

November 7, 2018

Mr. Steve Morgan
Florida Department of Environmental Protection – Southwest District
Air & Solid Waste Permitting Manager
Permitting and Waste Cleanup Program
13051 Northeast Telecom Parkway, Suite 101
Temple Terrace, FL 33637-0926

RE: Enterprise Recycling and Disposal Facility
Cell 16 Construction Completion Report
Response to 10/30/18 RAI
Permit No.: 177982-023-SC/T3, Pasco County
WACS No.: 87895

Dear Mr. Morgan:

As requested, we have addressed the items listed in your October 30, 2018 correspondence herein. The response follows each of the items listed in your letter request. We have elected to provide a complete revised report to the Department, which is enclosed.

CELL 6 CONSTRUCTION COMPLETION CERTIFICATION REPORT

Please provide the following additional information and revisions to this Construction Completion Certification Report. Please either provide a complete revised report or provide replacement pages with revisions noted (deletions may be struckthrough ~~[struckthrough]~~ and additions may be underlined [underlined] or a similar method may be used) and each page numbered with the document title and date of revision. The report will be reviewed in its entirety upon receipt of the request information and revisions.

RESPONSE: The additional information and revisions are provided herein. Any replacement pages have been edited to show the revisions (deletions identified with strikethrough and additions underlined).

October 15, 2018 Cover Letter

1. **Item g.:** Documentation of the installation of monitoring wells MW-5AR and MW-5BR provided to the Department by Locklear and Associates on May 10, 2018. Please revise the documentation as indicated:

- a. The Installation of Monitoring Wells, Angelo's Recycled Materials – Enterprise Class III Landfill letter dated May 9, 2018 indicated that the subject wells (MW-5BR & MW-5BR), are scheduled to be surveyed “*at the next availability.*” To date, the Department has not received the survey data for these wells. Per Subparagraph 62-701.510(3)(d)1., F.A.C. please provide survey data conducted by Florida Licensed Professional Surveyor and Mapper for the replacement monitoring wells. The survey should include the location of the well, horizontally

located in degrees, minutes and seconds of latitude and longitude, and the elevation of the top of the well casing and ground surface by the well casing to the nearest 0.01 foot, using an industry approved datum. b. Figures 2 & 3:

- 1) Revise figure title to remove "Proposed".
- 2) Update facility name to "Enterprise Recycling & Disposal Facility"
- 3) The figure indicates December 2016 was the date it was revised; please update to the current revision date.
- 4) The figure indicates that measurement "D" is from the top of the well cap (not casing) and extends to the top of the concrete pad (not existing grade/ground surface). Likewise, measurement "B" is shown as extending from the top of the concrete pad to the bottom of the PVC casing. Please verify that measurements "B" and "D" are from the concrete pad and well cap (measurement "D") and not from existing grade/ground surface and the top of well casing and revise figure as applicable.
- 5) Column "D" of the included table indicates only 3-inches of casing stickup. Please verify or revise as applicable.
- 6) The following columns of the included table need to be updated with actual elevations extrapolated from the survey data and boring field logs:
 - a. Top of Screen Elevation
 - b. Bottom of Screen Elevation
 - c. Ground surface Elevation
 - d. Limestone Surface Elevation
- 7) The "Notes" provided on these figures appear to not be applicable to the installed monitoring wells MW-5AR and MW-5BR. Please revise the notes as applicable.

RESPONSE: The requested changes have been made to the MW-5AR and MW-5BR documentation with the exception of the items related to the survey information. Locklear & Associates has scheduled the wells to be surveyed and will provide copies of updated documentation to the Department under separate cover. Copies of the revised documentation are provided in Attachment D.

Attachment A – Certification of Construction Completion Form 62-701.900(2)

2. **Deviations from Plans and Application Approved by DEP:** It appear that there were deviations in construction of Cell 16 not described in this section of the form. Based on your response to comments below regarding the construction completion report, please revise the narrative provided for this section of the form, as appropriate.

RESPONSE: The construction completion form and narrative report have been revised to include the deviations in construction.

Attachment B – Record Drawings

3. **Cell 16 Top of Clay:**

- a. An-built survey of the clay perimeter berm is not provided on this drawing and does not appear to have been provided in the certification report. Please verify and provide an as-built survey of the clay perimeter berm.

RESPONSE: Drawing AB-02 has been revised to include the as-built conditions of the clay perimeter berm.

- b. The top of clay elevations provided on this drawing appear to be inconsistent with the survey elevations for Cell 16 presented on the Pickett October 2018 topographic survey. Please verify and explain this apparent discrepancy.

RESPONSE: We discussed the apparent elevation discrepancies with Mr. Jeff Young with Pickett Surveying and Associates, Inc. Mr. Young's explanation of the apparent differences between the data sets is provided in Attachment E. The apparent differences between the Pickett October 2018 survey and the spot elevations recorded during construction are within the acceptable tolerances.

Attachment C – Engineer of Record Narrative Report

4. **Clay Layer Construction:**

- a. The clay CQA testing information provided in Attachment D indicate that only one in-place density test and one permeability test was conducted for the entire perimeter berm, rather than one test for each constructed lift of the berm, consistent with the cell floor construction and testing procedures. Please explain.

RESPONSE: Permeability testing was performed on the "3' clay layer" (cell floor) per Appendix 3.2.a of the Operations Permit. The 3' clay layer extends approximately half way beneath the clay perimeter berm and was included in the cell floor testing program. Consistent with the testing associated with the certification of Cells 6 and 7, an additional permeability test was performed on the clay perimeter berm. All of the clay used for the cell floor and perimeter berm came from the same source and was installed using the same means and methods and is expected to yield them same installed maximum hydraulic permeability requirement of 1×10^{-8} cm/sec.

5. **Leachate Pipe and Wet Well:**

- a. The record drawing provided in Attachment B did not include as-built drawings of the constructed leachate collection trench and piping system and the constructed wet well, pump, and float control system. Please verify and provide as-built drawings of these systems.

RESPONSE: Drawing C4.00 of the plan set has been included in Attachment B to show the as-built conditions of those systems.

- b. Based on the narrative description in this section and a comparison of the leachate trench bottom elevations provided on the Top of Clay as-built drawing in Appendix B and the

leachate collection pipe elevations provided on the table titled "Cell 16 Pump Station and Leachate Collection Pipe As-Built Elevations", it appears that the leachate collection pipe was installed directly on the top of clay in the leachate collection trench rather than on top of an installed 3-inch aggregate layer as specified on the "Toe Drain" construction detail on Drawing C0.04 of the Permit Drawings for facility. A review of inspection photos taken during a February 2018 DEP facility operation compliance inspection seems to confirm that the leachate collection pipe was installed in this manner [see below]. Of particular concern with this installation deviation is that the clay will be in direct contact with and block the lower holes in perforated pipe. Please verify, explain, and provide supporting information demonstrating that the leachate collection system will function adequately under this construction condition and justification for this construction deviation.

RESPONSE: The leachate collection pipe was not installed directly on the clay and was constructed in accordance with the TOE DRAIN DETAIL shown on drawing C0.04. In the photo shown below, additional #4 gravel was placed over the constructed toe drain to protect it from UV degradation and subsequent waste placement.

Additional photos have been added to the construction completion report to document that the leachate pipe was installed within the geofabric. Additional commentary has also been added to the Narrative Report.

c. The "Toe Drain" construction detail on Drawing C0.04 of the Permit Drawing also specifies that the leachate pipe is surrounded by graded aggregate and then a non-woven filter fabric is installed over the aggregate. The inspection photo below and a photo of the leachate collection trench during construction provided at the end of the "Project Photographs" included in this report appear to depict a different installation configuration (i.e. installation of aggregate over no-woven filter fabric. Please verify this apparent construction deviation and based on the information provided on the as-built drawings for the leachate collection trench and piping system provided in response to Comment 5.a. above, provide support justification for the deviation if applicable.



RESPONSE: Please refer to the response directly above. The exposed gravel in this picture is the additional gravel that was used to cover the completed toe drain. The exposed pipe shown in the 02/09/18 photograph shows the approximate 30' long section of non-perforated pipe that leads from the end of the toe drain trench to the perimeter berm and then continues to the wetwell. This photograph was taken prior to that section of the trench being backfilled with clay. This section of pipe has since been backfilled with clay in substantial accordance with drawing C0.04

d. The easternmost top of clay elevation in the leachate trench reported on the "Top of Clay" as-built drawing in Appendix B is 74.90 ft. NGVD. The as-built invert elevation of the leachate collection pipe at the wet well [STM-1] is reported as 74.95 ft. NGVD. Based on the apparent installation of the leachate collection pipe directly on top of the installed clay layer in the leachate trench described in Comment #5.b. and shown on the photo above, it appears that gravity flow in that section of the solid leachate pipe will flow away from the wet well. Please verify this apparent construction deviation and based on the information provided on the asbuilt drawings for the leachate collection trench and piping system provided in response to Comment 5.a. above, provide supporting justification why the leachate collection system will function properly under these conditions.

RESPONSE: The difference between the two reported elevations is .05' or approximately ½" and is not expected to have any measurable influence on the leachate conveyance system. Using a vertical tolerance of +/- 1/16' (0.063') the elevation at the wetwell could be determined

to be as low as $74.95 - 0.063 = 74.89'$ and other elevation could be determined to be $74.90 + 0.063' = 74.96'$, showing a positive slope towards the wetwell.

e. Rule 62-701.500(8)(h), F.A.C. requires that “new leachate collection systems shall be water pressure cleaned or inspected by video recording after construction but prior to initial placement of waste”. Please provide documentation that this has occurred included that results of jet cleaning and/or video inspection that verify the system was constructed and is functioning as designed to convey leachate to the wet well.

RESPONSE: The system was pressure cleaned by Jetclean and their report is included in the construction Narrative Report.

f. Please provide the supporting information utilized for CQA verification that the leachate collection system aggregate used on this project met the required material specifications.

RESPONSE: The gradation test for the #4 gravel used in the leachate collection system is included in the Narrative Report.

g. Please revise this section to describe the CQA activities conducted to verify that the constructed leachate level float control system in the wet well is functioning as designed.

RESPONSE: This section of the CQA has been revised to document the CQA activities conducted to verify that the constructed leachate level float control system in the wet well is functioning as designed.

6. Field Inspection, Review, Conformance Assessment, and Major Deviations:

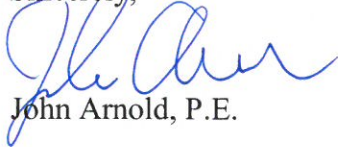
a. This section indicates that the capacity of the leachate collection pipe was increased by increasing the proposed diameter of the pipe from 6” to 8”. The design of the permitted leachate wet well was based on the calculated capacity of the designed and permitted 6” leachate collection pipe. Please provide supporting documentation that the increased capacity of the collection pipe can be accommodated by the constructed wet well and pump system.

RESPONSE: The design flow rate for Cell 16 remains the same. The purpose of increasing the pipe diameter was to potentially provide excess capacity in the future, for cell 17. No additional capacity is expected for Cell 16 and we anticipate addressing those permitting issues with the Department separately during the Cell 17 permitting process.

7. Please note that, in accordance with Specific Condition #2.B.2. of the above referenced permit, the construction deviations discussed in Comments #5.b., #5.c., and #6.a. above would appear to have required prior notification to the Department to determine whether a permit modification would be required for the proposed changes. The Department's Compliance Assurance Program by this letter has been informed of this matter for consideration of any potential non-compliance issues and follow up actions. This comment is provided for informational purposes only and does not necessarily require a response other than acknowledgement of the comment.

RESPONSE: We acknowledge this comment and hope that the additional information provides the Department to necessary information to approve the cell for use. As you are aware, we are anxious about operations at this location coming to a halt until we receive the necessary approvals and greatly appreciate your help. We would like to get your input as quickly as possible so that we can provide you with any additional information you need.

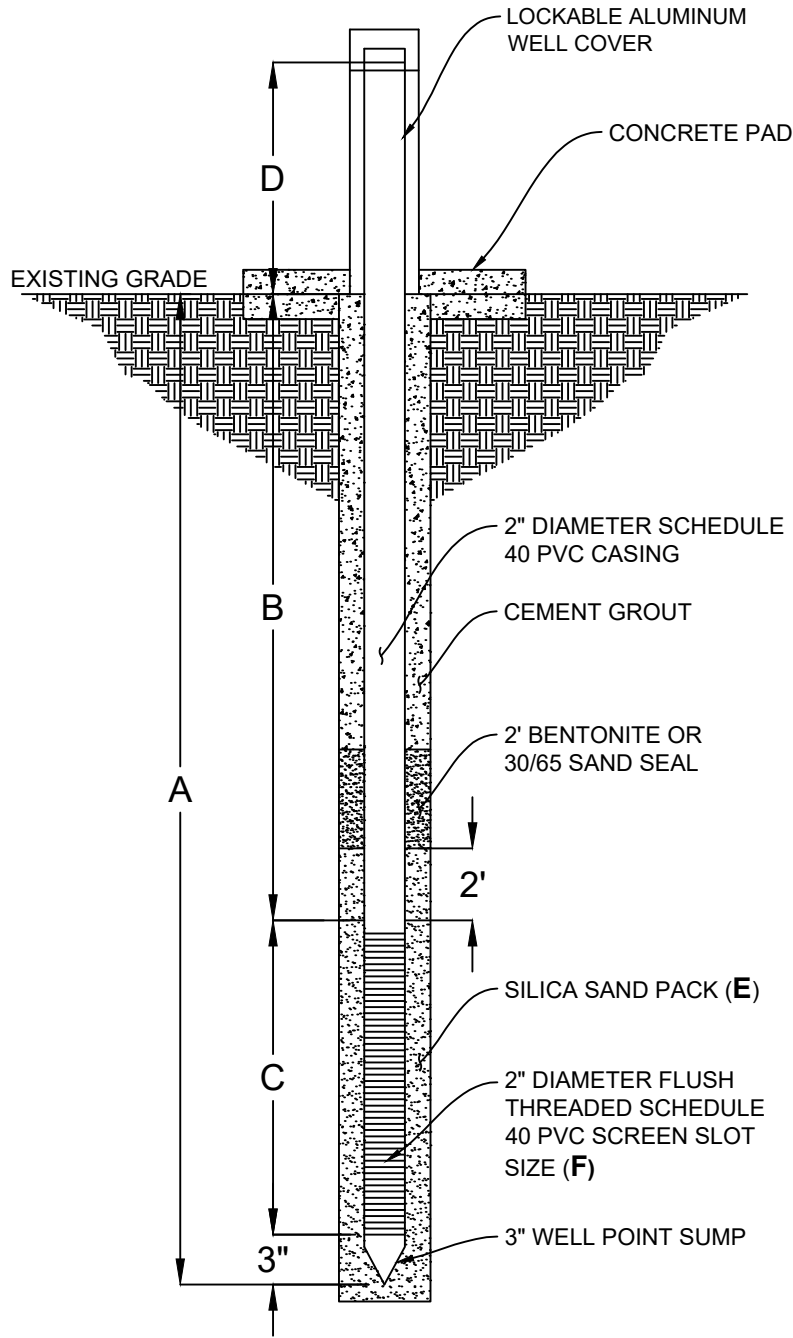
Sincerely,

A handwritten signature in blue ink, appearing to read 'John Arnold', is written over the typed name.

John Arnold, P.E.

cc: Dominic Iafrate, Angelo's Aggregate Materials, diafrate@iafrate.com
Lisa Baker, Locklear & Associates, lisa@locklearconsulting.com
John Locklear, Locklear & Associates, john@locklearconsulting.com
Walker Wrenn, Locklear & Associates, walker@locklearconsulting.com
Justin Chamberlain, P.G., FDEP Tampa Justin.Chamberlain@floridadep.gov
Steve Tafuni, FDEP Tampa Solid Waste CAP Manager Steve.Tafuni@floridadep.gov

FIGURE NOT TO SCALE



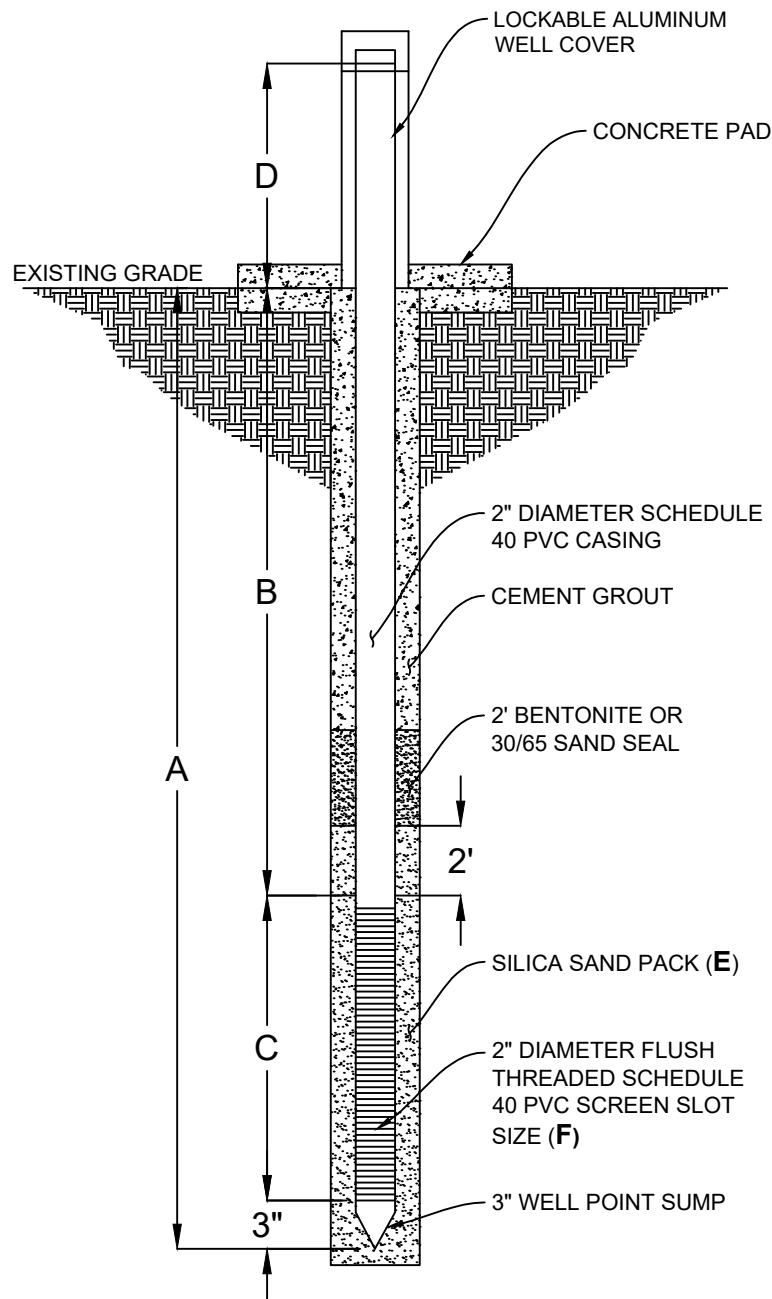
WELL	A	B	C	D	E	F	TOP OF WELL SCREEN ELEVATION FT, NGVD	BOTTOM OF WELL SCREEN ELEVATION FT, NGVD	ASSUMED GROUND SURFACE ELEVATION FT, NGVD	ASSUMED LIMESTONE SURFACE ELEVATION FT, NGVD
MW-5AR	27'	12'	15'	3'	20/30	0.010"	78.7' ⁽¹⁾	63.7' ⁽¹⁾	90.7' ⁽¹⁾	52.7' ⁽²⁾

NOTES:

- (1) Non-certified elevations collected during installation
(2) Based on lithology encountered during well installation

REVISED NOVEMBER 2018

FIGURE NOT TO SCALE



WELL	A	B	C	D	E	F	TOP OF SCREEN ELEVATION FT, NGVD	BOTTOM OF SCREEN ELEVATION FT, NGVD	ASSUMED GROUND SURFACE ELEVATION FT, NGVD	ASSUMED LIMESTONE SURFACE ELEVATION FT, NGVD
MW-5BR	60'	40'	20'	3'	20/30	0.010"	50.7' ⁽¹⁾	30.7' ⁽¹⁾	90.7' ⁽¹⁾	52.7' ⁽²⁾

NOTES:

- (1) Non-certified elevations collected during well installation
(2) Based on lithology encountered during well installation



ENTERPRISE RECYCLING AND
DISPOSAL FACILITY
DADE CITY, FLORIDA

FLORIDAN AQUIFER
MONITOR WELL DETAIL

FIGURE
3

REVISED NOVEMBER 2018

November 7, 2018

Mr. Steve Morgan
Solid Waste Section
Florida Department of Environmental Protection - Southwest District
13051 North Telecom Parkway
Temple Terrace, Florida 33637-0926

RE: Enterprise Recycling and Disposal Facility
Cell 16 Construction Completion Report
Revised Report per 10/30/18 FDEP Comments
Angelo's Aggregate Materials, Ltd.
FDEP Permit Nos. 177982-023-SC/T3
WACS No.: 87895
Pasco County, Florida

Dear Mr. Morgan,

This report contains the Certification of Construction Completion (Certification) and Construction Quality Assurance (CQA) data for Cell 16 of the Enterprise Class III landfill and is being submitted to the Florida Department of Environmental Protection (Department) for review and approval. This report has been revised to respond to the items contained in your October 30, 2018 correspondence.

The CQA program and certification reporting are based on the specific condition requirements contained in FDEP Permit No. 177982-023-SC/T3, which include the following:

- a. The owner or operator shall submit a Certification of Construction Completion, Form 62-701.900(2), signed and sealed by the professional engineer in charge of construction and quality assurance to the Department for approval (Specific Condition 177982-023-SC/T3, Part B, 2.a.1). The Certification of Construction Completion is provided in Attachment A.
- b. The permittee shall submit Record Drawings/Documents showing all changes (i.e. additions, deletions, revisions to the plans previously approved by the Department including site grades and elevations). The Record Documents shall include, but not be limited to, as-built elevations of the disposal areas (surveys), details and elevations of limerock encountered, and other details as appropriate (Specific Condition 177982-023-SC/T3, Part B, 2.a.2). Record Drawings are provided in Attachment B.
- c. The owner or operator shall submit a narrative indicating all changes in plans, the cause of the deviations, and certification of the Record Drawings/Documents by the Engineer to the Department (Specific Condition 177982-023-SC/T3, Part B, 2.a.3). The narrative report prepared by the professional engineer responsible for the construction quality assurance (CQA Engineer of Record) program is provided in

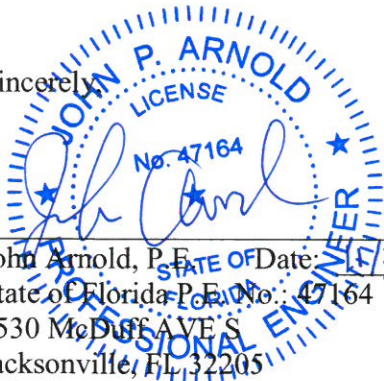
Revised to respond to 10/30/18 comments from the Department.

Attachment C.

- d. The CQA Engineer of Record shall submit to the Department a final report to verify conformance with the project specifications, including all test results for the development of each cell (Specific Condition 177982-023-SC/T3, Part B, 2.a.4). These documents including the Construction Quality Assurance Testing performed by Universal Engineering Sciences, Inc. are provided in Attachment D.
- e. Prepare and submit financial assurance for the facility in accordance with F.A.C. 62-701.630 and Specific Condition 177982-023-SC/T3, Part D.4). The approved financial assurance estimate and existing letter of credit on file with the Department include Cell 16.
- f. Limerock Details and Observations. There was no limerock observed or encountered as part of Cell 16 construction.
- g. Groundwater Monitoring Wells and Sampling. Installation, initial sampling, and reporting of the groundwater monitoring wells associated with Cell 16 construction is being coordinated by our sub-consultant, Mr. Locklear P.G. All of the requested materials have been provided to the Department by them.

We trust this submittal, along with the financial assurance update, will satisfy the Department's certification requirements. Please call me at (352) 339-1408 if you have any questions or require any additional information.

Sincerely,


John Arnold, P.E. Date: 11/7/18
State of Florida P.E. No.: 47164
1530 McDuff AVE S
Jacksonville, FL 32205
Tel.: (352) 339-1408

attachments

cc: Dominic lafrate, Angelo's Recycled Materials
Lisa Baker, Locklear and Associates, Inc.
John Locklear, Locklear and Associates, Inc.

Revised to respond to 10/30/18 comments from the Department.

Attachment A

**Certification of Construction Completion
FDEP Form 62-701.900(2)**



Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Reset Form

Print Form

DEP Form # 62-701.900(2)

Form Title Certification of Construction Completion
of a Solid Waste Management Facility

Effective Date May 19, 1994

Certification of Construction Completion of a Solid Waste Management Facility

DEP Construction Permit No: 177982-023-SC/T3 County: PASCO

Name of Project: ENTERPRISE RECYCLING & DISPOSAL FACILITY

Name of Owner: ANGELO'S AGGREGATE MATERIALS, LTD

Name of Engineer: JOHN P. ARNOLD, P.E.

Type of Project: CELL 16 OF THE CLASS III LANDFILL; CERTIFICATION OF AS-BUILT DRAWINGS
AND CERTIFICATION OF CLAY LINER CONSTRUCTION AND CONFORMANCE TESTING

Cost: Estimate \$250,000 est. Actual \$250,000 est.

Site Design Quantity: 1,500 ton/day Site Acreage: 5.5 apprx. Cell 16 Acres

Deviations from Plans and Application Approved by DEP (attach additional pages as needed):

The top of clay within the cell is higher at some locations, but meets the minimum 3' installed thickness. The

perimeter berm is apprx. 2' higher. A larger (8" DIA) leachate collection pipe was installed. A fiberglass 4'

DIA wetwell was installed with same pumping capacity. East side Pond 3 shifted to accommodate landscape

berm. Perimeter road widened in areas to for 2-way vehicle traffic more safety.

Address and Telephone No. of Site: 41111 ENTERPRISE RD., DADE CITY, FL 33525

Name(s) of Site Supervisor: Mr. Phil Curtin

Date Site inspection is requested: November 14, 2018

This is to certify that, with the exception of any deviation noted above, the construction of the project has been completed in substantial accordance with the plans authorized by Construction

Permit No.: 177982-023-SC/T3 Dated: July 9, 2013 (Issued)

Date: 11/8/18



Signature of Professional Engineer

** Please refer to CQA Engineer of Record Narrative Report.*

Northwest District
160 Governmental Center
Pensacola, FL 32501-5794
850-595-8360

Northeast District
7825 Baymeadows Way, Ste. B200
Jacksonville, FL 32256-7590
904-448-4300

Central District
3319 Maguire Blvd., Ste. 232
Orlando, FL 32803-3767
407-894-7555

Southwest District
3804 Coconut Palm Dr.
Tampa, FL 33619
813-744-6100

South District
2295 Victoria Ave., Ste. 364
Fort Myers, FL 33901-3881
941-332-6975

Southeast District
400 North Congress Ave.
West Palm Beach, FL 33401
561-681-6600

Attachment B

Record Drawings & Documents

A topographic survey depicting as-built conditions of the site was prepared by Pickett and Associates, Inc. based on the aerial reconnaissance performed on September 17, 2018. Surveying ground control for the site was established by Simmons and Beall, Inc. As-built elevations documenting the 3' clay over-excavation, top of Cell 16 clay, wetwell (pump station) and leachate collection pipe were collected under the direction of John Arnold, P.E. as the Professional Engineer responsible for the Construction Quality Assurance (CQA) plan in accordance with Chapter 471, Florida Statutes.

Supporting Record Drawings and Documents include the following:

- Pickett and Associates, Inc. Topographic Survey
- Drawing AB-1 Cell 16 Over-Excavation
- Drawing AB-2 Cell 16 Top Of Clay
- Drawing AB-3 Leachate Collection Wetwell Section and Details
- Non-Woven Geofabric Cut Sheet
- No. 4 Aggregate Gradation Test
- Wetwell Start-Up Pump Test
- Florida Jet Clean Report
- Wetwell Pump, Floats, and Panel Cut Sheets
- IW Pond As-Built Volume Calculation

SURVEYOR'S REPORT

ENTERPRISE ROAD LANDFILL

Prepared for:



Prepared by:



PICKETT AND ASSOCIATES PROJECT NO.: 14094-9

TITLE/TYPE OF SURVEY: Topographic Survey

DATE OF SURVEY: This Map is based on LiDAR data & aerial imagery flown
09/17/18

NOTE: THIS REPORT AND ACCOMPANYING MAP TITLED ENTERPRISE ROAD LANDFILL, ARE NOT FULL AND COMPLETE WITHOUT THE OTHER AND ARE NOT VALID WITHOUT THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER.

DATUM:**HORIZONTAL:**

Coordinates are referenced to the West Zone of the Florida State Plane Coordinate System, NAD 83, and were provided by Simmons and Beall Surveying.

VERTICAL:

Elevations are to National Geodetic Vertical Datum of 1929 and were provided by Simmons and Beall Surveying

Control Points Used:

<u>Pt#</u>	<u>Easting</u>	<u>Northing</u>	<u>Elevation</u>
4000	612277.73	1454997.54	105.81
4001	612338.97	1452175.37	139.98
4002	614249.29	1452235.24	113.56
4003	614271.09	1454880.23	85.32

ACCURACY STATEMENT: The following stated plus or minus tolerances encompass a minimum of 90% of the difference between photogrammetrically measured values and any ground truth of all well-identified features. Mapped features will meet or exceed the Florida Standards of Practice.

VERTICAL:

Contours have an estimated vertical positional accuracy of 0.5'. Spot elevations, on paved surfaces, have an estimated vertical positional accuracy of 0.25'.

HORIZONTAL:

Well-identified features have an estimated horizontal positional accuracy of 1.66'. All measurements are in U.S. Survey Feet.

Measurement Methods:

The planimetrics shown are limited to those features visible on aerial imagery. Color digital imagery was acquired at an average altitude of 2100' using a metric precision digital camera whose focal length is 51.58mm. Mapping was performed using LiDAR and softcopy photogrammetric techniques. The LiDAR data has an estimated point sample distance of 0.4 foot and a density of 6.4 points per square foot (± 68.889 points per square meter). For a vertical accuracy check, the LiDAR data was compared to the four (4) points set as targets for aerial imagery. The Root Mean Square Error of the Elevations (RMSEZ) is 0.074 foot, being the equivalent of 0.145' FGDC/NSSDA Vertical Accuracy. All measurements are in U.S. Survey Feet.

Limitations:

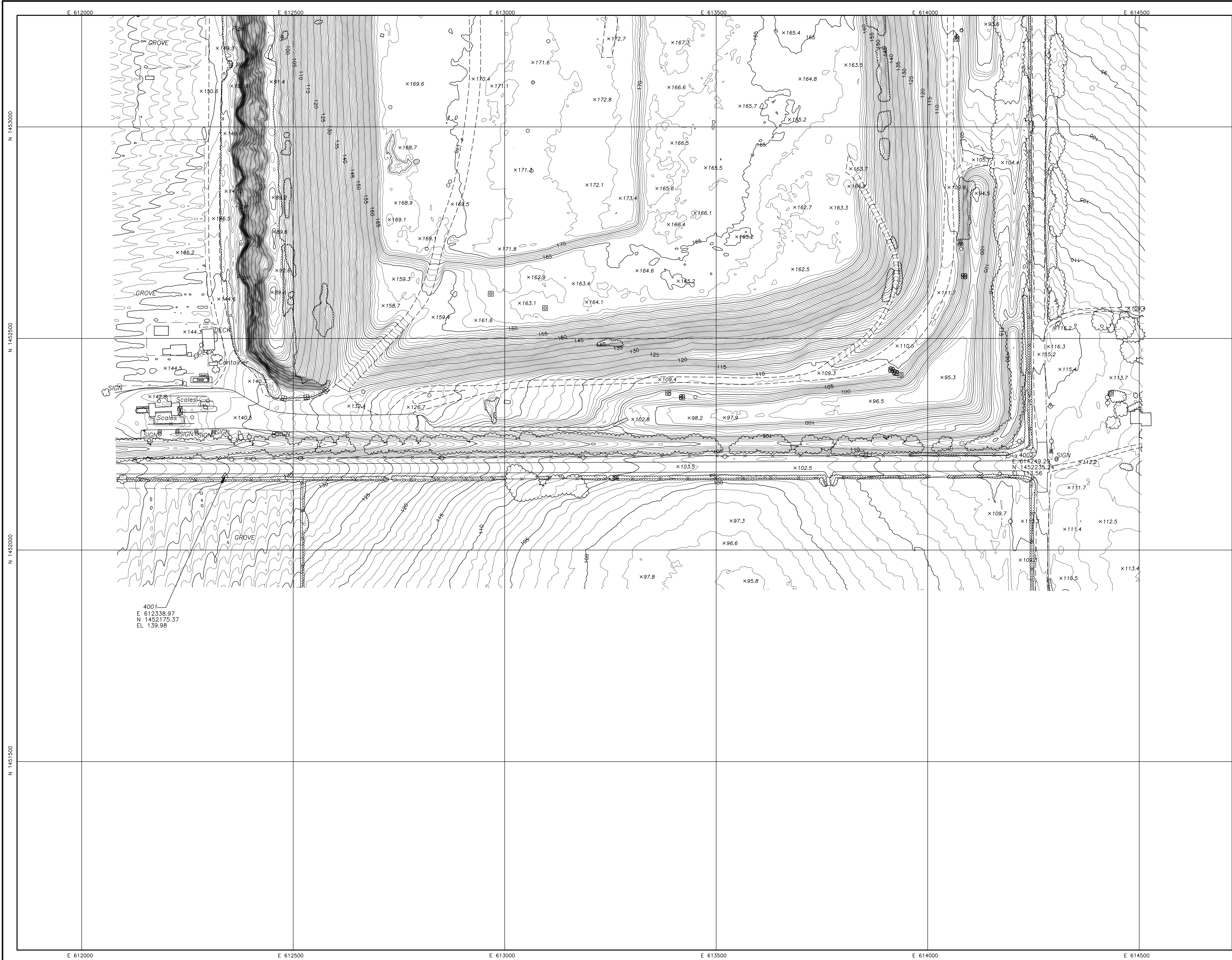
This mapping should be used for preliminary design work only and should not replace an actual field survey where the required accuracy is greater than the accuracy stated in this report. No responsibility is assumed for areas outside the contracted scope or for the control provided by Simmons and Beall Surveying, Dade City, Florida.

MAP PLOTTING:

This map may be displayed at a scale of 1" = 50' (1:600) or smaller.

T. JEFFREY YOUNG, PSM, CP
FLORIDA REGISTRATION NO. 5440
PICKETT AND ASSOCIATES, INC.
FLORIDA REGISTRATION NO. 364

SURVEY DATE



SURVEYOR'S NOTES:

1.) North, the grid, and the coordinates shown herein are referenced to the West Zone of the Florida State Plane Coordinate System, NAD 83, 1995 adjustment.

2.) Elevations are to National Geodetic Vertical Datum of 1929.

3.) This topographic survey was prepared using photogrammetric and LIDAR methods. See the attached spot elevation map for more information. The map is limited to those features visible on aerial imagery.

LEGEND:

(THESE FEATURES ARE REPRESENTED BY SYMBOLS NOT TO SCALE)

(THESE FEATURES ARE TO SCALE)

PIPELINE
RECREATION
EDGE OF GROVE
EDGE OF WATER

CURB
PAVED ROAD
CONCRETE SURFACE
UNPAVED ROAD
FENCE
GUARDRAIL
WALL
RAILROAD
STRUCTURE
TREE LINE
SHRUB LINE

(THESE INFORMATIVE LABELS ARE NOT SCALE DEPENDENT)

W.L. WATER ELEVATION
x 120.1 SPOT ELEVATION
MISC MISCELLANEOUS

ACTIVITY REVIEWER: This map was prepared by the licensee and the licensee is responsible for the accuracy of the information shown on this map. The licensee is not responsible for the accuracy of the information shown on this map if the information is not accurate.

MAP PLOTTING: This map is intended to be displayed at a scale of 1 inch = 100 feet. The map is not to be used for any other purpose.

MEASUREMENT METHODS: This map is limited to those features visible on aerial imagery.

LIMITATIONS: This map should be used for primary survey only. The map is not to be used for any other purpose where the required accuracy is greater than the accuracy shown on the map. The licensee is not responsible for the accuracy of the information shown on this map if the information is not accurate.

GRAPHIC SCALE

1 inch = 100 feet

(IN FEET)

0 50 100 150 200 250 300 350 400 450 500 550 600 650 700 750 800 850 900 950 1000

PROJECT No.
14094-9

DRAWING No.
LD-6398

No.
2

OF
2

TOPOGRAPHIC SURVEY

ENTERPRISE ROAD LANDFILL

PREPARED FOR: ANGELO'S RECYCLED MATERIALS

Flight Date: 9/17/18

Drawn By: [Signature]

Edited by: RP

Compiled by: PL

DATE
O.R. 10/1/18

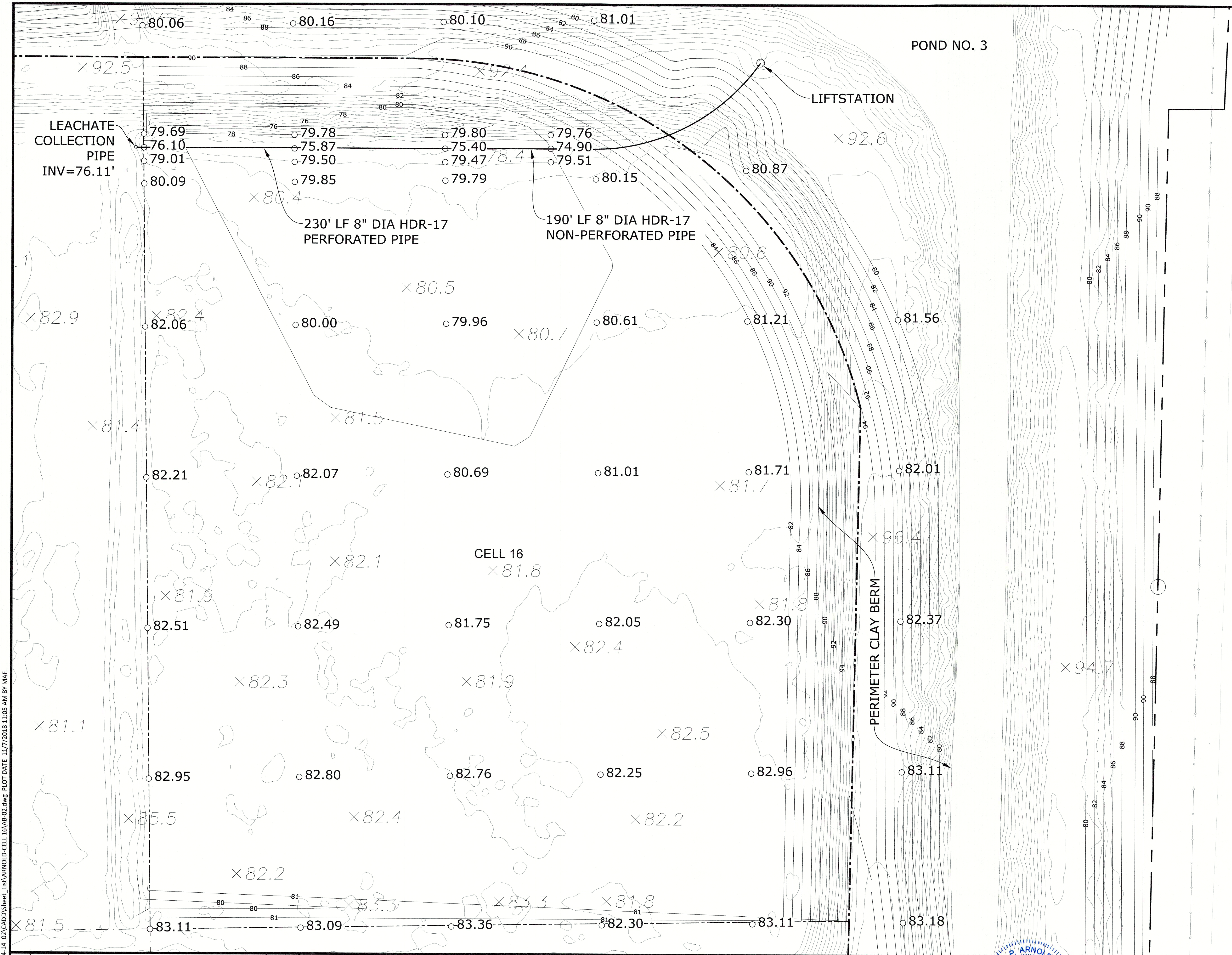
APPROVED
TUY

REVISION
ORIGINAL RELEASE

PICKETT SURVEYING • ENGINEERING

PICKETT AND ASSOCIATES, INC.
475 SOUTH GULF BLVD., SUITE 100
FORT MYERS, FLORIDA 33901
PHONE: (888)-533-8095
FAX: (888)-533-8096
LICENSED BUSINESS NO. LB364

C:\Civil 3D Projects\02000-144-14_02\CADD\Sheet_List\ARNOLD-CELL 16\AB-02.dwg PLOT DATE 11/7/2018 11:05 AM BY MAF



LEGEND

— x — x —

PERIMETER FENCE

— — — — —

PROPERTY BOUNDARY

— — — — —

LANDFILL CELL 16

— — — — —

PROPOSED CONTOURS
(PICKETT 9/17/18 AERIAL)

— — — — —

EXISTING CONTOURS

○ 80.15

TOP OF 3' CLAY LAYER
(PRIOR TO BERM CONSTRUCTION)

× 84.8

EXISTING ELEVATIONS
(PICKETT 9/17/18 AERIAL)

- NOTES:**
1. DATA COLLECTED UNDER THE DIRECTION OF JOHN ARNOLD, P.E. ON 7/23/17 - 5/11/18.

2. THE ELEVATIONS SHOWN HEREON ARE BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 AND REFERENCE TO U.S.G.S. BENCHMARK #Q-56, SAID BENCHMARK BEING LOCATED BY SIMMONS AND BEALL, INC.

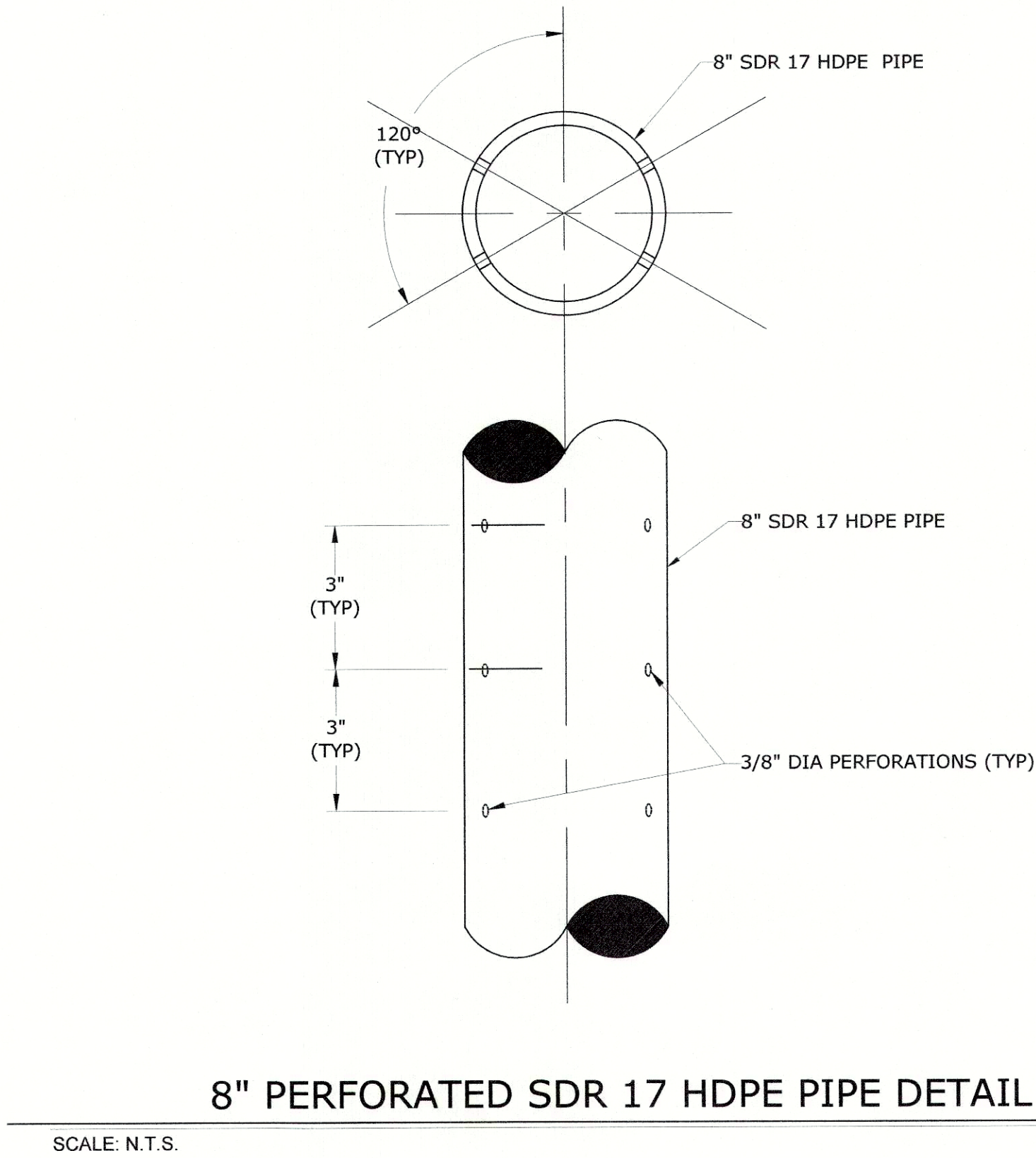
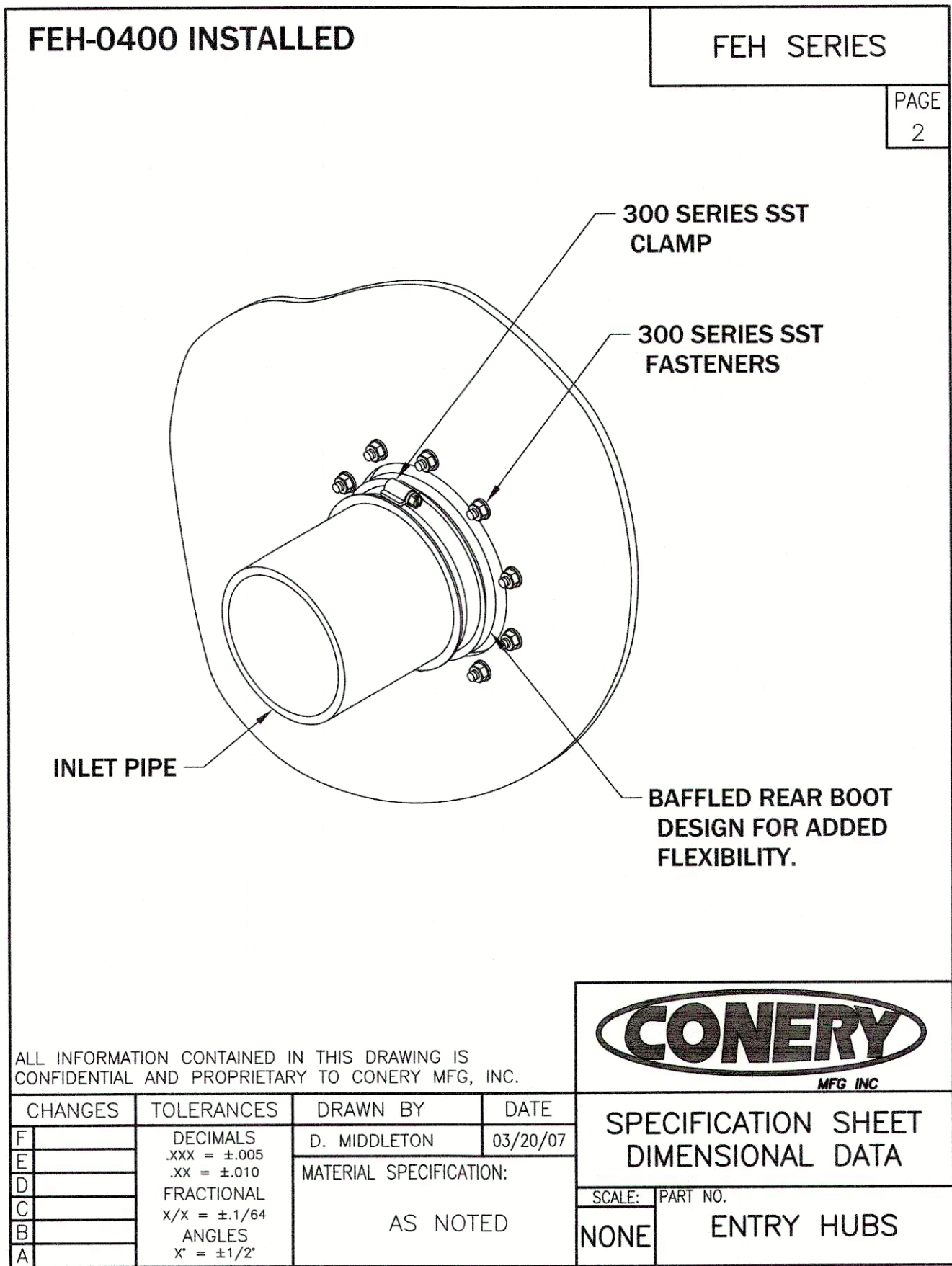
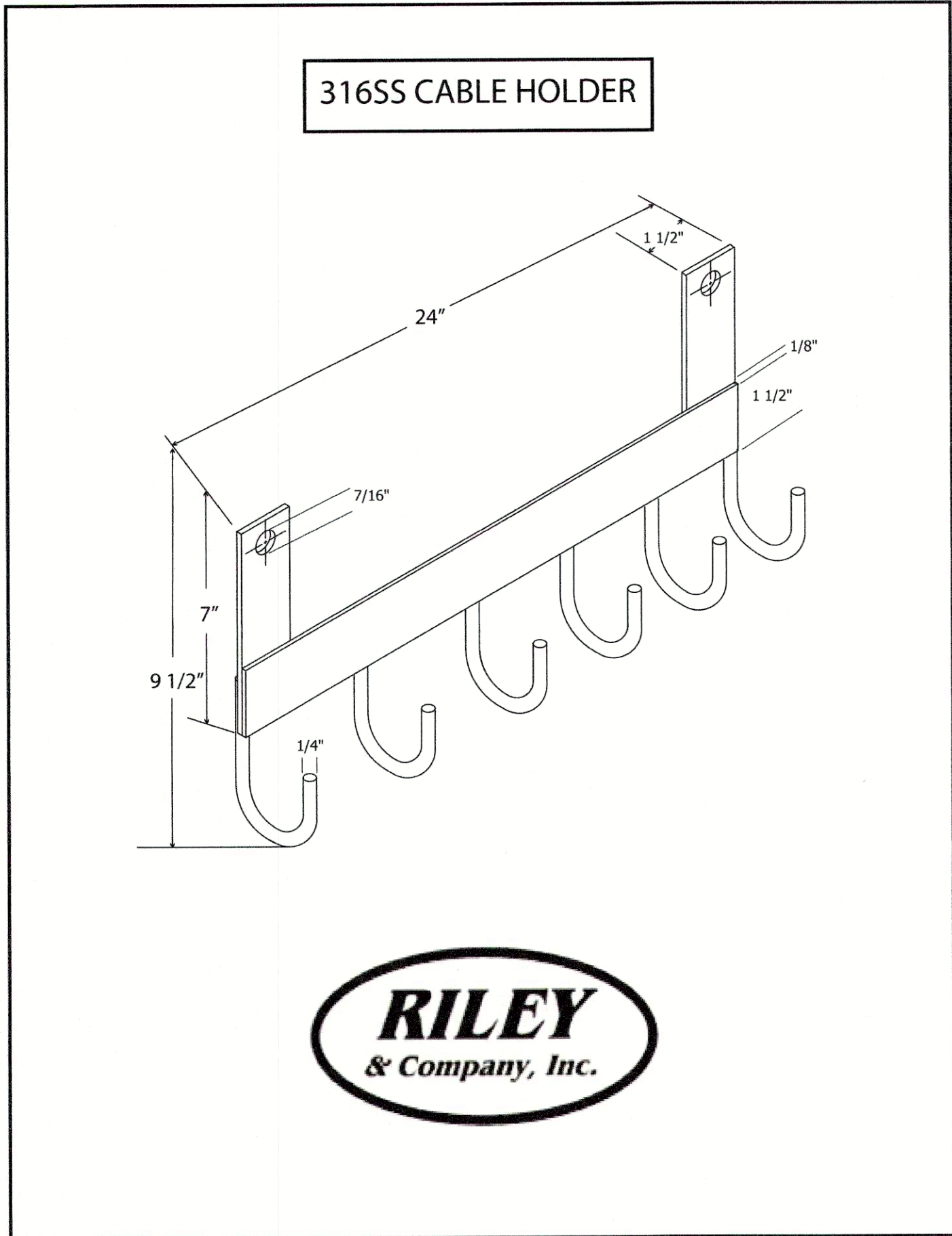
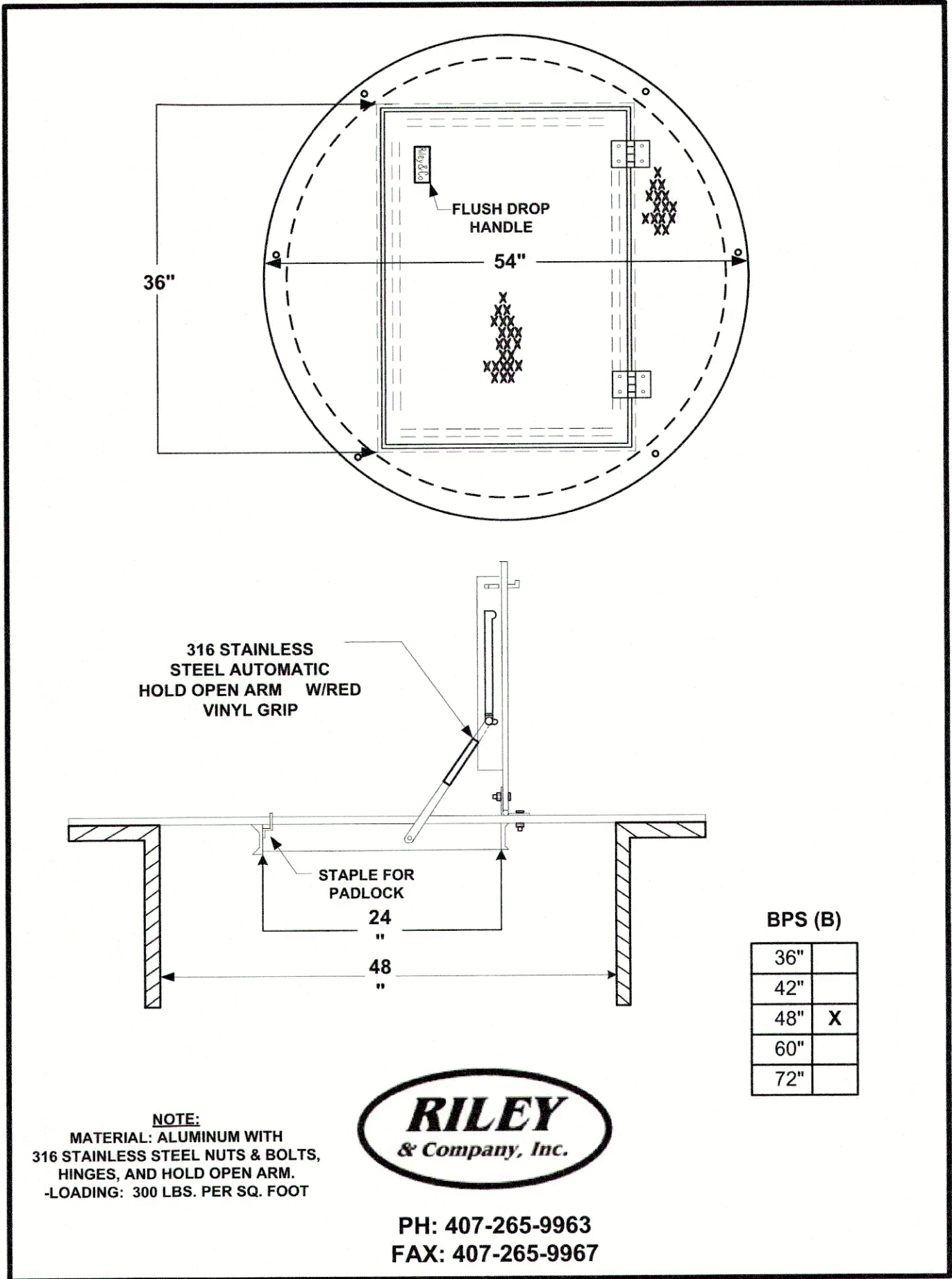
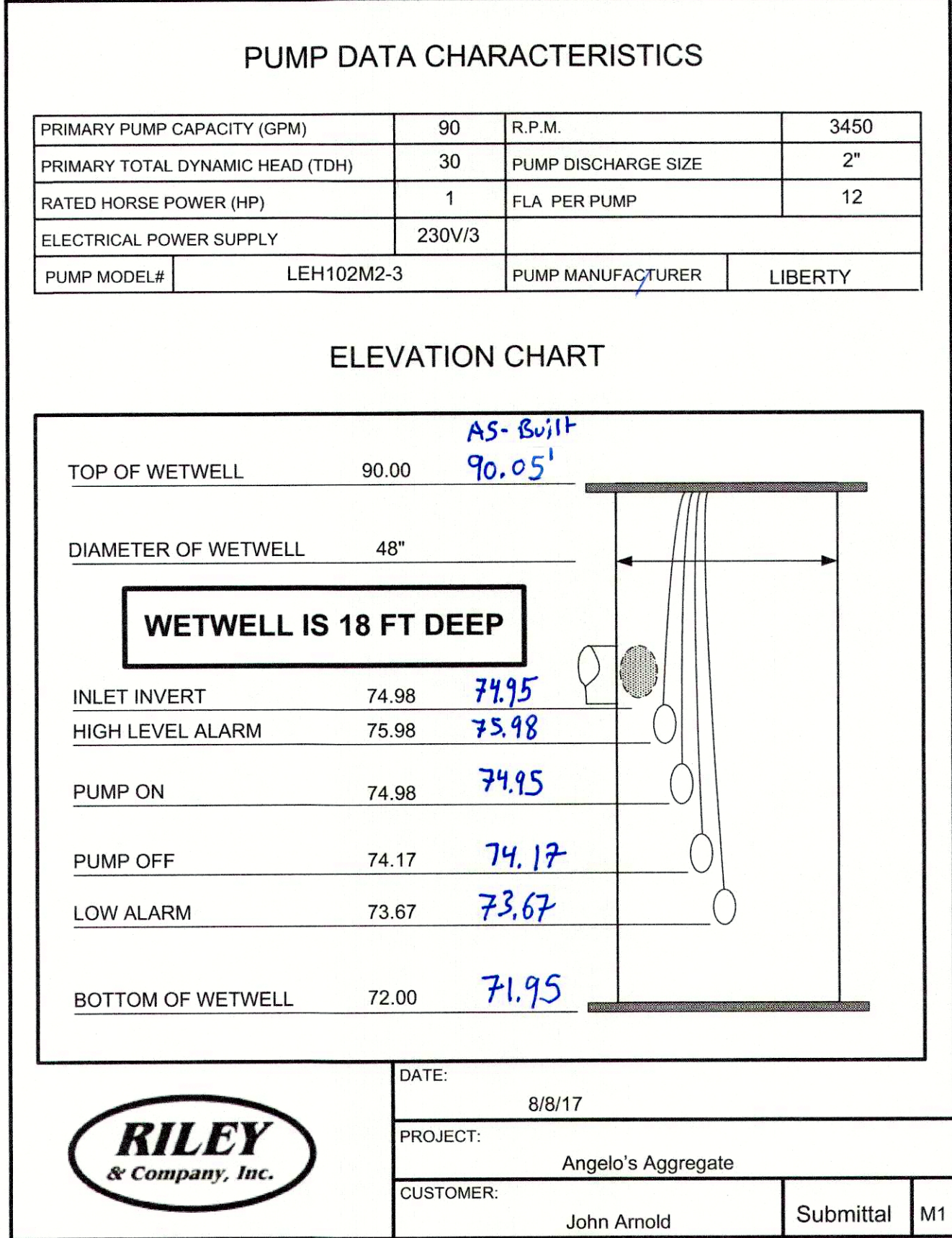
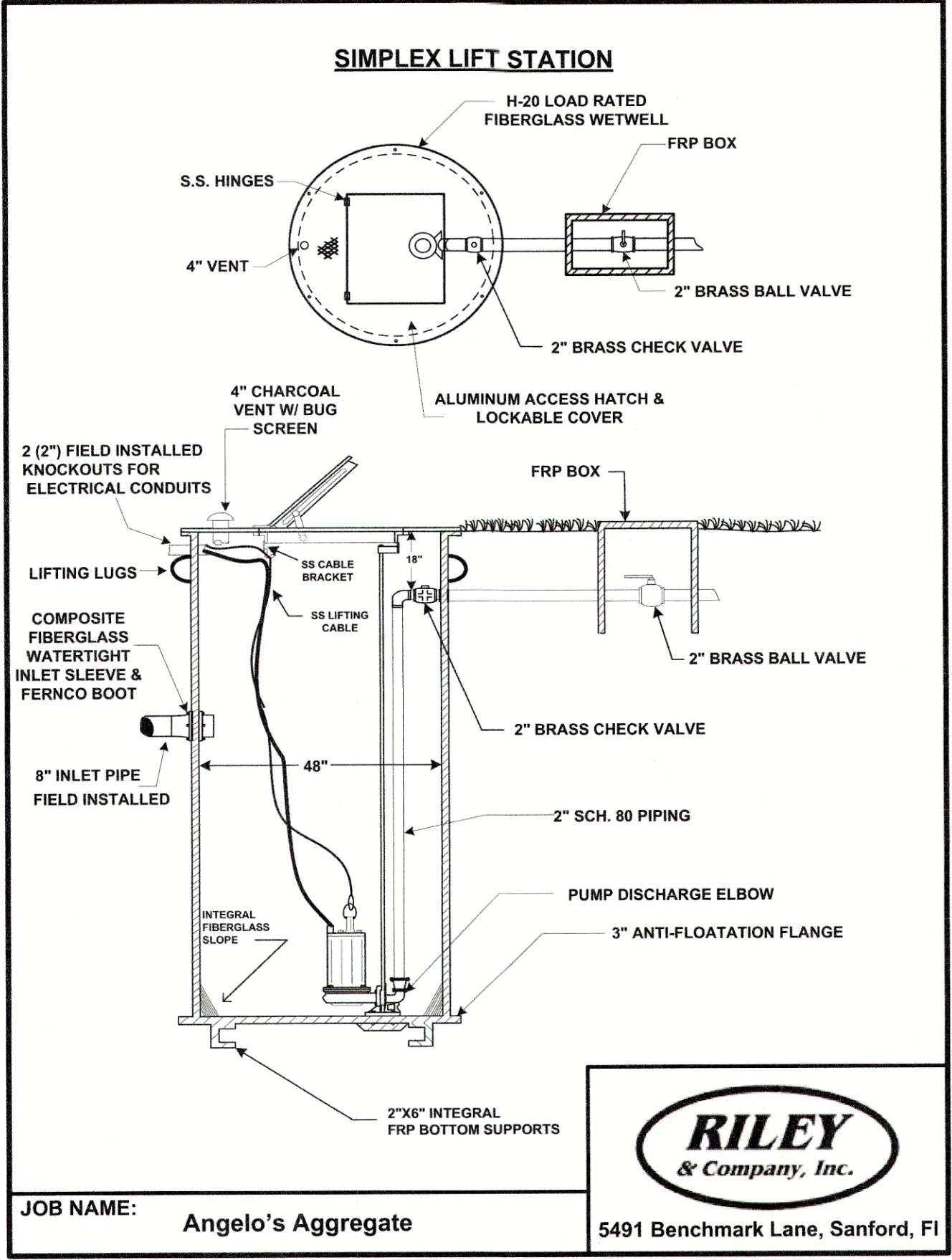
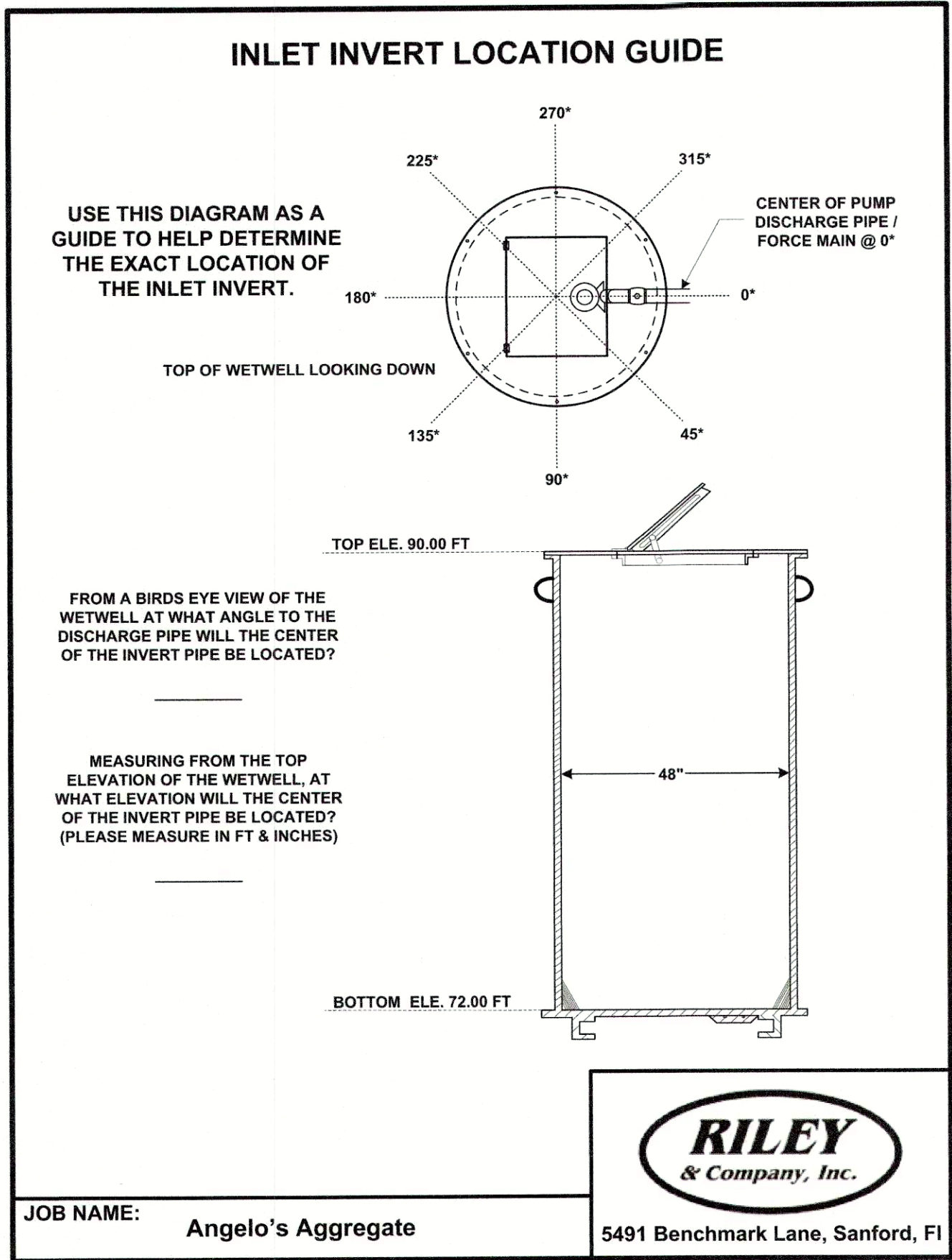
3. SIMMONS AND BEALL, INC. ESTABLISHED THE SITE BENCHMARK ON THE NORTH SIDE OF ENTERPRISE ROAD APPROXIMATELY 75' FEET WEST OF THE ENTRANCE TO ANGELO'S RECYCLED MATERIALS LANDFILL. BEING A 3/8" IRON ROD AND CAP NO. LB6382 IN THE CENTER OF AN AERIAL PANEL WITH AN ELEVATION OF 148.94' FEET.

4. TOP OF CLAY UNDERLYING LEACHATE COLLECTION PIPE IS APPROXIMATELY 0.29' LOWER THAN LEACHATE COLLECTION PIPE (HEADER) TO ACCOMMODATE 3" THICK NO. 4 GRAVEL BEDDING AND 0.5" PIPE WALL THICKNESS.

"AS-BUILT"

NO.		DATE	REVISION DESCRIPTION	BY	<div>JOHN ARNOLD, P.E.</div> <div>1530 McDUFF AVENUE SOUTH JACKSONVILLE, FLORIDA 32205 PH: 352-339-1408</div>	<div>PROJECT TITLE:</div> <div>ENTERPRISE ROAD CLASS III RECYCLING & DISPOSAL FACILITY DADE CITY, PASCO COUNTY, FLORIDA</div>	<div></div> <div>FL PE NO. 47164</div>	DESIGNED BY	JPA	<div>SHEET TITLE:</div> <div>CELL 16 TOP OF CLAY</div>	PROJECT NO.:		
								SCALE:	AS SHOWN				
								DATE:	OCTOBER 2018				
								DRAWING:	AB-02				
										CHECKED BY	JPA		
										DRAWN BY	JPA		

C:\Civil 3D Projects\02000-144-14-02\CADD\Misc\ARNOLD-CELL 16\AB-03.dwg PLOT DATE 11/7/2018 1:25 PM BY MAF



"AS-BUILT"

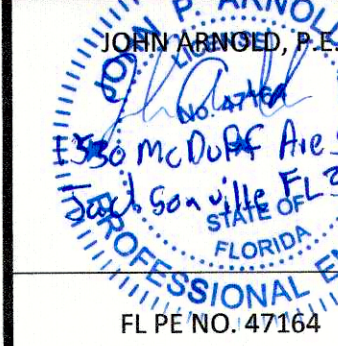
NO.	DATE	REVISION DESCRIPTION	BY

JOHN ARNOLD, P.E.

1530 McDUFF AVENUE SOUTH
JACKSONVILLE, FLORIDA 32205
PH: 352-339-1408

PROJECT TITLE:

ENTERPRISE ROAD CLASS III
RECYCLING & DISPOSAL FACILITY
DADE CITY, PASCO COUNTY, FLORIDA



DESIGNED BY	JPA
DRAWN BY	JPA
CHECKED BY	JPA
APPROVED BY	JPA

SHEET TITLE:

LEACHATE COLLECTION WETWELL SECTION AND DETAILS

PROJECT NO.:

SCALE: AS SHOWN

DATE: OCTOBER 2018

DRAWING: AB-03



R. H. Moore & Associates

Soil Stabilization & Erosion Control

P. O. Box 16549 | Tampa, Florida 33687
Telephone: (800) 330-2333

QUOTE

QUOTE DATE	12/22/17
QUOTE #	3134
QUOTED BY	Mike Nester

PROJECT	Landfill
BID DATE	
COMPANY	Angelos Recycled Materials 855 28th Street South St. Petersburg, FL 33712
ATTENTION	Nero

SHIP TO
Angelos Recycled Materials Dade City, FL

FREIGHT TERMS
Plus Freight
EST. DELIVERY TIME
Same Business Day ARO

ITEM	DESCRIPTION	QTY	U/M	UNIT PRICE	LINE TOTAL
2010-020	Mirafi 160N - nonwoven geotextile Roll size: 15' X 300' (500 SQYD) (Meets FDOT Type D-3)	2	rl	460.00	920.00
Freight	• Estimated freight to the Dade City, Florida jobsite based on a one-time shipment of the quantity listed via Ed Nunez Trucking.			125.00	125.00

MATERIAL PRICING DOES NOT INCLUDE SALES TAX.

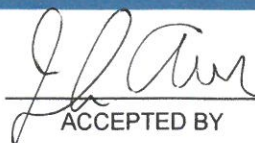
NOTES:

- The above quantities are estimates only and final quantities are the responsibility of the purchaser
- All prices are valid for 30 days from the date of the quotation
- Changes in quantities will require creation of a new quote
- Terms: Net 30 Days (with an open account)
- Above pricing is for materials only
- Materials in stock may be picked up from our Tampa Warehouse location

Please call (800) 330-2333 or send an email to Sales@rhmooreassociates.com if you need more information, technical support or to place your order

PRICING IS FOR MATERIALS ONLY AND DOES NOT INCLUDE INSTALLATION

SUBTOTAL	\$1,045.00
TAX (7.0%)	\$64.40
ESTIMATED TOTAL	\$1,109.40


ACCEPTED BY

DATE


SIGNATURE



GEOTECHNICAL & MATERIALS
ENGINEERING, TESTING & INSPECTION
P.O. BOX 15732 • TAMPA, FLORIDA 33684 • 813/872-7821 CA No. 1450

SOIL ANALYSIS

PROJECT: Product Check
Largo, FL

PROJECT NO: 1170.15.1

DATE: 1/22/2018

CLIENT: Angelo's Recycled Materials

LAB NO: B-11077

SAMPLE LOCATION: Composite sample from stockpile


SAMPLE DESCRIPTION: No. 4 Crushed Concrete
(Coarse Aggregate)

<u>Sieve Number</u>	<u>Percent Passing</u>	<u>FDOT Specifications</u> <u>Section 901-1.4</u>
2"	100	100
1 1/2"	92	90-100
1"	35	20-55
3/4"	6	0-15
1/2"	3	---
3/8"	2	0-5

FINENESS MODULUS: 8.00

DATE SAMPLED: 12/29/17

DATE TESTED: 1/16/18



TEST LAB, INC.

Design Point70 GPM @ 30 FT. TDH

5491 Benchmark Lane
 Sanford, FL 32773
 Ph: (407) 265-9963
 Fx: (407) 265-9967

START-UP REPORT**I. PROJECT INFORMATION - Completed by Installing Contractor**

JOB NAME: Angelo's Aggregate INSTALLING CONTRACTOR: John Arnold
 ENGINEER: _____ START UP DATE & TIME: 5/1/18 @ 11am
 LOCATION: 41111 Enterprise Rd. Dade City, FL 33525 John: 813-477-1719

II. EQUIPMENT INFORMATION - Completed by Installing Contractor

Pump Manufacturer: LIBERTY Model Number: FL63M-3 Wetwell Elevations Top: 92.00
 Serial No. Pump 1: B78108ZMC Voltage & Phase: 230/3 Invert: Off:
 FLA: 20 HP: 0.6 Bottom: 74.00 Lead:
 HLA:

Control Panel (If used, Model, Mfr. Serial #, Type) SIM-092617-1 Basin Dim (LXW) _____
 Float Switches (If pump not automatic, Mfr. Model) 40' Roto Float Installation Type: Prepackaged Rail System

III. INSTALLER CHECKLIST - The following should be completed by installing contractor before start-up.

<input checked="" type="checkbox"/>	Pit Clean
<input checked="" type="checkbox"/>	Pump Rotation Correct
<input checked="" type="checkbox"/>	Impeller Turns Freely
<input checked="" type="checkbox"/>	Panel securely installed
<input checked="" type="checkbox"/>	Short Circuit Prevention
<input checked="" type="checkbox"/>	Equipment in good condition
<input checked="" type="checkbox"/>	Check valve, discharge pipe, and vent installed
<input checked="" type="checkbox"/>	Neutral wire installed by electrician (not required 460v)

IV. START-UP VERIFICATION LIST

<input checked="" type="checkbox"/>	Circuit breakers operational
<input checked="" type="checkbox"/>	Pump submerged at least 2/3
<input checked="" type="checkbox"/>	<u>3</u> in. vent pipe installed
<input checked="" type="checkbox"/>	<u>2</u> in. discharge pipe installed
<input checked="" type="checkbox"/>	<u>25</u> ft. power supply cable length
<input checked="" type="checkbox"/>	check valve installed in correct location and direction

V. ELECTRICAL READINGS**SINGLE PHASE: Pump #1**

Voltage Supply (Pump Off) L1-L2	
Voltage Supply (Pump On) L1-L2	
Amp Draw (Pump On) L1	
L2	

THREE PHASE:

Voltage Supply (Pump Off) L1-L2	211.0
L2-L3	212.0
L1-L3	212.0
Voltage Supply (Pump On) L1-L2	210.0
L2-L3	210.0
L1-L3	211.0
Amp Draw (Pump On) L1	6.0
L2	6.0
L3	6.0

VI. PERFORMANCE TEST

P1 86 GPM @ 15

FT. TDH _____

FT. TDH _____

Static Pressure: N/A

Panel Key _____

PUMP 1	
Pump Off:	199
Start/Pump On:	188
Pump Down / Inch:	11
Total GPM:	86
Pump On Pressure:	N/A

Engineer Signature: _____

Print Name: _____

Contractor Signature: On FilePrint Name: John Arnold

Others: _____

Print Name: _____

*I certify this start-up report to be accurate*Tech: Nik Marku

John Arnold
 John Arnold g = 86gpm

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
EXPLOSION PROOF VIDEO INSPECTION
VACUUM TRUCK SERVICES
WWW.FLORIDAJETCLEAN.COM

7538 DUNBRIDGE DRIVE
ODESSA, FL 33556
T: 800-226-8013 / F: 813-926-4616
FLORIDAJETCLEAN@YAHOO.COM

Angelo's Recycled Materials Dade City, FL New Cell 16 Toe Drain Leachate Collection System Jetcleaning

Work Performed November 2018

Conducted By:
Florida Jetclean
800-226-8013

FLORIDA JETCLEAN

HIGH PRESSURE WATER JETTING
EXPLOSION PROOF VIDEO INSPECTION
VACUUM TRUCK SERVICES
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FLORIDAJETCLEAN@YAHOO.COM

REPORT

DATE : 11/5/2018
TO : John Arnold - Angelo's Recycled Materials
FROM : Ralph Calistri (floridajetclean@yahoo.com)
SUBJECT : 2018 - New Cell 16 Toe Drain - LCS Pipe Jetcleaning Project

Florida Jetclean was mobilized to Angelo's Recycled Materials in Dade City, FL on 11/2/2018 to provide leachate collection piping high-pressure water-jetting services (4,000 PSI) on the new Cell 16 Toe Drain piping.

The below jetting log summarizes the work performed during this mobilization.

LOCATION	JETTED LENGTH	DESCRIPTION
Cell 16 Toe Drain P.S. to Cleanout	450'	Entire Pipe Length Jetcleaned
Cell 16 Toe Drain Cleanout to P.S.	450'	Entire Pipe Length Jetcleaned

The above pipes were clean and blockage free at the completion of our site services.

Please call us with questions or concerns.

Regards,



Ralph Calistri - Florida Jetclean - 800-226-8013

LIFT STATION SUBMITTALS

PROJECT:

Angelo's Aggregate

**Date: 8/10/17
REVISED**

Contractor: Angelo's Aggregate

Attn: John Arnold



**5491 Benchmark Lane
Sanford, FL 32773
P. 407-265-9963
F. 407-265-9967**



**5491 Benchmark Lane
Sanford, FL 32773**

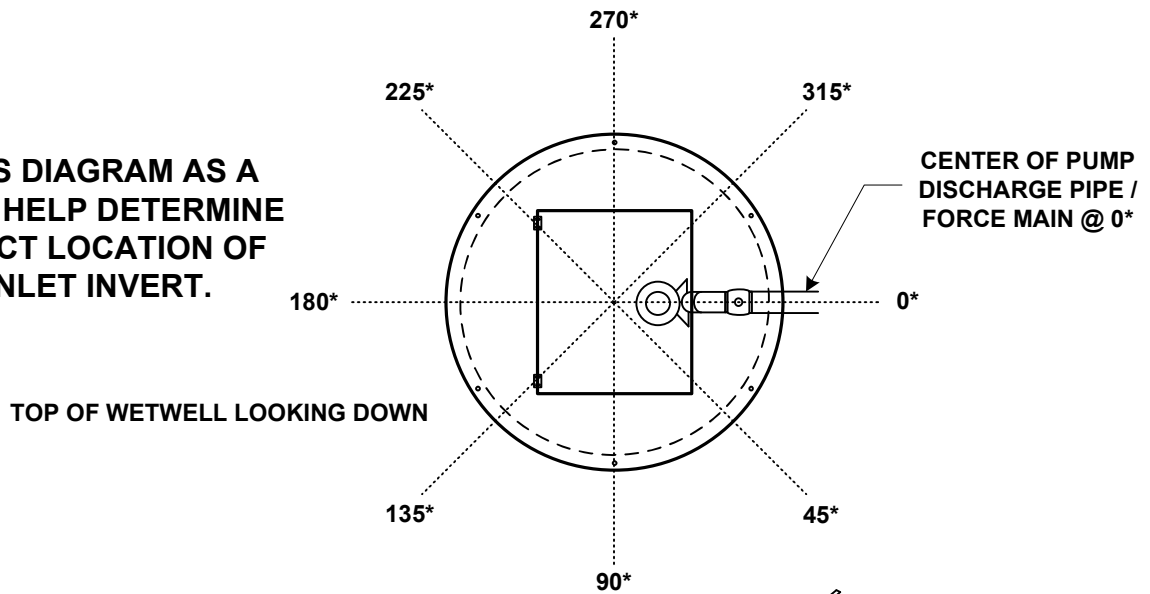
**PH. 407-265-9963
FX. 407-265-9967**

SCOPE OF SUPPLY

ITEM	QTY.	DESCRIPTION
1	1	<i>LIBERTY LEH102M2 Pumps, 230V/3P, 35' Cables</i>
2	1	<i>Cast-Iron Pump Discharge Bases</i>
3	1	<i>Pre-Plumbed (H-20) Fiberglass Wetwell (48" x 216" Deep) w/ Lockable Alum. Cover</i>
4	1	<i>FRP Valve Cover for Ball Valve</i>
5	1	<i>Fiberglass Simplex Control Panel</i>
6	1	<i>Stainless Steel Lifting Chains</i>
7	2	<i>Stainless Steel Guide Rails</i>
8	1	<i>Stainless Steel Cable Holder</i>
9	1	<i>Brass Check Valves (2")</i>
10	1	<i>Brass Ball Valves (2")</i>
11	1	<i>8" Composite Inlet Sleeve</i>
12	1	<i>8" Rubber FERNCO Boot</i>
13	3	<i>Float Switches</i>
14	1	<i>Charcoal Filter Vent (4")</i>

INLET INVERT LOCATION GUIDE

USE THIS DIAGRAM AS A
GUIDE TO HELP DETERMINE
THE EXACT LOCATION OF
THE INLET INVERT.

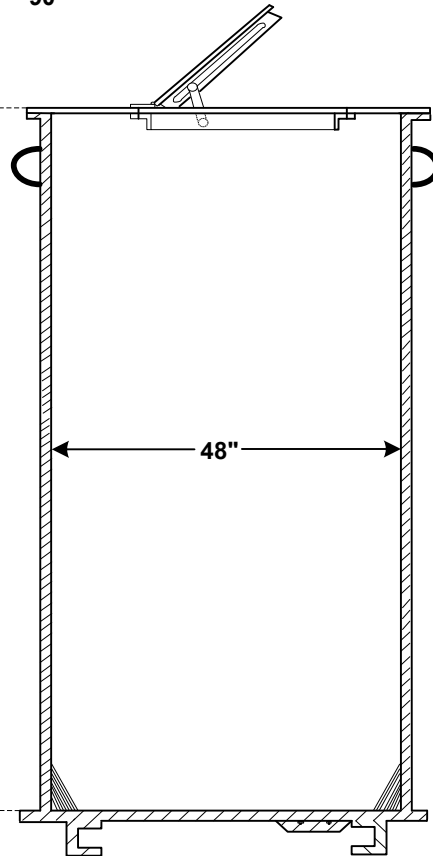


FROM A BIRDS EYE VIEW OF THE
WETWELL AT WHAT ANGLE TO THE
DISCHARGE PIPE WILL THE CENTER
OF THE INVERT PIPE BE LOCATED?

MEASURING FROM THE TOP
ELEVATION OF THE WETWELL, AT
WHAT ELEVATION WILL THE CENTER
OF THE INVERT PIPE BE LOCATED?
(PLEASE MEASURE IN FT & INCHES)

TOP ELE. 90.00 FT

BOTTOM ELE. 72.00 FT

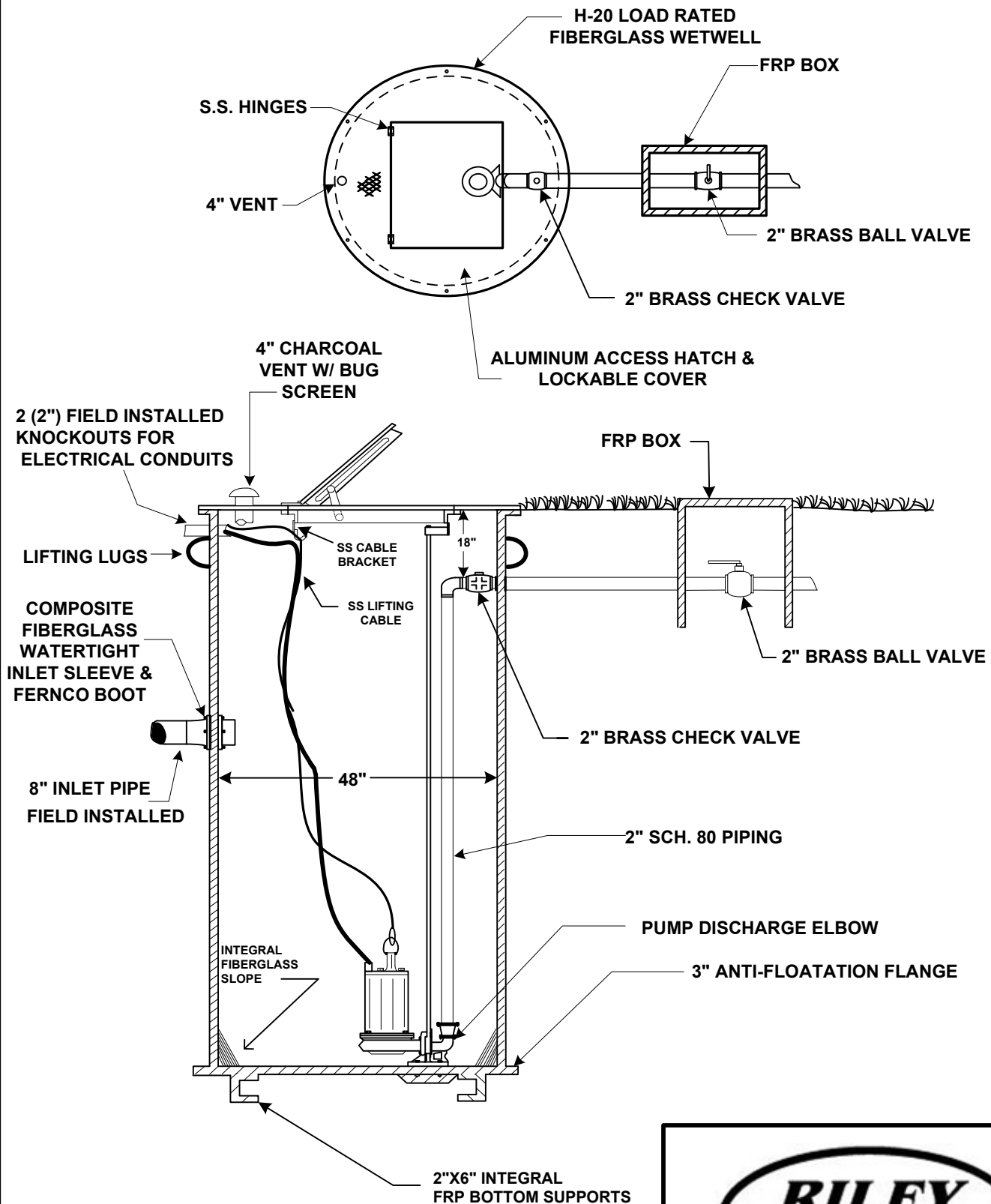


JOB NAME:

Angelo's Aggregate

5491 Benchmark Lane, Sanford, FL

SIMPLEX LIFT STATION



JOB NAME:

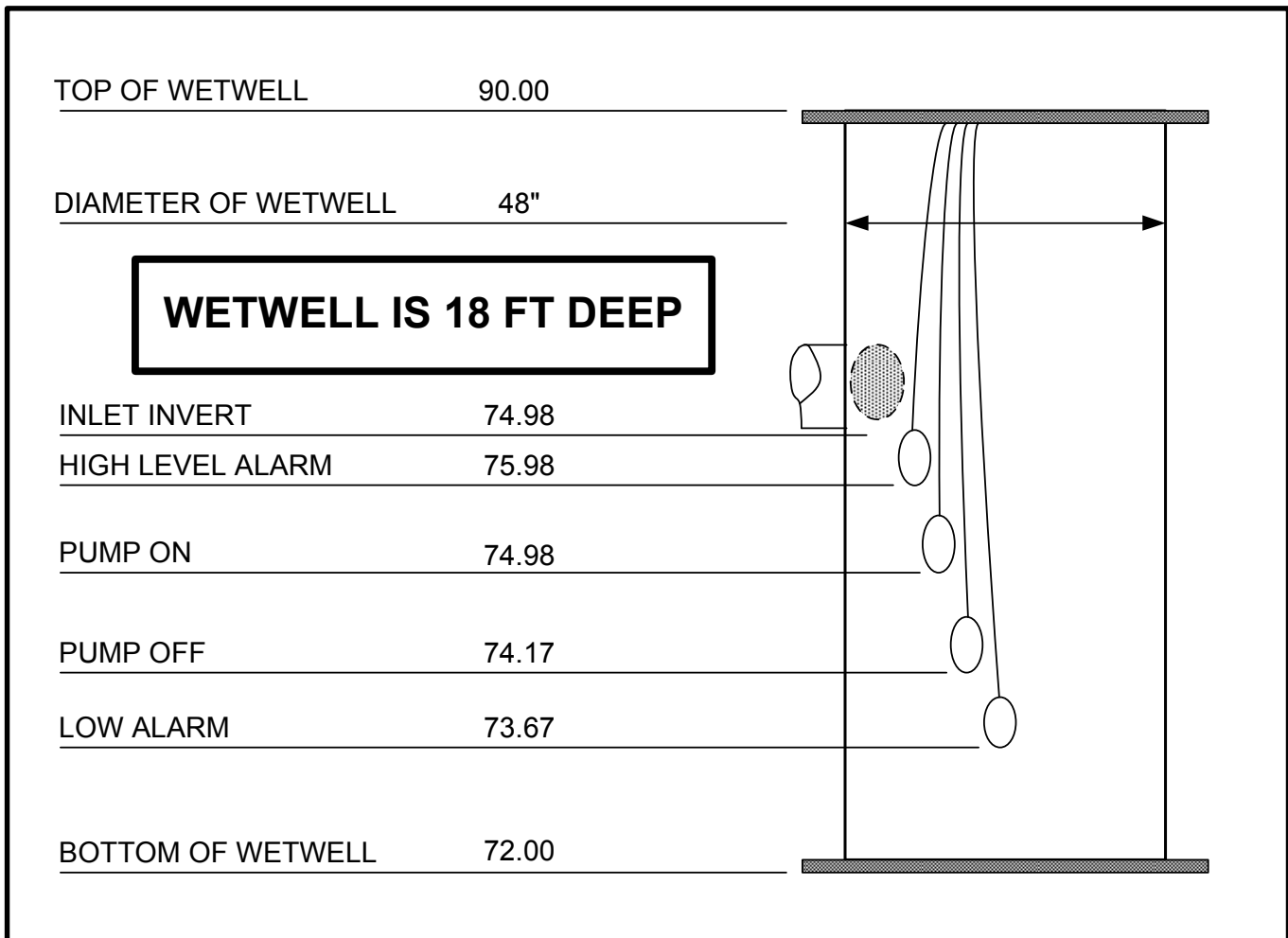
Angelo's Aggregate

5491 Benchmark Lane, Sanford, FL

PUMP DATA CHARACTERISTICS

PRIMARY PUMP CAPACITY (GPM)	90	R.P.M.	3450
PRIMARY TOTAL DYNAMIC HEAD (TDH)	30	PUMP DISCHARGE SIZE	2"
RATED HORSE POWER (HP)	1	FLA PER PUMP	12
ELECTRICAL POWER SUPPLY	230V/3		
PUMP MODEL#	LEH102M2-3	PUMP MANUFACTURER	LIBERTY

ELEVATION CHART



DATE:

8/8/17

PROJECT:

Angelo's Aggregate

CUSTOMER:

John Arnold

Submittal

M1

Liberty Pumps®

LEH100-Series



High Head Sewage Pumps

**1 hp
2" Solids-Handling
2" or 3" Flanged
Discharge
53' Maximum TDH**

Features:

- Rugged 2 vane, semi-open cast iron impellers
- Cast iron housings and volute with all stainless steel and brass fasteners
- 17-4 PH stainless steel shaft
- Oil-filled, hermetically sealed motors
- Built-in thermal protection on single phase models
- 2" or 3" flanged discharge
- Permanently lubricated upper and lower ball bearings
- Unitized shaft seals
- Single float mechanical level control with series plug for manual bypass operation—standard on single-phase automatic models
- Adjustable pumping range
- Quick-disconnect 10' standard power cord allows replacement of cord in seconds without breaking seals to motor (25' and 35' lengths optional)

Models:

SINGLE PHASE

LEH102M 230V, 12a, manual
LEH102A 230V, 12a, automatic

3-PHASE

LEH103M 208-230V, 9a, manual*
LEH104M 440-480V, 4.5a, manual*
LEH105M 575V, 3.3a, manual*

*Note: 3-phase models require control panel for automatic operation. See sewage accessories literature for complete information on all simplex and duplex controls.

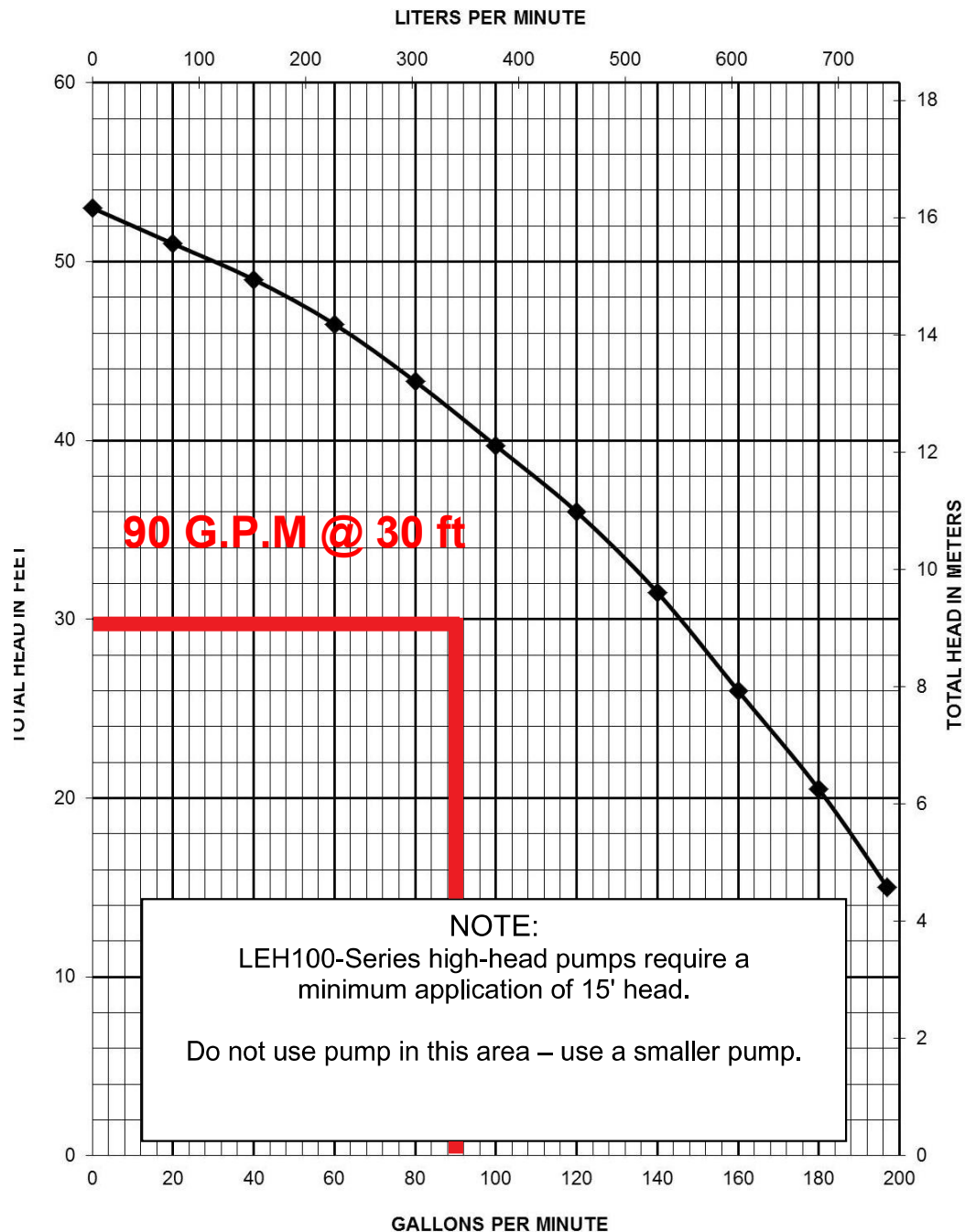
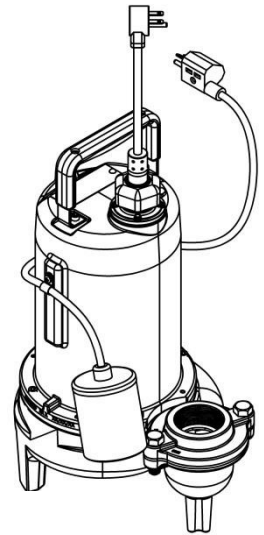
innovate. evolve.



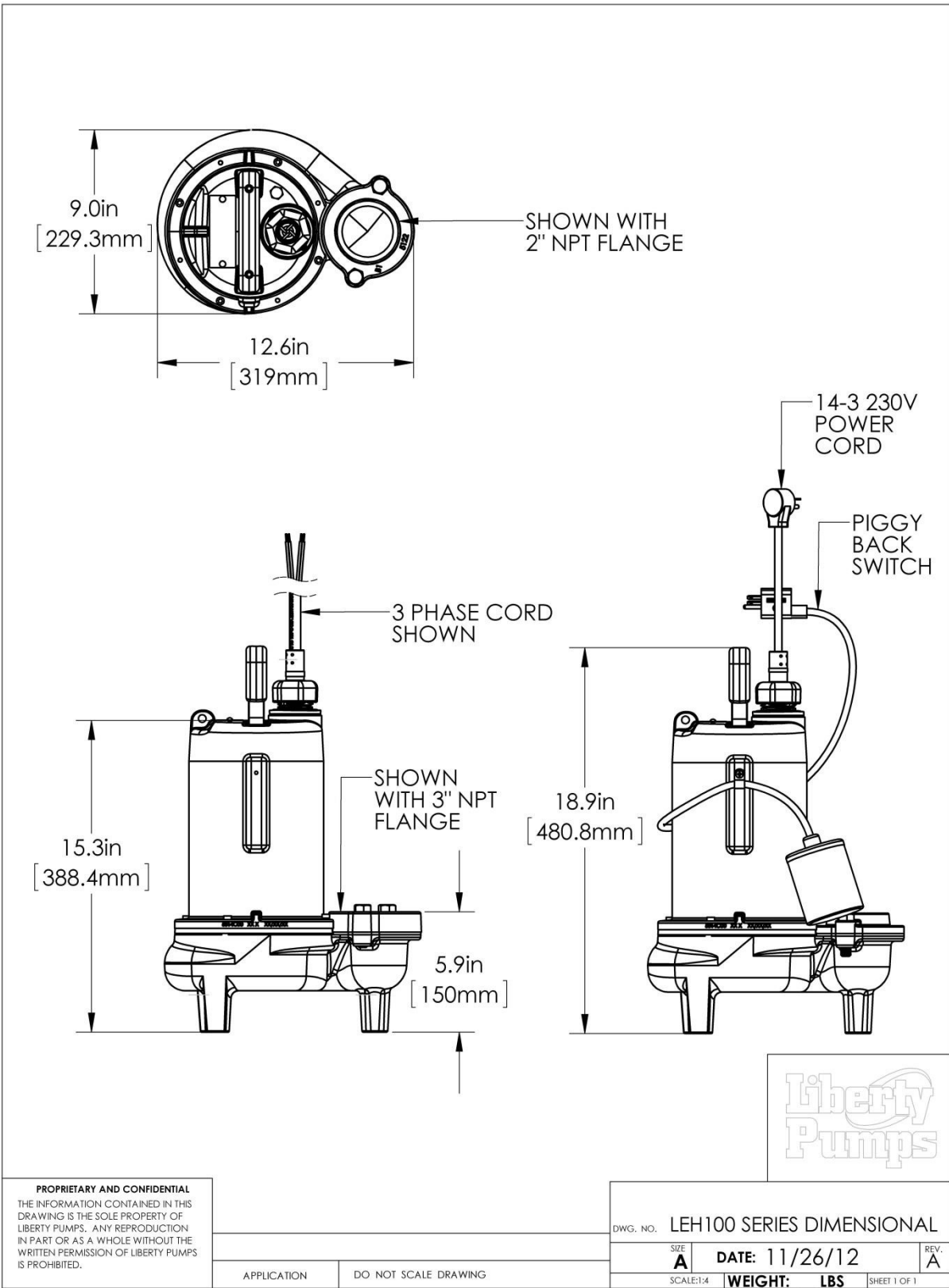
Pump Specifications

LEH100-Series

1HP Submersible Sewage Pump



LEH100-Series Dimensional Data



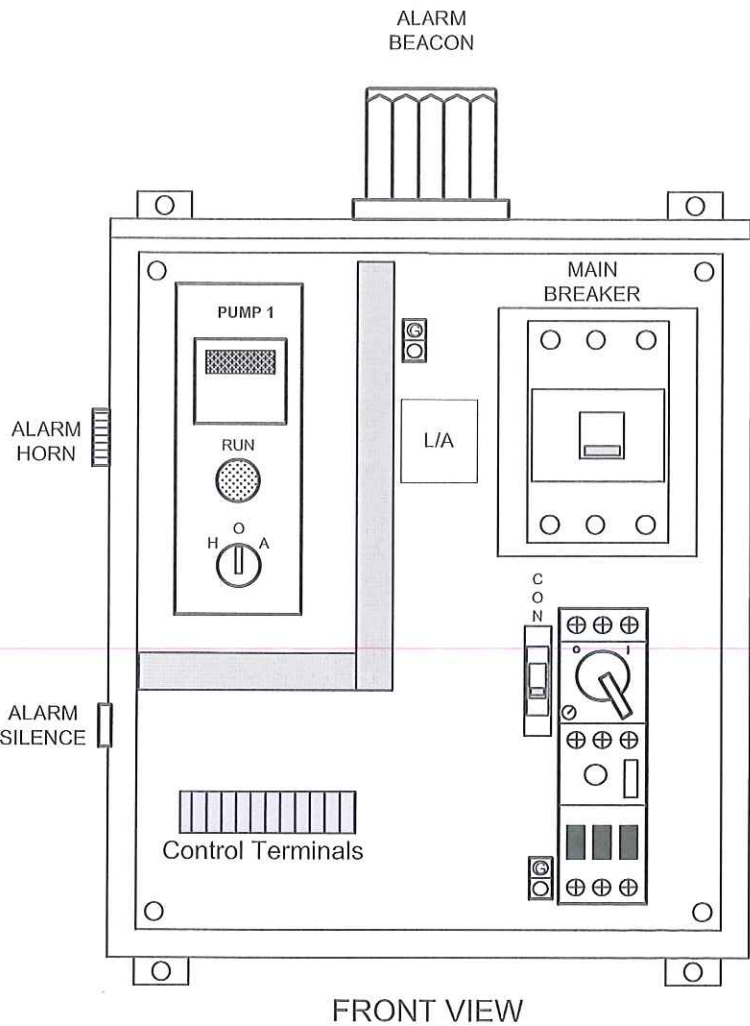
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IMPELLER	2 VANE CLASS 25 CAST IRON
SOLIDS HANDLING SIZE	2"
PAINT	POWDER COAT
MAX LIQUID TEMP	60°C 140°F
MAX STATOR TEMP	130°C 266°F
THERMAL OVERLOAD	120°C 248°F (single-phase only)
POWER CORD TYPE	SJOOW (1-PH) or SEOOW (3-PH)
MOTOR HOUSING	CLASS 25 CAST IRON
VOLUTE	CLASS 25 CAST IRON
SHAFT	STAINLESS
HARDWARE	STAINLESS
ORINGS	BUNA N
MECHANICAL SEAL	UNITIZED CARBON CERAMIC - SINGLE PHASE UNITIZED SILICON CARBIDE - THREE PHASE
MIN BEARING LIFE	50,000 HRS



SERVICE: 230V/ 3 PHASE/ 60 HZ.

ENCLOSURE:
 NEMA 4X,
 FABRICATED FROM FIBERGLASS



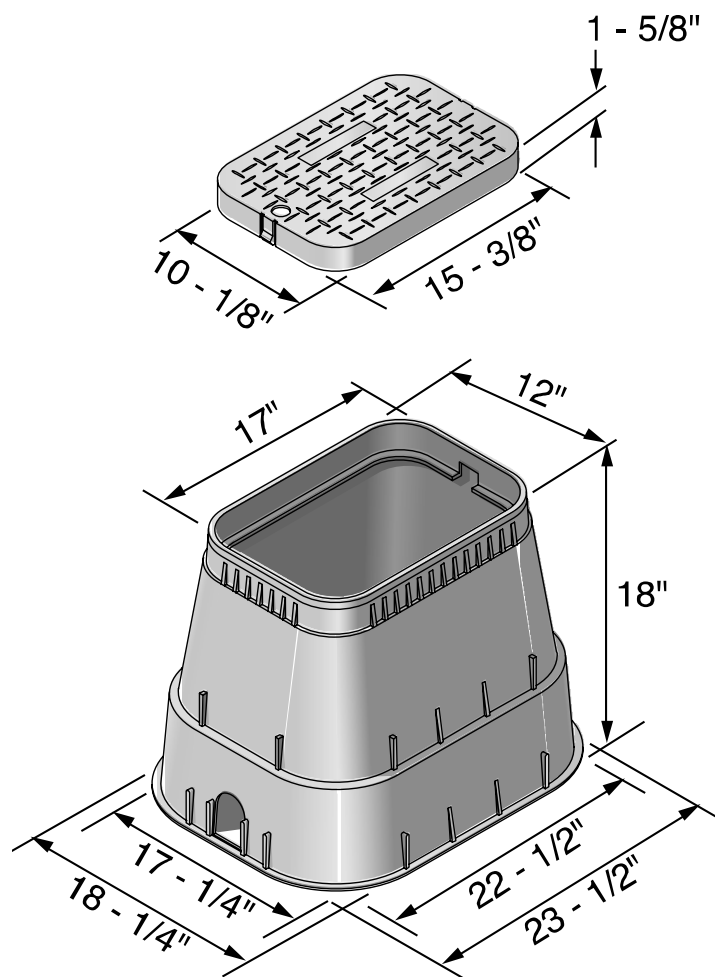
- BILL OF MATERIAL**
- (1) NEMA 4X FIBER ENCLOSURE _____
 - (2) MAIN CIRCUIT BREAKER 240V 30A _____
 - (3) MANUAL MOTOR PROTECTORS 10A _____
 - (4) CONTACTOR (1) _____
 - (5) GREEN RUN LIGHTS 120V (1) _____
 - (6) 3 POSITION SELECTOR SWITCHES (1) _____
 - (7) GROUND LUGS _____
 - (8) NEUTRAL TERMINAL BLOCK _____
 - (9) RED ALARM BEACON 120V _____
 - (10) ALARM HORN (PIEZO) 120V _____
 - (11) ALARM SILENCE PUSHBUTTON _____
 - (12) CONTROL TERMINAL BLOCK (8) _____
 - (13) LIGHTNING ARRESTOR _____
 - (14) ELAPSED TIME METER _____

NDS METER BOXES – STANDARD COMMERCIAL GRADE

NDS D1800 Meter Boxes

Specifications: NDS 14" x 19" x 18" meter boxes and covers are injection molded of structural foam recycled polyolefin material with a melt index between 10-12. Coloring and UV stabilizers are added, along with processing lubricants when needed. The 14" x 19" body is tapered and has a minimum wall thickness of 0.250". The body has a double wall at the top cover seat area with a minimum thickness of 0.22". The cover seat area has 26 structural support ribs on the underside of the seat, each with a minimum thickness of 0.12". The bottom of the body has a 0.50" flange. The 14" x 19" cover has an average thickness of 0.20".

Part No.	Description - Marking	Color (Box/Cover)	Pallet Qty.	Wt. Ea. lbs.	Product Class
Drop-in Box & Cover					
D1800-DISB	14" x 19" x 18" Box, Drop-in Solid Plastic Cover	Black/Black	48	12.20	20ME



3" x 4" Pipe Slot

521 Brass Check Valve • Spec Sheet

FEATURES & BENEFITS

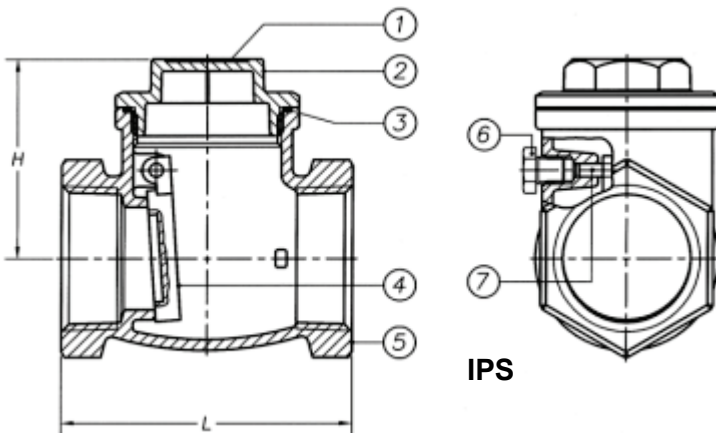


- 200 WOG
- 125 SWP
- Cast Brass Body
- Swing Type
- Threaded Ends Comply with ANSI B2.1 3/8" - 4"
- Solder Ends Comply with ANSI B16.18 1/2" - 4"
- Valves are Tested in Accordance w/MSS-SP-82

Application: Commercial, Light Industrial for Water, Oil, Gas or Steam.

MATERIAL SPECIFICATIONS

No.	Part	Material
1	Name Plate	Aluminum A1100
2	Cap	Brass B584 C85710
3	Packing	Fibre "H"
4	Disc	Brass B584 C85710
5	Body	Brass B584 C85710
6	Bolt	Brass B16 C36000
7	Pin	Brass B124 C37700



DIMENSIONS

Size	H	L (IPS)	L (CXC)	Weight (lbs)
2"	2.74	4.22	5.48	2.64



MATCO-NORCA
Global sourcing. National compliance. Local service.

CALIFORNIA 5593 Fresca Dr., La Palma CA 90623 • Toll Free: 866-532-8306 • Fax: 866-532-8307
TEXAS 1150 Silber Rd., Houston TX 77055 • Toll Free: 800-935-5456 • Fax: 713-680-2999
NEW YORK PO Box 27, Rt. 22, Brewster NY 10509 • Toll Free: 800-431-2082 • Fax: 845-278-9056
WEB: www.matco-norca.com **EMAIL:** mail@matco-norca.com

759 Brass Ball Valve With Locking Handles • Spec Sheet

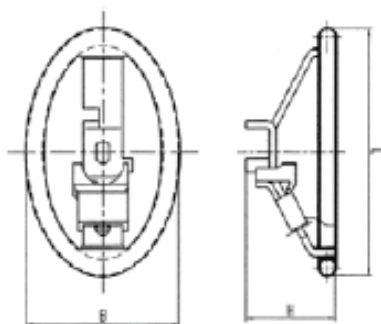


FEATURES & BENEFITS

- Full Port
- Forged Brass
- Two Piece Body
- PTFE Seats
- Blow-Out Proof Stem
- Chrome Plated Solid Brass Ball
- Thread Ends Comply Per ANSI B2.1
- Conforms to MSS-SP-110
- 1/4" - 2" Rated: 600 PSI Non- Shock CWP - 150 PSI SWP
- 2-1/4" - 4" Rated: 400 PSI Non- Shock CWP - 100 PSI SWP
- CSA Gas Approved to 2" (IPS Only)

APPLICATIONS

- Commercial & Light Industrial/ Steam, Water, Oil, Gas, Air

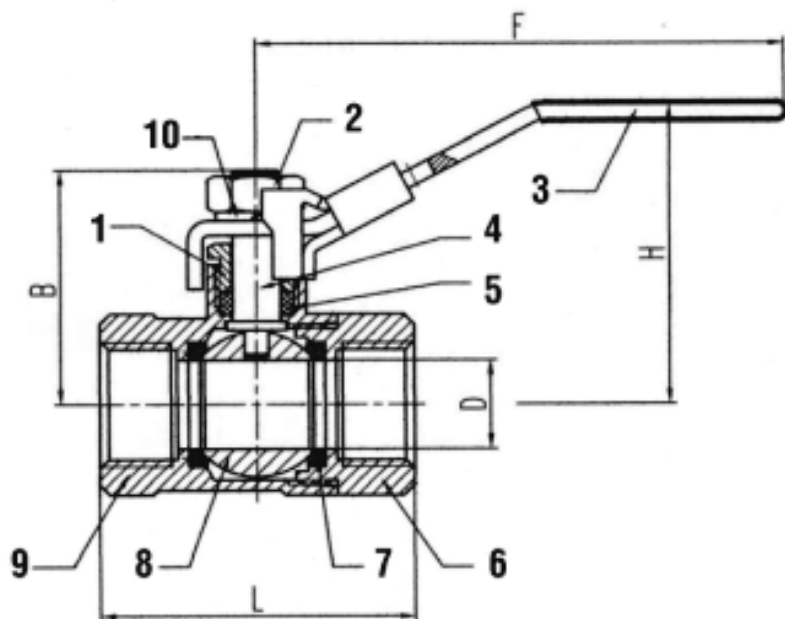


HANDLE DIMENSIONS

Size	L	B	H
1/4" - 1/2"	3.62	2.29	1.34
3/4" - 1"	3.78	2.36	1.69
1-1/4" - 2"	4.65	3.51	1.93

DIMENSIONS

Size	L	D	H	F	B
2"	4.41	1.97	3.45	5.91	2.96



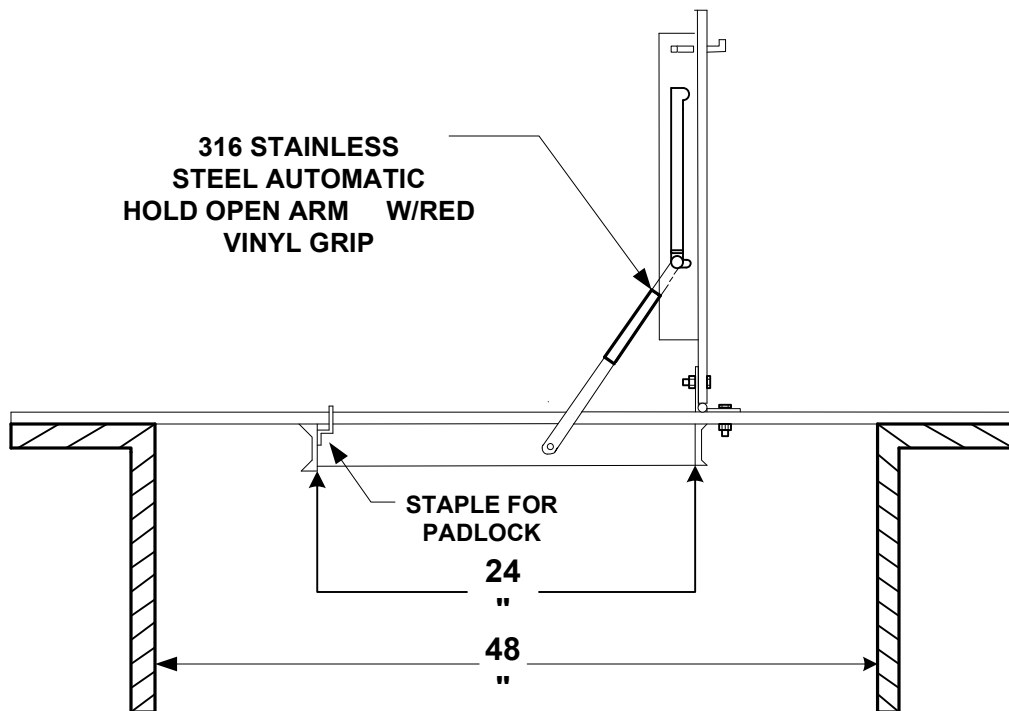
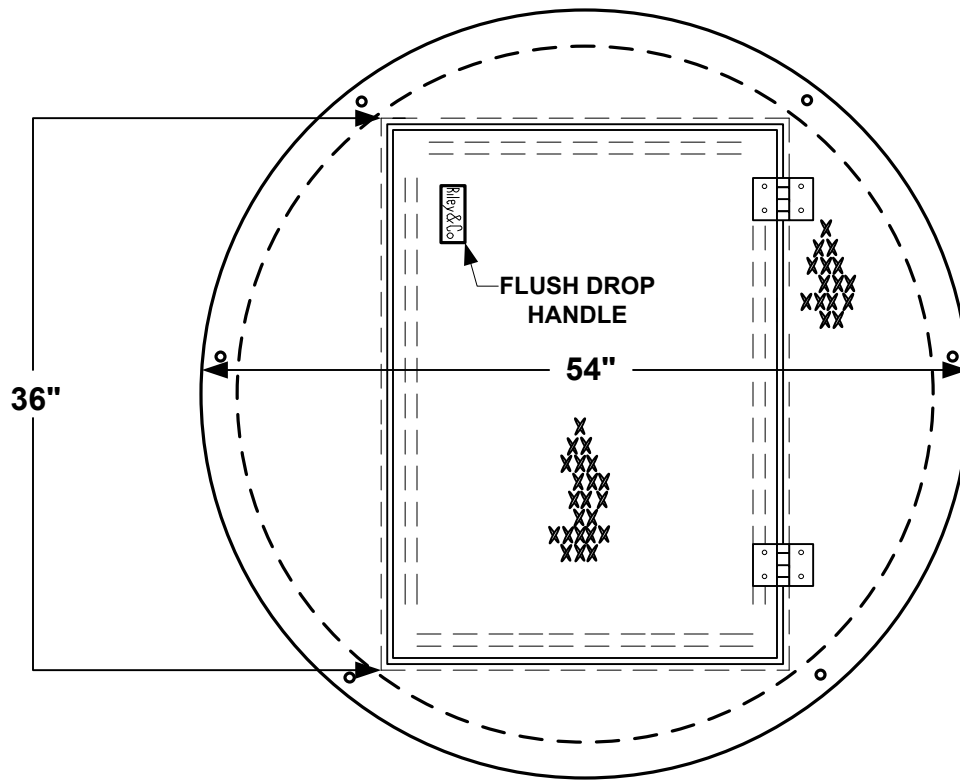
MATERIAL SPECIFICATION

No.	Part	Material
1	Gland Nut	Brass
2	Hex Nut	Steel
3	Handle	Steel
4	Stem	Brass
5	Stem Packing	PTFE
6	End Cap	Brass
7	Seat	PTFE
8	Ball	C.P. Brass
9	Body	Brass
10*	Lock Washer	Steel

*Not present on 2-1/2" valves

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 WEB: www.matco-norca.com EMAIL: mail@matco-norca.com



BPS (B)

36"	
42"	
48"	X
60"	
72"	

NOTE:
 MATERIAL: ALUMINUM WITH
 316 STAINLESS STEEL NUTS & BOLTS,
 HINGES, AND HOLD OPEN ARM.
 -LOADING: 300 LBS. PER SQ. FOOT



PH: 407-265-9963
 FAX: 407-265-9967



5491 BENCHMARK LANE
SANFORD, FL 32773

PH. 407-265-9963
FX. 407265-9967

FLOAT SWITCHES

roto-float TYPE S-SUSPENDED & TYPEP- PIPE MOUNTED

TYPES-SUSPENDED & TYPE P-PIPE MOUNTED

The **ROTO-FLOAT** is a direct acting float switch. Each **ROTO-FLOAT** contains a single pole mercury switch which activates when the longitudinal axis of the float is horizontal, and deactuates when the liquid level falls 1" below the actuation elevation.

The float is a chemical resistant polypropylene casing with a firmly bonded electrical cable protruding. One end of the cable is permanently connected to the enclosed mercury switch and the entire assembly is encapsulated to form a completely watertight and impact resistant unit. Type S- Suspended has built in weight.

ROTO-FLOAT can be mounted on a support pip (typeP) or suspended from above (type S). Advantages of the **ROTO-FLOAT** are low cost, simplicity, and reliability

NOTE: Mercury switches are not to be used in potable water

MATERIALS OF CONSTRUCTION

Float housing.....Polypropylene
Cable clamp.....Polypropylen
Cable jacket.....PVC

CONTACTS: Normally Open

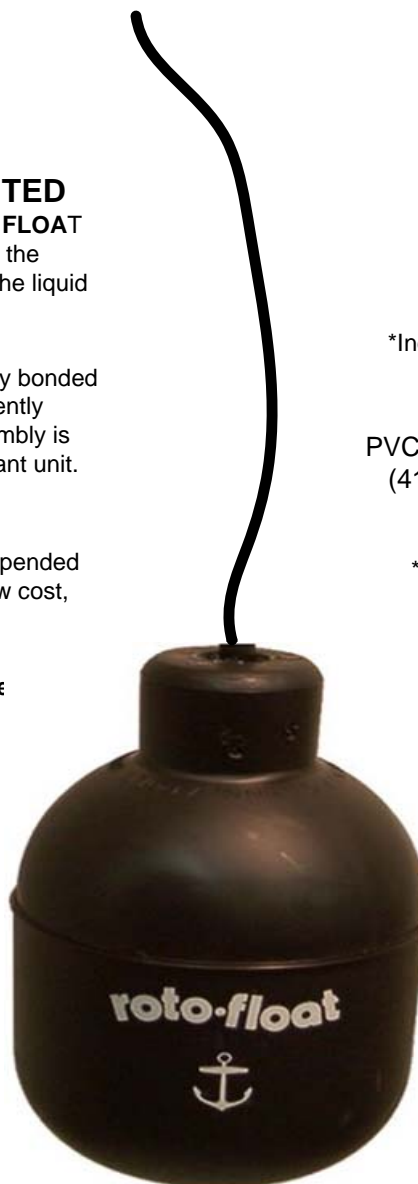
Applications

*Pilot Duty
*Industrial Control Equipment

CABLE

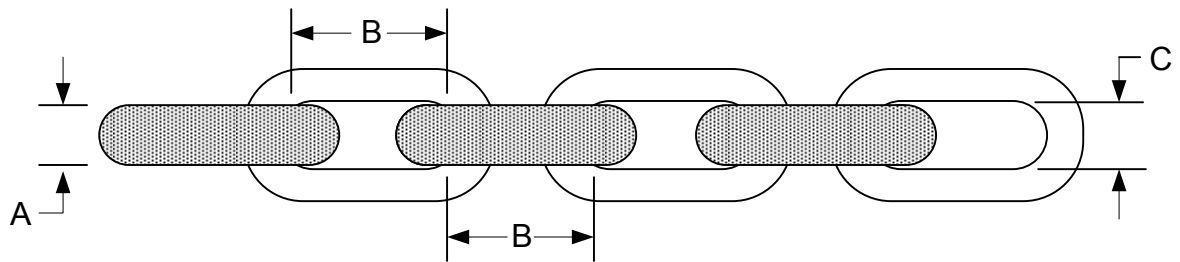
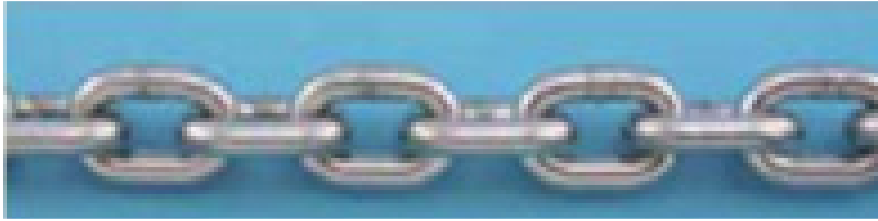
PVC type STO#18 conductors
(41 strand) rated 600 volts
*Various lengths available
*See table of models
*Non-standard lengths also
available on special order

anchor scientific inc.



WWW.RILEYANDCO.COM





DIMENSIONS AND SPECS

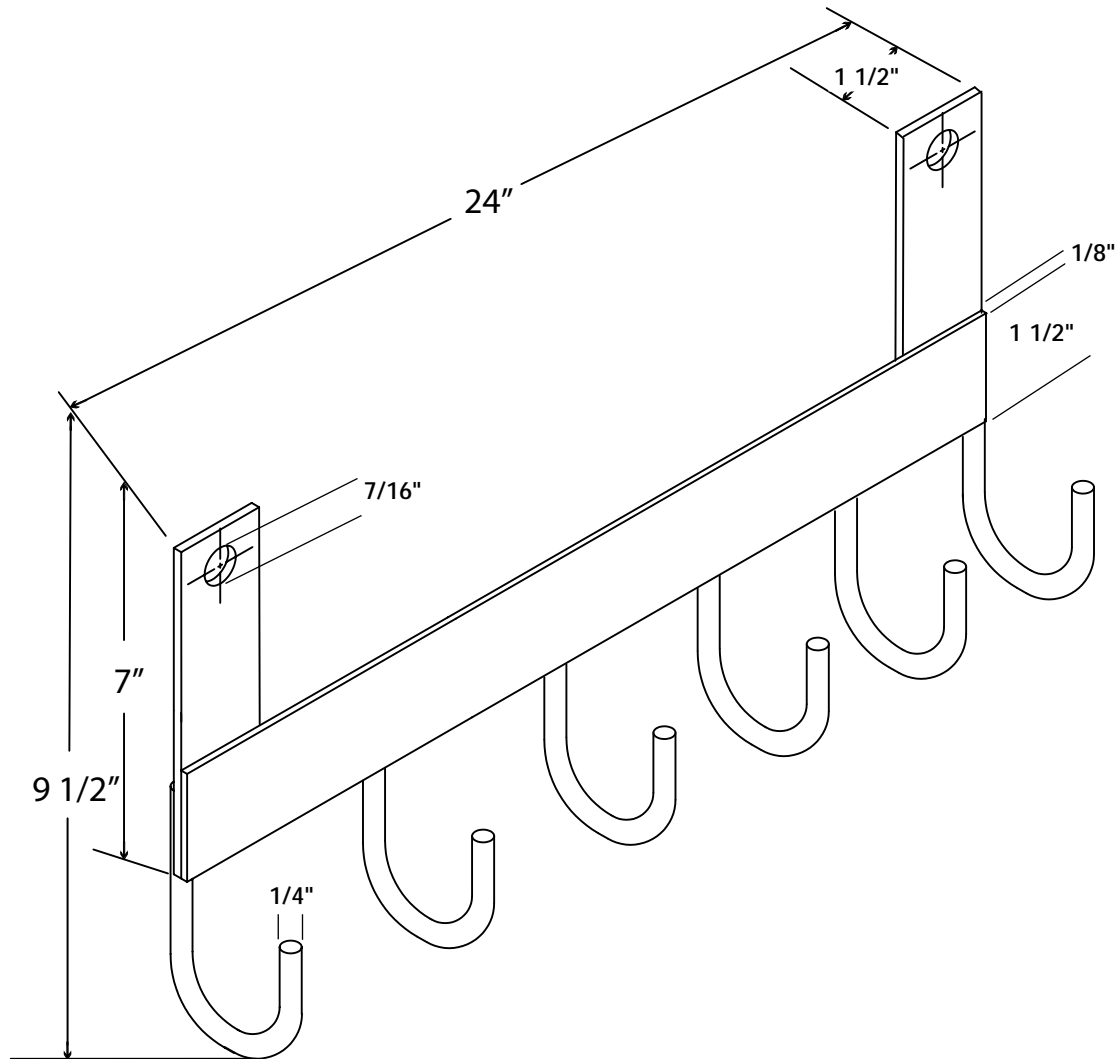


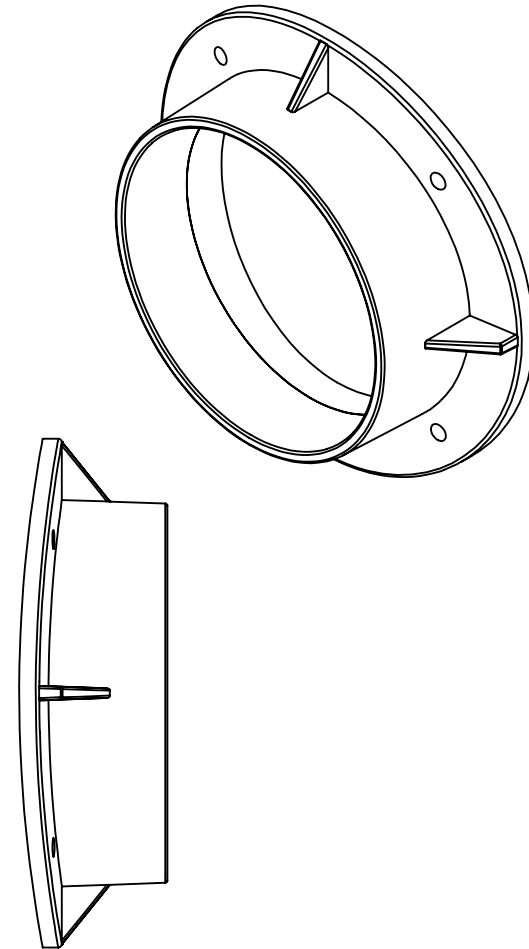
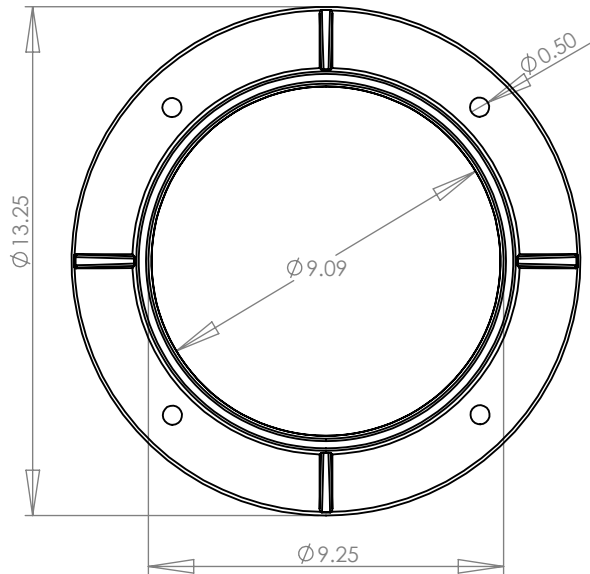
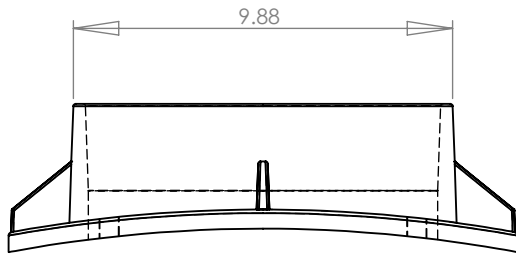
SIZE	A	B	C	WT/FT	WORKING LOAD LIMIT
3/16"	0.2	0.94	0.38	0.3	800
5/16"	0.32	0.94	0.46	0.98	1800



TYPE OF MATERIAL	
<input type="checkbox"/>	304 STAINLESS STEEL
<input checked="" type="checkbox"/>	316 STAINLESS STEEL
SIZE	
<input checked="" type="checkbox"/>	3/16 STAINLESS STEEL PROOF COIL 800 LBS WORKING LOAD
<input type="checkbox"/>	5/16 STAINLESS STEEL PROOF COIL 1800LBS WORKING LOAD

316SS CABLE HOLDER

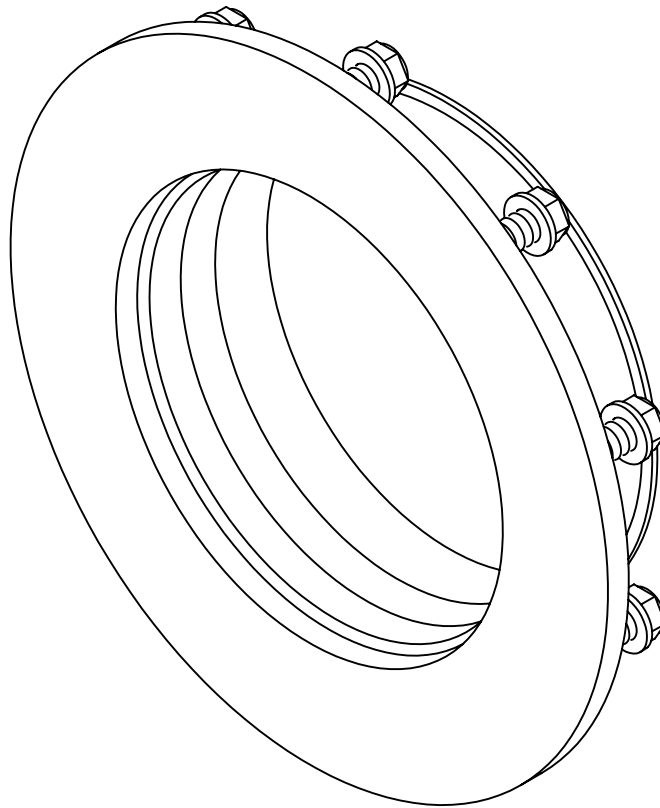




PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF <INSERT COMPANY NAME HERE>. ANY REPRODUCTION IN PART OR AS A WHOLE WITHOUT THE WRITTEN PERMISSION OF <INSERT COMPANY NAME HERE> IS PROHIBITED.

		UNLESS OTHERWISE SPECIFIED:		NAME	DATE	Riley and Company, Inc.		
		DIMENSIONS ARE IN INCHES TOLERANCES: FRACTIONAL ± ANGULAR: MACH± BEND ± TWO PLACE DECIMAL ± THREE PLACE DECIMAL ±	DRAWN			TITLE: BMC Eight Inch SLEEVE		
			CHECKED					
			ENG APPR.					
			MFG APPR.					
		INTERPRET GEOMETRIC TOLERANCING PER:	Q.A.					
		MATERIAL	COMMENTS:			SIZE	DWG. NO.	REV
NEXT ASSY	USED ON	FINISH				A	SLV800FG	00
APPLICATION		DO NOT SCALE DRAWING				SCALE: 1:5 WEIGHT: SHEET 1 OF 1		

AVAILABLE IN A WIDE SIZE RANGE: 1-1/4" TO 8"
 ABLE TO CONFORM TO VARIOUS TANK SHAPES AND CONTOURS.
 BAFFLED REAR BOOT DESIGN ALLOWS FOR MORE
 FLEXIBILITY AND LESS STRESS ON BOOT OR PIPE.
 ALL MOUNTING HARDWARE IS 300 SERIES SST.
 MADE FROM DURABLE BUNA RUBBER MATERIAL.
 DETAILED DRILLING TEMPLATE & INSTRUCTIONS
 INCLUDED WITH HUB ASSEMBLY.

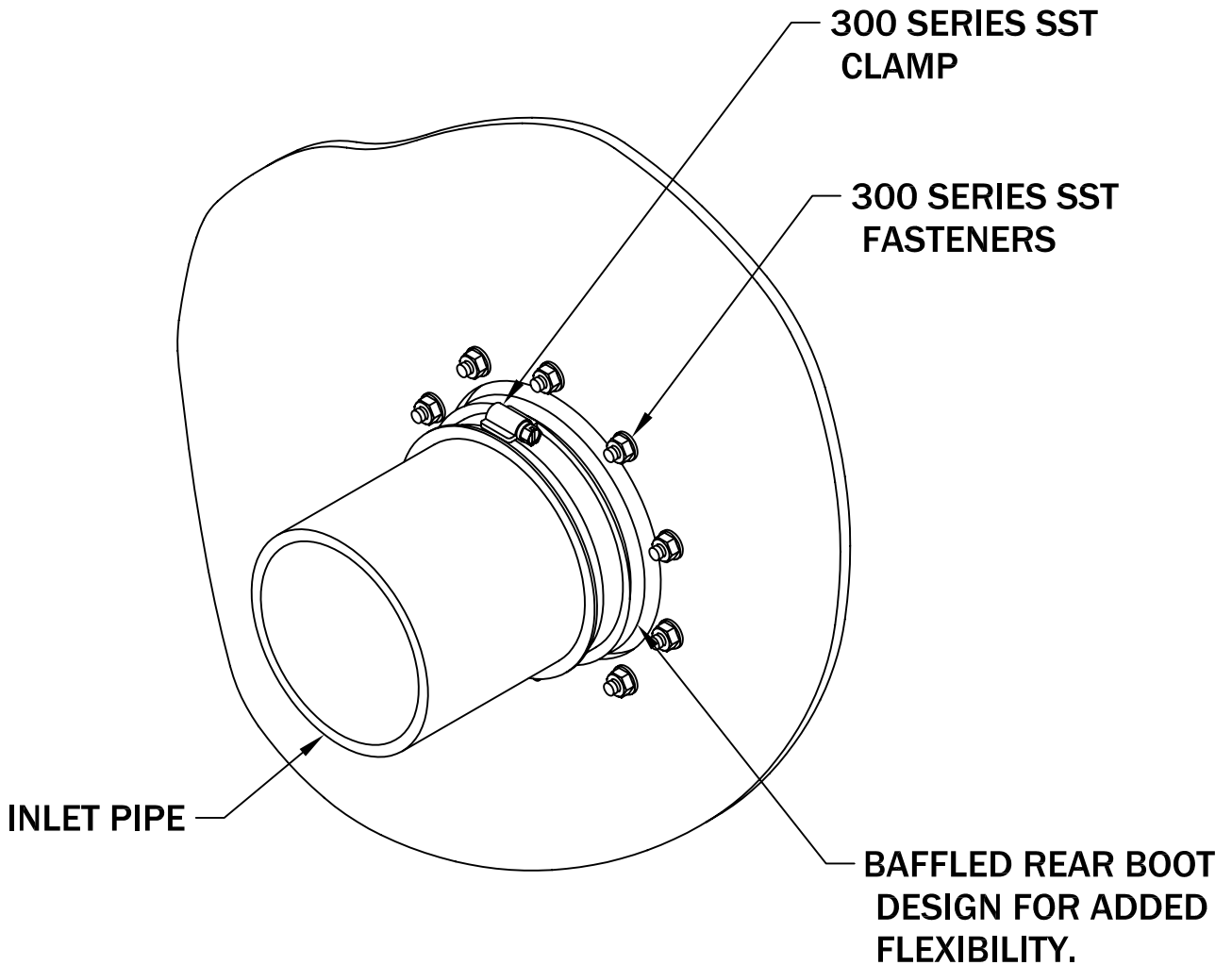


FEH-0400 SHOWN

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CHANGES	TOLERANCES	DRAWN BY	DATE	SPECIFICATION SHEET DIMENSIONAL DATA	
F	DECIMALS	D. MIDDLETON	03/20/07		
E	.XXX = ± 0.005	MATERIAL SPECIFICATION:		SCALE:	PART NO.
D	.XX = ± 0.010			NONE	ENTRY HUBS
C	FRACTIONAL	AS NOTED			
B	X/X = $\pm 1/64$				
A	ANGLES				
	X' = $\pm 1/2^\circ$				



ALL INFORMATION CONTAINED IN THIS DRAWING IS
CONFIDENTIAL AND PROPRIETARY TO CONERY MFG, INC.



CHANGES	TOLERANCES	DRAWN BY	DATE	SPECIFICATION SHEET DIMENSIONAL DATA	
F	DECIMALS	D. MIDDLETON	03/20/07		
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C	FRACTIONAL	AS NOTED			
B	X/X = $\pm 1/64$				
A	ANGLES				
	X' = $\pm 1/2'$				

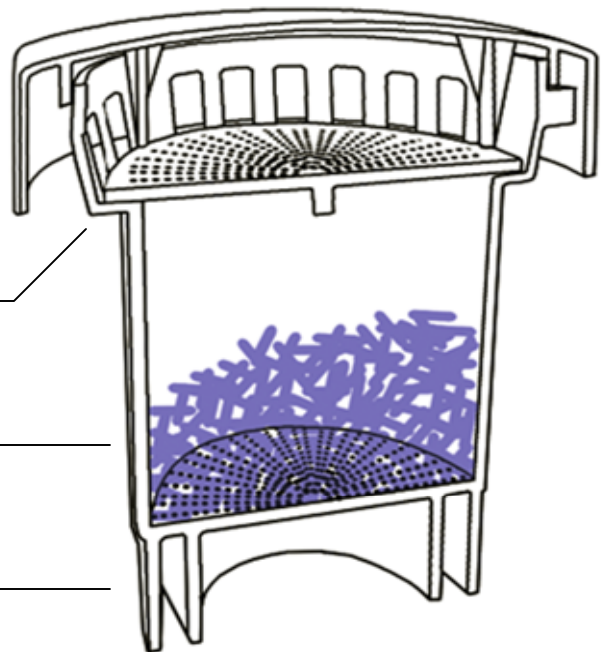


The SWEET AIR vent filter eliminates septic odors. SWEET AIR is inexpensive and can easily be installed. Put an end to unpleasant odors from your lift station

REMOVABLE SCREEN COVER

MEDIA CHAMBER

FITS MULTIPLE SIZE PIPING



- * EASY TO INSTALL
- * COST EFFECTIVE
- * REPLACEABLE CARBON FILTER
- * TWIST-TOP FOR EASY MAINTENANCE
- * SOLVENT WELD CONNECTION
- * NO MORE OFFENSIVE ODORS

5491 BENCHMARK LANE, SANFORD, FL 32773
PH: 407-265-9963 FAX: 407-265-9967

ASBUILT POND 3 VOLUME CALCULATION

Depth (ft - NGVD)	Area (sf)	Area (ac)	Volume (ac-ft)	Cumulative Volume (ac-ft)	Cumulative Volume (cf)
80	103278	2.37	0.00	0.00	0
81	115389	2.65	2.51	2.51	109,334
82	131019	3.01	2.83	5.34	232,539
83	140406	3.22	3.12	8.45	368,252
84	150506	3.46	3.34	11.79	513,708
85	170629	3.92	3.69	15.48	674,277
86	185097	4.25	4.08	19.56	852,140
87	198951	4.57	4.41	23.97	1,044,165
88	212506	4.88	4.72	28.69	1,249,894
89	225955	5.19	5.03	33.73	1,469,125
90	239555	5.50	5.34	39.07	1,701,881
91	254064	5.83	5.67	44.74	1,948,692
92	269363	6.18	6.01	50.74	2,210,406

Provided Volume w/ 1' of Freeboard 44.74 Ac-ft > 35.42 Ac-ft for 25-yr 24 hr

Provided Volume w/ 0.5' of Freeboard 47.74 Ac-ft > 47.17 Ac-ft for 100-yr 24 hr

Total Provided Volume Top of Pond 50.74 Ac-ft

Project | Enterprise Wetwell Design
Project | 02000-144-14

Purpose:

Determine wetwell working volume, associated working depth, and operational level.

Given:

Pump Information

1. Pump Manufacturer/Model =			
2. Design Pumping Capacity (Min Head Case) =	90	gpm	Qmh
3. Max # of Starts per Hour Avg Flow =	2		# of starts (Avg)
4. Max # of Starts per Hour Peak Flow =	12		# of starts (Peak; limited duration of operation <5 min per cycle)
5. Number of Pumps Used =	1		1 Pump Non-Alternating Operation.
6. Required Depth of Submergence of Pump =	0.17	ft	

Wetwell Information

1. Wetwell Inside Diameter =	4	ft	D
2. Inflow Inv. Elevation =	74.95	ft	
3. Bottom of Wetwell Elevation =	71.95	ft	
4. Total Depth (Inv Elev to Bottom of Wetwell)	3.00	ft	

As-Built Info

Bottom Well	71.95
Height Pump	1.58
Top of Pump	73.53

5. Required Depth of Submergence of Pump =	0.17	ft	Height of Water Above pump
6. Total Height of Pump =	1.58	ft	
7. Total Depth Required =	1.75	ft	Yes Total Depth is OK; water below invert
8. Working Depth volume from Pipe IE to Submergence)	1.25	ft	Difference from Pipe IE to Pump Submergence (Pump off)
	14.96	inches	

Inflow Information

1. Design Average Inflow (Qdai)=	5	gpm =	0.011 cfs
2. Design Peak Inflow (Qpi)=	90	gpm =	0.200 cfs

Solution:

Determine Actual Working Depth and Volume

1. Allowable Cycle Time (avg) =	30	min	tc = 60/# of starts (Avg)	No less than 5 minutes or
2. Allowable Cycle Time (peak) =	5	min	tc = 60/# of starts (Peak)	the average cycle not exceed 30 minutes.
3. Wetwell Volume per Foot of Depth =	94	gal/ft	V/ft = $\pi/4 * D^2$	
4. Selected Working Depth =	1.25	ft	da	
5. Actual Working Volume =	117	gal	Va = $(\pi/4 * D^2) * 7.48 * da$	

Determine Fill, Empty, and Cycle Times for Design Average Inflow

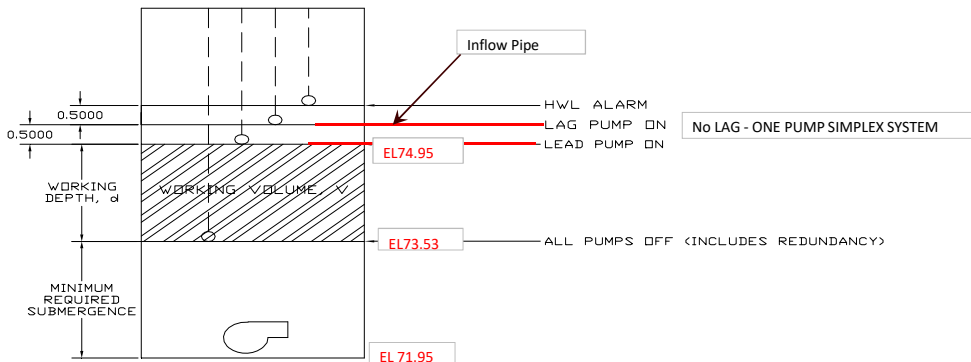
1. Time to Fill (Design Average Inflow) =	23.44	min	tf = Va/Qdai	0.39 hours
2. Time to Empty (Design Average Inflow) =	1.38	min	te = V/(Qmh-Qdai)	0.02 hours
3. Cycle Time (Design Average Inflow) =	24.82	min	tc = tf + te	0.41 hours
				2.42 starts per hour

Determine Fill, Empty, and Cycle Times for Design Peak Inflow

1. Time to Fill (Peak Inflow) =	1.30	min	tf = Va/Qpi
2. Time to Empty (Peak Inflow) =	1171.82	min	te = V/(Qmh-Qpi)
3. Cycle Time (Based on Peak Inflow) =	1173.13	min	tc = tf + te

Proposed Operational Levels:

HWL Alarm:	75.95 ft	Ground EL =	90.5 ft
Lag Pump On:	74.95 ft	Bottom EL =	71.95 ft
Lead Pump On:	74.95 ft	Wetwell depth =	18.55 ft (min Static Head)
LWL/ All Pumps Off (Includes Redundancy):	73.70 ft	Inflow Pipe Inv EL =	74.95 ft
Calculated Wetwell Bottom with water over pump:	73.70 ft	Depth of Working Volume =	1.25 ft
Selected Wetwell Bottom:	71.95 ft		



Attachment C

CQA Engineer of Record Narrative Report

Construction Quality Assurance Engineer of Record Narrative Report

**Enterprise Recycling and Disposal Facility
Cell 16 Construction
FDEP Permits No.: 177982-023-SC/T3
WACS No.: 87895**

Prepared For:

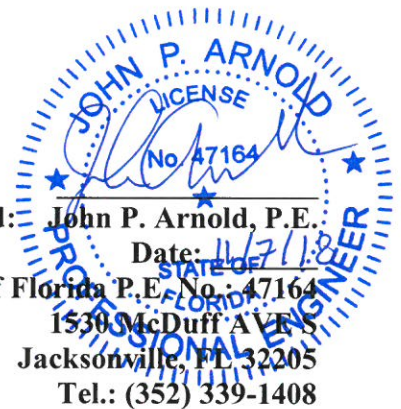
**Angelo's Aggregate Materials, Ltd.
855 28th Street South
St. Petersburg, FL 33712**

Prepared By:

CQA Engineer of Record: John P. Arnold, P.E.

Date: 11/7/18

**State of Florida P.E. No.: 47164
1530 McDuff Ave S
Jacksonville, FL 32205
Tel.: (352) 339-1408**



Background

This report documents the activities and methods of construction for Cell 16 (approximately 5.5 acres in size) in accordance with FDEP Permit No. 177982-023-SC/T3 and in response to the Department's 10/30/18 request for additional information.

Record Drawings of the as-built conditions, including the top of the 3' thick clay barrier layer were performed by Pickett and Associates, Inc. and John Arnold, P.E., with ground control provided by Simmons and Beall, Inc. Elevations of the excavation/undercut (prior to installation of the 3' thick clay barrier layer), top-of-clay (after installation of the 3' thick clay barrier layer), pump station (wetwell) and leachate collection pipe were performed by the Engineer of Record (Engineer) using the ground control data provided by Simmons and Beall, Inc. Topographic survey and elevation data were evaluated by the Engineer for conformance with the Department requirements. All Record Drawings are provided in Attachment B and include the clay perimeter berm and leachate collection system. The elevations on the surveys show that the subgrade was over-excavated by a minimum of 3-feet and then backfilled with clay to construct a 3' thick clay layer. The 3' clay layer (cell floor) was placed in three (3) approximately 12-inch thick lifts, with each lift being compacted. Geotechnical soils tests were performed on each completed clay lift of the 3' clay barrier layer to ensure the installed clay layer met the Department requirements in accordance with Appendix 3.2.a of the Operations Permit

Universal Engineering Sciences, Inc. (UES) performed all field and laboratory testing in accordance with the Construction Quality Assurance (CQA) requirements. Mr. John Arnold, P.E. served as the CQA professional engineer of record and he, or his designee was on-site at all times during construction to monitor construction activities.

Clay Layer Construction

Cell 16 was over-excavated by a minimum of 3 feet so that the finished 3-ft thick clay layer could be installed. The over-excavation was performed using tracked excavating equipment. The Engineer verified grades to ensure that the excavation was sufficient to meet the 3-foot over-excavation criteria. Clay was placed and compacted in the over-excavated using approximately 12-inch lifts to construct the clay layer. Clay was also placed and compacted in approximate 12-inch lifts to construct the perimeter berm (road). Signed and Sealed drawings documenting the As-Built conditions are provided in Attachment B.

Clay from on-site was used to construct the 3' clay layer and the clay berms that extend along the east and north sides of Cell 16. The clay was installed in approximately 12-inch lifts and compacted to within at least 95% of the maximum dry density in accordance with ASTM D698. The clay for each lift was spread with a bull dozer and compacted with multiple passes of loaded off-road (articulating) dump trucks. The in-place density and moisture content for the clay lifts of the 3' clay layer were evaluated by the Universal representative using nuclear-density testing and Speedy Moisture Content devices, respectively. Cell 16 was subdivided by row (1, 2, and 3) and columns (A and B) into sections for testing. Each section was less than 1 acre in size, which was the approved testing frequency used for in-place materials, per lift. Lifts were Revised to respond to 10/30/18 comments from the Department.

designated as Lift 1, 2, or 3 (from bottom to top). A figure depicting the Cell 16 Test Plan is attached.

The perimeter clay berm was constructed in approximate 12" lifts up to the finished grades, which are approximately 2' higher than in the permit plans. The perimeter berm was widened to accommodate truck 2-way traffic safely. The line and grade of the earthwork of the perimeter clay berm and Pond 3 are as represented on the Pickett topographic survey. The top of bank along the east side of the IW Pond was moved westward to preserve the existing 8' high landscaping berm that is required by the Pasco County conditional use. Pond 3 (IW Pond), as built, provides 50.74 Ac-ft of storage volume at elevation 92 and exceeds the required containment volume (runoff from 100-yr 24-hr storm) of 40.23 Ac-ft. The as-built IW Pond calculations are provided in Attachment B.

The UES field technician collected undisturbed Shelby tube samples for each test section of the 3' clay layer, per completed lift, to verify that the installed permeability met or exceeded the Department approved criteria. An additional sample was collected from the clay perimeter berm at the location of the wetwell at an approximate elevation of 85' for permeability testing. Permeability testing was performed on the undisturbed Shelby tube samples in the laboratory using a triaxial-permeameter device. The collected samples were also used to evaluate Atterberg Limits.

Results of the density, permeability, and moisture content tests, including the testing plan key map, are provided as Attachment D and show that the installed, compacted clay for the 3' clay layer and perimeter berm satisfied the maximum installed hydraulic permeability of 1×10^{-8} cm/sec.

Leachate Pipe and Wetwell

The leachate pipe along the north end of Cell 16 was installed by Comanco Environmental Corporation. The leachate pipe was 8" DIA SDR 17 HDPE and was fusion welded by Comanco. The perforated portion of the pipe included 3/8" DIA holes at 3" linear spacing per the approved drawings. The pipe was backfilled with No. 4 aggregate and encapsulated with non-woven filter fabric. The wet well was installed by Riley and Company, Inc. A copy of the start up test is provided and documents a flow rate of 86 (90 rounded up) gpm. A gradation test of the aggregate used to bed and backfill the leachate collection pipe is provided in Attachment B.

The wetwell installed was a 48" diameter fiberglass H20 rated system provided by Riley Pump, Inc. The pump start-up test (Attachment B) measured the installed capacity of the system to pump at 90 gpm. As-built elevations and hydraulic calculations for the system are provided in Attachment B.

The toe drain was constructed in accordance with the drawings. Non-woven geofabric was placed in the bottom of the trench and the pipe was placed on a 3-inch thick layer of gravel. The pipe was then backfilled with gravel and encased in the non-woven geofabric. The completed toe drain was covered with excess (surplus) No. 4 gravel that was on-site to provide additional protection to the installed system.

Revised to respond to 10/30/18 comments from the Department.

Limerock

Limerock was not observed or encountered within the area of Cell 16.

Field Inspection, Review, Conformance Assessment, and Major Deviations

John Arnold, P.E., serving as the CQA Engineer of Record reviewed the UES Testing Report, As-Built (Record) drawings including Pickett topographic survey, performed daily field inspections/observations, and prepared and submitted this report and Certification of Construction Completion to the Department for review and approval. In accordance with requirements of Specific Condition 177982-023-SC/T3, Part B, 6.b.:

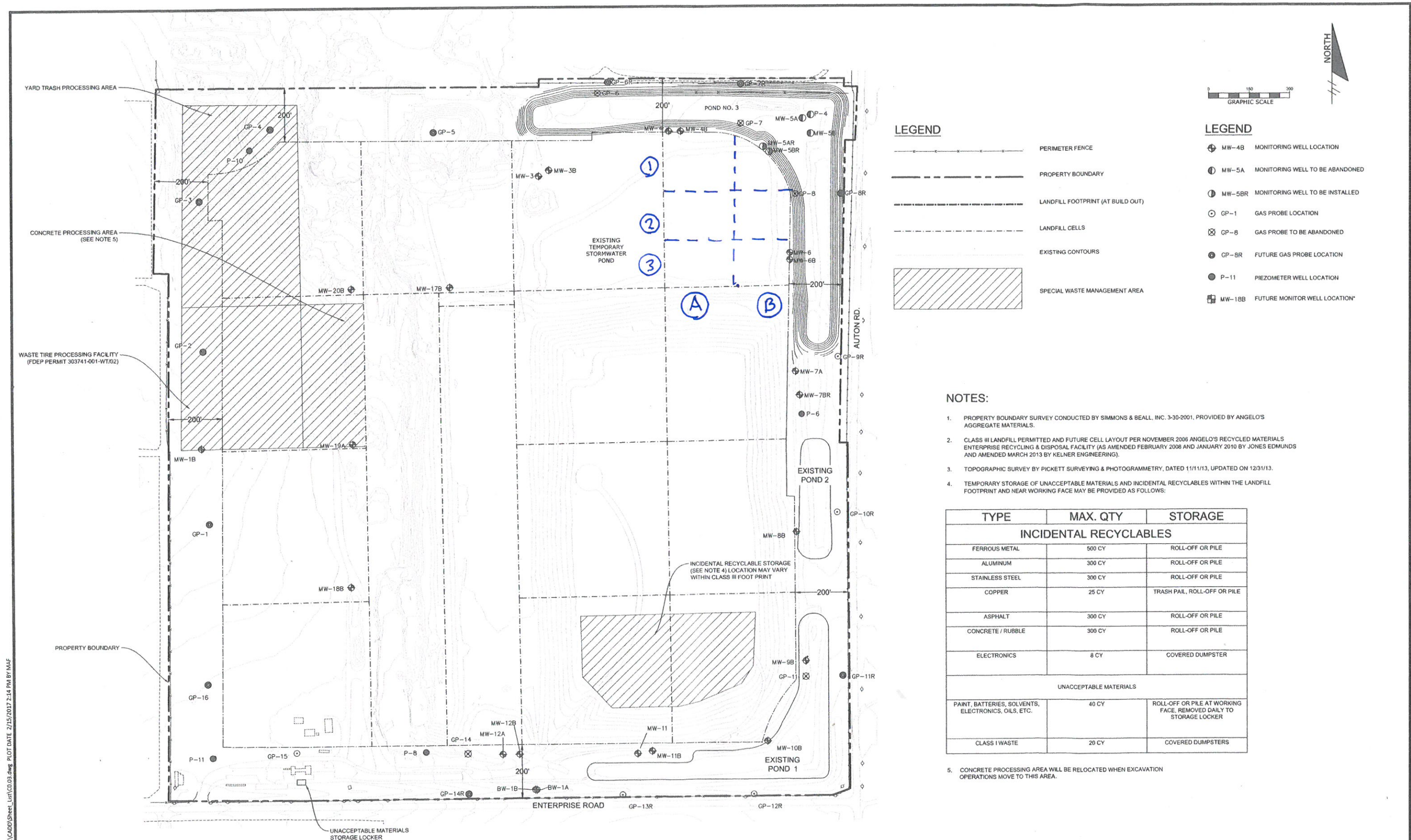
1. There were no occurrences of sinkholes, soft zones, ravel areas, or unstable conditions associated with the construction of Cell 16.
2. Deviations associated with the construction of Cell 16 maintain the approved functions and requirements. The capacity of the leachate collection pipe was increased by enlarging the diameter of the pipe from 6" to 8" HDPE (SDR 17) and will continue to convey the design leachate flow to the wet well. The wet well pumping rate remains unchanged and will convey leachate to Pond 3 as intended. The perimeter berm and resulting Pond 3 provide the required treatment volume.
3. Weekly progress meeting were informal and minutes were not taken.
4. Daily observation reports and photographs of construction activity are attached to this CQA Engineer of Record Narrative Report.

Summary

Review of the UES Testing Report, Record Drawings, and field observations during construction indicate that Cell 16 has been constructed in substantial accordance with the Department approved permit requirements. Specifically, the 3' clay layer and perimeter clay berm meet the maximum installed permeability requirement, the lift station pumps at the design rate of 90 gpm, and the leachate collection pipe in the toe drain has a greater conveyance capacity than the design pipe and will adequately convey the anticipated leachate generated in Cell 16. Changes to the line and grade of the perimeter berm maintain the minimum 200' setback from the property line and provide the required treatment volume for Pond 3.

Cell 16 Test Plan

Revised to respond to 10/30/18 comments from the Department.



LEGEND

- PERIMETER FENCE
- PROPERTY BOUNDARY
- LANDFILL FOOTPRINT (AT BUILD OUT)
- LANDFILL CELLS
- EXISTING CONTOURS
- SPECIAL WASTE MANAGEMENT AREA

LEGEND

- MW-4B MONITORING WELL LOCATION
- MW-5A MONITORING WELL TO BE ABANDONED
- MW-5BR MONITORING WELL TO BE INSTALLED
- GP-1 GAS PROBE LOCATION
- GP-8 GAS PROBE TO BE ABANDONED
- GP-8R FUTURE GAS PROBE LOCATION
- P-11 PIEZOMETER WELL LOCATION
- MW-18B FUTURE MONITOR WELL LOCATION

NOTES:

- PROPERTY BOUNDARY SURVEY CONDUCTED BY SIMMONS & BEALL, INC. 3-30-2001, PROVIDED BY ANGELO'S AGGREGATE MATERIALS.
- CLASS III LANDFILL PERMITTED AND FUTURE CELL LAYOUT PER NOVEMBER 2006 ANGELO'S RECYCLED MATERIALS ENTERPRISE RECYCLING & DISPOSAL FACILITY (AS AMENDED FEBRUARY 2008 AND JANUARY 2010 BY JONES EDMUNDS AND AMENDED MARCH 2013 BY KELNER ENGINEERING).
- TOPOGRAPHIC SURVEY BY PICKETT SURVEYING & PHOTOGRAMMETRY, DATED 11/11/13, UPDATED ON 12/31/13.
- TEMPORARY STORAGE OF UNACCEPTABLE MATERIALS AND INCIDENTAL RECYCLABLES WITHIN THE LANDFILL FOOTPRINT AND NEAR WORKING FACE MAY BE PROVIDED AS FOLLOWS:

TYPE	MAX. QTY	STORAGE
INCIDENTAL RECYCLABLES		
FERROUS METAL	500 CY	ROLL-OFF OR PILE
ALUMINUM	300 CY	ROLL-OFF OR PILE
STAINLESS STEEL	300 CY	ROLL-OFF OR PILE
COPPER	25 CY	TRASH PAIL, ROLL-OFF OR PILE
ASPHALT	300 CY	ROLL-OFF OR PILE
CONCRETE / RUBBLE	300 CY	ROLL-OFF OR PILE
ELECTRONICS	8 CY	COVERED DUMPSTER
UNACCEPTABLE MATERIALS		
PAINT, BATTERIES, SOLVENTS, ELECTRONICS, OILS, ETC.	40 CY	ROLL-OFF OR PILE AT WORKING FACE, REMOVED DAILY TO STORAGE LOCKER
CLASS I WASTE	20 CY	COVERED DUMPSTERS

- CONCRETE PROCESSING AREA WILL BE RELOCATED WHEN EXCAVATION OPERATIONS MOVE TO THIS AREA.

Z:\Civi 3D Project\02000-144-14_03\CADD\Sheet_Lut\CO03.dwg PLOT DATE: 2/15/2017 2:14 PM BY: MAF

NO.	DATE	REVISION DESCRIPTION	BY
1	7/31/16	FDEP R.A.I. NO. 1 RESPONSE	LIB
2	12/02/16	FDEP R.A.I. NO. 2 RESPONSE	LIB
3	1/24/17	SUPPLEMENTAL INFORMATION FOR TOE DRAIN	LIB
4	2/3/17	REVISED TOE DRAIN AND ADDED LEACHATE COLLECTION WETWELL	LIB



4140 NW 37th Place, Suite A
Gainesville, Florida 32606
Phone: 352.672.6867 Fax: 352.692.5390
Certificate of Authorization No. 30066

PROJECT TITLE:
PERMIT PLANS
ENTERPRISE ROAD CLASS III
RECYCLING & DISPOSAL FACILITY
2016 PERMIT MODIFICATION
DADE CITY, PASCO COUNTY, FLORIDA

LISA J. BAKER	DESIGNED BY	LIB
	DRAWN BY	MAF
	CHECKED BY	JDL
FL PE NO. 74652	APPROVED BY	LIB

SHEET TITLE:
Cell 16 Field Testing Plan
SITE PLAN

PROJECT NO.:
02000-144-14
SCALE:
AS SHOWN
DATE:
MARCH 2016
DRAWING:
C0.03

REVIEW ONLY-NOT FOR CONSTRUCTION

Project Photographs

Revised to respond to 10/30/18 comments from the Department.



Revised to respond to 10/30/18 comments from the Department.



Revised to respond to 10/30/18 comments from the Department.



Revised to respond to 10/30/18 comments from the Department.



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Revised to respond to 10/30/18 comments from the Department.



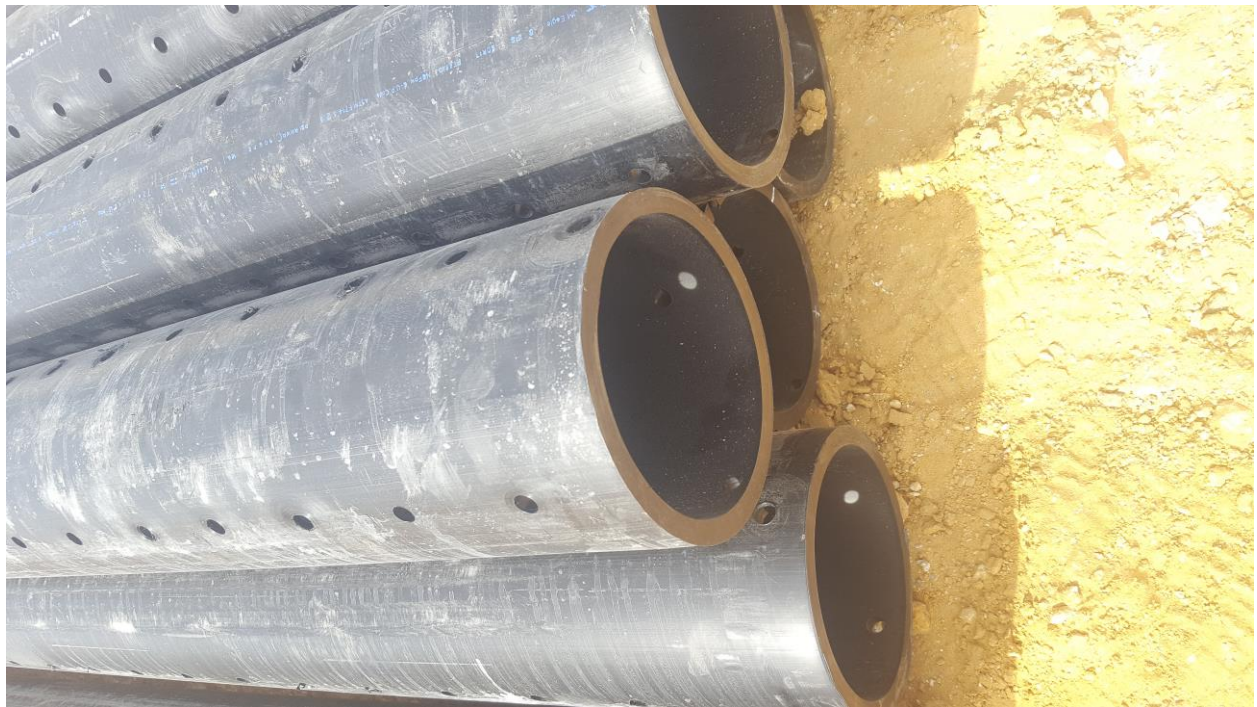
Revised to respond to 10/30/18 comments from the Department.



Revised to respond to 10/30/18 comments from the Department.



Revised to respond to 10/30/18 comments from the Department.



Revised to respond to 10/30/18 comments from the Department.



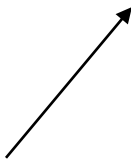
3-inch deep gravel below pipe

Revised to respond to 10/30/18 comments from the Department.



Gravel over pipe prior to wrapping geotextile

Revised to respond to 10/30/18 comments from the Department.



Gravel over pipe prior to wrapping geotextile

Revised to respond to 10/30/18 comments from the Department.



Revised to respond to 10/30/18 comments from the Department.

Daily Observation Reports

Enterprise Recycling and Disposal Facility

Cell 16 Construction

Daily Observation Reports

Client: Aneglo's Aggregate Materials, Ltd

Engineer of Record: John Arnold, P.E. (JPA)

Quality Assurance Testing Laboratory: Universal Engineering Sciences, Inc.

As-Built Engineering Survey: John Arnold, P.E.

Date	Resident Observer	Temp. (F)	Rainfall	Observations and Comments
4/24/17	JPA	72	0.00	Clearing vegetation from construction area
4/25/17	JPA	70	0.00	
4/26/17	JPA	74	0.00	
4/27/17	JPA	68	0.04	
4/28/17		67	0.00	
4/29/17				
4/30/17				
5/1/17	JPA	77	0.00	Clearing vegetation from construction area
5/2/17	JPA	79	0.31	
5/3/17	JPA	68	0.10	
5/4/17	JPA	68	0.00	
5/5/17	JPA	68	0.10	
5/6/17				
5/7/17				
5/8/17	JPA	76	0.00	
5/9/17	JPA	72	0.00	
5/10/17	JPA	74	0.00	Undercut of cell and berm areas
5/11/17	JPA	75	0.00	
5/12/17	JPA	78	0.00	
5/13/17				
5/14/17				
5/15/17	JPA	67	0.00	Wet conditions from weekend.
5/16/17	JPA	74	0.00	
5/17/17	JPA	73	0.00	
5/18/17	JPA	76	0.00	
5/19/17	JPA	78	0.00	
5/20/17				
5/21/17				
5/22/17	JPA	80	1.00	Wet conditions from weekend.
5/23/17	JPA	81	0.00	
5/24/17	JPA	79	0.10	
5/25/17	JPA	72	0.00	
5/26/17	JPA	72	0.00	
5/27/17				
5/28/17				
5/29/17	JPA	81	0.00	Earthwork cut
5/30/17	JPA	82	0.00	

Enterprise Recycling and Disposal Facility

Cell 16 Construction

Daily Observation Reports

Client: Aneglo's Aggregate Materials, Ltd

Engineer of Record: John Arnold, P.E. (JPA)

Quality Assurance Testing Laboratory: Universal Engineering Sciences, Inc.

As-Built Engineering Survey: John Arnold, P.E.

Date	Resident Observer	Temp. (F)	Rainfall	Observations and Comments
5/31/17	JPA	79	0.10	
6/1/17	JPA	85	0.00	
6/2/17	JPA	82	0.10	
6/3/17				
6/4/17				
6/5/17	JPA	8	0.00	Earthwork cut
6/6/17	JPA	78	0.00	
6/7/17	JPA	78	0.00	
6/8/17	JPA	80	0.00	
6/9/17	JPA	79	0.00	
6/10/17				
6/11/17				
6/12/17	JPA	80	0.00	Grading and cut cell and pond area
6/13/17	JPA	80	0.00	
6/14/17	JPA	80	0.00	
6/15/17	JPA	80	0.00	
6/16/17	JPA	79	0.00	
6/17/17				
6/18/17				
6/19/17	JPA	80	0.00	Cut and grading cell and pond
6/20/17	JPA	81	0.00	
6/21/17	JPA	84	0.00	
6/22/17	JPA	84	0.00	
6/23/17	JPA	48	0.00	
6/24/17				
6/25/17				
6/26/17	JPA	80	0.20	Earthwork activities
6/27/17	JPA	80	0.00	
6/28/17	JPA	80	0.00	
6/29/17	JPA	79	0.00	
6/30/17	JPA	80	0.00	
7/1/17				
7/2/17				
7/3/17	JPA	8,281	0.20	Wet from 1" weekend rain
7/4/17	JPA	82	0.00	
7/5/17	JPA	82	0.00	
7/6/17	JPA	82	0.00	

Enterprise Recycling and Disposal Facility

Cell 16 Construction

Daily Observation Reports

Client: Aneglo's Aggregate Materials, Ltd

Engineer of Record: John Arnold, P.E. (JPA)

Quality Assurance Testing Laboratory: Universal Engineering Sciences, Inc.

As-Built Engineering Survey: John Arnold, P.E.

Date	Resident Observer	Temp. (F)	Rainfall	Observations and Comments
7/7/17	JPA	82	0.10	
7/8/17				
7/9/17				
7/10/17	JPA	80	1.50	Earthwork activities
7/11/17	JPA	81	0.10	
7/12/17	JPA	80	0.20	
7/13/17	JPA	80	0.10	
7/14/17	JPA	80	0.17	
7/15/17				
7/16/17				
7/17/17	JPA	8,182	0.10	Coordinate clay backfill
7/18/17	JPA	80	0.30	
7/19/17	JPA	80	0.00	Clay haul to cell and berms
7/20/17	JPA	80	0.00	
7/21/17	JPA	80	0.10	
7/22/17				
7/23/17				
7/24/17	JPA	83	0.25	Earthwork activities and clay backfill
7/25/17	JPA	83	0.25	
7/26/17	JPA	83	0.00	
7/27/17	JPA	84	0.00	
7/28/17	JPA	84	0.20	
7/29/17				
7/30/17				
7/31/17	JPA	78	0.50	Earthwork activities and clay backfill
8/1/17	JPA	76	2.00	
8/2/17	JPA	78	0.00	
8/3/17	JPA	78	0.50	
8/4/17	JPA	76	1.50	
8/5/17				
8/6/17				
8/7/17	JPA	84	0.30	Prepare hurricane Irma
8/8/17	JPA	83	0.10	same
8/9/17	JPA	84	0.00	same
8/10/17	JPA	84	0.00	same
8/11/17	JPA	84	0.00	same
8/12/17				

Enterprise Recycling and Disposal Facility

Cell 16 Construction

Daily Observation Reports

Client: Aneglo's Aggregate Materials, Ltd

Engineer of Record: John Arnold, P.E. (JPA)

Quality Assurance Testing Laboratory: Universal Engineering Sciences, Inc.

As-Built Engineering Survey: John Arnold, P.E.

Date	Resident Observer	Temp. (F)	Rainfall	Observations and Comments
8/13/17				
8/14/17	JPA	84	0.25	Evaluate rain. Wet conditions.
8/15/17	JPA	83	0.10	
8/16/17	JPA	83	0.00	
8/17/17	JPA	83	0.00	
8/18/17	JPA	83	0.10	
8/19/17				
8/20/17				
8/21/17	JPA	82	0.00	Earthwork activities and clay backfill
8/22/17	JPA	82	0.00	
8/23/17	JPA	82	0.00	
8/24/17	JPA	82	0.25	
8/25/17	JPA	83	0.00	
8/26/17				
8/27/17				
8/28/17	JPA	80	1.50	Earthwork activities and clay backfill
8/29/17	JPA	80	0.50	
8/30/17	JPA	80	0.30	
8/31/17	JPA	82	0.00	
9/1/17	JPA	82	0.25	
9/2/17				
9/3/17				
9/4/17	JPA	81	1.00	Earthwork activities and clay backfill
9/5/17	JPA	81	0.00	
9/6/17	JPA	81	0.00	
9/7/17	JPA	8	0.00	
9/8/17	JPA	82	0.30	
9/9/17				
9/10/17				
9/11/17	JPA	83	2.00	Earthwork activities and clay backfill
9/12/17	JPA	81	0.00	
9/13/17	JPA	83	0.00	
9/14/17	JPA	82	0.25	
9/15/17	JPA	82	0.11	
9/16/17				
9/17/17				
9/18/17	JPA	80	0.00	Earthwork activities and clay backfill

Enterprise Recycling and Disposal Facility

Cell 16 Construction

Daily Observation Reports

Client: Aneglo's Aggregate Materials, Ltd

Engineer of Record: John Arnold, P.E. (JPA)

Quality Assurance Testing Laboratory: Universal Engineering Sciences, Inc.

As-Built Engineering Survey: John Arnold, P.E.

Date	Resident Observer	Temp. (F)	Rainfall	Observations and Comments
9/19/17	JPA	80	0.00	
9/20/17	JPA	80	0.00	
9/21/17	JPA	80	0.00	
9/22/17	JPA	80	0.00	
9/23/17				
9/24/17				
9/25/17	JPA	80	0.00	Earthwork activities and clay backfill
9/26/17	JPA	81	0.00	
9/27/17	JPA	81	0.00	
9/28/17	JPA	81	0.00	
9/29/17	JPA	81	0.40	
9/30/17				
10/1/17				
10/2/17	JPA	76	0.00	Earthwork activities and clay backfill
10/3/17	JPA	76	0.30	
10/4/17	JPA	78	0.00	
10/5/17	JPA	78	0.10	
10/6/17	JPA	76	0.25	
10/7/17				
10/8/17				
10/9/17	JPA	78	0.35	Earthwork activities and clay backfill
10/10/17	JPA	78	0.10	
10/11/17	JPA	79	0.00	
10/12/17	JPA	80	0.00	
10/13/17	JPA	82	0.00	
10/14/17				
10/15/17				
10/16/17	JPA	74	0.00	Earthwork activities and clay backfill
10/17/17	JPA	74	0.15	
10/18/17	JPA	77	0.00	
10/19/17	JPA	78	0.00	
10/20/17	JPA	78	0.00	
10/21/17				
10/22/17				
10/23/17	JPA	71	1.00	Earthwork activities and clay backfill
10/24/17	JPA	71	0.10	
10/25/17	JPA	65	0.00	

Enterprise Recycling and Disposal Facility

Cell 16 Construction

Daily Observation Reports

Client: Aneglo's Aggregate Materials, Ltd

Engineer of Record: John Arnold, P.E. (JPA)

Quality Assurance Testing Laboratory: Universal Engineering Sciences, Inc.

As-Built Engineering Survey: John Arnold, P.E.

Date	Resident Observer	Temp. (F)	Rainfall	Observations and Comments
10/26/17	JPA	59	0.00	
10/27/17	JPA	62	0.00	
10/28/17				
10/29/17				
10/30/17	JPA	57	0.00	Earthwork activities and clay backfill
10/31/17	JPA	64	0.00	
11/1/17	JPA	68	0.00	
11/2/17	JPA	70	0.00	
11/3/17	JPA	70	0.00	
11/4/17				
11/5/17				
11/6/17	JPA	68	0.00	Earthwork activities and clay backfill
11/7/17	JPA	72	0.00	Universal Site Visit
11/8/17	JPA	70	0.00	
11/9/17	JPA	65	0.00	
11/10/17	JPA	68	0.00	
11/11/17				
11/12/17				
11/13/17	JPA	74	0.00	Earthwork activities and clay backfill
11/14/17	JPA	70	0.00	
11/15/17	JPA	64	0.00	
11/16/17	JPA	64	0.00	Universal Testing Soil Sample Collection
11/17/17	JPA	62	0.00	
11/18/17				
11/19/17				
11/20/17	JPA	60	0.00	Earthwork activities and clay backfill
11/21/17	JPA	66	0.00	
11/22/17	JPA	70	0.00	Universal Testing Soil Sample Collection
11/23/17	JPA	72	0.20	
11/24/17	JPA	63	0.20	
11/25/17				
11/26/17				
11/27/17	JPA	62	0.00	Earthwork activities and clay backfill
11/28/17	JPA	69	0.00	
11/29/17	JPA	72	0.00	
11/30/17	JPA	68	0.00	
12/1/17	JPA	66	0.00	

Enterprise Recycling and Disposal Facility

Cell 16 Construction

Daily Observation Reports

Client: Aneglo's Aggregate Materials, Ltd

Engineer of Record: John Arnold, P.E. (JPA)

Quality Assurance Testing Laboratory: Universal Engineering Sciences, Inc.

As-Built Engineering Survey: John Arnold, P.E.

Date	Resident Observer	Temp. (F)	Rainfall	Observations and Comments
12/2/17				
12/3/17				
12/4/17	JPA	66	0.00	Earthwork activities and clay backfill
12/5/17	JPA	66	0.00	
12/6/17	JPA	68	0.00	
12/7/17	JPA	70	0.00	
12/8/17	JPA	66	0.20	
12/9/17				
12/10/17				
12/11/17	JPA	46	0.00	Earthwork activities and clay backfill
12/12/17	JPA	54	0.00	
12/13/17	JPA	50	0.00	
12/14/17	JPA	55	0.00	
12/15/17	JPA	64	0.00	
12/16/17				
12/17/17				
12/18/17	JPA	70	0.00	Earthwork activities and clay backfill
12/19/17	JPA	68	0.00	
12/20/17	JPA	68	0.00	
12/21/17	JPA	70	0.00	
12/22/17	JPA	63	0.00	
12/23/17				
12/24/17				
12/25/17	JPA	66	0.10	Earthwork activities and clay backfill
12/26/17	JPA	63	0.00	
12/27/17	JPA	66	0.00	
12/28/17	JPA	65	0.00	
12/29/17	JPA	70	0.00	
12/30/17				
12/31/17				
1/1/18	JPA	48	0.00	Equipment - off road truck out
1/2/18	JPA	44	0.00	
1/3/18	JPA	46	0.00	
1/4/18	JPA	38	0.00	
1/5/18	JPA	41	0.00	
1/6/18				
1/7/18				

Enterprise Recycling and Disposal Facility

Cell 16 Construction

Daily Observation Reports

Client: Aneglo's Aggregate Materials, Ltd

Engineer of Record: John Arnold, P.E. (JPA)

Quality Assurance Testing Laboratory: Universal Engineering Sciences, Inc.

As-Built Engineering Survey: John Arnold, P.E.

Date	Resident Observer	Temp. (F)	Rainfall	Observations and Comments
1/8/18	JPA	69	0.00	Earthwork activities and clay backfill
1/9/18	JPA	69	0.50	
1/10/18	JPA	67	0.00	
1/11/18	JPA	66	0.00	
1/12/18	JPA	69	0.21	
1/13/18				
1/14/18				
1/15/18	JPA	63	0.00	No work
1/16/18	JPA	64	0.00	
1/17/18	JPA	66	0.00	
1/18/18	JPA	39	0.00	
1/19/18	JPA	48	0.00	
1/20/18				
1/21/18				
1/22/18	JPA	66	0.10	No work
1/23/18	JPA	56	0.00	
1/24/18	JPA	66	0.00	
1/25/18	JPA	66	0.00	
1/26/18	JPA	67	2.00	
1/27/18				
1/28/18				
1/29/18	JPA	62	0.00	No work
1/30/18	JPA	64	0.00	
1/31/18	JPA	65	0.00	
2/1/18	JPA	64	0.00	
2/2/18	JPA	64	0.50	
2/3/18				
2/4/18				
2/5/18	JPA	66	0.00	No work
2/6/18	JPA	68	0.00	
2/7/18	JPA	70	0.00	
2/8/18	JPA	72	0.00	
2/9/18	JPA	76	0.00	
2/10/18				
2/11/18				

Enterprise Recycling and Disposal Facility

Cell 16 Construction

Daily Observation Reports

Client: Aneglo's Aggregate Materials, Ltd

Engineer of Record: John Arnold, P.E. (JPA)

Quality Assurance Testing Laboratory: Universal Engineering Sciences, Inc.

As-Built Engineering Survey: John Arnold, P.E.

Date	Resident Observer	Temp. (F)	Rainfall	Observations and Comments
2/12/18	JPA	76	0.50	No work
2/13/18	JPA	73	0.00	
2/14/18	JPA	72	0.00	
2/15/18	JPA	72	0.00	
2/16/18	JPA	72	0.00	
2/17/18				
2/18/18				
2/19/18	JPA	77	0.00	Earthwork activities and clay backfill
2/20/18	JPA	78	0.10	
2/21/18	JPA	72	0.00	
2/22/18	JPA	74	0.00	
2/23/18	JPA	74	0.00	
2/24/18				
2/25/18				
2/26/18	JPA	72	0.00	Earthwork activities and clay backfill
2/27/18	JPA	72	0.00	
2/28/18	JPA	72	0.00	
3/1/18	JPA	60	0.00	
3/2/18	JPA	58	0.00	
3/3/18				
3/4/18				
3/5/18	JPA	51	0.00	Earthwork activities and clay backfill
3/6/18	JPA	52	0.00	
3/7/18	JPA	69	0.00	
3/8/18	JPA	60	0.11	
3/9/18	JPA	52	0.00	
3/10/18				
3/11/18				
3/12/18	JPA	53	0.10	Earthwork activities and clay backfill
3/13/18	JPA	62	0.00	
3/14/18	JPA	70	0.00	
3/15/18	JPA	59	0.00	
3/16/18	JPA	61	0.00	
3/17/18				

Enterprise Recycling and Disposal Facility

Cell 16 Construction

Daily Observation Reports

Client: Aneglo's Aggregate Materials, Ltd

Engineer of Record: John Arnold, P.E. (JPA)

Quality Assurance Testing Laboratory: Universal Engineering Sciences, Inc.

As-Built Engineering Survey: John Arnold, P.E.

Date	Resident Observer	Temp. (F)	Rainfall	Observations and Comments
3/18/18				
3/19/18	JPA	60	0.00	Earthwork activities and clay backfill
3/20/18	JPA	62	0.00	
3/21/18	JPA	63	0.00	
3/22/18	JPA	65	0.00	
3/23/18	JPA	68	0.00	
3/24/18				
3/25/18				
3/26/18	JPA	67	0.00	Earthwork activities and clay backfill
3/27/18	JPA	69	0.75	
3/28/18	JPA	74	0.25	
3/29/18	JPA	68	0.00	
3/30/18	JPA	74	0.00	
3/31/18				
4/1/18				
4/2/18	JPA	72	0.75	Earthwork activities and clay backfill
4/3/18	JPA	70	0.25	
4/4/18	JPA	72	0.00	
4/5/18	JPA	66	0.00	
4/6/18	JPA	68	0.00	
4/7/18				
4/8/18				
4/9/18	JPA	66	1.00	No work
4/10/18	JPA	70	3.50	
4/11/18	JPA	66	0.15	
4/12/18	JPA	65	0.00	
4/13/18	JPA	68	0.00	
4/14/18				
4/15/18				
4/16/18	JPA		0.00	Earthwork activities and clay backfill
4/17/18	JPA		0.00	
4/18/18	JPA		0.30	
4/19/18	JPA		0.20	
4/20/18	JPA		0.00	

Enterprise Recycling and Disposal Facility

Cell 16 Construction

Daily Observation Reports

Client: Aneglo's Aggregate Materials, Ltd

Engineer of Record: John Arnold, P.E. (JPA)

Quality Assurance Testing Laboratory: Universal Engineering Sciences, Inc.

As-Built Engineering Survey: John Arnold, P.E.

Date	Resident Observer	Temp. (F)	Rainfall	Observations and Comments
4/21/18				
4/22/18				
4/23/18	JPA		0.00	Earthwork activities and clay backfill
4/24/18	JPA		0.00	
4/25/18	JPA		0.00	Universal Testing
4/26/18	JPA		0.00	
4/27/18	JPA		0.00	
4/28/18	JPA			
4/29/18	JPA			
4/30/18	JPA		0.00	Clay installation substantially complete
5/1/18	JPA		0.00	Pump Station Start Up
5/2/18	JPA		0.00	
5/3/18	JPA		0.00	
5/4/18	JPA		0.00	
5/5/18	JPA			
5/6/18	JPA			
5/7/18	JPA		0.25	
5/8/18	JPA		0.20	
5/9/18	JPA		0.00	
5/10/18	JPA		0.00	
5/11/18	JPA		0.00	Field Elevations
5/12/18	JPA			
5/13/18	JPA			

Attachment D

**Construction Quality Assurance Test Results
Universal Engineering Science, Inc.**



UNIVERSAL ENGINEERING SCIENCES

Consultants In: Geotechnical Engineering • Environmental Sciences
Geophysical Services • Construction Materials Testing • Threshold Inspection
Building Inspection • Plan Review • Building Code Administration

LOCATIONS:

- Atlanta
- Daytona Beach
- Fort Myers
- Fort Pierce
- Gainesville
- Jacksonville
- Miami
- Ocala
- Orlando (Headquarters)
- Palm Coast
- Panama City
- Pensacola
- Rockledge
- Sarasota
- St. Petersburg
- Tampa
- Tifton
- West Palm Beach

October 11, 2018

Angelo's Recycled Materials

41111 Enterprise Road
Dade City, Florida 33525

Attention: John Arnold

Reference: John Arnold
Enterprise Class III Landfill Cell 16
Dade City, Florida
UES Project No. 0810.1500214.0000

Mr. Arnold:

Pursuant to your request, please find attached all related testing reports for the Landfill Cell 16. This letter certifies reports for:

- **Proctor Report:** Page 1-11
- **Permeability Reports:** Pages 12-13
- **Site Density Reports:** Pages 14-16

We trust that these testing reports bound herein, are acceptable to your current needs. However, if you should require additional information please contact us.

We appreciate the opportunity to work with you on this project and look forward to a continued association with Angelo's Recycled Materials. Please do not hesitate to contact us if you should have any questions or if we may further assist you as your plans proceed.

Respectfully submitted,
UNIVERSAL ENGINEERING SCIENCES, INC.
Certificate of Authorization No. 00000549



Mark Hardy, P.E.
Tampa Regional Manager
Florida PE Registration Number 57233
Date: 10/11/2018



Project Number: 810.1500214.00
 Lab Sample No.: 18-P1364
 Work Order No.: 81060

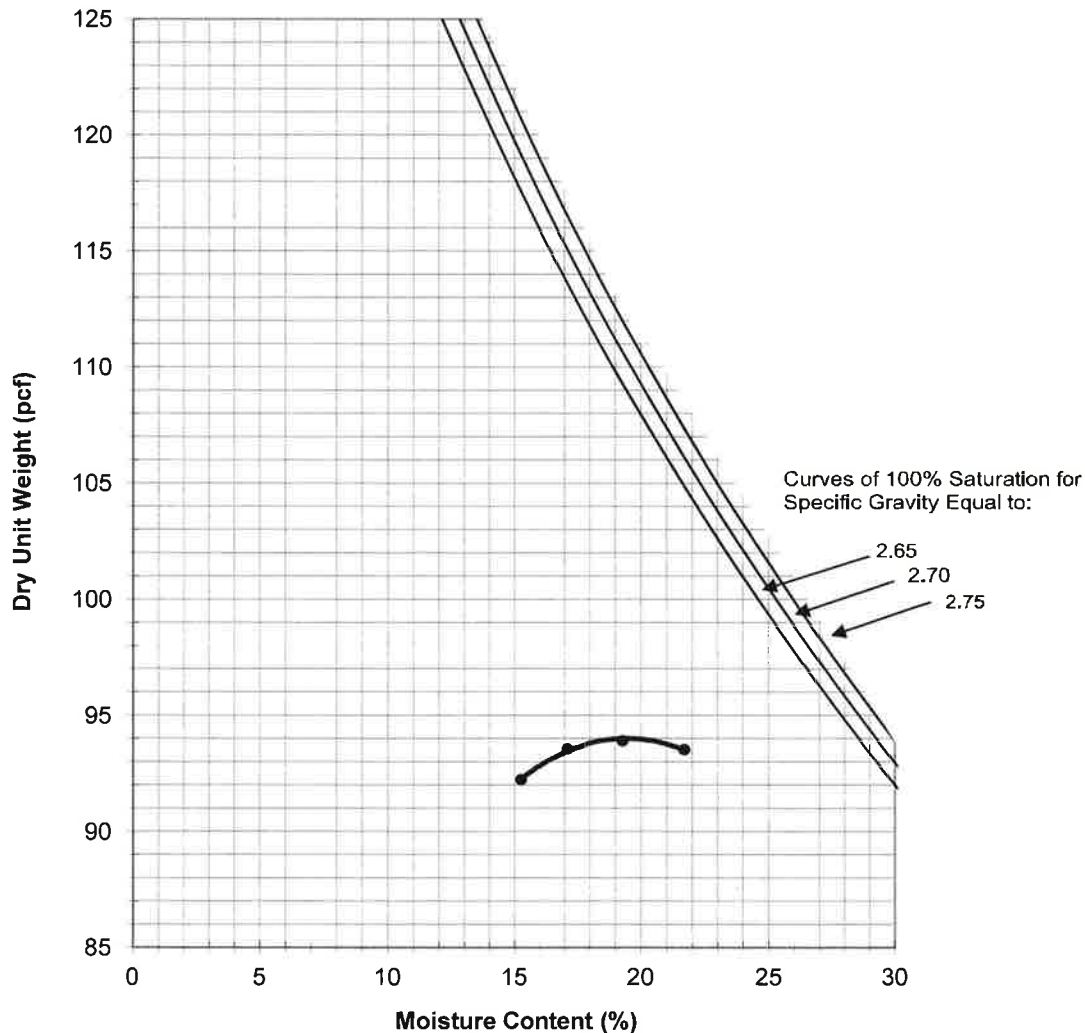
Client: Angelo's Materials
 Project Name: Cell 16
 Sample Location: Cell 16 Section 1 Lift 2
 Intended Use: Other
 Material Description: Clay
 Sampled By: MA
 Date Sampled: April 24, 2018

Area Covered: N/A
 Date Plotted: August 3, 2018
 Tested By: ECV
 Date Tested: August 2, 2018

SUMMARY OF TEST RESULTS

Test Method: AASHTO T-99 Method A
Maximum Dry Density, pcf: 94.0
Optimum Moisture, %: 19.5
 Passing 3.5" Sieve, %: 100
 Passing No. 4 Sieve, %: 100
 Passing No. 200 Sieve, %: 53.7

AASHTO T-89 (LL): N/A
 AASHTO T-90 (PI): N/A
 AASHTO M-145 (Class.): N/A



Sampled according to AASHTO T 002. Proctor plotted by software package.

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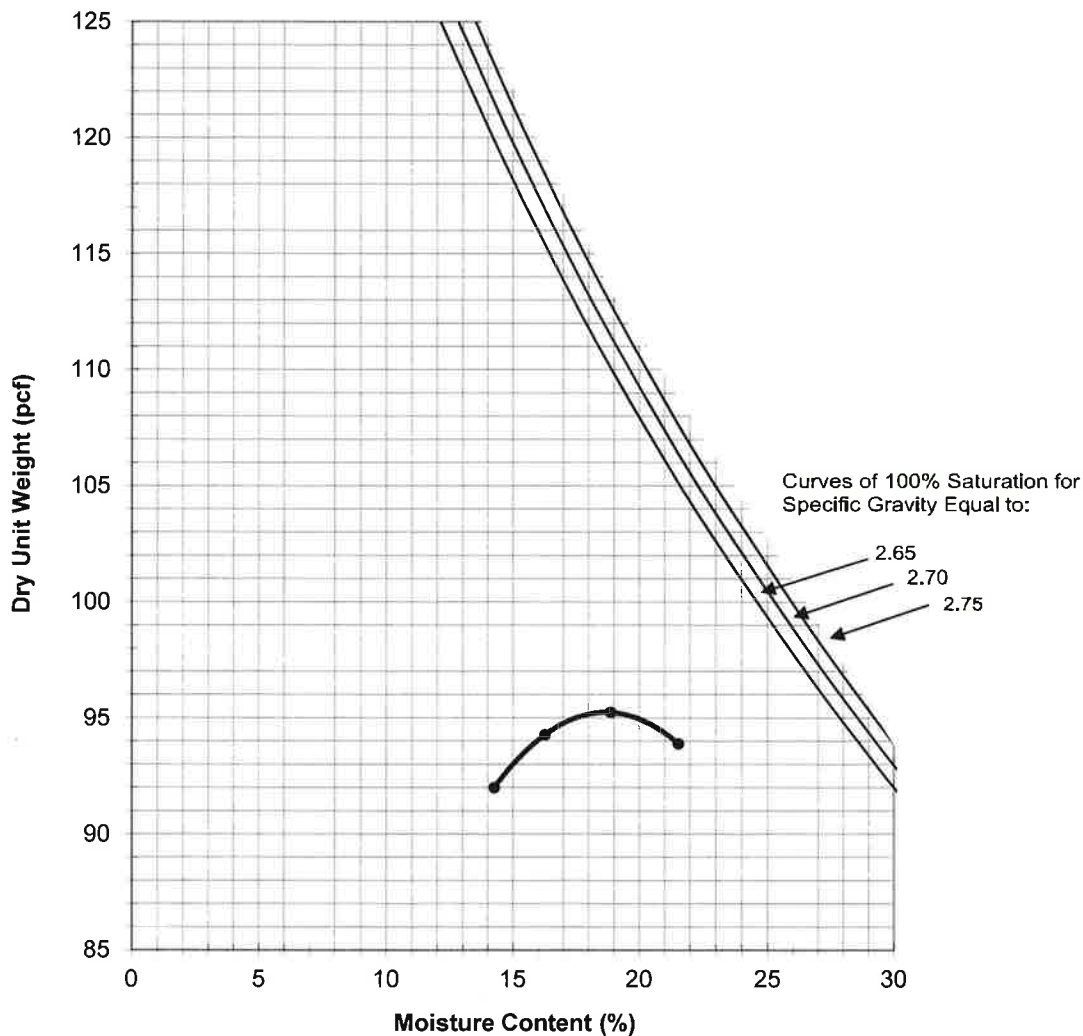
Project Number: 810.1500214.00
 Lab Sample No.: 18-P1297
 Work Order No.: 81060

Client:	Angelo's Materials	
Project Name:	Cell 16	
Sample Location:	Cell 16 Section 1 Lift 2-2	Area Covered: N/A
Intended Use:	Other	
Material Description:	Clay	Date Plotted: July 23, 2018
Sampled By:	MA	Tested By: ECV
Date Sampled:	April 24, 2018	Date Tested: July 20, 2018

SUMMARY OF TEST RESULTS

Test Method: AASHTO T-99 Method A
Maximum Dry Density, pcf: 95.3
Optimum Moisture, %: 18.7
 Passing 3.5" Sieve, %: 100
 Passing No. 4 Sieve, %: 100
 Passing No. 200 Sieve, %: 52.3

AASHTO T-89 (LL): N/A
 AASHTO T-90 (PI): N/A
 AASHTO M-145 (Class.): N/A



Sampled according to AASHTO T 002. Proctor plotted by software package.

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Project Number: 0810-1500214

Lab Sample No.: 17-P1941

Work Order No.: 75966

Client:	Angelos Materials Enterprises	
Project Name:	Angelos Materials Enterprises	
Sample Location:	Cell 16 # 5 Lift 1 Section 3-1	Area Covered: N/A
Intended Use:	Other	
Material Description:	Clay	Date Plotted: January 2, 2018
Sampled By:	N/A	Tested By: ECV
Date Sampled:	November 16, 2017	Date Tested: December 29, 2017

SUMMARY OF TEST RESULTS

Test Method: AASHTO T-99 Method A

Maximum Dry Density, pcf: 101.2**Optimum Moisture, %: 19.7**

Passing 3.5" Sieve, %: 100

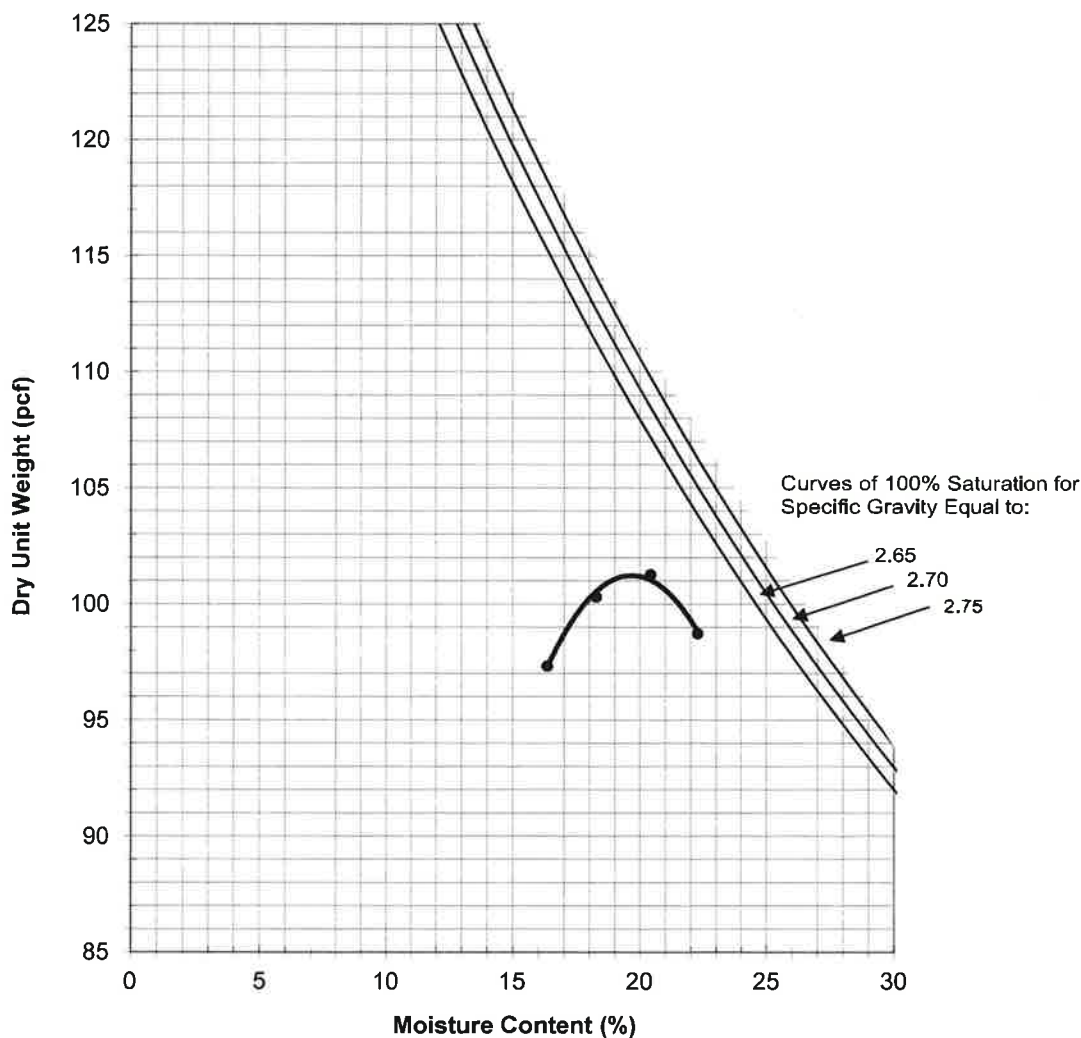
Passing No. 4 Sieve, %: 100

Passing No. 200 Sieve, %: 49.3

AASHTO T-89 (LL): N/A

AASHTO T-90 (PI): N/A

AASHTO M-145 (Class.): N/A



Sampled according to AASHTO T 002. Proctor plotted by software package.

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Project Number: 0810-1500214
 Lab Sample No.: 18-P0019
 Work Order No.: 76095

Client: Angelos Enterprises
 Project Name: Angelos Enterprises
 Sample Location: Cell 16 Lift 3 Section 1
 Intended Use: Other
 Material Description: Clay
 Sampled By: N/A
 Date Sampled: November 22, 2017

Area Covered: N/A
 Date Plotted: January 5, 2018
 Tested By: ECV
 Date Tested: January 4, 2018

SUMMARY OF TEST RESULTS

Test Method: AASHTO T-99 Method A

Maximum Dry Density, pcf: 96.0

Optimum Moisture, %: 22.8

Passing 3.5" Sieve, %: 100

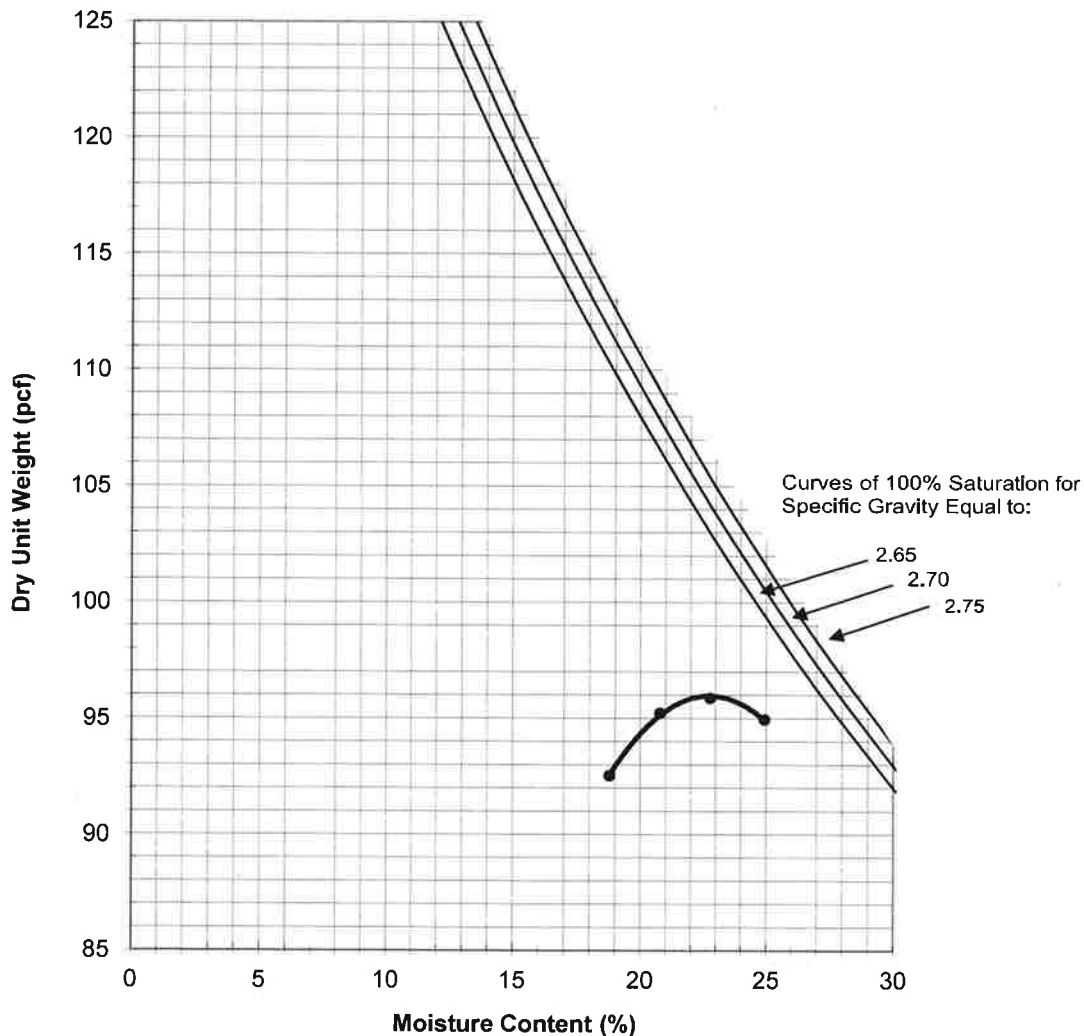
Passing No. 4 Sieve, %: 100

Passing No. 200 Sieve, %: 51.2

AASHTO T-89 (LL): N/A

AASHTO T-90 (PI): N/A

AASHTO M-145 (Class.): N/A



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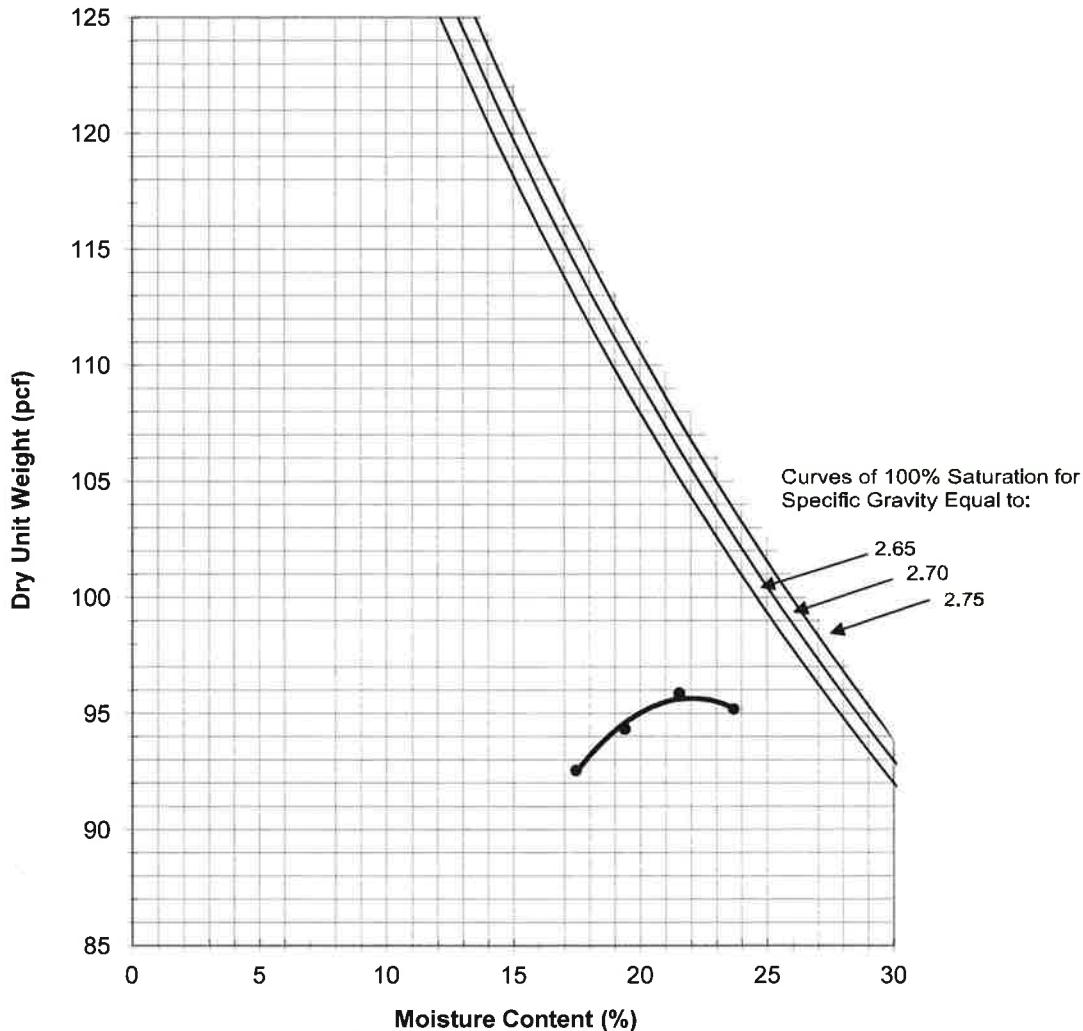
Project Number: 0810-1500214
 Lab Sample No.: 18-P0028
 Work Order No.: 76095

Client:	Angelos Enterprises	
Project Name:	Angelos Enterprises	
Sample Location:	Cell 16 Lift 1 Section 1-2	Area Covered: N/A
Intended Use:	Other	
Material Description:	Clay	Date Plotted: January 9, 2018
Sampled By:	N/A	Tested By: ECV
Date Sampled:	November 22, 2017	Date Tested: January 8, 2018

SUMMARY OF TEST RESULTS

Test Method: AASHTO T-99 Method A
Maximum Dry Density, pcf: 95.7
Optimum Moisture, %: 22.0
 Passing 3.5" Sieve, %: 100
 Passing No. 4 Sieve, %: 100
 Passing No. 200 Sieve, %: 51.9

AASHTO T-89 (LL): 47
 AASHTO T-90 (PI): 41
 AASHTO M-145 (Class.): A-7-5



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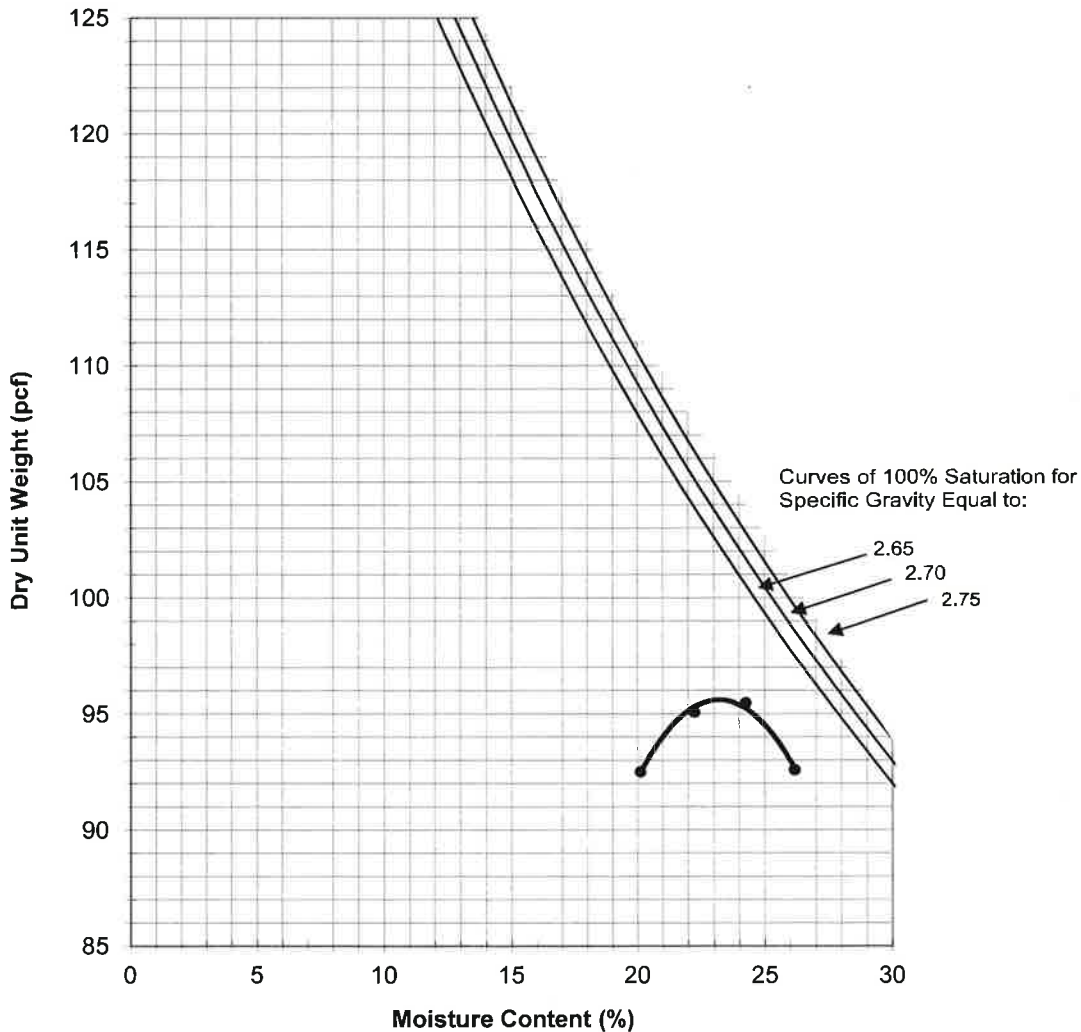
Project Number: 0810-1500214
 Lab Sample No.: 17-P1893
 Work Order No.: 76095

Client:	Angelos Enterprises	
Project Name:	Angelos Enterprises	
Sample Location:	Cell 16 Lift 2-2 Section 2	Area Covered: N/A
Intended Use:	Other	
Material Description:	Clay	Date Plotted: December 21, 2017
Sampled By:	N/A	Tested By: ECV
Date Sampled:	November 22, 2017	Date Tested: December 20, 2017

SUMMARY OF TEST RESULTS

Test Method: AASHTO T-99 Method A
Maximum Dry Density, pcf: 95.6
Optimum Moisture, %: 23.2
 Passing 3.5" Sieve, %: 100
 Passing No. 4 Sieve, %: 100
 Passing No. 200 Sieve, %: 54.2

AASHTO T-89 (LL): N/A
 AASHTO T-90 (PI): N/A
 AASHTO M-145 (Class.): N/A



Sampled according to AASHTO T 002. Proctor plotted by software package.

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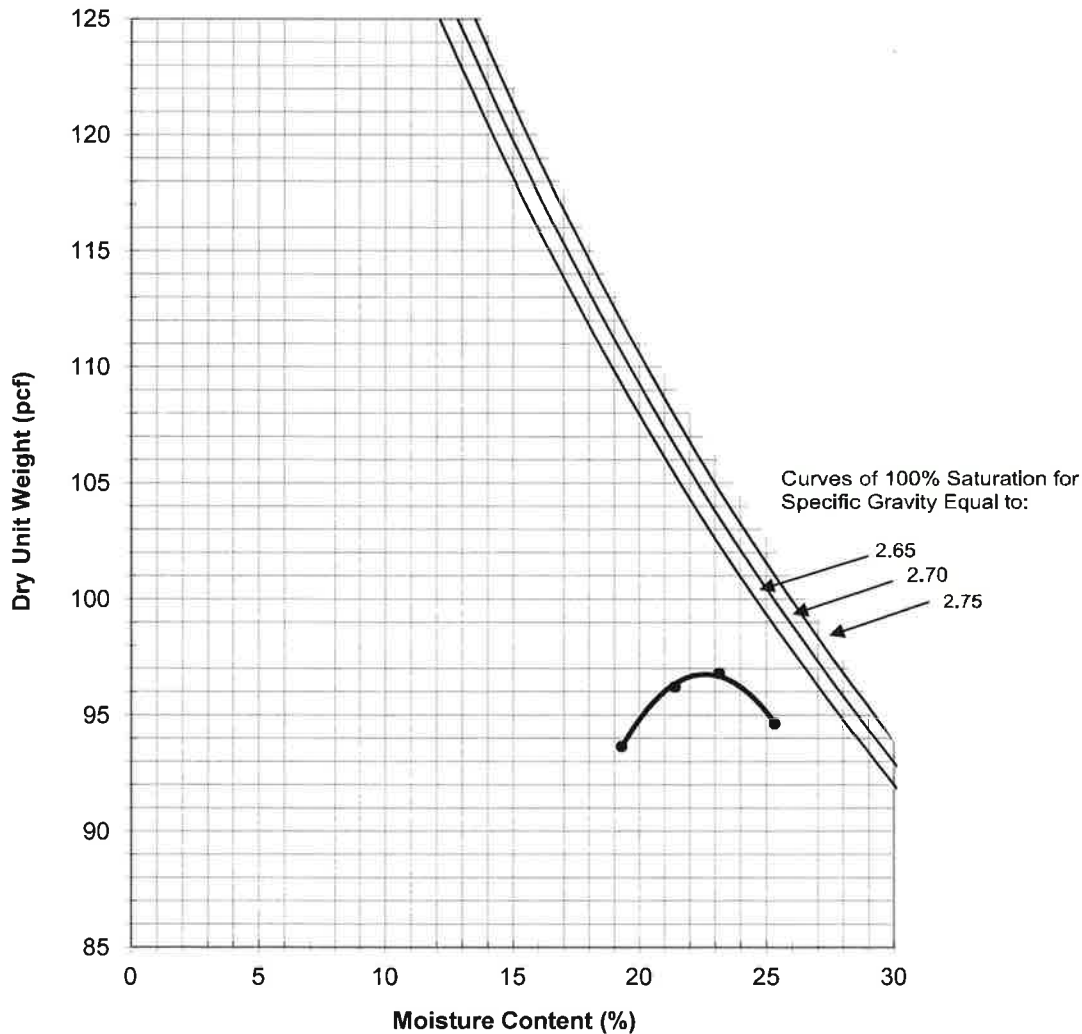
Project Number: 0810-1500214
 Lab Sample No.: 17-P1870
 Work Order No.: N/A

Client:	Angelos Enterprises	
Project Name:	Angelos Enterprises	
Sample Location:	Cell 16 Lift 3 Section 2-2	Area Covered: N/A
Intended Use:	Other	
Material Description:	Clay	Date Plotted: December 18, 2017
Sampled By:	MA	Tested By: ECV
Date Sampled:	November 22, 2017	Date Tested: December 15, 2017

SUMMARY OF TEST RESULTS

Test Method: AASHTO T-99 Method A
Maximum Dry Density, pcf: 96.8
Optimum Moisture, %: 22.6
 Passing 3.5" Sieve, %: 100
 Passing No. 4 Sieve, %: 100
 Passing No. 200 Sieve, %: 58.2

AASHTO T-89 (LL): N/A
 AASHTO T-90 (PI): N/A
 AASHTO M-145 (Class.): N/A



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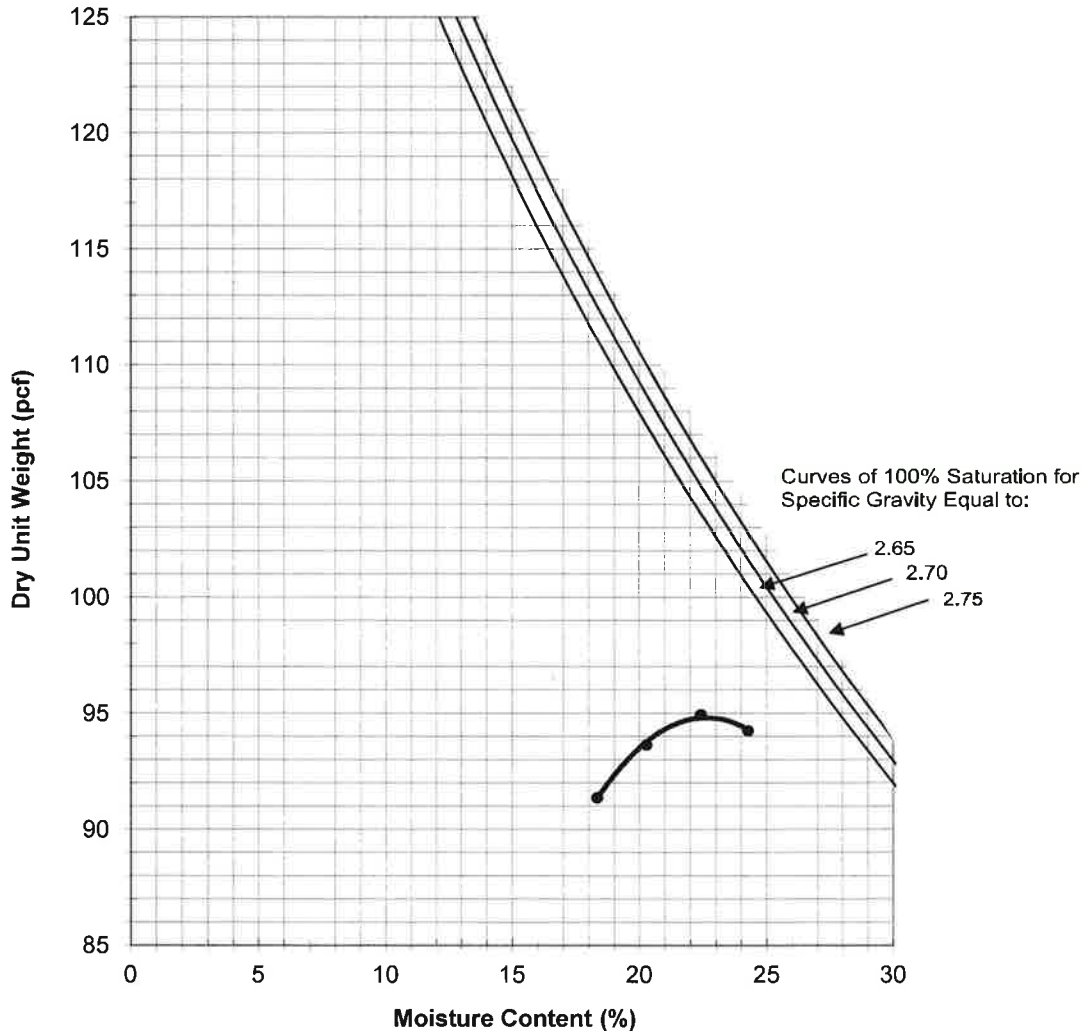
Project Number: 0810-1500214
 Lab Sample No.: 18-P0007
 Work Order No.: 76095

Client:	Angelos Enterprises	
Project Name:	Angelos Enterprises	
Sample Location:	Cell 16 Lift 2-2 Section 2	Area Covered: N/A
Intended Use:	Other	
Material Description:	Clay	Date Plotted: January 4, 2018
Sampled By:	N/A	Tested By: ECV
Date Sampled:	November 22, 2017	Date Tested: January 3, 2018

SUMMARY OF TEST RESULTS

Test Method: AASHTO T-99 Method A
Maximum Dry Density, pcf: 94.8
Optimum Moisture, %: 22.6
 Passing 3.5" Sieve, %: 100
 Passing No. 4 Sieve, %: 100
 Passing No. 200 Sieve, %: 57.4

AASHTO T-89 (LL): N/A
 AASHTO T-90 (PI): N/A
 AASHTO M-145 (Class.): N/A



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Project Number: 0810-1500214
 Lab Sample No.: 17-P1869
 Work Order No.: N/A

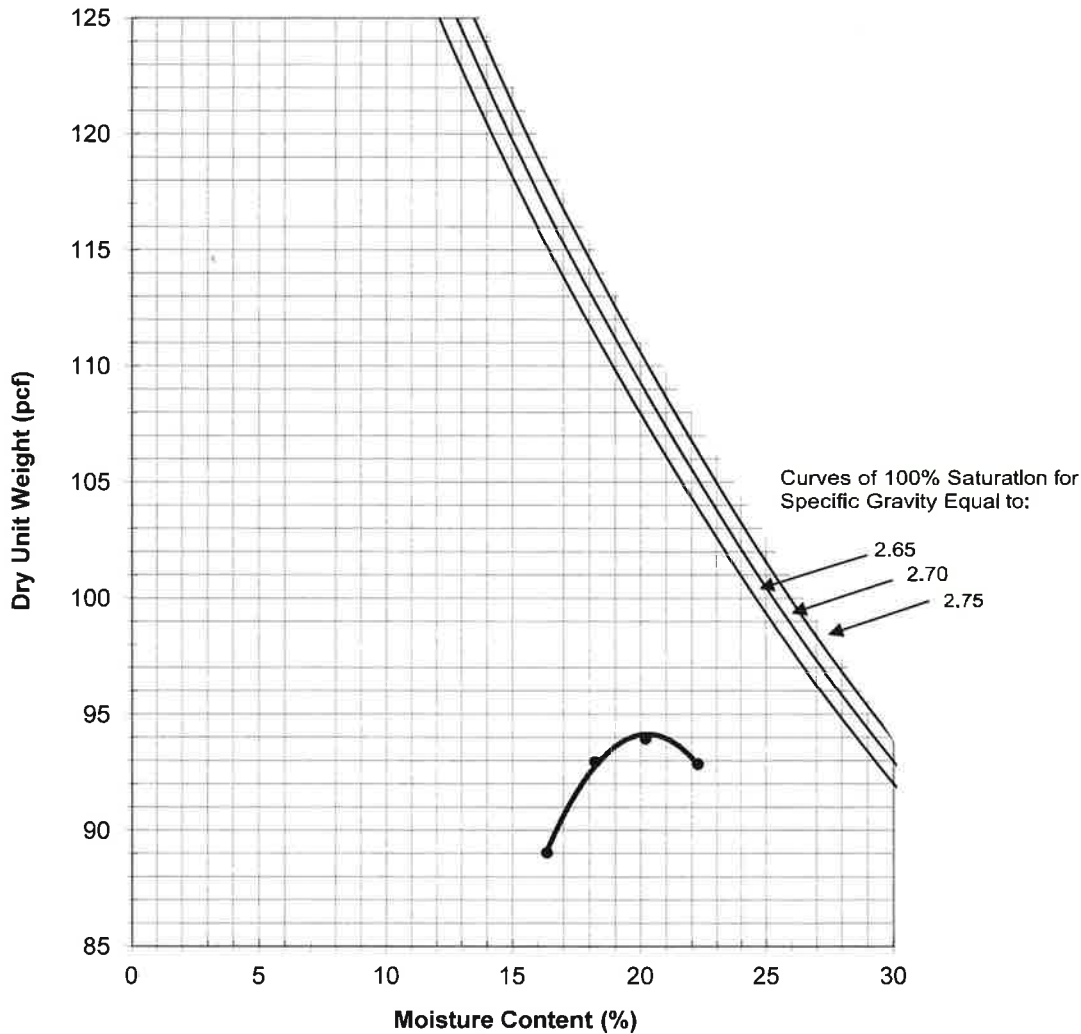
Client: Angelos Enterprises
 Project Name: Angelos Enterprises
 Sample Location: Cell 16 Lift 1 Section 2
 Intended Use: Other
 Material Description: Clay
 Sampled By: MA
 Date Sampled: November 22, 2017

Area Covered: N/A
 Date Plotted: December 18, 2017
 Tested By: ECV
 Date Tested: December 15, 2017

SUMMARY OF TEST RESULTS

Test Method: AASHTO T-99 Method A
Maximum Dry Density, pcf: 94.2
Optimum Moisture, %: 20.3
 Passing 3.5" Sieve, %: 100
 Passing No. 4 Sieve, %: 100
 Passing No. 200 Sieve, %: 52.7

AASHTO T-89 (LL): N/A
 AASHTO T-90 (PI): N/A
 AASHTO M-145 (Class.): N/A



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Project Number: 810.1500214.00
 Lab Sample No.: 18-P1403
 Work Order No.: 81060

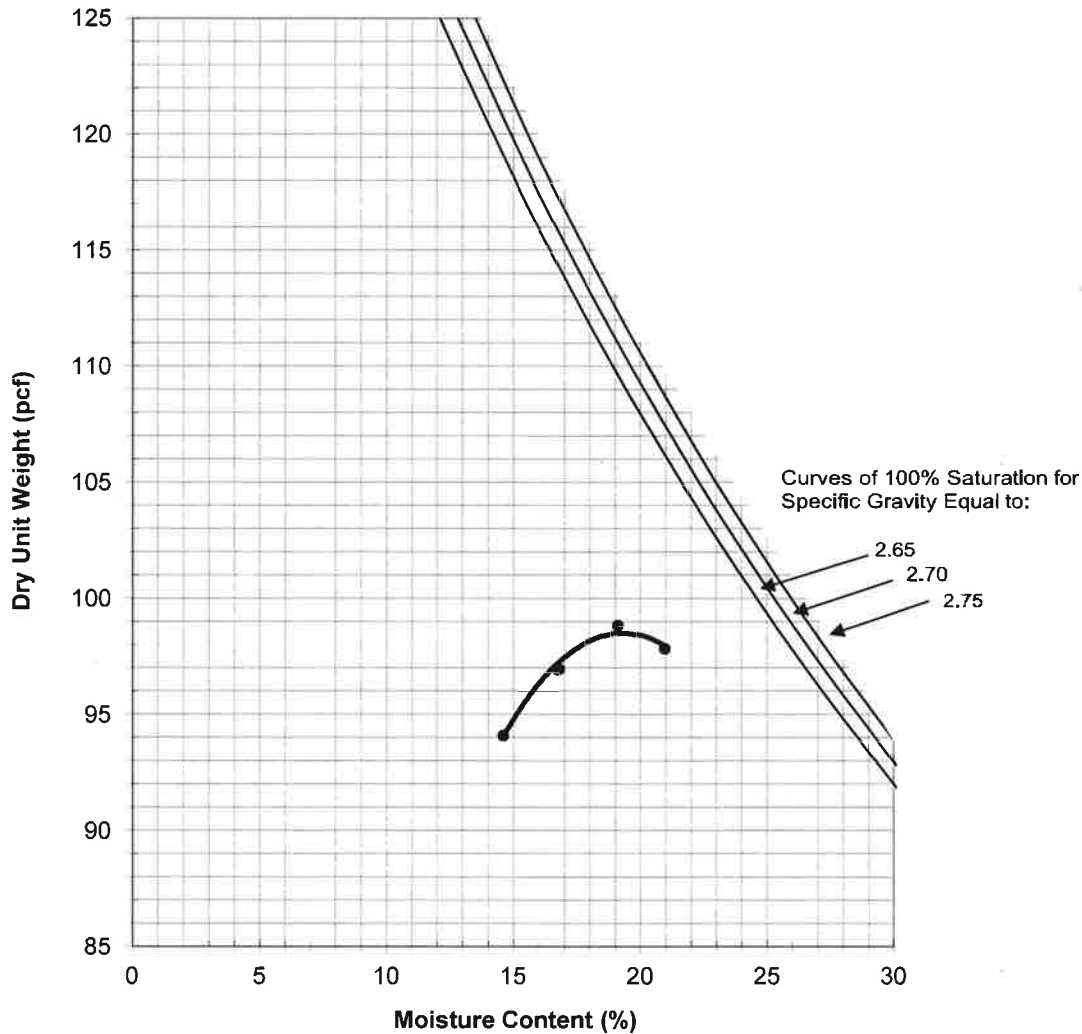
Client: Angelo's Materials
 Project Name: Cell 16
 Sample Location: Cell 16 Lift 3 Location 3-1
 Intended Use: Other
 Material Description: Clay
 Sampled By: MA
 Date Sampled: April 24, 2018

Area Covered: N/A
 Date Plotted: August 9, 2018
 Tested By: ECV
 Date Tested: August 8, 2018

SUMMARY OF TEST RESULTS

Test Method: AASHTO T-99 Method A
Maximum Dry Density, pcf: 98.5
Optimum Moisture, %: 19.3
 Passing 3.5" Sieve, %: 100
 Passing No. 4 Sieve, %: 100
 Passing No. 200 Sieve, %: 54.3

AASHTO T-89 (LL): N/A
 AASHTO T-90 (PI): N/A
 AASHTO M-145 (Class.): N/A



Sampled according to AASHTO T 002. Proctor plotted by software package.

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Project Number: 810.1500214.00
 Lab Sample No.: 18-P1364
 Work Order No.: 81060

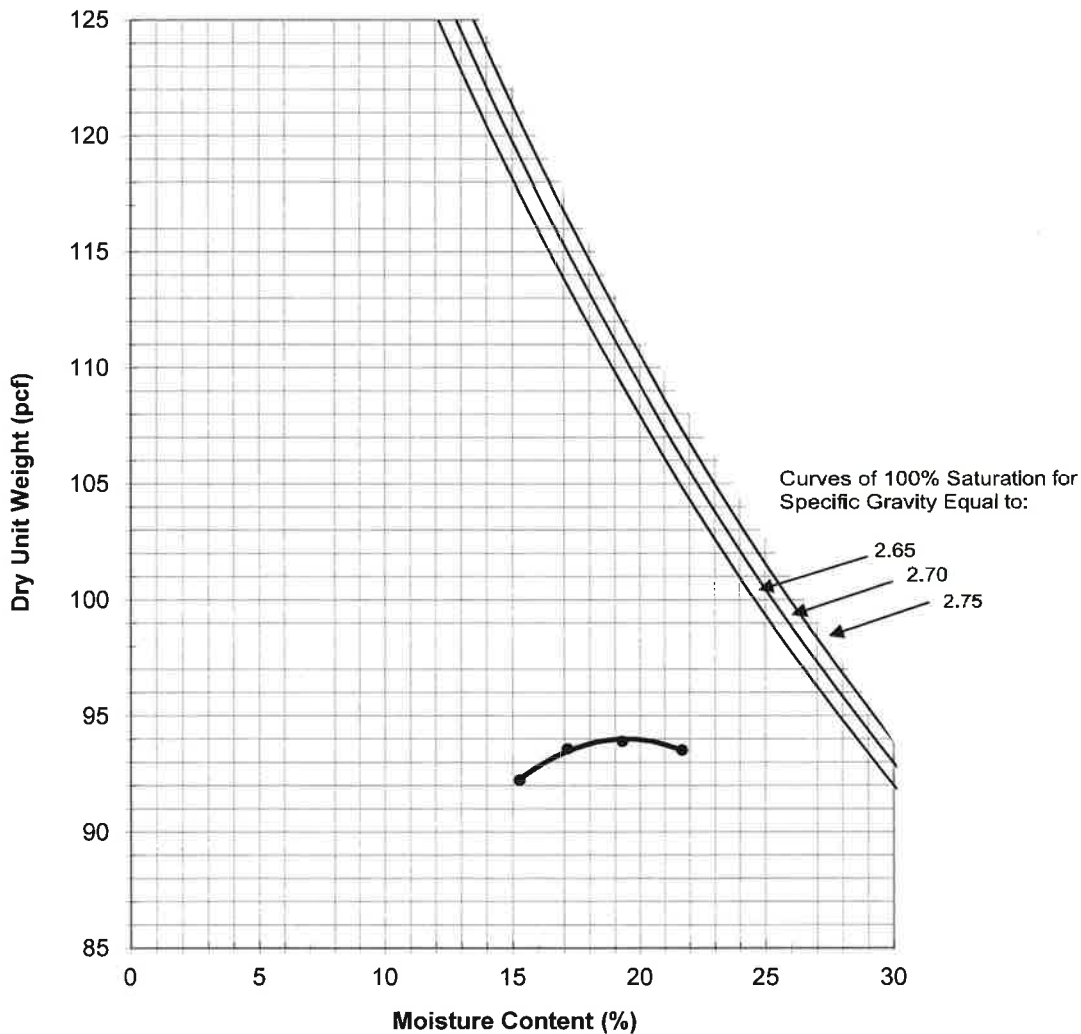
Client: Angelo's Materials
 Project Name: Cell 16
 Sample Location: Cell 16 Section 1 Lift 2-1
 Intended Use: Other
 Material Description: Clay
 Sampled By: MA
 Date Sampled: April 24, 2018

Area Covered: N/A
 Date Plotted: August 3, 2018
 Tested By: ECV
 Date Tested: August 2, 2018

SUMMARY OF TEST RESULTS

Test Method: AASHTO T-99 Method A
Maximum Dry Density, pcf: 94.0
Optimum Moisture, %: 19.5
 Passing 3.5" Sieve, %: 100
 Passing No. 4 Sieve, %: 100
 Passing No. 200 Sieve, %: 53.7

AASHTO T-89 (LL): N/A
 AASHTO T-90 (PI): N/A
 AASHTO M-145 (Class.): N/A



Sampled according to AASHTO T 002. Proctor plotted by software package.

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Building Inspection • Plan Review • Building Code Administration

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- Fort Myers
- Fort Pierce
- Gainesville
- Jacksonville
- Miami
- Ocala
- Orlando (Headquarters)
- Palm Coast
- Panama City
- Pensacola
- Rockledge
- Sarasota
- Tampa
- Tifton

Client: Angelo's Materials's

Project: Enterprise Class 3 Cell 16

REPORT ON TRIAXIAL PERMEABILITY AND PERCENT PASSING NO. 200 SIEVE (ASTM D-5084 and ASTM C-117) (AASHTO T-11)

Date Tested:	5/22/2018	Tested By:	DL
Date Sampled:	11/22/2017	Sampled By:	MA

[illegible]



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- Ocala
- Orlando (Headquarters)
- Palm Coast
- Panama City
- Pensacola
- Rockledge
- Sarasota
- Tampa
- Tifton

Client: Angelo's Materials's

Project: Enterprise Class 3 Cell 16

REPORT ON TRIAXIAL PERMEABILITY AND PERCENT PASSING NO. 200 SIEVE (ASTM D-5084 and ASTM C-117) (AASHTO T-11)

Date Tested: 5/23/17-8/10/18
Date Sampled: 11/7/2017-4/24/2018

Tested By: DL
Sampled By: MA

Sample Location	Percent Passing No. 200 Sieve	Sample Ran At:		Permeability:	
		Moisture Content (%)	Dry Unit Weight (pcf)	K (cm/s)	K (ft/d)
Section 1 L1 A	57.00	20.50	98.10	1.41×10^{-8}	3.99×10^{-5}
Section 1 L1 B	51.90	22.00	95.70	6.01×10^{-9}	1.70×10^{-5}
Section 1 L2 A	53.70	19.50	94.00	6.05×10^{-9}	1.72×10^{-5}
Section 1 L2 B	52.30	18.70	95.30	3.36×10^{-9}	9.52×10^{-6}
Section 1 L3 A	49.30	19.70	101.20	2.24×10^{-9}	6.35×10^{-6}
Section 1 L3 B	51.20	22.80	96.00	2.47×10^{-9}	7.00×10^{-6}
Section 2 L1 A	54.30	20.00	94.00	5.2×10^{-9}	1.47×10^{-5}
Section 2 L1 B	52.70	20.30	94.20	2.06×10^{-9}	5.84×10^{-6}
Section 2 L2 A	57.40	22.60	94.80	1.85×10^{-9}	5.24×10^{-6}
Section 2 L2 B	54.20	23.20	95.60	1.63×10^{-9}	4.62×10^{-6}
Section 2 L3 A	49.90	18.50	98.50	2.22×10^{-9}	6.29×10^{-6}
Section 2 L3 B	58.20	22.60	96.80	2.73×10^{-9}	7.74×10^{-6}
Section 3 L1 A	53.10	18.00	99.90	4.43×10^{-9}	1.26×10^{-5}
Section 3 L1 B	55.20	22.00	94.30	2.6×10^{-9}	7.37×10^{-6}
Section 3 L2 A	49.80	19.00	97.10	2.28×10^{-9}	6.46×10^{-6}
Section 3 L2 B	53.40	22.00	93.80	5.37×10^{-9}	1.52×10^{-5}
Section 3 L3 A	55.60	24.00	94.00	5.02×10^{-9}	1.42×10^{-5}
Section 3 L3 B	54.30	19.30	98.50	3.51×10^{-9}	9.95×10^{-6}



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Building Code Administration, Compliance Inspection & Plan Review

9802 Palm River Road, Tampa, FL 33619 - P: 813.740.8506 - F: 813.740.8706

UES Project No: 0810.1500214.0000

Workorder No: 81060-1

Report Date: 07/12/2018

In-Place Density Test Report

Client: Angelo's Materials
41111 Enterprise Road
Dade City, FL 33525

UES Technician: Mario Arroyo

Date Tested: 4/24/2018

Project: Enterprise Class III Landfill Cell 6
Pasco County, FL

Area Tested: Section 1 -3

Material: Fill

Reference Datum: 0 = Top of Fill

Type of Test:

Field: ASTM D-2937 Drive Cylinder Method

Laboratory: ASTM D1557 Modified Proctor

The tests below meet the 95% minimum compaction requirement.

Test No.	Location of Test	Range	Maximum Density (pcf)	Optimum Moisture (%)	Field Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)	Pass or Fail
1	Section 1 Lift 1 A	6 inch	98.1	21.0	96.4	17.8	98	Pass
2	Section 1 Lift 2 A	6 inch	95.7	22.0	93.6	16.4	98	Pass
3	Section 1 Lift 3 A	6 inch	94.0	20.0	95.1	18.1	101	Pass
4	Section 2 Lift 1 A	6 inch	95.3	19.0	92.6	18.9	97	Pass
5	Section 2 Lift 2 A	6 inch	95.6	23.0	92.5	19.6	97	Pass
6	Section 2 Lift 3 A	6 inch	96.8	23.0	92.7	20.5	96	Pass
7	Section 3 Lift 1 A	6 inch	99.9	18.0	95.8	17.1	96	Pass
8	Section 3 Lift 2 A	6 inch	97.1	19.0	92.1	19.5	95	Pass
9	Section 3 Lift 3 A	6 inch	98.5	19.0	97.2	16.4	99	Pass

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UES Project No: 0810.1500214.0000

Workorder No: 81060-2

Report Date: 07/12/2018

In-Place Density Test Report

Client: Angelo's Materials
41111 Enterprise Road
Dade City, FL 33525

UES Technician: Mario Arroyo

Date Tested: 04/24/2018

Project: Enterprise Class III Landfill Cell 6
Pasco County, FL

Type of Test:

Field: ASTM D-2937 Drive Cylinder Method

Laboratory: ASTM D1557 Modified Proctor

Area Tested: Section 1-3 B

Material: Clay

Reference Datum: 0 = Top of Fill

The tests below meet the 95% minimum compaction requirement.

Test No.	Location of Test	Range	Maximum Density (pcf)	Optimum Moisture (%)	Field Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)	Pass or Fail
10	Section 1 Lift 1 B	6 inch	95.7	20.5	93.1	17.3	97	Pass
11	Section 1 Lift 2 B	6 inch	95.3	18.7	91.4	16.5	96	Pass
12	Section 1 Lift 3 B	6 inch	96.0	22.8	94.2	17.9	98	Pass
13	Section 2 Lift 1 B	6 inch	94.2	20.3	92.4	18.1	98	Pass
14	Section 2 Lift 2 B	6 inch	95.6	23.2	95.1	19.9	99	Pass
15	Section 2 Lift 3 B	6 inch	96.8	22.6	91.7	18.7	95	Pass
16	Section 3 Lift 1 B	6 inch	94.3	22.0	92.6	18.4	98	Pass
17	Section 3 Lift 2 B	6 inch	93.8	22.0	91.1	18.1	97	Pass
18	Section 3 Lift 3 B	6 inch	98.5	19.3	97.3	16.2	99	Pass

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9802 Palm River Road, Tampa, FL 33619 - P: 813.740.8506 - F: 813.740.8706

UES Project No: 0810.1500214.0000

Workorder No: 81060-3

Report Date: 07/12/2018

In-Place Density Test Report

Client: Angelo's Materials
41111 Enterprise Road
Dade City, FL 33525

UES Technician: Mario Arroyo

Date Tested: 04/24/2018

Project: Enterprise Class III Landfill Cell 6
Pasco County, FL

Area Tested: Header and Berm

Material: Clay

Reference Datum: 0 = Top of Fill

Type of Test:

Field: ASTM D-2937 Drive Cylinder Method

Laboratory: ASTM D1557 Modified Proctor

The tests below meet the 95% minimum compaction requirement.

Test No.	Location of Test	Range	Maximum Density (pcf)	Optimum Moisture (%)	Field Dry Density (pcf)	Field Moisture (%)	Soil Compaction (%)	Pass or Fail
19	Header trench	6 inch	97.2	23.0	94.4	18.9	97	Pass
20	Berm	6 inch	99.6	23.0	95.7	19.1	96	Pass

Attachment E

Pickett and Associates, Inc. Tolerance Correspondence

----- Forwarded message -----

From: **Jeff Young** <jyoung@pickettusa.com>
Date: Tue, Oct 30, 2018 at 11:22 AM
Subject: Enterprise topo and imagery
To: John Arnold <john.phillip.arnold@gmail.com>

John,

As the topo survey was performed using aerial lidar and imagery I am not surprised there are differences between our elevation values and your ground surveyed shots, especially if the area in question is vegetated. By Florida Standards of Practice regulations, an aerial survey's stated plus or minus tolerances encompass a minimum of 90% of the difference between photogrammetrically measured values and any ground truth of all well-identified features. Any spot elevations on paved surfaces may be measured to an estimated vertical positional accuracy of $\pm 0.25'$. Elevations in areas where the ground is obscured (either by vegetation, shadow or other structures) do not have to follow these stated accuracies and no accuracy statement must be supplied. Ultimately the aerial mapping should be used for preliminary design work only and should not replace an actual field survey.

Let me know if I can be of further assistance.



T. Jeffrey Young, PSM, CP | Pickett and Associates, Inc.

O: 863.533.9095 x 506 | C: 863.670.9607 |

475 S. First Avenue. Bartow, FL 33830 | <http://www.PickettUSA.com>



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John Arnold, P.E.

Ph. (813) 477-1719