

Project No. 15-046A

June 6, 2017

TO ALL POTENTIAL BIDDERS

Subject: Addendum No. 1 for Storm Water System Quality Improvements

Ladies/Gentlemen:

This addendum is considered part of the Contract Documents and is issued to change, amplify, add to, delete from, or otherwise explain the Contract Documents. Where provisions of this addendum differ from those of the original Contract Documents, this addendum will take precedence and govern.

Bidders are hereby notified that they must incorporate this addendum into their bids, and it will be construed that the contractor's bid reflects with full knowledge all items, changes, and modifications to the Contract Documents herein specified. Bidders will acknowledge receipt of this addendum in the space provided on the Bid form.

NOTICE TO BIDDERS:

The time and date of the bid opening has been changed to 10:00 a.m., Monday, June 12, 2017.

BID:

REMOVE and **REPLACE** with *REVISED* BID FOR STORM WATER SYSTEM QUALITY IMPROVEMENTS document (5 pages).

BID BREAKDOWN:

REMOVE and **REPLACE** with *REVISED* BID BREAKDOWN FOR STORM WATER SYSTEM QUALITY IMPROVEMENTS document (4 pages).

SPECIAL CONDITIONS:

REMOVE and **REPLACE** with *REVISED* SPECIAL CONDITIONS document (6 pages).



TECHNICAL SPECIFICATIONS:

1. ADD technical specifications listed below:

Section 01 31 13

Project Coordination

Section 01 42 00

Definitions and Standards

Section 01 57 23.13

Temporary Storm Water Pollution Controls & Certificate

- **2. REMOVE** technical specification SECTION 33 42 13.13 CORRUGATED METAL PIPE in its entirety
- 3. Modify technical specification SECTION 02 41 13.13 REMOVAL OF EXISTING MATERIALS, UTILITIES, PAVEMENT AND STRUCTURES:

PART 1 GENERAL

SECTION 1.02 RELATED SECTIONS

DELETE: A. 31 23 13.00 – Excavating and Grading for Paved Areas and Railroads

REPLACE WITH: A. 31 23 13.00 – Excavating and Grading for Paved Areas, Back of Curbs, and Edge of Channels

PART 4 MESUREMENT AND PAYMENT

DELETE: first sentence of paragraph one

Payment for removal and relocation of utilities and signage, and removal and replacement of filtration systems will be on an Allowance basis.

DELETE paragraph two:

The cost for removal and relocation, and removal and disposal of all other items is incidental to other Work.

REPLACE WITH: The cost for removal and relocation, and removal and disposal of utilities is incidental to other Work.

4. Modify technical specification SECTION 31 30 00 EARTHWORK:

PART 3 EXECUTION

SECTION 3.06 DISPOSAL OF DEBRIS OR WASTE

DELETE paragraph A in its entirety

REPLACE WITH: Remove all waste materials and debris, including

muck, broken concrete and metal from site and dispose in a legal manner.

5. Modify technical specification SECTION 33 40 00.10 STORM WATER TREATMENT DEVISE (SWTD):

PART 1 GENERAL

SECTION 1.01 DESCRIPTION, A. Scope

ADD the following paragraph: The Storm Water Treatment Device(s) are labeled as CDS No. 1 and CDS No. 2 on the drawings. The model numbers for CDS No. 1 and 2 are CDS4040 and CDS4030, respectively. The hydraulic and storage capacities for each model are listed in Table 1 in PART 3 EXECUTION, Section 3.02.

PART 3 EXECUTION

SECTION 3.02 INSTALLATION

DELETE Table 1 – Storm Water Treatment Device, Hydraulic and Storage Capacities

REPLACE with the following table:

TABLE 1
Storm Water Treatment Device
Hydraulic and Storage Capacities

CDS4040	6.0 (169.9)	5.6 (4.3)	492 (1862)
CDS4030	4.5 (127.4)	5.6 (4.3)	407 (1540)
CDS Model	Treatment Capacity (cfs)/(L/s)	Minimum Sump Storage Capacity (yd³)/(m³)	Minimum Oil Storage Capacity (gal)/(L)

DRAWINGS:

REMOVE the following drawing sheets:

<u>DWG. #</u>	TITLE
15-046A-02	GENERAL NOTES & DESIGN CRITERIA
15-046A-14	SWP3 DETAILS – SHEET 2 OF 3
15-046A-20	FILTRATION PLAN OUTFALL NO. 1 – SHEET 2 OF 7
15-046A-21	FILTRATION PLAN OUTFALL NO. 1 – SHEET 3 OF 7
15-046A-25	FILTRATION PLAN OUTFALL NO. 2 – SHEET 7 OF 7
15-046A-34	SMALL WEIR DETAILS & MISCELLANEOUS SECTIONS
15-046A-42	WEIR RESET OUTFALL NO.1

REPLACE with the following *REVISED* sheets dated 05/31/2017:

IS

Sincerely,

Beatriz Rivera

Environmental Planning & Compliance

BR/clh

Enclosures

cc: Sean Strawbridge
David L. Krams
Sarah Garza
Sonya Lopez-Sosa
Louis Donato

(0	\ 7	
(Com	pany Name)	

Port Commissioners Port of Corpus Christi Authority P. O. Box 1541 Corpus Christi, Texas 78403

Dear Commissioners:

The undersigned bidder, in compliance with your Notice to Bidders for **Storm Water System Quality Improvements**, having examined the specifications with related Contract Documents and the site of the proposed work and being familiar with all of the conditions surrounding construction of the proposed project, including the availability of materials and supplies, will construct the project, in accordance with the Contract Documents, within the time set forth herein, and at the prices stated below. The bidder hereby proposes to furnish all labor, materials, tools, equipment, supplies, superintendence, insurance, incidentals, and services necessary or required to complete the work as shown on the drawings and described in the specifications for the prices noted below (includes profit and overhead).

A. **BASE BID**: The base bid item includes all work not specifically identified as an additive, deductive, or alternate bid item. Additive, deductive, or alternate bid items are those items that may be added to or deleted from the contract if so desired by the PCCA.

Scope of includes modifications which will require temporary storm water pollution prevention, removing and replacing concrete channels, removing driveway bridge structure, weirs, headwalls, misc. demolition, adding retaining walls, slabs, weirs, ramps, storm pipes, inlets, headwalls, pavement, curbs, asphalt humps, fencing, site grading, temporary and permanent relocation of various utilities, and adjustment of existing utilities. This is a lump sum bid.

Total Base Bid	\$
	(Numbers)
	Dollars
(Wor	ds)
Contractor if and when dock utilization	Charges. Standby charges will be paid to the and cargo transfer prevents the Contractor from
working a minimum of 16 days within Conditions, Sections 1.05 & 1.06. This is	n any one calendar month. Refer to Special a unit price bid item.
Total Additive Bid Item 1	\$/Day of Standby
	Dollars/Day of Standby
(Wor	de)

- C. The following procedure will be utilized in resolving arithmetical and other discrepancies found in the Bid:
 - 1. Obviously misplaced decimal points will be corrected;
 - 2. Obvious errors in addition, subtraction, or multiplication will be corrected;
 - 3. Readily apparent errors in interpretation of various bid items will be corrected.
 - 4. Words will govern over numerals.
- D. For the purposes of bid evaluation, bidder understands that this is a Lump Sum bid. Bidder agrees that use of the extended values on the Bid Breakdown Sheet for evaluation of this Bid does not cause the contract to be a unit price contract. In the event of any conflict between the Bid and Bid Breakdown Sheet, the Bid will govern.
- E. For work not covered in Section A or by separately agreed prices, compensation will be calculated on a time and materials basis for extra work. (Refer to paragraph 6.03 of the General Conditions.)
 - 1. The bidder will attach a Schedule of Equipment Rental Rates for extra work.
 - NOTE: The equipment rental rates will include cost of fuel, oil, grease, maintenance, overhead, profit, depreciation charges, taxes, insurance, and all other charges, except for operators. No increase or change in the rates will be made for overtime hours or for any other reason.
 - 2. The bidder will attach a Schedule of Labor Charge Rates for extra work.
 - NOTE: The labor rate schedule will include labor classifications and charge rates. Profit, overhead, taxes, and insurance will be included in the charge rates. For calculation of overtime compensation, the PCCA workweek begins Monday a.m.
 - 3. Materials used for extra work will be charged at cost plus 15%. The 15% markup will include all indirect costs, such as bond and insurance costs, profit, overhead, *etc*.

within sixty (60) calendar days from the date Bids are received and the undersigned bidder fails to enter into a written contract and execute Performance and Payment Bonds and Certificates of Insurance under the terms and conditions stated in the Contract Documents within fourteen (14) calendar days of the date of the written Notice of Award of Contract. Otherwise, the bond or check will be promptly returned to the bidder.

- G. The bid price is subject to acceptance by the PCCA for a period of sixty (60) calendar days from the scheduled closing date for receiving bids.
- H. If awarded the contract, the undersigned bidder hereby agrees to commence work under this contract within ten (10) calendar days of the date of the written Notice to Proceed and to complete the project within two hundred seventy (270) calendar days of the date of said Notice to Proceed. The bidder specifically acknowledges and agrees to provisions in the General and Special Conditions and the Agreement, under which damages may be assessed for failure to complete the work within the required completion time.
- I. The bidder must complete the attached Bid Breakdown Sheet to expedite proper evaluation of the bids. This sheet is a part of the Contract Documents. Failure to complete and submit this sheet with the Bid (unless otherwise indicated in the Special Conditions) may cause the Bid to be rejected. PCCA reserves the right to require the bidder to revise any errors and resubmit the Bid Breakdown Sheet.
- J. Bidders are required to complete a Conflict of Interest Questionnaire (Form CIQ) and submit it with the bid (see paragraph entitled "Conflict of Interest" in the General Conditions) if Bidder has:
 - 1. Any employment or other business relationship with any employee of the PCCA.
 - 2. Any employment or other business relationship with any relative of an employee of the PCCA.
 - 3. Given any gifts or services of more than \$100 in aggregate value to any employee or relative of an employee of the PCCA within the preceding 12-month period.
- K. The successful bidder will be required to comply with the provisions of Section 2252.908 of the Texas Government Code and Chapter 46 of the Texas Ethics Commission Rules by preparing and submitting Texas Form 1295, "Certificate of Interested Parties" and submitting the signed and notarized form to PCCA at the time the contract is executed. PCCA will provide the unique identifier and description of services for Box 3 on Texas Form 1295.

Instructions for preparing Form 1295 are available at: https://www.ethics.state.tx.us/whatsnew/elf_info_form1295.htm.

- L. Bidders are required to furnish written information concerning any citation, notice of violation, or penalty regarding a safety or environmental violation by Bidder made by any agency or department of this state or the federal government within the past five years. This information must include a general description of the conduct that resulted in the citation or notice of violation or penalty and the document(s) sent from the agency or department to Bidder that set forth the citation, violation, or penalty.
- M. Bidders must bid on all items and subitems except as otherwise specified in the Bid.
- N. Any qualification or exception to the requirements of these Contract Documents may cause the Bid to be rejected.
- O. The bidder understands that the PCCA reserves the right to reject any or all Bids and to waive any minor informalities or irregularities in the bidding.

Bidder acknowledges red	ceipt of the follow	ing addenda: (<i>List A</i>	ddendum Number(s)

Respectfully submitted,	
BIDDER: (Company Name)	(Seal if bid is by a corporation)
BY:	-
NAME:	-
TITLE:	-
ADDRESS:	_ (For all official correspondence)
COUNTY:	-
TELEPHONE NUMBER:	-
FAX NUMBER:	-
CONTACT PERSON:	-
E-MAIL ADDRESS:	-
DATE:	-
Accepted Contract Price: \$	-
PORT OF CORPUS CHRISTI AUTHORITY OF NUECES COUNTY, TEXAS:	
John P. LaRue Executive Director	-
DATE:	

(Company Name

This breakdown is a part of the Contract Documents and is designed to help the PCCA evaluate the bids to detect possible errors or omissions and to establish values for the individual items of work so that modifications to the contract can be more easily resolved. Please fill out the items listed below so that the total matches the prices shown on the bid. The bidder is invited to include his own estimates if he so chooses.

	BASE BID						
ITEM	DESCRIPTION	UNIT	DESIGN QUANTITY	BIDDER'S QUANTITY	UNIT AMOUNT	TOTAL AMOUNT	
A. GI	A. GENERAL						
A-1	Mobilization/Demobilization/Bonds/Insurance	LS	1				
A-2	Traffic Control - Signs	LS	1				
A-3	Traffic Control - Channelizing Drums	EA	100				
A-4	Utility Relocates	LS	1				
B. SW	P3						
B-1	Storm Water Pollution Prevention Plan - Hay Bales with Sand Bags	LF	1400				
B-2	Storm Water Pollution Prevention Plan - Sediment Control Fence	LF	5000				
B-3	Rock Filter Dam	CY	1000				
B-4	Storm Water Pollution Prevention Plan - Dredge Material Drying Area & Concrete Washout	LS	1				
B-5	Temporary 24" HDPE Drainage Pipe	LF	82				
B-6	Construction Exit (Type 2)	SY	340				
C. DE	MOLITION						
C-1	Remove Concrete Flumes	EA	23				
C-2	Remove Miscellaneous Concrete	SY	500				
C-3	Remove Existing Concrete Ditch	SY	2600				
C-4	Tree Trimming (Removal)	EA	1				
C-5	Remove Bollards	EA	4				
C-6	Remove & Relocate Pet Coke from Behind Existing Jersey Barriers	LS	1				
C-7	Relocate Jersey Barriers	LS	1				
C-8	Remove Wooden Bridge	LS	1				

REVISED BID BREAKDOWN SHEET (Continued)

BASE BID - Continued							
ITEM	DESCRIPTION	UNIT	DESIGN QUANTITY	BIDDER'S QUANTITY	UNIT AMOUNT	TOTAL AMOUNT	
D. UT	D. UTILITIES						
D-1	Relocate Fire Hydrant	EA	1				
E. PU	UBLIC PONDS		•				
E-1	Excavation (Ponds)	CY	13000				
E-2	Broadcast Seed	ACRES	7				
E-3	Topsoil or Soil Amendment (each 3-Inch min. Depth)	ACRES	7				
E-4	Watering	MG	3				
E-5	Dewatering	LS	1				
F. PA	VEMENT						
F-1	6" Curb and Gutter	LF	160				
F-2	6" Curb	LF	110				
F-3	12" Curb (tied to existing concrete)	LF	870				
F-4	Asphalt Humps	LF	240				
F-5	12" Lime Stabilized Subgrade @ 6%	SY	1730				
F-6	Reinforced Concrete Slab - Ramps	SY	600				
F-6	Reinforced Concrete Slab - Pavement Surface	SY	1100				
F-7	HMAC Pavement Repair	SY	250				
G. DR	AINAGE		1			'	
G-1	Trench Safety	LF	3000				
G-2	Dewatering	LS	1				
G-3	18" RCP	LF	128				
G-4	24" RCP	LF	24				
G-5	4' Diameter Storm Drain Manhole	EA	1				
G-6	Area Inlet	EA	6				
G-7	Curb Inlet	EA	3				
G-8	CDS	EA	2				
G-9	Reinforced Concrete Slab - Channel Bottom	SY	1850				
G-10	Channel & Ramp Walls	SY	1350				
G-11	Wall Footings & Grade Beams	CY	500				
G-12	Structural Fill	CY	2000				
G-13	Weirs	SY	90				
G-14	Baffles	SY	40				
H. MI	SCELLANEOUS						
H-1	4-Foot High Chain Link Fence	LF	2120				
H-2	Caution Signs	EA	71				
	TOTAL AMOUNT - BASE BID		•		\$	•	

REVISED BID REAKDOWN SHEET (Continued)

The preceding design quantities are approximate and are not guaranteed. Bidders will prepare their own estimate of work and bid accordingly. Bidders will indicate their own estimate of work under the column labeled "Bidder's Quantity" and calculate the "Total Amount" based on same. If this column is left blank, the bidder will be deemed to be in agreement with the design quantities and no adjustment in contract price will be made for variance.

ADDITIVE BID ITEM						
ITEM	DESCRIPTION	UNIT	DESIGN QUANTITY	BIDDER'S QUANTITY	UNIT AMOUNT	TOTAL AMOUNT
I. CASH	I. CASH ALLOWANCES (CA)					
I-1	Standby Charges (in accordance with special conditions)	DAY	1			
	TOTAL AMOUNT - ADDITIVE BID ITEM					

TOTAL EVALUATED BID AMOUNT - Base Bid and Additive Bid	¢
Items	Φ

REVISED BID REAKDOWN SHEET (Continued)

LIST OF SUBCONTRACTORS & SUPPLIERS

Please list all intended subcontractors and major suppliers below. The bidder awarded the contract will be required to notify the Engineer of any changes in the actual suppliers and subcontractors.

Material Item	Name of Supplier
Subcontractors (if any):	

REVISED SPECIAL CONDITIONS

- 1.01 GENERAL. The provisions of this section of the Contract Documents will govern in the event of any conflict between the Special Conditions and the General Conditions.
- 1.02 PROJECT DESCRIPTION / SCOPE OF WORK. The Contract Documents intend to provide and secure Storm Water System Quality Improvements to restore the capacity of the public storm water detention ponds and provide storm water infrastructure improvements for the existing storm water filtration system at the bulk terminal.
 - A. BASE BID: Scope of work includes modifications which will require temporary storm water pollution prevention, removing and replacing concrete channels, removing driveway bridge structure, weirs, headwalls, misc. demolition, adding retaining walls, slabs, weirs, ramps, storm pipes, inlets, headwalls, pavement, curbs, asphalt humps, fencing, site grading, temporary and permanent relocation of various utilities, and adjustment of existing utilities. This is a lump sum bid.
- 1.03 TIME OF COMPLETION. It is anticipated this contract will be awarded at the PCCA commission meeting of <u>June 20, 2017</u>. It is further anticipated that the Notice to Proceed will be issued upon execution of the Agreement by <u>July 10, 2017</u>. Contractor will complete the Project within the number of calendar days stated in the Bid.
- 1.04 LIQUIDATED DAMAGES. Liquidated damages in the amount of \$300.00 per day will be assessed against the Contractor for each day beyond the required completion time that the project remains substantially incomplete.
- 1.05 SCHEDULING CONSTRAINTS. The Contractor will not interrupt operations of the PCCA, its Users, or service providers for the Users or the vessels moored at the Bulk Terminal. Access to all the areas of the Bulk Terminal has priority over construction activities and the Contractor will coordinate construction work with the surrounding bulk material handling activities. The Contractor will stage material and equipment to not conflict with ship and barge traffic, adjacent rail facilities truck traffic in and out of the terminal and/or gantry crane operations. Contractor may be required to move materials and equipment as directed or as necessary during construction.

Furthermore, the Contractor is required to protect any work-in-progress from dock activity. The contractor will work during daylight hours and around the vessel loading schedule. Work that can be accomplished without disruption to cargo transfer activities may be allowed during loading activities. The Contractor's work schedule will be coordinated with the vessel loading schedule weekly at progress meetings with PCCA. Details and procedures for communicating this information will be established at the Pre-Construction conference.

1.06 STANDBY CHARGES. As stated and outlined above, work on this contract may be disrupted by ship or barge berthing/departure, cargo transfer, and/or railroad traffic. The Contractor should base the bid on working 16 days per calendar month as described in Scheduling Constraints. The Base Bid price will reflect the limited and restricted work *REVISED* Special Conditions Addendum No. 1

schedule. Should the Contractor not work a minimum of 16 calendar days per month, standby charges at the rate established by Additive Bid Item 1 will be paid to the Contractor. For example, if the Contractor works 14 days in a month, he will be paid 2 days of standby time. Standby rates will also be applicable when the Contractor is mobilized on site and begins work on location after an approved work window has been scheduled, and the work is clearly stopped by user operations or ship activity. The Engineer will keep the schedule of dock activity and standby days allowed. No standby charges will be paid to the Contractor after the substantial completion date. No standby time will be paid if the Contractor voluntarily elects not to work when it is made available and that work window will be credited toward the monthly 16 day allowance. The Contractor eligibility for standby charges will not start until the Contractor's materials have arrived and the crews have mobilized on site.

- 1.07 PERMITS. A City of Corpus Christi building permit is not required for this Project. A TPDES Construction General Permit is required this project. Compliance with other applicable codes and standards is required.
- 1.08 ENVIRONMENTAL POLICY. The following Environmental Policy supersedes the policy listed in the General Conditions. The new Environmental Policy states:
 - A. The Port of Corpus Christi Authority ("*Port*") Commission formally adopts a set of guidelines designed to further demonstrate Environmental Leadership in the South Texas Coastal Bend region.

In its commitment to be "An Environmental Leader," the Port of Corpus Christi Authority in collaboration with stakeholders will strive to exceed what is required as a minimum by applicable rules and regulations to mitigate environmental impacts, prevent pollution, and employ continuous improvement policies and environmental stewardship initiatives that promote the following five (5) key precepts:

- Air Quality in attainment of national air quality standards and in support of the Corpus
- Christi region's efforts to stay in attainment through voluntary actions;
- Water Quality that maintains or improves the health of the coastal bend ecosystems;
- Soils & Sediments protective of human health and the environment;
- <u>Wildlife Habitat</u> development, improvements, and replacement when modification to existing habitat is necessary; and
- Environmental Sustainability in the development of port facilities and in ongoing port operations.

The Port's Environmental Policy is the formalization of many existing environmental programs that address soil, sediment, wildlife, air and water quality impacts. Together, these programs have already realized tremendous positive impacts in the surrounding communities and estuaries. The Port also intends to use legislative channels, where appropriate, to help meet its environmental agenda.

The Environmental Policy is one of the strategic imperatives that will be considered and integrated into decisions related to the development of infrastructure or the operations of Port facilities, supporting the Port of Corpus Christi's vision *To Be the Energy Port of the Americas* and its mission of *Leveraging Commerce to Drive Prosperity* for the Port, its stakeholders, and the Community, Region, State, and Nation.

- B. Contractor shall implement constant dust control measures within the construction limits and Contractor's haul routes.
- 1.09 INSURANCE. USL&H and Railroad Protective coverage insurance is required for this project. Builder's Risk, Maritime, and Contractor's Pollution Liability insurance is not required for this project. The minimum umbrella coverage required for this project is \$2,000,000. See Section 3.36 of the General Conditions for all other requirements.
- 1.10 BONDS. Performance and Payment Bonds are required when the successful bidder executes the contract, each for 100% of the total contract price.
- 1.11 PRE-CONSTRUCTION CONFERENCE. A pre-construction conference will be scheduled prior to commencement of construction.
- 1.12 DISRUPTION OF UTILITY SERVICE.
 - A. Contractor shall submit for review and approval its proposed schedule and plan for relocating existing utilities and services, including but not limited to waterlines and related appurtenances. Proposed plans shall include, but not be limited to, proposed details and dates for any shutdowns, connections, disinfection and hydrostatic testing, etc. Contractor shall submit a minimum of ten (10) working days prior to proposed date for starting the work. Reference Section 2.22 of the General Conditions for additional requirements.
 - B. Contractor will notify and obtain approval from PCCA at least 48 hours in advance of any disruption of utility service. Disruption of water service to adjacent properties will not exceed two (2) hours duration
- 1.13 RAILROAD WORKPLACE SAFETY. Attached for reference is Exhibit A the Roadway Worker Protection (RWP) & On Track Safety Rules for the GWRR Rail Link Region effective May 2, 2016. The Rail Link is the Corpus Christi Terminal Railroad (CCTR). The Port's Manager of Rail Operations is John Slubar and he will be the point of contact for setting up communications with the CCTR. Mr. Slubar can be reached at 361-885-6185.
- 1.14 USE OF PCCA FACILITIES AND UTILITIES. During execution of the Project, the Contractor will be allowed to use PCCA facilities and utilities as follows:

Facility/Utility	<u>Allowed</u>	Not Allowed
Restrooms		X

Facility/Utility	Allowed	Not Allowed
Lunchrooms		X
Offices		X
Telephones		X
Vending Machines		
Water	X	
Electricity	X	
Sewage		X

Contractor is responsible for any required hookup or installation costs associated with use of the above. Contractor will not be allowed to overload any circuits with construction equipment or tool loads. PCCA needs and utilization of these facilities will have priority over those of Contractor. If the existing utility has insufficient capacity for the Contractor's use, then Contractor will be responsible for providing alternate temporary utilities for its use at no additional cost. Contractor will be responsible for any damage to PCCA facilities or utilities caused by Contractor's use. Contractor will be responsible for removing temporary hookups and restoring the facility/utility to equal or better than the pre-existing condition.

1.15 TESTING SCHEDULE. Contractor will submit to the Engineer for review and approval its proposed testing schedule. The testing schedule will include the specification section and paragraph number (or drawing sheet number if there isn't a specification), description of the test, location of the test, testing frequency, and indicate who's independent laboratory is responsible for the test. Contractor's test schedule will follow the example indicated in Figure 1. Failure to include a test in the schedule does not relieve the Contractor from the testing requirement in accordance with the Technical Specifications and General Conditions.

Item No.	Specification *	Test Description	Location(s)	Testing Frequency
1	03 30 00	Concrete mix design	concrete slab on grade and pavement	each mix design
2	03 30 00	Concrete compressive strength	retaining walls	3 cylinders for each wall (7 & 28 day breaks, plus 1

1.16 LIST OF DRAWINGS. Accompanying these specifications and included herein by reference are the drawings listed below as follows:

Sheet No.	Description
1	TITLE SHEET
2	INDEX, GENERAL NOTES & DESIGN CRITERIA
3	ABBREVIATIONS, LEGENDS AND SYMBOLS
4	EXISTING TOPOGRAPHY & BORING LOCATIONS
5	SHEET MAP AND SURVEY CONTROL POINTS
6	SWP3 AT PUBLIC PONDS

7	SWP3 PHASING & STORM WATER DIVERSION PLAN OVERVIEW AND PURPOSE
8	SWP3 PHASING AND STORM WATER DIVERSION PLAN OUTFALL NO. 1- PHASE 1
9	SWP3 PHASING AND STORM WATER DIVERSION PLAN OUTFALL NO. 1- PHASE 2
10	SWP3 PHASING AND STORM WATER DIVERSION PLAN OUTFALL N0.1- PHASE 3 & 6
11	SWP3 PHASING AND STORM WATER DIVERSION PLAN OUTFALL NO. 1- PHASE 4 & 5
12	SWP3 PHASING AND STORM WATER DIVERSION PLAN OUTFALL NO. 2 & 3 - PHASES 7, 8, & 9
13	SWP3 DETAILS - SHEET 1 OF 3
14	SWP3 DETAILS - SHEET 2 OF 3
15	SWP3 DETAILS - SHEET 3 OF 3
16	PUBLIC POND RESTORATION PLAN
17	PUBLIC POND SECTIONS
18	OVERALL DRAINAGE AREA MAP
19	FILTRATION PLAN OUTFALL NO. 1- SHEET 1 OF 7
20	FILTRATION PLAN OUTFALL NO. 1- SHEET 2 OF 7
21	FILTRATION PLAN OUTFALL NO. 1- SHEET 3 OF 7
22	FILTRATION PLAN OUTFALL NO. 1- SHEET 4 OF 7
23	FILTRATION PLAN OUTFALL NO. 3 - SHEET 5 OF 7
24	FILTRATION PLAN OUTFALL NO. 3 - SHEET 6 OF 7
25	FILTRATION PLAN OUTFALL NO. 2 - SHEET 7 OF 7
26	CHANNEL PROFILE SHEET 1 OF 4
27	CHANNEL PROFILE SHEET 2 OF 4
28	CHANNEL PROFILE SHEET 3 OF 4
29	CHANNEL PROFILE SHEET 4 OF 4
30	WALL GENERAL NOTES
31	WALL DETAILS & SECTIONS SHEET 1 OF 3
32	WALL DETAILS & SECTIONS SHEET 2 OF 3
33	WALL DETAILS & SECTIONS SHEET 3 OF 3
34	SMALL WEIR DETAILS & MISCELLANEOUS SECTIONS CONCRETE BAMP STANDARD DETAILS
35-1	CONCRETE RAMP STANDARD DETAILS WALL RAMPS DETAILS SHEET 1 OF 2
35-1	WALL RAMPS DETAILS SHEET 1 OF 2 WALL RAMPS DETAILS SHEET 1 OF 2
36	ASPHALT HUMP, CONC. PAVEMENT, CURB, FENCE AND BOLLARD
30	DETAILS
37	INLINE CDS STANDARD DETAIL
37-1	INLINE CDS STANDARD DETAIL
37-2	INLINE CDS STANDARD DETAIL
38	PRECAST CURB INLET DETAIL
39	PRE-CAST AREA INLET DETAIL
40	PRECAST BASE DETAIL
41	PRECAST ROUND MANHOLE DETAIL
42	WEIR RESET OUTFALL NO. 1
43	TRAFFIC CONTROL PLAN

- 1.17 CONTRACTOR'S DAILY REPORTS. Daily reports will be prepared by the Contractor and submitted to PCCA Project Engineer at the conclusion of each week.
- 1.18 SITE CONDITIONS. Contractor must also become familiar with the soil and groundwater conditions as indicated in Exhibit C Geotechnical Report No. G115167 prepared by Rock Engineering. Contractor shall perform additional geotechnical investigations if it deems necessary, at no additional cost. Contractor shall submit for review and approval proposed plans and schedules for any proposed additional geotechnical investigations.
- 1.19 PREVAILING WAGE RATE. Contractor will not pay less than the prevailing wage rates as determined by the United States Department of Labor which are posted on their "Wage Determinations OnLine.gov" website (http://www.wdol.gov/). The attached Exhibit B is the list of wage rates that have been determined to be the prevailing minimum rates in this based work anticipated area on the type of on this (http://www.wdol.gov/wdol/scafiles/davisbacon/tx.html). Contractor shall refer to the government website for the latest wage rates, additional worker classifications that may not be listed in Exhibit A, and to answer any questions the Contractor may have on the prevailing wage rates.

The PCCA may request copies of the Contractor's certified payrolls and may randomly interview the Contractor's workforce, including subcontractors, to verify compliance.

End of Special Conditions

SECTION 01 31 13

PROJECT COORDINATION

PART 1 – GENERAL

1.01 SUMMARY

- A. This section specifies administrative and supervisory requirements necessary for project coordination including, but not necessarily limited to:
 - 1. Coordination.
 - 2. Administrative and supervisory personnel.
 - 3. General installation provisions.
- B. Progress meetings, coordination meetings, and pre-installation conferences are included in Section 01 31 19, "Project Meetings."
- C. Requirements for construction submittal schedules are included in Section 01 33 00, "Submittals."
- D. Requirements for the baseline Critical Path Method (CPM) construction schedule and schedule updates are included in the Special Conditions.

1.02 COORDINATION

- A. Coordination: Coordinate construction activities (as defined in the various sections of these specifications) to assure efficient and orderly installation of each part of the work. Coordinate construction operations (as defined in the different sections of the specifications) that are dependent upon each other for proper installation, connection, and operation.
 - 1. Where installation of one part of the work is dependent upon installation of other components, either before or after its own installation, schedule construction activities in the sequence required to obtain the best results.
 - 2. Where availability of space is limited, coordinate installation of different components to assure maximum accessibility for required maintenance, service, and repair.
 - 3. Make adequate provisions to accommodate items scheduled for later installation

- 4. Prepare memoranda for distribution to each involved party outlining special procedures required for coordination. Include such items as required notices, reports, and attendance at meetings.
- B. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities to avoid conflicts and ensure orderly progression of the work. Such administrative activities include, but are not limited to, the following:
 - 1. Preparation of schedules.
 - 2. Installation and removal of temporary facilities.
 - 3. Delivery and processing of submittals.
 - 4. Progress meetings.
 - 5. Project closeout activities.

1.03 SUBMITTALS

Within 10 days of the Notice to Proceed, the Contractor will submit a list of the Contractor's principal staff assignments including the superintendent and other personnel in attendance at the site; provide a proposed organizational chart that identifies individuals, their duties and responsibilities; and list the proposed staff's addresses and telephone numbers.

1.04 GENERAL INSTALLATION PROVISIONS

- A. Manufacturer's Instructions: Comply with manufacturer's installation instructions and recommendations if those instructions and recommendations are more explicit or stringent than requirements contained in the Contract Documents.
- B. Inspect materials or equipment immediately upon delivery and again prior to installation. Reject damaged and defective items.
- C. Recheck measurements and dimensions before starting installation procedure.
- D. Install each component during weather conditions and at the point in the project sequence that will ensure the best possible results. Isolate each part of the completed construction from incompatible material as necessary to prevent deterioration.
- E. Coordinate temporary enclosures with required inspections and tests to minimize the necessity of uncovering completed construction for that purpose.

1.05 CLEANING AND PROTECTION

- A. During handling and installation, clean and protect construction in progress and adjoining materials in place. Apply protective covering where required to ensure protection from damage or deterioration until Final Acceptance.
- B. Limiting Exposures: Supervise construction activities to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period. Where applicable, such exposures include, but are not limited to, the following:
 - 1. Excessive static or dynamic loading.
 - 2. Excessive internal or external pressures.
 - 3. Heavy traffic.
 - 4. Vibration from adjacent activity.
 - 5. Erosion.
 - 6. Prop wash.
 - 7. Damage by contact with construction equipment.

PART 2 – PRODUCTS

(Not Used)

PART 3 – EXECUTION

(Not Used)

PART 4 – MEASUREMENT & PAYMENT

(Not Used)

END OF SECTION

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SECTION 01 42 00

DEFINITIONS AND STANDARDS

PART 1 – GENERAL

1.01 SUMMARY

- A. This section specifies administrative requirements for compliance with governing regulations, codes, and standards.
- B. Requirements include obtaining permits, licenses, inspections, releases, and similar documentation as well as payments, statements, and similar requirements associated with regulations, codes, and standards.

1.02 DEFINITIONS

- A. General: Definitions contained in this article are not necessarily complete but are general to the extent that they are not defined more explicitly elsewhere in the Contract Documents.
- B. Indicated: "Indicated" refers to graphic representations, notes, or schedules on the drawings; other paragraphs or schedules in the specifications; and similar requirements in the Contract Documents. Where terms such as "shown," "noted," and "specified" are used, it is to help locate the reference; no limitation on location is intended except as specifically noted.
- C. Directed: Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean "directed by the Engineer," "requested by the Engineer," and similar phrases. However, no implied meaning will be interpreted to extend the Engineer's responsibility into the Contractor's area of construction supervision.
- D. Approved: The term "approved," where used in conjunction with the Engineer's action on the Contractor's submittals, applications, and requests, is limited to the responsibilities and duties of the Engineer stated in the General and Special Conditions. Such approval will not release the Contractor from responsibility to fulfill Contract Document requirements unless otherwise provided in the Contract Documents.
- E. Regulations: The term "regulations" includes laws, statutes, ordinances, and lawful orders issued by authorities having jurisdiction as well as rules, conventions, and agreements within the construction industry that control

- performance of the work, whether they are lawfully imposed by authorities having jurisdiction or not.
- F. Furnish: The term "furnish" is used to mean supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. Install: The term "install" is used to describe operations at the Project site including the actual unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. Provide: The term "provide" means to furnish and install, complete and ready for the intended use.
- I. Installer: An "installer" is an entity engaged by the Contractor, either as an employee, subcontractor, or sub-subcontractor, for performance of a particular construction activity including installation, erection, application, and similar operations. Installers are required to be experienced in the operations they are engaged to perform.
- J. Project Site: That space made available by the Engineer to the Contractor for performance of the Work either exclusively or in conjunction with others performing other construction as part of the Project. The overall extent of the Project site is shown on the drawings.
- K. Testing Laboratories: A "testing laboratory" is an independent entity engaged to perform specific inspections or tests, either at the Project site or elsewhere, and to report on and, if required, interpret results of those inspections or tests.

1.03 INDUSTRY STANDARDS

- A. Applicability of Standards:
 - 1. Except where the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents. Such standards are made a part of the Contract Documents by reference.
 - 2. Referenced standards take precedence over standards that are not referenced but recognized in the construction industry as standard practice.
- B. Publication Dates: Where compliance with an industry standard is required, comply with the standard in effect as of the date of the Contract Documents.

C. Conflicting Requirements:

- 1. Where compliance with two or more standards is specified, and they establish different or conflicting requirements for minimum quantities or quality levels, the most stringent requirement will be enforced unless the Contract Documents indicate otherwise. Refer requirements that are different but apparently equal and uncertainties as to which level is more stringent to the Engineer for a decision before proceeding.
- 2. Minimum Quantities or Quality Levels: In every instance, the quantity or quality level shown or specified will be the minimum to be provided or performed. The actual installation may comply exactly, within specified tolerances, with the minimum quantity or quality specified, or it may exceed that minimum within reasonable limits. In complying with these requirements, indicated numeric values are minimum or maximum values as noted or appropriate for the context of the requirements. Refer instances of uncertainty to the Engineer for decision before proceeding.
- D. Copies of Standards: Each entity engaged in construction on the project is required to be familiar with industry standards applicable to that entity's construction activity. Copies of applicable standards are listed but not included with the Contract Documents. Also refer to paragraph 1.03-A-1 of this Section.
- E. Abbreviations and Names: Trade association names and titles of general standards are frequently abbreviated. Where acronyms or abbreviations are used in the specifications or other Contract Documents, they mean the recognized name of the trade association, standards generating organization, authority having jurisdiction, or other entity applicable to the context of the text provision.

PART 2 – PRODUCTS

(Not Used)

PART 3 – EXECUTION

(Not Used)

PART 4 – MEASUREMENT & PAYMENT

(Not Used)

END OF SECTION

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SECTION 01 57 23.13

TEMPORARY STORM WATER POLLUTION CONTROLS (Construction Sites > 5 Acres)

PART 1 – GENERAL

1.01 SUMMARY

This section specifies handling and procedural requirements for construction activities required for performance of the Work including:

- A. Environmental Regulations
- B. Storm Water Pollution Prevention.

1.02 ENVIRONMENTAL REGULATIONS

- A. All construction activities will be conducted in accordance with all local, state, and federal environmental regulations.
- B. Storm water construction activities will be in accordance with Texas Commission on Environmental Quality (TCEQ) TPDES General Permit No. TXR150000 relating to storm water discharges from construction activities to surface waters.

1.03 STORM WATER POLLUTION PREVENTION

- A. The Contractor, as operator for the site, will complete and submit a Notice of Intent (NOI) to the Texas Commission on Environmental Quality (TCEQ) seven days prior to commencement of construction activities if submitting a paper copy. If completing and submitting the NOI online through the TCEQ web page, the Contractor must submit the NOI prior to commencement of the construction activities. Whether submitting electronically or by paper, a copy of the NOI will also be provided to the PCCA Environmental Compliance Manager.
- B. The Contractor will complete, certify, and post the appropriate "Large Construction Site Notice", in compliance with Part III.D.2 of the TPDES general permit TXR150000, at the project site in a visible location prior to commencing construction activities. The Contractor will also provide a copy of the construction site notice to the PCCA Environmental Compliance Manager. The construction site notice will be maintained on-site until completion of the construction activities.

- C. At least seven days prior to commencement of any construction activities, the Contractor will provide a copy of the submitted NOI to the city of Corpus Christi, attention to the Director of Storm Water Services, 2726 Holly Road, Corpus Christi, Texas 78415, as the operator of the MS4 receiving the discharge.
- D. Two days prior to commencement of any construction activities, the Contractor will also provide to the PCCA Environmental Compliance Manager a copy of the Construction Drawings with Work areas identified and proposed locations for erosion and sediment control structures and structural controls around Work areas
- E. This specification, including the associated Construction Drawings, will become the Storm Water Pollution Prevention Plan (SWP3) for the site. The Contractor will be responsible for signing the attached Storm Water Pollution Prevention Plan certification page and adhering to the contents of the SWP3. The Contractor will also be responsible for full implementation of the SWP3 and ensure that it is communicated to all employees and subcontractors and adhered to during construction activities. The SWP3 must be maintained at the project site at all times and made available upon request.
- F. If information in the NOI submitted prior to construction changes at anytime during the construction project, the Contractor as per Part III.B.1 of TPDES general permit TXR150000, must submit a Notice of Change (NOC) 14 days in advance of the change, if possible. If it is not possible, the NOC must be submitted within 14 days upon discovery of a change. A copy of the NOC must also be provided to the PCCA Environmental Compliance Manager at the time of submittal. A copy of the NOC must also be submitted to the City of Corpus Christi as the operator of the MS4 receiving the discharge, when applicable.
- G. Upon completion of the construction project and/or within 30 days after any of the conditions listed in Part II. Section F.1 of the TPDES general permit are met, the Contractor will complete and certify a Notice of Termination (NOT). A copy of the NOT will also be provided to the PCCA Environmental Compliance Manager and, if applicable, to the City of Corpus Christi as the operator of the MS4 receiving the discharge.
- H. The Contractor and/or PCCA may revise the SWP3 at any time during the construction project per Part III. Section E of the TPDES general permit TXR150000.
- I. A current version of the forms required to be completed and submitted per the TPDES general permit TXR150000 and this specification can be found on the TCEQ web page at http://www.tceq.texas.gov/permitting/stormwater/TXR15_5_plus_steps.html .

J. The Texas Department of Transportation (TXDOT) has put together a "Storm Water Field Inspector's Guide" that is a helpful tool in storm water permit compliance. This tool can be found on the TXDOT web page at ftp://ftp.dot.state.tx.us/pub/txdot-info/library/pubs/bus/natural/inspectors_guide.pdf.

1.04 PROJECT DESCRIPTION

- A. Soil disturbing activities will include excavation and restoration of existing public pad ponds. The materials or substances listed below are expected to be present on the site during construction:
 - 1. petroleum coke
 - 2. sand and gravel
 - 3. concrete
- B. Potential pollutants in storm water runoff from the site during construction activities will likely be sediment from materials listed above.
- C. The sequence of major activities that will disturb soils for the major portions of the site are as follows:
 - 1. excavation
 - 2. concrete demolition
 - 3. concrete construction
- D. Non-storm water discharges from the site during construction activities will likely be potential de-watering for construction and sprinklings for dust control.
- E. Implementation of the SWP3, including best management practices outlined herein, will occur prior to beginning any construction activities at the site.

PART 2 – PRODUCTS

(Not Used)

PART 3 – EXECUTION

3.01 PRIMARY CONTROLS

- A. Dust Control: If the disturbed portions of the Project become loose and dry enough for blowing dust, the Contractor will be responsible for sprinkling the site until the surface is wet.
- B. Sediment Controls: Structural practices for this site will include rock dams and sedimentation fences around construction work areas.

- 1. At a minimum, silt fences, vegetative buffer strips, or equivalent sediment controls are required for all down slope boundaries of the construction area and for those side slope boundaries as appropriate based on site conditions.
- 2. Measures will also be taken to prevent the off-site tracking of sediments and mud by vehicles exiting the project area.
- 3. A sedimentation basin is not required as 10 or more acres will not be disturbed at one time.
- C. Erosion Control and Stabilization Practices: Per the Technical Specifications, stabilization in areas of disturbed soils and/or trenching will be achieved temporarily through mulch and permanently through seeding or hydromulching. Stabilization will be considered complete when vegetative cover with a density of at least 70% (evenly distributed without large bare areas) for the area has been established on all unpaved areas and all other permanent stabilization measures have been employed.
 - 1. Erosion control and stabilization measures must be initiated immediately in portions of the site where construction activities have temporarily (will not resume for a period exceeding 14 calendar days) or permanently ceased. Immediately means as soon as practicable, but no later than the end of the next work day in which earth-disturbing activities in the area have temporarily or permanently ceased.
 - 2. If stabilization measures are not practical, (for example, due to drought conditions such that necessary watering is not possible) then best management practices to contain pollutants onsite will be properly maintained until such time as stabilization activities will occur. The Contractor must document in the SWP3 the reason why stabilization measures are not possible.
 - 3. The erosion and stabilization measures must be completed no more than 14 days after the construction activity in that portion of the site has temporarily or permanently ceased.
 - 4. Final stabilization must be achieved prior to termination of permit coverage.
- D. Structural Controls: Site work will be performed in phases leaving certain areas undisturbed as the Work progresses. Permanent structural controls that will be installed at this site for control of storm water following completion of construction will include rock dams, baffles and weirs.

- E. Non-Storm Water Controls: Pollution prevention measures for non-storm water discharges at the site will include sedimentation fencing and filtration membranes.
 - 1. Wash out of concrete trucks servicing the construction project from offsite production facilities is allowed only as directed by the engineer.
 - a. Wash out will only be in areas where structural controls have been established or to areas that have minimal slope and allow infiltration and filtering of wash out water. Direct discharge of concrete truck wash water to surface water in the state, including discharge to storm sewers is prohibited.
 - b. Wash out of concrete trucks during rainfall events will be minimized and the Contractor will ensure that BMPs are sufficient to prevent discharges as a result of rain.
 - c. The contractor will ensure that the discharge of the washout water will not cause groundwater contamination.
 - 2. The following discharges are prohibited:
 - a. Wastewater from washout and cleanout of paint, form release oils, curing compounds, and other construction materials.
 - b. Fuels, oils, or pollutants used in vehicle and equipment operation.

 Maintenance activities on vehicles and equipment are prohibited.
 - c. Soaps or solvents used in vehicle washing.

3.02 OTHER CONTROLS

- A. Waste Materials: All trash and construction debris from the site will be disposed of in a proper manner to prevent offsite transport of litter, debris and materials by any means. No construction waste materials will be buried on-site. All personnel will be instructed regarding the correct procedure for waste disposal.
- B. Hazardous Waste: All hazardous waste materials will be disposed of in accordance with all local, state, and federal regulations.
- C. Sanitary Waste: All sanitary waste will be removed from portable units as necessary and/or required by governing regulations. Removal will be by a licensed or permitted disposal company, and the waste disposed of in a proper manner.

- D. Other Construction Materials: Other construction materials that are expected to contribute pollutants to storm water will be maintained in such a way to prevent the contribution of pollutants including being covered or contained.
- E. Standing Storm Water Pumped From Construction Site: If standing water must be pumped from construction area, it will first be discharged through a filtration system such as hay bale trap or other appropriate controls to prevent discharge of pollutants from the site.
- F. Onsite Fuel Storage: All fuels and oils will be stored in containment.
- G. Contractor's Laydown Area: Silt fence will be installed and maintained per this specification around the perimeter of the Laydown Area and exits will be controlled per this specification.

3.03 COMPLIANCE WITH APPROVED STATE AND LOCAL PLANS

There is no applicable federal, state, or local sediment erosion site plan or permit or storm water management plan or site permit at this time. Should one become available, the Contractor will be informed by written notice and will be responsible for complying with the requirements in the written notice.

3.04 MAINTENANCE / INSPECTION & RECORD KEEPING PROCEDURES

- A. Inspections: Personnel selected for inspection and maintenance responsibilities will receive training from the Contractor. They will be trained and knowledgeable in all the inspection and maintenance practices necessary for keeping the erosion and sediment controls used on-site in good working order and determining the effectiveness of the controls.
 - 1. Silt fence will be inspected for depth of sediment, tears, to see if the fabric is securely attached to the fence posts, and to see that the fence posts are firmly in the ground.
 - 2. Rock dams, hay bale traps, or other sediment traps will be inspected for depth of sediment and adequacy.
 - 3. All areas not yet stabilized, material storage areas, locations where vehicles enter and exit the site, and discharge locations will also be inspected for pollutants entering the drainage system.
 - 4. Inspections must be conducted at least once every 14 calendar days and within 24 hours of the end of a storm event of 0.5-inches or greater.

5. Copies of the inspection records in which an amendment to the SWP3 is necessary must immediately be provided to the PCCA Environmental Compliance Manager along with proposed revisions to the SWP3 for review.

B. Maintenance:

- 1. All control measures will be maintained in good working order; if a repair is necessary, it will be initiated within 24 hours of any report or prior to the next rainfall event, whichever occurs sooner.
- 2. Built-up sediment will be removed from the control structures when it has reached one-half the height of the fence.
- 3. If sediment leaves the site, accumulations must be removed immediately upon discovery.

C. Record Keeping:

- 1. The Contractor will select one individual who will be responsible for inspections, maintenance and repair activities, and filling out the inspection and maintenance report.
- 2. A report summarizing the scope of the inspection, names and qualifications of personnel making the inspection, the dates of inspection, and major observations relating to the implementation of the SWP3 will be completed and retained with the SWP3. At a minimum, the major observations will include locations of discharges of sediment or other pollutants from the site, locations of the BMPs that need to be maintained, locations of BMPs that failed to operate as designed or proved inadequate for a particular location, and locations where additional BMPs are needed. The report must also identify any incidents of non-compliance. The SWP3 must be modified based on the results of inspections, as necessary, to better control pollutant runoff.
- 3. A maintenance report describing actions taken as a result of inspections will be completed and maintained as a part of the SWP3.
- 4. A record of the dates when soil disturbing activities occurred, the dates when construction activities temporarily or permanently ceased on a portion of the site, and the dates when final stabilization measures were initiated will be maintained as a part of the SWP3.
- 5. A detailed map indicating locations of all controls and buffers, drainage patters, locations of construction support activities, construction exits, and

- all other features must be kept as part of the SWP3 as required per Part III.F.1g of TPDES general permit TXR15000
- 6. Inspection reports with certification for compliance, maintenance reports, and activities log will be retained for at least three years from the date of the NOT. These records will be made available to the PCCA upon request.

3.05 SPILL PREVENTION

- A. Materials Management Practices: Proper materials management practices will be utilized to reduce the risk of spills or other accidental exposure of materials and substances to storm water runoff.
 - 1. Good housekeeping measures will be implemented at the site including, but not limited to:
 - a. Maintaining clean work areas.
 - b. Using material-handling equipment properly.
 - c. Reusing or recycling the product, if practical.
 - d. Storing plainly labeled, containerized materials in a protected, secure location away from drains.
 - e. Educating personnel on proper storage, use, cleanup, and disposal of materials.
 - f. Performing routine maintenance throughout the site regularly.
 - g. Removing scrap metal, wood, plastic, trash, paper, glass, welding rods, *etc.*, from the Project area daily.
 - 2. The site superintendent will inspect daily to ensure proper use and disposal of materials on-site.
- B. Spill Cleanup Materials: Materials and equipment necessary for spill cleanup will be kept in the material storage area on-site. Equipment and materials will include, but not be limited to, brooms, dustpans, mops, rags, gloves, goggles, kitty litter, sand, sawdust, and plastic and metal trash containers specifically for this purpose.
- C. Miscellaneous: All on-site vehicles and equipment will be monitored for leaks and receive regular preventive maintenance to reduce the chance of leakage. Petroleum products will be stored in tightly sealed containers that are clearly

labeled. Any asphalt substances used on-site will be applied according to the manufacturer's recommendations.

3.06 SPILL CONTROL

- A. Spill Response Measures: Immediately upon the discovery of an unauthorized release, the first responder's priority is to contain the spill and locate the source of the spill. The next priority is to stop the flow at the source. The first responder should notify a supervisor of the event.
 - 1. If the spill exceeds the following reportable quantities, depending on a release to land or water, notifications will be made as described below:
 - a. Spills on Land: For spills on land of the reportable quantity as identified in Table 302.4 of 40 CFR 302.4 of hazardous substances, 210 gallons (5 barrels) or more of crude oil or oil other than a petroleum product or used oil, 25 gallons or more of petroleum product or used oil, or 100 pounds of industrial solid waste or other substance, Contractor must notify the Port Police Department (361) 882-1182. Contractor is also responsible for notifying the appropriate State Response Center at (800) 832-8224. If the spill on land will potentially violate applicable water quality standards, cause a film or sheen on the surface water, or cause a sludge or emulsion to be deposited beneath the surface of the water, Contractor must advise the Port Police Department of this and the Contractor is also then responsible for notifying the National Response Center at (800) 424-8802.
 - b. Spills on Water: For spills on water of 100 pounds or lower quantity as identified in Table 302.4 of 40 CFR 302.4 of hazardous substances, any amount of crude oil or oil other than a petroleum product or used oil, petroleum product or used oil in a quantity sufficient to create a sheen, or 100 pounds of industrial solid waste or other substances, Contractor must notify the Port Police Department (361) 882-1182. Contractor is also responsible for notifying the appropriate State Response Center at (800) 832-8224 and the National Response Center at (800) 424-8802.
 - 2. In the event of a spill, the Contractor will adhere to the following precautions:
 - a. Keep the area well ventilated.
 - b. Dispose of the cleanup materials properly.
 - c. Not use emulsifiers or dispersants.

- d. Know the material being handled and any product specific precautions including, but not limited to, appropriate protective clothing.
- e. Contact the spill coordinator and relay the substance type and quantity spilled, the location and time of release, the nature of the response actions taken, and the size of the area impacted or potentially impacted.
- f. All spills will be cleaned up immediately after discovery.
- 3. The Contractor's construction superintendent responsible for the day-to-day operations will be the spill prevention and cleanup coordinator.
- 4. Cleanup operations will be continued until the Environmental Compliance Manager or appropriate control agencies are satisfied that an adequate cleanup has been accomplished.
- B. Removal Procedures for Spills on Land: As much liquid material as is practical will be removed by vacuum truck. The remaining material will be removed by the use of absorbents. Impacted soils will be excavated and disposed of in a proper manner.
- C. Removal Procedures for Spills on Water: If the spill has entered navigable waters, booms will be placed upstream and downstream of the spill area to contain the spill. Absorbent pads will be utilized to remove as much spilled material from the surface of the water as possible.

PART 4 – MEASUREMENT & PAYMENT

(Not Used)

END OF SECTION

STORM WATER POLLUTION PREVENTION PLAN

PROJECT NAME:	Storm water Quality	-Phase I at Bulk	Terminal	
PROJECT NO:	15046-A			
DESCRIPTION OF C	CONSTRUCTION AC	CTIVITIES:	Bulk Termina Improvement	al Storm water quality
TOTAL NUMBER O	F ACRES OF ENTIR	RE PROPERTY	:	
TOTAL NUMBER O		CONSTRUCTIO Acres	ON	
DESCRIPTION OF S	SOILS AT THE SITE	:		
NAME OF RECEIVI	NG WATER AT THI	E SITE: Corpu	s Christi Ship	Channel
DISCHARGING TO	MS4: YES / NO	NAME OF O	PERATOR:	City of Corpus Christi
RUNOFF COEFFICI	ENT:			
ESTIMATED STAR	T DATE:	ESTIN	MATED END	DATE:
prepared under my di qualified personnel p inquiry of the person for gathering the info	properly gathered and or persons who man ormation, the information and complete. I am a	n in accordance evaluated the tage the system, ation submitted tware that there	with a system information su , or those pers is, to the bes are significant	and all attachments were a designed to assure that abmitted. Based on my ons directly responsible t of my knowledge and penalties for submitting knowing violations.
NAME: TITLE: COMPANY:	Port of Corpus Chris	ti Authority		
SIGNATURE:			DA7	ГЕ:
DATE NOI SUBMIT	TED:			ONLINE / PAPER
GENERAL PERMIT	AUTHORIZATION	NO.:		

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terms and conditions permit that authorize	RTIFICATION: I certify under person of the general Texas Pollutant Discharges the storm water discharges associated value of this certification.	rge Elimin	ation System (TPDES)
CONTRACTOR:			
SIGNATURE:		DAT	E:
DATE NOI SUBMITTED:			ONLINE / PAPER
GENERAL PERMIT	AUTHORIZATION NO.:		_
CONTRACTOR:			
SIGNATURE:		DAT	E:
DATE NOI SUBMITTED:			ONLINE / PAPER
GENERAL PERMIT	AUTHORIZATION NO.:		_
CONTRACTOR:			
SIGNATURE:		DAT	E:
DATE NOI SUBMIT	TED:		ONLINE / PAPER
GENERAL PERMIT	AUTHORIZATION NO.:		_
ATTACHMENTS:	TECHNICAL SPEC 01 57 23.13 TPDES GENERAL PERMIT NO. TXR PCCA NOI, PERMIT, & CONSTRUCT CONTRACTOR NOI, PERMIT, & CONSTRUCT BMP'S SITE DRAWINGS	TION SITE	

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SWP3 FORMS

BECAUSE OF PERIODIC EXCEEDANCES OF A TOTAL SUSPENDED SOLIDS (TSS) BENCHMARK FOR STORM WATER DISCHARGES, DEFINED UNDER TPDES PERMIT WQ0004200000, THE PORT OF CORPUS CHRISTI AUTHORITY (PCCA) AUTHORIZED A STUDY AND A DESIGN PROJECT TO ASSESS AND ADDRESS STORM WATER QUALITY MANAGEMENT ISSUES AT THE PCCA BULK TERMINAL FACILITY.

THE BULK TERMINAL FACILITY INCLUDES FIVE LEASED PAD SITES AND TWO PUBLIC STORAGE PADS. RUNOFF FROM THE NORTHERN PORTION OF THE SITE FLOWS TOWARDS A SERIES OF EVAPORATION PONDS: RUNOFF FROM THE SOUTHERN PORTION IS CONVEYED VIA A NETWORK OF OPEN CONCRETE TRAPEZOIDAL DITCHES, FROM WHICH IT IS EITHER PUMPED TO THE EVAPORATION PONDS OR DISCHARGED THROUGH OUTFALLS INTO THE CORPUS CHRISTI SHIP

THERE ARE FIVE (5) OUTFALLS FROM THE BULK TERMINAL ALONG THE CORPUS CHRISTI SHIP CHANNEL. THESE ARE NUMBERED 1 THROUGH 5, THREE OF THESE FIVE OUTFALLS (NOS. 1, 2 & 3) ARE ASSOCIATED WITH DRAINAGE AREAS WITHIN THE LIMITS OF THIS PROJECT. THESE THREE DRAINAGE AREAS ARE SUB-DIVIDED INTO SMALLER DRAINAGE SUB-AREAS WITHIN EACH OUTFALL BASIN, A DRAINAGE AREA MAP IS INCLUDED IN THE CONSTRUCTION PLANS.

STORM WATER QUALITY IMPROVEMENTS

THE EXISTING CONVEYANCE SYSTEM FOR OUTFALLS 1, 2 & 3 INCLUDE STORM WATER FILTRATION SYSTEMS IN VARYING STATES OF REPAIR AND FUNCTIONALITY. THE PURPOSE OF THE STORM WATER QUALITY IMPROVEMENTS PROJECT IS TO PROVIDE DETENTION VOLUME WITHIN THE CONCRETE DITCH FOOTPRINT TO REDUCE THE DISCHARGE OF STORM WATER AND TO MINIMIZE THE TRANSPORT OF PET COKE LADEN RUNOFF INTO THE SHIP CHANNEL. THIS WILL BE ACCOMPLISHED WITH A TIERED STRATEGY OF PET COKE CAPTURE THAT INCLUDES:

- LIMITING THE LOCATIONS INTO WHICH STORM WATER IS ALLOWED TO ENTER THE CONCRETE DITCH:
- EXTENDING SIDE WALLS AND CURRS ALONG THE TOP OF THE CONCRETE DITCH THAT PRECLUDE DIRECT DISCHARGE OF RUNOFF.
- PROVIDING SPECIFIC INLET POINTS AT WHICH RUNOFF IS ALLOWED TO ENTER THE CONCRETE DITCH VIA DEVICES DESIGNED TO CAPTURE PET COKE-
- . ALLOWING PONDING TO THE TOP OF CURB ON CONCRETE ACCESS ROADS IN ORDER TO REDUCE THE VELOCITY OF RUNOFF THEREBY ALLOWING PET COKE TO SETTLE ON THE STREET AFTER SLOW DISSIPATION OF STORM WATERS AFTER A STORM EVENT FOR EASE OF REMOVAL BY STREET SWEEPING EQUIPMENT
- REPLACING THE TRAPEZOIDAL GEOMETRY OF THE CONCRETE DITCH WITH A RECTANGULAR CROSS-SECTION IN LOCATIONS WHERE ADDITIONAL DITCH VOLUME CAN BE UTILIZED TO DETAIN STORM WATER RUNOFF FROM MOVING DOWNSTREAM. PROVIDING A SERIES OF BAFFLES AND WEIRS WITHIN THE CONCRETE DITCH TO DETAIN STORM WATER (VIA WEIRS) AND CAUSE LIGHTWEIGHT/FLOATING PET COKE MATERIAL TO DROP OUT OF THE WATER COLUMN (VIA BAFFLES)
- WEIRS WILL HAVE SMALL DIAMETER PVC PIPE PENETRATIONS TO ALLOW THE POST EVENT STORM WATER ACCUMULATION TO TRICKLE OUT SO THAT SUBSEQUENT EVENT DETENTION STORAGE IS NOT COMPROMISED.
- PROVIDING RAMPS AND A WIDENED CONCRETE DITCH WHERE PRACTICAL, TO ALLOW MAINTENANCE AND OPERATIONS PERSONNEL EASIER ACCESS INTO THE DITCH WITH EQUIPMENT THAT CAN REMOVE PET COKE LEFT BEHIND THE WEIRS AND BAFFLES AFTER A STORM EVENT.

DETENTION VOLUMES & RAINFALL CAPTURE

THE VOLUME OF STORAGE CAPACITY UPSTREAM OF EACH OF THE PROPOSED WEIRS IN THE WATERSHEDS FOR OUTFALL NO. 1 (6.68 ACRES), OUTFALL NO. 2 (1,92 ACRES) AND OUTFALL NO. 3 (10.85 ACRES) HAS BEEN CALCULATED AND COMPARED WITH TOTAL RAINFALL DEPTHS UPON THE SUB-ACREAGES ASSOCIATED WITH EACH WEIR. IF "SPILLOVER" OCCURS BECAUSE A RAINFALL VOLUME UPON THE SUB-ACREAGE EXCEEDS THE CAPACITY OF STORAGE BEHIND A WEIR, THAT SPILLOVER IS ADDED TO THE VOLUME OF RAIN GENERATED FROM THE SUB-ACREAGE ASSOCIATED WITH THE NEXT WEIR DOWNSTREAM AND SO ON UNTIL THE TOTAL MAXIMUM RAINFALL DEPTH AND VOLUME FOR AN OUTFALL CAN BE DETERMINED. THIS IS THE RAINFALL UPSTREAM OF THE OUTFALL FOR WHICH THERE WILL BE NO DISCHARGE OF STORM WATER INTO THE SHIP CHANNEL. THESE ARE THE RESULTS OF THAT ANALYSIS:

- OUTFALL NO. 1: 1-1/2" RAINFALL DETAINED; 39,975 CUBIC FEET OF STORAGE CAPACITY
- OUTFALL NO. 2: 2" RAINFALL DETAINED; 20,200 CUBIC FEET OF STORAGE CAPACITY.
- OUTFALL NO. 3: 1/2" RAINFALL DETAINED; 28,000 CUBIC FEET OF STORAGE CAPACITY.

FREQUENCY OF OCCURRENCE OF SHIP CHANNEL DISCHARGE

BASED UPON PCCA RAINFALL GAGE DATA OBTAINED OVER A RECENT 15-YEAR PERIOD, THE APPROXIMATE PERCENTAGE OF TIMES THAT A PARTICULAR RAINFALL EVENT DEPTH WOULD HAVE BEEN CAPTURED BY THE INCREASED DETENTION VOLUME OF THE PROPOSED IMPROVEMENTS CAN BE DETERMINED. THAT ANALYSIS INDICATES THE FOLLOWING:

- OUTFALL NO. 1: 1-1/2" RAIN: DETENTION WOULD HAVE CAPTURED 91% OF ALL RECORDED EVENTS.
- OUTFALL NO. 2: 2" RAIN: DETENTION WOULD HAVE CAPTURED 94% OF ALL RECORDED EVENTS.
- OUTFALL NO. 3: ½" RAIN: DETENTION WOULD HAVE CAPTURED 72% OF ALL RECORDED EVENTS.

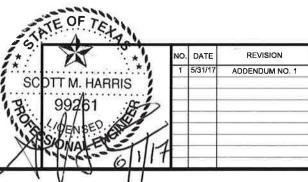
PUBLIC PONDS

THE PCCA HAS PUBLIC STORAGE PADS AT THE EAST/SOUTHEAST CORNER OF THE BULK TERMINAL SITE. DRAINAGE OFF OF THESE PUBLIC PADS IS CONVEYED TO PUBLIC PONDS ALONG THE NORTHERN PERIMETER OF THE PUBLIC PAD AREA. THESE PONDS ARE INTERCONNECTED WITH CULVERTS BETWEEN PONDS AND EVENTUALLY CAN DISCHARGE TO THE WEST, HOWEVER, THE DEPTH OF WATER IN THE POND WOULD HAVE TO BE GREAT ENOUGH TO SPILL OUT OF AN 18-INCH REINFORCE CONCRETE CULVERT PIPE BENEATH A SPUR RAIL TO THE WEST, AND A VEGETATED SWALE/WEIR FURTHER TO THE WEST BEFORE IT COULD DISCHARGE INTO THE OUTFALL NO. 3 WATERSHED.

OVER TIME, THE PUBLIC PONDS HAVE SILTED IN AND ARE AT A FRACTION OF THEIR ORIGINAL CAPACITY. THIS PROJECT IS CHARGED WITH RE-ESTABLISHING THE ORIGINAL CAPACITY OF THE PUBLIC PONDS. THE CONTRACTOR WILL HAVE TO EXCAVATE AND/OR DREDGE THE MATERIAL THAT HAS BUILT UP IN THE PONDS. AN AREA NORTHWEST OF THE PUBLIC PONDS HAS BEEN SET ASIDE FOR THE CONTRACTOR TO USE TO DRY OUT THE DREDGED MATERIAL. THE PCCA WILL TEST THE DRIED MATERIAL TO DETERMINE AN ACCEPTABLE LOCATION WHERE THE CONTRACTOR MAY DISPOSE THE MATERIAL OFFSITE.

GENERAL NOTES

- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND EXISTING CONDITIONS AND NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- THE CONTRACTOR SHALL NOT INTERFERE WITH OPERATIONAL ACTIVITY AT THE TERMINAL
- ACCESS TO THE SITE AND THE WORKING AREA IS LIMITED.
- THE CONTRACTOR SHALL NOT INTERFERE WITH OPERATIONS OF ANY TENANTS.
- THE CONTRACTOR SHALL COORDINATE WITH ALL UTILITIES REGARDING LOCATION, DEPTH & REQUIRED MINIMUM COVER FOR PIPELINES.
- SOILS EXCAVATED FOR CONCRETE CHANNEL TO BE STOCKPILED WITH MATERIAL DREDGED FROM PUBLIC PONDS; THEN TESTED AND HAULED OFF IN ACCORDANCE WITH PCCA DIRECTIONS. THE CONTRACTOR SHALL CEASE OPERATIONS AND THE OWNER SHALL BE NOTIFIED AT ONCE IF ANY HAZARDOUS MATERIALS ARE ENCOUNTERED ON THE SITE DURING CONSTRUCTION. THE OWNER WILL COORDINATE THE REMOVAL OF ANY HAZARDOUS MATERIALS.
- WASHOUT OF CONCRETE TRUCKS SHALL ONLY BE IN THE AREA DESIGNATED ON THE DRAWINGS. WASHOUT WILL BE INTO AN APPROVED BMP AS SHOWN ON THE DRAWINGS, THE CONTRACTOR SHALL REMOVE ALL SAID MATERIAL AND PROPERLY DISPOSE OF IT AT THE END OF THE PROJECT.
- REINFORCING STEEL
- A. SEE PROJECT SPECIFICATIONS.
- GRADING AND DRAINAGE
- CONTRACTOR SHALL COMPLY WITH OSHA REGULATIONS AND STATE OF TEXAS LAW CONCERNING EXCAVATION, TRENCHING AND SHORING.
- B. ALL FINAL GRADING SHALL BE IN ACCORDANCE WITH ELEVATIONS AND SLOPES INDICATED IN THE DRAWINGS
- EARTHWORK AND PAVING
- A. ALL EXISTING PAVING, NOT SHOWN TO BE REMOVED, DAMAGED BY CONTRACTOR SHALL BE REPAIRED TO ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO OWNER. B. FILL MATERIAL SHALL BE PLACED IN MAXIMUM EIGHT-INCH LIFTS AND SHALL BE COMPACTED TO 95 PERCENT STANDARD PROCTOR DENSITY WITH MOISTURE CONTENT
- BETWEEN MINUS ONE AND PLUS THREE PERCENT OF OPTIMUM.
- FOUNDATION DESIGN IS BASED ON THE GEOTECHNICAL REPORT PREPARED BY ROCK ENGINEERING & TESTING LABORATORY, INC. (RETL) IN AUGUST 2015, (REPORT NUMBER G115167) THIS REPORT IS INCLUDED IN THE PROJECT SPECIFICATIONS FOR THE CONTRACTOR'S INFORMATION.
- A. DURING EXCAVATION & DRYING OF MATERIAL AND PRIOR TO REMOVAL FROM THE SITE THE PORT OF CORPUS CHRISTI WILL TEST AND SAMPLE THE EXCAVATED MATERIAL, THE CONTRACTOR SHALL COORDINATE WITH THE PORT OF CORPUS CHRISTI REGARDING REMOVAL AND DISPOSAL OF THE MATERIAL TO A PORT APPROVED LANDELL SITE



PORT CORPUS CHRISTI SCALE: NOTED

PCCA PROJ. #15-046A

DETAIN A RAINFALL FROM UPSTREAM DRAINAGE AREAS AS NOTED: OUTFALL NO. 1 = 1 #

DESIGN CRITERIA & ASSUMPTIONS

WEIRS IN DRAINAGE DITCHES ARE DESIGNED TO

OUTFALL NO. 2 = 2" OUTFALL NO. 3 = 3"

DRAIN PIPES AT WEIRS ARE INCLUDED TO ALLOW FOR SLOW DRAINAGE OF DETAINED STORM WATER TO PRE-STORM ELEVATIONS AFTER A RAINFALL EVENT.

CONSTRUCTION SEQUENCE

PUBLIC PAD PONDS:

- 1. INSTALL SWP3 EROSION & SEDIMENT CONTROLS.
- 2. EXCAVATE PONDS.
- 3. DRY EXCAVATED MATERIAL (PCCA TO TEST MATERIAL AND PROFILE TO LANDFILL).
- REMOVE EXCAVATED MATERIAL & DISPOSE IN ACCORDANCE WITH PCCA DIRECTIVES BASED ON TEST RESULTS.
- 5. FINAL GRADING.
- 6. REMOVE TEMPORARY SWP3 COMPONENTS.
- 7. LEAVE PERMANENT SWP3 COMPONENTS IN PLACE, IF AND WHERE INDICATED ON THE DRAWINGS.

- INSTALL SWP3 CONTROLS.
- 2. DEMOLITION OF UPSTREAM CONCRETE COMPONENTS-
- CONSTRUCT CONCRETE WEIRS, BAFFLES, CHANNEL WALLS, CONCRETE CHANNEL BOTTOM & INLETS &
- 4. REPEAT FOR UPSTREAM OUTFALL NO. 3 SYSTEM.
- 5. REPEAT FOR OUTFALL NO. 2 SYSTEM.
- 6. REPEAT FOR OUTFALL NO. 3 DOWNSTREAM SYSTEM.
- 7. REPEAT FOR OUTFALL NO. 1 DOWNSTREAM SYSTEM
- 8. REMOVE TEMPORARY SWP3 COMPONENTS.
- 9. LEAVE PERMANENT SWP3 COMPONENTS IN PLACE.

& Newnam, Inc. A LEO A DALY COMPANY PLANNING

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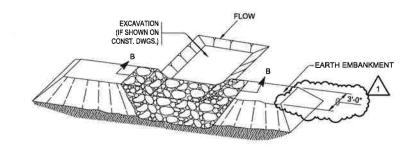
PORT OF CORPUS CHRISTI AUTHORITY

STORM WATER SYSTEM QUALITY IMPROVEMENTS **BULK TERMINAL**

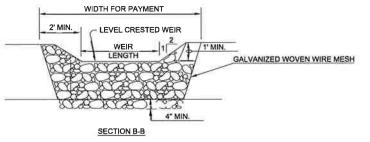
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GENERAL NOTES. & DESIGN CRITERIA

DATE: 05/04/2017 DWG. NO.



FILTER DAM AT SEDIMENT TRAP
TYPE 2

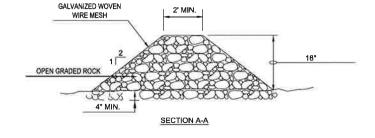




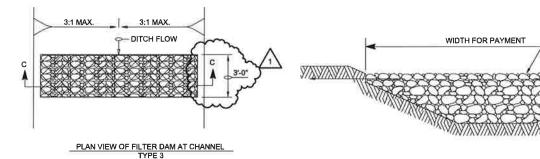
GALVANIZED WOVEN WIRE MESH

SEE NOTE 6

ROCK FILTER DAM (TYPE 2) AT SEDIMENT TRAP

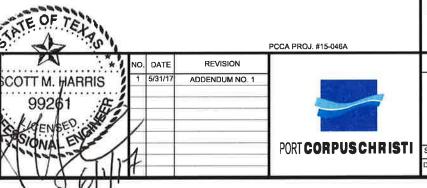


ROCK FILTER DAM (TYPE 1) AT TOE OF SLOPE 6,11



SECTION C-C





ROCK FILTER DAM - GENERAL NOTES

- IF SHOWN ON THE PLANS OR DIRECTED BY THE ENGINEER. FILTER DAMS SHOULD BE PLACED NEAR THE TOE OF SLOPES WHERE EROSION IS ANTICIPATED, UPSTREAM AND/OR DOWNSTREAM AT DRAINAGE STRUCTURES, AND IN ROADWAY DITCHES AND CHANNELS TO COLLECT SEDIMENT
- 2. MATERIALS (AGGREGATE, WIRE MESH, SANDBAGS, ETC.) SHALL BE AS INDICATED BY THE SPECIFICATIONS.
- 3. THE ROCK FILTER DAM DIMENSIONS SHALL BE AS INDICATED ON THE SWP3 PLANS.
- 4. SIDE SLOPES SHOULD BE 2:1 OR FLATTER, AS SHOWN ON PLANS.
- 5. MAINTAIN A MINIMUM OF 1' BETWEEN TOP OF ROCK FILTER DAM WEIR AND TOP OF EMBANKMENT FOR FILTER DAMS AT SEDIMENT TRAPS.
- 6. FILTER DAMS SHOULD BE EMBEDDED A MINIMUM OF 4" INTO EXISTING GROUND UNLESS LOCATED ON EXISTING CONCRETE.
- 7. THE SEDIMENT TRAP FOR PONDING OF SEDIMENT LADEN RUNOFF SHALL BE OF THE DIMENSIONS SHOWN ON THE PLANS
- 8. ROCK FILTER DAM SHALL BE SECURED WITH 20 GAUGE GALVANIZED WOVEN WIRE MESH WITH 1" DIAMETER HEXAGONAL OPENINGS. THE AGGREGATE SHALL BE PLACED ON THE MESH TO THE HEIGHT & SLOPES SPECIFIED. THE MESH SHALL BE FOLDED AT THE UPSTREAM SIDE OVER THE AGGREGATE AND TIGHTLY SECURED TO ITSELF ON THE DOWNSTREAM SIDE USING WIRE TIES OR HOG RINGS, IN STREAM USE THE MESH SHOULD BE SECURED OR STAKED TO THE STREAM BED PRIOR TO AGGREGATE PLACEMENT.
- 9. FLOW OUTLET SHOULD BE ONTO A STABILIZED AREA

ROCK FILTER DAM USAGE GUIDELINES

ROCK FILTER DAMS SHOULD BE CONSTRUCTED DOWNSTREAM FROM DISTURBED AREAS TO INTERCEPT SEDIMENT FROM OVERLAND RUNOFF AND/OR CONCENTRATED FLOW.

TYPE 1 (18" HIGH WITH WIRE MESH): TYPE 1 MAY BE USED AT THE TOE OF SLOPES, AROUND INLETS, IN SMALL DITCHES, AND AT DIKE OR SWALE OUTLETS, THIS TYPE OF DAM IS RECOMMENDED TO CONTROL EROSION FROM A DRAINAGE AREA OF 5 ACRES OR LESS. TYPE 1 MAY NOT BE USED IN CONCENTRATED HIGH VELOCITY FLOWS (APPROX. 8 FT/SEC OR MORE) IN WHICH AGGREGATE WASH OUT MAY OCCUR, SANDBAGS MAY BE USED AT THE EMBEDDED FOUNDATION (4" DEEP MIN.) FOR BETTER FILTERING EFFICIENCY OF LOW FLOWS IF CALLED FOR ON THE PLANS OR DIRECTED BY

TYPE 2 (18" HIGH WITH WIRE MESH): TYPE 2 MAY BE USED IN DITCHES AND AT DIKE, SWALE, AND SEDIMENT TRAP OUTLETS

TYPE 3 (36" HIGH WITH WIRE MESH): TYPE 3 MAY BE USED IN STREAM FLOW AND SHOULD BE SECURED TO THE STREAM BED.



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PORT OF CORPUS CHRISTI AUTHORITY

STORM WATER SYSTEM **QUALITY IMPROVEMENTS BULK TERMINAL**

DWN. BY: ARV

SWP3 DETAILS

DWG. NO.

SCALE: N/A

SHEET 2 OF 3

DATE: 05/04/2017

