2017	16" Flex Hose	LF	20.83			$0.00	$0.00	$0.00	
150 (2 of 5)	10/18/2017	16" Flg 150# WN Std	Ea	4			$1,937.25	$7,749.00	$0.00	
150 (2 of 5)	10/18/2017	16" Gasket 1/8" Thk	Ea	4			$25.31	$101.24	$0.00	
150 (2 of 5)	10/18/2017	16" Std Pipe	LF	2.17			$343.33	$745.03	$0.00	
150 (2 of 5)	10/18/2017	16x3 Weldolet Std	ea		(1.00)		$2,888.00	$0.00	-$2,888.00	
150 (2 of 5)	10/18/2017	1x5 1/2 (16) Alloy Steel Studs	Ea	3			$25.00	$75.00	$0.00	
150 (3 of 5)	10/25/2017	1" 90 Ell 3000# Sch. 80	Ea	1			172.02	$172.02	$0.00	
150 (3 of 5)	10/25/2017	1" Sch. 80 Pipe	LF	27.5			$58.73	$1,615.08	$0.00	
150 (3 of 5)	10/25/2017	16" 45 LR Ell Std	Ea	1	0.00		$1,809.23	$1,809.23	$0.00	
150 (3 of 5)	10/25/2017	16" check valve Gear Driven	Ea	2			$5,685.00	$11,370.00	$0.00	
150 (3 of 5)	10/25/2017	16" Flg 150# WN Std	Ea	1			$1,937.25	$1,937.25	$0.00	
150 (3 of 5)	10/25/2017	16" Gasket 1/8" Thk	Ea	1			$25.31	$25.31	$0.00	
150 (3 of 5)	10/25/2017	16x2 Weldolet Std	Ea	1			$2,798.01	$2,798.01	$0.00	
150 (3 of 5)	10/25/2017	16x3 Weldolet Std	Ea	1			$2,888.00	$2,888.00	$0.00	
150 (3 of 5)	10/25/2017	16x3/4 Sockolet 3000#	Ea	1			$1,598.00	$1,598.00	$0.00	
150 (3 of 5)	10/25/2017	16x6 Weldolet Std	Ea		(1.00)		$2,988.83	$0.00	-$2,988.83	
150 (3 of 5)	10/25/2017	1x3/4 Relief Valve #800 thrd	Ea	1			$553.50	$553.50	$0.00	
150 (3 of 5)	10/25/2017	1x5 1/2 (16) Alloy Steel Studs	Ea	1			$25.00	$25.00	$0.00	
150 (3 of 5)	10/25/2017	2" Flg 150# WN Sch 80	Ea	2			$168.40	$336.80	$0.00	
150 (3 of 5)	10/25/2017	2" Gasket 1/8" thk	Ea	2			$10.59	$21.18	$0.00	
150 (3 of 5)	10/25/2017	2" Gate Valve 150# Flgd	Ea	1			$512.55	$512.55	$0.00	
150 (3 of 5)	10/25/2017	2" Sch. 80 Pipe	LF	0.33			$122.27	$40.35	$0.00	
150 (3 of 5)	10/25/2017	2X3/4 Reducer Conc. Sch 80	Ea	1			$255.83	$255.83	$0.00	
150 (3 of 5)	10/25/2017	3/4" Gate Valve 800#	Ea	1			$369.75	$369.75	$0.00	
150 (3 of 5)	10/25/2017	3/4" Orifice Nipple S 160 -4" Lg	Ea	2			$137.71	$275.42	$0.00	
150 (3 of 5)	10/25/2017	3/4" Thrd Plug	Ea	1			$53.25	$53.25	$0.00	
150 (3 of 5)	10/25/2017	5/8x3 1/4 (4) Alloy Steel Studs	Ea	2			$22.26	$44.52	$0.00	
150 (4 of 5)	10/25/2017	16" Std Pipe	LF		(21.50)		$343.33	$0.00	-$7,381.60	
150 (5 of 5)	10/18/2017	16" 45 Ell Lr Std	Ea	1	0.00		$1,809.23	$1,809.23	$0.00	
150 (5 of 5)	10/18/2017	16" 90 Ell LR Std	Ea	2	0.00		$1,843.88	$3,687.76	$0.00	
150 (5 of 5)	10/18/2017	16" Std Pipe	Lf	18.92	0.00		$343.33	$6,495.80	$0.00	
150-16 (1 of 5)	11/14/2017	1" PIPE, S. 80 PE, ASTM A-106 GR. B-SMLS PBE	LF	2.91			$58.73	$170.90	$0.00	
150-16 (1 of 5)	11/14/2017	1"X5-1/2" (16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea		(2.00)	Not installed but purchased	$3.00	$0.00	-$6.00	
150-16 (1 of 5)	11/14/2017	1"X5-1/2" (16) STUD BOLTS W/NUTS	Ea		(1.00)	Not installed but purchased	$3.00	$0.00	-$3.00	
150-16 (1 of 5)	11/14/2017	12" 90 LR ELL, BW ASTM A-234 GR WPB	Ea	1	0.00		$1,138.13	$1,138.13	$0.00	Landside
150-16 (1 of 5)	11/14/2017	12" BUTTERFLY VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	Ea	1	0.00		$4,860.90	$4,860.90	$0.00	150's Rail load-out Gasoline
150-16 (1 of 5)	11/14/2017	12" FLG, 150# WN ASTM A105, STD	Ea	5	0.00		$1,104.30	$5,521.50	$0.00	
150-16 (1 of 5)	11/14/2017	12" GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea	5			$20.25	$101.25	$0.00	
150-16 (1 of 5)	11/14/2017	12" PIPE, STD BE, ASTM A53, GR B-SMLS BBE	LF	34.5			$241.63	$8,336.24	$0.00	
150-16 (1 of 5)	11/14/2017	12"X2" WELDOLET, SCH STD, ASTM A-105	Ea	1			$2,307.38	$2,307.38	$0.00	
150-16 (1 of 5)	11/14/2017	12"X3/4" SOCKOLET, 3000#, ASTM A-105	Ea	1			$1,934.52	$1,934.52	$0.00	
150-16 (1 of 5)	11/14/2017	12"X8" WELDOLE, SCH STD, ASTM A-105	Ea	1			$2,356.38	$2,356.38	$0.00	
150-16 (1 of 5)	11/14/2017	16" 90 LR ELL, BW ASTM A-234 GR WPD, STD	Ea	0	0.00	Fabricated before deletion (-1)	$1,843.88	$0.00	$0.00	
150-16 (1 of 5)	11/14/2017	16" Butterfly Valve 150# FlgD	Ea	0	(1.00)	Not installed but purchased	$2,243.43	$0.00	-$2,243.43	
150-16 (1 of 5)	11/14/2017	16" FLG , 150# WN ASTM A105 STD	Ea		0.00	Fabricated before deletion (-4)	$0.00	$0.00	$0.00	
150-16 (1 of 5)	11/14/2017	16" FLG, RFWN 150# STD BORE, ASTM A-105	Ea		0.00	Fabricated before deletion (-1)	$0.00	$0.00	$0.00	
150-16 (1 of 5)	11/14/2017	16" GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea		(4.00)	Not installed but purchased	$25.31	$0.00	-$101.24	
150-16 (1 of 5)	11/14/2017	16" Gasket 1/8" Thk, 150#	Ea		(1.00)	Not installed but purchased	$25.31	$0.00	-$25.31	
150-16 (1 of 5)	11/14/2017	16" PIPE, STD BE, ASTM A53, GR. B-SMLS BBE	LF		0.00	Fabricated before deletion (-34.17')	$0.00	$0.00	$0.00	
150-16 (1 of 5)	11/14/2017	16"X2" WELDOLET, SCH STD, ASTM A-105	Ea		0.00	Fabricated before deletion (-1)	$0.00	$0.00	$0.00	
150-16 (1 of 5)	11/14/2017	16"X3/4" SOCKOLET, 3000#, ASTM A-105	Ea		0.00	Fabricated before deletion (-1)	$0.00	$0.00	$0.00	
150-16 (1 of 5)	11/14/2017	16"X8" WELDOLET, SCH STD, ASTM A-105	Ea		0.00	Fabricated before deletion (-1)	$0.00	$0.00	$0.00	
150-16 (1 of 5)	11/14/2017	7/8"X4-3/4" (12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea	3			$39.08	$117.24	$0.00	
150-16 (1 of 5)	11/14/2017	7/8"X7-1/4" (12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea	1			$40.41	$40.41	$0.00	

Exhibit D

Drawing No.	Rev. Date	Description	UofM	Qty Added	Qty Deleted	Notes	Unit Price	Added	Deleted
150-16 (2 OF 5)	11/14/2017	1"X5-1/2" (16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea		(5.00)	Not installed but purchased	$3.00	$0.00	-$15.00
150-16 (2 OF 5)	11/14/2017	12" 90 LR ELL, BW ASTM A-234 GR WPB	Ea	2	0.00		$1,138.13	$2,276.26	$0.00
150-16 (2 OF 5)	11/14/2017	12" BUTTERFLY VALVE, 150# FLGD (PNEUMATIC ACTUATED-AIR OPERATED) POSI SEAL #132	Ea	1	0.00		$5,234.63	$5,234.63	$0.00
150-16 (2 OF 5)	11/14/2017	12" BUTTERFLY VALVE, 150# FLGD, LUG BUNA-N GEAR OP, CENTERLINE 200 OR EQ.	Ea	1	0.00		$4,860.90	$4,860.90	$0.00
150-16 (2 OF 5)	11/14/2017	12" FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	Ea	1	0.00		$0.00	$0.00	$0.00
150-16 (2 OF 5)	11/14/2017	12" FLG, 150# WN ASTM A105, STD	Ea	6	0.00		$1,104.30	$6,625.80	$0.00
150-16 (2 OF 5)	11/14/2017	12" GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea	6			$20.25	$121.50	$0.00
150-16 (2 OF 5)	11/14/2017	12" PIPE, STD BE, ASTM A53, GR B-SMLS BBE	LF	13.33			$241.63	$3,220.93	$0.00
150-16 (2 OF 5)	11/14/2017	16" 90 LR ELL, BW ASTM A-234 GR WPD, STD	Ea	0	0.00	Fabricated before deletion (-2)	$1,843.88	$0.00	$0.00
150-16 (2 OF 5)	11/14/2017	16" BUTTERFLY VALVE, 150# FLGD, (PNEUMATIC ACTUATED-AIR OPERATED) POSI SEAL #132	Ea	0	(1.00)	Not installed but purchased	$5,513.00	$0.00	-$5,513.00
150-16 (2 OF 5)	11/14/2017	16" BUTTERFLY VAVLE, 150# FLGD, LUG BUNA-N GEAR OP, CENTERLINE 200 OR EQ.	Ea	0	(1.00)	Not installed but purchased	$2,243.43	$0.00	-$2,243.43
150-16 (2 OF 5)	11/14/2017	16" FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	Ea		0.00	Fabricated before deletion (-1)	$0.00	$0.00	$0.00
150-16 (2 OF 5)	11/14/2017	16" FLG, 150# WN ASTM A105, STD	EA		0.00	Fabricated before deletion (-6)	$0.00	$0.00	$0.00
150-16 (2 OF 5)	11/14/2017	16" GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea		(6.00)	Not installed but purchased	$25.31	$0.00	-$151.86
150-16 (2 OF 5)	11/14/2017	16" PIPE, STD BE, ASTM A53, GR. B-SMLS BBE	LF		0.00	Fabricated before deletion (-15.17')	$0.00	$0.00	$0.00
150-16 (2 OF 5)	11/14/2017	7/8"X4-3/4" (12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea	2			$39.08	$78.16	$0.00
150-16 (2 OF 5)	11/14/2017	7/8"X7-1/4" (12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea	2			$40.41	$80.82	$0.00
150-16 (2A OF 5)	11/14/2017	12" 90 LR ELL, BW ASTM A-234 GR WPB, STD	Ea	1	0.00		$1,138.13	$1,138.13	$0.00
150-16 (2A OF 5)	11/14/2017	12" CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHECK G15SMF OR EQ.	Ea	1	0.00		$10,277.07	$10,277.07	$0.00
150-16 (2A OF 5)	11/14/2017	12" FLG, 150# WN ASTM A105, STD	Ea	2	0.00		$1,104.30	$2,208.60	$0.00
150-16 (2A OF 5)	11/14/2017	12" GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea	2			$20.25	$40.50	$0.00
150-16 (2A OF 5)	11/14/2017	12" PIPE, STD BE, ASTM A53, GR B-SMLS BBE	LF	2.58			$241.63	$623.41	$0.00
150-16 (2A OF 5)	11/14/2017	16"X12" REDUCER, ECC S/STD, ASTM A-234 GR WPB	Ea	1			$1,692.23	$1,692.23	$0.00
150-16 (2A OF 5)	11/14/2017	7/8"X4-3/4" (12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea	2			$39.08	$78.16	$0.00
150-16 (3 OF 5)	11/14/2017	1"X5-1/2" (16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea		(2.00)	Not installed but purchased	$3.00	$0.00	-$6.00
150-16 (3 OF 5)	11/14/2017	16" 45 LR ELL, BW ASTM A-234 GR WPB, STD	Ea	0	0.00	Fabricated before deletion (-1)	$1,809.23	$0.00	$0.00
150-16 (3 OF 5)	11/14/2017	16" CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEC G15SMF OR EQ.	Ea	0	(1.00)	Not installed but purchased	$5,687.00	$0.00	-$5,687.00
150-16 (3 OF 5)	11/14/2017	16" FLG, 150# WN ASTM A105, STD	Ea		0.00	Fabricated before deletion (-2)	$0.00	$0.00	$0.00
150-16 (3 OF 5)	11/14/2017	16" GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea		(2.00)	Not installed but purchased	$25.31	$0.00	-$50.62
150-16 (3 OF 5)	11/14/2017	16" PIPE, STD BE, ASTM A53, GR. B-SMLS BBE	LF		0.00	Fabricated before deletion (-1.75')	$0.00	$0.00	$0.00
250 (1 of 5)	10/25/2017	1" Sch. 80 Pipe	Lf		(3.67)		$58.73	$0.00	-$215.54
250 (1 of 5)	10/25/2017	16" Flg 150# WN Std	Ea	2	0.00		$1,937.25	$3,874.50	$0.00
250 (1 of 5)	10/25/2017	16" Gasket 1/8" Thk	Ea	2	0.00		$25.31	$50.62	$0.00
250 (1 of 5)	10/25/2017	16" Std Pipe	LF	0.5	0.00		$343.33	$171.67	$0.00
250 (1 of 5)	10/25/2017	16x2 Weldolet Std	Ea	1	0.00		$2,798.01	$2,798.01	$0.00
250 (1 of 5)	10/25/2017	16x8 Weldolet Std	Ea	1	0.00		$3,191.29	$3,191.29	$0.00
250 (1 of 5)	10/25/2017	1x5 1/2 (16) Alloy Steel Studs	Ea	2	0.00		$25.00	$50.00	$0.00
250 (1 of 5)	10/25/2017	2" Flg 150# WN Sch 80	Ea	2	0.00		$168.40	$336.80	$0.00
250 (1 of 5)	10/25/2017	2" Gasket 1/8" thk	Ea	2	0.00		$10.59	$21.18	$0.00
250 (1 of 5)	10/25/2017	2" Gate Valve 150# Flgd	Ea	1	0.00		$512.55	$512.55	$0.00
250 (1 of 5)	10/25/2017	2" Sch. 80 Pipe	LF	0.33	0.00		$122.27	$40.35	$0.00
250 (1 of 5)	10/25/2017	2X3/4 Reducer Conc. Sch 80	Ea	1	0.00		$255.83	$255.83	$0.00
250 (1 of 5)	10/25/2017	3/4" Gate Valve 800# Thrd	Ea		(1.00)		$390.00	$0.00	-$390.00
250 (3 of 5)	10/25/2017	1" Sch. 80 Pipe	LF		(0.83)		$58.73	$0.00	-$48.75
250 (3 of 5)	10/25/2017	16x2 Weldolet Std	Ea	1	0.00		$2,798.01	$2,798.01	$0.00
250 (3 of 5)	10/25/2017	2" Flg 150# Sch 80	Ea	2	0.00		$168.40	$336.80	$0.00
250 (3 of 5)	10/25/2017	2" Gasket 1/8" thk	Ea	2	0.00		$10.59	$21.18	$0.00
250 (3 of 5)	10/25/2017	2" Gate Valve 150# Flgd	Ea	1	0.00		$512.55	$512.55	$0.00
250 (3 of 5)	10/25/2017	2" Std Pipe	LF	0.33	0.00		$122.27	$40.35	$0.00
250 (3 of 5)	10/25/2017	2X3/4 Reducer Conc. Sch 80	Ea	1	0.00		$255.83	$255.83	$0.00
250 (3 of 5)	10/25/2017	3/4" Gate Valve 800# Thrd	Ea		(1.00)		$390.00	$0.00	-$390.00
250 (3 of 5)	10/25/2017	3/4" Orifice Nipple Sch 160 - 4" Lg	Ea		(1.00)		$137.71	$0.00	-$137.71
250 (3 of 5)	10/25/2017	3/4" Orifice Nipple Sch 160 - 6" Lg	Ea		(1.00)		$141.07	$0.00	-$141.07
250 (4 ofS)	10/25/2017	16" Std Pipe	LF	20.67	0.00		$343.33	$7,096.63	$0.00
250 (5 of 5)	10/18/2017	16" Flg 150# WN Std	Ea		(1.00)		$1,937.25	$0.00	-$1,937.25
250 (5 of 5)	10/18/2017	16" Gasket 1/8" Thk	Ea		(1.00)		$25.31	$0.00	-$25.31
250 (5 of 5)	10/18/2017	16" Std Pipe	LF		(22.67)		$343.33	$0.00	-$7,783.29
250 (5 of 5)	10/18/2017	1x5 1/2 (16) Alloy Steel Studs	Ea		(1.00)		$25.00	$0.00	-$25.00
250-13 (3 of 5)	11/14/2017	1"X5-1/2" (16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea		(2.00)	Not installed but purchased	$3.00	$0.00	-$6.00
250-13 (3 of 5)	11/14/2017	12" 90 LR ELL, BW ASTM A-234 GR WPB	Ea	1	0.00		$1,138.13	$1,138.13	$0.00
250-13 (3 of 5)	11/14/2017	12" CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHECK G15SMF OR EQ.	Ea	1	0.00		$12,956.63	$12,956.63	$0.00
250-13 (3 of 5)	11/14/2017	12" FLG, 150# WN ASTM A105, STD	Ea	2	0.00		$1,104.30	$2,208.60	$0.00
250-13 (3 of 5)	11/14/2017	12" GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea	2	0.00		$20.25	$40.50	$0.00
250-13 (3 of 5)	11/14/2017	12" PIPE, STD BE, ASTM A53, GR B-SMLS	LF	3.33	0.00		$241.63	$804.63	$0.00
250-13 (3 of 5)	11/14/2017	16" 90 LR ELL, BW ASTM A-234 GR WPD, STD	Ea	0	0.00	Fabricated before deletion (-1)	$1,843.88	$0.00	$0.00
250-13 (3 of 5)	11/14/2017	16" CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHEC G15SMF OR EQ.	Ea	0	(1.00)	Not installed but purchased	$5,685.00	$0.00	-$5,685.00
250-13 (3 of 5)	11/14/2017	16" FLG, 150# WN ASTM A105, STD	Ea		0.00	Fabricated before deletion (-2)	$0.00	$0.00	$0.00
250-13 (3 of 5)	11/14/2017	16" GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea		(2.00)	Not installed but purchased	$25.31	$0.00	-$50.62
250-13 (3 of 5)	11/14/2017	16" PIPE, STD BE, ASTM A53, GR. B-SMLS	LF	5.67	0.00		$343.33	$1,946.68	$0.00
250-13 (3 of 5)	11/14/2017	16"X12" REDUCER, ECC S/STD, ASTM A-234 GR WPB	Ea	1	0.00		$1,692.23	$1,692.23	$0.00
250-13 (3 of 5)	11/14/2017	2"X3/4" REDUCER, CONC S. 80, ASTM A-234 GR WPB	Ea		0.00	Fabricated before deletion (-1)	$0.00	$0.00	$0.00
250-13 (3 of 5)	11/14/2017	2"X3/4" REDUCER, CONC S/XS, ASTM A-234 GR WPB	Ea	1	0.00		$255.02	$255.02	$0.00
250-13 (3 of 5)	11/14/2017	7/8"X4-3/4" (12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea	2	0.00		$39.08	$78.16	$0.00
250-16 (1 OF 5)	11/14/2017	1" 90 ELL, 3000#W, ASTM A-105	Ea	1	0.00		172.02	$172.02	$0.00
250-16 (1 OF 5)	11/14/2017	1"X5-1/2" (16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea		(5.00)	Not installed but purchased	$3.00	$0.00	-$15.00
250-16 (1 OF 5)	11/14/2017	12" 90 LR ELL, BW ASTM A-234 GR WPB	Ea	2	0.00		$1,138.13	$2,276.26	$0.00
250-16 (1 OF 5)	11/14/2017	12" BUTTERFLY VALVE, 150# FLGD	Ea	1	0.00		$1,999.80	$1,999.80	$0.00
250-16 (1 OF 5)	11/14/2017	12" FLG, 150# WN ASTM A105, STD	Ea	6	0.00		$1,104.30	$6,625.80	$0.00
250-16 (1 OF 5)	11/14/2017	12" GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea	5	0.00		$20.25	$101.25	$0.00
250-16 (1 OF 5)	11/14/2017	12" PIPE, STD BE, ASTM A53, GR B-SMLS BBE	LF	39.75	0.00		$241.63	$9,604.79	$0.00
250-16 (1 OF 5)	11/14/2017	12"X2" WELDOLET, SCH STD, ASTM A-105	Ea	1	0.00		$2,307.38	$2,307.38	$0.00
250-16 (1 OF 5)	11/14/2017	12"X3/4" SOCKOLET, 3000#, ASTM A-105	Ea	1	0.00		$1,934.52	$1,934.52	$0.00
250-16 (1 OF 5)	11/14/2017	12"X8" WELDOLE, SCH STD, ASTM A-105	Ea	1	0.00		$2,356.38	$2,356.38	$0.00
250-16 (1 OF 5)	11/14/2017	16" 90 LR ELL, BW ASTM A-234 GR WPD, STD	Ea	0	0.00	Fabricated before deletion (-2)	$1,843.88	$0.00	$0.00
250-16 (1 OF 5)	11/14/2017	16" BUTTERFLY VALVE, 150# FLGD	Ea	0	(1.00)	Not installed but purchased	$2,243.43	$0.00	-$2,243.43
250-16 (1 OF 5)	11/14/2017	16" FLG, 150# WN ASTM A105, STD	Ea		0.00	Fabricated before deletion (-6)	$0.00	$0.00	$0.00
250-16 (1 OF 5)	11/14/2017	16" GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea		(6.00)	Not installed but purchased	$25.31	$0.00	-$151.86
250-16 (1 OF 5)	11/14/2017	16" PIPE, STD BE, ASTM A53, GR. B-SMLS BBE	LF		0.00	Fabricated before deletion (-40.75')	$0.00	$0.00	$0.00
250-16 (1 OF 5)	11/14/2017	16"X2" WELDOLET, SCH STD, ASTM A-105	Ea		0.00	Fabricated before deletion (-1)	$0.00	$0.00	$0.00
250-16 (1 OF 5)	11/14/2017	16"X3/4" SOCKOLET, 3000#, ASTM A-105	Ea		0.00	Fabricated before deletion (-1)	$0.00	$0.00	$0.00
250-16 (1 OF 5)	11/14/2017	16"X8" WELDOLET, SCH STD, ASTM A-105	Ea		0.00	Fabricated before deletion (-1)	$0.00	$0.00	$0.00
250-16 (1 OF 5)	11/14/2017	7/8"X4-3/4" (12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea	2	0.00		$39.08	$78.16	$0.00
250-16 (1 OF 5)	11/14/2017	7/8"X7-1/4" (12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea	1	0.00		$40.41	$40.41	$0.00
250-16 (2 OF 5)	11/14/2017	1"X5-1/2" (16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea		(3.00)	Not installed but purchased	$3.00	$0.00	-$9.00
250-16 (2 OF 5)	11/14/2017	12" 90 LR ELL, BW ASTM A-234 GR WPB, STD	Ea	1	0.00		$1,138.13	$1,138.13	$0.00
250-16 (2 OF 5)	11/14/2017	12" BUTTERFLY VALVE, 150# FLGD, (PNEUMATIC ACTUATED-AIR OPERATED) POSI SEAL #132	Ea	1	0.00		$5,234.63	$5,234.63	$0.00
250-16 (2 OF 5)	11/14/2017	12" BUTTERFLY VALVE, 150# FLGD, LUG BUNA-N GEAR OP, CENTERLINE 200 OR EQ.	Ea	1	0.00		$4,860.90	$4,860.90	$0.00
250-16 (2 OF 5)	11/14/2017	12" FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	Ea	1	0.00		$0.00	$0.00	$0.00
250-16 (2 OF 5)	11/14/2017	12" FLG, 150# WN ASTM A105, STD	Ea	5	0.00		$1,104.30	$5,521.50	$0.00
250-16 (2 OF 5)	11/14/2017	12" GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea	6	0.00		$20.25	$121.50	$0.00
250-16 (2 OF 5)	11/14/2017	12" PIPE, STD BE, ASTM A53, GR B-SMLS BBE	LF	8.67	0.00		$241.63	$2,094.93	$0.00
250-16 (2 OF 5)	11/14/2017	16" 90 LR ELL, BW ASTM A-234 GR WPD, STD	Ea	0	0.00	Fabricated before deletion (-1)	$1,843.88	$0.00	$0.00
250-16 (2 OF 5)	11/14/2017	16" BUTTERFLY VALVE, 150# FLGD, (PNEUMATIC ACTUATED-AIR OPERATED) POSI SEAL #132	Ea	0	(1.00)	Not installed but purchased	$5,513.00	$0.00	-$5,513.00
250-16 (2 OF 5)	11/14/2017	16" BUTTERFLY VALVE, 150# FLGD, LUG BUNA-N GEAR OP, CENTERLINE 200 OR EQ.	EA	0	(1.00)	Not installed but purchased	$2,243.43	$0.00	-$2,243.43
250-16 (2 OF 5)	11/14/2017	16" FLEX HOSE GUTTELING HEAVY DUTY MULTI OIL HOSE	Ea		0.00	Fabricated before deletion (-1)	$0.00	$0.00	$0.00
250-16 (2 OF 5)	11/14/2017	16" FLG, 150# WN ASTM A105, STD	Ea		0.00	Fabricated before deletion (-5)	$0.00	$0.00	$0.00

Landside
250's Rail load-out Diesel Line

Exhibit D

Drawing No.	Rev. Date	Description	UofM	Qty Added	Qty Deleted	Notes	Unit Price	Added	Deleted	
250-16 (2 OF 5)	11/14/2017	16" GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea		(5.00)	Not installed but purchased	$25.31	$0.00	-$126.55	
250-16 (2 OF 5)	11/14/2017	16" PIPE, STD BE, ASTM A53, GR. B-SMLS BBE	LF		0.00	Fabricated before deletion (-9.17')	$0.00	$0.00	$0.00	
250-16 (2 OF 5)	11/14/2017	7/8"X4-3/4" (12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea	2	0.00		$39.08	$78.16	$0.00	
250-16 (2 OF 5)	11/14/2017	7/8"X7-1/4" (12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea	2	0.00		$40.41	$80.82	$0.00	
251 (1 of 2)		3/4x4 (8) Alloy Steel Studs	Ea		(2.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$27.29	$0.00	-$54.58	
251 (1 of 2)		6" 90 LR Ell	Ea		(3.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$487.17	$0.00	-$1,461.51	
251 (1 of 2)		6" Check Vavle 150# Gear Driven	Ea		(1.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$2,711.03	$0.00	-$2,711.03	
251 (1 of 2)		6" Flg 150# WN Sch 40	Ea		(2.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$655.26	$0.00	-$1,310.52	
251 (1 of 2)		6" Gasket 1/8" thk	Ea		(2.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$28.00	$0.00	-$56.00	
251 (1 of 2)		6" Sch 40 Pipe	LF		(19.92)	Per P&ID & Meeting with Govind ISO Spool Deleted	$111.70	$0.00	-$2,225.06	
251 (1 of 2)		6x4 Reducer, Conc Sch 40	Ea		(1.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$392.29	$0.00	-$392.29	
251 (2 of 2)		3/4" Gate Valve 800#	Ea		(2.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$369.75	$0.00	-$739.50	
251 (2 of 2)		3/4" Orifice Nipple Sch 160 - 4" Lg	Ea		(2.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$137.71	$0.00	-$275.42	
251 (2 of 2)		3/4" Thrd Plug	Ea		(2.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$53.25	$0.00	-$106.50	
251 (2 of 2)		3/4x4 (8) Stud Bolts	Ea		(1.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$27.29	$0.00	-$27.29	
251 (2 of 2)		4" Control Valve 150# Flg	Ea		(2.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$4,596.00	$0.00	-$9,192.00	Spillback to slop tank
251 (2 of 2)		4" Flg 150# WN Sch 40	Ea		(2.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$425.00	$0.00	-$850.00	251's Railload-out Gasoline
251 (2 of 2)		4" Gasket 1/8" Thk	Ea		(2.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$14.29	$0.00	-$28.58	
251 (2 of 2)		4" Sch 40 Pipe	LF		(0.83)	Per P&ID & Meeting with Govind ISO Spool Deleted	$82.55	$0.00	-$68.52	
251 (2 of 2)		4x3/4 Sockolet 3000#	Ea		(2.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$761.25	$0.00	-$1,522.50	
251 (2 of 2)		5/8x3 3/4 (8) Stud Bolts w/Nuts	Ea		(2.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$26.26	$0.00	-$52.52	
251 (2 of 2)		6" 90 LR Ell, Sch 40	Ea		(2.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$487.17	$0.00	-$974.34	
251 (2 of 2)		6" Flg 150# RFWN Sch 40	Ea		(3.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$655.26	$0.00	-$1,965.78	
251 (2 of 2)		6" Gasket 1/8" thk	Ea		(3.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$28.00	$0.00	-$84.00	
251 (2 of 2)		6" Gate Valve 150# Flg	Ea		(1.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$1,178.00	$0.00	-$1,178.00	
251 (2 of 2)		6" Sch 40 Pipe	LF		(34.33)	Per P&ID & Meeting with Govind ISO Spool Deleted	$111.70	$0.00	-$3,834.66	
251 (2 of 2)		6x2 Weldolet Sch. 40	Ea		(1.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$225.00	$0.00	-$225.00	
251 (2 of 2)		6x4 Reducer, Conc Sch 40	Ea		(1.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$392.29	$0.00	-$392.29	
251 (2 of 2)		6x6 Tee, Str, Sch 40	Ea		(2.00)	Per P&ID & Meeting with Govind ISO Spool Deleted	$664.44	$0.00	-$1,328.88	
301 (5 of 11)	10/18/2017	3/4x4 (8) Stud Bolts	Ea	5	0.00		$27.29	$136.45	$0.00	
301 (5 of 11)	10/18/2017	6" 90 LR Ell Std	Ea	2	0.00		$487.17	$974.34	$0.00	
301 (5 of 11)	10/18/2017	6" Flg RFWN 150# Sch 40	Ea	5	0.00		$655.26	$3,276.30	$0.00	
301 (5 of 11)	10/18/2017	6" Gasket 1/8" thk	Ea	5	0.00		$28.00	$140.00	$0.00	
301 (5 of 11)	10/18/2017	6" Gate Valve 150# Flg	Ea	1	0.00		$1,178.00	$1,178.00	$0.00	301's Slop Tank Drain
301 (5 of 11)	10/18/2017	6" Gate valve 150# Pneumatic	Ea	1	0.00		$12,587.00	$12,587.00	$0.00	
301 (5 of 11)	10/18/2017	6" Sch 40 Pipe	LF	20	0.00		$111.70	$2,234.00	$0.00	
301 (5 of 11)	10/18/2017	6x2 Weldolet Sch. 40	Ea	1	0.00		$225.00	$225.00	$0.00	
302-2	11/14/2017	2" Pipe, S. 80 ASTM A-106, GR. B-SMLS	LF		(0.25)		$122.27	$0.00	-$30.57	302's Knock Out Drum Drain
303-2 (1 OF 3)	11/14/2017	2" Pipe, S. 80 ASTM A-106, GR. B-SMLS	LF	19.17	0.00		$122.27	$2,343.92	$0.00	
303-2 (2 OF 3)	11/14/2017	2" PIPE, S. 80 BE ASTM A-106, GR. B-SMLS	LF	7.33	0.00		$122.27	$896.24	$0.00	303's Pump to Slop Tank
303-2 (3 OF 3)	11/14/2017	2" PIPE, S. 80 BE ASTM A-106, GR. B-SMLS	LF	0.75	0.00		$122.27	$91.70	$0.00	
410 (2 of 4)	9/20/2017	16" 45 LR Ell Std	ea	2	0.00		$1,809.23	$3,618.46	$0.00	
410 (2 of 4)	9/20/2017	16" 90 LR Ell Std	ea	0	(2.00)		$1,843.88	$0.00	-$3,687.76	
410 (2 of 4)	9/20/2017	16" Std Pipe	LF		(19.83)		$343.33	$0.00	-$6,808.23	
410-16 (1 OF 4)	11/14/2017	1"XS-1/2" (16) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea		(3.00)	Not installed but purchased	$3.00	$0.00	-$9.00	
410-16 (1 OF 4)	11/14/2017	12" 90 LR ELL, BW ASTM A-234 GR WPB, STD	Ea	5	0.00		$1,138.13	$5,690.65	$0.00	
410-16 (1 OF 4)	11/14/2017	12" BUTTERFLY VALVE, 150# FLGD	Ea	4	0.00		$1,999.80	$7,999.20	$0.00	
410-16 (1 OF 4)	11/14/2017	12" FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	Ea	2	0.00		$0.00	$0.00	$0.00	
410-16 (1 OF 4)	11/14/2017	12" FLG, 150# WN ASTM A105, STD	Ea	12	0.00		$1,104.30	$13,251.60	$0.00	
410-16 (1 OF 4)	11/14/2017	12" GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea	12	0.00		$20.25	$243.00	$0.00	
410-16 (1 OF 4)	11/14/2017	12" PIPE, STD BE, ASTM A53, GR. B-SMLS	LF	15	0.00		$241.63	$3,624.45	$0.00	
410-16 (1 OF 4)	11/14/2017	16" 90 LR ELL, BW ASTM A-234 GR WPD, STD	Ea	0	0.00	Fabricated before deletion (-3)	$1,843.88	$0.00	$0.00	
410-16 (1 OF 4)	11/14/2017	16" BUTTERFLY VALVE, 150# FLGD	Ea	0	(1.00)	Not installed but purchased	$2,043.43	$0.00	-$2,043.43	
410-16 (1 OF 4)	11/14/2017	16" FLEX HOSE, GUTTELING HEAVY DUTY MULTI OIL HOSE	Ea		0.00	Fabricated before deletion (-1)	$0.00	$0.00	$0.00	410's Howard Energy Vapor
410-16 (1 OF 4)	11/14/2017	16" FLG, 150# WN ASTM A105, STD	Ea		0.00	Fabricated before deletion (-4)	$0.00	$0.00	$0.00	
410-16 (1 OF 4)	11/14/2017	16" GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea		(4.00)	Not installed but purchased	$25.31	$0.00	-$101.24	
410-16 (1 OF 4)	11/14/2017	16" PIPE, STD BE, ASTM A53, GR. B-SMLS	LF		0.00	Fabricated before deletion (-16.75')	$0.00	$0.00	$0.00	
410-16 (1 OF 4)	11/14/2017	16"X12" REDUCER,CONC S/STD, ASTM A-234 GR WPB	EA	1	0.00		$1,695.23	$1,695.23	$0.00	
410-16 (1 OF 4)	11/14/2017	16"X12" TEE, REDUCING S/STD, ASTM A-234 GR WPB	Ea	3	0.00		$1,677.38	$5,032.14	$0.00	
410-16 (1 OF 4)	11/14/2017	16"X2"SOCKOLET, 3000#, ASTM A-105	Ea		0.00	Fabricated before deletion (-1)	$0.00	$0.00	$0.00	
410-16 (1 OF 4)	11/14/2017	16"X3/4" SOCKOLET, 3000#, ASTM A-105	Ea		0.00	Fabricated before deletion (-1)	$0.00	$0.00	$0.00	
410-16 (1 OF 4)	11/14/2017	3/4" GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ	Ea		(1.00)	Not installed but purchased	$369.75	$0.00	-$369.75	
410-16 (1 OF 4)	11/14/2017	3/4" ORIFICE NIPPLE, S. 160 PBE, ASTM A106, GR. B-SMLS (4" LG)	Ea		0.00	Fabricated before deletion (-1)	$0.00	$0.00	$0.00	
410-16 (1 OF 4)	11/14/2017	3/4" Thrd Plug	Ea		0.00	Fabricated before deletion (-1)	$0.00	$0.00	$0.00	
410-16 (1 OF 4)	11/14/2017	7/8"X4-3/4" (12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea	6	0.00		$39.08	$234.48	$0.00	
410-16 (1 OF 4)	11/14/2017	7/8"X7-1/4" (12) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea	4	0.00		$40.41	$161.64	$0.00	
410-16 (2 OF 4)	11/14/2017	16" PIPE, STD BE, ASTM A53, GR. B-SMLS	LF		(7.00)	Fabricated before deletion (-7')	$0.00	$0.00	$0.00	
450 (9 of 9)	10/18/2017	3/4"X4" (8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea	1	0.00	New ISO - Never rec'd previous revisions	$27.29	$27.29	$0.00	
450 (9 of 9)	11/14/2017	6" 45 LR Ell, BW, ASTM A-234 GR WPB, S. 40	Ea		(2.00)		$467.87	$0.00	-$935.74	
450 (9 of 9)	11/14/2017	6" 90 LR ELL, BW ASTM A-234 GR WPB, S. 40	Ea	2	0.00		$487.17	$974.34	$0.00	
450 (9 of 9)	11/14/2017	6" 90 SR ELL, BW ASTM A-234 GR WPB, S. 40	Ea	2	0.00		$487.17	$974.34	$0.00	
450 (9 of 9)	10/18/2017	6" Flg 150# WN ASTM A105, S. 40	Ea	1	0.00	New ISO - Never rec'd previous revisions	$655.26	$655.26	$0.00	
450 (9 of 9)	10/18/2017	6" Gasket 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea	2	0.00	New ISO - Never rec'd previous revisions	$28.00	$56.00	$0.00	450's Rail load-out Vapor
450 (9 of 9)	10/18/2017	6" Gate Valve 150# Flgd, F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	Ea	1	0.00	New ISO - Never rec'd previous revisions	$1,178.00	$1,178.00	$0.00	
450 (9 of 9)	11/14/2017	6" PIPE, S. 40 BE ASTM A53, GR. B-SMLS	LF	95.25	0.00		$111.70	$10,639.43	$0.00	
450-6 (8 OF 9)	11/14/2017	6" 90 LR ELL, BW ASTM A-234 GR WPB, S. 40	Ea		(2.00)		$487.17	$0.00	-$974.34	
450-6 (8 OF 9)	11/14/2017	6" PIPE, S. 40 BE ASTM A-106, GR. B-SMLS	LF		(67.50)		$111.70	$0.00	-$7,539.75	
450-6 (8OF 9)	11/14/2017	3/4"X3" (8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea		(1.00)		$27.29	$0.00	-$27.29	
450-6 (8OF 9)	11/14/2017	6" 90 LR ELL, S/STD, ASTM A-234 GR WPB	EA		(1.00)		$487.17	$0.00	-$487.17	
450-6 (8OF 9)	11/14/2017	6" FLG, 150# WN ASTM A105, S. 40	Ea		(1.00)		$655.26	$0.00	-$655.26	
450-6 (8OF 9)	11/14/2017	6" Gasket 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea		(2.00)		$28.00	$0.00	-$56.00	
450-6 (8OF 9)	11/14/2017	6" GATE VALVE, 150# FLGD F6/STEL BB, OS&Y, CRANE 47XUF OR EQ.	Ea		(1.00)		$1,178.00	$0.00	-$1,178.00	
450-6 (8OF 9)	11/14/2017	6" PIPE, S. 80 BE ASTM A-106, GR. B-SMLS	LF		(17.25)		$182.07	$0.00	-$3,140.71	
451-6	11/14/2017	3/4"X4" (8) ALLOY STEEL STUDS, ASTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea		(2.00)		$27.29	$0.00	-$54.58	
451-6	11/14/2017	6" 90 LR ELL, BW ASTM A-234 GR WPB, S. 40	Ea	1	0.00		$487.17	$487.17	$0.00	451's Knock Out to VCU#1
451-6	11/14/2017	6" PIPE, S. 40 BE, ASTM A53, GR. B-SMLS	LF		(0.17)		$111.70	$0.00	-$18.99	
451-6	11/14/2017	6"X6" TEE, STR. S. 40, ASTM A-234 GR WPB	Ea		(1.00)		$664.44	$0.00	-$664.44	
519 (2 of 3)	9/20/2017	4" 45 LR ELL	Ea	2	0.00		$339.02	$678.04	$0.00	
519 (2 of 3)	9/20/2017	4" 90 LR Ell Sch 40	Ea		(2.00)		$342.11	$0.00	-$684.22	519's Rail-loadout Nitrogen
519 (2 of 3)	9/20/2017	4" Sch 40 Pipe	LF		(21.42)		$82.55	$0.00	-$1,768.22	
521 (2 of 3)	10/20/2017	2" 45 LR Ell, 3000# thrd Zinc Metalized Coated	Ea	2	0.00	New ISO - Never rec'd previous revisions	$225.97	$451.94	$0.00	
521 (2 of 3)	10/20/2017	2" Sch. 80 Pipe (HDG)	LF	163.25	0.00	New ISO - Never rec'd previous revisions	$30.98	$5,057.49	$0.00	
521 (2 of 3)	10/20/2017	2x2 Tee Str 3000# Thrd Metalized Coated	Ea	1	0.00	New ISO - Never rec'd previous revisions	$326.54	$326.54	$0.00	
521 (3 of 3)	10/25/2017	2" 45 LR Ell, 3000# thrd Zinc Metalized Coated	Ea	2	0.00	New ISO - Never rec'd previous revisions	$225.97	$451.94	$0.00	
521 (3 of 3)	10/25/2017	2" 90 LR Ell 3000# Thrd, Zinc Metalized Coated	Ea	5	0.00	New ISO - Never rec'd previous revisions	$211.34	$1,056.70	$0.00	Compressed Air to VCU#1
521 (3 of 3)	10/25/2017	2" Ball Valve 150# Flgd	Ea	2	0.00	New ISO - Never rec'd previous revisions	$928.35	$1,856.70	$0.00	521's Air
521 (3 of 3)	10/25/2017	2" Flexible Hose connection	Ea	1	0.00	New ISO - Never rec'd previous revisions	$612.90	$612.90	$0.00	
521 (3 of 3)	10/25/2017	2" Flg 150# Thrd Sch 80	Ea	6	0.00	New ISO - Never rec'd previous revisions	$168.40	$1,010.40	$0.00	
521 (3 of 3)	10/25/2017	2" Gasket 1/16" thk Flat Ring TFE Gore	Ea	6	0.00	New ISO - Never rec'd previous revisions	$24.45	$146.70	$0.00	
521 (3 of 3)	10/25/2017	2" Sch 80 Pipe (HDG)	LF	35.08	0.00	New ISO - Never rec'd previous revisions	$130.98	$4,594.78	$0.00	
521 (3 of 3)	10/25/2017	5/8x3 1/4 (4) Alloy Steel Studs	Ea	6	0.00	New ISO - Never rec'd previous revisions	$22.26	$133.56	$0.00	
550-4 (1 OF 25)	11/17/2017	1" PIPE, S. 80 PE, ASTM A-106 GR. B-SMLS	LF	5.67	0.00		$58.73	$333.00	$0.00	
550-4 (1 OF 25)	11/17/2017	4" PIPE, S. 40 BE, ASTM A-53, GR. B-SMLS	LF	24.01	0.00		$82.55	$1,982.03	$0.00	
550-4 (1 OF 25)	11/17/2017	4"X1" SOCKOLET, 3000#, ASTM A-105	Ea	1	0.00		$761.25	$761.25	$0.00	
550-4 (10 OF 25)	11/17/2017	1" 90 ELL, SW 3000#, ASTM A-105	Ea	1	0.00		172.02	$172.02	$0.00	
550-4 (10 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW	Ea	1	0.00		403.56	$403.56	$0.00	
550-4 (10 OF 25)	11/17/2017	1" GATE VALVE, 800# SW F6/STEL BB, OS&Y, VOGT ST-2801 OR EQ.	Ea	1	0.00		$492.91	$492.91	$0.00	
550-4 (10 OF 25)	11/17/2017	1" PIPE S. 80, ASTM A-106 GR. B-SMLS	LF		(11.75)		$58.73	$0.00	-$690.08	
550-4 (10 OF 25)	11/17/2017	1"X1" CROSS, STR. 3000#, SW, ASTM A-105	Ea	1	0.00		$365.33	$365.33	$0.00	
550-4 (10 OF 25)	11/17/2017	4" PIPE, S. 40 BE, ASTM A-53, GR. B-SMLS	LF		(15.08)		$82.55	$0.00	-$1,244.85	
550-4 (10 OF 25)	11/17/2017	4"X1" SOCKOLET, 3000# FS, ASTM A-105	Ea		(1.00)		$761.25	$0.00	-$761.25	
550-4 (11 OF 25)	11/17/2017	1" 90 ELL, SW 3000#, ASTM A-105	ea		(2.00)		172.02	$0.00	-$344.04	
550-4 (11 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW	ea		(1.00)		403.56	$0.00	-$403.56	
550-4 (11 OF 25)	11/17/2017	1" GATE VALVE, 800# SW F6/STEL BB, OS&Y, VOGT ST-2801 OR EQ.	Ea		(1.00)		$492.91	$0.00	-$492.91	
550-4 (11 OF 25)	11/17/2017	1" PIPE, S.80 PE, ASTM A-106, GR. B-SMLS	LF		(3.66)		$58.73	$0.00	-$214.95	
550-4 (11 OF 25)	11/17/2017	4" PIPE, S. 40 BE, ASTM A-53, GR. B-SMLS	LF	15.33	0.00		$82.55	$1,265.49	$0.00	
550-4 (12 OF 25)	11/17/2017	1" 90 ELL, SW 3000#, ASTM A-105	Ea	1	0.00		172.02	$172.02	$0.00	
550-4 (12 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW	Ea	1	0.00		403.56	$403.56	$0.00	
550-4 (12 OF 25)	11/17/2017	1" GATE VALVE, 800# SW F6/STEL BB, OS&Y, VOGT ST-2801 OR EQ.	Ea	1	0.00		$492.91	$492.91	$0.00	
550-4 (12 OF 25)	11/17/2017	1" PIPE S. 80, ASTM A-106 GR. B-SMLS	LF		(6.00)		$58.73	$0.00	-$352.38	
550-4 (12 OF 25)	11/17/2017	1"X1" CROSS, STR. 3000#, SW, ASTM A-105	Ea	1	0.00		$365.33	$365.33	$0.00	

Exhibit D

Drawing No.	Rev. Date	Description	UofM	Qty Added	Qty Deleted	Notes	Unit Price	Added	Deleted	
550-4 (12 OF 25)	11/17/2017	4" PIPE, S. 40 BE, ASTM A-53, GR. B-SMLS	LF		(15.58)		$82.55	$0.00	-$1,286.13	
550-4 (12 OF 25)	11/17/2017	4"X1" SOCKOLET, 3000# FS, ASTM A-105	Ea		(1.00)		$761.25	$0.00	-$761.25	
550-4 (13 OF 25)	11/17/2017	1" 90 ELL, SW 3000#, ASTM A-105	ea		(2.00)		172.02	$0.00	-$344.04	
550-4 (13 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW	ea		(1.00)		403.56	$0.00	-$403.56	
550-4 (13 OF 25)	11/17/2017	1" GATE VALVE, 800# SW F6/STEL BB, OS&Y, VOGT ST-2801 OR EQ.	Ea		(1.00)		$492.91	$0.00	-$492.91	
550-4 (13 OF 25)	11/17/2017	1" PIPE, S.80 PE, ASTM A-106, GR. B-SMLS	LF		(3.66)		$58.73	$0.00	-$214.95	
550-4 (13 OF 25)	11/17/2017	4" PIPE, S. 40 BE, ASTM A-53, GR. B-SMLS	LF	52.5	0.00		$82.55	$4,333.88	$0.00	
550-4 (14 OF 25)	11/17/2017	1" 90 ELL, SW 3000#, ASTM A-105	Ea	1	0.00		172.02	$172.02	$0.00	
550-4 (14 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW	Ea	1	0.00		403.56	$403.56	$0.00	
550-4 (14 OF 25)	11/17/2017	1" GATE VALVE, 800# SW F6/STEL BB, OS&Y, VOGT ST-2801 OR EQ.	Ea	1	0.00		$492.91	$492.91	$0.00	
550-4 (14 OF 25)	11/17/2017	1" PIPE S. 80, ASTM A-106 GR. B-SMLS	LF		(6.00)		$58.73	$0.00	-$352.38	
550-4 (14 OF 25)	11/17/2017	1"X1" CROSS, STR. 3000#, SW, ASTM A-105	Ea	1	0.00		$365.33	$365.33	$0.00	
550-4 (14 OF 25)	11/17/2017	4" PIPE, S. 40 BE, ASTM A-53, GR. B-SMLS	LF		(1.00)		$82.55	$0.00	-$82.55	
550-4 (14 OF 25)	11/17/2017	4"X1" SOCKOLET, 3000# FS, ASTM A-105	Ea		(1.00)		$761.25	$0.00	-$761.25	
550-4 (15 OF 25)	11/17/2017	1" 90 ELL, SW 3000#, ASTM A-105	Ea		(2.00)		172.02	$0.00	-$344.04	
550-4 (15 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW	Ea		(1.00)		403.56	$0.00	-$403.56	
550-4 (15 OF 25)	11/17/2017	1" GATE VALVE, 800# SW F6/STEL BB, OS&Y, VOGT ST-2801 OR EQ.	Ea		(1.00)		$492.91	$0.00	-$492.91	
550-4 (15 OF 25)	11/17/2017	1" PIPE, S. 80 PE, ASTM A-106 GR B-SMLS	LF		(3.66)		$58.73	$0.00	-$214.95	
550-4 (15 OF 25)	11/17/2017	4" CAP, S. 40, ASTM A-234 GR WPB	Ea	1	0.00		$173.75	$173.75	$0.00	
550-4 (15 OF 25)	11/17/2017	4" PIPE, S. 40 BE, ASTM A-53, GR. B-SMLS	LF	16.33	0.00		$82.55	$1,348.04	$0.00	
550-4 (16 OF 25)	11/17/2017	1" 90 ELL, SW 3000#, ASTM A-105	Ea	1	0.00		172.02	$172.02	$0.00	
550-4 (16 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW	Ea	1	0.00		403.56	$403.56	$0.00	
550-4 (16 OF 25)	11/17/2017	1" GATE VALVE, 800# SW F6/STEL BB, OS&Y, VOGT ST-2801 OR EQ.	Ea	1	0.00		$492.91	$492.91	$0.00	
550-4 (16 OF 25)	11/17/2017	1" PIPE S. 80, ASTM A-106 GR. B-SMLS	LF		(6.00)		$58.73	$0.00	-$352.38	
550-4 (16 OF 25)	11/17/2017	1"X1" CROSS, STR. 3000#, SW, ASTM A-105	Ea	1	0.00		$365.33	$365.33	$0.00	
550-4 (16 OF 25)	11/17/2017	4" PIPE, S. 40 BE, ASTM A-53, GR. B-SMLS	LF		(36.67)		$82.55	$0.00	-$3,027.11	
550-4 (16 OF 25)	11/17/2017	4"X1" SOCKOLET, 3000# FS, ASTM A-105	Ea		(1.00)		$761.25	$0.00	-$761.25	
550-4 (17 OF 25)	11/17/2017	1" 90 ELL, 3000# SW, ASTM A-105	Ea	3	0.00		172.02	$516.06	$0.00	
550-4 (17 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW	Ea		(1.00)		403.56	$0.00	-$403.56	
550-4 (17 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW F6/STEL BC, BALL TYPE, VOGT SWB-701 OR EQ	Ea	2	0.00		403.56	$807.12	$0.00	
550-4 (17 OF 25)	11/17/2017	1" GATE VALVE, 800# SW F6/STEL BB, OS&Y, VOGT ST-2801 OR EQ.	Ea		(1.00)		$492.91	$0.00	-$492.91	
550-4 (17 OF 25)	11/17/2017	1" GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	Ea	2	0.00		$492.91	$985.82	$0.00	
550-4 (17 OF 25)	11/17/2017	1" PIPE, S. 80 PE, ASTM A-106 GR B-SMLS	LF		(3.83)		$58.73	$0.00	-$224.94	
550-4 (17 OF 25)	11/17/2017	1"X1" TEE, STR, 3000#, SW, ASTM A-105	Ea	1	0.00		$257.48	$257.48	$0.00	
550-4 (17 OF 25)	11/17/2017	4" PIPE, S. 40 BE, ASTM A-53, GR. B-SMLS	LF		(43.33)		$82.55	$0.00	-$3,576.89	
550-4 (17 OF 25)	11/17/2017	4"X1" SOCKOLE, 3000# FS, ASTM A-105	Ea		(1.00)		$761.25	$0.00	-$761.25	
550-4 (18 OF 25)	11/17/2017	1" 90 ELL, 3000# SW, ASTM A-105	Ea	3	0.00		172.02	$516.06	$0.00	
550-4 (18 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW	Ea		(1.00)		403.56	$0.00	-$403.56	
550-4 (18 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW F6/STEL BC, BALL TYPE, VOGT SWB-701 OR EQ	Ea	2	0.00		403.56	$807.12	$0.00	
550-4 (18 OF 25)	11/17/2017	1" GATE VALVE, 800# SW F6/STEL BB, OS&Y, VOGT ST-2801 OR EQ.	Ea		(1.00)		$492.91	$0.00	-$492.91	
550-4 (18 OF 25)	11/17/2017	1" GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	Ea	2	0.00		$492.91	$985.82	$0.00	
550-4 (18 OF 25)	11/17/2017	1" PIPE, S. 80 PE, ASTM A-106 GR B-SMLS	LF		(3.83)		$58.73	$0.00	-$224.94	
550-4 (18 OF 25)	11/17/2017	1"X1" TEE, STR, 3000#, SW, ASTM A-105	Ea	1	0.00		$257.48	$257.48	$0.00	
550-4 (18 OF 25)	11/17/2017	4" PIPE, S. 40 BE, ASTM A-53, GR. B-SMLS	LF		(17.25)		$82.55	$0.00	-$1,423.99	
550-4 (18 OF 25)	11/17/2017	4"X1" SOCKOLE, 3000# FS, ASTM A-105	Ea		(1.00)		$761.25	$0.00	-$761.25	
550-4 (19 OF 25)	11/17/2017	1" 90 ELL, 3000# SW, ASTM A-105	Ea	3	0.00		172.02	$516.06	$0.00	
550-4 (19 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW	Ea		(1.00)		403.56	$0.00	-$403.56	
550-4 (19 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW F6/STEL BC, BALL TYPE, VOGT SWB-701 OR EQ	Ea	2	0.00		403.56	$807.12	$0.00	
550-4 (19 OF 25)	11/17/2017	1" GATE VALVE, 800# SW F6/STEL BB, OS&Y, VOGT ST-2801 OR EQ.	Ea		(1.00)		$492.91	$0.00	-$492.91	
550-4 (19 OF 25)	11/17/2017	1" GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	Ea	2	0.00		$492.91	$985.82	$0.00	
550-4 (19 OF 25)	11/17/2017	1" PIPE, S. 80 PE, ASTM A-106 GR B-SMLS	LF		(3.83)		$58.73	$0.00	-$224.94	
550-4 (19 OF 25)	11/17/2017	1"X1" TEE, STR, 3000#, SW, ASTM A-105	Ea	1	0.00		$257.48	$257.48	$0.00	
550-4 (19 OF 25)	11/17/2017	4" CAP, S. 40, ASTM A-234 GR WPB	ea		(1.00)		$173.75	$0.00	-$173.75	
550-4 (19 OF 25)	11/17/2017	4" PIPE, S. 40 BE, ASTM A-53, GR. B-SMLS	LF		(3.00)		$82.55	$0.00	-$247.65	
550-4 (19 OF 25)	11/17/2017	4"X1" SOCKOLE, 3000# FS, ASTM A-105	Ea		(1.00)		$761.25	$0.00	-$761.25	
550-4 (2 OF 25)	11/17/2017	1" 90 ELL, SW 3000#, ASTM A-105	Ea		(1.00)		172.02	$0.00	-$172.02	
550-4 (2 OF 25)	11/17/2017	1" CHECK VALVE, 800# SE	Ea		(1.00)		403.56	$0.00	-$403.56	
550-4 (2 OF 25)	11/17/2017	1" GATE VALVE, 800# SW F6/STEL BB, OS&Y, VOGT ST-2801 OR EQ.	Ea		(1.00)		$492.91	$0.00	-$492.91	
550-4 (2 OF 25)	11/17/2017	1" PIPE, S. 80 PE, ASTM A-106 GR. B-SMLS	LF	1.92	0.00		$58.73	$112.76	$0.00	
550-4 (2 OF 25)	11/17/2017	4" PIPE, S. 40 BE, ASTM A-53, GR. B-SMLS	LF	93	0.00		$82.55	$7,677.15	$0.00	
550-4 (2 OF 25)	11/17/2017	4"X1" SOCKOLET, 3000#, ASTM A-105	Ea	1	0.00		$761.25	$761.25	$0.00	
550-4 (20 OF 25)	11/17/2017	1" 90 ELL, 3000# SW, ASTM A-105	Ea	6	0.00		172.02	$1,032.12	$0.00	Rail-loadout Nitrogen to meter skid
550-4 (20 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW F6/STEL BC, BALL TYPE, VOGT SWB-701 OR EQ	Ea	2	0.00		403.56	$807.12	$0.00	550's Nitrogen
550-4 (20 OF 25)	11/17/2017	1" GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	Ea	2	0.00		$492.91	$985.82	$0.00	
550-4 (20 OF 25)	11/17/2017	1" PIPE, S. 80 PE, ASTM A-106 GR B-SMLS	LF	5.5	0.00		$58.73	$323.02	$0.00	
550-4 (20 OF 25)	11/17/2017	1"X1" TEE, STR, 3000#, SW, ASTM A-105	Ea	1	0.00		$257.48	$257.48	$0.00	
550-4 (21 OF 25)	11/17/2017	1" 90 ELL, 3000# SW, ASTM A-105	Ea	6	0.00		172.02	$1,032.12	$0.00	
550-4 (21 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW F6/STEL BC, BALL TYPE, VOGT SWB-701 OR EQ	Ea	2	0.00		403.56	$807.12	$0.00	
550-4 (21 OF 25)	11/17/2017	1" GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	Ea	2	0.00		$492.91	$985.82	$0.00	
550-4 (21 OF 25)	11/17/2017	1" PIPE, S. 80 PE, ASTM A-106 GR B-SMLS	LF	5.5	0.00		$58.73	$323.02	$0.00	
550-4 (21 OF 25)	11/17/2017	1"X1" TEE, STR, 3000#, SW, ASTM A-105	Ea	1	0.00		$257.48	$257.48	$0.00	
550-4 (22 OF 25)	11/17/2017	1" 90 ELL, 3000# SW, ASTM A-105	Ea	6	0.00		172.02	$1,032.12	$0.00	
550-4 (22 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW F6/STEL BC, BALL TYPE, VOGT SWB-701 OR EQ	Ea	2	0.00		403.56	$807.12	$0.00	
550-4 (22 OF 25)	11/17/2017	1" GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	Ea	2	0.00		$492.91	$985.82	$0.00	
550-4 (22 OF 25)	11/17/2017	1" PIPE, S. 80 PE, ASTM A-106 GR B-SMLS	LF	5.5	0.00		$58.73	$323.02	$0.00	
550-4 (22 OF 25)	11/17/2017	1"X1" TEE, STR, 3000#, SW, ASTM A-105	Ea	1	0.00		$257.48	$257.48	$0.00	
550-4 (23 OF 25)	11/17/2017	1" 90 ELL, 3000# SW, ASTM A-105	Ea	6	0.00		172.02	$1,032.12	$0.00	
550-4 (23 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW F6/STEL BC, BALL TYPE, VOGT SWB-701 OR EQ	Ea	2	0.00		403.56	$807.12	$0.00	
550-4 (23 OF 25)	11/17/2017	1" GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	Ea	2	0.00		$492.91	$985.82	$0.00	
550-4 (23 OF 25)	11/17/2017	1" PIPE, S. 80 PE, ASTM A-106 GR B-SMLS	LF	5.5	0.00		$58.73	$323.02	$0.00	
550-4 (23 OF 25)	11/17/2017	1"X1" TEE, STR, 3000#, SW, ASTM A-105	Ea	1	0.00		$257.48	$257.48	$0.00	
550-4 (24 OF 25)	11/17/2017	1" 90 ELL, 3000# SW, ASTM A-105	Ea	6	0.00		172.02	$1,032.12	$0.00	
550-4 (24 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW F6/STEL BC, BALL TYPE, VOGT SWB-701 OR EQ	Ea	2	0.00		403.56	$807.12	$0.00	
550-4 (24 OF 25)	11/17/2017	1" GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	Ea	2	0.00		$492.91	$985.82	$0.00	
550-4 (24 OF 25)	11/17/2017	1" PIPE, S. 80 PE, ASTM A-106 GR B-SMLS	LF	5.5	0.00		$58.73	$323.02	$0.00	
550-4 (24 OF 25)	11/17/2017	1"X1" TEE, STR, 3000#, SW, ASTM A-105	Ea	1	0.00		$257.48	$257.48	$0.00	
550-4 (25 OF 25)	11/17/2017	1" 90 ELL, 3000# SW, ASTM A-105	Ea	6	0.00		172.02	$1,032.12	$0.00	
550-4 (25 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW F6/STEL BC, BALL TYPE, VOGT SWB-701 OR EQ	Ea	2	0.00		403.56	$807.12	$0.00	
550-4 (25 OF 25)	11/17/2017	1" GATE VALVE, 800# SWxFNPT F6/STEL BB, OS&Y, VOGT TSW-13111 OR EQ.	Ea	2	0.00		$492.91	$985.82	$0.00	
550-4 (25 OF 25)	11/17/2017	1" PIPE, S. 80 PE, ASTM A-106 GR B-SMLS	LF	5.5	0.00		$58.73	$323.02	$0.00	
550-4 (25 OF 25)	11/17/2017	1"X1" TEE, STR, 3000#, SW, ASTM A-105	Ea	1	0.00		$257.48	$257.48	$0.00	
550-4 (3 OF 25)	11/17/2017	1" 90 ELL, 3000# SW, ASTM A-105	Ea	1	0.00		172.02	$172.02	$0.00	
550-4 (3 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW	Ea	1	0.00		403.56	$403.56	$0.00	
550-4 (3 OF 25)	11/17/2017	1" GATE VALVE, 800# SW F6/STEL BB, OS&Y, VOGT ST-2801 OR EQ.	Ea	1	0.00		$492.91	$492.91	$0.00	
550-4 (3 OF 25)	11/17/2017	1" PIPE, S. 80, ASTM A-106 GR B-SMLS	LF		(6.09)		$58.73	$0.00	-$357.67	
550-4 (3 OF 25)	11/17/2017	1"X1" CROSS, STR. 3000#, SW, ASTM A-105	Ea	1	0.00		$365.33	$365.33	$0.00	
550-4 (3 OF 25)	11/17/2017	4" PIPE, S. 40 BE, ASTM A-53, GR. B-SMLS	LF		(34.50)		$82.55	$0.00	-$2,847.98	
550-4 (3 OF 25)	11/17/2017	4"X1" SOCKOLET, 3000# FS, ASTM A-105	Ea		(1.00)		$761.25	$0.00	-$761.25	
550-4 (4 OF 25)	11/17/2017	1" 90 ELL, 3000#, SW, ASTM A-105	Ea	1	0.00		172.02	$172.02	$0.00	
550-4 (4 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW	Ea	1	0.00		403.56	$403.56	$0.00	
550-4 (4 OF 25)	11/17/2017	1" GATE VALVE, 800# SW F6/STEL BB, OS&Y, VOGT ST-2801 OR EQ.	Ea	1	0.00		$492.91	$492.91	$0.00	
550-4 (4 OF 25)	11/17/2017	1" PIPE, S. 80, ASTM A-106 GR B-SMLS	LF		(6.00)		$58.73	$0.00	-$352.38	
550-4 (4 OF 25)	11/17/2017	1"X1" CROSS, STR. 3000#, SW, ASTM A-105	Ea	1	0.00		$365.33	$365.33	$0.00	
550-4 (4 OF 25)	11/17/2017	4" PIPE, S. 40 BE, ASTM A-53, GR. B-SMLS	LF		(26.08)		$82.55	$0.00	-$2,152.90	
550-4 (4 OF 25)	11/17/2017	4"X1" SOCKOLET, 3000#, ASTM A-105	Ea		(1.00)		$761.25	$0.00	-$761.25	
550-4 (5 OF 25)	11/17/2017	1" 90 ELL, SW 3000#, ASTM A-105	Ea		(1.00)		172.02	$0.00	-$172.02	
550-4 (5 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW	Ea		(1.00)		403.56	$0.00	-$403.56	
550-4 (5 OF 25)	11/17/2017	1" GATE VALVE, 800# SW F6/STEL BB, OS&Y, VOGT ST-2801 OR EQ.	Ea		(1.00)		$492.91	$0.00	-$492.91	
550-4 (5 OF 25)	11/17/2017	1" PIPE, S. 80 PE, ASTM A-106 GR B-SMLS	LF	1.83	0.00		$58.73	$107.48	$0.00	
550-4 (5 OF 25)	11/17/2017	4" CAP, S. 40, ASTM A-234 GR WPB	Ea	1	0.00		$173.75	$173.75	$0.00	
550-4 (5 OF 25)	11/17/2017	4" PIPE, S. 40 BE, ASTM A-53, GR. B-SMLS	LF	58.66	0.00		$82.55	$4,842.38	$0.00	
550-4 (5 OF 25)	11/17/2017	4"X1" SOCKOLET, 3000#, ASTM A-105	Ea	1	0.00		$761.25	$761.25	$0.00	
550-4 (6 OF 25)	11/17/2017	1" 90 ELL, SW 3000#, ASTM A-105	Ea	1	0.00		172.02	$172.02	$0.00	
550-4 (6 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW	Ea	1	0.00		403.56	$403.56	$0.00	
550-4 (6 OF 25)	11/17/2017	1" GATE VALVE, 800# SW F6/STEL BB, OS&Y, VOGT ST-2801 OR EQ.	Ea	1	0.00		$492.91	$492.91	$0.00	
550-4 (6 OF 25)	11/17/2017	1" PIPE S. 80, ASTM A-106 GR. B-SMLS	LF		(6.00)		$58.73	$0.00	-$352.38	
550-4 (6 OF 25)	11/17/2017	1"X1" CROSS, STR. 3000#, SW, ASTM A-105	Ea	1	0.00		$365.33	$365.33	$0.00	
550-4 (6 OF 25)	11/17/2017	4" PIPE, S. 40 BE, ASTM A-53, GR. B-SMLS	LF		(26.67)		$82.55	$0.00	-$2,201.61	

Exhibit D

Drawing No.	Rev. Date	Description	UofM	Qty Added	Qty Deleted	Notes	Unit Price	Added	Deleted	
550-4 (6 OF 25)	11/17/2017	4"X1" SOCKOLET, 3000# FS, ASTM A-105	Ea		(1.00)		$761.25	$0.00	-$761.25	
550-4 (7 OF 25)	11/17/2017	1" 90 ELL, SW 3000#, ASTM A-105	Ea	1	0.00		172.02	$172.02	$0.00	
550-4 (7 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW	Ea	1	0.00		403.56	$403.56	$0.00	
550-4 (7 OF 25)	11/17/2017	1" GATE VALVE, 800# SW F6/STEL BB, OS&Y, VOGT ST-2801 OR EQ.	Ea	1	0.00		$492.91	$492.91	$0.00	
550-4 (7 OF 25)	11/17/2017	1" PIPE S. 80, ASTM A-106 GR. B-SMLS	LF		(6.09)		$58.73	$0.00	-$357.67	
550-4 (7 OF 25)	11/17/2017	1"X1" CROSS, STR. 3000#, SW, ASTM A-105	Ea	1	0.00		$365.33	$365.33	$0.00	
550-4 (7 OF 25)	11/17/2017	4" PIPE, S. 40 BE, ASTM A-53, GR. B-SMLS	LF		(33.42)		$82.55	$0.00	-$2,758.82	
550-4 (7 OF 25)	11/17/2017	4"X1" SOCKOLET, 3000# FS, ASTM A-105	Ea		(1.00)		$761.25	$0.00	-$761.25	
550-4 (8 OF 25)	11/17/2017	1" 90 ELL, SW 3000#, ASTM A-105	Ea	1	0.00		172.02	$172.02	$0.00	
550-4 (8 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW	Ea	1	0.00		403.56	$403.56	$0.00	
550-4 (8 OF 25)	11/17/2017	1" GATE VALVE, 800# SW F6/STEL BB, OS&Y, VOGT ST-2801 OR EQ.	Ea	1	0.00		$492.91	$492.91	$0.00	
550-4 (8 OF 25)	11/17/2017	1" PIPE S. 80, ASTM A-106 GR. B-SMLS	LF		(6.00)		$58.73	$0.00	-$352.38	
550-4 (8 OF 25)	11/17/2017	1"X1" CROSS, STR. 3000#, SW, ASTM A-105	Ea	1	0.00		$365.33	$365.33	$0.00	
550-4 (8 OF 25)	11/17/2017	4" PIPE, S. 40 BE, ASTM A-53, GR. B-SMLS	LF		(27.25)		$82.55	$0.00	-$2,249.49	
550-4 (8 OF 25)	11/17/2017	4"X1" SOCKOLET, 3000# FS, ASTM A-105	Ea		(1.00)		$761.25	$0.00	-$761.25	
550-4 (9 OF 25)	11/17/2017	1" CHECK VALVE, 800# SW	Ea		(1.00)		403.56	$0.00	-$403.56	
550-4 (9 OF 25)	11/17/2017	1" GATE VALVE, 800# SW F6/STEL BB, OS&Y, VOGT ST-2801 OR EQ.	Ea		(1.00)		$492.91	$0.00	-$492.91	
550-4 (9 OF 25)	11/17/2017	1" PIPE, S. 80 PE, ASM A-106 GR B-SMLS	LF		(3.75)		$58.73	$0.00	-$220.24	
550-4 (9 OF 25)	11/17/2017	4" 90 ELL, SW 3000#, ASTM A-105	Ea		(2.00)		$342.11	$0.00	-$684.22	
550-4 (9 OF 25)	11/17/2017	4" PIPE, S. 40 BE, ASTM A-53, GR. B-SMLS	LF	54.91	0.00		$82.55	$4,532.82	$0.00	
601-2 (1 OF 2)	11/14/2017	1" FLG, 150# SW ASTM A105, S. 80	Ea		(1.00)		0	$0.00	$0.00	
601-2 (1 OF 2)	11/14/2017	1" GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea		(1.00)		0	$0.00	$0.00	
601-2 (1 OF 2)	11/14/2017	2" 90 LR ELL, BW ASTM A-234 GR WPB, S. 80	Ea		(3.00)		$147.74	$0.00	-$443.22	
601-2 (1 OF 2)	11/14/2017	2" PIPE, S. 80 BE ASTM A-106, GR. B-SMLS	LF		(38.55)		$122.27	$0.00	-$4,713.51	Natural gas to barge
601-2 (1 OF 2)	11/14/2017	2"X1"SWAGE, CONC. S. 80, ASTM A-234 GR WPB PLE-PSE	Ea		(1.00)		$255.02	$0.00	-$255.02	601's Natural Gas
601-2 (2 OF 2)	11/14/2017	1" FLG, 150# SW ASTM A105, S. 80	Ea	1	0.00		0	$0.00	$0.00	
601-2 (2 OF 2)	11/14/2017	1" GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea	1	0.00		0	$0.00	$0.00	
601-2 (2 OF 2)	11/14/2017	2" 90 LR ELL, BW ASTM A-234 GR WPB, S. 80	Ea	7	0.00		$147.74	$1,034.18	$0.00	
601-2 (2 OF 2)	11/14/2017	2" PIPE, S. 80 BE ASTM A-106, GR. B-SMLS	LF	72.42	0.00		$122.27	$8,854.79	$0.00	
601-2 (2 OF 2)	11/14/2017	2"X1"SWAGE, CONC. S. 80, ASTM A-234 GR WPB PLE-PSE	Ea	1	0.00		$255.02	$255.02	$0.00	
602-3 (1 of 5)	11/16/2017	3" PIPE, S. 40 BE, ASTM A53, GR. B-SMLS	LF		(0.58)		$73.01	$0.00	-$42.35	
602-3 (1 of 5)	11/16/2017	4" BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ.	Ea		(1.00)		$464.00	$0.00	-$464.00	
602-3 (1 of 5)	11/16/2017	4" CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHECK G15CMF OR EQ.	Ea		(1.00)		$1,176.00	$0.00	-$1,176.00	
602-3 (1 of 5)	11/16/2017	4" FLG, 150# WN ASTM A105, S. 40	Ea		(3.00)		$425.00	$0.00	-$1,275.00	
602-3 (1 of 5)	11/16/2017	4" FLG, RF BLIND 150#, ASTM A-105	Ea		(1.00)		$425.00	$0.00	-$425.00	
602-3 (1 of 5)	11/16/2017	4" GASKET 1/8" 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea		(4.00)		$14.29	$0.00	-$57.16	
602-3 (1 of 5)	11/16/2017	4" Pipe, S. 40 BE, AASTM A53, GR. B-SMLS	LF	26.58	0.00		$82.55	$2,194.18	$0.00	Natural Gas to main VCU header
602-3 (1 of 5)	11/16/2017	5/8"X3-3/4" (8) ALLOY STEEL STUDS, ASSTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea		(4.00)		$26.26	$0.00	-$105.04	602's Natural Gas
602-3 (4 OF 5)	11/16/2017	4" 90 LR ELL, BW ASTM A-234 GR WPB, S. 40	Ea	1	0.00		$342.11	$342.11	$0.00	
602-3 (4 OF 5)	11/16/2017	4" Pipe, S. 40 BE, ASTM A53, GR. B-SMLS	LF	156.42	0.00		$82.55	$12,912.47	$0.00	
602-3 (5 OF 5)	11/16/2017	4" BALL VALVE, 150# FLGD 316 3PC, FULL PORT, LEVER OP, JAMESBURY 9150-31-2236-MTT-1 OR EQ.	Ea	1	0.00		$464.00	$464.00	$0.00	
602-3 (5 OF 5)	11/16/2017	4" CHECK VALVE, 150# WAFER BUNA-N SPLIT DISC, DUOCHECK G15CMF OR EQ.	Ea	1	0.00		$1,176.00	$1,176.00	$0.00	
602-3 (5 OF 5)	11/16/2017	4" FLG, 150# WN ASTM A105, S. 40	Ea	5	0.00		$425.00	$2,125.00	$0.00	
602-3 (5 OF 5)	11/16/2017	4" FLG, RF BLIND 150#, ASTM A-105	Ea	1	0.00		$425.00	$425.00	$0.00	
602-3 (5 OF 5)	11/16/2017	4" GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea	5	0.00		$14.29	$71.45	$0.00	
602-3 (5 OF 5)	11/16/2017	4" Pipe, S. 40 BE, ASTM A53, GR. B-SMLS	LF	109.58	0.00		$82.55	$9,045.83	$0.00	
602-3 (5 OF 5)	11/16/2017	5/8"X3-3/4" (8) ALLOY STEEL STUDS, ASSTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea	3	0.00		$26.26	$78.78	$0.00	
606-2 (1 OF 2)	11/14/2017	1" BALL VALVE, 800# SW 316 3PC, RED PORT, LEVER OP, JAMESBURY 4CB-2236-MTT OR EQ.	Ea	2	0.00		723.83	$1,447.66	$0.00	
606-2 (1 OF 2)	11/14/2017	1" CPLG, SW 3000#, ASTM A-105	Ea	2	0.00		147.34	$294.68	$0.00	
606-2 (1 OF 2)	11/14/2017	1" EXPANSION JOINT	LF	0.67	0.00		58.73	$39.35	$0.00	
606-2 (1 OF 2)	11/14/2017	1" PIPE, S. 80 T&C, ASTM A-106 GR B-SMLS	LF	1	0.00		$58.73	$58.73	$0.00	
606-2 (1 OF 2)	11/14/2017	1"X3/4" SWAGE CONC. S/80 ASTM A-234 GR WPB M-PSE	Ea	1	0.00		$214.13	$214.13	$0.00	Compressed Air to pump
606-2 (1 OF 2)	11/14/2017	2" 90 LR ELL, BW ASTM A-234 GR WPB	Ea		(3.00)		$147.74	$0.00	-$443.22	606's Air
606-2 (1 OF 2)	11/14/2017	2" PIPE, S. 80 BE ASTM A-106, GR. B-SMLS	LF		(95.00)		$122.27	$0.00	-$11,615.65	
606-2 (1 OF 2)	11/14/2017	2"X1"SWAGE, CONC. S. 80, ASTM A-234 GR WPB PLE-PSE	Ea	1	0.00		$255.02	$255.02	$0.00	
606-2 (1 OF 2)	11/14/2017	2"X3/4" SWAGE, REDUCER, 3000# THRD CONC ASTM A-105 ZINC METALIZED COATED	Ea		(1.00)		$267.86	$0.00	-$267.86	
606-2 (1 OF 2)	11/14/2017	3/4" PIPE, S. 80 T&C ASTM A-106 GR B-SMLS	LF		(0.42)		$62.81	$0.00	-$26.38	
606-2 (2 OF 2)	11/14/2017	2" 90 LR ELL, BW ASTM A-234 GR WPB	Ea	4	0.00		$147.74	$590.96	$0.00	
606-2 (2 OF 2)	11/14/2017	2" PIPE, S. 80 BE ASTM A-106, GR. B-SMLS	LF	117.25	0.00		$122.27	$14,336.16	$0.00	
607-2 (1 OF 2)	11/16/2017	1" PIPE, S. 80 T&C ASTM A53, GR. B - SMLS, HOT DIPPED GALVANIZED AFTER FABRICATION	LF	0.83	0.00		$62.49	$51.87	$0.00	
607-2 (1 OF 2)	11/16/2017	1"X3/4" TEE, RED. 3000#, SW, ASTM A-105	Ea	1	0.00		$213.68	$213.68	$0.00	
607-2 (1 OF 2)	11/16/2017	2" 90 LR ELL 3000# Thrd ASTM A-105, Zinc Metalized Coated	Ea	1	0.00		$147.74	$147.74	$0.00	
607-2 (1 OF 2)	11/16/2017	2" PIPE, S. 80 T&C ASTM A53, GR. B-SMLS, HOT DIPPED GALVANIZED AFTER FABRICATION	LF	32.25	0.00		$130.98	$4,224.11	$0.00	
607-2 (1 OF 2)	11/16/2017	2"X1" REDUCER, 3000# THRD ASTM A105, ZINC METALIZED COATED	EA	1	0.00		$328.64	$328.64	$0.00	
607-2 (1 OF 2)	11/16/2017	3/4" BALL VALVE, 800# FLGD 3115 UNIBODY, QUADRANT VALVE F1-R-C-S-V-G-LH-1F OR EQ.	Ea	1	0.00		$367.40	$367.40	$0.00	
607-2 (1 OF 2)	11/16/2017	3/4" ORIFICE NIPPLE, S. 160 TBE ASTM A53, GR. B-SMLS HOT DIPPED GALVANIZED	EA	1	0.00		$141.07	$141.07	$0.00	607's Natural Gas
607-2 (2 OF 2)	11/16/2017	2" 90 LR ELL, 3000# THRD ASTM A105, ZINC METALIZED COATED	Ea	2	0.00		$211.34	$422.68	$0.00	
607-2 (2 OF 2)	11/16/2017	2" BALL VALVE, 150# FLGD 316 UNIBODY QUADRANT VALVE F1-R-C-S-V-G-LH-1F OR EQ.	Ea	1	0.00		$928.35	$928.35	$0.00	
607-2 (2 OF 2)	11/16/2017	2" FLG, 150# THRD ASTM A105, S. 80, HOT DIPPED GALVANIZED AFTER FABRICATION	Ea	2	0.00		$168.40	$336.80	$0.00	
607-2 (2 OF 2)	11/16/2017	2" GASKET 1/8" THICK 304 SS SPIRAL WOUND FLEXIBLE GRAPHITE FILLER WITH CS GAUGE RING, ASME B16.20	Ea	2	0.00		$10.59	$21.18	$0.00	
607-2 (2 OF 2)	11/16/2017	2" PIPE, S. 80 T&C ASTM A53, GR. B-SMLS, HOT DIPPED GALVANIZED AFTER FABRICATION	LF	12.67	0.00		$130.98	$1,659.52	$0.00	
607-2 (2 OF 2)	11/16/2017	5/8"X3-1/4" (4) ALLOY STEEL STUDS, ASSTM A193 GR. B7, WITH 2 HEAVY HEX NUTS EACH, ASTM A194 GR. 2H	Ea	2	0.00		$22.26	$44.52	$0.00	

	Additions	Deductions
	$506,955.33	-$230,252.33
Total	**$276,703.00**	
Negotiated Deduction	**-17,836.12**	
Total Change Order	**$258,866.88**	

RESOLUTION CHANGING THE OFFICERS OF THE PORT OF CORPUS CHRISTI AUTHORITY OF NUECES COUNTY, TEXAS ("*PORT AUTHORITY*"), AUTHORIZED TO ACT ON BEHALF OF THE PORT AUTHORITY IN CONNECTION WITH THE NEIGHBORHOOD ACQUISITION PLAN AND RELOCATION PROGRAM UNDER THE FOUR PARTY AGREEMENT BETWEEN THE TEXAS DEPARTMENT OF TRANSPORTATION ("*TXDOT*"), THE PORT AUTHORITY, THE CITY OF CORPUS CHRISTI, TEXAS ("*CITY*"), AND THE CORPUS CHRISTI HOUSING AUTHORITY ("*HOUSING AUTHORITY*") CONCERNING THE HARBOR BRIDGE REPLACEMENT PROJECT

WHEREAS, TxDOT, the Port Authority, the City, and the Housing Authority entered into a Four Party Agreement ("***Four Party Agreement***") that allocates responsibility among the parties for implementing certain Title VI mitigation actions in those parts of the Hillcrest and Washington-Coles neighborhoods in Corpus Christi, Texas, north of I-37 and west of the proposed route of the new Harbor Bridge (collectively, the "***Neighborhood***"); and

WHEREAS, under the terms of the Four Party Agreement the Port Authority has agreed (1) to offer to purchase all of the residential and business property in the Neighborhood pursuant to the terms of the Neighborhood Acquisition Plan described in Exhibit C to the Four Party Agreement (the "***Neighborhood Acquisition Plan***"), and (2) to provide relocation benefits to displaced owners, tenants and businesses pursuant to the terms of the Relocation Program described in Exhibit C (the "***Relocation Program***"), all at a cost not to exceed $20 million; and

WHEREAS, under the terms of the Four Party Agreement the Port Authority also agreed to offer to buy restrictive covenants on the owner occupied residential property in the Neighborhood pursuant to the terms of the Voluntary Restrictive Covenant Program described in Exhibit C to the Four Party Agreement; and

WHEREAS, the Port Commission adopted a resolution on December 15, 2015 (the "***2015 Resolution***"), authorizing the Executive Director, the Chief Operating Officer, and the Chief Commercial Officer (the "***Authorized Officers***") of the Port Authority to execute, attest, seal, and deliver any and all agreements, certificates, documents, or other papers and to do any and all other things necessary or appropriate to carry out the carry out the Port Authority's obligations under the Four Party Agreement; and

WHEREAS, the Port Commission wishes to change the officers of the Port Authority authorized to act on behalf of the Port Authority in connection with the implementation of the Neighborhood Acquisition Plan and Relocation Program;

NOW, THEREFORE, BE IT RESOLVED BY THE PORT COMMISSION OF THE PORT OF CORPUS CHRISTI AUTHORITY OF NUECES COUNTY, TEXAS THAT:

Sections 5, 6, 7, and 8 of the 2015 Resolution are hereby amended in their entirety to read as follows:

Section 5. In connection with the acquisition of real property and real property interests under the Neighborhood Acquisition Plan described in the Four Party Agreement, the Executive Director, the Chief Executive Officer, and the Chief Financial Officer are each hereby severally authorized and directed, for and on behalf of the Port Authority, to execute and deliver any and all agreements and instruments necessary or appropriate to purchase or to offer to purchase the real property and real property interests the Port Authority is purchasing or offering to purchase under that program.

Section 6. In connection with the acquisition of restrictive covenants and options to purchase real property under the Voluntary Restrictive Covenant Program described in the Four Party Agreement, the Executive Director, the Chief Executive Officer, and the Chief Financial Officer are each hereby severally authorized and directed, for and on behalf of the Port Authority, to execute and deliver any and all agreements and instruments necessary or appropriate to purchase or to offer to purchase the restrictive covenants and options the Port Authority is purchasing or offering to purchase under that program.

Section 7. In connection with funding any moving and relocation expenses under the Relocation Program described in the Four Party Agreement, the Executive Director, the Chief Executive Officer, and the Chief Financial Officer are each hereby severally authorized and directed, for and on behalf of the Port Authority, to execute and deliver any and all agreements and instruments necessary or appropriate to carry out the Port Authority's obligations under that program.

Section 8. The Executive Director, the Chief Executive Officer, and the Chief Financial Officer are each hereby severally authorized and directed, for and on behalf of the Port Authority, to execute, attest, seal, and deliver any and all additional certificates, documents, or other papers and to do any and all other things necessary or appropriate to carry out the intent and purposes of this Resolution.

ADOPTED BY the Port Commission of the Port of Corpus Christi Authority of Nueces County, Texas, at a public meeting of the Port Commission held on January 16, 2018.

* * * * * * * * * * * *

PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: James Haley,
jamesh@pocca.com
(361) 885-6606

Sarah L. Garza, Director of Environmental Planning & Compliance
sarah@pocca.com
(361) 885-6163

Authorize Consulting Services Contract Amendment to conduct additional soil sampling and analysis associated with the Baseline Environmental Site Assessment of the Maverick Terminals Lease site, in the Amount of $9,600.

SUMMARY: Staff requests authorization for a Contract Amendment in the amount of $9,600 to conduct additional soil sampling and analysis in association with the Phase II Environmental Site Assessment for Maverick Terminals Lease Area.

BACKGROUND: Article 18, Section 18.01 (e) of the Lease Agreement between Port of Corpus Christi Authority of Nueces County, Texas and Maverick Terminals Corpus, LLC, dated August 1, 2017 specifies PCCA conduct a Baseline Environmental Site Assessment (assessment). A Phase I and Baseline ESA were completed on September 29, 2017 and November 9, 2017, respectively. Analytical results of samples collected associated with the assessment indicates the need to collect additional soil samples in order to delineate an area impacted by petroleum hydrocarbons (attached site map) and thallium.

CONFORMITY TO PORT POLICY: Conforms to Strategic Plan Goal #5 (Be An Environmental Leader), Strategic Objective 5B (Continue to Meet and Exceed Regulatory Standards), Action Item 1 (Implement Environmental Standards Port-wide).

EMERGENCY: This is not an emergency. However, the additional work should be completed prior to development of the base property by Maverick.

FINANCIAL IMPACT: The original contract amount was $49,993 and the new total amount with the contact amendment will be $59,593. Additionally, this entire amount is being reimbursed to PCCA under the terms of the lease agreement.

STAFF RECOMMENDATION: Staff recommends a Consulting Services Contract Amendment be issued to ATC Group Services, LLC in the amount of $9,600 to conduct additional soil sampling and analysis at the Maverick Terminals lease site.

DEPARTMENTAL CLEARANCES:

Originating Department	Environmental Planning & Compliance
Reviewed By	Sarah Garza
	James Haley
Legal	Dane Bruun
Senior Staff	John LaRue
	Sean Strawbridge

LIST OF SUPPORTING DOCUMENTS:

Amendment No.1 to Consulting Services Contract for Additional Services

AMENDMENT NO. 1
TO
CONSULTING SERVICES CONTRACT
FOR ADDITIONAL SERVICES
PROJECT NAME: Baseline Environmental Site Assessment for Maverick Terminals Site
PROJECT NO. 17-020A

This Amendment No. 1 to Consulting Services Contract for Additional Services (the ***"Amendment")*** is made effective as of January 16, 2018 ***("Amendment Date")*** by and between the Port of Corpus Christi Authority of Nueces County, Texas, a navigation district operating under Article XVI, Section 59 of the Texas Constitution ***("Authority"),*** and ATC Group Services, LLC. ***("Consultant").*** Authority and Consultant are sometimes individually referred to herein as a ***"Party"*** and collectively as the ***"Parties".***

WHEREAS, Authority and Consultant entered into a Consulting Services Contract dated as of September 11, 2017, in connection with completion of a Phase I Environmental Site Assessment and a Baseline Environmental Site Assessment (the ***"Agreement")***; and

WHEREAS, capitalized terms in this Amendment shall have the meanings given to them in the Agreement, except as provided herein; and

WHEREAS, the Authority and Consultant have agreed (i) to expand the Services to be provided under the Agreement, (ii) to extend the Deadline for performing the Services, and (iii) to increase the compensation payable to Consultant under the Agreement;

NOW, THEREFORE, for a good and valuable consideration, the Parties hereby agree as follows:

A. **Exhibit A** of the Agreement is hereby amended by adding thereto the additional services described **Attachment A** to this Amendment.

B. **Section 2 (PERIOD OF SERVICE)** of the Agreement is hereby amended by amending the first sentence of Section 2 to read as follows:

> **2. PERIOD OF SERVICE:** The Consultant shall complete the Services on or before March 31, 2018 (the "Deadline"), unless the Authority agrees to extend the Deadline for good reason; provided, however, that the Authority may terminate this Contract at any time in accordance with Section 14.

C. **Exhibit B** of the Agreement is hereby amended by adding thereto the additional compensation described in **Attachment B** to this Amendment.

D. Section 7 of the Agreement is hereby amended in its entirety to read as follows.

7. COMPENSATION: The compensation to be paid Consultant for providing the Services shall be the compensation described in Exhibit B hereto, which is incorporated herein by reference; provided, however, the total paid to Consultant for the Services shall not exceed **Fifty-Nine Thousand Five Hundred Ninety Three Dollars ($59,593).** Consultant will obtain the approval of Authority's Project Representative relative to incurring travel and other expenses before incurring such costs.

E. This Amendment shall be binding on the successors and assigns of the Parties.

F. Except as specifically amended hereby, all terms and conditions of the Agreement shall remain in full force and effect. In the event of any conflict between the terms and conditions of this Amendment and the terms and conditions of the Agreement, the terms and conditions of this Amendment shall control.

G. This Amendment maybe executed in multiple counterparts, each of which will be considered to be an original. Signature pages may be detached from the counterparts and attached to a single copy of this document to physically form one document. The Parties may provide signatures to this Amendment by facsimile or Adobe ".pdf" file and such facsimile or Adobe ".pdf" file signatures shall be deemed to be the same as original signatures.

[The signature page follows this page.]

In Witness Whereof, each Party has caused this Amendment to be executed by its duly authorized representative effective for all purposes as of the Amendment Date.

PORT OF CORPUS CHRISTI AUTHORITY
OF NUECES COUNTY, TEXAS

By: _____
John P. LaRue
Executive Director

ATC Group Services, LLC

By: _____
Name: John H. Call
Title: Regional Manager

ATTACHMENT A

SCOPE OF SERVICES

The Consultant will perform the following additional services in accordance with the terms and conditions set forth in this Contract:

Scope of Work:

Consultant will conduct additional sampling to supplement the existing Baseline Environmental Baseline Assessment (ESA). This work will include advancing four soil borings within a ten foot radius of SB-04, as indicated on the attached Site Map. Each boring location will be hand-augured to a depth of five feet below ground surface and completed using direct push technology to a depth of one foot above the top of the saturated soils. The soil in each boring will be continuously screened for visual and olfactory evidence of petroleum hydrocarbons. A Photoionization Detector (PID) will be used to measure the concentration of organic vapors in each one foot interval. A maximum of three discrete soil samples from each boring location will be collected from the intervals exhibiting the highest PID reading and from just above the top of groundwater and submitted for laboratory analyses. In the absence of a PID reading, or other visual or olfactory organic vapor detection, a surface sample and the sample from just above the top of groundwater will also be collected. Each soil sample will be analyzed for total petroleum hydrocarbons (TPH) using Texas Method 1005 and thallium using Method SW6010B. The sample with the highest TPH concentration will also be analyzed for TPH using Texas Method 1006 and polynuclear aromatic hydrocarbons (PAH) using Method 8270c. Additionally, consultant will notify the laboratory and direct them on the three soil samples from the previous investigation that are to be analyzed for thallium using Method SW6010B.

TPH samples are to be collected using Method 5035.

Soil cuttings are to be placed back in the boreholes. Debris such as personal protective equipment and sampling equipment will be properly disposed.

Deliverables:

Draft and Final Baseline ESA Reports summarizing all sampling activities and analytical results with comparisons to relevant Texas Risk Reduction Program concentrations and previous sampling efforts are to be provided in word and .pdf format, respectively.

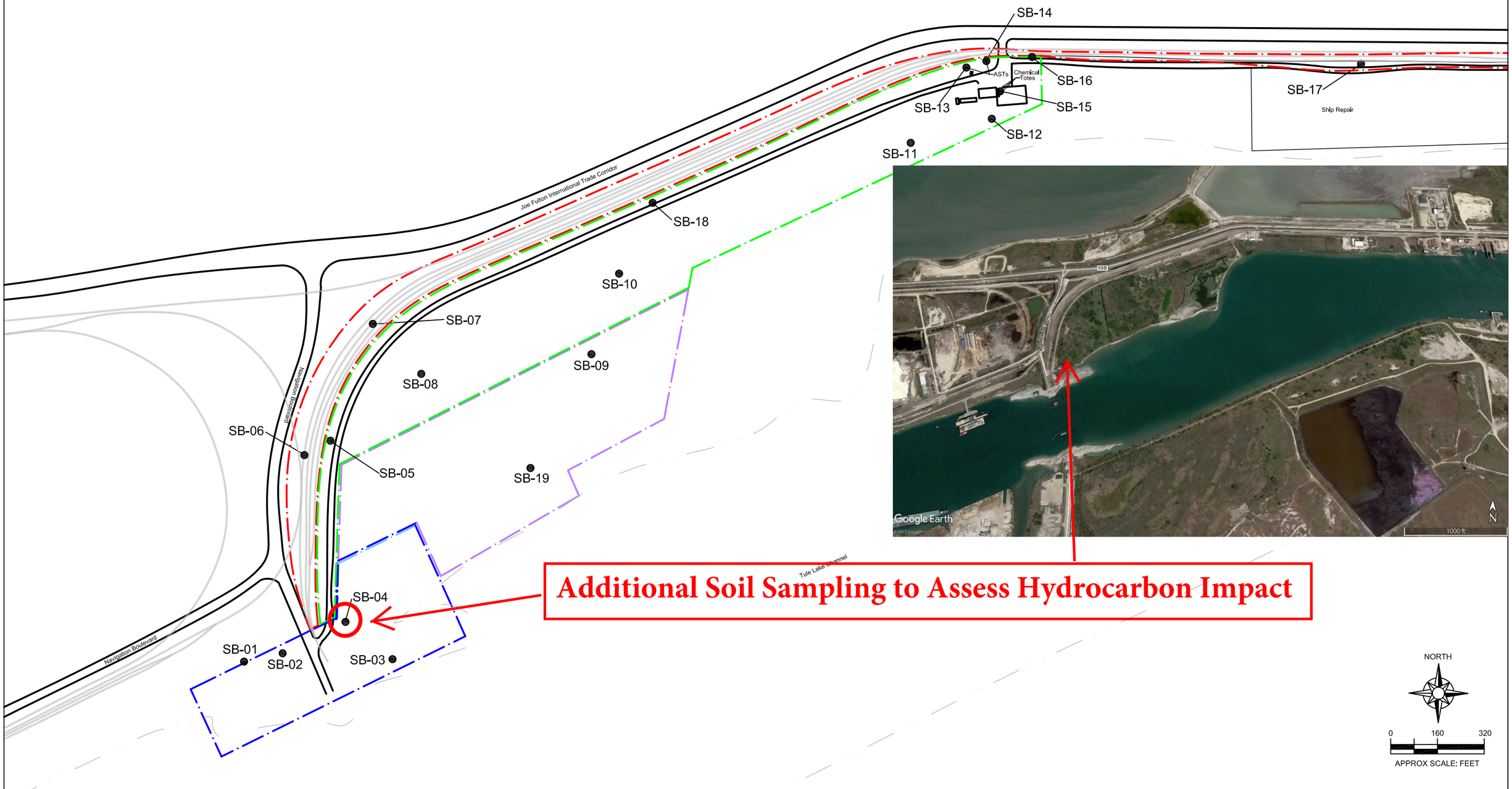
Schedule:

- Draft Baseline ESA Report due by February 16, 2018
- Final Baseline ESA Report due by February 28, 2018

ATTACHMENT B

FEE SCHEDULE

The Consultant will perform the Services described in Attachment A in accordance with the terms and conditions of this Contract on an hourly fee basis; provided, however, that the total fee for services rendered under this Amendment will not to exceed $9,600, without Authority's written approval.



SITE MAP

Maverick Terminal
Corpus Christi, Texas

LEGEND

- Approximate Boundaries for Undeveloped Rail Property, 20.90 Acres
- Approximate Boundaries for Undeveloped Waterfront Property, 9.31 Acres
- Approximate Boundaries for Waterfront Property, 5.91 Acres
- Approximate Boundaries Rail Property, 4.67 Acres
- Railroad Track
- Soil Boring

PROJECT NUMBER: SATPOC001	FIGURE 1	CHECKED BY: PJP	SCALE: SEE ABOVE
			DRAWN BY: DD - 10/09/17

DRAWING FILE: U:\Deanna Duenez\CADD\Out of Town\San Antonio\Phyllis\Corpus Christi Terminal\Map

ATC

PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: Beatriz Rivera, Environmental Engineer
brivera@pocca.com
(361) 885-6639

Approve Second Amendment and Supplement of Professional Engineering Services Contract for an amount of $27,273 with Lockwood, Andrews & Newnam, Inc. for Limited Engineering Services for Storm Water Quality Improvements Project at the Bulk Terminal.

SUMMARY: Staff requests approval of the Second Amendment and Supplement of Professional Engineering Services Contract with Lockwood, Andrews and Newnam, Inc. (LAN) in the amount of $27,273 for limited engineering services associated with the construction phase of storm water quality improvements at the Bulk Terminal.

BACKGROUND: The Storm water quality improvements project at the Bulk Terminal is under construction. The scope of work includes the design of the dredging of storm water evaporation ponds on the public pads and a filtration system to improve storm water quality, increase the flow of storm water from the site in a more efficient manner, and reduce the maintenance requirements for this system.

In May 2015, the Port Commission authorized a Service Order No. 3 under Master Agreement 14-01 with LAN for an amount of $349,994 for engineering design of the project. In December 2015, the Port Commission authorized an additional Service Order No. 7 under the same master agreement for an amount of $47,950 for additional engineering services associated with the design of the project. In November 2016, the Port Commission authorized an amendment to the Service Order No. 7 for an amount of $9,700 to provided supplemental subsurface investigation and laboratory testing associated with the design of the project.

During the project construction phase, Staff has reviewed and approved all contractor submittals for conformance with the Contract Documents. However, some of the contractor submittals require specific structural evaluations that will impact the original design of the project. Therefore, staff has negotiated the attached Second Amendment and Supplement of Professional Engineering Services Contract for an amount of $27,273 to provide limited assistance to the contractor submital that require specific structural evaluation with potential impacts to the project original design.

ALTERNATIVES: No.

CONFORMITY TO PORT POLICY: Conforms to Strategic Plan Goal #5 (Be An Environmental Leader), Strategic Objective 5B (Continue to Meet and Exceed Regulatory Standards), Action Item 1 (Implement Environmental Standards Port-wide). The storm water quality improvements at the Bulk Terminal also support the Port's Environmental Policy promoting environmental sustainability and water quality improvements.

EMERGENCY: No.

FINANCIAL IMPACT: Project costs associated with four previous authorizations total $450,167 for a total amount of $535,040.

STAFF RECOMMENDATION: Staff recommends approval of the Second Amendment and Supplement of Professional Engineering Services Contract with Lockwood, Andrews and Newnam, Inc. for an additional amount of $27,273.00, for professional engineering services to provide limited assistance during the construction phase of the storm water system improvements at the Bulk Terminal.

DEPARTMENTAL CLEARANCES:

Originating Department	Environmental Planning & Compliance
Reviewed By	Sarah Garza
Legal	Dane Bruun
Senior Staff	John LaRue
	Sean Strawbridge

LIST OF SUPPORTING DOCUMENTS:

Second Amendment and Supplement of Professional Engineering Services Contract with Lockwood, Andrews & Newnam, Inc.

AMENDMENT NO. 2
TO
PROFESSIONAL ENGINEERING SERVICES CONTRACT
FOR ADDITIONAL SERVICES
PROJECT NAME: Storm water System Quality Improvements at Bulk Terminal
PROJECT NO. 15-046A

This Amendment No. 2 to Professional Engineering Services Contract for Additional Services (the ***"Amendment")*** is made effective as of 16th day of January, 2018 ***("Amendment Date")*** by and between the Port of Corpus Christi Authority of Nueces County, Texas, a navigation district operating under Article XVI, Section 59 of the Texas Constitution ***("Authority"),*** and Lockwood, Andrews & Newnam, Inc. ***("Engineer").*** Authority and Engineer are sometimes individually referred to herein as a ***"Party"*** and collectively as the ***"Parties".***

WHEREAS, Authority and Engineer entered into a Professional Engineering Services Contract dated 20th day of September, 2016, in connection with engineering design services associated with the Authority's Storm Water Quality Bulk Terminal – Phase I Project (the ***"Agreement")***; and

WHEREAS, Authority and Engineer entered into a First Amendment and Supplement of Professional Engineering Services Contract dated November 15, 2016, to provide professional engineering services to complete a supplemental subsurface investigation and laboratory testing program and provide foundation recommendations for the Storm Water Quality Bulk Terminal – Phase I Project; and

WHEREAS, capitalized terms in this Amendment shall have the meanings given to them in the Agreement, except as provided herein; and

WHEREAS, the Authority and Engineer have agreed (i) to expand the Services to be provided under the Agreement, (ii) to extend the Deadline for performing the Services, and (iii) to increase the compensation payable to Engineer under the Agreement;

NOW, THEREFORE, for a good and valuable consideration, the Parties hereby agree as follows:

A. **Exhibit A** of the Agreement is hereby amended by adding thereto the additional services described **Attachment A** to this Amendment.

B. **Section 2 (PERIOD OF SERVICE)** of the Agreement is hereby amended by amending the first sentence of Section 2 to read as follows:

> **2. PERIOD OF SERVICE:** The Engineer shall complete the Services on or before December 31, 2018 (the "Deadline"), unless the Authority agrees to extend the Deadline for good reason; provided, however, that the Authority may terminate this Contract at any time in accordance with Section 14.

C. **Exhibit B** of the Agreement is hereby amended by adding thereto the additional compensation described in **Attachment B** to this Amendment.

D. Section 7 of the Agreement is hereby amended in its entirety to read as follows.

7**. COMPENSATION**: The compensation to be paid Engineer for providing the Services shall be the compensation described in Exhibit B hereto, which is incorporated herein by reference; provided, however, the total paid to Engineer for the Services shall not exceed **Eighty-Four Thousand, Eight Hundred Seventy-Three Dollars ($84,873).** Engineer will obtain the approval of Authority's Project Representative relative to incurring travel and other expenses before incurring such costs.

E. This Amendment shall be binding on the successors and assigns of the Parties.

F. Except as specifically amended hereby, all terms and conditions of the Agreement shall remain in full force and effect. In the event of any conflict between the terms and conditions of this Amendment and the terms and conditions of the Agreement, the terms and conditions of this Amendment shall control.

G. This Amendment maybe executed in multiple counterparts, each of which will be considered to be an original. Signature pages may be detached from the counterparts and attached to a single copy of this document to physically form one document. The Parties may provide signatures to this Amendment by facsimile or Adobe ".pdf" file and such facsimile or Adobe ".pdf" file signatures shall be deemed to be the same as original signatures.

[The signature page follows this page.]

In Witness Whereof, each Party has caused this Amendment to be executed by its duly authorized representative effective for all purposes as of the Amendment Date.

PORT OF CORPUS CHRISTI AUTHORITY
OF NUECES COUNTY, TEXAS

By: _____
Sean Strawbridge
CEO

LOCKWOOD , ANDREWS & NEWNAM, INC.

By: _____
Name: _____
Title: _____

ATTACHMENT A

SCOPE OF SERVICES

The Engineer will perform the following services in accordance with the terms and conditions set forth in this Contract, as directed by the Authority:

Additional Construction Phase Services

Provide limited assistance support during construction phase of the Storm water System Quality Improvements at Bulk Terminal:

a. Answer contractor's Requests for Information related to structural design

b. Approve design changes

Deliverables

- Response to Request of Information within 10 days or less of Contractor Submittal.

ATTACHMENT B

FEE SCHEDULE

The Engineer will perform the Services described in Attachment A in accordance with the terms and conditions of this Contract on an hourly fee basis; provided, however, that the total fee for services rendered under this Amendment will not to exceed $27,273, without Authority's written approval.

PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: Sarah L. Garza, Director of Environmental Planning & Compliance
sarah@pocca.com
(361) 885-6163

Approve Service Order No. 7 in the Amount of $32,800 with Tricord Consulting, LLC, Under Professional Services Master Agreement No. 07-16, for Environmental Consulting Services to Prepare an Air Permit Application at Bulk Dock 3 for Future Expansion.

SUMMARY: Staff requests approval to issue Service Order No. 7 of Master Agreement No. 07-16 with Tricord Consulting, LLC for environmental consulting services to prepare an air permit application for Bulk Dock 3 for loading of jet fuel in rail cars and marine vessels and the addition of another vapor combustion unit.

BACKGROUND: The Bulk Dock 3 facility is currently under construction and when fully constructed will allow the transloading of diesel from barges to railcars and the unloading of barges to tanks at the adjacent Maverick Terminal. A permit by rule authorization was obtained from Texas Commission on Environmental Quality (TCEQ) for these operations. The addition of other products and an additional vapor combustion unit for future products will require a new source review permit with the TCEQ which has a long lead time. Therefore, staff recommends pro-actively pursuing the new source review permit.

ALTERNATIVES: N/A.

CONFORMITY TO PORT POLICY: Conforms to Strategic Plan Goal #5 (Be an Environmental Leader), Strategic Objective 5B (Continue to Meet and Exceed Regulatory Standards), Action Item 2 (Develop and Implement Regulatory Strategy for Future Environmental Regulations).

EMERGENCY: N/A.

FINANCIAL IMPACT: This permit authorization will allow additional products to be handled through Bulk Dock 3.

STAFF RECOMMENDATION: Staff recommends approval of the Service Order No. 7 with Tricord Consulting, LLC for environmental consulting services to prepare an air permit application in the amount of $32,800.

DEPARTMENTAL CLEARANCES:

Originating Department	Environmental Planning & Compliance
Reviewed By	Sarah Garza
	Danielle Converse
Legal	Jimmy Welder
	Dane Bruun
Senior Staff	John LaRue
	Sean Strawbridge

LIST OF SUPPORTING DOCUMENTS:

Service Order No. 7 with Tricord Consulting, LLC

SERVICE ORDER NO. 7
PORT OF CORPUS CHRISTI AUTHORITY
OF NUECES COUNTY, TEXAS
MASTER AGREEMENT NO. 07-16

Pursuant to PCCA Master Agreement No. 07-16 between Port of Corpus Christi Authority of Nueces County, Texas ("PCCA") and TRICORD Consulting, LLC ("ENVIRONMENTAL CONSULTANT"), ENVIRONMENTAL CONSULTANT will provide the Basic and Additional Services set forth in Exhibit A of Master Agreement No. 07-16 in accordance with any additions or deletions to the same or any Services different from those described in the said Exhibit A, in this Service Order. This Service Order modifies or amends PCCA Master Agreement No. 07-16, the provisions of which not specifically amended by this Service Order will remain in effect.

Description of Project:

PCCA is developing expansion plans to load additional petroleum products at our BD-3 trans-loading operations recently authorized via PBR. More specifically, PCCA is proposing to load jet fuel into railcars and marine vessels, and increase short-term and annual throughputs of gasoline and diesel into railcars and marine vessels, add an additional vapor combustion unit (VCU), and add a new horizontal slop tank in support of these potential new loading services. The purpose of this project is to develop an application for and facilitate issuance of an initial case-by-case new source review (NSR) permit under Title 30 of the Texas Administrative Code (30 TAC) Chapter 116, Subchapter B to authorize these new services.

Project Contact for PCCA:	Project Contact for ENVIRONMENTAL CONSULTANT:
Project Manager: Sarah Garza	Project Manager: Shane Dillard
Phone Number: (361) 885-6163	Phone Number: (888) 900-0746 ext. 703

Scope of Services:

1. Study/Report Phase.

   In accordance with Section A-101 of Exhibit A of the Master Agreement, ENVIRONMENTAL CONSULTANT will provide the following services:

   Prepare Emission Calculations

   ENVIRONMENTAL CONSULTANT will prepare emission calculations for the permit application using the operational data provided by PCCA. ENVIRONMENTAL CONSULTANT will provide PCCA a draft of the emission calculations, along with proposed material throughputs for review and approval by PCCA prior to developing the complete minor NSR application.

   Develop Draft NSR Application

   ENVIRONMENTAL CONSULTANT will develop a permit application for a minor NSR permit as required under 30 TAC Subchapter B. The initial permit application will include emission calculations, all applicable forms and tables, a project and process description, a state and federal regulatory analysis, and a Best Available Control Technology (BACT) evaluation. ENVIRONMENTAL CONSULTANT will provide the draft permit application to PCCA for review, and then incorporate any comments before final submittal. ENVIRONMENTAL CONSULTANT will develop a permitting strategy and permit application that meets current TCEQ guidance and provides necessary capacity to construct and operate the expanded facility as outlined by PCCA project contact.

A permit fee of $900 or more (depending on project capital costs) will be required for this project and construction may not begin until the application is approved by the TCEQ. A typical timeframe for approval is nine (9) to twelve (12) months unless the permit application is expedited, which is an additional $10,000 surcharge. Expedited permit applications may take six (6) to nine (9) months for approval. This service order does not include any reimbursement for permit fees as it is assumed that PCCA will pay directly to the TCEQ any associated permit fees.

Finalize Application and Submit to TCEQ

ENVIRONMENTAL CONSULTANT will provide PCCA with electronic copies of the draft NSR application for final review prior to submittal to the TCEQ. Based on PCCA's comments, ENVIRONMENTAL CONSULTANT will finalize the application and submit it to TCEQ. ENVIRONMENTAL CONSULTANT will send PCCA a copy of the application, as submitted to the TCEQ central and regional offices.

Health Effects Review and Air Dispersion Modeling

Given the type of emissions involved with the trans loading operation and as may be required for a minor NSR permit, ENVIRONMENTAL CONSULTANT will evaluate any potential off-property impacts according the TCEQ's published Modeling and MERA Guidance. It is assumed that a simple screen model may be used for the combustion NO_X and CO emissions from the VCU. However, due to the level of potential fugitive emissions from loading and piping components, ENVIRONMENTAL CONSULTANT anticipates refined modeling will be required to demonstrate an acceptable health effects analysis for Gasoline and Distillate emissions. If it is determined there are potential impacts, ENVIRONMENTAL CONSULTANT will back calculate the emission rate(s) that provides impacts that meet TCEQ health effects guidelines. The results of the modeling will be discussed with PCCA accordingly.

A modeling protocol will be prepared, submitted and discussed with the TCEQ prior to completing any of the modeling analysis. A modeling report will be prepared and submitted to the TCEQ modeling team and permit engineer and shall include the information discussed in the approved protocol and the results of the modeling.

It is anticipated that the TCEQ will have certain questions and requests for additional information post submittal of the protocol and supplemental modeling report. ENVIRONMENTAL CONSULTANT will provide up to sixteen (16) hours additional support in facilitating questions or information requests from the TCEQ. If additional time is determined necessary, ENVIRONMENTAL CONSULTANT will request prior approval prior to continuing work.

Permit Facilitation and Review

It is anticipated that the TCEQ will have certain questions and requests for additional information after submittal of the permit application. ENVIRONMENTAL CONSULTANT will provide up to forty (40) hours of additional support in facilitating questions or information requests from the TCEQ. Included in this effort are review of the draft permit conditions and the maximum allowable emission rate table (MAERT) and any negotiations with the TCEQ on behalf of PCCA prior to issuance of the final permit. If additional time is determined necessary, ENVIRONMENTAL CONSULTANT will request prior approval prior to continuing work.

2. Preliminary Design Phase.

In accordance with Section A-1.02 of Exhibit A of the Master Agreement, ENVIRONMENTAL CONSULTANT will provide the following services:

None.

3. Final Design Phase.

   With concurrence from PCCA on the preliminary design and in accordance with the Basic Services in Section A-1.03, A-1.04, and A-1.05 of Exhibit A of the Master Agreement, ENVIRONMENTAL CONSULTANT will provide the following services:

   None.

Service Schedule:

ENVIRONMENTAL CONSULTANT will provide draft calculations and material throughputs to PCCA for review and approval within two (2) weeks of receiving all necessary data from PCCA. ENVIRONMENTAL CONSULTANT will deliver the initial draft NSR application within two (2) weeks of receiving approval on the calculations from PCCA. The final NSR application will be delivered within one (1) week of receiving comments on the draft from PCCA.

Deliverables:

ENVIRONMENTAL CONSULTANT will provide written answers to questions via email and/or memorandums as applicable. All emission calculations will be provided to PCCA via Microsoft (MS) Excel. Consolidated PDF copies of the NSR application will be provided to PCCA for submittal to the TCEQ and/or for their record. With all final reports delivered to PCCA, all supporting Microsoft Word and Excel files will be provided electronically for their records.

Project Team:

The Project team to be used on this project will include the following:

Primary:

Joe Ibanez - Senior Regulatory Professional – II

Shane Dillard - Senior Technical Specialist

Katherine Wiley – Senior Project Manager

Laura Blohm – Project Manager

Christine Lynch - Technical Specialist – III

Windy Rainey - Administrative Assistant

Additional Staff (as necessary):

Ryan Atkinson - Senior Regulatory Professional – I

Jon Brubaker - Senior Technical Specialist

Matthew Kessing - Technical Specialist – III

Subcontractors to be used on this project will include the following:

None.

Compensation:

In accordance with Article 4 of Master Agreement No. 07-16 and negotiations between the parties, ENVIRONMENTAL CONSULTANT will be compensated pursuant to this Service Order as follows:

NSR Permit	$ 32,800
Preliminary Design Phase	$ 0
Final Design Phase	$ 0
Total Compensation for Services per Exhibit C-4.01 not to exceed	**$ 32,800**

Reimbursement:

The following applies to expenses reimbursed under this Service Order:

Invoices: ENVIRONMENTAL CONSULTANT will submit invoices to PCCA monthly in accordance with the fee schedule set forth in this Agreement. Requests for payment must be supported by documentation such as invoices, receipts, statements, stubs, tickets, time sheets, and any other documentation that, in the reasonable judgment of PCCA, provides complete substantiation of Reimbursable Expenses incurred by ENVIRONMENTAL CONSULTANT. All deliverables and reimbursement documents submitted to PCCA must prominently display PCCA Master Agreement No. 07-16, Service Order No. 7**.**

Funding Agency: Not applicable.

Termination or Interpretation of Services:

PCCA reserves the right to halt or defer all or any portion of the Services included in the Scope of Services for this Service Order at any time during the performance period. If the Services are halted or deferred, the parties agree that the schedule and budget may require renegotiation.

Amendments to Service Order:

Material changes to this Service Order may be made only by written agreement of the parties to the Agreement. All provisions of PCCA Master Agreement No. 07-16 not specifically amended by this Service Order will remain in force and effect.

Material Changes to Master Agreement:

All provisions of PCCA Master Agreement No. 07-16 are in full force and effect.

Effective on the date executed by the last party to this Service Order.

Port of Corpus Christi Authority of
of Nueces County, Texas

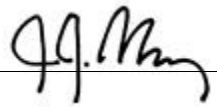
By:_____

Name: Sarah Garza

Title: Director of Environmental Planning and Compliance

Date of Execution:_____

TRICORD Consulting, LLC

By: 

Name: Joe J. Ibanez

Title: Client Relationship Manager

Date of Execution: 12/4/2017

"ENVIRONMENTAL CONSULTANT"

PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: Sarah L. Garza, Director of Environmental Planning & Compliance
sarah@pocca.com
(361) 885-6163

Approve Service Order No. 8 in the Amount of $35,000 with Tricord Consulting, LLC, Under Professional Services Master Agreement No. 07-16, for Environmental Consulting Services to Prepare an Air Permit Amendment Application for the Bulk Terminal.

SUMMARY: Staff requests approval to issue Service Order No. 8 of Master Agreement No. 07-16 with Tricord Consulting, LLC for environmental consulting services to prepare an air permit amendment application for the Bulk Terminal for an amount of $35,000.

BACKGROUND: The new crane at Bulk Dock 1 and the consolidation of the tenant operations require an amendment to the Port's existing air permits for the Bulk Terminal. With the consolidation of the tenant operations and the Port taking over responsibility of the tenant operations, staff and the consultant have developed a permitting strategy that includes the consolidation of the Bulk Dock 1 and Bulk Dock 2 air permits held by the Port and the individual permits held by each tenant for the respective pad operations.

The scope of work includes finalization of the emission calculations and site wide modeling of the combined permits, as well as completion of the full permit application package. In addition, the change of the covered conveyors from ¾ covers to full covers has not been accounted for in the current Bulk Dock 2 air permit. This is an improved control efficiency in place that should be captured in the permit amendment application and will offset the additional emission points.

While the crane purchase and the consolidation of the tenant operations are in the future, the permit amendment has a long lead time and staff recommends submitting the permit application now per the developed air permitting strategy.

ALTERNATIVES: N/A.

CONFORMITY TO PORT POLICY: Conforms to Strategic Plan Goal #5 (Be an Environmental Leader), Strategic Objective 5B (Continue to Meet and Exceed Regulatory Standards), Action Item 2 (Develop and Implement Regulatory Strategy for Future Environmental Regulations).

EMERGENCY: N/A.

FINANCIAL IMPACT: This permit authorization will allow construction of the new crane and consolidation of the tenant operations. The proposed permitting strategy will combine the multiple permits into a single permit and build in flexibility to the overall operations at the Bulk Terminal.

The original Service Order No. 1 was for an amount of $56,069 and the new total amount including Service Order No. 8 is $91,069.

STAFF RECOMMENDATION: Staff recommends approval of the Service Order No. 8 with Tricord Consulting, LLC for environmental consulting services to prepare an air permit amendment application in the amount of $35,000.

DEPARTMENTAL CLEARANCES:

Originating Department	Environmental Planning & Compliance
Reviewed By	Sarah Garza
Legal	Jimmy Welder
	Dane Bruun
Senior Staff	John LaRue
	Sean Strawbridge

LIST OF SUPPORTING DOCUMENTS:

Service Order No. 8 with Tricord Consulting, LLC

SERVICE ORDER NO. 8
PORT OF CORPUS CHRISTI AUTHORITY
OF NUECES COUNTY, TEXAS
MASTER AGREEMENT NO. 07-16

Pursuant to PCCA Master Agreement No. 07-16 between Port of Corpus Christi Authority of Nueces County, Texas ("PCCA") and TRICORD Consulting, LLC ("ENVIRONMENTAL CONSULTANT"), ENVIRONMENTAL CONSULTANT will provide the Basic and Additional Services set forth in Exhibit A of Master Agreement No. 07-16 in accordance with any additions or deletions to the same or any Services different from those described in the said Exhibit A, in this Service Order. This Service Order modifies or amends PCCA Master Agreement No. 07-16, the provisions of which not specifically amended by this Service Order will remain in effect.

Description of Project:

The PCCA has completed the Master Plan for our Bulk Terminal Facility. The updated Master Plan proposes recommendations to improve operational efficiency and for capital expansions at the facility. Under Service Order No. 1, Consultant has developed a permitting strategy for these recommendations. PCCA would like to submit a permit amendment application for the developed permitting strategy.

Project Contact for PCCA:	Project Contact for ENVIRONMENTAL CONSULTANT:
Project Manager: Sarah Garza	Project Manager: Joe J. Ibanez
Phone Number: (361) 885-6163	Phone Number: (888) 900-0746 ext. 700

Scope of Services:

1. Study/Report Phase.

   ENVIRONMENTAL CONSULTANT will be reimbursed for additional scope items completed and provide additional services to Service Order No. 1 of this same Master Agreement, which have been authorized by PCCA and completed or will be completed in conjunction with the original scope of work. The already completed scope items include:

   Preparation of an air permit amendment for authorization for changes associated with the "Bulk Terminal Master Plan" at Bulk Dock 1 and Bulk Dock 2, consolidation of Bulk Dock 1 and Bulk Dock 2 New Source Review permits, consolidation and incorporation of tenant permits, and removal of the moisture content limit of 4.0.

   Subtask 1.1 – Development of a Permit Amendment Application for Permit No. 47881 and 9498 to authorize the worst-case emission changes presented in the "Bulk Terminal Master Plan" dated July 31, 2017 and to consolidate New Source Review permits 4788, 9498, 2523C, 9892A, and relevant sources in New Source Review permit 2937. Additionally, the ENVIRONMENTAL CONSULTANT incorporated the changes to Bulk Dock 2 presented in an unsubmitted draft permit amendment dated June 16, 2015 to increase overall annual loading capacity and add additional emission controls. PCCA provided to the ENVIRONMENTAL CONSULTANT the potential options that could be implemented in the "Bulk Terminal Master Plan". It is assumed that Federal New Source Review will not be triggered and the changes in the June 16, 2015, the unsubmitted permit amendment representations are accurate to current/future operations, except as indicated in the "Bulk Terminal Master Plan" or as already provided by PCCA. ENVIRONMENTAL CONSULTANT developed a technically complete minor permit amendment application in accordance with the requirements under 30 TAC Chapter 116 Subchapter B. This task included preparing all appropriate administrative Texas Commission on Environmental Quality (TCEQ) forms and tables required for a new permit or permit amendment application such as a Form PI-1, Table 1(a), Table 2, and Table 30. In addition, a process description, process flow diagram, plot plan, BACT review, and Considerations for Granting a Permit

were prepared and included with the final permit application. Any electronic data provided by PCCA from the most recent permit amendment applications was also used to facilitate this task.

Subtask 1.2 - Prepare Final Emission Calculations. As required for the permit application, ENVIRONMENTAL CONSULTANT utilized the draft emission calculations from Task 1 for either the new emissions or emission changes under an existing permit(s). The final consolidated emission calculations were incorporated into the draft permit application as applicable.

Subtask 1.3 – Prepare Process Flow Diagrams. ENVIRONMENTAL CONSULTANT provided PCCA with updated process flow diagrams that will be included in the permit application based on the changes associated with the Master Plan and tenant permit incorporation.

Subtask 1.4 - Finalize Application and Submittals to TCEQ. ENVIRONMENTAL CONSULTANT will provided PCCA with an electronic copy of the draft permit application (i.e., a consolidated pdf file and all supporting Microsoft Word and Excel files), including a draft of all the emissions calculations for PCCA's final review prior to the submittal to the TCEQ.

Subtask 1.5 – Tenant Modeling Inclusion and Modeling Reports. ENVIRONMENTAL CONSULTANT will research tenant permit and applicable applications for inclusion of tenant sources into the modeling deck. PCCA will assist in contacting tenants if additional information is needed to complete the required modeling. ENVIRONMENTAL CONSULTANT will prepare a modeling protocol based on the latest TCEQ modeling guidance and the draft modeling completed in Task 1.

The scope items remaining to be completed include:

Subtask 1.4 - Finalize Application and Submittals to TCEQ. Based on the PCCA's comments, ENVIRONMENTAL CONSULTANT will finalize the application. Final copies of the application will be prepared as necessary for submittal to the TCEQ offices and for PCCA's files. PCCA will pay the associated permit fees directly to the TCEQ.

Subtask 1.5 – Tenant Modeling Inclusion and Modeling Reports. Once the modeling protocol is approved by the TCEQ, ENVIRONMENTAL CONSULTANT will prepare a final modeling report describing the modeling methodology and software used in Task 1, the sources and pollutants modeled, and summarizing the results. An electronic copy of the draft modeling report will be provided to PPCA for review prior to submittal to the TCEQ. Based on PCCA's comments, ENVIRONMENTAL CONSULTANT will finalize the modeling report.

Subtask 1.6 – Permit Application Facilitation with TCEQ and Permit Condition Review and Negotiation. It is anticipated that the TCEQ will have certain questions and requests for additional information post submittal of the application and/or air dispersion modeling report. ENVIRONMENTAL CONSULTANT will provide up to eight (8) hours additional support in facilitating questions or information requests from the TCEQ. As part of this task, ENVIRONMENTAL CONSULTANT will also review the draft permit conditions and help negotiate any changes to and/or additional permit conditions such to help minimize the burden of compliance for the facility. If additional time is necessary, ENVIRONMENTAL CONSULTANT will work with PCCA to obtain prior approval.

2. Preliminary Design Phase.

   In accordance with Section A-1.02 of Exhibit A of the Master Agreement, ENVIRONMENTAL CONSULTANT will provide the following services:

   None.

3. Final Design Phase.

With concurrence from PCCA on the preliminary design and in accordance with the Basic Services in Section A-1.03, A-1.04, and A-1.05 of Exhibit A of the Master Agreement, ENVIRONMENTAL CONSULTANT will provide the following services:

None.

Service Schedule:

As defined under the Service Order No. 1 permitting strategy.

Deliverables: will include a draft and final permit application for authorization of changed associated with the "Bulk Terminal Master Plan" and consolidation of Bulk Dock 1 and Bulk Dock 2 New Source Review Subchapter B permits; as well as a modeling protocol and final modeling report if required by the TCEQ.

Project Team:

The Project team to be used on this project will include the following:

Primary:

Joe Ibanez - Senior Regulatory Professional – II

Shane Dillard - Senior Regulatory Professional - I

Nelwyn Mohrmann – Senior Regulatory Professional - I

Kelly Belz – Senior Technical Specialist

Windy Rainy - Administrative Assistant

Additional Staff (as necessary):

Ryan Atkinson - Senior Regulatory Professional – I

Jon Brubaker - Senior Technical Specialist

Anthony Anders - Technical Specialist – III

Christine Lynch - Technical Specialist – III

Subcontractors to be used on this project will include the following:

Providence Engineering, LLC (Sr. Air Dispersion Modeling - $180/hr and AutoCAD Support @ $110/hr)

Compensation:

In accordance with Article 4 of Master Agreement No. 07-16 and negotiations between the parties, ENVIRONMENTAL CONSULTANT will be compensated pursuant to this Service Order as follows:

Report & Study Phase	$ 35,000
Preliminary Design Phase	$ 0
Final Design Phase	$ 0
Total Compensation for Services per Exhibit C-4.01 not to exceed	**$ 35,000**

Reimbursement:

The following applies to expenses reimbursed under this Service Order:

Invoices: ENVIRONMENTAL CONSULTANT will submit invoices to PCCA monthly in accordance with the fee schedule set forth in this Agreement. Requests for payment must be supported by documentation such as invoices, receipts, statements, stubs, tickets, time sheets, and any other documentation that, in the reasonable judgment of PCCA, provides complete substantiation of Reimbursable Expenses incurred by ENVIRONMENTAL CONSULTANT. All deliverables and reimbursement documents submitted to PCCA must prominently display PCCA Master Agreement No. 07-16, Service Order No. 8**.**

Funding Agency: Not Applicable.

Termination or Interpretation of Services:

PCCA reserves the right to halt or defer all or any portion of the Services included in the Scope of Services for this Service Order at any time during the performance period. If the Services are halted or deferred, the parties agree that the schedule and budget may require renegotiation.

Amendments to Service Order:

Material changes to this Service Order may be made only by written agreement of the parties to the Agreement. All provisions of PCCA Master Agreement No. 07-16 not specifically amended by this Service Order will remain in force and effect.

Material Changes to Master Agreement:

All provisions of PCCA Master Agreement No. 07-16 are in full force and effect.

Effective on the date executed by the last party to this Service Order.

Port of Corpus Christi Authority of Nueces County, Texas

By:_____

Name: Sarah L. Garza

Title: Director of Environmental Planning & Compliance

Date of Execution:_____

"PCCA"

TRICORD Consulting, LLC

By:_____

Name: Joe J. Ibanez

Title: Client Relationship Manager and Managing Member

Date of Execution:_____

"ENVIRONMENTAL CONSULTANT"

PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: Sarah L. Garza, Director of Environmental Planning & Compliance
sarah@pocca.com
(361) 885-6163

Approval of Project Change Order 001 to the Master SAAS Subscription and Services Terms and Conditions Agreement with Intelex Technologies Inc. in the Amount of $7,300 for Enhancements to Phase I Configuration.

SUMMARY: Staff requests approval of Project Change Order 001 to the Master SAAS Subscription and Services Terms and Conditions Agreement with Intelex Technologies Inc. in the amount of $7,300 for enhancements to the Phase I configuration of the Intelex software solution.

BACKGROUND: Previously, the Port Commission approved the purchase and configuration of Intelex software solution to manage environmental, health and safety recordkeeping and summary reporting activities throughout the Port area. During design and configuration of Phase I, staff identified some additional enhancements to the software that would enhance the user experience, making it more efficient. The enhancements added auto-calculated fields and an additional workflow. Additionally, during Phase I configuration it was determined that the Audit Module was not the correct module to meet the Port needs per the original Request for Proposals and should be credited. The correct module was captured under Phase II.

ALTERNATIVES: N/A

CONFORMITY TO PORT POLICY: Conforms to Strategic Plan Goal #5 (Be An Environmental Leader), Strategic Objective 5B (Continue to Meet and Exceed Regulatory Standards), Action Item 3 (Verify Compliance Annually).

EMERGENCY: N/A

FINANCIAL IMPACT: The original contract amount was $300,105.76 including subscription fees for three years and implementation costs and the new total amount with the change order will be $307,405.76.

222 Power Street 78401 | PO Box 1541 78403 | Corpus Christi, Texas | T 361 882 5633 F 361 882 7110 | portc

STAFF RECOMMENDATION: Staff recommends approval of the Project Change Order 001 to the Master SAAS Subscription and Services Terms and Conditions Agreement with Intelex for an amount of $7,300.

DEPARTMENTAL CLEARANCES:

Originating Department	Environmental Planning & Compliance
Reviewed By	Sarah Garza
Legal	Dane Bruun
Senior Staff	John LaRue
	Sean Strawbridge

LIST OF SUPPORTING DOCUMENTS:

Project Change Order 001

Change Order Reference Number: 001
This Change Order is an extension or change of the Port of Corpus Christi Authority Statement of Work titled "PortofCorpusChristi_ILXMasterServices+Order+SOW_July-07-2016" signed on July 19, 2016 and if approved, is subject to the terms and conditions of the Agreement.

Client: Port of Corpus Christi	**Client Project Manager:** Ryan Gragnano
Project Name: POC001 - EMS - PR1	**Intelex Project Manager:** Azamat Karbayev
Project Phase: Testing	**Date Requested:** 12/4/2017
	Client Request: ☒ Yes ☐ No

Type of Change Requested:	**Priority:**
☐ Design Change	☐ Low
☐ Configuration Change	☐ Medium
☒ Customization	☒ High
☒ Other: Credits.	

Summary of Section Changes

EXHIBIT B: STATEMENT OF WORK – PHASE 1

Section	Changed	Unchanged
1.1 Document Use	☐	☒
2.1 Project Context	☐	☒
2.2 Compass Implementation Methodology	☐	☒
2.3 Project Scope	☒	☐
2.4 Key and Project Related Assumptions	☐	☒
2.5 Out of Scope	☐	☒
2.6 Intelex Activities	☐	☒
2.7 Client Responsibilities	☐	☒
2.8 Governance	☐	☒
2.9 Completion Criteria	☐	☒
2.10 Estimated Schedule	☐	☒
2.11 Estimated Charges	☐	☒
3. Project Procedures	☐	☒
Appendix 1: Configurations	☒	☐

Summary of Requested Changes

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Phase 1 is being modified in 2 different ways:

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- x Extra time spent to conduct additional design, configuration, QA and UAT.

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- x Intelex has credited billings associated with portions of the design, configuration, QA and UAT activities.
- x The following functionality has been descoped from the original SOW:
  - i. **Audits Management** - Configuration, QA, UAT and Deployment effort associated with this module.

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The following functionality has been modified:

- x Create a Risk Matrix based on the POCCA matrix provided to allow for a directly applicable risk ranking in the system.
- x Change 'Is Significant' value to auto populated based on the selection of the significance fields.
- x Allow Significance to be assessed per aspect (moved to in line edit in the assessment grid). Previously Significance was assessed per activity.

The requirements/specifications for all 3 items listed above, are contained in "POCC - Open Item Log V4" document that has been reviewed and approved by POCCA.

The specific sections of the SOW that are impacted by these changes are described below.

Description of Change

EXHIBIT B: STATEMENT OF WORK – PHASE 1

Section 2.3.1 Standard Applications

Remove the following:

- x Audits Management

Appendix 1: Configurations

Remove the following:

Application	Field Modifications	Workflow Modifications
Audits Management	Up to 25 Field Modifications	Standard Workflow, No Changes

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The following are the Estimated Charges for the Services defined in this Change Order, and are in addition to the Estimated Charges in the Statement of Work and any previous Change Order.

Phase 1

Credit of 40.5 hours of consulting work of Audits Management configuration, QA, UAT and deployment activities as well as design workshop time and configuration effort.

Resource	Hourly Rate	Estimated Hours	Estimated Charges
Consultant (schedule expansion)	$160.00	49.625	$7,940
Consultant (credit)	$160.00	-40.5	($6,480)
Total Estimated Charges		**9.125**	**$1,460**

Enhancements to Phase 1 as outlined in section 3 in Summary of Requested Change.

Resource	Hourly Rate	Estimated Hours	Estimated Charges
Consultant	$160.00	36.5	$5,840
Total Estimated Charges		**36.5**	**$5,840**

Intelex will provide the Professional Services and Deliverables set forth herein on a time and materials basis using the rates outlined above. The Professional Services fees are estimated at $7,300 USD excluding applicable taxes.

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Reasonable travel and incidental expenses in addition to the Professional Services fees identified above will be invoiced as they occur at actual cost. Travel will be pre-approved by Client.

Summary SOW and Change Orders

The following provides a summary of the SOW and its amendments

Document	Date	Value/Hrs.
SOW (Phase 1)	July 19, 2016	$38,920
SOW (Phases 2 & 3)	July 19, 2016	$87,870
SOW TOTAL		**$126,790**
CO #001	December 4, 2017	$7,300
TOTAL		**$134,090**

Approvals

Client Approval:

☐ Implement ☐ Reject ☐ Defer – Until Date: <Month DD, Year>

Is a Purchase Order (PO) required for the purchase or payment of the fees outlined in this Change Order Form? Yes ☐ No ☐

If yes, please complete the following:

Purchase Order Number:

Client	**Intelex Technologies Inc.**
_____ ___/___/___	Mark Myers 01/05/18
Signature **mm/dd/yy**	**Signature** **mm/dd/yy**
_____	Mark A. Myers
Name	**Name**
_____	VP, Customer Engagement
Title	**Title**

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PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: Beatriz Rivera, P.E., Environmental Engineer
brivera@pocca.com
(361) 885-6639

Authorize Additional Purchase of Lighting Retrofit Supplies and Services for the Ortiz Center from Facility Solutions Group Through Existing Co-Op Contract Under the State of Texas BuyBoard Cooperative Program in the Amount of $18,800.

SUMMARY: Staff requests authorization to purchase additional lighting retrofit supplies and services for the Ortiz Center from Facilities Solutions Group through a Co-Op Contract under the State of Texas BuyBoard Cooperative Program in the amount of $18,800. Previous purchases under the same contract total $62,113.

BACKGROUND: A project to retrofit the existing lighting at the Ortiz Center to LED lighting was scheduled in the 2017 budget and commenced earlier this year. LED retrofit kits with dimming capabilities were installed, however, the systems are not working properly. Further investigation identified the need for additional upgrades to the dimming system panels in the Ortiz Center's Main Rooms in order for the dimming systems to function properly.

CONFORMITY TO PORT POLICY: Conforms to Strategic Plan Goal #5 (Be An Environmental Leader), Strategic Objective 5B (Continue to Meet and Exceed Regulatory Standards), Action Item 1 (Implement Environmental Standards Port-wide).

EMERGENCY: N/A.

FINANCIAL IMPACT: The project will reduce power consumption, maintenance cost, and environmental impacts.

STAFF RECOMMENDATION: Staff recommends an additional purchase order be issued to Facility Solutions Group in the amount of $18,800 for upgrading the dimming system panels at the Ortiz Center's Main Rooms.

DEPARTMENTAL CLEARANCES:

Originating Department	Environmental Planning & Compliance
Reviewed By	Sarah Garza

	Beatriz Rivera
	Carol Rodriguez
Legal	N/A
Senior Staff	John LaRue
	Sean Strawbridge

LIST OF SUPPORTING DOCUMENTS:

None

PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: David L. Krams, P.E.
Director of Engineering Services
Krams@pocca.com
(361) 885-6134

ANTICIPATED STAFF PRESENTER: Natasha Fudge, P.E.
Capital Program Manager

Authorize Staff to Include Payment of a Stipend in the Request for Proposals for the Design-Build Project to Construct a New North Bank Cargo Dock in an Amount of $30,000 for Each and up to Four Unsuccessful Proposers, for a Total of up to $120,000.

SUMMARY: Staff requests Commission approval to allow for a stipend to be included in the Request for Proposals to be sent to firms short-listed and invited to submit proposals as part of the procurement process to select a design-build team to construct the New North Bank Cargo Dock.

BACKGROUND: In July 2017, the Commission approved a lease agreement with GCCM Holdings, LLC (GCCM) for property to develop and operate a cement import terminal site, which included construction of a dry bulk cargo dock to be located on the north bank of the Corpus Christi Ship Channel Inner Harbor just west of Oil Dock 15, currently under construction. See attached map exhibit. To support development of the cargo dock portion of the project, the agreement requires that the PCCA enter into a design-build contract for construction of the dock, which will be for the exclusive use by GCCM. In anticipation of the lease, in December 2016, the Commission granted staff approval to use the Design-Build project delivery method for this facility.

The Request for Qualifications for the Design-Build project is scheduled to be released January 2018. Responses to the Request for Qualifications will be evaluated to select a short list of up to five design-build teams that will be invited to submit proposals in response to a Request for Proposal, which is the second of the two-phase design-build procurement process. The response to the Request for Proposal will include conceptual design drawings to illustrate each team's proposed design approach. During the second phase, the evaluation committee will select the top ranked design-build team to deliver the new cargo dock.

Per the Texas Water Code, the PCCA has the ability to pay unsuccessful design-build firm proposers an amount of up to one-half of one percent of the final contract price. With this, and in accordance with design-build best practices for this type of facility, staff recommends that unsuccessful teams responding to the Request for Proposal be paid a stipend amount of

up to $30,000, but no greater than the one-half of one percent of the final contract price. The aggregate stipend amount, based on this recommendation, would not exceed $120,000, given the maximum number of firms that can be qualified to submit proposals is five; therefore, no more than four firms would be eligible for the stipend payment. The design-build team selected and awarded a contract to deliver the new cargo dock facility will not receive a stipend payment.

ALTERNATIVES: The use of design-build delivery method has been approved as the procurement method for the new cargo dock project. An alternate stipend amount could be paid per unsuccessful proposer up to one-half of one percent of the final contract amount. Therefore, the stipend could vary from $0 to an estimated $90,000, based on a final design-build contract amount of $18 million.

CONFORMITY TO PORT POLICY: The Design Build project delivery method is an alternate method available for contracting as per Subchapter O of the Texas Water Code. The project conforms to the PCCA's Strategic Plan (Strategic Goal #2 – Provide Facilities and Services to Meet Customer Needs, Strategic Objective #2B – Provide Public Docks and Support Private Facilities to Facilitate Maritime and Industrial Development, Action #2 – Upgrade and Maintain Existing Docks and Facilities).

EMERGENCY: No.

FINANCIAL IMPACT: This project is included in the 2018 Capital Budget with $14,500,000 identified to be expended this year, with the remaining funds to be expended in 2019; however, per the terms of the lease agreement with GCCM, PCCA expenditures are recovered through Capital Recovery Fees.

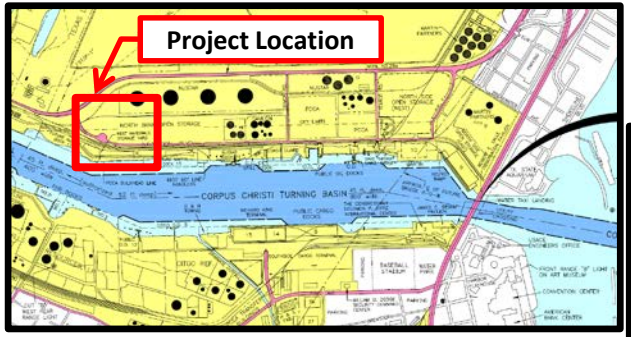
STAFF RECOMMENDATION: Staff recommends approval to pay a maximum of a $30,000 stipend, provided this amount does not exceed one-half of one percent of the final contract amount, to a maximum of four unsuccessful proposers with a total aggregate stipend amount not to exceed $120,000 to be included as part of the Request for Proposal process in the Design-Build procurement process to make the final selection of a team to design and construct a new cargo dock facility.

DEPARTMENTAL CLEARANCES:

Originating Department	Engineering Services
Reviewed & Approved	David Krams
	Brett Flint
	Natasha Fudge
Procurement	Lynn Angerstein
Legal	Dane Bruun
Senior Staff	John LaRue
	Sean Strawbridge
	Dennis DeVries

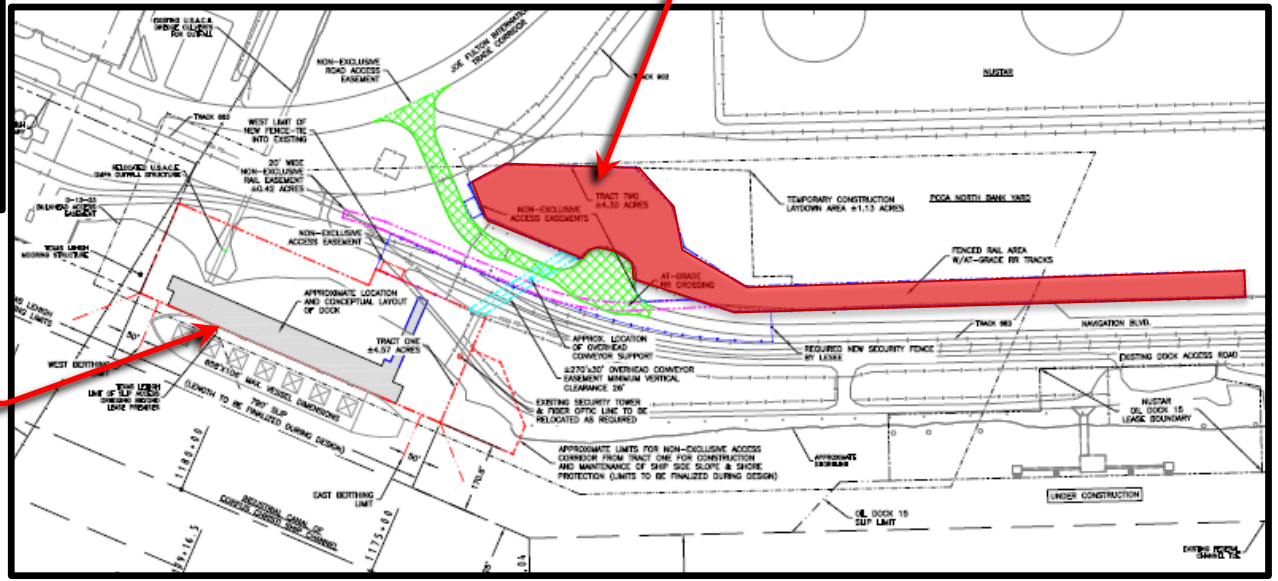
LIST OF SUPPORTING DOCUMENTS:
Map Exhibit

NEW NORTH BANK CARGO DOCK (GCCM)



Cement Terminal Site

New North Bank Cargo Dock



PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: David L. Krams, P.E.
Director of Engineering Services
Krams@pocca.com
(361) 885-6134

ANTICIPATED STAFF PRESENTER: Bert Perez, P.E.
Senior Project Engineering

Approve a Deductive Change Order in the Amount of ($72,580) with H & S Constructors, Inc. for the Fire Pressurization Upgrades at Oil Docks 1, 2 & 15 Project.

SUMMARY: Staff requests approval of the attached deductive Change Order in the amount of $72,580 to H & S Constructors, Inc. for work associated with the Fire Pressurization Upgrades at Oil Docks 1, 2 & 15 project.

BACKGROUND: On November 14, 2017, the Port Commission awarded a construction contract to H & S Constructors, Inc. in the amount of $2,303,200 for the construction of an improved fire protection system to serve Oil Docks 1, 2 & 15, consisting generally of a water storage tank, piping, and a fire pump system.

The project requirements called for cement-lined ductile iron pipe with mechanical joints below grade; however, the contractor submitted an alternate, less expensive cement-lined ductile iron pipe having push-on joints for PCCA's staff consideration. Upon review by the PCCA and its design consultant, Govind Development, the use of the push-on joint pipe is an acceptable alternate to the mechanical joints, concluding that the pipe system would withstand the anticipated pressures of the project. Staff negotiated the attached deductive change order in the amount of $72,580 to replace approximately 3,544 LF of mechanically jointed pipe with the push-on pipe system.

ALTERNATIVES: N/A

CONFORMITY TO PORT POLICY: The project conforms to the PCCA's Strategic Plan (Strategic Goal #2 – Provide Facilities and Services to Meet Customer Needs, Strategic Objective #2B – Provide Public Docks and Support Private Facilities to Facilitate Maritime and Industrial Development, Action #2 – Upgrade and Maintain Existing Docks and Facilities).

EMERGENCY: No.

FINANCIAL IMPACT: With the approval of this deductive change order, the total cost of the construction contract will be reduced from $2,303,200 to $2,230,620.

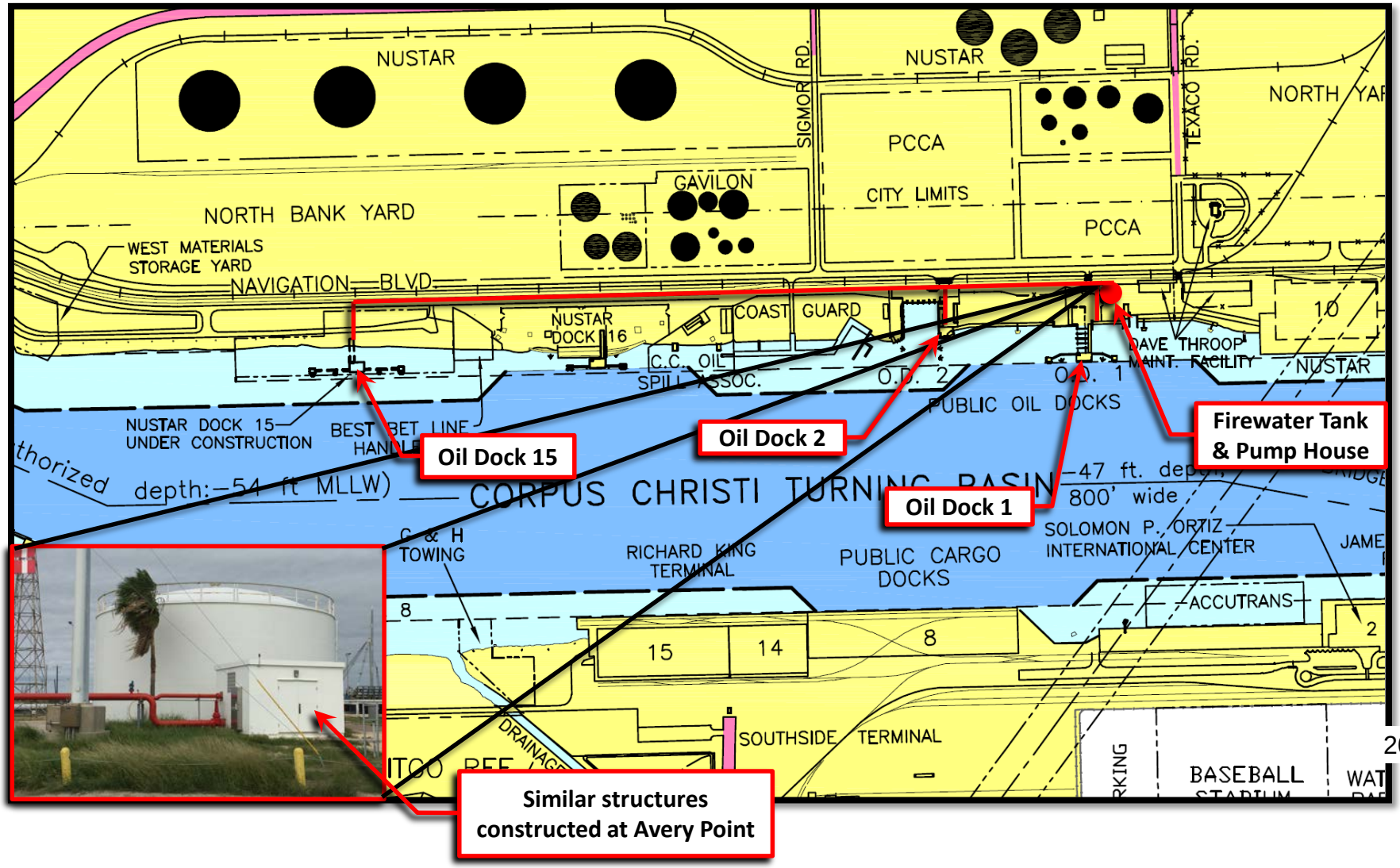
STAFF RECOMMENDATION: Staff recommends approval of the attached deductive Change Order in the amount of $72,580.00 to H & S Constructors, Inc., for the work associated with the Fire Pressurization Upgrades at Oil Docks 1, 2 & 15 project.

DEPARTMENTAL CLEARANCES:

Originating Department	Engineering Services
Reviewed & Approved	David Krams
	Dave Michaelsen
	Bert Perez
Legal	Used standard template
Senior Staff	John LaRue
	Sean Strawbridge
	Dennis DeVries

PORT CORPUS CHRISTI®
Moving America's Energy

Fire Pressurization at Oil Docks 1, 2 & 15



PORT CORPUS CHRISTI

CHANGE ORDER

Change Order No.
Date: January 03, 2018

PROJECT:	Fire Pressurization Upgrades at Oil Docks 1, 2 & 15
PROJECT NUMBER:	14-023A
CONTRACTOR:	H&S Constructors

This contract will be modified to include the changes listed below, and the contract price and/or contract time will be changed to reflect these modifications:

Substitution of the mechanical joint ductile iron pipe for push-on and gasket ductile iron pipe.

Decrease in Contract Price:	$	(72,580.00)
Increase in Contract Time:		0 Days
Original Contract Amount:	$	2,303,200.00
Total Amount of Previous Change Orders:	$	0.00
Amount of this Change Order:	$	(72,580.00)
Revised Contract Amount:	$	2,230,620.00
Notice To Proceed Date:		December 11, 2017
Original Contract Time:		240 Days
Previous Changes in Contract Time:		0 Days
Calendar Days for this Change Order:		0 Days
Revised Contract Time:		240 Days
Required Completion Date:		August 08, 2018

DRAFT

The change in contract price incorporates all costs for this Change Order including but not limited to the following—direct and indirect costs, overhead, profit, insurance, bonds, labor, materials, equipment, supervision, and delays. This Change Order is accepted and executed by the Port of Corpus Christi Authority and H&S Constructors, as signed by their duly authorized representatives below.

Port of Corpus Christi Authority

By: _____
David L. Michaelsen, P.E.
Chief Engineer

By: _____
David L. Krams, P.E.
Director of Engineering Services

H&S Constructors

By: _____
Keith Laechelin
Estimating Manager

Date: _____

PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: Darrin Aldrich, Director of Real Estate
Darrin@pocca.com
(361) 885-6169

Approve an Easement and Right of Way Agreement with AEP Texas, Inc. for Electric Service to Maverick Terminals Corpus, LLC, 41 acre Terminal Site located on the South Side of Joe Fulton Corridor and the Easterly side of the Bulk Terminal, Nueces County, Texas.

SUMMARY: AEP Texas, Inc. (AEP) representatives have requested an easement and right of way agreement to provide electrical service to Maverick Terminals Corpus, LLC, (Maverick) 41-acre Terminal facility located on the south side of the Joe Fulton International Trade Corridor (JFITC) and east of the Bulk Terminal as depicted on the attached Exhibit. The project includes installation of electric distribution lines that originate from an existing aerial distribution line along the south side of the JFITC and transitions under the existing rail line on the north side of the leased premises through an 8" abandoned pipeline. The term of the easement is 30 years. Upon AEP's cessation of the easement area, or abandonment of the same for a period of twelve consecutive months, the easements and rights of way shall automatically cease and terminate, and the rights granted shall revert automatically to the PCCA.

BACKGROUND: On July 18, 2017 Maverick and the Port of Corpus Christi Authority (PCCA) entered into a Lease Agreement for a 41-acre Terminal Facility. The 41 acre site is located south of the Joe Fulton International Trade Corridor and on the easterly side of the Bulk Terminal. This electrical distribution easement will grant AEP the right to install electrical service to Maverick's site to power the Terminal Facility.

ALTERNATIVES: Do not approve

CONFORMITY TO PORT POLICY: This project is consistent with the PCCA Strategic Plan (Strategic Goal #2 – Provide facilities and services to meet customer needs to provide surface infrastructure and services to support maritime and industrial development).

EMERGENCY: N/A

FINANCIAL IMPACT: None – No fees are assessed for AEP electrical service easements granted to serve PCCA customers.

STAFF RECOMMENDATION: Staff recommends approval of the Easement and Right of Way Agreement with AEP Texas, Inc.

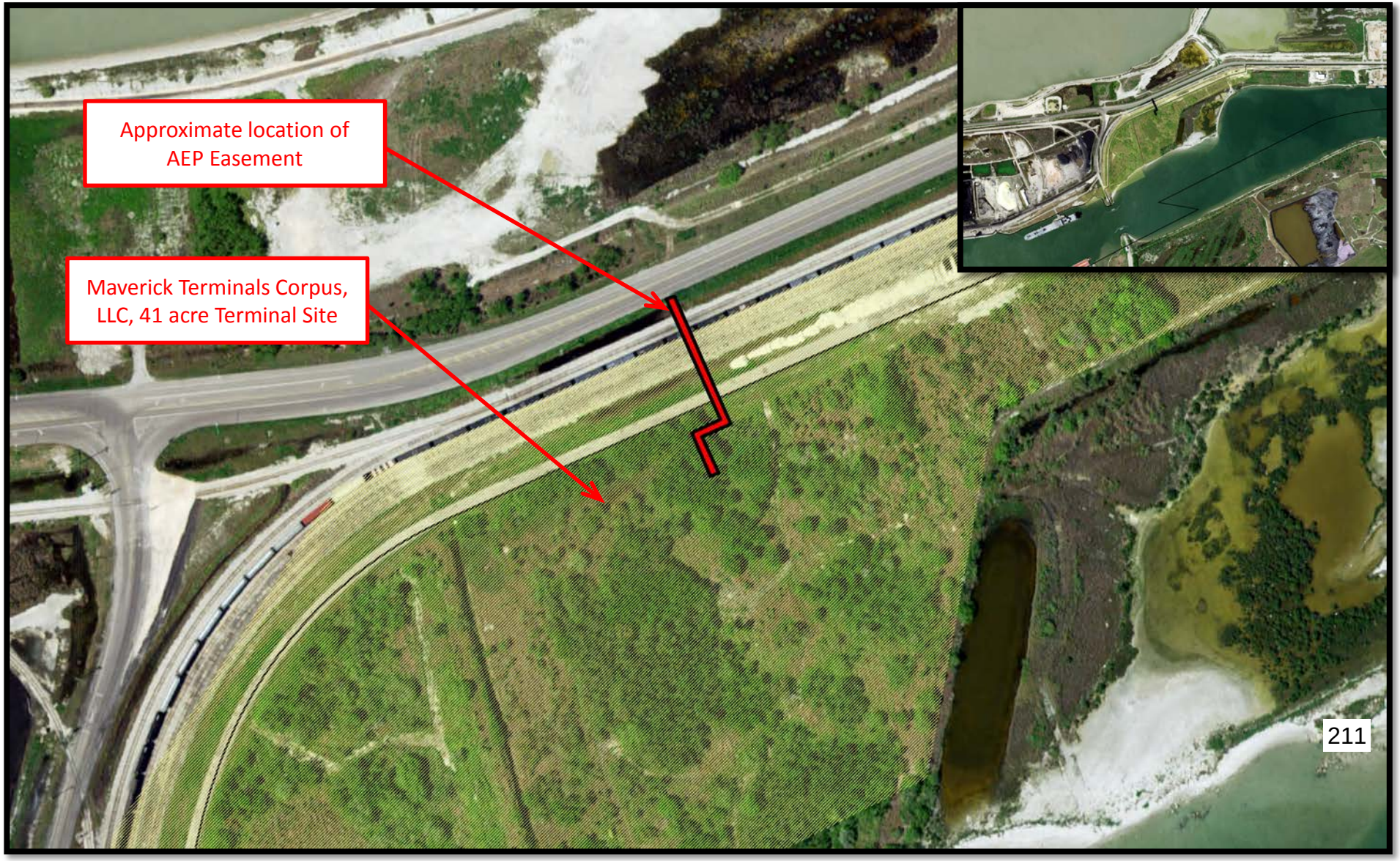
DEPARTMENTAL CLEARANCES:

Originating Department	Real Estate
Reviewed & Approved	Darrin Aldrich Kent Britton
Legal	R. Bryan Stone
Senior Staff	John LaRue Sean Strawbridge Jarl Pedersen

LIST OF SUPPORTING DOCUMENTS:

Memo Exhibit
Easement and Right of Way Agreement

Approve an Easement and Right of Way Agreement with AEP Texas, Inc. for Electric Service to Maverick Terminals Corpus, LLC, 41 acre Terminal Site located on the South Side of Joe Fulton Corridor and the Easterly side of the Bulk Terminal, Nueces County, Texas.



EASEMENT AND
RIGHT-OF-WAY AGREEMENT

THE STATE OF TEXAS §
§
COUNTY OF NUECES §

PORT OF CORPUS CHRISTI AUTHORITY OF NUECES COUNTY, TEXAS, acting herein by and through its Port Commissioners hereunto duly authorized (hereinafter called "Authority") for and in consideration of Ten and NO/100 Dollars ($10.00) and other good and valuable considerations, including the covenants and conditions herein made and provided to be kept and performed by Grantee, has GRANTED AND CONVEYED and by these presents does GRANT AND CONVEY to **AEP TEXAS INC.**, a Delaware Corporation (hereinafter, together with its successor and assigns, called "Grantee"), an easement and right-of-way (hereinafter called the "Easement") over, across and upon the property described in Exhibit "A" and depicted on Exhibit "B" attached hereto for the purpose of constructing, operating, reconstructing, enlarging, replacing, upgrading, inspecting, patrolling, repairing, maintaining, and removing electric distribution lines consisting of poles or towers made of wood, metal or other materials, wires, circuits, static wires, communication circuits, crossarms, insulators, guy wires, and all other necessary or desirable appurtenances (the "Distribution Line").

The easement width (i) for the underground utilities shall be the exterior dimensions of the conduit/casing laid, and (ii) the overhead utilities will be an aerial easement based on location of the line as described on Exhibit "A" and depicted on Exhibit "B" attached hereto, and which is incorporated herein by reference for all purposes.

TO HAVE AND TO HOLD unto Grantee, its successors and assigns, the rights and privileges hereby conveyed for a term of 30 years, and subject to the exceptions and reservations herein set forth, and upon the following covenants and conditions which are a part of the consideration for this grant, which covenants and conditions are and shall be construed as covenants running with the land, and which covenants and conditions, by its acceptance hereof, Grantee covenants and agrees to keep and perform.

This Easement is granted subject to the following:

A. <u>Type of Distribution Line</u>. The Distribution Line shall be electric distribution cables together with conduits, static wires, communication circuits and other appurtenances as deemed appropriate by Grantee. All underground power conductors are to be either: i) encased in an abandoned 8 inch line depicted in Exhibit "C" and attached hereto for all purposes, and being located between Station 56+40.3 to Station 63+00.9; or ii) encased in a 6-inch HDPE conduit with a minimum wall thickness of .6 inches or maximum Standard Dimension Ratio (SDR) of 11 that shall be buried and maintained so that the top thereof should be at least ten feet below the top of any tie for railroad crossings and any existing surfaces elsewhere for the full length of the underground segment. Transitions to above-ground lines shall be at as steep a slope as practical. Grantee shall place caution markers at all transition points of the Distribution Line from above ground to below ground. All of the Authority's fiber optic cables and other underground utilities

near the location of the conduit run and new poles on the south end for the new Distribution Line are to be located in the field by excavation or other means and shall be protected during installation of poles, foundations, power lines, guy wires and other elements. Any damage or disruption of fiber service or other utilities will be corrected immediately at the Grantee's cost and to the satisfaction of the Grantor.

B. **Access**. The rights of ingress and egress hereinabove referred to given to Grantee shall be confined to the above-described easement area. Grantee shall have the right to cross Authority's adjacent land, store materials or equipment thereon or to conduct any of its operations thereon only if the prior consent of the Authority is obtained in writing, which consent will not be unreasonably withheld. Except in the case of an emergency, Grantee agrees to notify the Authority not less than 72 hours prior to its employees, agents or contractors entering upon the easement area for construction, maintenance, repairs or other operations.

C. **Construction, Maintenance and Use**. Grantee shall construct and maintain the Distribution Line in a good and workmanlike manner and in compliance with all applicable governmental and industry standards for construction and maintenance of the same, and in accordance with the Grantor's current requirements as detailed in the Port of Corpus Christi Authorities current Project Manual.

Grantee's use of the Easement herein granted and its operations in relation to it shall at all times comply with all laws, statutes, rules and regulations of federal, state and local government.

Grantee shall furnish the Authority upon completion of the installation of the Distribution Line or any modification thereof an as-built drawing of the location of the Distribution Line and any such modification.

Grantee shall be responsible for coordination of its construction and use in the easement area with any other existing users and easement holders near the Easement. Grantee shall promptly restore any portion of the easement area damaged by Grantee to substantially its original condition. All restoration work shall be appropriately tested at Grantee's expense.

Grantee must submit to Authority plans for any proposed improvements on the easement area ("Plans"), and the Plans must be approved in writing by the Director of Engineering Services of Authority prior to the commencement of construction of the same, which approval shall not be unreasonably denied, delayed or conditioned. To facilitate the Authority's review, two sets of final for-construction plans that clearly define the project must be submitted to Authority along with electronic files for its prior approval. The drawings must be prepared on a standard engineering format (24" x 36" drawings) and show all physical features and improvements in and around the project site and must be signed and sealed by a Professional Engineer registered in the State of Texas. Any approval, comments or denial of the Plans by the Authority shall be promptly made to Grantee within 30 Business Days after submittal. Further, Authority shall prepare detailed comments or responses to the Plans in order to direct Grantee on the action needed to have the Plans revised and approved. Within 60 days of the completion of the work depicted on the Plans, Grantee will provide Authority with one set of As-Built or Record Drawings on a standard

engineering format (24" x 36" drawings) and in an electronic file format acceptable to the Authority.

D. Reservations and Exceptions. The Easement is further made subject to any restrictions, covenants, easements, rights-of-way, encumbrances, and mineral or royalty reservations or interests affecting the Easement whether or not appearing of record in the Official Public Records of Nueces County, Texas, to the extent that said items and matters are in effect and validly enforceable.

E. Indemnity. GRANTEE HEREBY RELEASES AND DISCHARGES AUTHORITY FROM LIABILITY FOR, AND ASSUMES THE RISK OF LOSS OR DAMAGE TO THE PROPERTY OF GRANTEE, AND THE PERSONAL INJURY OR DEATH OR ANY PERSON EMPLOYED BY GRANTEE, AND GRANTEE EXPRESSLY AGREES TO DEFEND, INDEMNIFY, REIMBURSE AND HOLD AUTHORITY, ITS AGENTS, SERVANTS, EMPLOYEES AND COMMISSIONERS, HARMLESS FROM ALL CLAIMS, CAUSES OF ACTION, DEMANDS, DAMAGES AND LIABILITIES OF ANY KIND OR CHARACTER, INCLUDING BUT NOT LIMITED TO CLAIMS, CAUSES OF ACTION, DEMANDS, DAMAGES AND LIABILITIES IN ANY MATTER RESULTING FROM, ARISING OUT OF OR CAUSED, IN WHOLE OR IN PART, BY GRANTEES WILLFUL MISCONDUCT, NEGLIGENCE, GROSS NEGLIGENCE, DELIBERATE ACTS, STRICT LIABILITY IN TORT, BREACH OF WARRANTY, EXPRESS OR IMPLIED, OR BREACH OF ANY TERM OR CONDITION OF THIS EASEMENT, INCLUDING THAT CAUSED BY ANY OF THE GRANTEE'S AGENTS, CONTRACTORS, EMPLOYEES, INVITEES OR LICENSEES, ACTIVITIES DIRECTLY RELATED TO THIS EASEMENT OCCURRING IN, DURING OR AFTER THE TERM OF THIS EASEMENT, SAVE AND EXCEPT SUCH DAMAGES AS MAY BE CAUSED BY THE NEGLIGENCE OF THE AUTHORITY, ITS AGENTS, CONTRACTORS, EMPLOYEES, INVITEES OR LICENSEES IT BEING INTENDED THAT GRANTEE WILL INDEMNIFY AUTHORITY FOR GRANTEES PROPORTIONATE FAULT, INCLUDING BUT NOT LIMITED TO, NEGLIGENCE, WHICH CAUSES SUCH DAMAGES. IT IS EXPRESSLY AGREED THAT SHOULD GRANTEE FAIL OR REFUSE TO PARTICIPATE IN THE SETTLEMENT OF A CLAIM FOR DAMAGES, THEN AUTHORITY MAY SETTLE WITH THE CLAIMANT WITHOUT PREJUDICE TO AUTHORITY'S INDEMNITY RIGHTS SET FORTH HEREIN, IT BEING EXPRESSLY RECOGNIZED THAT A SETTLEMENT AFTER DEMAND ON GRANTEE WILL CONSTITUTE A SETTLEMENT OF THE PROPORTIONATE FAULT, INCLUDING BUT NOT LIMITED TO NEGLIGENCE, OF BOTH GRANTEE AND AUTHORITY, WHICH SETTLEMENT MAY LATER BE APPORTIONED BETWEEN AUTHORITY AND GRANTEE.

TO THE EXTENT PERMITTED BY LAW, AUTHORITY HEREBY RELEASES AND DISCHARGES GRANTEE FROM LIABILITY FOR, AND ASSUMES THE RISK OF LOSS OR DAMAGE TO THE PROPERTY OF AUTHORITY, AND THE PERSONAL INJURY OR DEATH OF ANY PERSON EMPLOYED BY AUTHORITY, AND AUTHORITY EXPRESSLY AGREES TO DEFEND, INDEMNIFY, REIMBURSE AND HOLD GRANTEE, ITS AGENTS, SERVANTS, EMPLOYEES AND COMMISSIONERS, HARMLESS FROM ALL CLAIMS, CAUSES OF ACTION, DEMANDS, DAMAGES AND LIABILITIES OF ANY KIND OR

CHARACTER, INCLUDING BUT NOT LIMITED TO CLAIMS, CAUSES OF ACTION, DEMANDS, DAMAGES AND LIABILITIES IN ANY MATTER RESULTING FROM, ARISING OUT OF OR CAUSED, IN WHOLE OR IN PART, BY AUTHORITYS WILLFUL MISCONDUCT, NEGLIGENCE, GROSS NEGLIGENCE, DELIBERATE ACTS, STRICT LIABILITY IN TORT, BREACH OF WARRANTY, EXPRESS OR IMPLIED, OR BREACH OF ANY TERM OR CONDITION OF THIS EASEMENT, INCLUDING THAT CAUSED BY ANY OF THE AUTHORITY'S AGENTS, CONTRACTORS, EMPLOYEES, INVITEES OR LICENSEES, ACTIVITIES DIRECTLY OR INDIRECTLY RELATED TO AUTHORITY'S USE OF THE EASEMENT OR ITS SURROUNDING PROPERTIES AND OCCURRING IN, DURING OR AFTER THE TERM OF THIS EASEMENT, SAVE AND EXCEPT SUCH DAMAGES AS MAY BE CAUSED BY THE NEGLIGENCE OF THE GRANTEE, ITS AGENTS, CONTRACTORS, EMPLOYEES, INVITEES OR LICENSEES, IT BEING INTENDED THAT AUTHORITY WILL INDEMNIFY GRANTEE FOR AUTHORITY'S PROPORTIONATE FAULT, INCLUDING BUT NOT LIMITED TO, NEGLIGENCE, WHICH CAUSES SUCH DAMAGES. IT IS EXPRESSLY AGREED THAT SHOULD AUTHORITY FAIL OR REFUSE TO PARTICIPATE IN THE SETTLEMENT OF A CLAIM FOR DAMAGES, THEN GRANTEE MAY SETTLE WITH THE CLAIMANT WITHOUT PREJUDICE TO GRANTEE'S INDEMNITY RIGHTS SET FORTH HEREIN, IT BEING EXPRESSLY RECOGNIZED THAT A SETTLEMENT AFTER DEMAND ON AUTHORITY WILL CONSTITUTE A SETTLEMENT OF THE PROPORTIONATE FAULT, INCLUDING BUT NOT LIMITED TO NEGLIGENCE, OF BOTH AUTHORITY AND GRANTEE, WHICH SETTLEMENT MAY LATER BE APPORTIONED BETWEEN AUTHORITY AND GRANTEE.

EXCEPT AS OTHERWISE EXPRESSLY LIMITED HEREIN, IT IS THE INTENT OF THE PARTIES HERETO THAT ALL INDEMNITY OBLIGATIONS AND LIABILITIES ASSUMED UNDER THE TERMS OF THIS EASEMENT BE WITHOUT MONETARY LIMIT. THE INDEMNITY CONTAINED IN THIS PARAGRAPH APPLIES, WITHOUT LIMITATION, TO ANY VIOLATION OF ANY APPLICABLE ENVIRONMENTAL LAW IN EFFECT DURING THE TERM OF THIS EASEMENT, INCLUDING ANY EXTENSION, AND ANY AND ALL MATTERS ARISING OUT OF ANY ACT, OMISSION, EVENT OR CIRCUMSTANCE EXISTING OR OCCURRING DURING THE TERM OF THIS EASEMENT, INCLUDING ANY EXTENSIONS, REGARDLESS OF WHETHER THE ACT, OMISSION, EVENT OR CIRCUMSTANCE CONSTITUTED A VIOLATION OF ANY APPLICABLE ENVIRONMENTAL LAW AT THE TIME OF ITS EXISTENCE OR OCCURRENCE.

F. **Assignment**. The rights herein granted may not be assigned without the prior written consent of the Authority, which consent will not be unreasonably withheld; if the Authority withholds consent, the Authority will provide written notice within 30 days from date of notice of assignment to third parties by Grantee; failure to provide such written notice within the said 30 days shall constitute acceptance of assignment.

The Authority, however, consents to the assignment of the Easement to any corporation that is an affiliate of and controlled by, Grantee, or to a parent corporation of Grantee or a subsidiary corporation of such parent corporation.

The Easement shall be deemed a covenant running with the land and shall inure to the benefit of and be binding upon the parties hereto, their successors and assigns. Assignment in accordance with this paragraph shall relieve Grantee from liability for the performance of the covenants and indemnities hereof.

G. Relocation. The Authority may require Grantee to remove, lower, raise, or relocate the Distribution Line, equipment, facilities and appurtenances situated in the Easement in the event the Authority wants to use the Easement property for construction of Authority facilities or other Authority uses and the Distribution Line becomes a hindrance or interferes with any such future uses of the property. In such event, the cost of such removal, lowering, raising or relocation shall be paid solely by Grantee. In the event of such removal, lowering, raising, or relocation, the Authority will provide Grantee with an alternate easement, using its best efforts, on Authority land in a location that is reasonably acceptable to Grantee and at no additional cost to Grantee.

H. Compliance with all Laws. The rights and privileges associated with the Easement granted under this agreement shall not be exercised in a manner so as to violate any standards or provisions of any applicable common law or legislation, or the rules, regulations or policies of any regulatory body, whether Federal, State municipal or county, including without limitation, applicable standards, legislation, rules and regulations relating to the protection of the environment.

I. Exhibits. All exhibits attached hereto are hereby incorporated herein by this reference and made a part hereof for all purposes.

J. Notice. Any notice or demand which either party hereto may desire to serve upon the other shall be sufficiently served if deposited in the United States mail, postage prepaid and certified or registered, or delivered by a regularly established courier service, or hand delivered, addressed, in the instances of Authority to:

If to Authority: Port of Corpus Christi Authority
Attn: Executive Director
222 Power Street
P.O. Box 1541
Corpus Christi, Texas 78403
Fax: (361) 881-5155

If to Grantee: AEP Texas Inc.
c/o Distribution Right-of-Way Agent
P.O. Box 2121
Corpus Christi, Texas 78403

or to such other address which a party may notify in writing to the other. Such notice shall be deemed to have been served upon receipt thereof by the party to whom such notice is given.

K. **Severability/Interpretation**. In case any one or more of the provisions contained in this agreement shall for any reason be invalid, illegal, or unenforceable in any respect, such invalidity, illegality, or unenforceability shall not affect any other provision hereof and this agreement shall be construed as if such invalid, illegal, or unenforceable provision had never been contained herein. Whenever required by the context, as used in this agreement, the singular number shall include the plural and the neuter shall include the masculine or feminine gender, and vice versa.

L. **Counterparts**. This agreement may be executed and acknowledged in counterparts, all of which executed and acknowledged counterparts shall together constitute a single document. Signature and acknowledgement pages may be detached from the counterparts and attached to a single copy of this document to physically form one document, which may be recorded.

M. **Governing Law**. THIS AGREEMENT IS GOVERNED BY AND SHALL BE CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS, EXCLUDING ANY CONFLICT-OF-LAWS RULE OR PRINCIPLE THAT MIGHT REFER THE GOVERNANCE OR THE CONSTRUCTION OF THIS AGREEMENT TO THE LAW OF ANOTHER JURISDICTION.

The execution of this Easement shall be conclusive of the agreement of the Authority and Grantee to all of the terms and conditions hereof, whereupon the Easement and all of its provisions shall extend to and be binding upon the legal representatives, successors and assigns of Grantee and the Authority, respectively.

[Signature and acknowledgement pages follow this page]

WITNESS this _____ day of _____, 2018.

GRANTOR:

PORT OF CORPUS CHRISTI AUTHORITY

By: _____

Name: _____
Title: _____

GRANTEE:

AEP TEXAS INC.

By: _____
Name: _____
Title: _____

THE STATE OF TEXAS §
§
COUNTY OF NUECES §

This instrument was acknowledged before me on the _____ day of _____, 2018, by _____, _____ of Port of Corpus Christi Authority of Nueces County, Texas, on behalf of the Port.

_____
NOTARY PUBLIC, STATE OF TEXAS

My Commission Expires: _____

THE STATE OF TEXAS §
§
COUNTY OF NUECES §

This instrument was acknowledged before me on the _____ day of _____, 2018, by _____, _____ of AEP Texas Inc., a Delaware corporation, on behalf of the corporation.

_____
NOTARY PUBLIC, STATE OF TEXAS

My Commission Expires: _____

EXHIBIT "A"

URBAN ENGINEERING

Job No. 43187.B7.05
December 21, 2017

0.061 Acre
AEP Easement

STATE OF TEXAS
COUNTY OF NUECES

Fieldnotes, for a 0.061 Acre (2,674 Sq. Ft), AEP Easement, out of a 40.79 Acre Lease Tract between Port of Corpus Christi Authority, as Lessor, and Maverick Terminal Corpus, LLC, as Lessee, referenced as Maverick Terminals Corpus Tract; said 40.79 Acre Lease being situated in submerged lands patented to Nueces County Navigation District No.1, Patent No. 84, as recorded in Book 5, Pages 257-260 at the Nueces County Surveyor's Office and being of Survey 939, A-2977, as recorded in the Records of the General Land Office of the State of Texas; said 0.061 Acre Tract, being more fully described by metes and bounds as follows:

Beginning, at a Point *[Northing:17189865.66', Easting:1323099.28']* for the West corner of this Easement, **from whence** a NGS Monument "Nikolaus" Found *[Northing:17188397.58', Easting:1322390.44']*, bears South 25°46'22" West, 1,630.25 Feet;

Thence, North 66°05'48" East, 10.00 Feet, to the North corner of this Easement;

Thence, South 23°54'12" East, at 63.33 Feet, pass the Northwest boundary line of the said 40.79 Acre Lease Tract, in all 177.47 Feet, for a corner of this Easement:

Thence, South 66°05'48" West, 39.90 Feet, for a corner of this Easement;

Thence, South 23°54'12" East, 50.06 Feet, to the Southeast corner of this Easement, **from whence** a Brass Monument "PCCA CCTA 1992" *[Northing:17190273.70', Easting:1324874.58']* Found, bears North 65°59'37" East, 1,544.00 Feet;

Thence, South 66°05'48" West, 10.00 Feet, for the South corner of this Easement;

Thence, North 23°54'12" West, 60.06 Feet, for a corner of this Easement;

Thence, North 66°05'48" East, 39.90 Feet, for a corner of this Easement;

Thence, North 23°54'12" West, at 104.13 Feet, pass the said Northwest boundary line, in all 167.47 Feet, to the **Point of Beginning,** containing 0.061 Acre (2,674 Sq. Ft) of Land, more or less.

Grid Bearings and Distances shown hereon are referenced to the Texas Coordinate System of 1983, Texas South Zone 4205, and are based on the North American Datum of 1983(2011) Epoch 2010.00.

Unless this fieldnote description, including preamble, seal and signature, appears in its entirety, in its original form, surveyor assumes no responsibility for its accuracy.

Also reference accompanying sketch of Tract described herein.

STATE OF TEXAS
REGISTERED
JAMES DAVID CARR
6458
PROFESSIONAL
LAND SURVEYOR

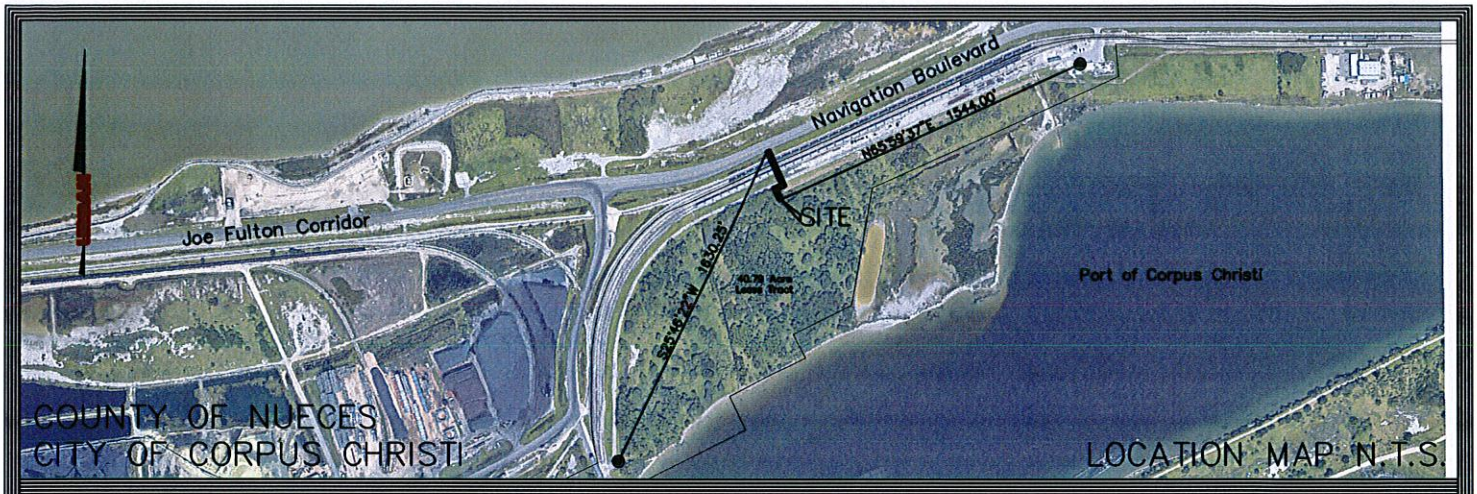
URBAN ENGINEERING

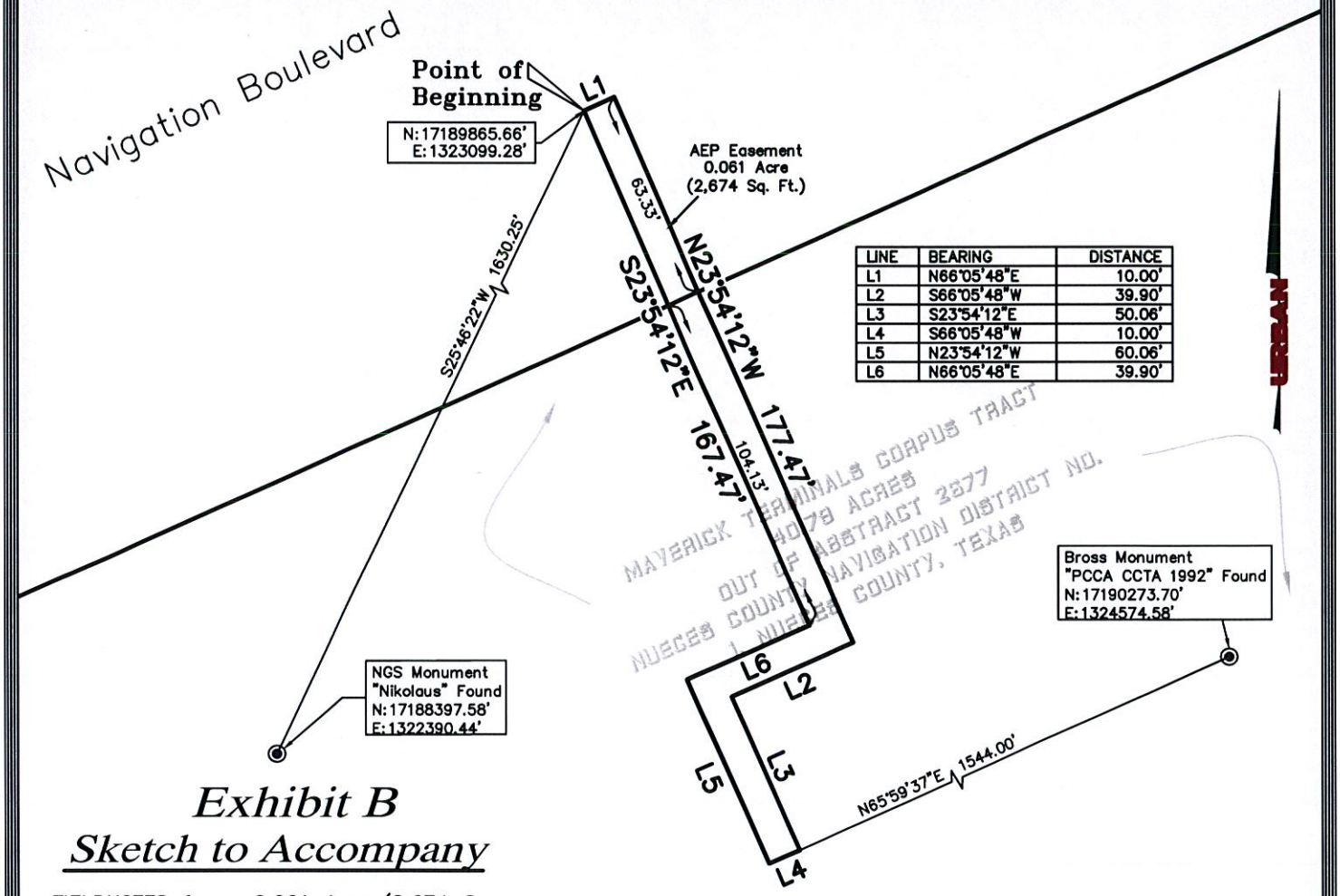
James D. Carr, R.P.L.S.
License No. 6458

S:\Surveying\43187\B705\OFFICE\METES AND BOUNDS\FN43187.B705_0.061Ac_20171221_JDC.Doc Page **1** of **1**

OFFICE: (361)854-3101 2725 SWANTNER DR. • CORPUS CHRISTI, TEXAS 78404 FAX (361)854-6001
www.urbaneng.com
TBPE Firm # 145 • TBPLS Firm # 10032400

EXHIBIT "B"



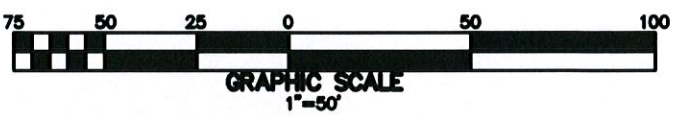


LINE	BEARING	DISTANCE
L1	N66°05'48"E	10.00'
L2	S66°05'48"W	39.90'
L3	S23°54'12"E	50.06'
L4	S66°05'48"W	10.00'
L5	N23°54'12"W	60.06'
L6	N66°05'48"E	39.90'

Exhibit B

Sketch to Accompany

FIELDNOTES for a 0.061 Acre (2,674 Sq. Ft), AEP Easement, out of a 40.79 Acre Lease Tract between Port of Corpus Christi Authority, as Lessor, and Maverick Terminal Corpus, LLC, as Lessee, referenced as Maverick Terminals Corpus Tract; said 40.79 Acre Lease being situated in submerged lands patented to Nueces County Navigation District No.1, Patent No. 84, as recorded in Book 5, Pages 257–260 at the Nueces County Surveyor's Office and being of Survey 939, A–2977, as recorded in the Records of the General Land Office of the State of Texas.

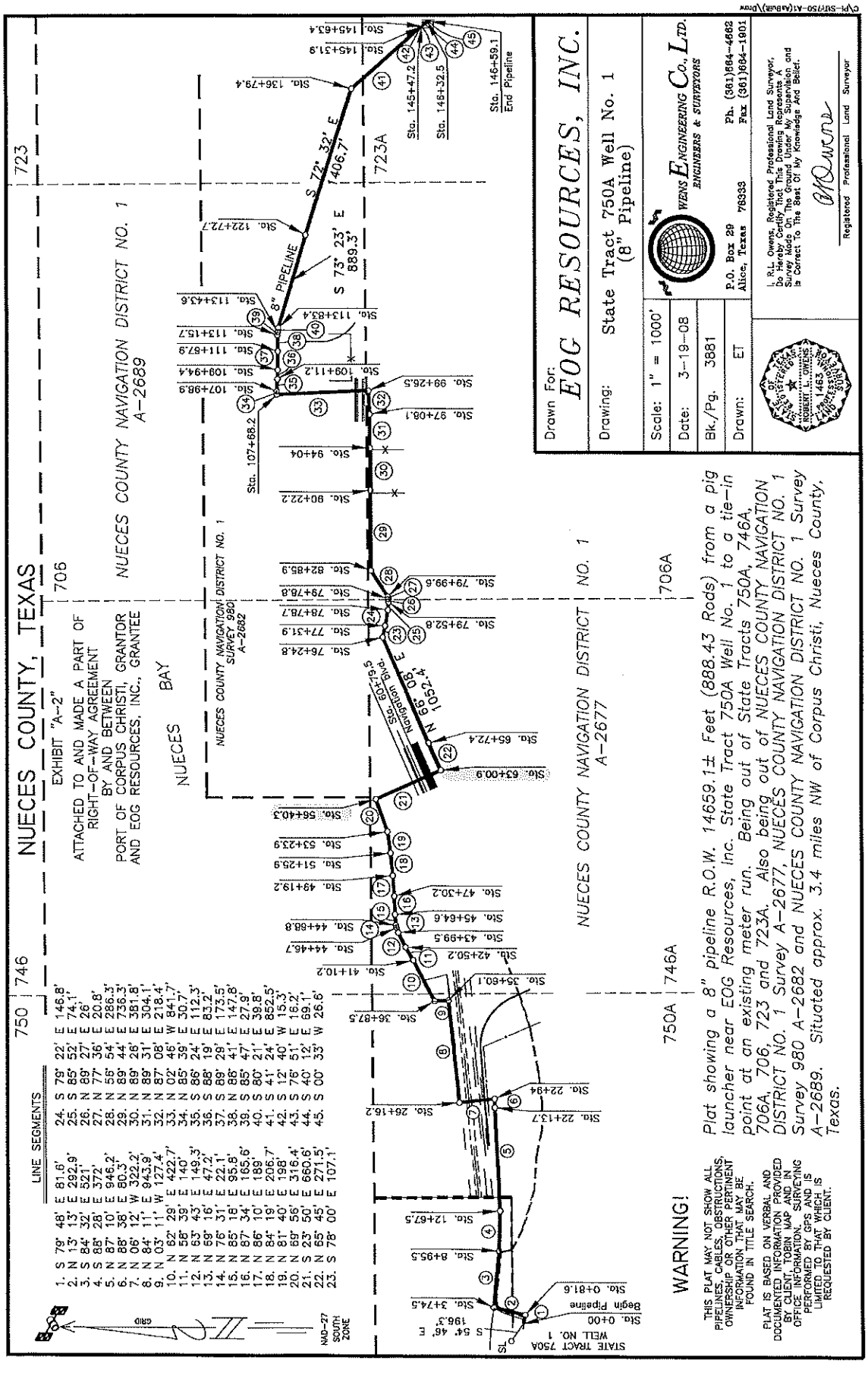


URBAN ENGINEERING
TBPE FIRM NO. 145, TBPLS FIRM NO. 10032400
2725 SWANTNER DR, CORPUS CHRISTI, TX 78404
PHONE: 361.854.3101 WWW.URBANENG.COM

DATE: Nov. 29, 2017
SCALE: 1"=50'
JOB NO.: 43187.B7.05
SHEET: 1 of 1
DRAWN BY: RLG
urbansurvey1@urbaneng.com
©2017 by Urban Engineering

S:\Surveying\43187\B705\Ex43187B705_20171129.dwg, 12/22/2017 1:36:51 PM, jamesc, 1:1

EXHIBIT "C"


NUECES COUNTY, TEXAS
EXHIBIT "A-2"
ATTACHED TO AND MADE A PART OF RIGHT-OF-WAY AGREEMENT BY AND BETWEEN PORT OF CORPUS CHRISTI, GRANTOR AND EOG RESOURCES, INC., GRANTEE
NUECES BAY
NUECES COUNTY NAVIGATION DISTRICT NO. 1 A-2689
NUECES COUNTY NAVIGATION DISTRICT NO. 1 SURVEY 980 A-2682
NUECES COUNTY NAVIGATION DISTRICT NO. 1 A-2677
746
750
706
723
723A
706A
746A
750A
8" PIPELINE
S 72° 32' E 1406.7'
S 73° 23' E 889.3'
N 69° 08' E 1052.4'
Sta. 0+00 Begin Pipeline
Sta. 146+59.1 End Pipeline
STATE TRACT 750A WELL NO. 1
S 54° 46' E 196.3'
LINE SEGMENTS
1. S 79° 48' E 81.8'
2. N 13° 13' E 292.9'
3. S 84° 32' E 521'
4. S 88° 28' E 372'
5. N 87° 10' E 946.2'
6. N 88° 38' E 80.3'
7. N 06° 12' W 322.2'
8. N 84° 11' E 943.9'
9. N 03° 11' W 127.4'
10. N 62° 29' E 422.7'
11. N 58° 39' E 140'
12. N 63° 43' E 149.3'
13. N 69° 16' E 47.2'
14. N 76° 31' E 22.1'
15. N 85° 18' E 95.8'
16. N 87° 34' E 165.6'
17. N 86° 10' E 189'
18. N 84° 19' E 206.7'
19. N 81° 40' E 198'
20. N 69° 56' E 316.4'
21. S 23° 50' E 660.6'
22. S 65° 45' E 271.5'
23. S 78° 00' E 107.1'
24. S 79° 22' E 146.8'
25. S 85° 52' E 74.1'
26. N 89° 27' E 26'
27. N 77° 36' E 20.8'
28. N 56° 54' E 286.3'
29. N 89° 44' E 736.3'
30. N 89° 26' E 391.8'
31. N 89° 31' E 304.1'
32. N 87° 08' E 218.4'
33. N 02° 46' W 841.7'
34. N 85° 39' E 30.7'
35. S 86° 24' E 112.3'
36. S 88° 19' E 83.2'
37. S 89° 29' E 173.5'
38. N 86° 41' E 147.8'
39. S 85° 47' E 27.9'
40. S 80° 21' E 39.8'
41. S 41° 24' E 852.5'
42. S 12° 40' W 15.3'
43. S 76° 51' E 16.2'
44. S 40° 12' E 69.1'
45. S 00° 33' W 26.6'
Sta. 0+00
Sta. 0+81.6
Sta. 3+74.5
Sta. 8+95.3
Sta. 12+67.5
Sta. 22+13.7
Sta. 22+94
Sta. 26+16.2
Sta. 35+60.1
Sta. 36+87.5
Sta. 41+10.2
Sta. 42+50.2
Sta. 43+99.5
Sta. 45+64.6
Sta. 47+30.2
Sta. 49+19.2
Sta. 51+25.9
Sta. 53+23.9
Sta. 56+40.3
Sta. 60+19.5 Navigation Structure
Sta. 63+00.9
Sta. 65+72.4
Sta. 76+24.8
Sta. 77+31.9
Sta. 78+78.7
Sta. 79+78.8
Sta. 79+52.8
Sta. 79+99.6
Sta. 82+85.9
Sta. 88+22.2
Sta. 94+04
Sta. 97+08.1
Sta. 99+26.5
Sta. 107+98.9
Sta. 107+88.2
Sta. 109+11.2
Sta. 109+94.4
Sta. 111+87.9
Sta. 113+15.7
Sta. 113+83.4
Sta. 113+43.6
Sta. 122+72.7
Sta. 136+79.4
Sta. 145+13.9
Sta. 145+47.2
Sta. 145+63.4
Sta. 145+32.5
Sta. 146+59.1
NAD-27 SOUTH ZONE
GRID
WARNING!
THIS PLAT MAY NOT SHOW ALL PIPELINES, CABLES, OBSTRUCTIONS, OWNERSHIP OR OTHER PERTINENT INFORMATION THAT MAY BE FOUND IN TITLE SEARCH.
PLAT IS BASED ON VERBAL AND DOCUMENTED INFORMATION PROVIDED BY CLIENT, TOBIN MAP AND IN OFFICE INFORMATION. SURVEYING PERFORMED BY GPS AND IS LIMITED TO THAT WHICH IS REQUESTED BY CLIENT.
Plat showing a 8" pipeline R.O.W. 14659.1± Feet (888.43 Rods) from a pig launcher near EOG Resources, Inc. State Tract 750A Well No. 1 to a tie-in point at an existing meter run. Being out of State Tracts 750A, 746A, 706A, 706, 723 and 723A. Also being out of NUECES COUNTY NAVIGATION DISTRICT NO. 1 Survey A-2677, NUECES COUNTY NAVIGATION DISTRICT NO. 1 Survey 980 A-2682 and NUECES COUNTY NAVIGATION DISTRICT NO. 1 Survey A-2689. Situated approx. 3.4 miles NW of Corpus Christi, Nueces County, Texas.
Drawn For: EOG RESOURCES, INC.
Drawing: State Tract 750A Well No. 1 (8" Pipeline)
Scale: 1" = 1000'
Date: 3-19-08
Bk./Pg. 3881
Drawn: ET
WEINS ENGINEERING CO., LTD.
ENGINEERS & SURVEYORS
P.O. Box 29 Alice, Texas 78333
Ph. (361)664-4662 Fax (361)664-1901
I, R.L. Owens, Registered Professional Land Surveyor, do hereby certify that this Right-of-Way Survey Made On The Ground Under My Supervision and Is Correct To The Best Of My Knowledge And Belief.
Registered Professional Land Surveyor
1463 ROBERT L. OWENS
C:\Pl-SU\750-A1(AsBuilt)\Dwg

PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: Darrin Aldrich, Director of Real Estate
Darrin@pocca.com
(361) 885-6169

Approve a Pipeline Relocation Agreement by and between EOG Resources, Inc., Maverick Terminals Corpus, LLC and the Port of Corpus Christi Authority for the Relocation of an Existing EOG Pipeline Located on the South Side of the Joe Fulton International Corridor to the North Side of the Joe Fulton International Corridor, Nueces County Texas.

SUMMARY: EOG Resources, Inc., representatives are requesting consent to relocate an existing 8" flow line located south of the Joe Fulton International Trade Corridor (JFITC) on the Maverick Terminal Corpus, LLC (Maverick) 41-acre leased premises and consent to abandon that segment of the flow line located on the Maverick leased premises. Maverick will repurpose the abandon segment for underground electrical services for their Terminal site.

BACKGROUND: On July 25, 2017 Maverick and the Port of Corpus Christi Authority (PCCA) entered into a Lease Agreement for a 41-acre Terminal Facility. The 41-acre site is located south of the Joe Fulton International Corridor and on the easterly side of the Bulk Terminal. An EOG flow line encumbers the north and north westly side of the leased premises and must be relocated to allow for the development of the Maverick Site. Maverick has requested EOG abandon the flow line on the leased premises so that they may repurpose the line to run electrical conduit on their leased premises. Maverick will be required at the expiration of their lease to remove the abandoned segment of the flow line as a condition of this agreement. EOG will also assign two segments of the pipeline under the JFITC to the PCCA for future utility use. EOG will purge and cut and cap the Abandoned Segment and the Joe Fulton Segments (on each side of Joe Fulton Corridor) in accordance with industry standards and applicable laws and regulations and purge and entirely remove the Abandon and Remove Segment from Authority's Lands in accordance with industry standards and applicable laws and regulations. EOG is relocating the existing flow line to the PCCA's pipeline corridor located on the north side of the Fulton Corridor. Maverick to be responsible for all costs of EOG to relocate, remove and abandon the affected sections of the flow line.

ALTERNATIVES: None. Do not approve and the relocation of the flow line hinders the development of the Maverick Terminal Site.

CONFORMITY TO PORT POLICY: This project is consistent with the PCCA Strategic

Plan (Strategic Goal #2 – Provide facilities and services to meet customer needs to provide surface infrastructure and services to support maritime and industrial development).

EMERGENCY: N/A

FINANCIAL IMPACT: None – No fees are assessed to relocate an existing flow line.

STAFF RECOMMENDATION: Staff recommends approval of the Pipeline Relocation and Assignment Agreement by and between EOG Resources, Inc., Maverick Terminals Corpus, LLC and the Port of Corpus Christi Authority

DEPARTMENTAL CLEARANCES:

Originating Department	Real Estate
Reviewed & Approved	Darrin Aldrich Kent Britton
Legal	Bruce Hawn
Senior Staff	John LaRue Sean Strawbridge Jarl Pedersen

LIST OF SUPPORTING DOCUMENTS:

Memo Exhibit
EOG Pipeline Relocation Agreement

Approve a Pipeline Relocation Agreement by and between EOG Resources, Inc., Maverick Terminals Corpus, LLC and the Port of Corpus Christi Authority for the Relocation of an Existing EOG Pipeline Located on the South Side of the Joe Fulton International Corridor to the North Side of the Joe Fulton International Corridor, Nueces County Texas.



PIPELINE RELOCATION AGREEMENT

This Pipeline Relocation Agreement ("**Agreement**") is by and between Maverick Terminals Corpus, LLC ("**Maverick**") and EOG Resources, Inc. ("**EOG**") and the Port of Corpus Christi Authority of Nueces County, Texas ("**Authority**"). Maverick, EOG, and Authority may hereinafter be collectively referred to as the "**Parties**"),

WHEREAS, on or about August 1, 2017 Maverick leased from Authority approximately forty-one (41) acres of land, more or less, for the purpose of operating and maintaining thereon an intermodal receiving and trans-loading facility capable of loading and unloading crude oil, condensate and other bulk petroleum products to and from various modes of transport. ("**Maverick Terminal Lease**").

WHEREAS, on or about June 6, 2007 Oil and Gas Lease No. M-107838 was conveyed to EOG by the State of Texas covering certain tracts of submerged and previously submerged land of Nueces Bay, Nueces County, Texas ("**EOG Lease**"). The EOG Lease is recorded under document number 2007031433 of the Official Public Records of Nueces County, Texas.

WHEREAS, EOG pursuant to the terms of the EOG Lease installed a production pipeline ("**Pipeline**") which crosses the Maverick Terminal Lease premises and other lands owned by Authority;

WHEREAS, Maverick has requested that EOG abandon the segment of the Pipeline currently located on the Maverick Terminal Lease, which segment (the "**Abandoned Segment**") is depicted in Exhibit "A" attached hereto; and to thereafter assign title to the Abandoned Segment to Maverick; In order to abandon the Abandoned Segment, it will be necessary for EOG to abandon and remove that segment of pipeline lying to the south of the Joe Fulton Corridor and to the east of the Maverick Terminal Lease premises (the "**Abandon and Remove Segment**"). The Abandon and Remove Segment is also described and depicted in Exhibit "A" attached hereto.

WHEREAS, it will be necessary for EOG to relocate its Pipeline to the north side of the Joe Fulton Corridor on lands owned by Authority (the "**Relocated Segment**"). The Relocated Segment is depicted in Exhibit "B" attached hereto;

WHEREAS, at the eastern most portion of the Abandon and Remove Segment the Pipeline crosses underneath the Joe Fulton Corridor ("**Joe Fulton Segment 1**"); and at the western most portion of the Abandoned Segment the Pipeline once again crosses under the Joe Fulton Corridor ("**Joe Fulton Segment 2**"). Joe Fulton Segment 1 and Joe Fulton Segment 2 shall hereinafter be collectively referred to as the "**Joe Fulton Segments**". Due to the difficulty with removing the Joe Fulton Segments from underneath the Joe Fulton Corridor and adjacent railroad tracks, Authority has agreed to allow the Joe Fulton Segments to be abandoned in place; and has also

agreed to allow Maverick to repurpose Joe Fulton Segment 2 for the routing of utilities under the Joe Fulton Corridor and onto the Maverick Terminal Lease. Joe Fulton Segment 1 is depicted in Exhibit "C" and Joe Fulton Segment 2 is depicted in Exhibit "D" both of which are attached hereto;

NOW THEREFORE, in consideration of mutual covenants contained herein the Parties hereby agree as follows:

1. EOG hereby agrees to purge and cut and cap the Abandoned Segment and the Joe Fulton Segments (on each side of Joe Fulton Corridor) in accordance with industry standards and applicable laws and regulations. EOG agrees to purge and entirely remove the Abandon and Remove Segment from Authority's Lands in accordance with industry standards and applicable laws and regulations. EOG hereby assigns and conveys all of its right, title, and interest in and to the Abandoned Segment to Maverick; and assigns and conveys all of its right, title, and interest in and to the Joe Fulton Segments to Authority. Both the assignment to Maverick and the assignment to Authority to be effective as of the date all assigned segments are purged and capped.

2. Authority agrees that EOG may install the Relocated Segment north of the Joe Fulton Corridor in the location described and depicted in Exhibit B; and that Authority will coordinate with EOG a reasonable amount of temporary workspace for the construction of the Relocated Segment.

3. Prior to commencement of its activities to cut and cap the Joe Fulton Segments and its activities to construct the Relocation Segment, EOG will furnish Authority with a detailed set of plans for the construction of the Relocation Segment and showing the points where the Joe Fulton Segments will be cut and capped (the "Plans") for the Authority's approval, which approval shall not be unreasonably withheld nor unreasonably delayed. The Plans must be prepared in a standard engineering format and must be signed and sealed by a Professional Engineer registered in the State of Texas. The Plans for any Pipeline Facilities shall show the pipe grade, wall thickness and coating of the pipe to be constructed and shall depict the location and the depth at which the Relocation Segment will be installed within the Pipeline Easement, which shall be buried, at a minimum, to a depth of four feet (4') from the top of the pipe and all protective wrappings to the surface of the ground, or at such other depth as may be required by the Director of Engineering. The Plans shall also depict any surface features, including but not limited to, drainage ditches, culverts, roads, fixtures, appurtenances, pipelines or containment levees near the Relocation Segment that may be affected by the construction activity during installation of the Relocation Segment. The Plans shall be submitted to the Director, who may require reasonable modifications to the Plans before approving them.

4. Maverick agrees to pay EOG all costs incurred by EOG: (i) to cut and cap the Abandoned Segment and the Joe Fulton Segments, (ii) to remove the Abandon and Remove Segment, and (iii) to construct and install the Relocation Segment. Maverick further agrees that prior to the expiration of the Maverick Terminal Lease that it will cause the Abandoned Segment to be entirely removed from the Maverick Terminal Lease premises and dispose of the same in a lawful manner.

5. Authority hereby consents to allowing Maverick to utilize the Joe Fulton Segment 2 for use as a utility conduit under the Joe Fulton Corridor and onto Maverick Terminal Lease premises.

6. This Agreement may be executed in multiple counterparts, each of which shall constitute an original, and all of which, when taken together, shall constitute one instrument.

Signature Pages Immediately Follow

EXECUTED this the ___ day of January 2018 ("**Effective Date**").

MAVERICK TERMINALS CORPUS, LLC
a Delaware limited liability company

By: Maverick Terminals, LLC, its sole member

By: Howard Midstream Energy Partners, LLC, its sole Member

By: _____

Name: _____

Title: _____

STATE OF TEXAS **§**
§
COUNTY OF _____ **§**

This instrument was acknowledged before me on the _____ day of January 2018, _____, _____ of Howard Midstream Energy Partners, LLC as the sole member of Maverick Terminals, LLC as the sole member of and on behalf of Maverick Terminals Corpus, LLC, a Delaware limited liability company.

_____
Notary Public, State of Texas

EOG RESOURCES, INC.

By: _____

Name: _____

Title: _____

STATE OF TEXAS **§**
§
COUNTY OF _____ **§**

This instrument was acknowledged before me on the _____ day of January 2018, by _____, _____ of EOG Resources, Inc., a Delaware Corporation on behalf of said corporation.

_____
Notary Public, State of Texas

PORT OF CORPUS CHRISTI AUTHORITY OF NUECES COUNTY, TEXAS

By:_____
Sean C. Strawbridge, Chief Executive Officer

STATE OF TEXAS **§**
§
COUNTY OF NUECES **§**

This instrument was acknowledged before me on the _____ day of January 2018, by SEAN C. STRAWBRIDGE, Chief Executive Officer of the Port of Corpus Christi Authority of Nueces County, Texas, on behalf of said Authority.

_____
Notary Public, State of Texas

Exhibit A


Abandoned Segment
Abandon and Remove Segment
Maverick Corpus Terminal Leased Premises
Google Earth
N

Exhibit B


Relocated Segment
Maverick Corpus Terminal
Leased Premises
Google Earth
N

EXHIBIT C

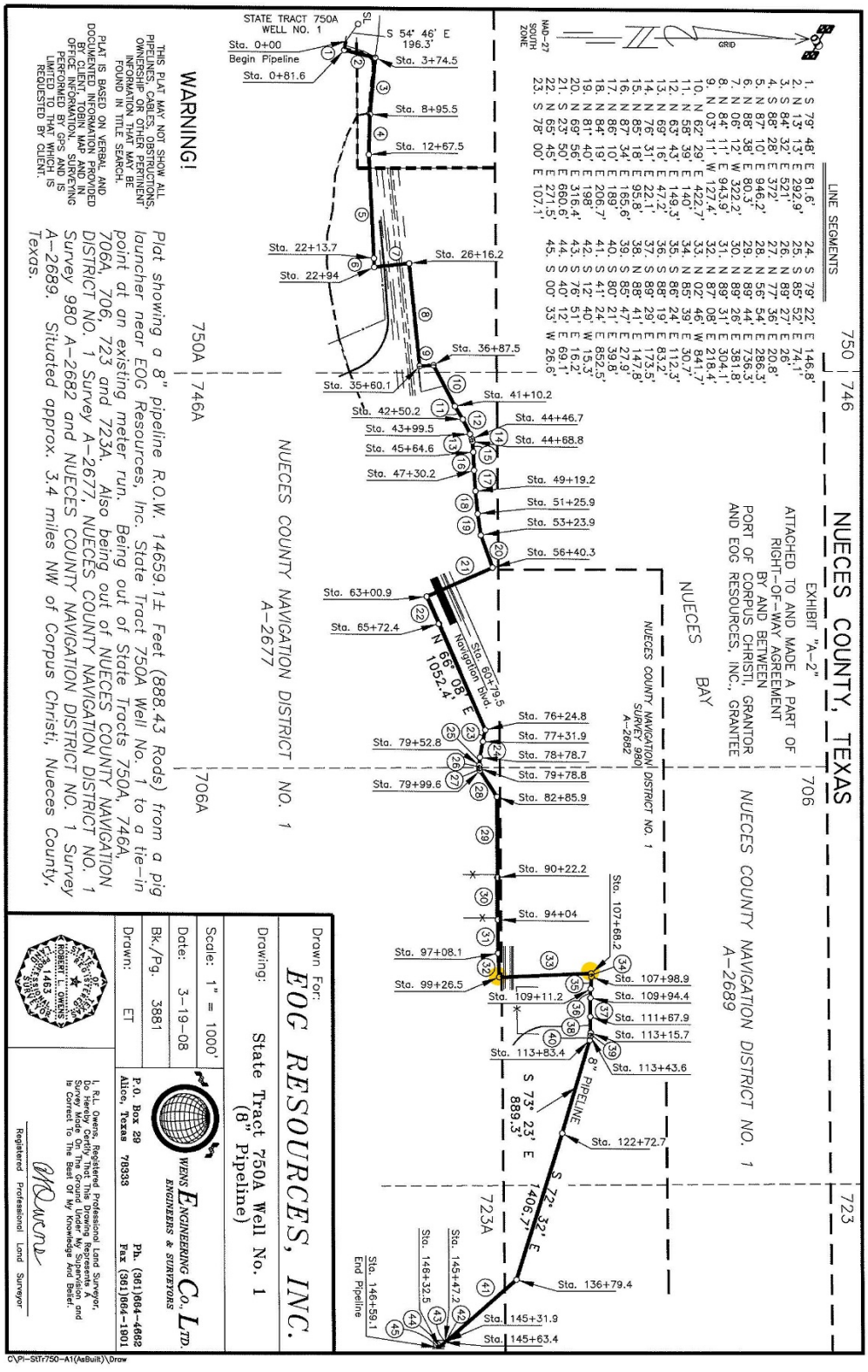
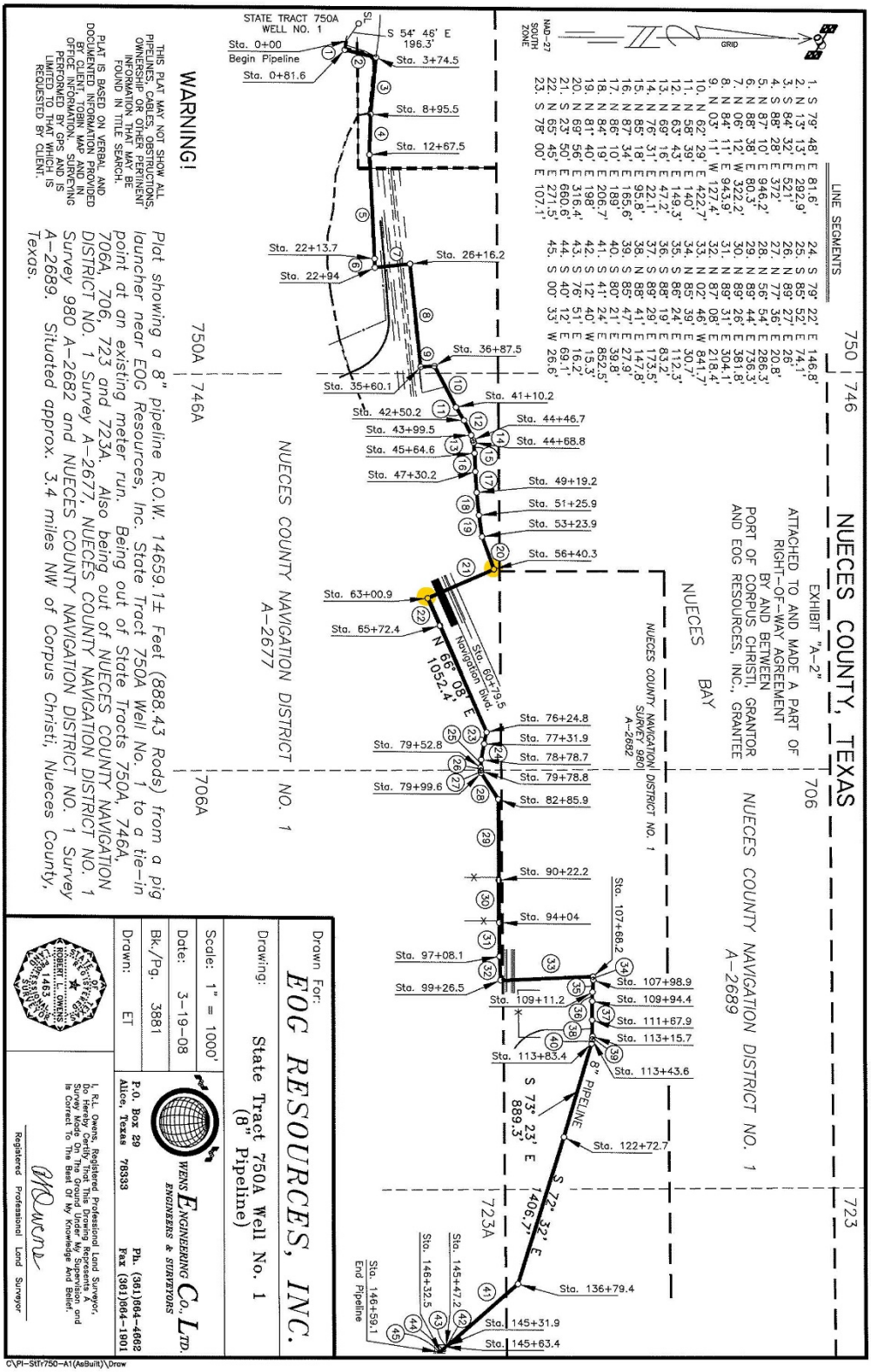

NUECES COUNTY, TEXAS
EXHIBIT "A-2"
ATTACHED TO AND MADE A PART OF RIGHT-OF-WAY AGREEMENT BY AND BETWEEN PORT OF CORPUS CHRISTI, GRANTOR AND EOG RESOURCES, INC., GRANTEE
NUECES BAY
NUECES COUNTY NAVIGATION DISTRICT NO. 1 SURVEY 980 A-2682
NUECES COUNTY NAVIGATION DISTRICT NO. 1 A-2689
NUECES COUNTY NAVIGATION DISTRICT NO. 1 A-2677
746
750
706
723
746A
750A
706A
723A
STATE TRACT 750A WELL NO. 1
Sta. 0+00 Begin Pipeline
Sta. 0+81.6
Sta. 3+74.5
Sta. 8+95.5
Sta. 12+67.5
Sta. 22+13.7
Sta. 22+94
Sta. 26+16.2
Sta. 35+60.1
Sta. 36+87.5
Sta. 41+10.2
Sta. 42+50.2
Sta. 43+99.5
Sta. 44+46.7
Sta. 44+68.8
Sta. 45+64.6
Sta. 47+30.2
Sta. 49+19.2
Sta. 51+25.9
Sta. 53+23.9
Sta. 56+40.3
Sta. 63+00.9
Sta. 65+72.4
Sta. 60+79.5 Navigation Blvd.
N 66° 08' E 1052.4'
Sta. 76+24.8
Sta. 77+31.9
Sta. 78+78.7
Sta. 79+78.8
Sta. 79+52.8
Sta. 79+99.6
Sta. 82+85.9
Sta. 90+22.2
Sta. 94+04
Sta. 97+08.1
Sta. 99+26.5
Sta. 107+68.2
Sta. 107+98.9
Sta. 109+11.2
Sta. 109+94.4
Sta. 111+67.9
Sta. 113+15.7
Sta. 113+83.4
Sta. 113+43.6
8" PIPELINE
S 73° 23' E 889.3'
Sta. 122+72.7
S 72° 32' E 1406.7'
Sta. 136+79.4
Sta. 145+47.2
Sta. 146+32.5
Sta. 145+31.9
Sta. 145+63.4
Sta. 146+59.1 End Pipeline
S 54° 46' E 196.3'
GRID
NAD-27 SOUTH ZONE
LINE SEGMENTS
1. S 79° 48' E 81.6'
2. N 13° 13' E 292.9'
3. S 84° 32' E 521'
4. S 88° 28' E 372'
5. N 87° 10' E 946.2'
6. N 88° 38' E 80.3'
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33. N 02° 46' W 841.7'
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37. S 89° 29' E 173.5'
38. N 88° 41' E 147.8'
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40. S 80° 21' E 39.8'
41. S 41° 24' E 852.5'
42. S 12° 40' W 15.3'
43. S 76° 51' E 16.2'
44. S 40° 12' E 69.1'
45. S 00° 33' W 26.6'
WARNING!
THIS PLAT MAY NOT SHOW ALL PIPELINES, CABLES, OBSTRUCTIONS, OWNERSHIP OR OTHER PERTINENT INFORMATION THAT MAY BE FOUND IN TITLE SEARCH.
PLAT IS BASED ON VERBAL AND DOCUMENTED INFORMATION PROVIDED BY CLIENT, TOBIN MAP AND IN OFFICE INFORMATION. SURVEYING PERFORMED BY GPS AND IS LIMITED TO THAT WHICH IS REQUESTED BY CLIENT.
Plat showing a 8" pipeline R.O.W. 14659.1± Feet (888.43 Rods) from a pig launcher near EOG Resources, Inc. State Tract 750A Well No. 1 to a tie-in point at an existing meter run. Being out of State Tracts 750A, 746A, 706A, 706, 723 and 723A. Also being out of NUECES COUNTY NAVIGATION DISTRICT NO. 1 Survey A-2677, NUECES COUNTY NAVIGATION DISTRICT NO. 1 Survey 980 A-2682 and NUECES COUNTY NAVIGATION DISTRICT NO. 1 Survey A-2689. Situated approx. 3.4 miles NW of Corpus Christi, Nueces County, Texas.
Drawn For: EOG RESOURCES, INC.
Drawing: State Tract 750A Well No. 1 (8" Pipeline)
Scale: 1" = 1000'
Date: 3-19-08
Bk./Pg. 3881
Drawn: ET
WENS ENGINEERING CO. LTD.
ENGINEERS & SURVEYORS
P.O. Box 29 Alice, Texas 78333
Ph. (361)664-4662 Fax (361)664-1901
I, R.L. Owens, Registered Professional Land Surveyor, Do Hereby Certify That This Plat Was Prepared From A Survey Made On The Ground Under My Supervision and Is Correct To The Best Of My Knowledge And Belief.
Registered Professional Land Surveyor
1463
ROBERT L. OWENS
REGISTERED PROFESSIONAL LAND SURVEYOR
C:\PI-StTr750-A1(AsBuilt)\Draw

EXHIBIT D


NUECES COUNTY, TEXAS
EXHIBIT "A-2"
ATTACHED TO AND MADE A PART OF RIGHT-OF-WAY AGREEMENT BY AND BETWEEN CORPUS CHRISTI, GRANTOR AND EOG RESOURCES, INC., GRANTEE
PORT OF NUECES BAY
NUECES COUNTY NAVIGATION DISTRICT NO. 1 A-2689
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NUECES COUNTY NAVIGATION DISTRICT NO. 1 SURVEY 980 A-2682
746
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Sta. 53+23.9
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Sta. 76+24.8
Sta. 77+31.9
Sta. 78+78.7
Sta. 79+52.8
Sta. 79+78.8
Sta. 79+99.6
Sta. 82+85.9
Sta. 90+22.2
Sta. 94+04
Sta. 97+08.1
Sta. 99+26.5
Sta. 107+68.2
Sta. 107+98.9
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Drawn For: EOG RESOURCES, INC.
Drawing: State Tract 750A Well No. 1 (8" Pipeline)
Scale: 1" = 1000'
Date: 3-19-08
Bk./Pg. 3881
Drawn: ET
WENS ENGINEERING CO., LTD.
ENGINEERS & SURVEYORS
P.O. Box 29 Alice, Texas 78333
Ph. (361)664-4682 Fax (361)664-1901
I, R.L. Owens, Registered Professional Land Surveyor, Do Hereby Certify That The Ground Under My Supervision and Is Correct To The Best Of My Knowledge And Belief.
Registered Professional Land Surveyor
ROBERT L. OWENS 1483 REGISTERED SURVEYOR
C:\PI-StTr750-A1(AsBuilt)\Draw

PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: Lynn Angerstein
lynn@pocca.com
(361) 885-6142

Authorize the Disposition of PCCA Surplus and Salvage Personal Property

SUMMARY: Staff is seeking Port Commission authorization to dispose of surplus and salvage personal property.

BACKGROUND: The PCCA has identified certain surplus vehicles and equipment that have reached useful end of asset life and or are no longer useful in our operations. Replacement vehicles and equipment were approved in the 2018 Budget. Other salvage items have been determined to be of no value or are so worn, damaged, or obsolete that they have no value for the purpose for which they were originally intended, and the expense to the PCCA to attempt to sell the property would be more than the proceeds from the sale.

Section 62.122 of the Texas Water Code authorizes PCCA's Port Commission to periodically dispose of surplus and salvage personal property in the same manner as the commissioners court of a county under Sections 263.151-263.158, Texas Local Government Code. Section 263.151 of the Texas Local Government Code, defines "surplus property" as personal property that (1) is not salvage property or items routinely discarded as waste, (2) is not currently needed by its owner, (3) is not required for the owner's foreseeable needs, and (4) possesses some usefulness for the purpose for which it was intended. Section 263.152(a) The commissioners court of a county may periodically sell the county's surplus or salvage property by competitive bid or auction. The Procurement department researched municipal auctioneers to be used for online auction of surplus property and anticipates a greater value than a bid or trade-in.

The following mobile equipment has been identified as surplus:

Make/Model	Unit #	Assigned Department
Crown Forklift	U#304	Bulk Terminal
Crown Forklift	U#306	Bulk Terminal
Automatic Battery Transfer Cart	U#312	Bulk Terminal

2005 Chevrolet Cargo Van	U# 340	IT/BAT Team
2008 Ford F450	U# 355	Maintenance
2008 Ford F350	U# 368	Maintenance
2009 Ford F150	U# 388	Port Police
2010 King Boat Trailer	U#394	Port Police-Marine
2010 King Boat Trailer	U#399	Port Police-Marine
2007 Ford F150	U#354	Bulk Terminal
2003 Ford F150	U#431	Bulk Terminal
2015 Ford Expedition SSV	U# 505	Port Police
2015 Ford Expedition SSV	U# 506	Port Police

The following copiers have been identified as surplus:

Make/Model	**Assigned Department**
Ricoh MPC 2550 (Purchased 2010)	1st Floor Administration Bldg.
Ricoh MPC 2551 (Purchased 2013)	Engineering Department
Ricoh MPC 6501 (Purchased 2013)	Hillcrest Field Office
Ricoh MPC 2551 (Purchased 2011)	Port PD

Items determined to be of no value will be disposed of as salvage:

Make/Model	**Assigned Department**
Kohler Generator	Police Department

ALTERNATIVES: Competitive bid or trade-in with future purchases and commission approval.

CONFORMITY TO PORT POLICY: Yes.

EMERGENCY: No.

FINANCIAL IMPACT: It is anticipated an auction may bring a more favorable surplus price.

STAFF RECOMMENDATION: Staff recommends the Port Commission authorize Staff to proceed with the disposition of surplus personal property by auction and disposal of personal property identified as salvage.

DEPARTMENTAL CLEARANCES:

Originating Department	Procurement
Reviewed & Approved	Lynn Angerstein
Legal	Dane Bruun
Senior Staff	John LaRue Sean Strawbridge Dennis J. DeVries Jarl Pedersen
Commission	Audit Committee

LIST OF SUPPORTING DOCUMENTS:

Pictures of identified surplus property may be viewed at the following link:
https://www.dropbox.com/sh/nk65oyg9jmxo3x2/AADyCzfXrkO0bkmh9_yQFuONa?dl=0

PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: Lynn Angerstein
lynn@pocca.com
(361) 885-6142

Approve the Purchase of Vehicles Using Government Pricing From the State of Texas Buy Board Cooperative Program

SUMMARY: Staff requests authorization to purchase eight (8) vehicles, made up of two (2) fleet additions and six (6) replacements of aging and worn vehicles, in order to maintain a dependable and operational vehicle fleet. Staff approached multiple vendors and received quotes from a total of four vendors. Staff utilized one of the state-approved purchasing programs known as the Buy Board Cooperative Purchasing Program ("Buy Board") to purchase all fleet vehicles at a cost of $300,824.40. The 2018 budget included $298,000 towards this project to purchase eight (8) vehicles. Fleet additions are one each for PD and Port Wharfinger.

Vehicles identified for replacement are:

Unit	Make	Model	Year	Mileage	Assigned To
340	Chev.	Cargo Van	2005	136,930	IT/BAT Team
355	Ford	F450	2008	91,888	Maintenance/Grounds Crew
368	Ford	F350	2008	160,107	Maintenance
388	Ford	F150	2009	128,346	PD
505	Ford	Expedition	2015	94,798	PD/Marine
506	Ford	Expedition	2015	88,855	PD/Marine

BACKGROUND: The 2018 Budget included the purchase of eight (8) vehicles. The Buy Board purchasing alliance was created to serve public schools, municipalities, county government, and all types of local governmental agencies by combining the purchasing power of membership to achieve better pricing. Through a competitive solicitation and selection process, suppliers are awarded master agreements for goods, products and services. These master agreements are then made available to participating public agencies and are conducted in accordance with and subject to the relevant statutes, ordinances, rules and regulations that govern each party's procurement practice. Purchases through these alliances eliminate the competitive bidding requirement because the process has been completed with the award of a master agreement by Buy

Board. Buy Board purchases also include a 2% cash rebate on purchases paid annually to PCCA. The PCCA's General Purchasing Guidelines allow for the purchase of cars, trucks, boats and other major mobile equipment directly from state or federally approved purchasing programs with Port Commission approval. The PCCA has been a member of Buy Board since 2012.

ALTERNATIVES: N/A

CONFORMITY TO PORT POLICY: PCCA Strategic Goal #4C – Establish centralized purchasing. By gathering data to analyze normal end of life cycle or performance issues, the PCCA is positioned to efficiently and economically prepare for replacement of mobile equipment.

EMERGENCY: No.

FINANCIAL IMPACT: N/A

STAFF RECOMMENDATION: Staff recommends that a purchase contract be awarded to Silsbee Ford in the estimated amount of $300,824.40 for purchase of eight (8) vehicles.

DEPARTMENTAL CLEARANCES:

Originating Department	Procurement
Reviewed & Approved	Lynn Angerstein
	Dennis DeVries
Legal	Dane Bruun
Senior Staff	John LaRue
	Sean Strawbridge

LIST OF SUPPORTING DOCUMENTS:

Pricing Tabulation of all vehicles.

2018 VEHICLES

	w/Service Body & 3200 Liftmoore Crane	2018 F350 w/Service Body	2018 F150 w/4x	2018 F450 w/Service Body Flatbed	2018 F150	2018 Interceptor w/Equipment & Graphics	BuyBoard Fee	Total Quoted Expense	2018 Budget
Requesting Dept	Maintenance	IT/Security Team	Wharfinger	Maintenance	PD	PD			
Quantity Budgeted	1	1	1	1	1	3			
Quoted Price Each	$ 52,949.40	$ 41,000.00	$ 29,053.60	$ 42,769.40	$ 26,058.60	$ 36,197.80			
Total	**$ 52,949.40**	**$ 41,000.00**	**$ 29,053.50**	**$ 42,769.40**	**$ 26,058.60**	**$ 108,593.40**	**$ 400.00**	**$ 300,824.30**	**$ 298,000.00**
Co-Op Contract #	BB 521-16	BB 521-16	BB 521-16	BB 521-16	BB 521-16	BB 430-13			

$2,824.30 over budget due to factory included equipment requested after budget submission.

SILSBEE FORD

PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: Lynn Angerstein, Manager of Procurement Services
Lynn@pocca.com
(361) 885-6142

Authorize Purchase of Five (5) Copiers from Ricoh USA, Inc. Using Government Pricing from the State of Texas Cooperative Program in the amount of $60,188.40.

SUMMARY: Staff requests authorization to purchase four (4) copiers for the replacement of aging and worn copiers in order to maintain dependable and operational equipment and one (1) additional copier for increased staff needs. Staff will utilize one of the state-approved purchasing programs known as the BuyBoard Cooperative Purchasing Program to purchase this equipment. By separate agenda item, Staff has requested authorization to dispose of the four aging copiers as surplus personal property.

BACKGROUND: The Port currently maintains 27 copiers Portwide. Copiers are considered for replacement based on age of equipment, recorded copies, and service records. Included in the 2018 budget is $72,500 for the purchase of five (5) copiers which consist of the replacement of four (4) copiers purchased in 2010 and 2011 and one (1) additional copier for the Chief Commercial Officer office recently relocated to the Administration Building.

ALTERNATIVES: Competitive Sealed Bid on Open Market

CONFORMITY TO PORT POLICY: Conforms to Strategic Plan Goal #3 (Sustain Productive Stakeholder Relationships), Strategic Objective 3B (Operate Port Facilities in a Safe, Secure, and Efficient Manner),

EMERGENCY: No

FINANCIAL IMPACT: $60,188.40 purchase cost less any proceeds received from the auction of surplus copiers.

STAFF RECOMMENDATION: Staff recommends a purchase order be issued to Ricoh USA, Inc. in the amount of $60,188.40 for purchase of five (5) copiers with an estimated delivery of 30 days.

DEPARTMENTAL CLEARANCES:

Originating Department	Procurement
Reviewed & Approved	Lynn Angerstein Approved
Legal	Dane Bruun
Senior Staff	John LaRue Sean Strawbridge Dennis DeVries Jarl Pedersen

LIST OF SUPPORTING DOCUMENTS:

Order Agreement

RICOH

ORDER AGREEMENT

Sale Type :CASH

Sale Type :	CASH

ORDER AGREEMENT CONSISTS OF THIS PAGE AND THE TERMS AND CONDITIONS

BILL TO INFORMATION

Customer Legal Name: PORT OF CORPUS CHRISTI

Address Line 1:	PO BOX 1541	**Contact:**	Angerstein,Lynn
Address Line 2:	ACCOUNTS PAYABLE	**Phone**:	(361)882-5633
City:	CORPUS CHRISTI	**E-mail**:	lynn@pocca.com
ST / Zip: TX/78403-1541	**County**: NUECES	**Fax**:	

ADDITIONAL ORDER INFORMATION

Check All That Apply:

◇ Sales Tax Exempt (Attach Valid Exemption Certificate)
◇ PO Included PO#_____
◇ Syndication
◇ Fixed Service Charge
◇ PS Service (Subject to and governed by separate Statement of Work)
◇ IT Service (Subject to and governed by separate Statement of Work)
◇ Add to Existing Service Contract # _____

SHIP TO INFORMATION

Customer Name: PORT OF CORPUS CHRISTI

Address Line 1:	222 POWER ST	**Contact:**	Angerstein,Lynn
Address Line 2:	2ND FL	**Phone**:	(361)882-5633
City:	CORPUS CHRISTI	**E-mail**:	lynn@pocca.com
ST / Zip: TX/78401-1529	**County**: NUECES	**Fax**:	

PRODUCT INFORMATION

Product Description	Qty	Sell Price	Extended Sell Price
RICOH MPC4504EX BRANDING SET	1	$8,376.00	$8,376.00
RICOH MPC4504EX BRANDING SET	1	$8,376.00	$8,376.00
RICOH MPC4504EX BRANDING SET	1	$8,895.00	$8,895.00
RICOH MPC6004EX BRANDING SET	1	$12,255.00	$12,255.00
RICOH MPC6503 BRANDING SET	1	$19,708.00	$19,708.00

BASIC CONNECTIVITY / PS / IT SERVICES INFORMATION

BASIC CONNECTIVITY / PS / IT Services Description	Qty	Sell Price	Extended Sell Price
DATA ERASE WITH HD SURRENDER V2405600509	1	$350.00	$350.00
[OOD]RICOH ICE OFFICE PACKAGE 5 YEAR SUBSCRIPTION INC5YR	1	$968.40	$968.40
[OA]TS INSTALLATION RICOH ICE (PER MFP)	1	$210.00	$210.00
TS NETWORK & SCAN - SEG BC4	1	$0.00	$0.00
TS NETWORK & SCAN - SEG BC4	1	$0.00	$0.00

RICOH

BASIC CONNECTIVITY / PS / IT SERVICES INFORMATION			
BASIC CONNECTIVITY / PS / IT Services Description	**Qty**	**Sell Price**	**Extended Sell Price**
TS NETWORK & SCAN - SEG BC4	1	$0.00	$0.00
TS NETWORK & SCAN - SEG BC4	1	$0.00	$0.00
TS NETWORK & SCAN - SEG BC4	1	$0.00	$0.00

SHIP TO INFORMATION			
Customer Name: PORT OF CORPUS CHRISTI			
Address Line 1: 2301 N PORT AVE		**Contact:**	Angerstein,Lynn
Address Line 2:		**Phone:**	(361)882-5633
City: CORPUS CHRISTI		**E-mail:**	lynn@pocca.com
ST / Zip: TX/78401-1211	**County:** NUECES	**Fax:**	

BASIC CONNECTIVITY / PS / IT SERVICES INFORMATION			
BASIC CONNECTIVITY / PS / IT Services Description	**Qty**	**Sell Price**	**Extended Sell Price**
DATA ERASE WITH HD SURRENDER V7630100136	1	$350.00	$350.00

SHIP TO INFORMATION			
Customer Name: PORT OF CORPUS CHRISTI			
Address Line 1: 1305 N SHORELINE BLVD		**Contact:**	Angerstein,Lynn
Address Line 2:		**Phone:**	(361)882-5633
City: CORPUS CHRISTI		**E-mail:**	lynn@pocca.com
ST / Zip: TX/78401-1537	**County:** NUECES	**Fax:**	

BASIC CONNECTIVITY / PS / IT SERVICES INFORMATION			
BASIC CONNECTIVITY / PS / IT Services Description	**Qty**	**Sell Price**	**Extended Sell Price**
DATA ERASE WITH HD SURRENDER V9825800507	1	$350.00	$350.00

SHIP TO INFORMATION			
Customer Name: PORT OF CORPUS CHRISTI			
Address Line 1: 1002 E PORT AVE		**Contact:**	Angerstein,Lynn
Address Line 2:		**Phone:**	(361)882-5633
City: CORPUS CHRISTI		**E-mail:**	lynn@pocca.com
ST / Zip: TX/78401-1004	**County:** NUECES	**Fax:**	

BASIC CONNECTIVITY / PS / IT SERVICES INFORMATION			
BASIC CONNECTIVITY / PS / IT Services Description	**Qty**	**Sell Price**	**Extended Sell Price**
DATA ERASE WITH HD SURRENDER V9815900100	1	$350.00	$350.00

RICOH

ORDER TOTALS		
Service Type Offerings:	**Product Total:**	$57,610.00
Gold: Includes all supplies and staples. Excludes paper.	**BASIC CONNECTIVITY / PS / IT Services:**	$2,578.40
Silver: Includes all supplies. Excludes paper and staples.	**Buyout:**	$0.00
Bronze: Parts and labor only. Excludes paper, staples and supplies.	**Grand Total: (Excludes Tax)**	$60,188.40
Additional Provisions:		

PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: Eric Battersby, Manager of Bulk Terminal
ebattersby@pocca.com
(361) 885-6222

Approve Amendment No. 1 to Professional Engineering Services Contract for Additional Services Related to the Procurement of A New Crane for Bulk Dock 1 with Cardno, Inc for an Amount of $42,548.

SUMMARY: Staff requests approval of Amendment No. 1 to Professional Engineering Services Contract for an amount of $42,548 with Cardno, Inc. for additional services to support PCCA's procurement of a new crane for Bulk Dock 1. This item was presented to the Long Range Planning Committee on January 8, 2018.

BACKGROUND: In June 2017, the Port Commission approve a Professional Engineering Services Agreement with Cardno in the amount of $75,710 for support services related to the procurement of a new crane at Bulk Dock 1. Cardno assisted PCCA staff with the development of a Request for Proposals (RFP) package for the acquisition of a new crane. Cardno developed the technical specifications and worked closely with PCCA to assemble the RFP solicitation package. The solicitation was advertised on Authority's eBid system on September 28, 2017 and proposals were received on December 12, 2017.

Although the RFP is complete, additional support for successfully awarding a contract is warranted. Authority intends to award the contract to the proposer that offers the "best value", which will not necessarily be the manufacturer with the lowest proposed cost. To identify the "best value," Engineer will continue to support the crane acquisition process.

ALTERNATIVES: N/A.

CONFORMITY TO PORT POLICY: Conforms to Strategic Plan Goal #2 (Provide Facilities & Services to Meet Customer Needs), Strategic Objective 2B (Provide Public Docks and Support Private Facilities to Facilitate Maritime and Industrial Development), Action Item 2 (Upgrade and Maintain Existing Docks and Facilities). Conforms to Strategic Plan Goal #4 (Foster Compatible Industrial and Maritime Development), Strategic Objective 3 (Identify and Pursue General Cargo and Dry Bulk Diversification Opportunities), Action Item 3b (Develop marketing plan to attract new bulk cargo for growth of cargo at Bulk Terminal).

EMERGENCY: N/A.

FINANCIAL IMPACT: The original contract amount was $75,710 and the new total amount with this amendment will be $118,258.

STAFF RECOMMENDATION: Staff recommends approval of the Amendment No. 1 to Professional Engineering Services Contract with Cardno, Inc. for an amount of $42,548.

DEPARTMENTAL CLEARANCES:

Originating Department	Environmental Planning & Compliance
Reviewed By	Eric Battersby
	Sarah Garza
Legal	Jimmy Welder
	Dane Bruun
Senior Staff	John LaRue
	Sean Strawbridge

LIST OF SUPPORTING DOCUMENTS:

Amendment No. 1 to Professional Engineering Services Agreement

AMENDMENT NO. 1
TO
PROFESSIONAL ENGINEERING SERVICES CONTRACT
FOR ADDITIONAL SERVICES
PROJECT NAME: Bulk Dock 1 New Crane Procurement

This Amendment No. 1 to Professional Engineering Services Contract for Additional Services (the **"*Amendment")*** is made effective as of January 16, 2018 ***("Amendment Date")*** by and between the Port of Corpus Christi Authority of Nueces County, Texas, a navigation district operating under Article XVI, Section 59 of the Texas Constitution ***("Authority"),*** and Cardno, Inc. ***("Engineer").*** Authority and Engineer are sometimes individually referred to herein as a **"*Party"*** and collectively as the ***"Parties".***

WHEREAS, Authority and Engineer entered into a Professional Engineering Services Contract dated June 20th, 2017, in connection with assistance with the preparation of a procurement package for the purchase of a new crane for Bulk Dock 1(the **"*Agreement")***; and

WHEREAS, capitalized terms in this Amendment shall have the meanings given to them in the Agreement, except as provided herein; and

WHEREAS, the Authority and Engineer have agreed (i) to expand the Services to be provided under the Agreement, (ii) to extend the Deadline for performing the Services, and (iii) to increase the compensation payable to Engineer under the Agreement;

NOW, THEREFORE, for a good and valuable consideration, the Parties hereby agree as follows:

A. **Exhibit A** of the Agreement is hereby amended by adding thereto the additional services described **Attachment A** to this Amendment.

B. **Section 2 (PERIOD OF SERVICE)** of the Agreement is hereby amended by amending the first sentence of Section 2 to read as follows:

> **2. PERIOD OF SERVICE:** The Engineer shall complete the Services on or before April 30, 2018 (the "Deadline"), unless the Authority agrees to extend the Deadline for good reason; provided, however, that the Authority may terminate this Contract at any time in accordance with Section 14.

C. **Exhibit B** of the Agreement is hereby amended by adding thereto the additional compensation described in **Attachment B** to this Amendment.

D. Section 7 of the Agreement is hereby amended in its entirety to read as follows.

> **7. COMPENSATION**: The compensation to be paid Engineer for providing the Services shall be the compensation described in Exhibit B

hereto, which is incorporated herein by reference; provided, however, the total paid to Engineer for the Services shall not exceed **One Hundred Eighteen Thousand, Two Hundred Fifty-Eight Dollars ($118,258).** Engineer will obtain the approval of Authority's Project Representative relative to incurring travel and other expenses before incurring such costs.

E. This Amendment shall be binding on the successors and assigns of the Parties.

F. Except as specifically amended hereby, all terms and conditions of the Agreement shall remain in full force and effect. In the event of any conflict between the terms and conditions of this Amendment and the terms and conditions of the Agreement, the terms and conditions of this Amendment shall control.

G. This Amendment maybe executed in multiple counterparts, each of which will be considered to be an original. Signature pages may be detached from the counterparts and attached to a single copy of this document to physically form one document. The Parties may provide signatures to this Amendment by facsimile or Adobe ".pdf" file and such facsimile or Adobe ".pdf" file signatures shall be deemed to be the same as original signatures.

[The signature page follows this page.]

In Witness Whereof, each Party has caused this Amendment to be executed by its duly authorized representative effective for all purposes as of the Amendment Date.

PORT OF CORPUS CHRISTI AUTHORITY
OF NUECES COUNTY, TEXAS

By: _____
John P. LaRue
Executive Director

CARDNO, INC.

By: John D. Pauling
John Pauling
National Director

ATTACHMENT A

SCOPE OF SERVICES

Crane Procurement Additional Services Package Activities

Engineer previously supported Authority with the development of a Request for Proposals (RFP) package for the acquisition of a new crane. Engineer developed the technical specifications and worked closely with Authority to assemble the RFP solicitation package. The solicitation was advertised on Authority's eBid system and proposals were received on December 12, 2017.

Although the RFP is complete, additional support for successfully awarding a contract is warranted. Authority intends to award the contract to the proposer that offers the "best value", which will not necessarily be the manufacturer with the lowest proposed cost. To identify the "best value," Engineer will continue to support the crane acquisition process, with the following activities:

- Review and evaluate proposals – check vendor calculations
- Develop a method for assessing the responsive proposals and prepare a matrix that prioritizes Authority's crane needs, compares the proposals, and ranks the vendors.
- Prepare a recommendation, based on the results of the comparison matrix and follow-up discussions with RFP Evaluation.
- Provide a non-voting representative on RFP Evaluation Team able to discuss Engineer's recommendation and completed comparison matrix.
- Assist Authority with negotiation of the contract.

Crane Procurement Additional Services Package Deliverables

Deliverables associated with the above project activities include:

- Upon receipt and review of proposals received in response to RFP, Engineer will provide documentation to Authority highlighting any bidder's proposals that do not conform to the RFP.
- Upon receipt and review of proposals received in response to RFP, Engineer will serve as a non-voting advisor on RFP Evaluation Team and will assist in evaluation of proposals using multiple-criteria decision analysis. A draft matrix that will compare and rank the proposals will be provided to Authority for review. Upon receipt of Authority comments, Engineer finalize matrix and provide to RFP Evaluation Team in Excel format.
- Engineer's representative will complete the matrix based on the proposals received and provide a recommendation for award.

ATTACHMENT B

FEE SCHEDULE

	Engineering Manager/ Commissioning	Senior Material Handling Engineer	Material Handling Engineer	Procurement & Eng. Support	**Labor Hours**	**Total Cost**
Hourly Rate	$252	$206	$124	$155		
Total Hours	64	50	40	72		
Proposal Packages						
Crane Procurement Additional Services						
Evaluation of Proposals	16	16	20	28	**80**	**$ 14,148**
Confirm adherence to requirements	12	20	20	20	**72**	**$ 12,724**
Recommendation	28	4		24	**56**	**$ 11,600**
Crane Contract Negotiations	8	10			**18**	**$ 4,076**
Sub-total	$ 16,128	$ 10,300	$ 4,960	$ 11,160		
				TOTAL	**226**	**42,548**

Note: Costs assume no travel to Corpus Christi or to the fabrication shops

PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: David L. Krams, P.E.
Director of Engineering Services
Krams@pocca.com
(361) 885-6134

ANTICIPATED STAFF PRESENTER: Brett Flint, P.E.
Chief of Planning & Design

Approve a Master Services Agreement and Service Order No. 1 in the amount of $79,600 with Lanier & Associates Consulting Engineers, Inc., for Engineering Services associated with New Oil Dock 20.

SUMMARY: Staff recommends approval of the attached Master Services Agreement with Lanier & Associates Consulting Engineers, Inc. (Lanier) and approve Service Order No. 1 in an amount with a ceiling price of $79,600 to provide engineering services for Phase I of the New Oil Dock 20.

BACKGROUND: Per the terms of PCCA's Lease Agreement (Lease) with Maverick Terminals Corpus, LLC to develop a petroleum liquids terminal on the north side of the ship channel just east of the PCCA's Bulk Terminal (see attached map exhibit), the PCCA is required to engage the services of a design engineer to develop a cost estimate for the development of a new Oil Dock 20 to potentially be constructed on the Lease premises. The proposed Oil Dock 20 will include a marine dock platform with a 1,100-foot long berth, breasting structures, mooring structures, loading arms, piping with related equipment, lighting, and a parking area.

In coordination with representatives of Maverick, staff has negotiated a scope of work and cost for Service Order No. 1 with Lanier to perform conceptual level engineering and studies to develop dock layout and associated cost estimate. The scope under Service Order No. 1 will only cover the initial study and cost estimate phase of the Oil Dock 20 project, which consists of reviewing site conditions, performing an evaluation of dock construction type alternatives, providing a recommendation for the preferred alternative, providing a construction schedule, and providing an opinion of probable construction costs. Should Maverick elect in the future to proceed with final design and construction of Oil Dock 20, those projects will be brought to the Port Commission for approval at a later date.

The Master Services Agreement provides the general terms, conditions, insurance, etc. for this and subsequent service orders that may be issued to Lanier & Associates Consulting Engineers, Inc. during three-year term of the Master Services Agreement.

ALTERNATIVES: N/A

CONFORMITY TO PORT POLICY: The project conforms to the PCCA's Strategic Plan (Strategic Goal #2 – Provide Facilities and Services to Meet Customer Needs, Strategic Objective #2B – Provide Public Docks and Support Private Facilities to Facilitate Maritime and Industrial Development, Action #4 – Develop Process to Support Private Customer Projects).

EMERGENCY: Although this is not an emergency action, the terms of the Lease require this work to be performed early within the initial term of the Lease.

FINANCIAL IMPACT: The Engineering Capital budget included $2,250,000 for this project in 2018; and per the terms of the lease with Maverick, costs for related professional services, including the work under this Service Order, will be cost-shared equally for up to $2 million.

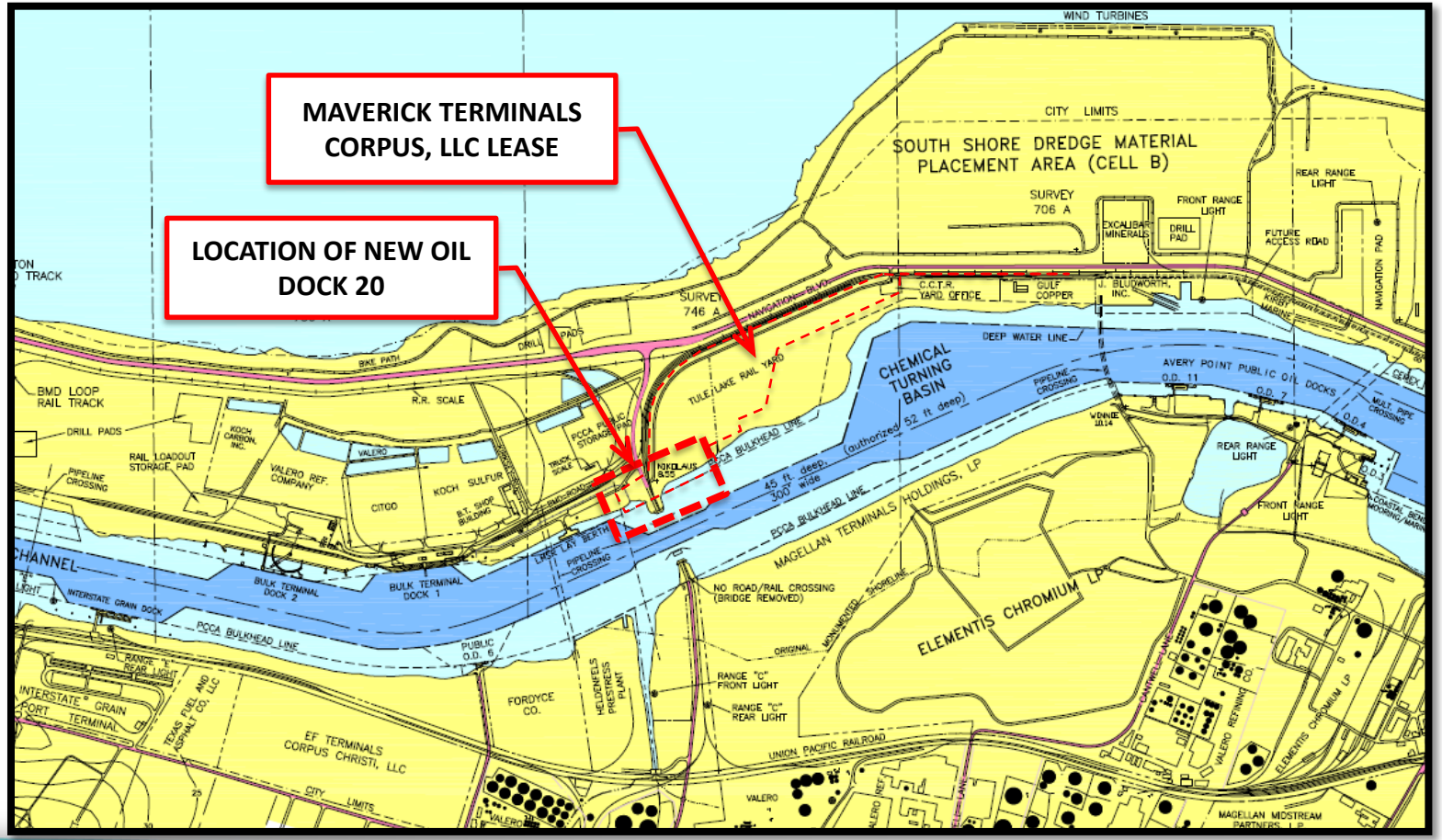
STAFF RECOMMENDATION: Staff recommends approval of the attached Master Services Agreement and Service Order No. 1 with a ceiling price of $79,600 with Lanier & Associates Consulting Engineers, Inc., to provide engineering services for Phase I of New Oil Dock 20.

DEPARTMENTAL CLEARANCES:

Originating Department	Engineering Services
Reviewed & Approved	David Krams
	Brett Flint
	Carlos Martinez
Legal	Staff will use PCCA's standard Master Services Agreement
Senior Staff	John LaRue
	Sean Strawbridge
	Dennis DeVries

LIST OF SUPPORTING DOCUMENTS:

Map Exhibit


MAVERICK TERMINALS CORPUS, LLC LEASE
LOCATION OF NEW OIL DOCK 20
WIND TURBINES
CITY LIMITS
SOUTH SHORE DREDGE MATERIAL PLACEMENT AREA (CELL B)
SURVEY 706 A
SURVEY 746 A
EXCALIBAR MINERALS
DRILL PAD
FRONT RANGE LIGHT
REAR RANGE LIGHT
FUTURE ACCESS ROAD
NAVIGATION PAD
C.C.T.R. YARD OFFICE
GULF COPPER
J. BLUDWORTH, INC.
KIRBY INLAND MARINE
DEEP WATER LINE
CHEMICAL TURNING BASIN
AVERY POINT PUBLIC OIL DOCKS
O.D. 11
O.D. 7
O.D. 4
MULT. PIPE CROSSING
COASTAL BEND MOORING/MARINE
BMD LOOP RAIL TRACK
DRILL PADS
BIKE PATH
R.R. SCALE
RAIL LOADOUT STORAGE PAD
KOCH CARBON, INC.
VALERO REF. COMPANY
CITGO
KOCH SULFUR
B.T. SHOP BUILDING
PCCA FUEL PAD STORAGE
TRUCK SCALE
TULE LAKE RAIL YARD
NAVIGATION BLVD
PCCA BULKHEAD LINE
45 ft. deep; 300' wide (authorized 52 ft. deep)
PIPELINE CROSSING
NIKOLAUS 8.55
WINNIE 10.14
REAR RANGE LIGHT
FRONT RANGE LIGHT
MAGELLAN TERMINALS HOLDINGS, LP
ELEMENTIS CHROMIUM LP
CHANNEL
INTERSTATE GRAIN DOCK
BULK TERMINAL DOCK 2
BULK TERMINAL DOCK 1
LARGE LAY BERTH
NO ROAD/RAIL CROSSING (BRIDGE REMOVED)
ORIGINAL SHORELINE
RANGE "C" FRONT LIGHT
RANGE "C" REAR LIGHT
PUBLIC O.D. 6
FORDYCE CO.
HELDENFELS PALISTRESS PLANT
INTERSTATE GRAIN PORT TERMINAL
TEXAS FUEL AND ASPHALT CO. LLC
EF TERMINALS CORPUS CHRISTI, LLC
UNION PACIFIC RAILROAD
VALERO
MAGELLAN MIDSTREAM PARTNERS, LP

MASTER SERVICES AGREEMENT

BETWEEN THE

PORT OF CORPUS CHRISTI AUTHORITY OF NUECES COUNTY, TEXAS,

AND

LANIER AND ASSOCIATES CONSULTING ENGINEERS, INC.

FOR
PROFESSIONAL ENGINEERING SERVICES
ON A
SERVICE ORDER BASIS

PORTCORPUSCHRISTI

MASTER SERVICES AGREEMENT NO. 18-01

EFFECTIVE DATE: January 16, 2018

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EXHIBIT C -REIMBURSEMENT EXPENSE SCHEDULE

EXHIBIT D - SCHEDULE OF DUTIES, RESPONSIBILITIES AND LIMITATIONS OF AUTHORITY

EXHIBIT E- NOTICE OF ACCEPTABILITY OF WORK

EXHIBIT F - AMENDMENT TO SERVICE ORDER

PORT OF CORPUS CHRISTI AUTHORITY
OF NUECES COUNTY, TEXAS
MASTER SERVICES AGREEMENT NO. 18-01
FOR PROFESSIONAL ENGINEERING SERVICES

THIS MASTER SERVICES AGREEMENT FOR PROFESSIONAL ENGINEERING SERVICES ("**Agreement**") is made effective as of the 16th day of January, 2018 ("**Effective Date**") between the **PORT OF CORPUS CHRISTI AUTHORITY OF NUECES COUNTY, TEXAS**, ("**PCCA**") and **LANIER & ASSOCIATES, INC.** ("**Engineer**"), each a "**Party**" and collectively the "**Parties**".

RECITALS

(a) From time to time PCCA may request that the Engineer provide professional services for Specific Projects. Each engagement will be documented by a Service Order.

(b) This Agreement sets forth the general terms and conditions which shall apply to all Service Orders duly executed under this Agreement.

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

ARTICLE 1
DEFINITIONS AND INTERPRETATION

Section 1.01 Certain Definitions

A. Wherever used in this Agreement (including the Exhibits hereto) and printed with initial or all capital letters, the terms listed below shall have the meanings set forth in this Section, which are applicable to both the singular and plural thereof:

1. *Addenda*. Written or graphic instruments issued prior to the opening of Bids that clarify, correct, or change the Bid Documents or the proposed Construction Contract Documents.

2. *Agreement.* This "Master Services Agreement between PCCA and Engineer for Professional Engineering Services," including all Attachments and Exhibits attached hereto.

3. *Bid*. The offer or proposal of the bidder submitted on the PCCA-prescribed form setting forth the prices and schedule for the Work to be performed.

4. *Bid Documents*. The notice or invitation to submit bids or proposals for construction of a Specific Project, including the instructions to bidders, the Bid form and

attachments, the bid bond, if any, the Construction Contract Documents, and all Addenda, if any.

5. *Business Day*. means any day other than Saturday or Sunday or any other day on which banks in Texas are permitted or required to be closed.

6. *Change Order*. A document which is signed by a Contractor and PCCA and authorizes an addition, deletion, or revision in the Work or an adjustment in the Construction Contract Price or the Construction Contract Times, or other revision to the Construction Contract, issued on or after the effective date of the Construction Contract.

7. *Change Proposal*. A written request by a Contractor, duly submitted in compliance with the procedural requirements set forth in the Construction Contract, seeking an adjustment in Construction Contract Price or Construction Contract Times, or both; contesting an initial decision by Engineer concerning the requirements of the Construction Contract Documents or the acceptability of Work under the Construction Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Construction Contract.

8. *Ceiling Price*. The maximum amount PCCA will pay for the Work or phases of Work described in a Service Order.

9. *Commencement Date of a Service Order*. The date indicated in a Service Order on which the Service Order becomes effective; but if no such date is indicated, it means the date on which this Service Order is signed and delivered by the last of the two Parties to sign and deliver.

10. *Constituent of Concern*—Asbestos, petroleum, radioactive material, polychlorinated biphenyls (PCBs), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to (a) the Comprehensive Environmental Response, Compensation and Liability Act, 42 U.S.C. §§9601 et seq. ("CERCLA"); (b) the Hazardous Materials Transportation Act, 49 U.S.C. §§5101 et seq.; (c) the Resource Conservation and Recovery Act, 42 U.S.C. §§6901 et seq. ("RCRA"); (d) the Toxic Substances Control Act, 15 U.S.C. §§2601 et seq.; (e) the Clean Water Act, 33 U.S.C. §§1251 et seq.; (f) the Clean Air Act, 42 U.S.C. §§7401 et seq.; or (g) any other federal, state, or local statute, law, rule, regulation, ordinance, resolution, code, order, or decree regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.

11. *Construction Contract*. The entire and integrated written contract between PCCA and Contractor concerning the Work.

12. *Construction Contract Documents*. The documents described in the Construction Contract as the "Contract Documents."

13. *Construction Contract Price*—The money that PCCA has agreed to pay Contractor for completion of the Work in accordance with the Construction Contract Documents.

14. *Construction Contract Times*—The numbers of days or the dates by which a Contractor shall: (a) achieve milestones, if any, in the Construction Contract; (b) achieve Substantial Completion, and (c) complete the Work.

15. *Construction Cost.* The cost to PCCA of the construction of those portions of an entire Specific Project designed or specified by or for Engineer under this Agreement and the specific Service Order, including construction labor, services, materials, testing, equipment, insurance, and bonding costs, and allowances for contingencies. The Construction Cost does not include costs of Services of Engineer or other design professionals and Consultants; costs of land, rights-of-way, or compensation for damages to properties; or PCCA's costs for legal, accounting, insurance counseling or auditing services, or interest and financing charges incurred in connection with a Specific Project; or the cost of services to be provided to PCCA by others. Construction Cost is one of the items comprising Total Project Costs.

16. *Constructor*. Any person or entity (not including the Engineer, its employees, agents, representatives, and Consultants), performing or supporting construction activities relating to the Specific Project, including but not limited to Contractors, Subcontractors, Suppliers, PCCA's work forces, utility companies, other contractors, construction managers, testing firms, shippers, and truckers, and their employees, agents, and representatives.

17. *Consultants*—Individuals or entities having a contract with Engineer to furnish services with respect to a Specific Project as Engineer's independent professional associates, consultants, subcontractors, or vendors.

18. *Contractor*. The individual or entity with which PCCA enters into a Construction Contract.

19. *Correction Period.* The time after Substantial Completion during which Contractor must correct, at no cost to PCCA, any Defective Work; normally one year after the date of Substantial Completion or such longer period of time as may be prescribed by Laws or Regulations or by the terms of any applicable special guarantee or specific provision of the Construction Contract Documents.

20. *Day*. For purposes of this Agreement and associated Service Orders, the term "day" means a calendar day of 24 hours.

21. *Defective Work*. Any part of the Work the Engineer or the RPR believes is defective under the terms and standards set forth in the Construction Contract Documents.

22. *Documents*. Data, reports, Drawings, Specifications, Record Drawings, and other deliverables, whether in printed or electronic media format, generated, provided or furnished in appropriate phases by Engineer to PCCA pursuant to this Agreement and any attached Service Orders.

23. *Drawings*. That part of the Construction Contract Documents prepared or approved by Engineer that graphically shows the scope, extent, and character of the Work to be performed by Contractor. Shop drawings are not Drawings as so defined.

24. *Effective Date*. The date indicated in this Agreement on which it becomes effective; but if no such date is indicated, it means the date on which this Agreement is signed and delivered by the last of the two Parties to sign and deliver it.

25. *Engineer*. The individual or entity named as such in this Agreement.

26. *Engineer's Contract Representative*. The Engineer's Contract Representative is the person appointed to represent the Engineer's interests in this Agreement as more particularly described in Section 8.01(B).

27. *Field Order*. A written order issued by Engineer which directs minor changes in the Work but which does not involve a change in the Contract Price or the Contract Times.

28. *Final Acceptance*. That point in a Specific Project wherein PCCA considers the Project complete and PCCA issues a Certificate of Final Acceptance.

29. *General Conditions*. That part of the Construction Contract Documents that sets forth the terms, conditions, and procedures that govern the Work to be performed or furnished by Contractor with respect to a Specific Project.

30. *Hourly Rates Service Order*. A Service Order under which PCCA agrees to pay Engineer based on the amount of time spent by the Engineer's employees in performing the Work described in the Service Order and for the Reimbursable Expenses incurred by Engineer in performing the services, but limited to the Ceiling Price specified in the Service Order.

31. *Laws and Regulations; Laws or Regulations*. Any and all applicable laws, rules, regulations, ordinances, codes, standards, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.

32. *Lump Sum Service Order*. A Service Order under which PCCA agrees to pay Engineer a specified agreed amount for the services described in the Service Order regardless of the number hours it takes to complete the work.

33. *Named Reimbursable Expenses*. Only the Reimbursable Expenses expressly listed, if any, in a Lump Sum Service Order.

34. *PCCA's Contract Representative*. PCCA's Contract Representative is the person appointed to represent PCCA's interests in this Agreement as more particularly described in Section 8.01(A).

35. *PCCA Parties.* PCCA and its agents, servants, representatives, employees, officers, directors, and Port Commissioners.

36. *Proposal*. Document representing technical qualifications, approach to specific work, and costs associated with construction of a Specific Project or project specific services.

37. *Record Drawings*. Drawings depicting the completed Specific Project, or a specific portion of the completed Specific Project, prepared by Engineer and based solely on Contractor's record copy of all Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications, as delivered to Engineer and annotated by Contractor to show changes made during construction and to depict the final state of work.

38. *Reimbursable Expenses*. The expenses incurred directly by Engineer in connection with performing or furnishing Services for a Specific Project for which PCCA will pay Engineer as indicated in the Service Order and **Exhibit C**.

39. *Resident Project Representative.* The authorized representative, if any, of Engineer assigned to assist Engineer at the Site of a Specific Project during the Construction Phase. As used herein, the term Resident Project Representative or "**RPR**" includes any assistants or field staff of the RPR.

40. *Samples*. Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged.

41. *Scope of Services.* The scope of the professional engineering services to be provided by Engineer for any Specific Project as outlined in the Service Order for that Project.

42. *Services*. The professional engineering services to be provided by Engineer under any Service Order.

43. *Service Order*. A document in the form of **Attachment One** executed by PCCA and Engineer pursuant to this Agreement, including amendments if any, stating the scope of services, Engineer's compensation, times for performance of services, deliverables, and other relevant information for a Specific Project.

44. *Shop Drawings*. All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Contractor and submitted by Contractor to PCCA or Engineer to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Construction Contract Documents.

45. *Site*. Lands or areas indicated in the Construction Contract Documents for a Specific Project as being furnished by PCCA upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by PCCA which are designated for use of a Contractor for the construction of a Specific Project.

46. *Specific Project*. The total specific undertaking to be accomplished for PCCA by engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the services to be performed or furnished by Engineer under a specific Service Order are a part.

47. *Specifications*. That part of the Construction Contract Documents consisting of written technical descriptions of materials, equipment, systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

48. *Standard Hourly Rates*. The Standard Hourly Rates listed in Engineer's Standard Hourly Rates Schedule attached hereto as **Exhibit B**.

49. *Subcontractor*. An individual or entity having a direct contract with a Contractor or with any other Subcontractor for the performance of a part of the Work.

50. *Substantial Completion*. The time at which the Work (or a specified part thereof) has progressed to the point where, in the opinion of PCCA or Engineer, the Work (or a specified part thereof) is sufficiently complete, in accordance with the Construction Contract Documents, so that the Work (or a specified part thereof) can be utilized for the purposes for which it is intended. The terms "substantially complete" and "substantially completed" as applied to all or part of the Work refer to Substantial Completion thereof.

51. *Special Conditions*. That part of the Construction Contract Documents which amends or supplements the General Conditions.

52. *Term* or *Term of this Agreement.* The Term of this Agreement is the period from the Effective Date until the date on which this Agreement expires or is terminated in accordance with the provisions of this Agreement.

53. *Total Project Costs*. The total cost of planning, permitting, studying, designing, constructing, testing, commissioning, and start-up of the Specific Project, including Construction Cost and all other Specific Project labor, services, materials, equipment, insurance, and bonding costs, allowances for contingencies, the total costs of services of Engineer or other design professionals and consultants, cost of land, rights-of-way, or compensation for damages to properties, or PCCA's costs for legal, accounting, insurance counseling, and auditing services, interest and financing charges incurred in connection with the Specific Project, and the cost of other services to be provided by others to PCCA.

54. *Work*. The entire construction or the various separately identifiable parts thereof required to be provided by Construction Contract Documents for a Specific Project. Work includes and is the result of performing or providing all labor, equipment, materials, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning; all as required by such Construction Contract Documents.

55. *Work Change Directive*. A written directive to a Contractor issued on or after the effective date of the Construction Contract, signed by PCCA and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

B. Capitalized terms in this Agreement which are not defined in Section 1.01 are defined in the text of this Agreement the first time they occur.

Section 1.02 Terminology and Interpretation

A. The terms defined in Section 1.01 or in the text of this Agreement shall apply throughout this Agreement. All references in this Agreement to "Section" or "Article" shall refer to a section or article of this Agreement, unless otherwise expressly stated. All references in this Agreement to "Paragraph" shall refer to a paragraph of a Service Order or a paragraph of an Exhibit to this Agreement, unless otherwise expressly stated. All references to "Exhibits" shall mean the exhibits attached to this Agreement. All such Exhibits and any other attachments to this Agreement are incorporated in this Agreement by this reference. All references to herein, hereof, hereto, hereunder or similar terms shall be deemed to refer to this Agreement in its entirety. As used in this Agreement, the term "including" shall mean "including but not limited to." The headings of Articles and Sections in this Agreement and the headings of Paragraphs in the Service Order and the Exhibits to this Agreement shall be for convenience only and shall not affect the interpretation hereof.

B Words used in the singular number shall include the plural, and vice-versa, and any gender shall be deemed to include each other gender. Reference to any agreement means such agreement as amended or modified and in effect from time to time in accordance with the terms thereof.

C. Unless otherwise indicated, for purposes of this Agreement, a period of days shall be deemed to begin on the first day after the event that began the period and to end at 5:00 p.m. on the last day of the period. If, however, the last day of the period does not fall on a Business Day, the period shall be deemed to end at 5:00 p.m. on the next Business Day. All references to time herein are to time in Corpus Christi, Texas.

ARTICLE 2
SERVICES OF ENGINEER AND REPORTS

Section 2.01 Scope of Services

A. Engineer's Services will be detailed in a duly executed Service Order for each Specific Project. The general format of a Service Order is shown in **Attachment One** to this Agreement. This Agreement shall be referred to in any Service Order issued pursuant hereto as "Master Services Agreement No. *18-01*." Each Service Order will indicate the specific services to be performed, deliverables to be provided, schedule and specific compensation terms.

B. Engineer shall not be obligated to perform work under a prospective Service Order unless and until PCCA and Engineer agree as to the particulars of the scope of Engineer's services, time for performance, Engineer's compensation, and all other appropriate matters and the specific Service Order is executed by both parties.

Section 2.02 Service Order Procedure

A. PCCA and Engineer shall agree on the scope, time for performance, and method of compensation for each Service Order. With respect to the scope of Engineer's services, each specific Service Order shall either (1) be accompanied by and incorporate a customized **Exhibit A**, "Engineer's Services for Service Order," prepared for the Specific Project, (2) state the scope of services in the Service Order document itself, or (3) incorporate by reference all or portions of **Exhibit A**, "Engineer's Services for Service Order," as attached to this Agreement. Each duly executed Service Order shall be subject to the terms and conditions of this Master Services Agreement, unless specifically modified within the Service Order.

B. Engineer shall provide, or cause to be provided, the services set forth in the fully executed Service Order.

Section 2.03 Times for Rendering Services

A. Engineer is not authorized to begin work or to incur costs under a Service Order until the time set forth in the Service Order.

B. The Commencement Date of each Service Order and the times for completing services or providing deliverables will be stated in each Service Order. Engineer is authorized to begin rendering services under a Service Order as of the Commencement Date of the Service Order unless otherwise specified in the Service Order.

C. Unless specific periods of time or specific dates for providing Services are specified in a Service Order, Engineer's obligation to render Services hereunder will be for a period which may reasonably be required for the completion of the Services.

D. If PCCA has requested changes in the scope, extent, or character of the Specific Project, the time of performance and completion of Engineer's Services may be adjusted equitably as agreed by the Parties.

E. If, through no fault of Engineer, the orderly and continuous progress of Engineer's services is impaired, or Engineer's services are delayed or suspended, then the time for performance and completion of Engineer's services shall be adjusted equitably.

Section 2.04 PCCA Project Manual

In addition to the terms and conditions set forth herein and in associated Service Orders, the Engineer will perform Services in accordance with the latest version of the PCCA Project Manual issued prior to the date of the Service Order.

Section 2.05 No Guaranteed Amount of Services

Services pursuant to this Agreement will be required on an irregular and as needed basis during the Term of this Agreement, and PCCA has not made nor does it make any representation of any kind or guarantee regarding the amount of services PCCA will require from Engineer under this Agreement.

Section 2.06 Progress Reports

A. Unless otherwise provided in a Service Order, Engineer will provide PCCA with a monthly progress report ("***Monthly Progress Report***") on the services being performed or furnished by Engineer under each Service Order. At a minimum, the report shall cover the following items:

1. The percentage of Work performed during the previous month.
2. The total percentage of the Specific Project completed.
3. Significant findings, problems, delays, inclusions, events, trends, etc. of the reporting period which result from or affect the performance of the Construction Contract.
4. Specific actions required of PCCA, to assist in the resolution of a problem or to affect the timely progression of the Work
5. The percentage of the Service Order budget expended during the reporting period and total expended to-date.
6. A statement that Services are on schedule, or an explanation of variance and proposed corrective actions.

B. The Monthly Progress Report for each Specific Project shall be delivered to the PCCA Project Manager within ten working days following the end of the month being reported.

ARTICLE 3
CHANGES TO SERVICE ORDERS AND PERSONNEL

Section 3.01 Changes to Service Orders Requested by PCCA

PCCA may change the Scope of Services set forth in a Service Order, by sending written notice to Engineer. Should Engineer believe that such changes require an equitable adjustment in Engineer's agreed compensation and/or schedule for the Services or other terms of the Services,

Engineer shall notify PCCA in writing of its request for such adjustments no later than fourteen (14) calendar days following its receipt of such requested changes from PCCA. Except as otherwise instructed in writing by PCCA, Engineer shall not commence the changed Services until PCCA and Engineer have mutually accepted Engineer's timely requested adjustments, if any, to its compensation or schedule for its Services or other terms of the Services and a written amendment to Service Order is executed by the Parties.

Section 3.02 Changes to Service Orders Requested by Engineer

Should an event or condition occur after the initiation of a Service Order, that in the opinion of the Engineer, will result in a change in scope, schedule and/or budget, the Engineer will provide timely written notice to PCCA stating: the nature of the event or condition; detailing the impact on scope, schedule and/or, budget; and providing the Engineer's recommendation or request for modification of the affected Service Order. Such notice will be provided upon recognition of the event or condition and prior to the completion of the services stated in the Service Order. PCCA will not consider a request for an increase in the Ceiling Price of a Service Order that is submitted after completion of the services stated in the Service Order, if PCCA determines, in its sole discretion, that the event or condition cited as the cause for the increase in the Ceiling Price was, or could reasonably have been, known in time to submit a change request prior to completion of the services stated in the Service Order. PCCA will review the Engineer's recommendation or request and provide a written response agreeing with the requested recommendation or request or not accepting said recommendation or request. Any changes or modification to the scope, schedule and/or budget will be detailed in a written modification to the Service Order. No changes to the Services shall be made by Engineer except with PCCA's prior written agreement.

Section 3.03 Replacement of Personnel

PCCA, in its sole discretion, shall have the right to demand that Engineer replace any personnel providing Services to PCCA under the terms of a Service Order. Upon receipt of PCCA's demand, Engineer will immediately replace the specified personnel with personnel substantially equal in ability and qualifications. The criteria for demanding replacement of an individual will be based on, but not limited to, the following: technical incompetence, inability to meet the position qualifications, failure to perform an assignment, poor attendance, ethics violation, unsafe work habits, damage to PCCA property, or reasonable PCCA dissatisfaction.

ARTICLE 4
PAYMENTS TO ENGINEER FOR SERVICES AND REIMBURSABLE EXPENSES

Section 4.01 Methods of Compensation

A. The method of compensation for Services (including, if applicable, the method of compensation for individual phases of Services) shall be identified in each specific Service Order. PCCA shall pay Engineer for Services in accordance with the applicable method of compensation.

B. The method of compensation for services under a Service Order will be specified in that Service Order. The possible methods of compensation are as follows:

1. Lump Sum plus Named Reimbursable Expenses, if any;
2. Standard Hourly Rates plus Reimbursable Expenses with a Ceiling Price.

Section 4.02 Explanation of Compensation Methods

A. Lump Sum plus Named Reimbursable Expenses

1. PCCA shall pay Engineer a Lump Sum amount for the specified services or category of services stated in a Service Order regardless of the amount of time it takes to complete the services.
2. The Lump Sum will include compensation for Engineer's services and services of Consultants, if any. The Lump Sum constitutes full and complete compensation for Engineer's services in the specified category, including labor costs, overhead, profit, expenses (other than those expenses expressly eligible for reimbursement, if any), and Consultant charges. In other words, Engineer will only be reimbursed for the Named Reimbursable Expenses (see Section 4.02(A)(3)).
3. In addition to the Lump Sum, Engineer shall also be entitled to reimbursement from PCCA for the Named Reimbursable Expenses explicitly listed in the Service Order, if any, that are reasonably and necessarily incurred by Engineer in connection with the performing or furnishing of the services (see **Exhibit C** for rates or charges for these specific expenses).
4. Progress payments may be allowed in a Lump Sum Service Order. If so, the portion of the Lump Sum amount billed for Engineer's services will be based upon Engineer's estimate of the proportion of the total services actually completed during the billing period, subject to acceptance and approval of PCCA.

B. Standard Hourly Rates plus Reimbursable Expenses with a Ceiling Price

1. For the specified services or category of services, the PCCA shall pay Engineer an amount equal to the cumulative hours charged to the Specific Project by each class of Engineer's employees times the Standard Hourly Rates for each applicable billing class. Under this method, Engineer shall also be entitled to reimbursement from PCCA for the Reimbursable Expenses identified in **Exhibit C**, as the same may be modified in the individual Service Order. But the total amount payable to Engineer for the services rendered under the Service Order plus the Reimbursable Expenses shall not exceed the Ceiling Price stated in the Service Order.
2. The Ceiling Price will be stated in the Service Order. It may be called the Ceiling Price or the "Not-to-Exceed Amount."
3. Standard Hourly Rates include salaries and wages paid to personnel in each billing class plus the cost of customary and statutory benefits, general and administrative overhead, non-project operating costs, and operating margin or profit.

4. The Standard Hourly Rates Schedule attached hereto as **Exhibit B** shall remain in effect as changed in accordance with Section 4.03.

5. The Reimbursable Expenses Schedule attached hereto as **Exhibit C** shall remain in effect for the Term of this Agreement.

6. The total estimated compensation for the specified category of services shall be stated in the Service Order. This total estimated compensation will incorporate all labor at Standard Hourly Rates, and Reimbursable Expenses (including Consultants' charges, if any).

7. The amounts billed by Engineer will be based on the cumulative hours charged to the specified category of services on the Specific Project during the billing period by each class of Engineer's employees times Standard Hourly Rates for each applicable billing class, plus Reimbursable Expenses (including Consultant's charges, if any), but PCCA shall not be required to pay more than the Ceiling Price stated in the applicable Service Order without a duly executed amendment to the Service Order.

8. For Service Orders that included definable deliverables to be provided to the PCCA, Engineer will continue to prosecute work necessary to provide those deliverables even when the Ceiling Price has been reached, at no additional cost to PCCA unless the parties agree in writing to modify the Ceiling Price.

9. Where no definable deliverable exists, the Engineer's services will terminate when the Ceiling Price is reached.

Section 4.03 Standard Hourly Rates for Service Orders

A. Engineer's Standard Hourly Rates Schedule are in **Exhibit B.** Engineer hereby certifies by its execution of this Agreement that the hourly rates in **Exhibit B** are less than or equal to the lowest hourly rates Engineer is currently charging any of its other clients. Engineer agrees that if during the Term of this Agreement it charges any of its other clients lower hourly rates than the rates in **Exhibit B**, then Engineer shall charge PCCA such lower hourly rate or rates for the services under any Service Order.

B. The Engineer may adjust its Standard Hourly Rates as of the first day of each calendar year during the Term of this Agreement by submitting to PCCA a new **Exhibit B** with the Engineer's new Standard Hourly Rates on or before January 15th of such calendar year; provided, however, that the new Standard Hourly Rate for each class of Engineer's employee may not be increased more than five percent (5%) higher than the previous Standard Hourly Rates. The new Standard Hourly Rates will apply to all services performed by each class of Engineer's employees on and after the effective date of such new rates, but these adjustments will not affect the Ceiling Prices stated in the Service Orders executed under this Agreement.

C. Generally, the compensation method specified in a Service Order executed under this Agreement will be Standard Hourly Rates plus Reimbursable Expenses with a Ceiling Price. PCCA reserves the right, however, to issue Lump Sum Services Orders when they are deemed to be in the best interest of PCCA

Section 4.04 Reimbursable Expenses

A. Under the Lump Sum method of compensation to Engineer, unless expressly indicated otherwise, the following categories of expenses are included in the Lump Sum amount: transportation (including mileage), lodging, and subsistence incidental thereto; providing and maintaining field office facilities including furnishings and utilities; providing field and office equipment necessary for the prosecution of the work; toll telephone calls, mobile phone services, and courier charges; reproduction of reports, Drawings, Specifications, bidding-related or other procurement documents, Construction Contract Documents, and similar Specific Project-related items; and Consultant charges. **These expenses are not reimbursable under the Lump Sum method, unless expressly indicated otherwise in the specific Service Order.**

B. Expenses eligible for reimbursement under the Standard Hourly Rates method of compensation include the following expenses reasonably and necessarily incurred by Engineer in connection with the performing or furnishing of the services under a specific Service Order: transportation (including mileage), lodging, and subsistence incidental thereto; providing and maintaining field office facilities including furnishings and utilities; providing field and office equipment necessary for the prosecution of the work; toll telephone calls, mobile phone services, and courier services; reproduction of reports, Drawings, Specifications, bidding-related or other procurement documents, Construction Contract Documents, and similar Specific Project-related items; Consultant charges; and any other expenses identified in **Exhibit C**. Whenever Engineer is entitled to compensation for the charges of its Consultants, those charges shall be the amount billed by such Consultants to Engineer times a factor of one hundred ten percent (110%). In other words, the markup for Consultant services shall be ten percent (10%).

C. Reimbursement for lodging and meals may not exceed the maximum allowable per diem rates for domestic or foreign travel as set by the U.S. Department of Defense, Defense Travel Management Office. Lodging and meal per diem rates for specific locations (foreign and domestic) may be found on the Defense Travel Management Office's website. Engineer shall submit proper documentation of any such approved travel expenses to PCCA from time to time, and such costs and expenses shall be billed to PCCA at Engineer's actual cost.

Section 4.05 Invoice Procedure and Payment

A. Engineer shall submit invoices monthly to PCCA for work performed during the preceding calendar month. Such invoices shall be due and payable by PCCA within thirty (30) days after receipt and acceptance of the invoice by PCCA. Monthly compensation will be for the Services actually performed during the billing period, invoiced in accordance with the prices in the Fee Schedules. On a Lump Sum Service Order, monthly billing will be based on the percentage of work completed. Invoices shall also describe any work performed by subcontractors retained by Engineer and Reimbursable Expenses. Engineer will provide sufficient detail with each invoice to substantiate the requested amount of monthly payment. At PCCA's request, Engineer will provide additional backup such as signed time sheets, invoices for materials and subcontracted service or other documentation sufficient to establish the accuracy of the invoices. Invoices are to be submitted

in a format previously approved by PCCA. The Engineer's fees will cover all of Engineer's overhead costs, including office rent, long distance telephone charges, postage, and payroll.

B. Engineer will provide written notice to PCCA when the sum of previous payments and a current invoice meet or exceed 70% of the approved Ceiling Price of a Service Order. Engineer will include a statement that the remaining budget will be sufficient to complete the services, or provide an estimate of cost to complete, an explanation of the need for additional funding, and a request for a modification to the Service Order.

ARTICLE 5
RESPONSIBILITIES AND STANDARDS OF PERFORMANCE

Section 5.01 PCCA's Responsibilities

A. PCCA shall pay Engineer as set forth in each Service Order and Article 4.

B. PCCA shall be responsible for the requirements and instructions that it furnishes to the Engineer pursuant to this Agreement, and for the accuracy and completeness of the programs, reports, data, and other information furnished by PCCA to Engineer pursuant to this Agreement or any Service Order for use of Engineer in performing or furnishing services under any Service Order, subject to any express limitations or reservations applicable to the furnished items.

C. PCCA shall give prompt written notice to Engineer whenever PCCA observes or otherwise becomes aware of: (1) any development that affects the scope or time of performance of Engineer's services; (2) the presence at the Site of a Specific Project of any Constituent of Concern; or (3) any relevant, material defect or nonconformance in Engineer's services, the Work or the performance of any Constructor or consultant managed by the Engineer.

D. PCCA shall:

1. Provide Engineer with criteria and information as to PCCA's requirements for each Specific Project, including design objectives and constraints, space, capacity and performance requirements, flexibility, and expandability, and any budgetary limitations.

2. Furnish Engineer with copies of design and construction standards that PCCA will require to be included in the Drawings and Specifications; and furnish copies of PCCA's standard forms, conditions, and related documents to be included in the Bid Documents and Construction Documents, as applicable.

3. Following the Engineer's assessment of initially available Specific Project information and data and upon Engineer's request, furnish or otherwise make available such additional Project-related information and data as is reasonably required to enable Engineer to complete its Services, unless the Service Order requires Engineer to obtain this information from other sources. Such additional information or data would generally include the following:

a. Property descriptions.

b. Zoning, deed, and other land-use restrictions.

c. Property, boundary, easement, right-of-way, and other special surveys or data, including establishing relevant reference points.

d. Explorations and tests of subsurface conditions at the Site, drawings of physical conditions in or relating to existing surface or subsurface structures at the Site, or hydrographic surveys with appropriate professional interpretation thereof.

e. Environmental assessments, audits, investigations, impact statements, and other environmental or cultural studies relevant to the Specific Project and the Site.

f. Data or consultations as required for the Specific Project but not otherwise identified in this Agreement or the Exhibits thereto.

4. Arrange for access to and make provisions for Engineer to enter upon PCCA property as required for Engineer to perform Services under the Service Order.

5. Examine alternate solutions, studies, reports, sketches, Drawings, Specifications, proposals, and other documents required by the terms of the Service Order which are presented by the Engineer and render, in writing, timely decisions pertaining thereto.

6. Provide reviews, approvals, and permits from governmental authorities having jurisdiction to approve phases of the Specific Project designed or specified by Engineer, and such reviews, approvals, and consents from others as may be necessary for completion of each phase of the Project, unless the Service Order requires Engineer to obtain these reviews, approvals, or consents from other sources.

7. Place and pay for advertisement of Bids in appropriate publications, as required, for a Specific Project.

8. Advise Engineer of the identity and scope of services of any independent consultants employed by PCCA to perform or furnish Services in regard to the Project, including cost estimating, project peer review, value engineering, and constructability review unless such Services are related to an issue under legal review or are included in the Engineer's Scope of Services.

9. Furnish to Engineer data as to PCCA's anticipated costs for Services to be provided by others for PCCA so that Engineer may make the necessary calculations to develop and periodically adjust Engineer's opinion of Total Project Costs as required by a specific Service Order.

Section 5.02 Standards of Performance

A. *Standard of Care:* Engineer shall perform the professional engineering and related services required by each Service Order issued under this Agreement with the professional skill and care ordinarily provided by competent engineers practicing under the same or similar circumstances and professional license, and as expeditiously as is prudent considering the ordinary professional skill and care of a competent engineer.

B. *Technical Accuracy:* PCCA shall not be responsible for discovering deficiencies in the technical accuracy of Engineer's services. Engineer shall correct deficiencies in technical accuracy without additional compensation, unless such corrective action is directly attributable to deficiencies in PCCA-furnished information or an identifiable and documented change in conditions or circumstances impacting the Engineer's work.

C. *Consultants:* Engineer may retain such Consultants as Engineer deems necessary to assist in the performance or furnishing of the services, subject to reasonable, timely, and substantive objections by PCCA.

D. *Reliance on Others:* Subject to the standard of care set forth in Section 5.02(A), Engineer and its Consultants may use or rely upon design elements and information ordinarily or customarily furnished by others, including, but not limited to, specialty contractors, manufacturers, suppliers, and the publishers of technical standards.

E. *Compliance with Laws and Regulations, and Policies and Procedures*

1. Engineer and PCCA shall comply with applicable Laws and Regulations.

2. Engineer shall comply with the policies, procedures, and instructions of PCCA that are applicable to Engineer's performance of services under this Agreement and that PCCA provides to Engineer in writing, subject to the standard of care set forth in Section 5.02(A), and to the extent compliance is not inconsistent with professional practice requirements.

3. Each Service Order is based on Laws and Regulations and PCCA-provided written policies and procedures as of the Commencement Date of the Service Order. The following may be the basis for modifications to PCCA's responsibilities or to Engineer's scope of services, times of performance, or compensation:

    a. changes after the Commencement Date of the Service Order to Laws and Regulations; or

    b. the receipt by Engineer after the Commencement Date of the Service Order of PCCA-provided written policies and procedures or changes to PCCA-provided policies or procedures.

F. Engineer shall not be required to sign any document, no matter by whom requested, that would result in Engineer having to certify, guarantee, or warrant the existence of conditions whose existence Engineer cannot ascertain within its services for that Specific Project. PCCA agrees not

to make resolution of any dispute with Engineer or payment of any amount due to the Engineer in any way contingent upon Engineer signing any such document.

G. Engineer shall not at any time supervise, direct, control, or have authority over any Constructor's work, nor shall Engineer have authority over or be responsible for the means, methods, techniques, sequences, or procedures of construction selected or used by any Constructor, or the safety precautions and programs incident thereto, for security or safety at the Site of a Specific Project, nor for any failure of a Constructor to comply with Laws and Regulations applicable to such Constructor's furnishing and performing of its work. Engineer shall not be responsible for the acts or omissions of any Constructor.

H. Engineer neither guarantees the performance of any Constructor nor assumes responsibility for any Constructor's failure to furnish and perform the Work in accordance with the Construction Contract Documents.

I. Engineer shall not be responsible for any decision made regarding the Construction Contract Documents, or any application, interpretation, clarification, or modification of the Construction Contract Documents, other than those made by Engineer or its Consultants.

J. Engineer is not required to provide and does not have any responsibility for surety bonding or insurance-related advice, recommendations, counseling, or research, or for enforcement of construction insurance or surety bonding requirements.

K. Engineer's services do not include providing legal advice or representation.

L. While at a Site, Engineer, its Consultant, and their employees and representatives shall comply with the applicable requirements of Contractor's and PCCA's safety programs of which Engineer has been informed in writing.

Section 5.03 Design without Construction Phase Services

It is understood and agreed that if Engineer's Services under this Agreement do not include Project observation, review of Contractor's performance, or any other construction phase services, and that such services will be provided by PCCA, then PCCA assumes responsibility for interpretation of the Construction Contract Documents and for construction observation or review except where such interpretation is attributable to the design are an obvious design error or omission and requires correction by the Engineer of record.

Section 5.04 Inspection and Acceptance

Deliverables and/or services furnished under this Agreement shall be subject to review and inspection and, as applicable, test by PCCA at times and places covered under the period of performance for Services and the applicable Service Order. PCCA reserves the right to reject deliverables which do not conform to the Specifications, Drawings, and/or other data or which do not comply with the terms and conditions of this Agreement and individual Service Orders. If rejected after delivery, rejected deliverables will be returned to Engineer at Engineer's risk and expense.

Payment for any Services or deliverables shall not be deemed acceptance thereof, and if such Services or deliverables are rejected after payment, PCCA shall be entitled to an equitable refund. Additional or varying acceptance terms may be mutually agreed under individual Service Orders.

ARTICLE 6
TERM, RENEWAL, SUSPENSION OR TERMINATION

Section 6.01 Term

A. This Agreement shall be effective and applicable to Service Orders issued hereunder for three (3) years from the Effective Date of this Agreement.

Section 6.02 Renewal

A. The Parties may extend or renew this Agreement, with or without changes, by written instrument establishing a new term, provided the terms and conditions, including insurance coverages, hourly and reimbursable rates and other particulars remain unchanged.

Section 6.03 Termination

A. PCCA may terminate a Service Order or this Agreement for convenience with seven (7) days prior written notice to Engineer of such action. Upon termination of this Agreement in accordance with this paragraph, PCCA will have no further obligation to the Engineer hereunder except to pay the Engineer unpaid fees and expenses which the Engineer can reasonably show to have been earned under this Agreement. **Under no circumstances may Engineer claim or recover consequential damages from PCCA.**

B. Either Party may terminate this Agreement by giving written notice to the other Party if the other Party ("***Defaulting Party***"): (a) materially breaches any term, condition or provision of this Agreement and fails to cure the breach to the satisfaction of the notifying Party within ten (10) days after the Defaulting Party receives a written notice of the breach from the notifying Party, or (b) becomes the subject of any proceedings under state or federal law for the relief of debtors or otherwise becomes insolvent, or bankrupt, or makes any assignments for the benefit of one or more creditors.

Section 6.04 Suspension

A. PCCA may suspend a Service Order for convenience with seven (7) days prior written notice to Engineer of such action.

B. If PCCA fails to give prompt written authorization to proceed with any phase of Services after completion of the immediately preceding phase, or if Engineer's Services are delayed through no fault of Engineer, Engineer may, after giving seven (7) days written notice to PCCA, suspend Services under this Agreement.

C. PCCA may, upon written notice to the Engineer, suspend work on a Service Order until such time that PCCA determines that it is in the best interest of PCCA to resume the work or to terminate the Service Order.

D. In the event of suspension of Services, the Engineer shall resume the full performance of the Services when directed in writing to do so by PCCA. Suspension of the Services for reasons other than the Engineer's negligence or failure to perform shall not affect the Engineer's compensation as provided for in this Agreement. The schedule for performance of the Services shall be amended by a mutually agreed, written modification to the Service Order in progress to reflect the suspension.

E. If Engineer's Services are delayed or suspended in whole or in part by PCCA for more than ninety (90) days after the date of the beginning of the delay or suspension through no fault of Engineer, Engineer may be entitled to an equitable adjustment of compensation provided for elsewhere in this Agreement to reflect reasonable costs incurred by Engineer in connection with, among other things, such delay or suspension and reactivation and the fact that the time for performance under this Agreement has been revised, to the extent that the Engineer can demonstrate that an actual increase in cost has been incurred and is equitable and compensable.

ARTICLE 7
OPINIONS OF COST

Section 7.01 Opinions of Probable Construction Cost

A. Engineer's opinions (if any) of probable Construction Cost are to be made on the basis of Engineer's experience and qualifications and represent Engineer's judgment as an experienced and qualified professional generally familiar with the industry. However, since Engineer has no control over the cost of labor, materials, equipment, or services furnished by others, or over the Contractor's methods of determining prices, or over competitive bidding or market conditions, Engineer cannot and does not guarantee that proposals, Bids, or actual Construction Cost will not vary from opinions of probable Construction Cost prepared by Engineer.

B. PCCA reserves the right to request that the Engineer provide a written explanation of significant variations between the Engineer's opinion of probable Construction Cost and the actual Construction Cost.

Section 7.02 Opinions of Total Project Costs

A. The services, if any, of Engineer with respect to Total Project Costs for a Specific Project shall be limited to assisting the PCCA in tabulating the various categories that comprise Total Project Costs. Engineer's opinions (if any) of probable Total Project Costs are to be made on the basis of Engineer's experience and qualifications and represent Engineer's best judgment as an experienced and qualified professional generally familiar with the industry. However, since Engineer has no control over the cost of labor, materials, equipment, or services furnished by others, or over methods of determining prices, or over competitive bidding or market conditions, Engineer cannot and does not guarantee that Total Project Costs will not vary from opinions of probable Total Project Costs prepared by Engineer.

Section 7.03 Designing to Construction Cost Limit

A. If a Construction Cost Limit for a Specific Project is established between PCCA and Engineer in a Service Order, then such Construction Cost Limit and a statement of Engineer's rights and responsibilities with respect thereto will be specifically set forth in the applicable Service Order.

B. If a Construction Cost Limit is set forth in a Service Order, then the Service Order will also specify a percentage bidding or negotiating contingency to be added to such Construction Cost Limit.

C. Should an opinion of Probable Construction Cost or a revised Opinion of Probable Construction Cost be provided by the Engineer during the execution of the Services that is in excess of the then established Construction Cost Limit, PCCA shall have the option of increasing the Construction Cost Limit, modifying the design criteria and Engineer's Scope of Services, or suspending or terminating the Service Order in accordance with terms herein. Alternately, PCCA may direct the Engineer to separate the work into a Base Bid with alternative or additive bid items that can be awarded at PCCA's discretion.

D. Engineer will be permitted to determine what types of materials, equipment and component systems, and the types and quality thereof, are to be included in the Drawings and Specifications and to make reasonable adjustments in the scope, extent, and character of the Project to the extent consistent with the Project requirements and sound engineering practices to bring the Project within the Construction Cost Limit, subject to final approval and acceptance of PCCA. Engineer will present proposed changes in materials, equipment and component systems to PCCA for review and approval prior to incorporating such into the design.

E. If PCCA does not request Bids for a Project within six months after completion of the final design of the Project or if industry-wide prices are changed because of unusual or unanticipated events affecting the general level of prices or times of delivery in the construction industry, the established Construction Cost Limit will not be binding on Engineer, and PCCA (i) may consent to an adjustment in such Construction Cost Limit commensurate with any applicable change in the general level of prices in the construction industry between the date of completion of the final design of the Project and the date on which Bids are requested, or (ii) may, at PCCA's sole discretion, terminate the Service Order in accordance with terms and conditions herein.

F. If the lowest *bona fide* Bid exceeds the established Construction Cost Limit, PCCA will: (1) give written approval to increase such Construction Cost Limit, (2) cooperate in revising the Project's scope, extent, or character to the extent consistent with the Project's requirements and with sound engineering practices and re-advertise or re-bid the Project, or (3) provide direction to the Engineer to revise contract documents to include additive or alternative bid items or add such additive or alternative bid items and re-bid the project, or (4) elect not to award additive or alternative bid items to keep the Project within the Construction Cost Limit. In the case of (2), above, Engineer will modify the Drawings and Specifications as necessary to bring the Construction Cost within the Construction Cost Limit at no cost to PCCA, and the providing of such Services will be the limit of Engineer's responsibility in this regard; and, having done so, Engineer will not

otherwise be liable for damages attributable to the lowest *bona fide* Bid exceeding the established Construction Cost Limit.

ARTICLE 8
REPRESENTATIVES AND MANAGERS

Section 8.01 Contract Representatives

A. PCCA shall designate a Contract Representative on the signature page of this Agreement who will, on behalf of PCCA, coordinate with the Engineer and administer this Contract. It shall be the responsibility of the Engineer to coordinate all assignment-related activities under this Agreement with PCCA's Contract Representative. PCCA may change its Contract Representative at any time by giving the Engineer written notice of such change.

B. Engineer shall designate a Contract Representative on the signature page of this Agreement who will, on behalf of Engineer, coordinate with PCCA and administer this Contract. The Engineer's Contract Representative and PCCA's Contract Representative will coordinate all assignment-related activities under this Agreement. Engineer may change its Contract Representative at any time by giving PCCA written notice of such change, provided the recommended replacement has similar qualification and experience as the original contract representative.

Section 8.02 Designated Project Managers

A. Contemporaneously with the execution of each Service Order, Engineer and PCCA will each designate a specific individual to act on its behalf as Project Manager with respect to the Services to be performed or furnished by Engineer and the responsibilities of PCCA under such Service Order. The Project Managers for each Project will have authority to transmit instructions, receive information, and render decisions relative to the Project on behalf of the Party appointing the Project Manager. Either Party may change that Party's designated Project Manager by giving the other Party written notice of the change as provided in Article 9.

Section 8.03 Resident Project Representative

A. The Service Order for a Specific Project shall state whether Engineer must furnish a Resident Project Representative ("**RPR**") to assist Engineer in observing progress and quality of the Work on the Specific Project. The duties and responsibilities of the RPR, if any, will be as set forth in each Service Order.

ARTICLE 9
NOTICES

A. All notices, demands or requests from Engineer to PCCA shall be given to PCCA's Contract Representative named on the signature page of this Agreement at (i) PCCA's address for notice provided on the signature page, or (ii) the facsimile number for PCCA's Contract Representative

stated on the signature page, or to such other person, address or facsimile number as PCCA shall request in writing.

B. All payments, notices, demands or requests from PCCA to Engineer shall be given to Engineer's Contract Representative named on the signature page of this Agreement at (i) Engineer's address for notice provided on the signature page, or (ii) the facsimile number for Engineer's Contract Representative stated on the signature page, or to such other person, address or facsimile number as PCCA shall request in writing.

C. Notices required to be given to either Party may be given by certified first-class mail, by overnight delivery or by fax, to the appropriate Party at its address or fax number stated on the signature page of this Agreement. Notice may also be given by personal service. Any notice given by mail shall be deemed to have been given one day after such notice was deposited in the United States mail, certified and postage prepaid, properly addressed to the Contract Representative of the Party to be served. In all other cases, notice to a Party will be considered delivered when actually received by the Party's Contract Representative.

ARTICLE 10
DOCUMENTS

Section 10.01 Use of Documents

A. Upon payment of all fees owed for a Service Order, all Documents relative to that Service Order are the property of PCCA, including native files for each software package used.

B. Copies of PCCA-furnished data that may be used by Engineer are limited to the printed copies (also known as hard copies) that are delivered to Engineer by PCCA. Files in electronic media format of text, data, graphics, or of other types that are furnished by PCCA to the Engineer are only for convenience of Engineer. Any conclusion or information obtained or derived from such files, written or electronic, will be at the user's sole risk. Engineer will review documents provided by PCCA and determine applicability and usability of information. Engineer will request additional information as necessary.

C. Copies of Documents that may be relied upon by PCCA are limited to the printed copies (also known as hard copies) that are signed or sealed by Engineer. Files in electronic media format of text, data, graphics, or of other types that are furnished by Engineer to PCCA are only for convenience of PCCA. Any conclusion or information obtained or derived from such electronic files will be at the user's sole risk.

D. Because data stored in electronic media format can deteriorate or be modified inadvertently or otherwise without authorization of the data's creator, the Party receiving electronic files agrees that it will perform acceptance tests or procedures within 90 days, after which the receiving Party will be deemed to have accepted the data thus transferred. Any errors detected within the 90-day acceptance period will be corrected by the Party delivering the electronic files. Engineer is not responsible to maintain documents stored in electronic media format after acceptance by PCCA.

E. When transferring documents in electronic media format, neither PCCA nor Engineer make any representation to the other as to long-term compatibility, usability, or readability of documents resulting from the use of software application packages, operating systems, or computer hardware differing from those used by PCCA or Engineer on the Effective Date.

F. Documents provided by Engineer are not intended or represented to be suitable for reuse by PCCA or others on extensions of the Project or on any other project. PCCA may, however, reuse such documents without any payment to Engineer. Any such reuse or modification without written verification or adaptation by Engineer, as appropriate for the specific purpose intended, will be at PCCA's sole risk and without liability or legal exposure to Engineer or to Engineer's Consultants.

G. If there is a discrepancy between the electronic files and the hard copies, the hard copies govern.

Section 10.02 Records Retention

A. Engineer shall maintain on file in legible form, for a period of five years following completion or termination of its services under each Service Order, all Documents, records (including cost records), and design calculations related to Engineer's services or pertinent to Engineer's performance under the Service Order. Upon PCCA's request, Engineer shall provide a copy of any such item to PCCA at cost.

ARTICLE 11
INSURANCE

Section 11.01 Standard Insurance Policy Requirements

A. Without limiting the indemnity obligations or liabilities of Engineer or its insurers, provided herein, Engineer agrees to carry and maintain at its sole expense during the Term of this Agreement the following policies of insurance (individually, a "***Policy***" and, collectively, the "***Policies***") in at least the minimum amounts specified below.

B. At least five (5) days prior to execution of this Agreement by PCCA, Engineer will provide to PCCA's Risk Program Manager certificates of insurance issued by each insurance company providing any of the required insurance coverage, and the text entered in each certificate must be acceptable to PCCA. The requirement to provide acceptable certificates of insurance is a material condition of this Agreement, and work under this Agreement and any associated Service Order may not commence until such certificates of insurance have been received, reviewed, and accepted by PCCA.

	TYPE OF INSURANCE	LIMITS OF LIABILITY
1.	Workers' Compensation	Statutory
2.	Employer's Liability	$1,000,000 per Occurrence $1,000,000 Aggregate

3. Commercial General Liability — $1,000,000 per Occurrence
$2,000,000 Aggregate

The CGL Policy will provide contractual liability coverage at the aforementioned limits.

4. Business Automobile Liability — $1,000,000 per Occurrence

Automobile liability insurance coverage will include all owned, non-owned, and hired vehicles.

5. Professional Liability — $2,000,000

Engineer will procure and maintain professional liability insurance for protection from claims arising out of performance of its Services under this Agreement caused by any error, omission, or act for which the Engineer is legally liable. Engineer will keep Policies in effect if written on a claims-made basis at least two (2) years beyond termination of the Agreement.

6. Umbrella Liability — $5,000,000 per Occurrence

Umbrella liability coverage will apply to Employer's Liability, Commercial General Liability, and Business Automobile Liability.

Section 11.02 Additional Insurance Policies Required for Certain Work

A. Under certain circumstances, based on the scope and/or location of the services to be performed under a Service Order, the Service Order may require Engineer to carry and maintain some or all of the additional types of insurance policies described in this Section. If the Service Order for a Specific Project requires additional insurance, Engineer understands and agrees that it will not be allowed to commence any work under the Service Order until the additional insurance policies have been issued to the Company and the Company provides PCCA with appropriate Certificates of Insurance.

1. Contractor's Pollution Liability — $2,000,000 per Occurrence
Contractor's Pollution Legal Liability coverage included in Professional Liability, policy is claims made form.

(applicable if Professional Services involve work in/to areas of known or suspected contamination)

2. Protective and Indemnity — $1,000,000 per occurrence
(applicable if any work requires marine operations, i.e., operation or ownership of a vessel)

3.	Railroad Protective Liability	$1,000,000 per Occurrence $2,000,000 Aggregate (***applicable if work is to be conducted within 50 ft. of any railroad property, railroad bridge, track and/or trestle)***

Section 11.03 General Insurance Requirements

A. Each Policy, except Professional Liability, must contain an endorsement to the effect that the issuer waives any claim or right of subrogation to recover against the PCCA Parties. Additionally, the PCCA Parties shall be designated as an additional insured either by a blanket additional insured or a specific endorsement on all Policies, except for Worker's Compensation, Employer's Liability, and Professional Liability.

B. In the event that the work of Engineer's employees falls within the purview of the United States Longshoremen's and Harbor Workers' Compensation Act, the Jones Act or the Federal Employer's Liability Act, Engineer shall extend its insurance coverage to provide insurance against the liabilities imposed under the applicable Act or Acts even if not specifically required by the PCCA.

C. Each Policy, except Workers' Compensation and Professional Liability, must contain an endorsement that the Policy is primary to any other insurance available to the additional insureds with respect to claims arising under this Agreement. **Insurance is only considered primary for General Liability, Auto Liability and Umbrella insurance**

D. The insurance required as listed above, shall apply to any Consultant performing for or on behalf of Engineer, and Engineer shall ensure that any such Consultant is aware of and complies with the insurance requirements during any period such Consultant is performing work under this Agreement.

E. The minimum insurance required may be increased periodically upon request by PCCA to commercially reasonable limits. The company writing each of the Policies must possess a current rating with A.M. Best Company of at least "A-, VII".

F. Engineer's liability shall not be limited to the specified amounts of insurance required herein.

ARTICLE 12
RELEASE, INDEMNIFICATION AND MUTUAL WAIVER

Section 12.01 Release by Engineer

A. To the fullest extent permitted by Laws and Regulations, Engineer hereby releases and discharges the PCCA Parties from liability for and assumes the risk of loss or damage to the property of Engineer and the injury or death of any person employed by Engineer.

Section 12.02 Indemnification by Engineer

A. To the fullest extent permitted by Laws and Regulations, Engineer shall indemnify and hold harmless the PCCA Parties from all damages, losses, costs and expenses, of any nature whatsoever, whether incurred as a judgment, settlement, penalty, fine or otherwise (including reasonable consultants' and attorneys' fees) (collectively, "*Damages*") arising from third-party claims or actions relating to this Agreement, any Service Order, or any Specific Project, but only to the extent that the Damages are caused by or result from an act of negligence, intentional tort, intellectual property infringement, or failure to pay a subcontractor or supplier committed by the Engineer or the Engineer's agent, consultant under contract, or another entity over which the Engineer exercises control.

B. Engineer's indemnity obligations under this Article 12 shall not be limited by a limitation on the amount or type of damages, compensation or benefits owed by Engineer to any employee of Engineer under workers' or workmen's compensation acts, disability benefit acts, or other employee benefit acts.

C. The obligations of the Engineer under this Article 12 shall survive the end of the Term of this Agreement.

Section 12.03 Percentage Share of Negligence

A. The Engineer's total liability to the PCCA Parties for any Damages caused in part by the negligence of the Engineer Parties and in part by the negligence of the PCCA Parties or any other negligent entity or individual, shall not exceed the percentage share that the negligence of the Engineer Parties bears to the total negligence of all negligent parties.

Section 12.04 Mutual Waiver

A. To the fullest extent permitted by law, PCCA and Engineer waive against each other, and the other's employees, officers, Port Commissioners, directors, members, agents, insurers, partners, and consultants, any and all claims for or entitlement to special, incidental, indirect, or consequential damages arising out of, resulting from, or in any way related to this Agreement, any Service Order, or a Specific Project, from any cause or causes.

ARTICLE 13
DISPUTE RESOLUTION

A. In the event a dispute arises between the Parties regarding the application or interpretation of, or in any way relating to, this Agreement, the Parties agree to attempt to resolve all such disputes arising hereunder promptly, equitably and in a good faith manner. If the Parties shall have failed to resolve the dispute within the ten (10) Business Days after any written notice of the dispute has been received by the other Party, then either Party may elect to refer the dispute to the respective upper management of the Parties by notice in writing to the other Party, and the appropriate upper management of the Parties shall meet within the ten (10) Business Days after the date of the notice, to resolve the dispute. If the dispute is not resolved within five (5) Business Days after such a meeting has commenced (but in any event within ten (10) Business Days after the date of the letter

referring the matter to upper management), then either Party may at any time thereafter resort to mediation, under the remaining provisions of this Article.

B. PCCA and Engineer agree they will, before taking any other legal action, including the filing of an action in State or Federal Court, attempt in good faith, to mediate in Corpus Christi, Texas, any controversy or claim arising out of or related to this Agreement before a mediator to be agreed upon by PCCA and Engineer. PCCA and Engineer must use their best efforts to agree upon a mediator within fifteen (15) Business Days after a written request for mediation by either Party, and if PCCA and Engineer are unable to agree upon a mediator within such time either Party may request that the American Arbitration Association appoint a mediator. The mediator will schedule a mediation meeting at a time and place determined by the mediator. PCCA and Engineer will each pay one-half of the costs of mediation to the mediator. Any mediation shall not extend beyond thirty (30) days after the appointment of the mediator, and should the Parties fail to resolve any dispute by mediation within such 30-day period, the Parties shall have all rights available under this Agreement and at law or in equity.

ARTICLE 14
GENERAL PROVISIONS

Section 14.01 Severability

If any part of this Agreement is held to be invalid, illegal, or unenforceable in any respect, such determination shall not affect any other provision of this Agreement, and this Agreement shall then be construed as if the invalid, illegal, or unenforceable provision had not been included in this Agreement.

Section 14.02 No Waiver

Any waiver, expressed or implied, by either PCCA or Engineer to any breach of any agreement, covenant or obligation contained in this Agreement shall operate as such only in the specific instance, and shall not be construed as waiver to any subsequent breach of such agreement, covenant or obligation.

Section 14.03 Applicable Law

THIS AGREEMENT IS GOVERNED BY AND SHALL BE CONSTRUED IN ACCORDANCE WITH THE LAWS OF THE STATE OF TEXAS, EXCLUDING ANY CONFLICT-OF-LAWS RULE OR PRINCIPLE THAT MIGHT REFER THE GOVERNANCE OR THE CONSTRUCTION OF THIS AGREEMENT TO THE LAW OF ANOTHER JURISDICTION. PCCA and Engineer agree that if any controversy or claim arising out of or related to this Agreement cannot be resolved pursuant to and in accordance with the deadlines set forth in Article 13, then either Party may elect to resolve the controversy or claim though litigation filed and maintained in the federal or state courts located in Corpus Christi, Nueces County, Texas. PCCA and Engineer each submits to the exclusive jurisdiction of said courts and waives the right to change venue.

Section 14.04 Agreement and Service Orders Control

In the event of a conflict between the wording of a Service Order and any purchase order issued by PCCA in connection with the Service Order, the wording of the Service Order will control.

Section 14.05 Amendment of Agreement

This Agreement may be changed or modified at the request of either the Engineer or PCCA, provided both Parties agree to the requested change, and a written amendment of this Agreement is prepared and executed by the Parties.

Section 14.06 Assignment

Neither PCCA nor Engineer may assign or transfer any rights under or interest in this Agreement without the written consent of the other.

Section 14.07 No Third-Party Beneficiaries

This Agreement will be for the sole and exclusive benefit of PCCA and Engineer and not for the benefit of any other party, person, or entity. Nothing in this Agreement shall be construed to create, impose, or give rise to any duty owed by PCCA or Engineer to any Consultant, Contractor, Contractor's subcontractor, supplier, other individual or entity, or to any surety for or employee of any of them.

Section 14.08 Force Majeure

In the event either Party shall be delayed or hindered in or prevented from the performance required hereunder by reason of *force majeure*, which includes strikes, lockouts, labor troubles, failure of power, riots, insurrection, war, acts of God, or other reason of like nature not the fault of the Party delayed in performing work or doing acts (herein "***force majeure***"), such Party shall be excused for the period of time equivalent to the delay caused by such *force majeure*, or the Agreement may be terminated in accordance with terms herein should such delay be sufficient that termination is in the best interest of the PCCA.

Section 14.09 Public Disclosure

PCCA is a political subdivision of the state of Texas subject to the requirements of the Texas Open Meetings Act and the Texas Public Information Act (Texas Government Code, Chapters 551 and 552), and as such, PCCA is required to disclose to the public (upon request) this Agreement, the Service Orders issued hereunder, and certain other information and documents relating to the services contemplated hereby. In this regard, Engineer agrees that the disclosure of this Agreement, the Service Orders issued hereunder, or any other information or materials related to the services contemplated hereby, to the public by PCCA as required by the Texas Open Meetings Act, the Texas Public Information Act, or any other law will not expose PCCA (or any party acting by, through or under PCCA) to any claim, liability, or action by Engineer.

Section 14.10 Confidentiality

Engineer will keep confidential all information in whatever form produced, prepared, observed or received from PCCA to the extent that such information is: (a) confidential by law; (b) marked or designated "Confidential" or words to that effect; or (c) information that Engineer is otherwise required to keep confidential by this Agreement. Notwithstanding the above, Engineer will be permitted to disclose any information required by law or court order.

Section 14.11 Certificate of Interested Parties

Engineer will comply with the provisions of Section 2252.908 of the Texas Government Code and Chapter 46 of the Texas Ethics Commission Rules by preparing a Texas Form 1295, "Certificate of Interested Parties" and submitting the signed and notarized form to PCCA at the time Engineer submits the signed Agreement to PCCA. A separate Form 1295 may be required for subsequent Service Orders, as required by the referenced code and rules issued thereunder.

Section 14.12 Engineer's Certificate

Engineer certifies that it has not engaged in corrupt, fraudulent, or coercive practices in competing for or in executing this Agreement. For the purposes of this Section 14.12:

1. "corrupt practice" means the offering, giving, receiving, or soliciting of anything of value likely to influence the action of a public official in the selection process or in the execution of the Agreement;

2. "fraudulent practice" means an intentional misrepresentation of facts made (a) to influence the selection process or the execution of the Agreement to the detriment of PCCA, or (b) to deprive PCCA of the benefits of free and open competition;

3. "coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the selection process or affect the execution of the Agreement.

Section 14.13 No Organizational Conflict of Interest

Engineer hereby certifies that it has no actual or potential Organizational Conflict of Interest. "***Organizational Conflict of Interest***" means that because of other activities or relationships with other persons or entities, the Engineer is unable or potentially unable to render impartial assistance or advice to PCCA or the Engineer's objectivity in performing the services under this Agreement and related Service Orders is or might otherwise be impaired. Engineer agrees to immediately notify PCCA of any actual or potential Organizational Conflict of Interest that develops during the Term of this Agreement. Engineer agrees that PCCA may terminate this Agreement immediately if it becomes aware of any Organizational Conflict of Interest during the term of the Agreement.

Section 14.14 Defamation

The Parties covenant and agree that in no event, and at no time during the Term of this Agreement or at any time thereafter, shall either of them disparage, denigrate, slander, libel or otherwise defame the other or the other's businesses, services, properties or assets, or employees, personnel, agents, or representatives.

Section 14.15 Parties Bound

This Agreement binds and inures to the benefit of the Parties and their respective legal representatives, heirs, distributees, successors and assigns, where assignment is permitted by this Agreement.

Section 14.16 Attorneys' Fees; Default

In the event Engineer or PCCA breach any of the terms of this Agreement and the Party not in default employs attorneys to protect or enforce its rights hereunder and prevails, then the defaulting Party agrees to pay reasonable attorney's fees and costs incurred by the prevailing Party.

ARTICLE 15
EXHIBITS

Section 15.01 Suggested Form of Service Order

The Suggested Form of Service Order is attached as Attachment One, and shall be used as the basis for preparing a specific Service Order for each Specific Project under this Agreement.

Section 15.02 Exhibits Included

A. **Exhibit A**, *Engineer's Services for Service Order*. Services, tasks, and terms in **Exhibit A** as included with this Agreement are for reference in preparing the scope of services for specific Service Orders, and are contractually binding only to the extent expressly incorporated in a specific Service Order.

B. **Exhibit B**, *Engineer's Standard Hourly Rates for Work performed under the Service Order*. This Exhibit applies to all Service Orders.

C. **Exhibit C**, *Engineer's Reimbursable Expenses Schedule for costs incurred by Engineer when performing Work under the Service Order*. The terms of **Exhibit C** that will be applicable to and govern compensation under a specific Service Order will be determined by the selection of compensation methods made in Paragraph 5, "*Payments to Engineer*," of the specific Service Order.

D. **Exhibit D**, *Duties, Responsibilities and Limitations of Authority of Resident Project Representative.* This Exhibit is not contractually binding except when expressly incorporated in a specific Service Order.

E. **Exhibit E**, *Notice of Acceptability of Work*. Engineer shall use this Notice of Acceptability of Work form at the conclusion of construction on a Specific Project if the form is expressly incorporated by reference in a specific Service Order, and Engineer's scope of services in the specific Service Order includes providing such a Notice.

F. **Exhibit E**, *Amendment to Service Order*. PCCA and Engineer may use this form during a Specific Project to modify the specific Service Order.

[Signature page follows this page]

IN WITNESS WHEREOF, the parties hereto have executed this Agreement effective as of the Effective Date.

PCCA:

Port of Corpus Christi Authority of Nueces County, Texas

By:_____

Name: John P. LaRue

Title: Executive Director

Date Signed:_____

Address for giving notice:
222 Power Street
Corpus Christi, Texas 78401
Attention: Director of Engineering Services

PCCA's Contract Representative:

David L. Krams, P.E.

Title: Director of Engineering Services

Phone Number: 361-885-6134

Facsimile Number: 361-881-5161

E-Mail Address: krams@pocca.com

Engineer:

Lanier and Associates Consulting Engineers, Inc.

By:_____

Name: Richard Mestayer, P.E.

Title: Engineering Manager/Civil Structural

Date Signed: 01-09-2018

Address for giving notice:
4101 Magazine St.
New Orleans, LA 70115

Engineer's Contract Representative:

Karen M. Landry, CPA, CITP

Title: Chief Financial Officer

Phone Number: 504-895-0368

Facsimile Number: 504-895-0566

E-Mail Address: klandry@lanier-engineers.com

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ATTACHMENT ONE
TO MASTER SERVICES AGREEMENT NO. 18-01

SERVICE ORDER
PORT OF CORPUS CHRISTI AUTHORITY
OF NUECES COUNTY, TEXAS
MASTER SERVICES AGREEMENT NO. 18-01

PROJECT NAME *(Insert Project name)*
PROJECT NO. *(Insert Project number)*
SERVICE ORDER NO. *(Insert Service Order number)*
COMMENCEMENT DATE *(Insert Commencement Date of Service Order)*

This Service Order is executed by any between the Port of Corpus Christi Authority of Nueces County, Texas ("**PCCA**") and *(Insert name of Engineer)* ("**Engineer**"). PCCA and Engineer agree that all of the Services authorized by this Service Order shall be subject to the terms and conditions of PCCA's Master Services Agreement No. *(Insert Master Services Agreement number)* between PCCA and Engineer, as amended ("**Agreement**"). Upon execution of this Service Order, the Agreement shall be incorporated into and be considered part of this Service Order as if set forth herein in its entirety. Any capitalized terms in this Service Order that are not defined herein shall have the meanings given to them in the Agreement. If there is any inconsistency between the terms of this Service Order and the terms of the Agreement, the terms of this Service Order will control.

Engineer will provide the Services described in the Services of Engineer below in connection with the Specific Project described below.

1. Description of Specific Project:

[Insert a paragraph that describes the Specific Project that is the subject of this Service Order.]

2. Services of Engineer (Scope of Services)

A. The specific services to be provided or furnished by Engineer under this Service Order are: ***[Select one of the following options and delete the other.]***

☐ set forth in "Part 1—Services" of **Exhibit A**, "*Engineer's Services for Service Order*," modified for this specific Service Order, and attached to and incorporated as part of this Service Order.

[or]

☐ as follows: [ ] ***[Note: Insert detailed scope of services here.]***

B. Resident Project Representative (RPR) Services

If the scope of services established in Paragraph 2.A above includes RPR services, then **Exhibit D** of the Agreement is expressly incorporated in this Service Order by reference. The RPR shall provide ***[Select one of the following options]*:**

☐ full time representation; or
☐ part time representation as follows: _____.

[1. If RPR services are not in the scope of this Service Order, do not include any references to RPR services in Exhibit A (Paragraph A1.05(A)(1)) for this Service Order (or state "Does not apply" or similar), or in any other scope of services text or document.

2. If appropriate, modify Exhibit D for this specific Service Order, and attach it, rather than incorporating the Exhibit D that is included with the Agreement.]

C. Designing to a Construction Cost Limit

[If the design under this Service Order will be governed by a Construction Cost Limit, then include the following clause, with blanks filled in; if not, then delete the clause or indicate "Does not apply" or similar.]

Under this Service Order, Engineer will design to a Construction Cost Limit, subject to the terms of Section 7.03 of the Agreement. The Construction Cost Limit is $_____. The bidding or negotiating contingency to be added to the Construction Cost Limit is _____ percent per PCCA's Contingency Guidelines for General or Marine or Rehabilitation projects accordingly.

D. Other Services

Engineer shall also provide the following services:

[Summarize or provide a brief description of other services (if any) that are to be provided by Engineer, but have not been addressed in Paragraphs 2.A through 2.C.]

3. PCCA's Responsibilities

PCCA shall have those responsibilities set forth in Section 5.01 of the Agreement, subject to the following: ***[State any additions or modifications to Section 5.01 for this Specific Project here.]***

4. Service Order Schedule

In addition to any schedule provisions provided in **Exhibit A** or elsewhere, the parties shall meet the following schedule: ***[Revise and amend for each specific Service Order.]***

Party	Action	Schedule
Engineer	**Furnish [ ] review copies of the Report and other Study and Report Phase deliverables to PCCA.**	**Within [ ] days of the Commencement Date of the Service Order.**
PCCA	**Submit comments regarding Report and other Study and Report Phase deliverables to Engineer.**	**Within [ ] days of the receipt of Report and other Study and Report Phase deliverables from Engineer.**
Engineer	**Furnish [ ] copies of the revised Report and other Study and Report Phase deliverables to PCCA.**	**Within [ ] days of the receipt of PCCA's comments regarding the Report and other Study and Report Phase deliverables.**
Engineer	**Furnish [ ] review copies of the Preliminary Design Phase documents, opinion of probable Construction Cost, and other Preliminary Design Phase deliverables to PCCA.**	**Within [ ] days of PCCA's authorization to proceed with Preliminary Design Phase services.**
PCCA	**Submit comments regarding Preliminary Design Phase documents, opinion of probable Construction Cost, and other Preliminary Design Phase deliverables to Engineer.**	**Within [ ] days of the receipt of Preliminary Design Phase documents, opinion of probable Construction Cost, and other Preliminary Design Phase deliverables from Engineer.**
Engineer	**Furnish [ ] copies of the revised Preliminary Design Phase documents, opinion of probable Construction Cost, and other Preliminary Design Phase deliverables to PCCA.**	**Within [ ] days of the receipt of PCCA's comments regarding the Preliminary Design Phase documents, opinion of probable Construction Cost, and other Preliminary Design Phase deliverables.**
Engineer	**Furnish [ ] copies of the 60% Design documents, updated opinion of probable Construction Cost, and other 60% Design deliverables to PCCA.**	**Within [ ] days of the receipt of PCCA's comments regarding the 60% Design documents, updated opinion of probable Construction Cost, and other 60% Design deliverables.**

Engineer	**Furnish [ ] copies of the 90% Design documents, updated opinion of probable Construction Cost, and other 90% Design deliverables to PCCA.**	**Within [ ] days of the receipt of PCCA's comments regarding the 90% Design documents, updated opinion of probable Construction Cost, and other 90% Design deliverables.**
Engineer	**Furnish [ ] copies of the final Drawings and Specifications, assembled drafts of other Construction Contract Documents, the draft bidding-related documents (or requests for proposals or other construction procurement documents), and any other Final Design deliverables, to PCCA.**	**Within [ ] days of PCCA's authorization to proceed with Final Design Phase Services.**
PCCA	**Submit comments and instructions regarding the final Drawings and Specifications, assembled drafts of other Construction Contract Documents, the draft bidding-related documents (or requests for proposals or other construction procurement documents), and any other Final Design Phase deliverables, to Engineer.**	**Within [ ] days of the receipt of the final Drawings and Specifications, assembled drafts of other Construction Contract Documents, the draft bidding-related documents (or requests for proposals or other construction procurement documents), and any other Final Design Phase deliverables from Engineer.**
Engineer	**Furnish [ ] copies of the revised final Drawings and Specifications, assembled Construction Contract Documents, bidding-related documents (or requests for proposals or other construction procurement documents), and any other Final Design Phase deliverables, to PCCA.**	**Within [ ] days of the receipt of PCCA's comments and instructions regarding the final Drawings and Specifications, assembled drafts of other Construction Contract Documents, the draft bidding-related documents (or requests for proposals or other construction procurement documents), and any other Final Design Phase deliverables**

Should PCCA not return comments and/or instructions in the time listed in the schedule, the Engineer's schedule for subsequent items will be extended by the same number of days by which PCCA comments or instructions exceed the scheduled review with no further recourse by the Engineer against PCCA.

5. Method of Compensation

A. PCCA shall pay Engineer for services rendered under this Service Order using the following method of compensation: ***[Select one of the following options.]***

☐ Lump Sum plus Named Reimbursable Expenses, if any; or
☐ Standard Hourly Rates plus Reimbursable Expenses with a Ceiling Price.

B. If this is a Lump Sum Service Order, PCCA shall pay Engineer the following lump sum amount for the services described in this Service Order: $_____. In addition, PCCA shall reimburse Engineer for the following Named Reimbursable Expenses (if any): _____.

C. If this is an Hourly Rates Service Order, the Ceiling Price for this Service Order is $_____. In addition, PCCA shall reimburse Engineer for the Reimbursable Expenses described in Exhibit C.

D. If this is an Hourly Rates Service Order, the estimated amount of compensation payable for each category of services rendered under this Service Order is as follows:

[Notes: 1. Delete line items that do not apply to this Service Order. 2. Cross-references are to Exhibit A. Revise if necessary, or delete cross-references if Exhibit A is not used to establish the scope of services under this Service Order.]

Description of Service	Amount
Study and Report Phase (*A1.01 of Ex. A*)	$[ ]
Preliminary Design Phase (*A1.02 of Ex. A*)	$[ ]
Final Design Phase (*A1.03 of Ex. A*)	$[ ]
Bidding or Negotiating Phase (*A1.04 of Ex. A*)	$[ ]
Construction Phase (*A1.05 of Ex. A*)	$[ ]
Resident Project Representative Services (*A1.05(A)(1) of Ex. A*)	$[ ]
Post-Construction Phase (A1.06 of Ex. A)	$[ ]
Commissioning Phase (*A1.07 of Ex. A*)	$[ ]
Other Services (list as appropriate) (*A2.01 of Ex. A*)	$[ ]
ESTIMATED TOTAL COMPENSATION	$[ ]

E. The terms of payment are set forth in Article 4 of the Agreement.

6. Consultants retained or that will be retained as of the Commencement Date of the Service Order: ***[List name of Consultants, if any]***

7. Other Modifications to the Agreement or the Exhibits to the Agreement:

[Supplement or modify the Agreement and Exhibits, if appropriate.]

8. Insurance Requirements:

In addition to the standard insurance requirements set forth in Section 11.01 of the Agreement, Engineer shall maintain the following additional insurance coverage described in Section 11.02 of the Agreement for as long as Engineer is providing services under this Service Order:

[Select the appropriate Policies]

☐	A.	Contractor's Pollution Liability	$2,000,000 per Occurrence (***applicable if Professional Services involve work in/to areas of known or suspected contamination)***
☐	B.	Railroad Protective Liability	$1,000,000 per Occurrence $2,000,000 Aggregate (***applicable if work is to be conducted within 50 ft. of any railroad property, railroad bridge, track and/or trestle)***
☐	C.	Protective and Indemnity	$1,000,000 per occurrence ***(applicable if any work requires marine operations; i.e., operation or ownership of a vessel)***

9. Exhibits or Attachments to this Service Order:

10. Documents (other than the Agreement) Incorporated by Reference:

11. Terms and Conditions

Execution of this Service Order by PCCA and Engineer shall make it subject to the terms and conditions of the Agreement (as modified above), which Agreement is incorporated by this reference. Engineer is authorized to begin performance upon its receipt of a copy of this Service Order signed by PCCA.

[Signature page follows this page]

IN WITNESS WHEREOF, each Party has executed this Service Order effective for all purposes as of the Commencement Date.

PCCA:	**Engineer:**
Port of Corpus Christi Authority of Nueces County, Texas	***(Insert name of Engineer)***
By:_____	By:_____
Name: _____	Name:_____
Title: _____	Title:_____
Date Signed:_____	Date Signed:_____
Address for giving notice: 222 Power Street Corpus Christi, Texas 78401 Attention: Director of Engineering Services	**Address for giving notice:** 4101 Magazine St. New Orleans, LA 70115
PCCA's Designated Representative:	**Engineer's Designated Representative:**
_____	_____
Title:	Title:_____
Phone Number:	Phone Number:_____
Facsimile Number:	Facsimile Number:_____
E-Mail Address:	E-Mail Address:_____

EXHIBIT A
ENGINEER'S SERVICES FOR SERVICE ORDER

[Introductory Note to User: The parties should prepare a specific, modified Exhibit A for each specific Service Order, state the scope of services for the Specific Project directly in the specific Service Order, or incorporate all or portions of Exhibit A by reference.

The following text as published describes a variety of services that may be included, in whole or in part, in a specific Service Order issued under the Agreement. Until this exhibit is customized for inclusion in a specific Service Order, or some or all of the exhibit is incorporated in a specific Service Order by reference, it has no legal or contractual effect.

Not all possible services are included in this exhibit. Language provided is intended to provide a basic framework, ideas for inclusion, and to avoid omissions; none, any, or most of this language may be applicable to a Specific Project. The user should revise and supplement the descriptions of services provided here for purposes of drafting the scope of Engineer's Services for each specific Service Order.]

PART 1—SERVICES

A1.01 *Study and Report Phase Services*

A. As Study and Report Services, Engineer shall:

1. If PCCA has already identified one or more potential solutions to meet its Specific Project requirements, Engineer will proceed with the study and evaluation of: ***[List the specific potential solutions here.]***

2. If PCCA has not identified specific potential solutions to meet its Specific Project requirements, Engineer will identify up to ____ potential solution(s) and then proceed with the study and evaluation of these potential solution(s).

3. Visit the Site, or potential Specific Project sites, to review existing conditions and facilities, unless such visits are not necessary or applicable to meeting the objectives of the Study and Report Phase.

4. Advise PCCA of any need for PCCA to obtain, furnish, or otherwise make available to Engineer additional Specific Project-related data and information, for Engineer's use in the study and evaluation of potential solution(s) to PCCA's Specific Project requirements, and preparation of a related report.

5. After consultation with PCCA, recommend to PCCA the solution(s) which in Engineer's judgment meet PCCA's requirements for the Specific Project.

6. Identify, consult with, and analyze requirements of governmental authorities having jurisdiction to approve the portions of the Specific Project to be designed or

specified by Engineer, including but not limited to mitigating measures identified in an environmental assessment for the Specific Project.

7. Prepare a report (the "***Report***") which will, as appropriate, contain schematic layouts, sketches, and conceptual design criteria with appropriate exhibits to indicate the agreed-to requirements, considerations involved, and Engineer's recommended solution(s). For each recommended solution Engineer will provide the following, which will be separately itemized: opinion of probable Construction Cost; proposed allowances for contingencies; the estimated total costs of design, professional, and related services to be provided by Engineer and its Consultants; and, on the basis of information furnished by PCCA, a tabulation of other items and services included within the definition of Total Project Costs.

8. Review available survey, geotechnical, environmental, and other data and recommend additional investigations, studies, tests, professional services that may be required to support design of the alternatives.

9. When mutually agreed, assist PCCA in evaluating the possible use of building information modeling; civil integrated management; geotechnical baselining of subsurface site conditions; innovative design, contracting, or procurement strategies; or other strategies, technologies, or techniques for assisting in the design, construction, and operation of PCCA's facilities.

10. If requested to do so by PCCA, assist PCCA in identifying opportunities for enhancing the sustainability of the Specific Project, and pursuant to PCCA's instructions plan for the inclusion of sustainable features in the design.

11. Pursuant to the Service Order schedule, furnish the required number of review copies of the Report and any other Study and Report Phase deliverables to PCCA, and review it with PCCA. PCCA shall submit to Engineer any comments regarding the furnished items within the time established in the Service Order schedule.

12. Pursuant to the Service Order schedule, revise the Report and any other Study and Report Phase deliverables in response to PCCA's comments, as appropriate, and furnish the required number of copies of the revised Report and any other Study and Report Phase deliverables to the PCCA.

B. Engineer's services under the Study and Report Phase will be considered complete on the date when Engineer has delivered to PCCA the revised Report and any other Study and Report Phase deliverables.

A1.02 ***Preliminary Design Phase***

A. Engineer shall:

1. Prepare Preliminary Design Phase documents consisting of final design criteria, preliminary drawings, outline specifications, and written descriptions of the Specific Project.

2. In preparing the Preliminary Design Phase documents, use any specific applicable Specific Project Strategies, Technologies, and Techniques authorized by PCCA during or following the Study and Report Phase, and include sustainable features, as appropriate, pursuant to PCCA's instructions.

3. Provide necessary field surveys and topographic and utility mapping for Engineer's design purposes. Comply with the scope of work and procedure for the identification and mapping of existing utilities selected and authorized by PCCA pursuant to advice from Engineer based on ASCE 38, "Standard Guideline for the Collection and Depiction of Existing Subsurface Utility Data," as set forth in Paragraph A1.01.A.12 above. If no such scope of work and procedure for utility mapping has been selected and authorized, then at a minimum the utility mapping will include Engineer contacting utility owners and obtaining available information.

4. Visit the Site as needed to prepare the Preliminary Design Phase documents.

5. Advise PCCA if additional reports, data, information, or services necessary so support final design and assist PCCA in obtaining such reports, data, information, or services. Include as appropriate scope for:

   (a) geotechnical for investigation

   (b) topographical surveys

   (c) utility mapping

6. Continue to assist PCCA with Specific Project Strategies, Technologies, and Techniques that PCCA has chosen to implement.

7. Based on the information contained in the Preliminary Design Phase documents, prepare a revised opinion of probable Construction Cost, and assist PCCA in tabulating the various cost categories which comprise Total Project Costs.

8. Pursuant to the Service Order schedule, furnish the required number of review copies of the Preliminary Design Phase documents, opinion of probable Construction Cost, and any other Preliminary Design Phase deliverables to PCCA, and review them with PCCA. Within the time established in the Service Order schedule, PCCA shall submit to Engineer any comments regarding the furnished items.

9. Pursuant to the Service Order schedule, revise the Preliminary Design Phase documents, opinion of probable Construction Cost, and any other Preliminary Design Phase deliverables in response to PCCA's comments, as appropriate, and furnish to PCCA the required number of copies of the revised Preliminary Design Phase documents, revised opinion of probable Construction Cost, and revised estimate of design and related professional services, and any other Preliminary Design Phase deliverables.

B. Engineer's services under the Preliminary Design Phase will be considered complete on the date when Engineer has delivered to PCCA the revised Preliminary Design Phase documents, revised opinion of probable Construction Cost, and any other Preliminary Design Phase deliverables.

A1.03 ***Final Design Phase***

A. Engineer shall:

1. Prepare final Drawings and Specifications indicating the scope, extent, and character of the Work to be performed and furnished by Contractor.

2. Visit the Site as needed to assist in preparing the final Drawings and Specifications.

3. Provide technical criteria, written descriptions, and design data for PCCA's use in filing applications for permits from or approvals of governmental authorities having jurisdiction to review or approve the final design; assist PCCA in consultations with such authorities; and revise the Drawings and Specifications in response to directives from such authorities, as appropriate.

4. Advise PCCA of any recommended adjustments to the opinion of probable Construction Cost as design progresses.

5. Assist PCCA in assembling known reports and drawings of Site conditions, and in identifying the technical data contained in such reports and drawings upon which bidders or other prospective contractors may rely.

6. In addition to preparing the final Drawings and Specifications, assemble drafts of other Construction Contract Documents based on specific instructions and contract forms, text, or content received from PCCA.

7. Prepare or assemble 60% Design documents (or requests for proposals or other construction procurement documents), based on the specific bidding or procurement-related instructions and forms, text, or content provided by PCCA. As directed by PCCA, organize the proposed work and related construction documents to provide for additive or alternative bids.

8. Prepare or assemble 90% Design and bidding-related documents (or requests for proposals or other construction procurement documents), based on the specific bidding or procurement-related instructions and forms, text, or content provided by PCCA. As directed by PCCA, organize the proposed work and related construction documents to provide for additive or alternative bids.

9. Prepare or assemble draft bidding-related documents (or requests for proposals or other construction procurement documents), based on the specific bidding or procurement-related instructions and forms, text, or content provided by PCCA. As directed by PCCA, organize the proposed work and related construction documents to provide for additive or alternative bids.

10. Pursuant to the Service Order schedule, furnish for review by PCCA, the required number of copies of the final Drawings and Specifications, assembled drafts of other Construction Contract Documents, the draft bidding-related documents (or requests for proposals or other construction procurement documents), and any other Final Design Phase deliverables, and review them with PCCA. Within the time required by the Service Order schedule, PCCA shall submit to Engineer any comments regarding the furnished items, and any instructions for revisions sealed by Registered Professional Engineer licensed to practice in the State of Texas.

11. Pursuant to the Service Order schedule, revise the final Drawings and Specifications, assembled drafts of other Construction Contract Documents, the draft bidding-related documents (or requests for proposals or other construction procurement documents), and any other Final Design Phase deliverables in accordance with comments and instructions from the PCCA, as appropriate, and submit the required number of final copies of such documents to PCCA after receipt of PCCA's comments and instructions.

B. Engineer's services under the Final Design Phase will be considered complete on the date when Engineer has delivered to PCCA the final Drawings and Specifications, other assembled Construction Contract Documents, bidding-related documents (or requests for proposals or other construction procurement documents), and any other Final Design Phase deliverables.

A1.04 ***Bidding or Negotiating Phase***

A. Engineer shall:

1. Attend pre-bid conference and provide a presentation of the technical aspect of the project.

2. Prepare and issue Addenda as appropriate, and as requested by PCCA, to clarify, correct, or change the issued documents.

3. Provide information or assistance needed by PCCA in the course of any review of proposals or negotiations with prospective contractors.

4. Consult with PCCA as to the qualifications of prospective contractors.

5. Consult with PCCA as to the qualifications of Subcontractors, suppliers, and other individuals and entities proposed by prospective contractors, for those portions of the Work as to which review of qualifications is required by the issued documents.

6. If the issued documents require, the Engineer shall evaluate and determine the acceptability of "or equals" and substitute materials and equipment proposed by prospective contractors, provided that such proposals are allowed by the bidding-related documents (or requests for proposals or other construction procurement documents) prior to award of contracts for the Work. Services under this paragraph are subject to the provisions of Paragraph A2.01(A)(16) of this **Exhibit A**.

7. Attend the bid opening, and assist PCCA in evaluating bids or proposals, assembling final contracts for the Work for execution by PCCA and Contractor, and in issuing notices of award of such contracts.

8. If PCCA engages in negotiations with bidders or proposers, assist PCCA with respect to technical and engineering issues that arise during the negotiations.

9. Engineer shall prepare and submit issued for construction drawings and specifications incorporating addenda issued during the Bid phase. Issued for Construction Drawings shall be sealed by Registered Professional Engineer licensed to practice in the State of Texas.

B. The Bidding or Negotiating Phase will be considered complete upon commencement of the Construction Phase or upon cessation of negotiations with prospective contractors (except as may be required if a Construction Cost limit is a part of this Service Order).

A1.05 ***Construction Phase***

A. Engineer shall:

1. *Resident Project Representative (RPR)*: Provide the services of an RPR at the Site to assist the Engineer and to provide more extensive observation of Contractor's work. Duties, responsibilities, and authority of the RPR are as set forth in **Exhibit D**. The furnishing of such RPR's services will not limit, extend, or modify Engineer's responsibilities or authority except as expressly set forth in **Exhibit D.** **[*If Engineer will not be providing the services of an RPR, then delete this Paragraph 2 by inserting the word "DELETED" after the paragraph title, and do not include Exhibit D in the Task Order.*]**

2. *Selection of Independent Testing Laboratory:* Assist PCCA, as requested, in the selection of an independent testing laboratory to perform the testing services identified in the contract documents.

3. *Pre-Construction Conference:* Participate in a pre-construction conference prior to commencement of Work at the Site.

4. *Electronic Transmittal Protocols:* If the Construction Contract Documents do not specify protocols for the transmittal of Project-related correspondence, documents, text, data, drawings, information, and graphics, in electronic media or digital format, either directly, or through access to a secure Project website, then together with PCCA and Contractor jointly develop such protocols for transmittals between and among PCCA, Contractor, and Engineer during the Construction Phase and Post-Construction Phase.

5. *Schedules:* Receive, review, and determine the acceptability of any and all schedules that Contractor is required to submit to Engineer, including the Progress Schedule, Schedule of Submittals, and Schedule of Values.

6. *Baselines and Benchmarks:* As appropriate, establish baselines and benchmarks for locating the Work which in Engineer's judgment are necessary to enable Contractor to proceed.

7. Visits *to Site and Observation of Construction:* In connection with observations of Contractor's Work while it is in progress:

   (a) Make visits to the Site at intervals appropriate to the various stages of construction, as Engineer deems necessary, to observe as an experienced and qualified design professional the progress of Contractor's executed Work. Based on information obtained during such visits and observations, Engineer will determine in general if the Work is proceeding in accordance with the Construction Contract Documents, and Engineer shall keep PCCA informed of the progress of the Work.

   (b) The purpose of Engineer's visits to the Site, and representation by the Resident Project Representative, if any, at the Site, will be to enable Engineer to better carry out the duties and responsibilities assigned to and undertaken by Engineer during the Construction Phase, and, in addition, by the exercise of Engineer's efforts as an experienced and qualified design professional, to provide for PCCA a greater degree of confidence that the completed Work will conform in general to the Construction Contract Documents and that Contractor has implemented and maintained the integrity of the design concept of the completed Project as a functioning whole as indicated in the Construction Contract Documents. Engineer shall not, during such visits or as a result of such observations of the Work, supervise, direct, or have control over the Work, nor shall Engineer have authority over or responsibility for the means, methods, techniques, sequences, or procedures of construction selected or used by any Constructor, for security or safety at the Site, for safety precautions and programs incident to any Constructor's work in progress, for the coordination of the Constructors' work or schedules, nor for any failure of any Constructor to comply with Laws and Regulations applicable to furnishing and performing of its work. Accordingly, Engineer neither guarantees the performance of any Constructor nor assumes responsibility for any Constructor's failure to furnish or perform the Work, or any portion of the Work, in accordance with the Construction Contract Documents.

8. *Defective Work:* Recommend rejection of Work if, on the basis of Engineer's observations, Engineer believes that such Work is defective under the terms and standards set forth in the Construction Contract Documents. Provide recommendations to PCCA regarding whether Contractor should correct such Work or remove and replace such Work, or whether PCCA should consider accepting such Work as provided in the Construction Contract Documents.

9. *Compatibility with Design Concept:* If Engineer has express knowledge that a specific part of the Work that is not defective under the terms and standards set

forth in the Construction Contract Documents is nonetheless not compatible with the design concept of the completed Project as a functioning whole, then inform PCCA of such incompatibility, and provide recommendations for addressing such Work.

10. *Clarifications and Interpretations:* Accept from Contractor and PCCA submittal of all matters in question concerning the requirements of the Construction Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Construction Contract Documents. With reasonable promptness, render a written clarification, interpretation, or decision on the issue submitted, or an amendment or supplement to the Construction Contract Documents.

11. *Change Orders and Work Change Directives:* Recommend Change Orders and Work Change Directives to PCCA, as appropriate, and support preparation of Change Orders and Work Change Directives as required.

12. *Differing Site Conditions:* Respond to any notice from Contractor of differing site conditions, including conditions relating to underground facilities such as utilities, and hazardous environmental conditions. Promptly conduct reviews, obtain information, and prepare findings, conclusions, and recommendations for PCCA's use, subject to the limitations and responsibilities under the Agreement and the Construction Contract.

13. *Shop Drawings, Samples, and Other Submittals:* Review and approve or take other appropriate action with respect to Shop Drawings, Samples, and other required Contractor submittals, but only for conformance with the information given in the Construction Contract Documents and compatibility with the design concept of the completed Project as a functioning whole as indicated by the Construction Contract Documents. Such reviews and approvals or other action will not extend to means, methods, techniques, sequences, or procedures of construction or to safety precautions and programs incident thereto. Engineer shall meet any Contractor's submittal schedule that Engineer has accepted.

14. *Substitutes and "or-equal":* Evaluate and determine the acceptability of substitute or "or-equal" materials and equipment proposed by Contractor.

15. *Inspections and Tests:*

    (a) Receive and review certificates of inspections, tests, and approvals required by Laws and Regulations or the Construction Contract Documents. Engineer's review of such certificates will be for the purpose of determining that the results certified indicate compliance with the Construction Contract Documents and will not constitute an independent evaluation that the content or procedures of such inspections, tests, or approvals comply with the requirements of the Construction Contract Documents. Engineer shall be entitled to rely on the results of such inspections and tests.

(b) Pursuant to the terms of the Construction Contract, recommend additional inspections or testing of the Work, whether or not the Work is fabricated, installed, or completed.

16. *Change Proposals and Claims:* (a) Review and respond to Change Proposals. Review each duly submitted Change Proposal from Contractor and, within 30 days after receipt of the Contractor's supporting data, either deny the Change Proposal in whole, approve it in whole, or deny it in part and approve it in part. Such actions shall be in writing, with a copy provided to PCCA and Contractor. If the Change Proposal does not involve the design (as set forth in the Drawings, Specifications, or otherwise), the acceptability of the Work, or other engineering or technical matters, then Engineer will notify the parties that the Engineer will not resolve the Change Proposal. (b) Provide information or data to PCCA regarding engineering or technical matters pertaining to Claims.

17. Applications *for Payment:* As requested by PCCA, review Contractor's applications for payment and provide PCCA with a recommendation to pay, partially pay, or request a revised pay application.

18. *Contractor's Completion Documents:* As required and directed by PCCA, review, and transmit to PCCA maintenance and operating instructions, schedules, guarantees, bonds, certificates or other evidence of insurance required by the Construction Contract Documents, certificates of inspection, tests and approvals, and Shop Drawings, Samples, and other data approved as provided from Contractor. Review, and transmit to PCCA the annotated record documents which are to be assembled by Contractor in accordance with the Construction Contract Documents to obtain final payment.

19. *Substantial Completion:* Promptly after notice from Contractor that Contractor considers the entire Work ready for its intended use, in company with PCCA and Contractor, visit the Site to review the Work and determine the status of completion. Follow the procedures in the Construction Contract regarding the preliminary certificate of Substantial Completion, punch list of items to be completed, PCCA's objections, notice to Contractor, and issuance of a final certificate of Substantial Completion. Assist PCCA regarding any remaining engineering or technical matters affecting PCCA's use or occupancy of the Work following Substantial Completion.

20. *Final Notice of Acceptability of the Work:* Conduct a final visit to the specific Project to determine if the Work is complete and acceptable so that Engineer may recommend, in writing, final payment to Contractor. Accompanying the recommendation for final payment, Engineer shall also provide a notice to PCCA and Contractor in the form attached hereto as **Exhibit E** ("**Notice of Acceptability of Work**") that the Work is acceptable.

21. *Standards for Certain Construction-Phase Decisions:* Engineer will render decisions regarding the requirements of the Construction Contract Documents, and

judge the acceptability of the Work, pursuant to the specific procedures set forth in the Construction Contract for initial interpretations, Change Proposals, and acceptance of the Work. In rendering such decisions and judgments, Engineer will not show partiality to PCCA or Contractor.

22. Preparing Record Drawings, and furnishing such Record Drawings to PCCA.

23. Supplementing Record Drawings with information regarding the completed Project, Site, and immediately adjacent areas obtained from field observations, PCCA, utility companies, and other reliable sources.

24. Conducting surveys, investigations, and field measurements to verify the accuracy of Record Drawing content obtained from Contractor, PCCA, utility companies, and other sources; revise and supplement Record Drawings as needed.

B. *Duration of Construction Phase:* The Construction Phase will commence with the execution of the first Construction Contract for the Specific Project or any part thereof and will terminate upon written recommendation by Engineer for final payment to Contractors. If the specific Project involves more than one prime contract then Construction Phase services may be rendered at different times in respect to the separate contracts.

A1.06 ***Post-Construction Phase***

A. Upon written authorization from PCCA during the Post-Construction Phase, Engineer shall:

1. Together with PCCA, visit the Project to observe any apparent defects in the Work, make recommendations as to replacement or correction of Defective Work, if any, or the need to repair of any damage to the Site or adjacent areas, and assist PCCA in consultations and discussions with Contractor concerning correction of any such Defective Work and any needed repairs.

2. Together with PCCA, visit the Project within one month before the end of the Construction Contract's Correction Period to ascertain whether any portion of the Work or the repair of any damage to the Site or adjacent areas is defective and therefore subject to correction by Contractor.

B. The Post-Construction Phase services may commence during the Construction Phase and will terminate twelve months after the commencement of the Construction Contract's Correction Period.

A1.07 ***Commissioning Phase***

A. Engineer shall:

1. Assist PCCA in connection with the adjusting of Specific Project equipment and systems.

2. Assist PCCA in training PCCA's staff to operate and maintain Specific Project equipment and systems.

3. Prepare operation and maintenance manuals.

4. Assist PCCA in developing procedures for (a) control of the operation and maintenance of Specific Project equipment and systems, and (b) related record-keeping.

5. Prepare and furnish to PCCA, in the format agreed to, Record Drawings showing appropriate record information based on Project annotated record documents received from Contractor.

PART 2—OTHER SERVICES

A2.01 *Other Services Required to be Listed in the Service Order*

A. Each specific Service Order may include Services that do not fit into the categories described in Part 1, such as the types of Services listed in this Part 2. Such services should be expressly stated in the specific Service Order itself.

1. Preparation of applications and supporting documents (in addition to those furnished under Services) for private or governmental grants, loans, or advances in connection with the Specific Project; preparation or review of environmental assessments and impact statements; review and evaluation of the effects on the design requirements for the Specific Project of any such statements and documents prepared by others; and assistance in obtaining approvals of authorities having jurisdiction over the anticipated environmental impact of the Specific Project.

2. Services to make measured drawings of existing conditions or facilities, to conduct tests or investigations of existing conditions or facilities, or to verify the accuracy of drawings or other information furnished by PCCA or others.

3. Services resulting from significant changes in the scope, extent, or character of the portions of the Specific Project designed or specified by Engineer, or the Specific Project's design requirements, including, but not limited to, changes in size, complexity, PCCA's schedule, character of construction, or method of financing; and revising previously accepted studies, reports, Drawings, Specifications, or Construction Contract Documents when such revisions are required by changes in Laws and Regulations enacted subsequent to the Commencement Date of the Service Order or are due to any other causes beyond Engineer's control.

4. Providing renderings or models for PCCA's use, including services in support of building information modeling or civil integrated management.

5. Undertaking investigations and studies including, but not limited to:

a) detailed consideration of operations, maintenance, and overhead expenses;

b) based on the engineering and technical aspects of the Project, the preparation of feasibility studies (such as those that include projections of output capacity, utility project rates, project market demand, or project revenues) and cash flow analyses, provided that such services do not include rendering advice regarding municipal financial products or the issuance of municipal securities;

c) evaluating processes available for licensing, and assisting PCCA in obtaining process licensing;

d) detailed quantity surveys of materials, equipment, and labor; and

e) audits or inventories required in connection with construction performed or furnished by PCCA.

6. Preparing for, coordinating with, participating in and responding to structured independent review processes, including, but not limited to, construction management, cost estimating, project peer review, value engineering, and constructability review requested by PCCA; and performing or furnishing services required to revise studies, reports, Drawings, Specifications, or other documents as a result of such review processes.

7. Assistance in connection with bid protests, rebidding, or renegotiating contracts for construction, materials, equipment, or services, except when such assistance is required to complete services required by Section 3.02.

8. Preparation of operation, maintenance, and staffing manuals.

9. Protracted or extensive assistance in refining and adjusting of Project equipment and systems (such as initial startup, testing, and balancing).

10. Assistance to PCCA in training PCCA's staff to operate and maintain Specific Project equipment and systems.

11. Assistance to PCCA in developing systems and procedures for (a) control of the operation and maintenance of Project equipment and systems, and (b) related recordkeeping.

12. Preparing to serve or serving as a consultant or witness for PCCA in any litigation, arbitration, mediation, lien or bond claim, or other legal or administrative proceeding involving the Project.

13. Providing construction surveys and staking to enable Contractor to perform its work other than as required under Paragraph A1.05(A)(6), and any type of property surveys or related engineering services needed for the transfer of interests in real property; and providing other special field surveys.

14. Provide assistance in responding to the presence of any Constituent of Concern at any Site, in compliance with current Laws and Regulations.

15. Services in connection with Work Change Directives and Change Orders to reflect changes requested by PCCA.

16. Services in making revisions to Drawings and Specifications occasioned by the acceptance of substitute materials or equipment other than "or equal" items; services after the award of the Construction Contract in evaluating and determining the acceptability of a proposed "or equal" or substitution which is found to be inappropriate for the Project; evaluation and determination of an excessive number of proposed "or equals" or substitutions, whether proposed before or after award of the Construction Contract.

17. Services resulting from significant delays, changes, or price increases occurring as a direct or indirect result of materials, equipment, or energy shortages.

18. Additional or extended services arising from (a) the presence at the Site of any Constituent of Concern or items of historical or cultural significance, (b) emergencies or acts of God endangering the Work, (c) damage to the Work by fire or other causes during construction, (d) a significant amount of defective, neglected, or delayed Work, (e) acceleration of the progress schedule involving services beyond normal working hours, or (f) default by Contractor.

19. Reviewing a Shop Drawing or other Contractor submittal more than three times, as a result of repeated inadequate submissions by Contractor.

EXHIBIT B
TO MASTER SERVICES AGREEMENT NO. 18-01

The Standard Hourly Rates Schedule for Services performed under this Agreement is:

RATE SCHEDULE FOR ENGINEERING SERVICES

		Straight Time	*Overtime*
(1)	*Principal*	*$216.00*	*$216.00*
(2)	*Department Head, Chief Financial Officer*	*$192.00*	*$192.00*
(3)	*Senior Mechanical Engineer, Senior Electrical/Instrument Engineer, Senior Environmental Engineer, Senior Civil/Structural Engineer, Senior Project Manager*	*$185.00*	*$185.00*
(4)	*Senior Design Engineer, Project Manager II*	*$170.00*	*$170.00*
(5)	*Project Manager I, Design Engineer, Project Engineer II, Environmental Engineer*	*$159.00*	*$159.00*
(6)	*Project Engineer I*	*$138.00*	*$138.00*
(7)	*Engineering Associate*	*$ 91.00*	*$ 91.00*
(8)	*Senior Designer, Senior Construction Manager, Chief Drafter, Computer Specialist*	*$141.00*	*$169.20*
(9)	*Designer*	*$126.00*	*$151.20*
(10)	*CAD Drafter II, Construction Manager*	*$110.00*	*$132.00*
(11)	*CAD Drafter I, Project Support*	*$ 92.00*	*$110.40*
(12)	*Drafting Associate, Surveyor*	*$ 67.00*	*$ 80.40*
(13)	*Administrative Assistant*	*$ 57.00*	*$ 68.40*

EXHIBIT C
TO MASTER SERVICES AGREEMENT NO. 18-01

Reimbursable Expenses Schedule

The Reimbursable Expenses Schedule for Services performed under the Agreement is:

Fax	$n/a /Page
Copies 8½" x 11"	$n/a /Page
Copies of Drawings 24" x 36"	$n/a /Sheet
Copies of Drawings 11" x 17"	$n/a /Sheet
Mileage	$n/a /Mile
Confined Space Equipment	$n/a /Day + Expenses
CAD Charge	$n/a /Hour
Soil Gas Kit	$n/a /Day
Soil Sampling	$n/a /Sample
Groundwater Sampling	$n/a /Sample
Health & Safety Level C Training	$n/a /Day
Health & Safety Level D Training	$n/a /Day
Consultants	At Cost
Long Distance Phone Calls	At Cost
Meals & Lodging	At Cost
Travel Expenses (other than mileage)	At Cost

Costs specifically chargeable to the work and billable to Client without a mark-up include: commercial printing and binding, identifiable reproduction costs, special equipment, field office expenses, living and traveling expenses, and identifiable communication expenses. Auto mileage will be charged at the current rate as set by the Internal Revenue Service.

The expenses listed above as n/a are costs inlcuded in the hourly rate and not billed to client.

EXHIBIT D
TO MASTER SERVICES AGREEMENT NO. 18-01

SCHEDULE OF DUTIES, RESPONSIBILITIES, AND LIMITATIONS OF AUTHORITY OF RESIDENT PROJECT REPRESENTATIVE

The following duties, responsibilities, and limitations of authority may be incorporated in the Service Order for a Specific Project:

Resident Project Representative

A. Engineer shall furnish a Resident Project Representative ("**RPR**") to assist Engineer in observing progress and quality of the Work. The RPR shall provide full-time or part-time representation as indicated in the Service Order. RPR is Engineer's representative at the Site, will act as directed by and under the supervision of Engineer, and will confer with Engineer regarding RPR's actions.

B. Through RPR's observations of the Work, including field checks of materials and installed equipment. However, Engineer shall not, as a result of such RPR observations of the Work, supervise, direct, or have control over the Work, nor shall Engineer (including the RPR) have authority over or responsibility for the means, methods, techniques, sequences, or procedures of construction selected or used by any Constructor, for security or safety at the Site, for safety precautions and programs incident to the Work or any Constructor's work in progress, for the coordination of the Constructors' work or schedules, or for any failure of any Constructor to comply with Laws and Regulations applicable to the performing and furnishing of its work. The Engineer (including RPR) neither guarantees the performances of any Constructor nor assumes responsibility for any Constructor's failure to furnish and perform the Work, or any portion of the Work, in accordance with the Construction Contract Documents.

C. The duties and responsibilities of the RPR are as follows:

1. *General:* RPR's dealings in matters pertaining to the Work in general shall be with Engineer and Contractor. RPR's dealings with Subcontractors shall only be through or with the full knowledge and approval of PCCA and the Contractor. RPR shall generally communicate with PCCA only with the knowledge of and under the direction of Engineer.

2. *Schedules:* Review the progress schedule, schedule of Shop Drawing and Sample submittals, schedule of values, and other schedules prepared by Contractor and consult with Engineer and PCCA concerning acceptability of such schedules.

3. *Conferences and Meetings:* Attend meetings with Contractor, such as preconstruction conferences, progress meetings, job conferences, and other Project-related meetings (but not including Contractor's safety meetings), and as appropriate prepare and circulate copies of minutes thereof.

4. *Safety Compliance:* Comply with Site safety programs, as they apply to RPR, and if required to do so by such safety programs, receive safety training specifically related to RPR's own personal safety while at the Site.

5. *Liaison*

    a. Serve as Engineer's and PCCA's liaison with Contractor. Working principally through Contractor's authorized representative or designee, assist in providing information regarding the provisions and intent of the Construction Contract Documents.

    b. Assist Engineer in serving as PCCA's liaison with Contractor when Contractor's operations affect PCCA's on-Site operations.

    c. Assist in obtaining from PCCA additional details or information, when required for proper execution of the Work.

6. *Clarifications and Interpretations:* Receive from Contractor submittal of any matters in question concerning the requirements of the Construction Contract Documents (sometimes referred to as requests for information or interpretation—RFIs), or relating to the acceptability of the Work under the Construction Contract Documents. Report to Engineer and PCCA regarding such RFIs. Report to Engineer and PCCA when clarifications and interpretations of the Construction Contract Documents are needed, whether as the result of a Contractor RFI or otherwise. Transmit Engineer's and PCCA's clarifications, interpretations, and decisions to Contractor. ,

7. *Shop Drawings and Samples*

    a. Record date of receipt of Samples and Contractor-approved Shop Drawings.

    b. Receive Samples that are furnished at the Site by Contractor, and notify Engineer of availability of Samples for examination.

    c. Advise Engineer and Contractor of the commencement of any portion of the Work requiring a Shop Drawing or Sample submittal, if RPR believes that the submittal has not been received from Contractor, or has not been approved by Contractor or Engineer.

8. *Proposed* M*odifications:* Consider and evaluate Contractor's suggestions for modifications to the Drawings or Specifications, and report such suggestions, together with RPR's recommendations, if any, to Engineer and PCCA. Transmit Engineer's and PCCA's response (if any) to such suggestions to Contractor.

9. *Review of Work; Defective Work*

    a. Report to Engineer and PCCA whenever RPR believes that any part of the Work is defective under the terms and standards set forth in the Construction Contract

Documents, and provide recommendations as to whether such Work should be corrected, removed and replaced, or accepted as provided in the Construction Contract Documents.

b. Inform Engineer and PCCA of any Work that RPR believes is not defective under the terms and standards set forth in the Construction Contract Documents, but is nonetheless not compatible with the design concept of the completed Project as a functioning whole, and provide recommendations to Engineer and PCCA for addressing such Work; and

c. Advise Engineer and PCCA of that part of the Work that RPR believes should be uncovered for observation, or requires special testing, inspection, or approval.

10. *Inspections, Tests, and System Start-ups*

a. Consult with Engineer and PCCA in advance of scheduled inspections, tests, and systems start-ups.

b. Verify that tests, equipment, and systems start-ups and operating and maintenance training are conducted in the presence of appropriate PCCA's personnel, and that Contractor maintains adequate records thereof.

c. Observe, record, and report to Engineer and PCCA appropriate details relative to the test procedures and systems start-ups.

d. Observe whether Contractor has arranged for inspections required by Laws and Regulations, including but not limited to those to be performed by public or other agencies having jurisdiction over the Work.

e. Accompany visiting inspectors representing public or other agencies having jurisdiction over the Work, record the results of these inspections, and report to Engineer and PCCA.

11. *Records*

a. Maintain at the Site orderly files for correspondence, reports of job conferences, copies of Construction Contract Documents including all Change Orders, Field Orders, Work Change Directives, Addenda, additional Drawings issued subsequent to the execution of the Construction Contract, RFIs, Engineer's clarifications and interpretations of the Construction Contract Documents, progress reports, Shop Drawing and Sample submittals received from and delivered to Contractor, and other Project-related documents.

b. Prepare a daily report or keep a diary or log book, recording Contractor's hours on the Site, Subcontractors present at the Site, weather conditions, data relative to questions of Change Orders, Field Orders, Work Change Directives, or changed conditions, Site visitors, deliveries of equipment or materials, daily activities, decisions, observations in general, and specific observations in more

detail as in the case of observing test procedures; and send copies to Engineer and PCCA.

c. As requested by PCCA to Engineer, photograph or video work in progress or Site conditions.

d. Record and maintain accurate, up-to-date lists of the names, addresses, fax numbers, e-mail addresses, websites, and telephone numbers (including mobile numbers) of all Contractors, Subcontractors, and major Suppliers of materials and equipment.

e. Maintain records for use in preparing Specific Project documentation.

f. Upon completion of the Work, furnish original set of all RPR Project documentation to Engineer and PCCA.

12. *Reports*

a. Furnish to Engineer and PCCA periodic reports as required of progress of the Work and of Contractor's compliance with the progress schedule and schedule of Shop Drawing and Sample submittals.

b. Draft and recommend to Engineer and PCCA proposed Change Orders, Work Change Directives, and Field Orders. Obtain backup material from Contractor.

c. Furnish to Engineer and PCCA copies of all inspection, test, and system start-up reports.

d. Immediately inform Engineer and PCCA of the occurrence of any Site accidents, emergencies, acts of God endangering the Work, possible force majeure or delay events, damage to property by fire or other causes, or the discovery of any potential differing site condition or Constituent of Concern.

13. *Payment Requests:* Review applications for payment with Contractor for compliance with the established procedure for their submission and forward with recommendations to PCCA, noting particularly the relationship of the payment requested to the schedule of values, Work completed, and materials and equipment delivered at the Site but not incorporated in the Work.

14. *Certificates, Operation and Maintenance Manuals:* During the course of the Work, verify that materials and equipment certificates, operation and maintenance manuals and other data required by the Construction Contract Documents to be assembled and furnished by Contractor are applicable to the items actually installed and in accordance with the Construction Contract Documents, and have these documents delivered to Engineer for review and forwarding to PCCA prior to payment for that part of the Work.

15. *Completion*:

a. Participate in Engineer's and PCCA's visits to the Site regarding Substantial Completion, assist in the determination of Substantial Completion, and prior to the issuance of a Certificate of Substantial Completion, submit a punch list of observed items requiring completion or correction.

b. Participate in Engineer's and PCCA's visit to the Site in the company of, PCCA, and Contractor, to determine completion of the Work, and prepare a final punch list of items to be completed or corrected by Contractor.

c. Observe whether all items on the final punch list have been completed or corrected, and make recommendations to Engineer and PCCA concerning acceptance and issuance of the Notice of Acceptability of the Work (**Exhibit E**).

D. Resident Project Representative shall not:

1. Authorize any deviation from the Construction Contract Documents or substitution of materials or equipment (including "or-equal" items).

2. Exceed limitations of Engineer's authority as set forth in this Agreement.

3. Undertake any of the responsibilities of Contractor, Subcontractors, or Suppliers, or any Constructor.

4. Advise on, issue directions relative to, or assume control over any aspect of the means, methods, techniques, sequences or procedures of the Work, by Contractor or any other Constructor.

5. Advise on, issue directions regarding, or assume control over security or safety practices, precautions, and programs in connection with the activities or operations of PCCA or Contractor.

6. Participate in specialized field or laboratory tests or inspections conducted off-site by others except as specifically authorized by Engineer and/or PCCA.

7. Accept Shop Drawing or Sample submittals from anyone other than Contractor.

EXHIBIT E
TO MASTER SERVICES AGREEMENT NO. 18-01

NOTICE OF ACCEPTABILITY OF WORK

PROJECT TITLE:

PCCA PROJECT NUMBER:

MASTER SERVICES AGREEMENT NO.:

SERVICE ORDER NO.:

DATE OF CONSTRUCTION AGREEMENT:

DATE OF NOTICE

To: Port of Corpus Christi Authority (PCCA)

And To: *(Insert name of Contractor)* (Contractor)

From: *(Insert name of Engineer)* (Engineer)

The undersigned (Engineer) hereby gives notice to PCCA and Contractor that the completed Work furnished and performed by Contractor under the above Contract is acceptable, expressly subject to the provisions of the related Construction Contract Documents and the terms and conditions set forth on the reverse side hereof. Engineer further recommends PCCA issue a Notice of Final Acceptance to the Contractor.

Engineer:_____

By:_____

Name:_____

Title:_____

Date:_____

CONDITIONS OF NOTICE OF ACCEPTABILITY OF WORK

The Notice of Acceptability of Work ("**Notice**") on the front side of this sheet is expressly made subject to the following terms and conditions to which all persons who receive said notice and rely thereon agree:

1. Said Notice is given with the skill and care ordinarily used by members of the engineering profession practicing under similar conditions at the same time and in the same locality.

2. Said Notice reflects and is an expression of the professional judgment of Engineer.

3. Said Notice is given as to the best of Engineer's knowledge, information, and belief as of the date hereof.

4. Said Notice is based entirely on and expressly limited by the Scope of Services Engineer has been employed by PCCA to perform or furnish during construction of the Project (including observation of the Contractor's Work) under Engineer's Agreement with PCCA and under the Construction Contract referenced on the reverse hereof, and applies only to facts that are within Engineer's knowledge or could reasonably have been ascertained by Engineer as a result of carrying out the responsibilities specifically assigned to Engineer under Engineer's Agreement with PCCA and the Construction Contract referenced on the reverse hereof.

5. Said Notice affirms Contractor's performance under the Construction Contract referenced on the reverse hereof but is not an assumption of responsibility for any failure of Contractor to furnish and perform the Work thereunder in accordance with the Construction Contract Documents.

6. Said Notice affirms that the design of the Project complies with all City of Corpus Christi building codes regardless of whether or not the Project is located within the city limits of the City of Corpus Christi.

EXHIBIT F
TO MASTER SERVICES AGREEMENT NO. _____

AMENDMENT TO SERVICE ORDER NO. _____

1. Background Data:

a. Commencement Date of Service Order:

b. PCCA:

c. Engineer:

d. Specific Project:

2. Description of Modifications

[Include the following paragraphs that are applicable and delete those not applicable to this amendment. Refer to paragraph numbers used in the Agreement or a previous amendment for clarity with respect to the modifications to be made. Use paragraph numbers in this document for ease of reference herein and in future correspondence or amendments.]

a. Engineer shall perform the following Services: [ ]

b. The Scope of Services currently authorized to be performed by Engineer in accordance with the Service Order and previous amendments, if any, is modified as follows: [ ]

c. The responsibilities of PCCA with respect to the Service Order are modified as follows: [ ]

d. For the additional services or the modifications to services set forth above, PCCA shall pay Engineer the following additional or modified compensation: [ ]

e. The schedule for rendering services under this Service Order is modified as follows: [ ]

f. Other portions of the Service Order (including previous amendments, if any) are modified as follows: [ ]

[List other Attachments, if any]

3. Service Order Summary (Reference only)

a.	Original Service Order amount:	$[ ]
b.	Net change for prior amendments:	$[ ]
c.	This amendment amount:	$[ ]
d.	Adjusted Service Order amount:	$[ ]

The foregoing Service Order Summary is for reference only and does not alter the terms of the Service Order.

PCCA and Engineer hereby agree to modify the above-referenced Service Order as set forth in this Amendment. All provisions of the Agreement and Service Order not modified by this or previous Amendments remain in effect. The effective date of this Amendment is _____.

PORT OF CORPUS CHRISTI AUTHORITY		ENGINEER:	
By:	_____	By:	_____
Title:	_____	Title:	_____
Date Signed:	_____	Date Signed:	_____

SERVICE ORDER
PORT OF CORPUS CHRISTI AUTHORITY
OF NUECES COUNTY, TEXAS
MASTER SERVICES AGREEMENT NO. 18-01

PROJECT NAME:	**New Oil Dock 20 – Initial Study & Cost Estimate**
PROJECT NO.:	**17-020A**
SERVICE ORDER NO.:	**1**
COMMENCEMENT DATE:	**January 16, 2018**

This Service Order is executed by any between the Port of Corpus Christi Authority of Nueces County, Texas ("**PCCA**") and Lanier & Associates Consulting Engineers, Inc. ("**Engineer**"). PCCA and Engineer agree that all of the Services authorized by this Service Order shall be subject to the terms and conditions of PCCA's Master Services Agreement No. 18-01 between PCCA and Engineer, as amended ("**Agreement**"). Upon execution of this Service Order, the Agreement shall be incorporated into and be considered part of this Service Order as if set forth herein in its entirety. Any capitalized terms in this Service Order that are not defined herein shall have the meanings given to them in the Agreement. If there is any inconsistency between the terms of this Service Order and the terms of the Agreement, the terms of this Service Order will control.

Engineer will provide the Services described in the Services of Engineer below in connection with the Specific Project described below.

1. Description of Specific Project:

The PCCA has entered into a lease with Maverick Terminals Corpus, LLC for the development of a 48-acre site in the Inner harbor located adjacent to the Tule Lake Channel that includes the possible construction of a new marine oil dock to support the loading and unloading of crude and petroleum products. The new dock will generally consist of a dock platform with space to accommodate loading arms, piping and equipment; dredging of a berth to accommodate various vessels from inland barges up to and including a Suezmax ship; dredging of a berth to accommodate up to a Very Large Crude Carrier as an option; breasting and mooring structures; parking and lighting; and associated equipment. PCCA has initiated the U.S. Army Corps of Engineers (USACE) Regulatory Permit for dredging and construction of Oil Dock 20.

2. Services of Engineer (Scope of Services)

A. The specific services to be provided or furnished by Engineer under this Service Order are

☑ set forth in "Part 1—Services" of **Exhibit A**, "*Engineer's Services for Service Order*," modified for this specific Service Order, and attached to and incorporated as part of this Service Order.

B. Resident Project Representative (RPR) Services: Not Applicable

C. Designing to a Construction Cost Limit: Not Applicable

D. Other Services: Not Applicable

3. PCCA's Responsibilities

PCCA shall have those responsibilities set forth in Section 5.01 of the Agreement.

4. Service Order Schedule

In addition to any schedule provisions provided in **Exhibit A** or elsewhere, the parties shall meet the following schedule:

Submittal Activity	***Anticipated Schedule***
Geotechnical Investigation Reports, Topographic Survey	30 days after NTP
Preliminary Design Basis Document	30 days after NTP
PCCA Provide Preliminary Comments to Engineer	15 days after Engineer submittal
Final Design Basis Document	15 days after PCCA comments
Conceptual Site Layout and Opinion of Probable Cost	30 days after Final Design Basis Document Submittal

Should PCCA not return comments and/or instructions in the time listed in the schedule, the Engineer's schedule for subsequent items will be extended by the same number of days by which PCCA comments or instructions exceed the scheduled review with no further recourse by the Engineer against PCCA.

5. Method of Compensation

A. PCCA shall pay Engineer for services rendered under this Service Order using the following method of compensation:

☐ Lump Sum plus Named Reimbursable Expenses, if any; or

☑ Standard Hourly Rates plus Reimbursable Expenses with a Ceiling Price.

B. If this is a Lump Sum Service Order, PCCA shall pay Engineer the following lump sum amount for the services described in this Service Order: $NA. In addition, PCCA shall reimburse Engineer for the following Named Reimbursable Expenses (if any): Not Applicable.

C. If this is an Hourly Rates Service Order, the Ceiling Price for this Service Order is $79,600.

Description of Service	Amount
Study and Report Phase (*A1.01 of Exhibit A*)	$79,600
CEILING PRICE	$79,600

D. The terms of payment are set forth in Article 4 of the Agreement.

6. Consultants retained or that will be retained as of the Commencement Date of the Service Order: TBD. See A.101 A.4

7. Other Modifications to the Agreement or the Exhibits to the Agreement: Not Applicable.

8. Insurance Requirements:

In addition to the standard insurance requirements set forth in Section 11.01 of the Agreement, Engineer shall maintain the following additional insurance coverage described in Section 11.02 of the Agreement for as long as Engineer is providing services under this Service Order:

☐	A.	Contractor's Pollution Liability	$2,000,000 per Occurrence
☐	B.	Railroad Protective Liability	$1,000,000 per Occurrence $2,000,000 Aggregate
☑	C.	Protective and Indemnity	$1,000,000 per occurrence

9. Exhibits or Attachments to this Service Order: Not Applicable.

10. Documents (other than the Agreement) Incorporated by Reference: Not Applicable.

11. Terms and Conditions

Execution of this Service Order by PCCA and Engineer shall make it subject to the terms and conditions of the Agreement (as modified above), which Agreement is incorporated by this reference. Engineer is authorized to begin performance upon its receipt of a copy of this Service Order signed by PCCA.

[Signature page follows this page]

IN WITNESS WHEREOF, each Party has executed this Service Order effective for all purposes as of the Commencement Date.

PCCA:

Port of Corpus Christi Authority

By:_____

Name: Sean C. Strawbridge

Title: Chief Executive Officer

Date Signed:_____

Address for giving notice:
222 Power Street
Corpus Christi, Texas 78401
Attention: Director of Engineering Services

PCCA's Designated Representative:

David L. Krams, P.E.

Title: Director of Engineering Services

Phone Number: 361.885.6134

Facsimile Number: 361.881.5164

E-Mail Address: krams@pocca.com

Engineer:

Lanier & Associates Consulting Engineers, Inc.

By:_____

Name: Richard Mestayer, P.E.

Title: Engineering Manager Civil/Structural

Date Signed: 01/10/2018

Address for giving notice:
4101 Magazine Street
New Orleans, LA 70115

Engineer's Designated Representative:

Karen Landry

Title: Chief Financial Officer

Phone Number: 504.895.0368

Facsimile Number: 504.895.0566

E-Mail Address: klandry@lanier-engineers.com

EXHIBIT A
ENGINEER'S SERVICES FOR SERVICE ORDER

PART 1—SERVICES

A1.01 *Study and Report Phase Services*

A. As Study and Report Services, Engineer shall:

1. Coordinate a kick-off meeting with PCCA staff, Maverick Terminals Corpus, LLC, and Aransas-Corpus Christi Pilots at PCCA offices to discuss information requirements, access for site visits, general scope of work, and process for developing the cost estimate. As needed progress meetings will be via teleconference.

2. Obtain and/or review any available bathymetric surveys, geotechnical reports, geological surveys, topographic surveys, record drawings, permits, or relevant studies or information that may pertain to the project.

3. Perform a one day hydrographic survey of the project area to support the development of the dredge plan, contours and dredge volumes required for the study.

4. Directly, or through a sub-consultant, obtain additional topographic survey information as necessary to support design work. Topographic survey shall be provided in Texas Lambert Grid Coordinates NAD 83-Texas South Zone 4205 and both NAVD 88 and MLLW datums and shall be tied to the PCCA's horizontal and vertical benchmark network as presented in the current PCCA Project Manual.

5. Prepare a Design Basis Document to identify operational needs and systems of the dock.

6. Determine the extent and volume of dredging necessary for the slip options.

7. Prepare and evaluate construction type alternatives and provide up to three (3) recommended alternatives for both Suezmax ship and VLCC with construction schedule.

8. Participate in pre-submission meeting at PCCA offices to discuss and finalize comments provided during reviews.

9. Prepare and submit AACE Class 5 Concept Screening level Opinions of Probable Construction Cost for up to three (3) alternatives submitted to accommodate both Suezmax ship and VLCC.

10. Prepare and submit AACE Class 3 Budget Authorization level Opinion of Probable Construction Cost for one alternative selected by PCCA to accommodate both Suezmax ship and VLCC.

11. Prepare and submit a conceptual site layout and present to the Authority, to include, but not limited to, location map, existing site conditions, site improvement plan illustrating coordination with adjacent improvements, dredging plan, dock structure, details and sections.

12. Evaluate alternative uses of dock as requested by PCCA.

A1.02 ***Preliminary Design Phase. Not Applicable***

A1.03 ***Final Design Phase. Not Applicable***

A1.04 ***Bidding or Negotiating Phase. Not Applicable***

A1.05 ***Construction Phase. Not Applicable***

A1.06 ***Post-Construction Phase. Not Applicable***

A1.07 ***Commissioning Phase. Not Applicable***

PART 2—OTHER SERVICES. Not Applicable.

PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: Danielle Hale
dhale@pocca.com
(361) 885-6612

Approve Professional Consulting Services Contract with Tetra Tech not to exceed the amount of $100,000 for FEMA Public Assistance Program Grant Management Services

SUMMARY: Staff is seeking Commission approval of a Professional Consulting Services contract for FEMA Public Assistance Program Grant Management Services (GMS). The requested services will be used for the preparation and submission of PCCA's FEMA grant applications and the management of such grants.

BACKGROUND: As a governmental entity, PCCA is eligible for FEMA Public Assistance (PA) Program funds under the Robert T. Stafford Disaster Relief and Emergency Assistance Act (42 U.S.C. 5121-5207). This Act authorizes the president to issue major disaster and emergency declarations after receiving a request from a state's governor. This declaration allows federal agencies to provide assistance to states overwhelmed by an adverse event, such as a hurricane, fire, flood, or explosion. The PCCA desires to enter into a contract with a qualified and experienced company that possesses the necessary resources and capability of providing FEMA GMS on short notice. The company would serve on a standby and as-needed basis. This experience will allow PCCA to maximize FEMA funding and expedite the process. Port Commission approved to solicit a request for proposals on October 17. The RFP was conducted and resulted in five (5) responses. Tetra Tech was determined to provide the best value to PCCA.

ALTERNATIVES: Task current PCCA staff with additional duties.

CONFORMITY TO PORT POLICY: This conforms to PCCA's procurement policy.

EMERGENCY: No.

FINANCIAL IMPACT: All efforts will be made to recover the cost associated with GMS within the grant application.

STAFF RECOMMENDATION: Staff recommends the Port Commission approve a Professional Consulting Contract with Tetra Tech not to exceed the amount $100,000.

DEPARTMENTAL CLEARANCES:

Originating Department	Port Security
Reviewed & Approved	Danielle Hale
Procurement	Lynn Angerstein
Legal	Used Standard Legal Template
Senior Staff	Tom Mylett
	Sean Strawbridge
	John LaRue

LIST OF SUPPORTING DOCUMENTS: Professional Consulting Contract

CONSULTING SERVICES CONTRACT

THIS CONTRACT (the "Contract") is made and entered into effective as of the 16th day of January, 2018 ("Effective Date") by and between the Port of Corpus Christi Authority of Nueces County, Texas ("Authority"), and Tetra Tech, Inc. ("Consultant"), each a "Party" and collectively as "Parties".

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

1. CONTRACT: Authority hereby engages the Consultant and the Consultant hereby accepts its engagement for the purpose of providing to Authority the consulting services ("Services") as are generally described in the "Scope of Services" set forth in Exhibit A to this Contract which is incorporated herein by reference.

2. PERIOD OF SERVICE: The Consultant shall complete the Services on or before December 31, 2020 (the "Deadline"), unless the Authority agrees to extend the Deadline for good reason; provided, however, that the Authority may terminate this Contract at any time in accordance with Section 14. Time is of the essence in performance of this Contract. There will be no obligation established between Authority and the Consultant for performance of the Services until Authority provides the Consultant execution of this Contract and receipt by the Authority of appropriate Certificates of Insurance and other documentation as may be required herein. The term of this Contract ("Term") shall begin on the Effective Date and shall end on the first to occur of the following: (1) the Deadline, as the same may have been extended by the Authority, (2) the date on which, in the opinion of Authority, all of the Services have been rendered, (3) the date on which this Contract is terminated by the Authority pursuant to Section 14, or (4) the date on which this Contract is terminated by the Consultant pursuant to Section 14.

3. COORDINATION OF SERVICES BY AUTHORITY: Authority shall designate a Project Representative who will, on behalf of Authority, coordinate with the Consultant and administer this Contract. It shall be the responsibility of the Consultant to coordinate all assignment-related activities with the Project Representative.

For the purposes of this Contract, the Project Representative shall be:

Danielle Hale, Manage of Emergency Services
222 Power St. Corpus Christi, TX 78401
(361) 885-6612
dhale@pocca.com

Authority may change the Project Representative at any time by giving the Consultant written notice of such change.

4. NOTICES: Notices, demands, requests or other formal communication related to the Contract shall be deemed to have been given when received, whether delivered personally or mailed. E-mail communications may be considered as formal notification provided the e-mail message states the message is intended as a formal notice and the receiving Party acknowledges receipt of the message as a formal notification. Notices shall be addressed as follows:

If to the Authority: Sean Strawbridge
Chief Executive Officer
Port of Corpus Christi Authority
222 Power Street
Corpus Christi, Texas 78401
E-mail: sstrawbridge@pocca.com

If to the Consultant: John Buri
Principal/Director of Post-Disaster Programs
2901 Wilcrest Dr.
Houston, TX 77042
E-mail: john.buri@tetratech.com

Either Party may change the mailing or E-mail address for notifications by providing written notice of such change to the other Party.

5. CHANGES: This Contract may be changed or modified at the request of either the Consultant or the Authority, provided both Parties agree to the requested change, and a written amendment or modification of this Contract is prepared and executed by the Parties.

6. CONSULTANT'S RESPONSIBILITIES: In addition to all other obligations contained herein, the Consultant agrees, warrants, and represents that:

6.1 The Consultant will furnish all material, equipment, labor and supplies in such quantities and of the proper quality to professionally and timely perform the Services, except as otherwise mutually agreed by the Parties;

6.2 The Consultant shall perform the Services with the professional skill and care ordinarily provided by competent consultants practicing in the same or similar locality and under the same or similar circumstances and professional license;

6.3 The Consultant will comply with the provisions of all federal, state, and local laws, regulations, ordinances, requirements and codes which are applicable to its performance of Services;

6.4 The Consultant is not and will not be bound by any agreement and has not assumed nor will assume any obligation which would, in any way, restrict its ability to perform the Services or be inconsistent with the Services;

6.5 In performing the Services, the Consultant will not use any third party's confidential or propriety information, or infringe the rights of another party, nor will the Consultant disclose to the Authority, or bring onto the Authority's premises, or induce the Authority to use any third party's confidential or proprietary information;

6.6 The Consultant does not have the authority to act for the Authority, bind the Authority in any respect, or incur any debts or liabilities in the name of or on behalf of the Authority, except as otherwise expressly authorized in writing by the Authority;

6.7 Consultant is an independent contractor for the performance of his duties under this Contract. Accordingly, the Consultant shall be responsible for payment of all taxes including federal, state and local taxes arising out of the Consultant's activities in accordance with this Contract. Consultant is responsible for payment of the compensation, including any withholding, Social Security, or other taxes on such compensation, of any subcontractors retained by Consultant, or Consultant's employees performing Services consistent with its status as an independent contractor and in compliance with all applicable laws and regulations;

6.8 Consultant has and hereby retains full control of any supervision over the Consultant's obligations hereunder and over any persons employed or subcontracted by the Consultant for performing Services hereunder;

6.9 Consultant will in no way be considered an agent, partner, joint venturer, or employee of Authority at any time during the Term. Consultant will not undertake to commit Authority to any course of action in relation to a third party unless expressly requested and authorized to do so by the Authority in writing.

6.10 As of the Effective Date and at all times while providing Services hereunder, the Consultant shall possess and maintain in good standing any and all licenses or other authorizations and approvals necessary to perform the Services.

7. COMPENSATION: The compensation to be paid Consultant for providing the Services shall be the compensation described in Exhibit B hereto, which is incorporated herein by reference; provided, however, the total paid to Consultant for the Services shall not exceed One Hundred Thousand Dollars ($100,000.00). Consultant will obtain the approval of Authority's Project Representative relative to incurring travel and other expenses before incurring such costs.

8. INVOICE PROCEDURE AND PAYMENT: Consultant shall submit invoices monthly to the Authority for work performed during the preceding calendar month. Such invoices shall be due and payable by Authority on or before thirty (30) days from receipt by Authority. Monthly compensation will be for the Services actually performed during the billing period, invoiced in accordance with the Fee Schedule included in Exhibit B. Invoices shall also describe any work performed by subcontractors retained by Consultant and reimbursable costs. Consultant will provide sufficient detail with each invoice to substantiate the requested amount of monthly payment. At the Authority's request, Consultant will provide additional backup such

as signed time sheets, invoices for materials and subcontracted service or other documentation sufficient to establish the accuracy of the invoices. Invoices are to be submitted in a format previously approved by Authority.

9. INSURANCE: Consultant shall procure and maintain at its sole expense, for as long as Consultant is obligated to provide Services under this Contract, the policies of insurance described in Exhibit C attached hereto and in at least the minimum amounts specified in Exhibit C to protect Consultant from claims which may arise out of or result from Consultant's Services pursuant to this Contract, whether such operations be by Consultant, by any subcontractor of Consultant, by anyone directly or indirectly employed by Consultant or Consultant's subcontractor, or by anyone for whose acts Consultant or Consultant's subcontractor may be liable. At least five (5) days prior to execution of this Contract, Consultant will provide to Authority's Risk Program Manager certificates of insurance issued by each insurance company providing any of the required insurance coverage, and the text entered in each certificate must be acceptable to Authority. The requirement to provide acceptable certificates of insurance is a material condition of this Contract, and work under this Contract will not commence until certificates of insurance have been received, reviewed, and accepted by Authority. The minimum limits of liability and coverage for the insurance required are set forth in Exhibit C attached hereto, which is incorporated herein by reference.

10. INDEMNIFICATION AND RELEASE. Consultant hereby releases and discharges Authority and its agents, servants, representatives, employees, officers, directors, and Port Commissioners (collectively, the "Authority Parties") from liability for and assumes the risk of loss or damage to the property of Consultant and the injury or death of any person employed by Consultant. Consultant shall defend, indemnify and hold harmless the Authority Parties from and against all damages, losses, costs and expenses, of any nature whatsoever, whether incurred as a judgment, settlement, penalty, fine or otherwise (including reasonable attorneys' fees and the cost of defense), in connection with any action, proceeding, demand or claim but only to the extent caused by the negligent acts, errors, or omissions of the Consultant, its employees, agents, or subconsultants, or others for whom the Consultant is legally liable, in the performance of Services under this Contract. The Consultant is not obligated under this paragraph to indemnify the Authority Parties for the negligent acts of the Authority Parties.

Consultant's indemnity obligations under this Section 10 shall not be limited by a limitation on the amount or type of damages, compensation or benefits owed by Consultant to any employee of Consultant under workers' or workmen's compensation acts, disability benefit acts, or other employee benefit acts. The obligations of the Consultant under this Section 10 shall survive the end of the Term of the Contract.

11. LIMITATION OF LIABILITY: Except as otherwise expressly provided herein, neither Party shall be liable or responsible to the other Party for any indirect, incidental or consequential loss or damage of any nature whatsoever (including, but not limited to, contract, negligence or tort liability) of the other Party, including without limitation, any actual or anticipated profits, loss of time, inconvenience, commercial loss or any other damages, even if the Party has advance notice of the possibility of such damages.

12. DISCLOSURE OF INTERESTED PARTITES: Consultant will comply with the provisions of Section 2252.908 of the Texas Government Code and Chapter 46 of the Texas Ethics Commission Rules by preparing a Texas Form 1295, "Certificate of Interested Parties" and submitting the signed and notarized form to Authority at the time Consultant submits the signed contract to Authority. This provision will only apply to contracts approved by the Port of Corpus Christi Authority Port Commission.

13. ASSIGNMENT: Neither Authority nor Consultant will assign or transfer its interest in this Contract without the written consent of the other.

14. SUSPENSION OR TERMINATION: Authority may suspend or terminate this Contract for convenience with seven (7) days prior written notice to Consultant of such action. Upon termination of this Contract in accordance with this paragraph, Authority will have no further obligation to the Consultant hereunder except to pay the Consultant unpaid fees and expenses which the Consultant can reasonably show to have been earned under this Contract. **Under no circumstances may Consultant claim or recover consequential damages from Authority.**

In the event of suspension of Services, the Consultant shall resume the full performance of the Services when directed in writing to do so by Authority. Suspension of the Services for reasons other than the Consultant's negligence or failure to perform shall not affect the Consultant's compensation as provided for in this Contract. The schedule for performance of the Services shall be amended by a mutually agreed, written modification to this Contract to reflect the suspension.

Either Party may terminate this Contract by giving written notice to the other Party if the other Party ("Defaulting Party"): (a) materially breaches any term, condition or provision of this Contract and fails to cure the breach to the satisfaction of the notifying Party within ten (10) days after the Defaulting Party receives a written notice of the breach from the notifying Party, or (b) becomes the subject of any proceedings under state or federal law for the relief of debtors or otherwise becomes insolvent, or bankrupt, or makes any assignments for the benefit of one or more creditors.

15. DISPUTES: Each Party agrees that any dispute between the Parties relating to this Contract will first be submitted in writing to a panel of two senior executives of the Authority and Consultant, who shall promptly meet and confer in an effort to resolve such dispute through good faith consultation and negotiation. Each Party's executive shall be identified by notice to the other Party, and may be changed at any time thereafter also by notice to the other. Any decisions of the executives will be final and binding on the Parties. In the event the executives are unable to resolve any dispute within thirty (30) days after submission to them, either Party may then refer such dispute to mediation.

If the Parties refer to mediation any controversy or claim arising out of or relating to this Contract or the existence, validity, breach or termination thereof, whether during or after its term, they shall select a mutually acceptable mediator within forty-five (45) days thereafter. Neither Party shall unreasonably withhold consent to the selection of a mediator. The Parties shall share

equally the costs of mediation. If the Parties agree, they may substitute other forms of alternative dispute resolution. Any mediation shall not extend beyond thirty (30) days after the appointment of the mediator, and should the Parties fail to resolve any dispute by mediation within such 30-day period, the Parties shall have all rights available at law or in equity.

16. ATTORNEY'S FEES, DEFAULT: In the event Consultant or Authority breach any of the terms of this Contract and the Party not in default employs attorneys to protect or enforce its rights hereunder and prevails, then the defaulting Party agrees to pay reasonable attorney's fees and costs incurred by the prevailing Party.

17. STAFFING: Consultant will designate in writing to Authority its project representative, and the manner in which it will provide staff support for the project, which must be approved by Authority. Consultant must notify Authority's Project Representative of any change in personnel assigned to perform work under this Contract, and the Authority's Project Representative has the right to reject the person or persons assigned to fill the position or positions. The Authority's Project Representative shall also have the right to require the removal of the Consultant's previously assigned personnel, including Consultant's project representative, provided sufficient cause for such removal exists. The criteria for requesting removal of an individual will be based on, but not limited to, the following: technical incompetence, inability to meet the position's qualifications, failure to perform, poor attendance, ethics violation, unsafe work habits, or damage to Authority or other property. Upon notice for removal, Consultant shall replace such personnel with personnel substantially equal in ability and qualifications for the positions and shall submit the proposed replacement personnel qualification and abilities to the Authority, in writing, for approval.

18. OWNERSHIP OF WORK PRODUCT: Studies, plans, reports, surveys, drawings, specifications, computations and other information (collectively "Work Product") and documents prepared by the Consultant, subconsultants, and/or suppliers under this Contract will remain the Authority's property upon completion. This provision does not apply to pre-existing proprietary information of Consultant, subconsultants, and/or suppliers.

19. CONFIDENTIAL INFORMATION: It is understood that information developed by or communicated to Consultant in the performance of this Contract, as well as any and all information in whatever form or medium supplied to Consultant in connection herewith which is not generally available to the public is proprietary to the Authority and constitutes confidential information of the Authority. Consultant will make no oral or written disclosure of such information to third parties either during or after the term of this Contract, except as approved in writing by the Authority's Project Representative or as otherwise required by law. In the event the Consultant becomes aware that confidential information must be disclosed under a legal requirement, Consultant will notify Authority of the requirement and the affected information.

20. FORCE MAJEURE: Neither Party shall be considered in default in the performance of its obligations hereunder to the extent that the performance of such obligation is delayed by any cause beyond the reasonable control of the affected Party. In the event of such a delay, the time for performance for the affected Party shall be extended for a period equal to the

time lost during the delay, or the Contract may be terminated in accordance with terms herein should such delay be sufficient that termination is in the best interest of the Authority.

21. SEVERABILITY and WAIVER: If any part of this Contract is held to be invalid, illegal, or unenforceable in any respect, such determination shall not affect any other provision of this Contract, and this Contract shall then be construed as if the invalid, illegal, or unenforceable provision had not been included in this Contract. Further, the failure of either Party in any one or more instances to insist upon strict performance of any of the terms and provisions of this Contract or to exercise any option herein conferred shall not be construed as a waiver or relinquishment to any extent of the right to assert or rely upon any such terms, provisions or options on any future occasion.

22. GOVERNING LAW: This Contract shall be governed by and construed in accordance with the laws of the State of Texas. The Parties agree that venue of all claims and lawsuits arising out of this Contract shall lie in Nueces County, Texas.

23. OPEN RECORDS: The Authority is a governmental body subject to the requirements of the Texas Public Information Act (Texas Government Code, chapter 552), and as such the Authority is required to disclose to the public (upon request) this Contract and certain other information and documents relating to the consummation of the transactions contemplated hereby. In this regard, the Consultant agrees that the disclosure of this Contract or any other information or materials related to the consummation of the transactions contemplated hereby to the public by the Authority as required by the Texas Public Information Act or any other applicable law will not expose the Authority (or any party acting by, through or under the Authority) to any claim, liability or action by the Consultant.

24. NO ORGANIZATIONAL CONFLICT OF INTEREST: Consultant hereby certifies that it has no actual or potential Organizational Conflict of Interest. "Organizational Conflict of Interest" means that because of other activities or relationships with other persons or entities, the Consultant is unable or potentially unable to render impartial assistance or advice to Authority or the Consultant's objectivity in performing the services under this Contract is or might otherwise be impaired. Consultant agrees to immediately notify Authority of any actual or potential Organizational Conflict of Interest that develops during the term of this Contract. Consultant agrees that Authority may terminate this Contract immediately if it becomes aware of any Organizational Conflict of Interest during the term of the Contract.

25. DEFAMATION: The Parties covenant and agree that in no event, and at no time during the Term or at any time thereafter, shall either of them disparage, denigrate, slander, libel or otherwise defame the other or the other's businesses, services, properties or assets, or employees, personnel, agents, or representatives.

26. HEADINGS: All Section headings or other titles used in this Contract are used solely for convenience and shall not affect or be used in connection with the interpretation or construction of this Contract.

27. ENTIRETY OF CONTRACT: This writing embodies the entire Contract and understanding between the Parties hereto, and there are no other contracts or understandings, oral or written, between them with reference to the subject matter hereof that are not merged herein and superseded hereby. No alteration, change, or modification of the terms of this Contract shall be valid unless made in writing and signed by both Parties hereto.

[Signature page follows this page]

IN WITNESS WHEREOF, this Contract is made effective as of the Effective Date.

PORT OF CORPUS CHRISTI AUTHORITY OF NUECES COUNTY, TEXAS

By: _____
Name: Sean Strawbridge
Title: Chief Executive Officer
Date: _____

"Authority"

INSERT COMPANY NAME

By: _____
Name: _____
Title: _____
Date: _____

"Consultant"

EXHIBIT A

SCOPE OF SERVICES

The Consultant will perform the following services in accordance with the terms and conditions set forth in this Contract:

1. Grant Management Tasks:

   a. Onsite access requires a valid Transportation Worker Identification Credential (TWIC card) or appropriate escort as required.
   b. Provide general grant management services to research, develop, submit, and manage FEMA GMS
   c. Oversee the administration of FEMA GMS to ensure compliance with requirements and all applicable rules and regulations imposed
   d. Draft and review Project Worksheets for clarity and completeness, adequacy of the proposed approach and justification of requirements
   e. Assist in the development of a disaster recovery team
   f. Assist in the development of a comprehensive recovery strategy
   g. Assist in the development of policies and procedures for FEMA GMS and implement improvements as needed
   h. Provide advice to the disaster recovery team as appropriate; participate in meetings
   1. Prepare draft correspondence as necessary to applicable agencies (including State of Texas, FEMA, and/or COE)
   j. Assist in developing of mitigation proposals under Sections 404 and 406 of the Stafford Act Coordinate and submit Requests for Alternate or Improved Projects, Expedited Payments and/or Immediate Needs Funding, Time Extensions, Quarterly Reports
   k. Establish and maintain files for individual projects through a database or electronic equivalent
   l. Itemize and summarize eligible expenditures through a spreadsheet or electronic equivalent
   m. Collaborate with Accounting Department to ensure eligible expenditures are properly recorded and accounted for
   n. Assist with the preparation and coordination of internal, external, and agency audits
   o. Assist with the preparation and submission of required reports including, but not limited to, financial reports, programmatic reports, close-out reports, etc. Assist in the handling of classified, sensitive, and proprietary information supporting the operations of the organization

p. Assist in all program adjustments and/or revisions necessary
q. Assist in all financial adjustments and/or revisions necessary

2. Eligibility Tasks:

a. Review eligibility issues and work with PCCA to develop justifications for presentation to FEMA and the State of Texas
b. Assist in developing effective methods for identifying, capturing/documenting, summarizing, and tracking of eligible facilities, work, and costs and duplication of benefits
c. Review contracts and purchasing documentation
d. Review documentation prepared/provided by departments
e. Assist PCCA departments with compiling and summarizing Category A through G costs for presentation to FEMA and the State of Texas
f. Assist in the preparation of Project Worksheets for small and large projects based upon information provided by departments
g. Attend meetings with PCCA, State of Texas, and FEMA to negotiate individual Project Worksheets as needed.
h. Provide oversight and assistance to departments having difficulty with claim documentation
1. Assist in determining if any eligible damages have not been quantified and presented to inspectors/ Project Managers
J. Assist in the resolution of disputes that may arise
k. Address issues related to inter-agency funding conflicts
l. If PCCA disagrees with FEMA determinations, assist to strategize and write appeals
m. When PCCA has completed all projects and drawn down reimbursement for all eligible costs, assist with finalizing preparations for State/FEMA final inspections and audits, and participate in exit conferences with State/FEMA

3. Engagement Management Tasks:

a. Prepare program management plan
b. Prepare weekly summary reports
c. Attend planning and progress update meetings

EXHIBIT B

FEE SCHEDULE

The Consultant will perform the Services described in Exhibit A in accordance with the terms and conditions of this Contract on a fixed rate or an hourly fee basis; provided, however, that the total fee for services rendered under this Contract will not to exceed $_____, without Authority's written approval. Services provided by Consultant will be billed as specified in Exhibit B. These fees will cover all of Consultant's overhead costs, including but not limited to, office rent, long distance telephone charges, postage, payroll and copying charges.

The Authority agrees to reimburse the Consultant for certain authorized and approved travel expenses incurred by the Consultant during the Term and directly resulting from the Consultant's performance of the Services under this Contract. Reimbursement for lodging and meals may not exceed the maximum allowable per diem rates for domestic or foreign travel as set by the U.S. Department of Defense, Defense Travel Management Office. Lodging and meal per diem rates for specific locations (foreign and domestic) may be found at: http://www.defensetravel.dod.mil/site/perdiemCalc.cfm. Authority will also reimburse the Consultant for Direct Costs incurred by the Consultant in performing the Services. The Consultant shall submit proper documentation of any such approved travel expenses and Direct Costs to Authority from time to time, and such costs and expenses shall be billed to Authority at Consultant's actual cost.

Not later than the twentieth (20th) day of each calendar month, Consultant shall submit to Authority detailed invoices for all services performed and Direct Costs incurred, if any, pursuant to this Agreement during the prior calendar month. The invoices shall describe in detail the Services performed during the prior month and shall list the days and hours worked, approved Direct Costs, milestone achievements, tasks performed or completed, and the Services performed during each day of the prior month. Authority shall review the invoices and notify Consultant in writing (including email) within twenty (20) days of any disputed amounts.

Should this Contract be terminated for any reason, the Consultant will be paid all fees earned up to the termination date and any approved direct expenses incurred.

EXHIBIT C

INSURANCE

Without limiting the indemnity obligations or liabilities of Consultant or its insurers, provided herein, Consultant agrees to carry and maintain at its sole expense policies of insurance ("the Policies") of the types and in the minimum amounts as follows:

	TYPE OF INSURANCE	LIMITS OF LIABILITY
A.	Workers' Compensation	Statutory
B.	Employer's Liability	$1,000,000 per Occurrence $1,000,000 Aggregate
C.	Commercial General Liability	$1,000,000 per Occurrence $2,000,000 Aggregate

The CGL Policy will provide contractual liability coverage at the aforementioned limits.

D.	Business Automobile Liability	$500,000 per Occurrence

Automobile liability insurance coverage will include all owned, non-owned, and hired vehicles.

E.	Professional Liability	$1,000,000

Consultant will procure and maintain professional liability insurance for protection from claims arising out of performance of its Services under this Contract caused by any error, omission, or act for which the Consultant is legally liable. Policies written on a claims-made basis shall have an extended reporting period of at least two (2) years beyond termination of the Contract.

Each policy, except Professional Liability, must contain an endorsement to the effect that the issuer waives any claim or right of subrogation to recover against the Authority, its Port Commissioners, officers and employees ("Authority Parties"). Additionally, the Authority Parties shall be designated as an Additional Insured either by a blanket additional insured or a specific endorsement on all policies, except for Worker's Compensation, Employer's Liability, and Professional Liability. In the event that the work of Consultant's employees fall within the purview of the United States Longshoremen's and Harbor Workers' Compensation Act, the Jones Act or the Federal Employer's Liability Act, Consultant shall extend its insurance coverage to provide insurance against the liabilities imposed under the applicable Act or Acts.

Each policy, except Workers' Compensation and Professional Liability, must contain an endorsement that the policy is primary to any other insurance available to the Additional Insureds with respect to claims arising under this Contract.

The insurance required as listed above, shall apply to any contractor or subcontractor performing for or on behalf of Consultant, and Consultant shall ensure that any such subcontractor is aware of and is in compliance with the insurance requirements during any period such contractor is performing work under this Contract.

The minimum insurance required may be increased periodically upon request by Authority to commercially reasonable limits. The company writing each of the Policies must possess a current rating with A.M. Best Company of at least "A-, VII".

Consultant's liability shall not be limited to the specified amounts of insurance required herein.

PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: Rosie Collin
rosie@pocca.com
(361) 885-6115

Approve Annual Development Services Agreement For South Texas Military Facilities Task Force 2018

The Texas Water Code allows the Port of Corpus Christi Authority to spend monies from the Promotion and Development Fund to pay expenses connected with any activity or matter incidental to the advertising, development, or promotion of the Port Authority or its ports, waterways, harbors, or terminals, or furthering the general welfare of the Port Authority and its facilities. We pay these organizations for their services and assistance in promoting the development of the Port of Corpus Christi in accordance with the terms of the Development Services Agreement we have with each organization.

The amount budgeted to be paid to South Texas Military Facilities Task Force under the Development Services Agreement for 2018 is $75,000.00, the same amount approved in 2017.

ALTERNATIVES: None

CONFORMITY TO PORT POLICY: Yes

EMERGENCY: No

FINANCIAL IMPACT: N/A

STAFF RECOMMENDATION: Staff recommends approval of Annual Development Services Agreement for the year 2018.

DEPARTMENTAL CLEARANCES:

Originating Department	Community Relations
Reviewed & Approved	Procurement Services, Lynn Angerstein
Legal	Jimmy Welder / Dane Bruun
Senior Staff	Jarl Pedersen
	Dennis DeVries
	Sean Strawbridge
	John LaRue

LIST OF SUPPORTING DOCUMENTS: 2018 Development Services Agreement

PORT DEVELOPMENT SERVICES AGREEMENT
2018

This Port Development Services Agreement ("Agreement") is made and entered into effective as of January 1, 2018 (the "Effective Date"), by and between the PORT OF CORPUS CHRISTI AUTHORITY OF NUECES COUNTY, TEXAS (the "Port"), and the SOUTH TEXAS MILITARY FACILITIES TASK FORCE, a Texas non-profit corporation (the "Provider").

RECITALS:

Whereas, the Port is a political subdivision of the State of Texas, operating as a navigation district pursuant to Article XVI, Section 59 of the Texas Constitution and the laws of the State of Texas, particularly, Chapters 60 and 62 of the Texas Water Code (the "Water Code"); and

Whereas, under Section 60.202 of the Water Code, the Port may set aside out of current income from its operations a promotion and development fund ("Development Fund") of not more than five percent (5%) of its gross income from operations in each calendar year; and

Whereas, Section 60.203 of the Water Code provides that money in the Development Fund shall be spent by the Port Commission (*i.e.*, the governing body of the Port) or as the Port Commission may direct to pay any expenses connected with *(1)* any activity or matter incidental to the advertising, development, or promotion of the district or its ports, waterways, harbors, or terminals; *(2)* furthering the general welfare of the district and its facilities; or *(3)* the betterment of the district's relations with steamship and rail lines, shippers, consignees of freight, governmental officials, or others interested or sought to be interested in [its] ports, waterways, harbors, or terminals; and

Whereas, Section 60.003 of the Water Code provides that a district may contract with any person necessary or convenient to the operation or development of the district's ports and waterways; and

Whereas, the Port wishes to engage the Provider to provide the professional services and related items described in Exhibit A attached to this Agreement ("Exhibit A") and incorporated herein; and

Whereas, the Port Commission believes that the expenditure of Port funds pursuant to this Agreement is consistent with the authority granted to the Port Commission in Section 60.203 of the Water Code; and

Whereas, the Provider wishes to provide the professional services and related items described in Exhibit A on the terms and for the consideration described in this Agreement;

NOW, THEREFORE, for and in consideration of the mutual covenants, rights, and obligations set forth herein and the benefits to be derived therefrom, the receipt and sufficiency of which each party acknowledges, the parties agree as follows:

1. Term. The term of this Agreement shall commence on the Effective Date and shall continue until the following December 31st, unless sooner terminated as provided in this Agreement.

2. Development Services. During the term of this Agreement, the Provider agrees to provide to or on behalf of the Port the professional services and related items described in Exhibit A (collectively, the "Development Services") in accordance with the terms and conditions of this Agreement. The Provider specifically agrees to include at least one Port representative in any economic development negotiations or discussions in which the Provider is involved concerning *(i)* a port-related business prospect or *(ii)* a business transaction which will ultimately require Port involvement, financial or otherwise.

3. Consideration. In consideration of the Development Services to be provided hereunder, the Port agrees to pay the Provider the total sum of Seventy-Five Thousand and No/100 Dollars ($75,000.00) (the "Contract Amount") as follows: *(i)* 20% of the Contract Amount shall be payable to Provider within ten (10) days after the execution of this Agreement by both parties; and *(ii)* the balance of the Contract Amount shall be payable to Provider in four equal quarterly installments of 20% of the Contact Amount, each on or before the last days of March, June, September, and December during the term of this Agreement. The Provider agrees that any funds paid to it pursuant to this Agreement will be utilized solely for the purpose of providing Development Services.

4. Place for Payment. The funding required under this Agreement shall be mailed to the Provider at its address specified in Section 9 below, unless the Provider makes other arrangements for payment that are satisfactory to the Port.

5. Quarterly Reports. On a quarterly basis, the Provider shall submit to the Port a written activity report (the "Activity Report") of its Development Services and accomplishments for that particular quarter. Except as otherwise provided in this Section, the form of the Activity Report shall include, at a minimum, a narrative summary of the Development Services rendered during the quarter, a summary of year-to-date expenditures incurred by the Provider in providing the Development Services, information regarding the current status of any prospective new port-related business generated by the Provider, information regarding the current status of any prospective expansion of any existing port-related business generated by the Provider, and any other information which is reasonably requested by the Port pertaining to the Development Services. Notwithstanding anything to the contrary contained in this Section 5, the Provider may exclude Confidential Information from an Activity Report if the Provider gives an oral report of the Confidential Information to the Port's Executive Director or his designee contemporaneously with the delivery of the Activity Report from which such Confidential Information was excluded. For purposes of the preceding sentence, "Confidential Information" means *(i)* information regarding the current status of any prospective new port-related business generated by the Provider, if disclosure of such information to the public would, in the opinion of the Provider, jeopardize the realization of such business or *(ii)* information regarding the current status of any prospective expansion of any existing port-related business generated by the Provider, if disclosure of such information to the public would, in the opinion of the Provider, jeopardize the realization of such expansion.

6. Records. The Provider shall maintain fiscal records and supporting documentation in the form of cancelled checks, payroll records, and invoices evidencing the expenditure of all funds received by the Provider pursuant to this Agreement. The Provider agrees to maintain proper accounting records reflecting the receipt and expenditure of funds paid to it by the Port pursuant to this Agreement in sufficient detail that a reasonable person could from a review of such records determine how all such funds were expended. Upon written request to do so, the Provider shall give the Port or its duly authorized representatives, at any reasonable time or times, access to all books, accounts, records, files or other papers belonging to or used by the Provider in connection with its performance of the Development Services. Failure to provide access to the foregoing documents shall constitute a breach of this Agreement by the Provider. The Provider agrees to keep in its possession for at least three (3) years after the termination of this Agreement all of the records described in this Section.

7. Performance Review. The Port may conduct a performance review on a semi-annual basis to evaluate the Provider's compliance with the provisions of this Agreement.

8. Early Termination. The Port shall have the right to terminate this Agreement any time prior to the expiration of the term specified in Section 1 if the Port determines that the Provider has breached or otherwise failed to comply with any terms of this Agreement. The Port shall give the Provider written notice of such termination at least thirty (30) days prior to the date of such termination. The notice shall include the reasons for such termination and the effective date of the termination. Furthermore, either party may terminate this Agreement at any time for any reason by giving written notice to the other party at least ninety (90) days prior to the termination date specified in such notice. Upon termination of this Agreement, the Port shall be liable to the Provider only for sums earned by the Provider prior to the date of termination.

9. Notices. All notices given pursuant to this Agreement shall be in writing, and if sent by mail shall be sent by certified mail, return receipt requested, postage prepaid, or by overnight delivery service, or by facsimile or electronic transmission as addressed below:

If to the Port:

Executive Director
Port of Corpus Christi Authority
P.O. Box 1541
Corpus Christi, Texas 78403
Ph: (361) 882-5633
Fax: (361) 882-7110

If to the Provider:

President & CEO
United Corpus Christi Chamber of Commerce
1501 N. Chaparral
Corpus Christi, Texas 78401
Ph: (361) 881-1800
Fax: (361) 882-4256

or to such other address as may be designated in writing from time to time. All notices sent by certified mail are deemed received on the third business day after mailing. All notices sent by overnight delivery are deemed received on the next business day after being sent. All notices sent by facsimile or electronic transmission are deemed received on the day sent. Any party may change its address by giving notice to all other parties as set out herein.

10. Source of Funds. Any payments made to the Provider by the Port pursuant to this Agreement shall be made with funds in the Port's Development Fund.

11. Appropriations. Notwithstanding anything to the contrary contained in this Agreement, the parties acknowledge and understand that this Agreement is contingent upon the appropriation of funding by the Port Commission.

12. No Conflict of Interest. The Port and Provider each state independently that to the best of its knowledge no member of the Port Commission nor any officer, employee, or agent of the Port who will exercise any function or responsibility in connection with the carrying out of the provisions of this Agreement has any personal financial interest, direct or indirect, in this Agreement.

13. No Joint Enterprise or Liability. The parties do not intend, by entering into this Agreement, to create a partnership or joint enterprise with each other, and the Port shall at no time be responsible or liable for the acts of the Provider or the Provider's agents or employees. In no event shall the Port be liable *(i)* for the performance of any contracts made by the Provider with any other person or entity or *(ii)* for any damages, injuries, or losses charged to or adjudged against the Provider arising from its operations or the use or maintenance of its facilities. The Provider will be responsible for all costs and expenses incurred by it in providing the Development Services hereunder, and the Port shall be under no obligation to provide any additional funding or incur any other costs or expenses in connection with the Development Services beyond the Contract Amount.

14. Indemnity. The Provider agrees to defend, indemnify and hold harmless the Port, its Port Commissioners, employees and representatives for any claims or losses of any kind incurred by any of them because of or arising out of the Development Services performed by the Provider pursuant to this Agreement.

15. Confidential Information. The Provider agrees that any information given to the Provider by the Port concerning the financial or other affairs of the Port while in pursuit of the Provider's obligations under this Agreement will be held by the Provider in confidence and will not be revealed to any other person, entity or governmental body without the express written consent of the Port.

16. Severability. If any provision of this Agreement is held to be invalid, unconstitutional, or unenforceable by any court of competent jurisdiction, the other provisions of this Agreement will remain in full force and effect. Any provision of this Agreement held to be invalid, unconstitutional, or unenforceable only in part or degree will remain in full force and effect to the extent not held invalid, unconstitutional, or unenforceable.

17. No Waiver of Rights. It is understood and agreed that no failure or delay in exercising any right, power or privilege hereunder shall operate as a waiver thereof, nor shall any single or partial exercise thereof preclude any other or further exercise thereof or the exercise of any right, power or privilege under this Agreement.

18. Governing Law and Venue. This Agreement shall be governed by and construed in accordance with the laws of the State of Texas. Venue for any action brought under this Agreement lies in Nueces County, Texas, exclusively.

19. Execution in Counterparts. This Agreement may be executed in any number of counterparts, each of which when so executed shall be deemed to be an original and all of which taken together shall constitute but one and the same agreement.

20. Assignments and Successors. No party may assign any of its rights or delegate any of its obligations under this Agreement without the prior written consent of the other party. Subject to the preceding sentence, this Agreement will apply to, be binding in all respects on and inure to the benefit of the successors and permitted assigns of the parties.

21. Headings. The titles and headings in this Agreement are used only for reference, and in no way define or limit the scope or intent of a provision of this Agreement.

22. Compliance with Applicable Laws. The Provider agrees to comply with all applicable federal, state and local laws and regulations while performing the Development Services.

23. Special Terms and Conditions. Any special terms and conditions pertaining to the subject matter of this Agreement are set forth in Exhibit B attached hereto, which is incorporated herein.

24. Entire Agreement and Modification. This Agreement supersedes all prior agreements between the parties with respect to its subject matter. This Agreement constitutes a complete and exclusive statement of the terms of the agreement between the parties with respect to the subject matter of this Agreement. There are no written or oral representations or understandings that are not fully expressed in this Agreement. This Agreement may not be amended, supplemented, or otherwise modified except by written agreement executed by the party to be charged with the change.

[*The signature page follows this page*]

IN WITNESS WHEREOF, the Port and Provider, acting under the authority of their respective governing bodies, have caused this Agreement to be executed by their duly authorized representatives on the dates set forth below, but effective for all purposes as of the Effective Date.

PORT:

PORT OF CORPUS CHRISTI AUTHORITY OF NUECES COUNTY, TEXAS

By:_____
John P. LaRue
Executive Director

Date:_____

PROVIDER:

UNITED CORPUS CHRISTI CHAMBER OF COMMERCE

By:_____

Name:_____

Title:_____

Date:_____

EXHIBIT A

DEVELOPMENT SERVICES AND RELATED ITEMS

The Development Services to be provided to the Port by the Provider shall include the following:

1. The Provider will obtain professional representation in Washington D.C. and other locations to further the PCCA's interest to stimulate, encourage, and develop business location and commercial activity; including preparation and implementation of strategic plans for maximum utility of area military facilities – NAS Corpus Christi, the Corpus Christi Army Depot, and NAS Kingsville; and promoting or advertising the county and its vicinity by in-person presentation in other areas of the country for the economic benefit of Corpus Christi and surrounding areas within Nueces County.

2. The Provider will supervise such professional representation and ensure compliance with all necessary registrations and reporting requirements to appropriate governmental agencies.

3. The Provider will prepare briefing materials and conduct briefings in Washington, D.C. and elsewhere as to the value of the area military complex to the Department of Defense.

4. The Provider will host such receptions and meetings as the Provider deems useful in establishing favorable relations with members of Congress and the Executive Branch of Government and undertake such other efforts as it deems necessary to preserving and expanding the Corpus Christi Bay Area military facilities.

5. The Provider will report regularly to the Port on the activities of the Provider and the expenditure of funds from the special account.

6. The Provider will cause their funding under this agreement to be segregated from any activities which the Provider may undertake that are unrelated to the above described efforts. All such funds shall be maintained in a bank account separate and apart from the general account of the United Corpus Christi Chamber of Commerce.

EXHIBIT B

SPECIAL TERMS AND CONDITIONS

The Provider also agrees that the Port will receive the following advertising services and benefits without any additional cost to the Port:

1. The Port shall be a member of the Provider during the term of this Agreement without having to pay any dues.

2. The Port shall have the status of an annual meeting sponsor at no additional cost to the Port.

3. The Provider shall prepare newsletter articles on community involvement, support, and initiatives in collaboration with Port staff.

4. The Port shall be recognized as a Provider member on the Provider's website, the Port's logo shall be displayed on the Provider's website, and the Provider's website shall contain a hyperlink to the Port's website under the Port's logo.

5. The Port shall have voting representation on the Board of Directors.

PORT CORPUS CHRISTI

AGENDA MEMORANDUM

Action Item for Port Commission Meeting of January 16, 2018

DATE: January 16, 2018

TO: Port Commission

FROM: Darrin Aldrich, Director of Real Estate
Darrin@pocca.com
(361) 885-6169

Approve a Pipeline Easement Agreement with POTAC, LLC for Nine (9) Pipelines Crossing the Tule Lake Channel and the South Shore Dredge Material Placement Area (Cell C) Together with a 200' X 300' Surface Site Situated Along the East Side of Mike Carrell Road.

SUMMARY: On June 16, 2015 the Port of Corpus Christi Authority (PCCA) granted a Dock Use Agreement to Gravity Midstream Corpus Christi, LLC (Gravity) granting Gravity a Second Priority Docking Right for use of Public Oil Dock 14 (Ship Dock). As part of the Dock Use Agreement PCCA agreed to grant Gravity a pipeline easement on PCCA property for one or more pipelines to allow Gravity to connect its refinery assets to the Ship Dock. POTAC, LLC is successor in title to Gravity and POTAC has presented a final routing of the necessary pipelines as shown on the attached Memo Exhibit described in the Pipeline Easement Agreement attached.

BACKGROUND: The first phase of the POTAC, LLC pipeline project is to connect the POTAC refining assets (the former Trigent Refinery) on the South side of the Tule Lake Channel to a 200' X 300' above ground pipeline station located on the North side of the Tule Lake Channel. For the second phase of the project, PCCA will grant an additional easement agreement for an extension of the pipelines to Public Oil Dock 14. The easement for the second phase will be presented to the Port Commissioners once final design of that phase of the project is complete.

ALTERNATIVES: Do not approve or require alternate routing.

CONFORMITY TO PORT POLICY: This project is consistent with the PCCA Strategic Plan (Strategic Goal #2 – Provide facilities and services to meet customer needs to provide surface infrastructure and services to support maritime and industrial development).

EMERGENCY: N/A

FINANCIAL IMPACT: $269,008.66 for the first ten years for all nine (9) pipelines and the surface site.

STAFF RECOMMENDATION: Staff recommends approval of the pipeline easement with POTAC, LLC.

DEPARTMENTAL CLEARANCES:

Originating Department	Real Estate
Reviewed & Approved	Darrin Aldrich Kent Britton David Krams, P.E
Legal	Bruce Hawn
Senior Staff	John LaRue Sean Strawbridge Jarl Pedersen

LIST OF SUPPORTING DOCUMENTS:

Memo Exhibit
Pipeline Easement Agreement
Pipeline Easement Agreement Summary

FIRST AMENDMENT TO CONSULTING SERVICES CONTRACT

This First Amendment to Consulting Services Contract (the ***"Amendment")*** is made effective as of January 16, 2018 ***("Amendment Date")*** by and between the Port of Corpus Christi Authority of Nueces County, Texas, a navigation district operating under Article XVI, Section 59 of the Texas Constitution ***("Authority"),*** and Nova Infrastructure, LLC ***("Consultant").*** Authority and Consultant are sometimes individually referred to herein as a ***"Party"*** and collectively as the ***"Parties".***

WHEREAS, Authority and Consultant entered into a Consulting Services Contract dated December 6, 2017 (the ***"Agreement"),*** under the terms of which the Consultant agreed to perform the services described in the Scope of Services attached to the Agreement as **Exhibit A*;*** and

WHEREAS, the Authority and Consultant have agreed to increase the compensation payable to Consultant under the Agreement to include a success fee;

NOW, THEREFORE, for a good and valuable consideration, the Parties hereby agree as follows

A. **Exhibit B** of the Agreement shall be deleted and replaced with **Exhibit B** to this Amendment.

B. This Amendment shall be binding on the successors and assigns of the Parties

C. Except as specifically amended hereby, all terms and conditions of the Agreement shall remain in full force and effect. In the event of any conflict between the terms and conditions of this Amendment and the terms and conditions of the Agreement, the terms and conditions of this Amendment shall control.

D. This Amendment maybe executed in multiple counterparts, each of which will be considered to be an original. Signature pages may be detached from the counterparts and attached to a single copy of this document to physically form one document. The Parties may provide signatures to this Amendment by facsimile or Adobe ".pdf" file and such facsimile or Adobe ".pdf" file signatures shall be deemed to be the same as original signatures.

[Signature Page Follows]

In Witness Whereof, the Parties have caused this Amendment to be executed by their duly authorized representatives effective for all purposes as of the 16th day of January, 2018.

PORT OF CORPUS CHRISTI AUTHORITY OF NUECES COUNTY, TEXAS

By: _____

Name: Sean Strawbridge
Title: Chief Executive Officer
Date: _____

"Authority"

NOVA INFRASTRUCTURE, LLC

By: _____

Name: Chris Beall
Title: Managing Partner
Date: _____

"Consultant"

EXHIBIT B

FEE SCHEDULE

The Consultant will receive fees structured as follows:

- Retainer of $15,000 per month: valid for three consecutive months, commencing upon execution of the Contract, with renewal option available at the discretion of the Authority;

- Travel and business expenses up to $4,999 with approval of the Authority;

- A success fee equivalent to 50 bps of the value paid at financial close of any purchase by Authority of Desalination Assets (not including real estate) in the M&G Bankruptcy (Case No. 17-12307); however, the success fee shall not exceed $277,500; and

- A success fee equivalent to 50 bps of the value paid at financial close of any purchase by Authority of real estate assets in the M&G Bankruptcy (Case No. 17-12307); however, the success fee shall not exceed $70,000.

The Consultant will perform the Services described in Exhibit A in accordance with the terms and conditions of this Contract on a fixed rate fee basis; provided, however, that the total fee for services and reimbursable expenses rendered under this Contract will not to exceed $49,999, plus one, both or neither of the above success fees, without Authority's written approval. Services provided by Consultant will be billed as specified in Exhibit B. These fees will cover all of Consultant's overhead costs, including but not limited to, office rent, long distance telephone charges, postage, payroll and copying charges.

The Authority agrees to reimburse the Consultant for certain authorized and approved travel expenses incurred by the Consultant during the Term and directly resulting from the Consultant's performance of the Services under this Contract. Reimbursement for lodging and meals may not exceed the maximum allowable per diem rates for domestic or foreign travel as set by the U.S. Department of Defense, Defense Travel Management Office. Lodging and meal per diem rates for specific locations (foreign and domestic) may be found at: http://www.defensetravel.dod.mil/site/perdiemCalc.cfm. Authority will also reimburse the Consultant for Direct Costs incurred by the Consultant in performing the Services. The Consultant shall submit proper documentation of any such approved travel expenses and Direct Costs to Authority from time to time, and such costs and expenses shall be billed to Authority at Consultant's actual cost.

Not later than the twentieth (20th) day of each calendar month, Consultant shall submit to Authority detailed invoices for all services performed and Direct Costs incurred, if any, pursuant to this Agreement during the prior calendar month. The invoices shall describe in detail the Services performed during the prior month and shall list the days and hours worked, approved Direct Costs, milestone achievements, tasks performed or completed, and the Services performed during each day of the prior month. Authority shall review the invoices and notify Consultant in writing (including email) within twenty (20) days of any disputed amounts.

Should this Contract be terminated for any reason, the Consultant will be paid all fees earned up to the termination date and any approved direct expenses incurred.

INTERLOCAL AGREEMENT BETWEEN THE PORT OF CORPUS CHRISTI AUTHORITY OF NUECES COUNTY, TEXAS AND THE CITY OF CORPUS CHRISTI, TEXAS REGARDING THE EVALUATION OF DESALINATION PLANT AND PROPOSAL

This Agreement Regarding the Evaluation of Desalination Plant and Proposal (the "***Agreement***") is made and entered into effective as of the 16th of January, 2018 (the "***Effective Date***) by and between the **Port of Corpus Christi Authority of Nueces County, Texas,** a navigation district operating under Article XVI, Section 59 of the Texas Constitution ("***Authority***"), and the **City of Corpus Christi, Texas**, a municipal corporation and home rule city of the State of Texas ("***City***"). Authority and City are sometimes referred to in this Agreement as "***Parties***" and individually as a "***Party***".

RECITALS

WHEREAS, on October 24, 2017, M&G Polymers USA, LLC ("M***&G Polymers***") filed a voluntary petition for relief under chapter 11 of the Bankruptcy Code in the Bankruptcy Court for the District of Delaware (Case No. 17-12307) and, thereafter, on October 30, 2017, eleven other debtors (including M&G Waters USA, LLC ("***M&G Waters***") commenced chapter 11 cases before the same Court (together with the chapter 11 case of M&G Polymers, the "***M&G Bankruptcy***" and the 12 debtors collectively referred to as "***M&G Debtors***");

WHEREAS, on November 16, 2017, the M&G Debtors filed a Motion for Entry of Order Approving Bidding Procedures for the Sale of Certain of the Debtors' Assets [Docket No. 173] (the "***Sale Procedures Motion***");

WHEREAS, the Sale Procedures Motion sought Court approval of extensive procedures governing the M&G Debtors' efforts to sell substantially all of their assets (the "***Sale Procedures***");

WHEREAS, M&G Waters was formed to purchase, install and operate certain desalination equipment and boilers (the "***Desalination Assets***") in Corpus Christi, Texas;

WHEREAS, under the Sales Procedure Motion, prospective bidders may bid on all or any combination of the M&G Debtors' assets, including the Desalination Assets;

WHEREAS, by Order dated December 14, 2017, the Court granted Debtors' Sale Procedures Motion [docket entry 490];

WHEREAS, the deadline by which prospective interested parties must submit preliminary indications of interest (each a "***Proposal***" and, the date by which Proposals must be submitted, the "***Proposal Deadline***") with respect to the Desalination Assets is January 30, 2018 at 5:00 p.m. Eastern Time;

WHEREAS, the deadline by which prospective bidders must submit final binding bids

(each a "***Final Bid***" and, the date by which Final Bids must be received, the "***Final Bid Deadline***") is March 6, 2018 at 5:00 pm Eastern Time;

WHEREAS, the Desalination Assets include a seawater desalination plant ("***Desalination Plant***") for industrial use with a design capacity of 22 million gallons per day (24,643 acre-feet per year);

WHEREAS, Authority and the City believe that the City should acquire the Desalination Plant in order to increase industrial water capacity and guarantee an uninterruptable supply of water to the City's industrial customers;

WHEREAS, Authority believes it is in the Authority's best interest to assist the City in acquiring the Desalination Plant because a guaranteed source of uninterruptable water is vital to current and future development of the Port of Corpus Christi;

WHEREAS, Authority and the City, exercising their mutual authority and furthering their mutual interests, wish to enter into this Agreement in order to most efficiently and quickly acquire the Desalination Plant;

NOW THEREFORE, for and in consideration of the mutual promises and covenants set forth herein, this Agreement is entered into by and between the City and Authority and based on these consideration, undertakings and agreements, the receipt and sufficiency of which is hereby acknowledged, the Parties agree, covenant and contract as follows:

ARTICLE 1
EVALUATION OF DESALINATION PLANT AND PROPOSAL

1.1 Plan for Acquisition of Desalination Plant. Authority and the City are currently negotiating a separate Interlocal Agreement whereby Authority will participate in the Sale Procedures on the City's behalf, attempt to acquire the Desalination Plant in the Sale Procedures, and, if successful, sell the Desalination Plant to the City. Authority and City will work to develop a strategy to acquire the Desalination Plant.

1.2 Professional Services. Authority has engaged Amec Foster Wheeler Environment & Infrastructure, Inc. ("***Engineer***") and Nova Infrastructure, LLC ("***Consultant***") to perform certain professional services in connection with the acquisition of the Desalination Plant, including but not limited to: (1) determining the cost to complete the Desalination Plant, the value of the Desalination Plant as an industrial water source, the cost to construct a mirror image system adjacent to the current Desalination Plant, and the cost to replace storage tank capacity at the Desalination Plant; and (2) providing financial projections, capital structure analysis and financing support for the transaction (collectively referred to as the "***Professional Services***"). The City has full access to work product of Engineer and Consultant related to this Agreement. The City agrees to reimburse Authority for the cost of Professional Services paid by Authority in its efforts to acquire the Desalination Plant. The Professional Services agreements are attached and incorporated into this Agreement: (1) Professional Engineering Services Contract between the Authority and Amec Foster Wheeler Environmental & Infrastructure executed by Authority on

10/23/17 with maximum amount of $45,000; (2) Amendment No. 1 to Professional Services Contract for Supplemental Services Project Name: Regional Water Supply Desalination Project No. 17-711A between Authority and Amec Foster Wheeler Environmental & Infrastructure executed by Authority on 12/13/17 with maximum amount of $40,000; (3) Consulting Services Contract between Authority and Nova Infrastructure, LLC executed by Authority on 12/18/17 with maximum amount of $45,000; and (4) First Amendment to Consulting Services Contract with Nova Infrastructure, LLC, executed by Authority on 1/16/18 incorporating a success fee of 50 bps of the value paid at financial close of any purchase by Authority of Desalination Assets (not including real estate) in the M&G Bankruptcy, not to exceed $277,500. The City will pay Authority within thirty (30) days of receipt of invoices from Authority for the Professional Services.

1.3 Authority's Submittal of Proposal. The Proposal Deadline in the Sale Procedures approved by the Bankruptcy Court is January 30, 2018 at 5:00 p.m. Eastern Time. Authority agrees to submit a Proposal in the Sale Procedure by the Proposal Deadline. The Proposal will be in an amount mutually agreeable to the Parties. The Proposal will be non-binding and fully refundable to Authority.

ARTICLE 2
TERM AND TERMINATION

2.1 Term. This Agreement shall become effective the date it is signed by both Parties (the "***Effective Date***") and shall remain in effect until the first anniversary of the Effective Date, and it will continue in effect thereafter for successive twelve-month periods until the Agreement has been terminated in accordance with Section 2.2.

2.2 Termination. Notwithstanding anything to the contrary contained in Section 2.1, this Agreement may be terminated by either Party, with or without cause, at any time by giving the other Party written notice of such termination and the effective date thereof at least 30 days prior to the effective date of the termination specified in the notice. Furthermore, this Agreement shall terminate sixty (60) days after the date on which the Parties close on the sale of the Desalination Plant to the City.

ARTICLE 3
GENERAL PROVISIONS

3.1 No Joint Enterprise. This Agreement is not intended to and shall not create a joint enterprise between Authority and the City. The Parties are undertaking governmental functions under this Agreement and the purpose of the Agreement is solely to further the public good, rather than any pecuniary or proprietary purpose.

3.2 Agreement not for Benefit of Third Parties. This Agreement is made for the exclusive benefit of Authority and the City and not for the benefit of any third party or parties.

3.3 Governing Law. This Agreement shall be governed by and construed in accordance with the laws of the State of Texas, and it shall be performable in Nueces County, Texas.

3.4 Severability. If for any reason any section, paragraph, subdivision, clause, phrase, word or provision of this Agreement shall be held invalid or unconstitutional by final judgment of a court of competent jurisdiction, it shall not affect any other section, paragraph, subdivision, clause, phrase, word or provision of this Agreement, for it is the intent of the Parties that every section, paragraph, subdivision, clause, phrase, word or provision hereof be given full force and effect for its purpose.

3.5 Successors. This Agreement shall be binding upon and shall inure to the benefit of the Parties, their successors and permitted assigns.

3.6 Amendments. No amendments, modifications or other changes to this Agreement shall be valid or effective without the written consent of the Parties.

3.7 Immunity. It is expressly understood and agreed that nothing in this Agreement waives or relinquishes the right of Authority or the City to claim any exceptions, privileges, or immunities as may be provided by law.

3.8 Notices. All notices, demands or requests from the City to Authority shall be given to the Port of Corpus Christi Authority of Nueces County, Texas, Attention: Sean Strawbridge, Chief Executive Officer, P.O. Box 1541, Corpus Christi, Texas 78403, or at such other address as Authority shall request in writing. All notices, demands or requests from Authority to the City shall be given to the City of Corpus Christi, Attention: City Attorney, at 1201 Leopard Street, Corpus Christi, Texas 78401, or at such other address as the City shall request in writing.

3.9 Payments. Any payment made by either the City or Authority for any of the services provided pursuant to this Agreement shall be made out of current revenues available to such party as required by the Interlocal Cooperation Act. All funding obligations of the City under this Agreement are subject to the appropriation of funds in its annual budget.

3.10 Interlocal Cooperation Act. This Agreement is subject to the terms and provisions of the Texas Interlocal Cooperation Act, (the "Act"), codified as Chapter 791 of the Teas Government Code. Each party represents that this agreement has been duly passed and approved by its governing body, as required by the Act.

[Signature Page Follows]

IN WITNESS WHEREOF, the Parties have caused this Agreement to be executed by their duly authorized representatives as of the respective dates set forth below the signature of each Party's representative.

CITY OF CORPUS CHRISTI, TEXAS

By: _____

Date: _____

PORT OF CORPUS CHRISTI AUTHORITY OF NUECES COUNTY, TEXAS

By: _____

Date: _____