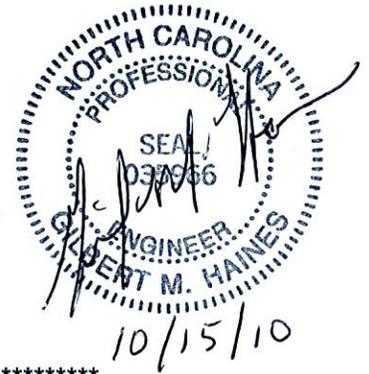


**BIDDING AND CONTRACT DOCUMENTS FOR
CABARRUS COUNTY, NORTH CAROLINA
CONSTRUCTION AND DEMOLITION DEBRIS LANDFILL
PHASE 1L EXPANSION PROJECT**

CDM PROJECT NO. 1278-77070



ADDENDUM NO. 3

Date Issued: October 15, 2010

Bidders on this Project are hereby notified that this Addendum shall be attached to and made a part of the above named Bidding and Contract Documents dated September 2010.

The following items are issued to add to, modify, and clarify the Bidding and Contract Documents. These items shall have full force and effect as the Bidding and Contract Documents, and cost involved shall be included in the bid prices. Bids, to be submitted on the specified bid date, shall conform to the additions and revisions listed herein.

Acknowledge receipt of the Addendum by inserting its number and date on the appropriate page of the bid forms (i.e., page 00300-1). Failure to do so may subject the bidder to disqualification.

PLANHOLDER'S LIST

The Planholder's List is attached (Attachment No.1) and made part of this Addendum.

PROJECT MANUAL

Section 00300 – Bid Form

1. On page 00300-8 add "Section 00310 Minority Participation" to the list of forms required as item (d) and renumber the subsequent items accordingly.

Section 00501 – Construction Agreement Form(Contract B)

1. On page 00501-2, change paragraph 3. Contract Time to read as follows:

"Substantial Completion for Contract B is **120 calendar days** from Notice to Proceed (NTP).

All work shall reach final completion within **150 calendar days** from Notice to Proceed for **Contract B.**"

Section 11314 - Engine Driven Trash Pump

Section 11314 has been revised and is being re-issued with this Addendum. Please replace Section 11314 in the Project Manual in its entirety with the new version in Attachment No.2 which includes the following changes:

- 1- Changed trash pump model to Gorman Rupp Models 3S5AR, 3S5HR, 3S5YR or equal.

GENERAL COMMENTS

Compiled from the non-mandatory Pre-bid Conference on October 6, 2010 and questions received from plan holder up until October 15, 2010:

1. *Is there a source of water onsite available for the hydrostatic test of the leachate tank ?*

Response:

Water acquisition

The Contractor has several options for water acquisition for the hydrostatic test for the leachate tank:

1- Stormwater basins: The proposed Stormwater Basin No. 2 design storage volume may be sufficient to provide the volume of water necessary for the test. However water availability in the pond at the time of tank testing is not guaranteed and will be dependent upon rainfall amount, pond discharge rates, and the effect of evaporation and infiltration. If the Contractor decides that this option is feasible, the Contractor will be responsible for pumping the water into the tank at no cost to the Owner. If the stormwater basin does not provide the required amount of water for tank testing, the Contractor shall be responsible for acquiring the balance of water needed from other sources identified below. No water shall be pumped from the wetland ponds.

2- Potable water: The Contractor has the option to obtain water from the closest hydrant of the City of Kannapolis hydrant located at the intersection between Lane Road & Royce Street in Kannapolis. The Contractor will be responsible for all hauling costs plus any permit and fees associated with the operation. Contact Wendy Patterson in the City of Kannapolis Engineering Department at 704-920-4200 for more details.

3- Water Service Firms: The Contractor may use the service of a local bulk water services company such as Davis Water Services or equal to provide potable water for the hydrostatic test. Contact Ryan Davis with Davis Water Services at 1-800-234-8845 for more information.

4- Reclaimed Water: The Contractor may obtain reuse water from one of the wastewater treatment plants operated by the Water and Sewer Authority of Cabarrus County (WSACC), such as such the Muddy Creek Wastewater Treatment Plant. The Contractor will be responsible for all hauling costs plus any permit and fees associated with such operation. Contact Timothy Molden with WSACC for more information at 704-788-4164.

The use of a water source different than those listed herein requires prior approval of the Engineer. The Engineer may request that a chemical test be performed on the water to be able to decide on the quality of the alternative source proposed. The Contractor shall perform the tests at no additional cost to the Owner.

Disposal of Water

The following options can be considered for disposal of water after the hydrostatic test:

1- Stormwater ponds: If stormwater from the pond is used, it can be discharged back into the pond upon completion of the test. If potable water is used, it can only be

disposed into the stormwater basins upon dechlorination of the water. The Engineer will not allow potable water to be disposed onsite without dechlorination. Water discharge shall be discharged at a slow flow rate such to prevent erosion into the bottom of the pond. If necessary, the Contractor shall, at his own cost, install an energy dissipation measure in the pond during the discharge to prevent erosion. The energy dissipation measure can be made of riprap underlain by a filter fabric. The Contractor will be responsible for damage that occurs during the disposal of the water.

2- Haul to a wastewater treatment facility: Non dechlorinated potable water and reuse water shall be disposed into either the wastewater collection system or directly at the wastewater treatment plant such as the the Muddy Creek Wastewater Treatment Plant operated by the Water and Sewer Authority of Cabarrus County (WSACC). Contact Timothy Molden with WSACC for more information at 704-788-4164. The Contractor may use his own means of transportation or the services of a local bulk water services company such as Davis Water Services or equal. Contact Ryan Davis with Davis Water Services at 1-800-234-8845 for more information.

2. *Can you clarify what forms should I submit with my bid if I bid for Contract A or Contract B*

Response:

For **Contract A** (General Contractor), you shall submit the following forms:

- (a) Bid Form (Section 00300)
- (b) Bid Security in the form of Bid Bond/Certified Check/Cashier's Check in the amount of 5% of Bidder's Base Bid Price.
- (c) Power of Attorney (for surety bond only)
- (d) Evidence of Bidder's certification and license to perform the work and services
- (e) Section 00310 Minority Participation
- (f) Section 00480 – Non-Collusive Affidavit
- (g) Section 00420 – Qualification Form for the Contractor
- (h) Section 00421 – Qualification Form for the Steel Bolted Leachate Storage Tank
- (i) Section 00485 – Authority to Execute Contract

Note that item (h) applies to Contract A only if a bid is submitted for Bid Alternate No. 1.

For **Contract B** (Tank Contract), you shall submit the following forms:

- (a) Bid Form (Section 00301)
- (b) Bid Security in the form of Bid Bond/Certified Check/Cashier's Check in the amount of 5% of Bidder's Base Bid Price.

- (c) Power of Attorney (for surety bond only)
 - (d) Evidence of Bidder's certification and license to perform the work and services
 - (e) Section 00310 – Minority Participation
 - (f) Section 00480 – Non-Collusive Affidavit
 - (g) Section 00421 – Qualification Form for the Steel Bolted Leachate Storage Tank Subcontractor
 - (h) Section 00485 – Authority to Execute Contract
3. *If we don't meet the minimum qualification on Section 00420, can we use a subcontractor, a partner or a consultant with landfill experience to be qualified ?*

Response: Contractor can use a subcontractor or a partner to meet the qualification, provided that the proposed subcontractor or partner meets the requirements of Section 00420 based on previous landfill projects where the firm or individual was performing as a general contractor. If a consultant is proposed to meet the "landfill construction" experience, he must have landfill construction experience on projects as a general contractor. Previous positions to be considered acceptable for demonstration of experience for consultants include Construction management on lined landfill expansion projects, or superintendent for the general contractor on lined landfill construction projects. Construction oversight and CQA services will not be considered equivalent.

4. *Is it mandatory to include the alternate for tank installation in Contract A if the owner is getting direct prices from the supplier of the tanks ?*

Response: No. Bid Alternate No. 1 is not mandatory; however, the County will award Contract A based upon what is deemed in the best interest of the County, which may be Contract A with Bid Alternate No. 1.

DRAWINGS

Sheet No. D-7 - Replace with the attached Sheet D-7, which incorporates the following changes

1. Showed the tank roof .
2. Added OSHA compliant aluminum stairway with landing and handrails
3. Deleted the 6-inch pipe going from the tank loading area into the northern secondary containment sump.
4. Added a second 4-inch plug valve near the tee with blind flange for connection to future tank along the influent pipe.
5. Added a tee, a 4" plug valve and a 4" type A cam-lock fitting along the influent pipe.
6. Showed adjustable pipe support along the 4-inch leachate influent and 4-inch DIP offloading pipe.
7. Added the following notes:

6. Overflow pipe shall extend down to bottom of the tank

7. *The leachate tank level switch and alarm devices shall be set to perform as following:*

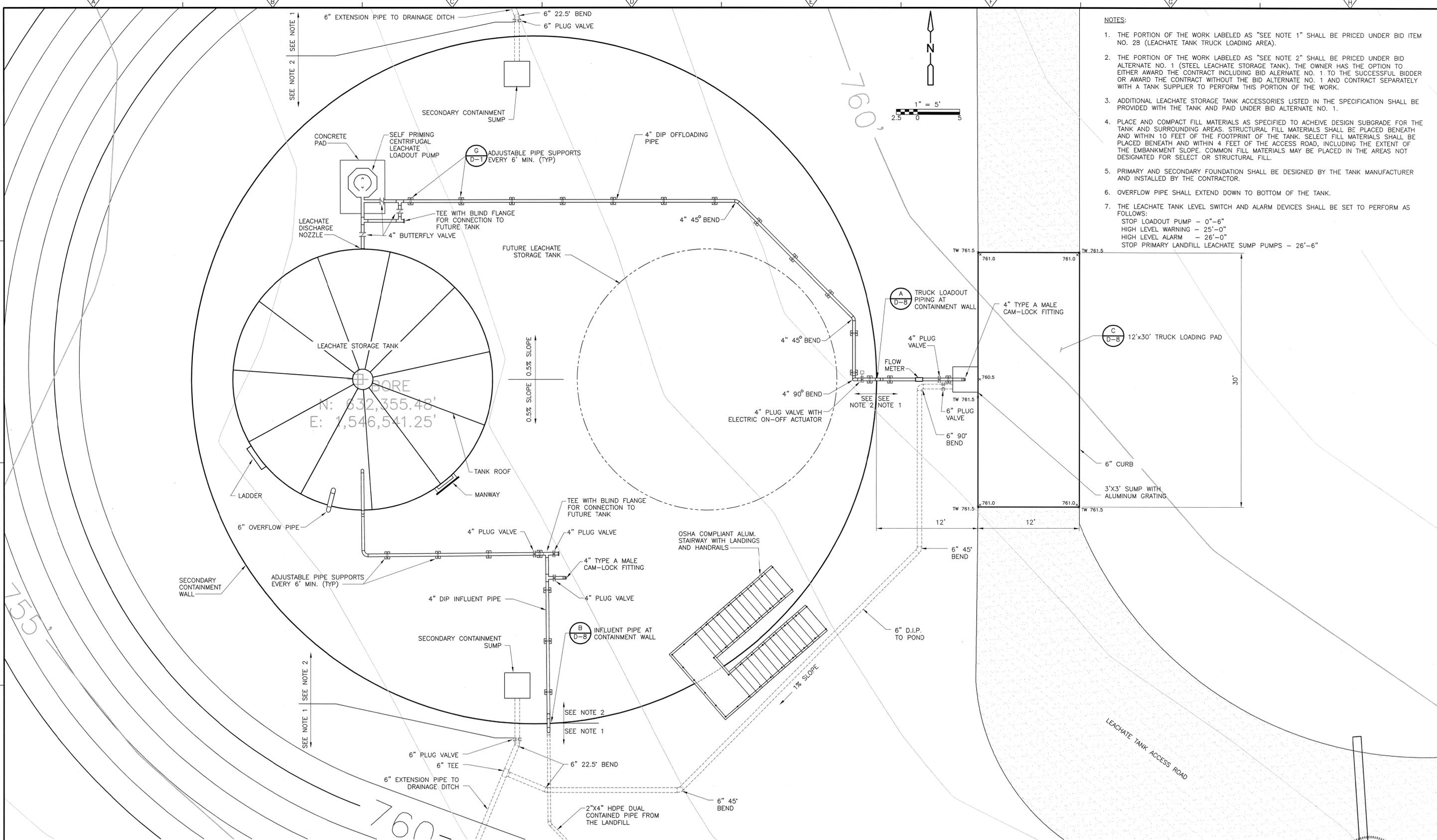
<i>Stop Loadout Pump</i>	<i>0'- 6"</i>
<i>High Level Warning</i>	<i>25'-0"</i>
<i>High Level Alarm</i>	<i>26'-0"</i>
<i>Stop Primary Landfill Leachate Sump Pumps</i>	<i>26'-6"</i>

Sheet No. D-7A - Added the attached new sheet D-7A to the Bid Set

Sheet No. D-8

1. Detail A – Provided two 90 degree bends to lower the 4-inch pipe and the valve inside the containment wall as shown Figure 1.
2. Detail A – Added an air release valve as shown on Figure No. 1
3. Detail B – Added an air release valve as shown on Figure No. 2
4. Detail B – Added a 2"x4" HDPE reducer as shown on Figure No. 2

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- NOTES:**
1. THE PORTION OF THE WORK LABELED AS "SEE NOTE 1" SHALL BE PRICED UNDER BID ITEM NO. 28 (LEACHATE TANK TRUCK LOADING AREA).
 2. THE PORTION OF THE WORK LABELED AS "SEE NOTE 2" SHALL BE PRICED UNDER BID ALTERNATE NO. 1 (STEEL LEACHATE STORAGE TANK). THE OWNER HAS THE OPTION TO EITHER AWARD THE CONTRACT INCLUDING BID ALTERNATE NO. 1 TO THE SUCCESSFUL BIDDER OR AWARD THE CONTRACT WITHOUT THE BID ALTERNATE NO. 1 AND CONTRACT SEPARATELY WITH A TANK SUPPLIER TO PERFORM THIS PORTION OF THE WORK.
 3. ADDITIONAL LEACHATE STORAGE TANK ACCESSORIES LISTED IN THE SPECIFICATION SHALL BE PROVIDED WITH THE TANK AND PAID UNDER BID ALTERNATE NO. 1.
 4. PLACE AND COMPACT FILL MATERIALS AS SPECIFIED TO ACHIEVE DESIGN SUBGRADE FOR THE TANK AND SURROUNDING AREAS. STRUCTURAL FILL MATERIALS SHALL BE PLACED BENEATH AND WITHIN 10 FEET OF THE FOOTPRINT OF THE TANK. SELECT FILL MATERIALS SHALL BE PLACED BENEATH AND WITHIN 4 FEET OF THE ACCESS ROAD, INCLUDING THE EXTENT OF THE EMBANKMENT SLOPE. COMMON FILL MATERIALS MAY BE PLACED IN THE AREAS NOT DESIGNATED FOR SELECT OR STRUCTURAL FILL.
 5. PRIMARY AND SECONDARY FOUNDATION SHALL BE DESIGNED BY THE TANK MANUFACTURER AND INSTALLED BY THE CONTRACTOR.
 6. OVERFLOW PIPE SHALL EXTEND DOWN TO BOTTOM OF THE TANK.
 7. THE LEACHATE TANK LEVEL SWITCH AND ALARM DEVICES SHALL BE SET TO PERFORM AS FOLLOWS:
 STOP LOADOUT PUMP - 0'-6"
 HIGH LEVEL WARNING - 25'-0"
 HIGH LEVEL ALARM - 26'-0"
 STOP PRIMARY LANDFILL LEACHATE SUMP PUMPS - 26'-6"

**LEACHATE STORAGE FACILITY
DETAIL A**
1" = 5'-0"



REV. NO.	DATE	DRWN	CHKD	REMARKS

DESIGNED BY: G HAINES
 DRAWN BY: M. KOSKI
 SHEET CHK'D BY: G. HAINES
 CROSS CHK'D BY: C. GABEL
 APPROVED BY: G. HAINES
 DATE: SEPTEMBER 2010

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 Camp Dresser & McKee
 5400 Glenwood Avenue, Suite 300
 Raleigh, NC 27612
 Tel: (919) 787-5620
 North Carolina Firm Licensure: F-0412
 consulting • engineering • construction • operations

CABARRUS COUNTY
 NORTH CAROLINA
**CONSTRUCTION PLAN - PHASE 1L EXPANSION
 CABARRUS COUNTY C&D LANDFILL**

**STEEL EPOXY COATED
 LEACHATE STORAGE TANK**

PROJECT NO. 1278-77070
 FILE NAME: D-7
 SHEET NO.
D-7

4" PIPE FROM LOAD OUT PUMP
 PIPING TO BE SCH 10, 304 SS PER ASTM A-312.
 FITTINGS TO BE SCH 10, 304 SS PER ASTM A-403.
 FLANGES ARE TYPE C STUB ENDS AND 150 LB. HOT
 DIP GALVANIZED BACK UP FLANGES.

4" BUTTERFLY VALVE WITH
 ELECTRIC ON-OFF ACTUATOR
 BY TANK SUPPLIER

SEE NOTE 2 SEE NOTE 1

1'-0"±

AIR RELEASE VALVE
 MODEL ARV100EPT-PV
 BY PLASTOMATIC, INC. OR EQUAL

CONTRACTOR TO CONNECT 4"
 HDPE TO 4" SS PIPE FLANGE,
 CONTRACTOR TO COORDINATE
 WITH TANK SUPPLIER

TOP OF TANK CONTAINMENT WALL

G
 D-1 ADJUSTABLE PIPE SUPPORT
 BY GENERAL CONTRACTOR

4" D.I. PIPE TO TRUCK LOADOUT
 PAD FROM TANK

4" BUTTERFLY VALVE

4" TYPE A CAM-LOCK FITTING

3

2'-0"
 5'-6"±
 CONTAINMENT WALL
 BY TANK SUPPLIER

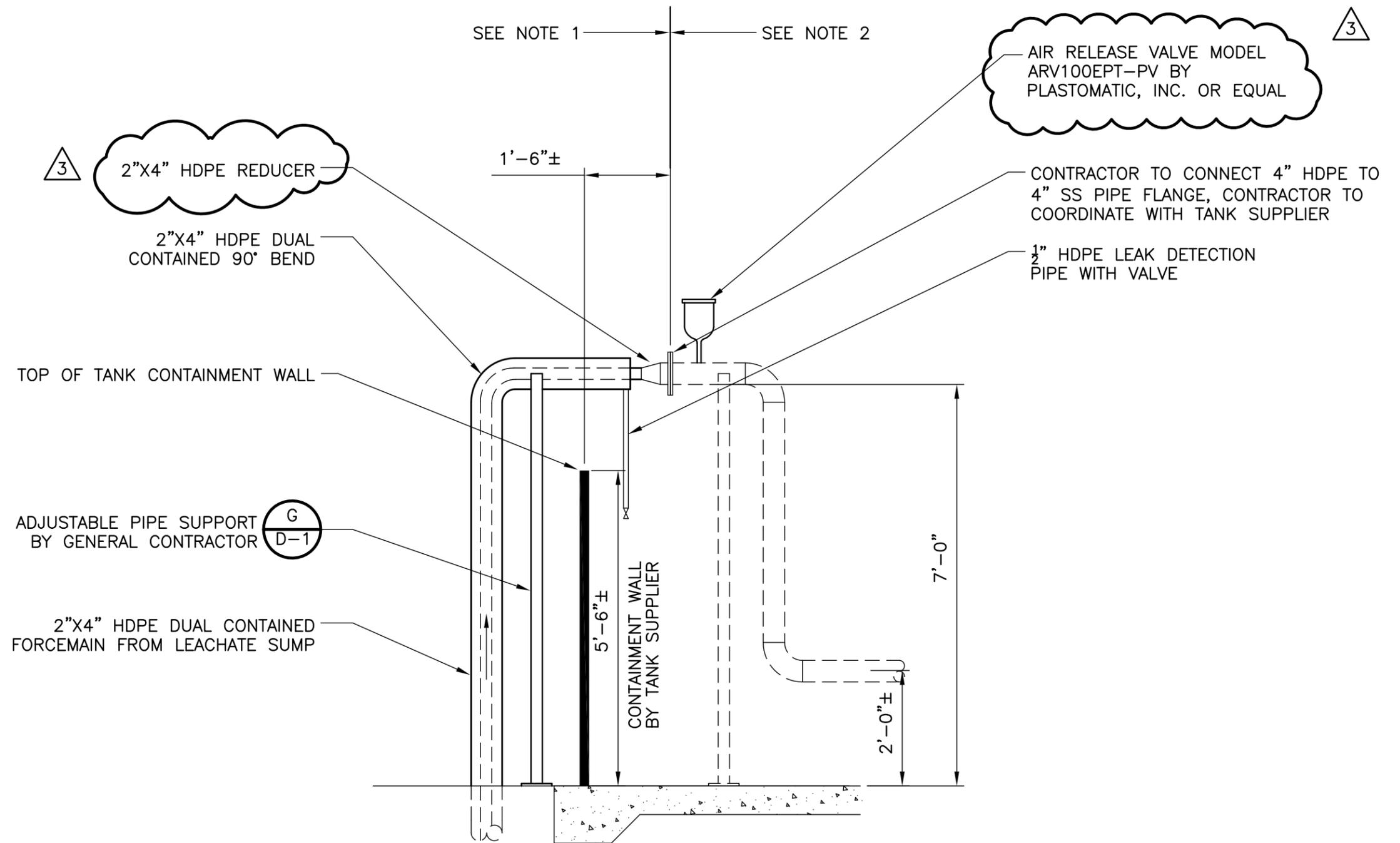
TRUCK LOAD OUT PIPING AT CONTAINMENT WALL

DETAIL

1/2" = 1'-0"

A
 -

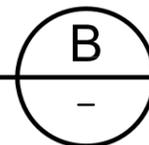
SHEET NO.	LOCATION	ADDENDUM NO.	FIGURE NO.



INFLUENT PIPING AT CONTAINMENT WALL

DETAIL

1/2" = 1'-0"



SHEET NO.	LOCATION	ADDENDUM NO.	FIGURE NO.

Attachment No. 1

**Cabarrus County, NC
Construction and Demolition
Debris Landfill Phase 1L Expansion Project
Bidder's List (REBID)
CDM Project No. 1278-77070**

Contractor	Contact Name	Contractor Type?
Cabarrus County Solid Waste Management	Rick Payne, Solid Waste Director	
4441 Irish Potato Road	Phone: 704-791-5567	
Concord, NC 28025	Fax: 704-795-3917	
rapayne@cabarruscounty.us		
AGC Plan Room-Charlotte	Chelsea Andujar	
1100 Euclid Ave.	Phone: 704-372-1450	
Charlotte, NC 28203	Fax: 704-940-0265	
candujar@carolinasagc.org		
McGraw-Hill Construction Dodge	Susan Goodman	
800 Clanton Road, Ste. G	Phone: 704-525-6924	
Charlotte, NC 28217-2201	Fax: 704-521-9346	
susan_goodman@mcgraw-hill.com		
CDM-Raleigh	Farouk Banna	
5400 Glenwood, Ave., Ste. 300	Phone: 919-787-5620	
Raleigh, NC 27612	Fax: 919-781-5730	
banna@cdm.com		
CDM-Raleigh	Bob Brossoie	
5400 Glenwood, Ave., Ste. 300	Phone: 919-787-5620	
Raleigh, NC 27612	Fax: 919-781-5730	
brossoiere@cdm.com		
CDM- Charlotte	Martin Sanford	
301 South McDowell Street, Ste. 512	Phone: 704-342-4546	
Charlotte, NC 28204	Fax: 704-342-2296	
martinsd@cdm.com		
T&K Construction	Jamie Jenkins	General Contractor
235 Country Road 1242	Phone: 256-734-6611	
Vinemont, AL 35179	Fax: 256-734-4977	
jamie@tandkconstruction.com		
Earnhardt Grading, Inc. (EGI)	Mark LeGrand	General Contractor
7525 Old Plank Road	Phone: 704-601-4290	
Stanley, NC 28164	Fax: 704-601-4295	
mark@earnhardtgrading.com		
Sargent Corporation	Terry Watts	General Contractor
4820 Southpoint Drive, Ste. 205	Phone: 540-898-8362	
Fredericksburg, VA 22407	Fax: 540-898-8364	
twatts@sargent-corp.com		
Thalle Construction Company	Mary Eagens	General Contractor
900 NC 86 North	Phone: 919-241-1620	
Hillsborough, NC 27278	Fax: 919-241-1659	
meagens@thalle.com		
Shamrock Environmental, Inc.	Rick Wigal	General Contractor
503 Patton Avenue	Phone: 336-375-1989	
Greensboro, NC 27406	Fax: 336-282-2499	
rwigal@shamrockenviro.com		

Cabarrus County, NC
Construction and Demolition
Debris Landfill Phase 1L Expansion Project
Bidder's List (REBID)
CDM Project No. 1278-77070

Contractor	Contact Name	Contractor Type?
J.T. Russell & Sons, Inc.	Nathan Russell	General Contractor
1721 US 52 North	Phone: 704-982-2225	
Albermarle, NC 28001	Fax: 704-986-2270	
nathanrussell@jtrussellandsons.com		
Triangle Grading and Paving	Stephanie Griffin	General Contractor
1521 S. Huffman Mill Road	Phone: 336-584-1745	
Burlington, NC 27215	Fax: 336-584-0145	
sgriffin@trianglegradingpaving.com		
Blythe Construction Company	Mitch Hurst	General Contractor
2911 N. Graham Street	Phone: 704-375-8474	
Charlotte, NC 28206	Fax: 704-375-7814	
mitch.hurst@blytheconstruction.com		
N/S Carolina Storage Systems, Inc.	Ed Yarboro	General Contractor
838 Wallace Grove Drive	Phone: 704-482-2401	
Shelby, NC 28150	Fax: 704-487-1909	
nscarolina@carolina.rr.com		
Plastic Fusion Fabricators, Inc	Shawn Schmitt	Sub Contractor
3455 Stanwood Boulevard	Phone: 256-852-0378	
Huntsville, AL 35811	Fax: 256-852-0442	
sschmitt@plasticfusion.com		
East Coast Construction Services, LLC	Venetta Worrell	Sub Contractor
2705 Westchester Drive	Phone: 336-431-1533	
High Point, NC 27262	Fax: 336-431-1530	
eccsadmin@northstate.net		

Attachment No. 2

SECTION 11314



ENGINE DRIVEN TRASH PUMP

PART1 -GENERAL

1.01 SCOPE OF WORK

- A. The Contractor shall furnish all labor, materials, equipment and incidentals required and install, put into operation, and field test (1) one engine driven self priming trash pump unit and appurtenances as specified herein.
- B. The engine driven pump shall be used to remove stormwater in the cell area after each rain event during construction. Inlet protection measure shall be installed as shown on the Drawings to reduce transport of sediments by the pumps as shown on the Drawings. The pump shall be permanently installed at the low point of the stormwater segregation berm after installation of the berm and tarp as shown on the Drawings. The Contractor will be responsible for the operation and maintenance of the pump during the course of the project, including in the stormwater segregation area up until Final Completion date.
- C. There shall be furnished and installed all necessary and desirable accessory equipment and auxiliaries whether specifically mentioned in these Specifications or not. This installation shall incorporate the highest standards for the type of service. The Contractor is responsible for field testing of the entire installation and in instruction of the regular operating personnel in the care, operation and maintenance of all equipment.
- D. The stormwater pumping unit shall include the following:
 - 1. A portable engine driven self-priming trash/stormwater pump.
 - 2. An engine start-stop control system mounted on the electric set.
 - 3. A strainer
 - 4. A built-in EPDM check valve
 - 5. Accessories as specified.

1.02 DESCRIPTION OF SYSTEMS

- A. The pumping unit shall be arranged for manual starting and stopping.
- B. The engine driven pumping unit shall be of the latest commercial type and design. The unit shall include all standard accessories. Workmanship shall conform to modern practices and shall include static and dynamic balancing of rotating parts of the pumping unit. Only new and current model will be considered. The unit offered under these Specifications shall be covered by the manufacturer's standard warranty and shall meet the requirements of the Specifications set forth herein. Major exceptions to specifications will be considered sufficient cause for rejection of the machine.

1.03 QUALIFICATIONS

- A. The engine driven pump unit shall be the standard product, as modified by these Specifications, of a manufacturer regularly engaged in the production of this type of equipment. The unit to be furnished shall be of proven ability and shall be designed, constructed, and installed in accordance with best practices and methods. To qualify as a manufacturer, the pump must be the principal item manufactured. To ensure unity of responsibility, the motor and pump should be furnished by the pump manufacturer.
- B. The unit shall be assembled in the U.S. with over 50% of the components such as the engine, generator, auxiliary equipment, etc., manufactured in the U.S. by a manufacturer currently engaged in the production of such equipment.
- C. The unit shall be shipped to the jobsite by the manufacturer, having a parts and service facility within a 250 mile radius of the jobsite.
- D. All equipment furnished under this Specification shall be new, unused, and the standard product of a manufacturer having a successful record of manufacturing and servicing the equipment and systems specified herein for a minimum of one (1) year.
- E. The Pumping Unit shall be as manufactured by Gorman Rupp Models 3S5AR, 3S5HR, 3S5YR or equal.

1.04 SUBMITTALS

- A. Submit to the Engineer for approval in a number as required in Section 01300, complete sets of installation drawings, schematics, and wiring diagrams which shall show details of installation and connections to the work of other Sections, and brochures covering each item of equipment.
- B. In the event that it is impossible to conform to certain details of the Specifications due to different manufacturing techniques, describe completely all nonconforming aspects.
- C. The submittal data for each unit shall include, but not necessarily be limited to, the following:
 - 1. Engine Data:
 - a. Manufacturer
 - b. Model
 - c. Number of cylinders
 - d. RPM
 - e. BMEP at full rated load
 - h. Make and model and descriptive literature
 - i. Fuel consumption rate curves at various loads
 - j. Engine maximum continuous pump drive duty rating
 - 2. Pump Data:
 - a. Manufacturer
 - b. Model
 - c. Rated gpm

- d. Rated TDH
- e. BHP
- f. Material of Construction
- g. Solids Handling Capability
- h. Certified Reprime Performance
- I. Descriptive literature, bulletins, and/or catalogs of the equipment
- j. Data on the characteristics and performance of each pump. Data shall include guaranteed performance curves, based on actual shop tests of similar units, which show that they meet the specified requirements for head, capacity, efficiency, NPSHR, submergence and horsepower. Curves shall be submitted on 8-1/2-inch by 11-inch sheets, at as large a scale as is practical. Curves shall be plotted from no flow at Shut Off Head to Pump Capacity at minimum specified TDH. Catalog sheets showing a family of curves will not be acceptable.
- k. A list of the manufacturer's recommended spare parts to be supplied in addition to those specified in paragraph 1.07, with the manufacturer's current price for each item. Including O-rings, seals, etc. on the list. List bearings by the manufacturer's numbers only.
 - l. All submittal data required by the General Conditions.

1.05 OPERATING INSTRUCTIONS

- A. Operating and maintenance manuals shall be furnished. The manuals shall be prepared specifically for this installation and shall include all required cuts, drawings, equipment lists, descriptions, etc. that are required to instruct operation and maintenance personnel unfamiliar with such equipment. The number of manuals to be furnished and any special requirements shall be as specified in Section 01730.

1.06 SPECIAL TOOLS AND SPARE PARTS

- A. The manufacturer shall furnish any special tools if required for normal operation and maintenance of the equipment being furnished including the trailer.
- B. The manufacturer shall furnish a complete set of critical spare parts necessary for the first year operation of the pumping system.

1.07 PRODUCT HANDLING

- A. All parts shall be properly protected so that no damage or deterioration will occur during a prolonged delay from the time of shipment until installation is completed and the units and equipment are ready for operation.
- B. All equipment and parts must be properly protected against any damage during a prolonged period at the site.
- C. Factory assembled parts and components shall not be dismantled for shipment unless permission is received in writing from the Engineer.
- D. Finished surface of all exposed openings (exhaust, etc.) shall be protected by wooden blanks, strongly built and securely bolted thereto.
- E. Finished iron or steel surfaces not painted shall be properly protected to prevent rust and

corrosion.

- F. After hydrostatic or other tests, all entrapped water shall be drained prior to shipment, and proper care be taken to protect parts from the entrance of water during shipment, storage and handling.
- G. Each box or package shall be properly marked to show its net weight in addition to its contents.

1.08 WARRANTY

- A. All equipment supplied under this section shall be warranted for a period of one (1) year by the Contractor and the equipment manufacturer(s). Warranty period shall commence on the date of Owner acceptance as outlined Section 01740.
- B. The equipment shall be warranted to be free from defects in workmanship, design and materials. If any part of the equipment should fail during the warranty period, it shall be replaced in the machine(s) and the unit(s) restored to service at no expense to the Owner.
- C. The manufacturer's warranty period shall run concurrently with the Contractor's warranty period. No exception to this provision shall be allowed.

PART 2 - PRODUCTS

2.01 ENGINE

- A. The engine shall be Briggs & Stratton Intek Pro , Yanmar Diesel L48, Honda GX160, or equal. Engine shall be furnished with an instrument panel with the following indicators: alternator failure light, oil pressure gauge, ammeter, hourmeter, and tachometer.
- B. The Engine shall use regular gasoline or diesel available in any gas station. Pump motors requiring special fuel will not be accepted.

2.02 SELF-PRIMING TRASH/STORMWATER PUMP

- A. The pumps shall be horizontal, self-priming trash/stormwater pump, specifically designed for pumping stormwater, sediments, and floatable solids generally encountered on construction sites. The pump shall have 3-inch suction connection, and 3-inch discharge connection.
- B. All areas of the pump casing and volute which are exposed to stormwater shall be constructed of cast iron of no lesser grade than Class 30.
- C. All openings, internal passages, and internal recirculation ports shall be large enough to permit the passage of a sphere 1 1/3-inches in diameter, and any trash or stringy material which can pass through the average house collection system. Certified dimensional drawings indicating size and locations of the priming recirculation port or ports shall be submitted to the engineer for approval prior to shipment.
- D. Pump Performance

1. The pump must have the necessary characteristics and be properly selected to perform under these operating conditions:

Total Dynamic Head, in feet	50	25
Capacity, in gpm	200	280
Shutoff, in feet	105	105

- E. No special tools shall be required for replacement of any components within the pump. The pump must be equipped with a removable cover plate, allowing access to pump interior to permit the clearance of stoppages and to provide simple access for service and repairs without removing suction or discharging piping.
- G. The pump shall be fitted with a replaceable wear plate. Replacement of the wear plate, impeller, seal, and suction check valve shall be accomplished through the removable cover plate. The entire rotating assembly, which includes bearings, shaft, seal, and impeller, shall be removable as a unit without removing the pump volute or piping.
- H. The pump shall incorporate a built-in EPDM check valve.
- I. The pump impeller shall be ductile iron.

2.04 HOSE AND FITTINGS

- A. Provide one suction hose, smooth bore, 3 inch diameter x 25 feet each length.
- B. Provide one length of discharge hose, smooth bore, 3 inch diameter x 25 feet each length
- C. Provide fully enclosed suction strainer capable of preventing pump from applying suction "seal" to plastic tarp in stormwater basin.

PART 3 - EXECUTION

3.01 PAINTING

- A. The pumping unit and associated equipment shall be shop primed and finish coated in accordance with the manufacturer's standard practice prior to shipment. Color shall be approved by the Engineer and an adequate supply of touch-up paint shall be supplied by the manufacturer.

END OF SECTION