

City of Lynchburg  
Procurement Division  
900 Church Street  
Lynchburg, Virginia 24504  
Telephone No.: (434) 455-3970  
Fax No.: (434) 845-0711

**Addendum for Bid**  
**GLTC Operations & Maintenance Facility**  
**15-961**

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Date: February 16, 2015  
From: Stephanie Suter, CPPO, CPPB  
RE: Addendum No. 1

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This Addendum and all attachments become part of the bidding documents and modify the Project Manual and Drawing as noted. Acknowledge receipt of this Addendum in the space provided on the Bid Form. Failure to do so may subject bidder to disqualification.

1. The Pre-Bid Conference Attendee Listing is attached.
2. The Pre-Bid Minutes are attached.
3. Changes to the bid documents, responses to questions received, and additional clarifications by the design architect/engineer are attached.

**READ TERMS AND CONDITIONS AND SIGN**

In compliance with the above BID, and subject to all the conditions hereof, the undersigned offers and agrees to comply with any or all of the terms and conditions contained herein, or as mutually agreed upon by subsequent negotiations. This form shall become part of the final file.

*Company Name:* \_\_\_\_\_ *Address:* \_\_\_\_\_ *Date:* \_\_\_\_\_

*Authorized Signature:* \_\_\_\_\_ *Title:* \_\_\_\_\_

*Print Name:* \_\_\_\_\_ *Telephone No.:* \_\_\_\_\_ *Fax No.:* \_\_\_\_\_



140 John James Audubon Parkway, Suite 201, Buffalo, New York 14228  
P 716.688.0766 F 716.625.6825

Project GLTC O&M Facility Addendum No. 1  
Lynchburg VA Contract \_\_\_\_\_  
Wendel Project No. 444505 Date 2/13/2015

ARTICLE - 1 DRAWING NO. \_\_\_\_\_  
Optional Pre Bid Meeting Agenda, Minutes and record of attendance SPEC SECTION \_\_\_\_\_

**ADDITIONAL INFORMATION:** Optional Pre Bid Meeting Agenda, Minutes and record of attendance are attached as part of this addendum.

ARTICLE - 2 DRAWING NO. \_\_\_\_\_  
Substantial Completion SPEC SECTION Div 00, Article 8.1.3

**CLARIFICATION:** Substantial completion date will be 518 calendar days from the actual Notice to Proceed date.

ARTICLE - 3 DRAWING NO. \_\_\_\_\_  
Liquidated Damages SPEC SECTION Div 00, Article 8.5

**CLARIFICATION:** Liquidated Damages shall be \$2800 per day.

ARTICLE - 4 DRAWING NO. \_\_\_\_\_  
Davis Bacon rates SPEC SECTION Div 00

**ADD:** The attached David Bacon VA89 wage form.



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ARTICLE - 5 DRAWING NO. \_\_\_\_\_  
Testing Required on site SPEC Div 00 Section 7,  
SECTION 7.6 Test, 7.6.1

**REVISE:** General Conditions Section 7, 7.6 Test, 7.6.1 third sentence. Strike the phrase "paid for by the Contractor" and substitute the phrase "paid for by Owner"

ARTICLE - 6 DRAWING NO. C302, C304,  
Structure GLTC-13 SPEC C501, C501A  
SECTION \_\_\_\_\_

**CLARIFICATION:** The rim elevation on GLTC 13 is at 817.50.

ARTICLE - 7 DRAWING NO. C302, C304,  
Structure GLTC 15 SPEC C501, C501A  
SECTION \_\_\_\_\_

**REVISE:** The table to show an invert on the outfall pipe of 808.00. The orifice from the pond should be a 6" orifice at 808.3. Yes this is to be a standard VDOT DI-1 with trash rack installed.

ARTICLE - 8 DRAWING NO. D301  
SPEC \_\_\_\_\_  
SECTION \_\_\_\_\_

**MODIFY-** Fluid Pump Schedule ID# FP-3 model number to be Graco Fireball 425 238108



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ARTICLE - 9 DRAWING NO. D301  
SPEC SECTION \_\_\_\_\_

**MODIFY-** Fluid Pump Schedule ID# FP-4 model number to be Graco Fireball 425 237526

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ARTICLE - 10 DRAWING NO. D301  
SPEC SECTION \_\_\_\_\_

**MODIFY-** Fluid Pump Schedule ID# FP-6 model number to be Graco Huskey 647016

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ARTICLE - 11 DRAWING NO. Q301  
SPEC SECTION \_\_\_\_\_

**MODIFY-** Equipment schedule ID# 5280 Crane manufacturer and model number to be SPX FC4400

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ARTICLE - 12 DRAWING NO. Q301  
SPEC SECTION \_\_\_\_\_

**MODIFY-** Equipment schedule ID# 5312 Wheel Dolly manufacturer and model number to be Steril Koni SKWD-500BATT

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ARTICLE - 13

DRAWING NO. \_\_\_\_\_

SPEC SECTION 115100

**MODIFY-** Section 2.16 Tank, Parts cleaning, equipment ID # 3560 as follows:

- Remove section 2.16.C.2
- Remove section 2.16.E.2
- Modify section 2.16.E.4 to read:
  4. Stainless steel bag filter. Provide three (3) initial start-up filters to determine which filter capacity best suites the washing needs and provide four (4) additional replacement filters after start-up has been complete

ARTICLE - 14

DRAWING NO. \_\_\_\_\_

SPEC SECTION 115100

**MODIFY-** Section 2.22 Wheel Dolly, equipment ID# 5312 as follows:

- A. Manufacturers
  1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by Stretl Koni.
- B. Capacities and Dimensions:
  1. Lifting capacity: Minimum 1000 pounds.
  2. Extended height: Maximum 74 inches.
  3. Lifting speed- maximum 78 inches per minute
  4. .
- C. Features and Construction:
  1. Construction: Heavy steel welded construction.
  2. Lifting forks to include rollers to allow for rotation of the wheel assembly
  3. Powered by 12VDC battery
  4. Fully hydraulic operation
  5. Lifting forks to have the capacity to tily 10 degrees above and 4 degrees below horizontal.
  6. Provide nylon rollers
  7. provide with a nylon strap to secure the wheel assembly to the dolly.
  8. Rear mounted swivel casters for tight turning radius
- D. Finish: Durable enamel in manufacturer's standard color



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ARTICLE - 15

DRAWING NO. \_\_\_\_\_  
SPEC  
SECTION 143000

**MODIFY-** Section 2.3 Crane, Portable, equipment ID #5280 as follows:

- A. Manufacturers
  - 1. Basis-of-Design Product: Subject to compliance with requirements, provide equipment by SPX
- B. Capacities and Dimensions:
  - 1. Boom capacity:
    - a. Retracted: 4200 pounds.
    - b. Extended: 3300 pounds.
  - 2. Maximum boom height:
    - a. Retracted: 111inches.
    - b. Extended: 122inches.
  - 3. Effective boom reach:
    - a. Retracted: 35-1/2 inches.
    - b. Extended: 50-1/2 inches.
    - c. .
  - 4. Leg throat: 57-1/2 inches.
  - 5. Wheel diameters:
    - a. Fixed: 8 inches.
    - b. Casters: 6 inches.
- C. Features and Construction:
  - 1. Construction: Frame and boom shall be continuously welded seam box construction of heavy steel. Legs shall be flanged, I-beam construction.
  - 2. Adjustment: Crane boom height and length shall be adjustable without use of tools.
  - 3. Portability: Crane assembly shall be mobile frame mounted for portability. A steerable caster shall be at mast end with handle for towing and positioning. Heavy non-steel support wheels shall be for load bearing and quiet operation.
  - 4. Hydraulics: Manual, double acting pump shall be included for rapid boom positioning and high force multiplication lifting.
  - 5. Lift chain: Length shall be adjustable at boom attachment. Chain shall be provided with slip hook and grab hook.
  - 6. Operating controls: Control valve for precise lowering control with automatic valving shall limit descent speed under load.
- D. Finish: Durable enamel in manufacturer's standard color



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ARTICLE - 16 DRAWING NO. Q301  
SPEC SECTION \_\_\_\_\_

**MODIFY-** Equipment schedule ID# 9350 model number to be PlymoVent Cooperation model Mobile-One (M-1).

**MODIFY-** Notes for equipment schedule ID# 9350 to read: Unit to be self-cleaning cartridge filter with a 10' KUA 6" extraction arm.

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ARTICLE - 17 DRAWING NO. Q301  
SPEC SECTION \_\_\_\_\_

**MODIFY-** Notes for equipment schedule ID# 3560 Tank, parts cleaner to read: 100 GPM, 50 psi, Medium, fluid capacity: 110 gallons

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ARTICLE - 18 DRAWING NO. \_\_\_\_\_  
SPEC SECTION 235216

**MODIFY-** Section 2.1.A Manufacturers to read:

A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

1. AERCO International
  2. Patterson-Kelley Co
  3. Lochinvar Corporation
- 
-



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Wendel Project No. 444505 Date 2/13/2015

ARTICLE - 19 DRAWING NO. \_\_\_\_\_  
SPEC SECTION 111400

**REMOVE-** Section 2.1.B.2.f  
**REMOVE-** First paragraph in section 3.3.D- "Electronic transfer of correct vehicle number and mileage from the bus-mounted data recorder module to the RIH unit".  
**ADD-** Section 2.1.B.3- Vehicle mounted data recorders are not included as part of the project.

ARTICLE - 20 DRAWING NO. \_\_\_\_\_  
SPEC SECTION 115810

**REPLACE-** Specification with attached.

ARTICLE - 21 DRAWING NO. D301  
SPEC SECTION \_\_\_\_\_

**ADD-** Attached schedule. Refer to drawing SD-1.

ARTICLE - 22 DRAWING NO. D202 and E803  
SPEC SECTION \_\_\_\_\_  
Generator Fuel Tanks

**CLARIFICATION:** The primary fuel supply is from the above ground main 20,000 gallon diesel fuel tank. Piping is shown on drawing D202. The day tank referred to in the specification is a skid base tank shown on drawing E803. The size of the tank shall be 600 gallons.



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ARTICLE - 23 DRAWING NO. E505, E600, E604  
ATS Clarification SPEC SECTION \_\_\_\_\_

**CLARIFICATION:** ATS-1 should be 1600 amp as shown on drawing E600. The grounding single line drawing E604 has ATS-1 and switchboard MDPH labeled incorrectly, they should both be 1600 amp. The main breaker for switchboard MDP-H shown on drawing E505 is not required.

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ARTICLE - 24 DRAWING NO. \_\_\_\_\_  
ATS Manufacturers SPEC SECTION 26 3600

**REVISE:** ASCO is an acceptable manufacturer, Zenith is not.

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ARTICLE - 25 DRAWING NO. \_\_\_\_\_  
SPEC SECTION \_\_\_\_\_

Substitution Request from Edwards/Kidde for inclusion of Edwards EST brand and Edwards Vigilant brand fire alarm systems

**SUBSTITUTION:** This product is an acceptable substitution.

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ARTICLE - 26 DRAWING NO. \_\_\_\_\_  
SPEC SECTION 08 9000

Substitution Request for American Warming and Ventilating Model LE-21.

**SUBSTITUTION:** This product is an acceptable substitution.

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Project GLTC O&M Facility  
Lynchburg, VA

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ARTICLE - 27

DRAWING NO.                     

SPEC  
SECTION 232123



Project	<u>GLTC O&amp;M Facility</u>	Addendum No.	<u>1</u>
	<u>Lynchburg, VA</u>	Contract	<u></u>
Wendel Project No.	<u>444505</u>	Date	<u>2/13/15</u>

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**ADD-** Section 2.5 to read:

## 2.5 END-SUCTION PUMPS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
  - 1. TACO Incorporated.
  - 2. Armstrong Pumps Inc.
  - 3. Bell & Gossett ITT; Div. of ITT Fluid Technology Corp.
- B. The pumps shall be single stage end suction rear pull out design. The bearings and seal shall be serviceable without disturbing the piping connections.
- C. Pump casing shall be constructed of ASTM A48 class 30 cast iron. The pump casing/volute shall be rated for 250 psi working pressure for all jobs. The pump flanges shall be matched to suit the working pressure of the piping components on the job, with either ANSI Class 125 flanges or ANSI class 250 flanges. The pump casing shall be drilled and tapped for gauge ports on both the suction and discharge connections and for a drain port at the bottom of the casing. The casing shall have an additional tapping on the discharge connection to allow for the installation of a seal flush line. The pump cover shall be drilled and tapped to accommodate a seal flush line which can be connected to the corresponding tapping on the discharge connection, or to an external source to facilitate cooling and flushing of the seal faces.
- D. All casings shall be flanged. Threaded casings not allowed.
- E. Pump volute shall be foot mounted. Overhung cantilevered design not allowable.
- F. The pump shall be center line discharge for both positive air venting and allowance for better load distribution.
- G. The pump casing inlet shall have an integrally cast anti-rotational vane.
- H. The impeller shall be ASTM B584-836/875 bronze and hydraulically balanced. The impeller shall be dynamically balanced to ANSI Grade G6.3 and shall be fitted to the shaft with a key. The impeller shall be cast by the hydraulically efficient lost foam technique to ensure repeatability of high quality.
- I. The pump shall incorporate a dry shaft design to prevent the circulating fluid from contacting the shaft. The pump shaft shall be AISI 1045 carbon steel with field replaceable bronze SAE 660 shaft sleeve. In order to improve serviceability and reduce the cost of ownership the shaft sleeve must be slip on (press on not allowable) and must be easily replaced in the field.
- J. The pump shall be fitted with a single mechanical seal, with EPT elastomers and silicon carbide faces suitable for glycol and rated up to 250°F. This seal must be capable of being flushed externally via a tapping in the pump cover adjacent to the seal cavity.
- K. All pumps to be provided with a fully welded, rigid structural steel base. The base shall include closed ends and top openings to allow for grouting. The base shall include an integral drain pan



Project GLTC O&M Facility  
Lynchburg, VA

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fabricated from steel with a minimum thickness of 0.1875" and shall contain an integral 3/4" drain connection.

- L. The pump bearing frame shall incorporate maintenance free permanently lubricated and sealed bearings with an L10 life of 60,000 hours. Bearing frame shall be equipped with Forsheda seals to protect bearings from moisture and airborne contaminants.
- M. The pump shall be flexibly coupled to a NEMA standard T frame motor. The coupler shall be suitable for across the line starting as well as variable speed conditions associated with variable frequency drives. The coupling shall be equal to a Woods Dura-Flex coupler. The coupling and shafts shall be covered by a metal guard. Pump shall be aligned upon receipt at job, during installation, and after system fill by contractor.
- N. Motor: Premium efficiency inverter duty motor.
  - 1. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.
  - 2. Comply with NEMA designation, temperature rating, service factor, and efficiency requirements for motors specified in Section 23050 "Motors and variable frequency drives."
    - a. Enclosure: Open, dripproof.





# Pre-Bid Meeting Sign In Sheet

Project No.: 444505

Bid Date: March 3, 2015

Project Name: GLTC OPERATIONS & MAINTENANCE FACILITY

Date of Pre-Bid Mtg.: Feb 11, 2015

Company Name & Address	Names of Attendees (Please Print)	Phone Number	Fax Number and e-mail address
1 EUREKA CONSTRUCTION 615 CHASE ST Leuchbora	Robert Lee	434-845-0301	rlee@engloshconst.com 434-845-0300
2 Fidelity Power/Kohler Generators 5711B Hollins Rd Rte VA 24019	Jim Porter	540-519-5343	jporter@fidelityengineering.com 540-409-5257
3 Jamerson Lewis Const. 1306 Stephenson Ave. Lynchburg	George Watson	434 845-3468	gwatson@jamersonlewis.com 434-845-4102
4 EAGLE SITE SOLUTIONS 1231 WILKINS RT RICHLAND, VA 23237	DER BROWN	434 981 2832	888.786.6561 DBROWN@ALUEDCONCRETE.COM
5 CORP AND EXCAVATION 114 MOUNTAIN AVE ROANOKE, VA 24016	TERRY SFAIS	540-320-0946	TSEAIS.CORP AND EXCAVATION@ SMALL.COM
6 KEN BRIDGE 1101 5th Ave Kenbridge, Va 23149	BILLY MARSHELL	434 676 8221	434-676-8815 ESTIMATE@Kenbridge.com
7 GJ Hopkins 714 5th St. NE Roanoke, VA 24016	Josh Mills	540-982-1873	540-982-0655 josh.mills@gjhopkins.com
8 GJ Hopkins Inc			

# Pre-Bid Meeting Sign In Sheet

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Project No.: 444505

Bid Date: March 3, 2015

Project Name: GLTC OPERATIONS & MAINTENANCE FACILITY

Date of Pre-Bid Mtg.: Feb 11, 2015

	Company Name & Address	Names of Attendees (Please Print)	Phone Number	Fax Number and e-mail address
	G J H 714 5th St NE Roanoke, VA 24016	Tony Williams	540-982-1873	Tony W @ gjhaptins.com 540-982-0655
9	EMCO 4700 ANNAPOLIS RD BLADENBURG MD 20710	MIKE SCHMIDT	202 438 2508	SCHMIDT @ EMCO BLOCK . CO
10	Emco Site Solutions 15433 Fox Vale way Midlothian, Va. 23112	Doug Clarke	(804) 677-7500	clarke e emcosite solutions. com
11	Bract Retaining Walls 10423 Dow Gil Road Ashland, VA 23005	Aaron McCullough	(804) 543-1275	804-798-5098 aaron@bractwalls.com
12	Eagle Site Solutions 1231 Willis Rd Richmond, VA 23237	Aaron Hardin	804-839-7473	804-743-3426 ahardin@alliedconcrete.com
13	<del>Patrick</del> 971 RUSSELL DR. SALEM, VA 24153	TROY KINCER	540-682-2011	troy-kincer@cartermachinery.com
14	LARRY BLACKISTON 2708 Skowanda Av Roanoke 24017	Larry Blackiston	540-355-4069	Larry.Blackiston@esol.com NET
15	<del>Patrick</del> 3825 Blue Ridge Dr Roanoke, VA 24018	PATRICK	540-342-6758	BUSSE M@CONSTRUCTORS.COM

16. Mid Atlantic Petro. Svc. Mitch Brown  
757-424-9726  
757-424-9673  
mbrown@petrospump.net



# Pre-Bid Meeting Sign In Sheet

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Project No.: 444505

Bid Date: March 3, 2015

Project Name: GLTC OPERATIONS & MAINTENANCE FACILITY

Date of Pre-Bid Mtg.: Feb 11, 2015

Company Name & Address	Names of Attendees (Please Print)	Phone Number	Fax Number and e-mail address
Counts & Dobyns 37 LELAND RD RUSTONS	CHRIS DUNN	434-821-2774	<del>CHRIS DUNN</del> countsanddobyns.com
Counts and Dobyns 37 Leland Road Rustons, VA	Brad Fellers	434-821-2774	bfellers@countsanddobyns.com
BLAIR CONSTRUCTION P.O. BOX 612 GROVE VA 24557	KEN BECROFT	434-841-3652	kbecroft@blair-construction.com
<del>WINK HESTER VA</del> 1057 PATRICKS-REURGIFIRE WINK HESTER VA	JON TINKLES	540-665-3272	JTINKLES@HAWKINS-HOBBS.COM
Howard Sheehy & Sons, Inc 1057 Martinsburg Pike Martinsburg, West Virginia, 26101	Bill Thomas	540-665-3245	btomas@hwsheehy.com
AVIS Construction 521 Rutledge Ave NE Roanoke, VA 24016	Jack Bulls	540-982-3558	PAUL@AVISCONSTRUCTION.COM
Branch + Associates Inc 5733 Airport Rd NW Roanoke, VA 24012	Kim Benton	540-989-5215	Kimber branch-associates.com 540-974-2611
<del>Jonathan Gilbert</del>	Jonathan Gilbert	434-385-6260	

Southern Air Inc Andrew Kuminski

Southern Air " " Matt Guthrie  
" " " " RICHIE WACKER

434-385-6200

Document Southern-air.com  
RICK WACKER@southern-air.com

434-385-1267

MaYS Electric Service  
Lyonsville 24502

Jeff Wade

434-821-0026

SUNBEMESC @ Low CAST. NET

Froehling & Robertson, Inc.  
1734 Seibel Dr, NE  
Roanoke, VA 24012

Paul Bryan  
Long's Fernite Inc  
532 Oakley Ave  
Lynchburg, VA 24501  
434 528-1694

pryncemfabrics.com



# Pre-Bid Meeting Sign In Sheet

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Project No.: 444505

Bid Date: March 3, 2015

Project Name: GLTC OPERATIONS & MAINTENANCE FACILITY

Date of Pre-Bid Mtg.: Feb 11, 2015

Company Name & Address	Names of Attendees (Please Print)	Phone Number	Fax Number and e-mail address
Wiley Wilson 127 Nationwide Dr Lynchburg Va 24502	Kelly Cole	434 455 3211	Kcole@wileywilson.com
Jones - Frank 1360 Englishside Road Norfolk, VA 23502	Nick Wallace Jeff O'Connell	757-853-7500 x-7192	NWallace@jones-frank.com jocornell@jones-frank.com
Advanced Fueling Systems 9998 Lockinghole Rd. Ashland, Va 23005	Bobby Watkins	804-798-2900 Ext 123	bwatkins@advancedfuelingsystems.com
Lynchburg Realty Mgr 100 Halsey Dr Lynchburg 24503	Robert M. Egan Jr	434-846-6565	reagan@gmail.com
Rice Building's 111 Callaway Road Rocky Mt, Va. 24151	Ed Greer	540-483-7226	edgreer@ricebuilding'sinc.com

29 ACF Environmental  
2831 Cornwell Rd  
Richmond, VA 23231  
Robert Connelly

540-246-3901

aconnelly@acfenv.com

30 Glass & Associates Inc.  
1601 Wythe Road  
Lynchburg VA 24501

434-385-8958

434-485-8250

Bobby Crompton  
bobby@glass-associatesconstruction.com

Document 1





9 South 12<sup>th</sup> Street Richmond Virginia 23219

P 804.308.9670 F

804.308.9697

## MEETING MINUTES

Date: Monday, Feb, 11 Time: 10:00 AM  
Subject: GLTC Replacement Operations & Maintenance Facility  
Pre-Bid Meeting  
Place: Upstairs Conference Room, GLTC Transfer Station, 800 Kemper Street, Lynchburg, VA 24505

### TOPICS PER AGENDA:

1. Introductions:
  - a. Owner –Josh Baker, GLTC
  - b. City – Stephanie Suter
  - c. PM – Karolina Bazylewicz
  - d. CM – Gareth McAllister
2. Pass a Sign-in Sheet
3. Project Overview & Roles
  - a. Bus & Para Transit Storage & Maintenance Project
  - b. Architectural / Engineer – Wendel
  - c. Civil Engineer - Wiley & Wilson
  - d. Stormwater Design– EPR
4. Project Scope & Schedule
  - a. This transit bus and para transit storage and maintenance project includes a one-story approximately 50,500 GSF combined Administration, Operations, Maintenance and Service building; a detached one-story road salt storage and general storage building; a detached gasoline dispensing island with canopy covering; and exterior and interior building and vehicle maintenance equipment including above ground diesel fuel storage tanks and a standby generator. Site work on the total 11.750 acre site and adjoining portion of the Bradley Drive public right-of-way includes high and low retaining walls; concrete paving, asphalt paving and permeable paving; an open parking lot for approximately 121 automobiles; an open storage lot for approximately 46 transit buses and 16 para transit vehicles; open parking for seven non-revenue transit vehicles; detention and bio-retention areas; grading and landscaping; three curb cuts and associated reconstruction of Bradley Drive curb, gutter and paving. Site accessories include signage, flagpoles, fencing and site lighting. Project alternatives include two paving alternatives for a bus driver training area and one site fencing alternative.

- b. Schedule –
  - i. Notice to Proceed anticipated no later than Mar. 17, 2015 – *The GLTC Board of Directors will hold a meeting on March 11 after the bids have been opened on March 3 and analysis completed, to recommend notice of award to the qualified apparent low bidder.*
  - ii. Construction duration 518 calendar days
  - iii. All questions addressed in writing to Stephanie Suter, Procurement Division, City of Lynchburg (See specs for contact information)
  - iv. Substitutions will only be entertained during bidding (forms and procedure detailed in specifications)

5. Bid Requirements

- a. Bid Form
- b. Alternates Form
- c. Unit Price Form
- d. Statement of Experience
- e. Statement of Available Resources
- f. Equal Opportunity Report Statement
- g. Corporate Status Form
- h. Questions to Offeror Form
- i. Bid Bond
- j. Certification and Restriction on Lobbying
- k. Government-wide Debarment and Suspension (Nonprocurement)
- l. Buy America Certification

6. Obtaining Plans and Specifications

- a. The Contract Documents for the GLTC Operations & Maintenance Facility, may be downloaded from the City's website: <http://www.lyncburgva.gov/current-solicitations>.
- b. The Manual of Specifications and Standard Details, for the City of Lynchburg may be downloaded from the City's website: <http://www.lyncburgva.gov/manual-specifications>.

7. Highlight important information from the Project Manual

- a. Bid opening date and place
  - i. Sealed bids for "GLTC Operations & Maintenance Facility", will be received by the City of Lynchburg, Procurement Division, City Hall, Lynchburg, VA, until 3:00 p.m., March 3, 2015, and then publicly opened and read, in the Bidder's Room, Third Floor, City Hall.
- b. Bid Security Requirements - 5% of Base Bid
- c. Performance & Payment Bond Requirements - 100% of Base Bid
- d. Single or Multiple contracts - Lump sum single prime contract
- e. Minimum Wage Rates - Davis Bacon
  - i. Minority employment requirements - 4%
- f. Alternate Bids
  - i. Closed mesh fence
  - ii. Bus operator (driver) training area asphalt paving
  - iii. Bus operator (driver) training area concrete paving
  - iv. Unit Prices - 12 unit prices requested in the bids
- g. Project under following requirements – *Project will be funded with a combination of Federal, State, and local match funding.*
  - i. Fly America
  - ii. Buy America
  - iii. Federal Transit Administration
- h. LEED – this is not a LEED project

## 8. Questions

Q: What is the liquidated damages requirement?

A: \$2,800 per day

Q: When will the first Addendum be issued?

A: Friday, February 13, 2015

Q: Will the Davis Bacon rate sheet be included?

A: Yes, in Addendum #1

Q: Who is responsible for testing inspections and special inspections?

A: The General Contractor is responsible for conducting and arranging testing inspections as listed in the contract documents. The Owner will procure the Special Inspections.

Q: Will a copy of today's sign in sheet be made available?

A: Yes, in Addendum #1

Q: Are substitutions acceptable for all materials on the projects?

A: Substitutions will only be reviewed during bidding and must meet the criteria and be formally submitted through the City as per the front end contract documents.

Q: A jib crane is shown on the equipment drawings, is it to be provided as part of this contract or by Owner?

A: This clarification will be issued in an Addendum.

Q: The equipment package lists one acceptable manufacturer for many of the standard equipment. Is this to be provided or are substitutions acceptable?

A: Approved equal manufacturers that meet the specification requirements will be considered. Substitutions will only be reviewed during bidding and must meet the criteria and be formally submitted through the City as per the front end contract documents.

Q: The pre-engineered metal building specification seems to be based off a CECO metal building. If these measurements are not standard with another manufacturer, will substitutions be acceptable?

A: This is a performance spec and specific measurements would be reviewed during the shop drawing submittal after this contract has been awarded. Substitutions will only be reviewed during bidding and must meet the criteria and be formally submitted through the City as per the front end contract documents.

Q: Are there solar panels in this project? Section 2 / A-400 shows evidence of a panel.

A: No, there are no solar panels on this project. They were in an earlier design, but have since been deleted out of the entire project. Section 2 / A-400 will be reviewed and if a revision is required, it will be issued in an Addendum.

Q: Is testing of the soils moisture content required of the special inspections?

A: This answer will be clarified in an addendum.

Q: Will this project required municipal permits?

A: Yes, the general contractor will be required to pull and pay for permits from the City of Lynchburg and all others specific to and required by this project per the contract documents.

Q: Will the Owner pay for utility service connection permits and fees?

A: This will be clarified in an Addendum.

Q: Does this project have a building permit?

A: The building permit is the responsibility of the awarded General Contractor.

Q: Will the notice to proceed include a permit approval time frame?

A: The anticipated permit approval duration within the substantial completion schedule will be clarified in an Addendum.

General Decision Number: VA150089 01/02/2015 VA89

Superseded General Decision Number: VA20140089

State: Virginia

Construction Type: Building

Counties: Campbell and Lynchburg\* Counties in Virginia.

\*INDEPENDENT CITY

BUILDING CONSTRUCTION PROJECTS (does not include single family homes or apartments up to and including 4 stories).

Note: Executive Order (EO) 13658 establishes an hourly minimum wage of \$10.10 for 2015 that applies to all contracts subject to the Davis-Bacon Act for which the solicitation is issued on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.10 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at [www.dol.gov/whd/govcontracts](http://www.dol.gov/whd/govcontracts).

Modification Number	Publication Date
0	01/02/2015

\* BOIL0045-004 10/01/2013

	Rates	Fringes
BOILERMAKER.....	\$ 32.36	27.62

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SUVA2010-094 09/20/2010

	Rates	Fringes
ASBESTOS WORKER/HEAT & FROST INSULATOR.....	\$ 23.29	10.09
BRICKLAYER.....	\$ 22.74	5.65
CARPENTER.....	\$ 14.18	1.20
CEMENT MASON/CONCRETE FINISHER...	\$ 14.89	0.00
ELECTRICIAN.....	\$ 15.21	1.72
IRONWORKER, ORNAMENTAL.....	\$ 24.00	10.16
IRONWORKER, STRUCTURAL.....	\$ 15.21	0.89

LABORER: Common or General.....	\$ 10.50	0.00
LABORER: Landscape.....	\$ 10.64	0.00
LABORER: Mason Tender - Brick...	\$ 10.90	2.35
LABORER: Mason Tender - Cement/Concrete.....	\$ 11.84	3.12
LABORER: Pipelayer.....	\$ 14.44	2.35
OPERATOR: Backhoe.....	\$ 12.99	0.00
OPERATOR: Bobcat/Skid Steer/Skid Loader.....	\$ 15.62	2.40
OPERATOR: Bulldozer.....	\$ 21.50	4.80
OPERATOR: Crane, All Types.....	\$ 18.65	7.99
OPERATOR: Excavator.....	\$ 14.58	2.47
OPERATOR: Forklift.....	\$ 18.02	7.28
OPERATOR: Loader.....	\$ 19.82	3.30
OPERATOR: Mechanic.....	\$ 15.38	0.89
OPERATOR: Roller.....	\$ 21.50	4.80
PAINTER: Brush and Roller.....	\$ 17.34	5.59
PAINTER: Spray.....	\$ 21.01	6.91
PIPEFITTER, Includes HVAC Pipe and Unit Installation.....	\$ 21.60	10.24
PLUMBER.....	\$ 19.49	9.67
ROOFER.....	\$ 14.50	2.58
SHEET METAL WORKER, Includes HVAC Duct Installation.....	\$ 19.11	8.38
TILE FINISHER.....	\$ 17.32	6.72
TILE SETTER.....	\$ 21.12	7.68
TRUCK DRIVER: Dump Truck.....	\$ 12.07	2.06

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WELDERS - Receive rate prescribed for craft performing  
operation to which welding is incidental.

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Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the "SU" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

## Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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## WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour Regional Office for the area in which the survey was conducted because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
Wage and Hour Division  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator

U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
U.S. Department of Labor  
200 Constitution Avenue, N.W.  
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISION



GREATER LYNCHBURG TRANSIT COMPANY  
1301 Kemper Street, P.O. Box 707  
Lynchburg, VA 24501-0707

PROJECT ADDRESS:  
419 Bradley Dr.  
Lynchburg, VA  
24501-4901

Operations & Maintenance Facility

BID DOCUMENTS



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ALEXANDRIA ARCHITECTURE, ENGINEERING, LAND SURVEYING & LANDSCAPE ARCHITECTURE, P.C.



171 Northside Drive, Lynchburg, Virginia 24502-4072  
www.wileywilson.com



Engineering & Planning Resources  
437 Riverside Circle, Charlottesville, VA 22901  
434.203.3980 www.epr.com

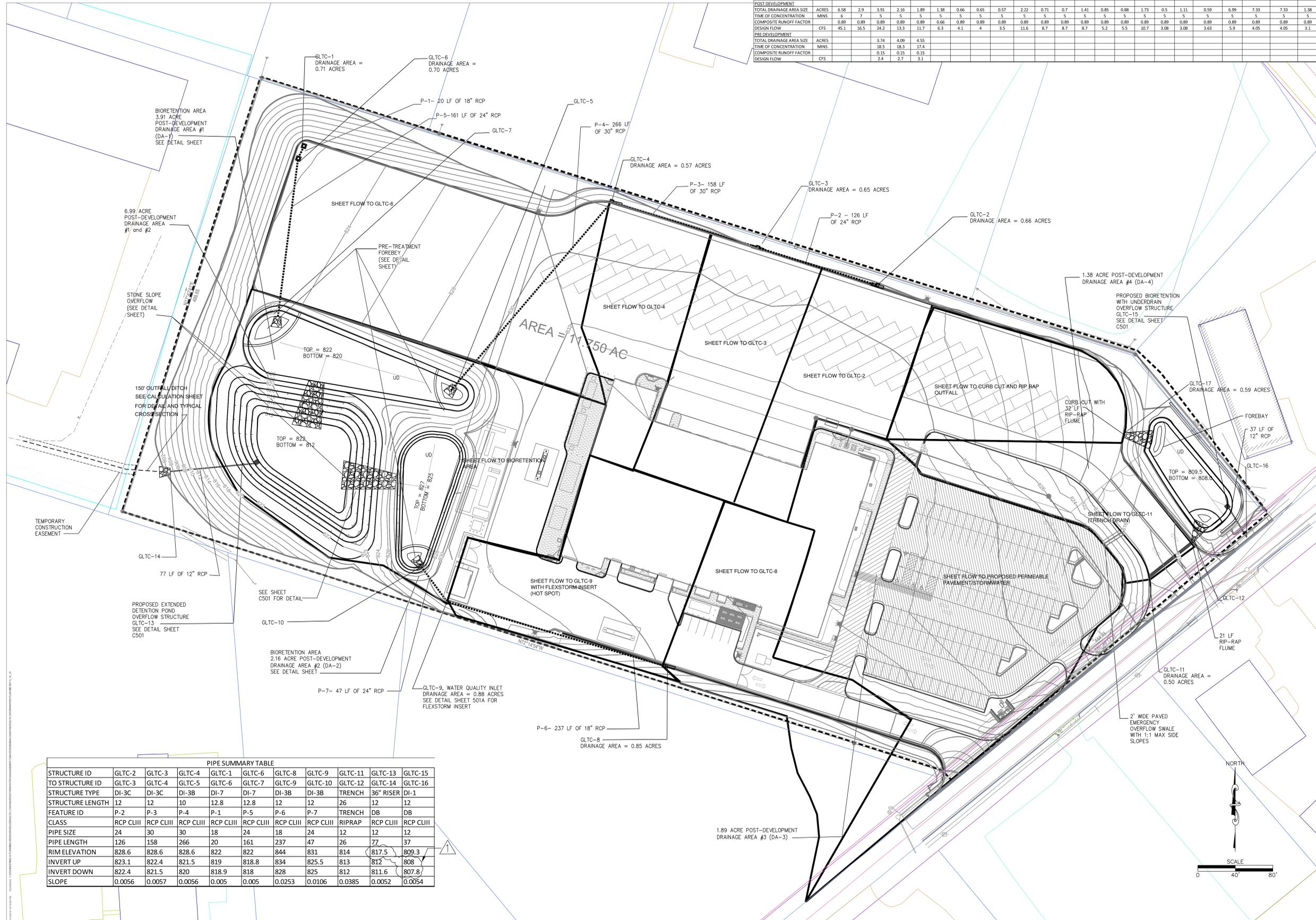
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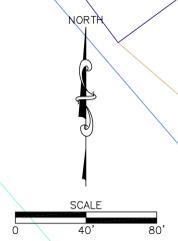
STORMWATER DRAINAGE LAYOUT AND DESIGN PLAN SHEET

DATE: 10/29/14  
SCALE: 1"=40'  
DRAWN: LLW  
CHECKED: WJW  
PROJECT: 444555  
SHEET NO.: C302

ID's	UNITS	DA-1	DA-2	DA-3	DA-4	GLTC-2	GLTC-3	GLTC-4	GLTC-2 THRU GLTC-5	GLTC-1	GLTC-6	GLTC-7	GLTC-8	GLTC-9	GLTC-8 THRU GLTC-10	GLTC-11	GLTC-11 THRU GLTC-12	GLTC-17	GRAVEL LEVEL SPREADER	DA-1 & DA-2	DA-1 & DA-3	DA-1 & DA-2	DA-4	
FEATURED IDS	UNITS	58	57	56	55	54	53	52	51	50	49	48	47	46	45	44	43	42		DB	OP-5	RR	OP-6	
DESIGN EVENT FREQUENCY	YEARS	25	30	30	30	25	10	30	10	30	10	30	10	30	10	30	10	10		25	30	30	30	
RAINFALL INTENSITY	IN/HR	7.6	6.98	6.94	6.94	6.94	6.92	6.92	6.92	6.92	6.92	6.92	6.92	6.92	6.92	6.92	6.92	6.92		7.3	5.8	5.8	5.8	
TOTAL DRAINAGE AREA SIZE	ACRES	6.58	2.9	3.91	2.16	1.89	1.38	0.66	0.65	0.57	2.22	0.71	0.7	1.41	0.85	0.88	1.73	0.5	1.11	0.59	6.99	7.33	7.33	1.38
TIME OF CONCENTRATION	MIN	6	7	5	5	5	5	5	5	5	5	5	5	5	5	5	5	5		5	5	5	5	
COMPOSITE RUNOFF FACTOR		0.89	0.89	0.89	0.89	0.89	0.66	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89	0.89		0.89	0.89	0.89	0.89	
DESIGN FLOW	CFS	45.1	16.5	24.2	13.3	11.7	6.3	4.1	4	3.5	11.6	8.7	8.7	8.7	5.2	5.5	10.7	3.08	3.08	3.63	5.9	4.05	4.05	3.1
TOTAL DRAINAGE AREA SIZE	ACRES						3.74	4.09	4.55															
TIME OF CONCENTRATION	MIN						18.5	18.3	17.4															
COMPOSITE RUNOFF FACTOR							0.15	0.15	0.15															
DESIGN FLOW	CFS						2.4	2.7	3.1															



STRUCTURE ID	GLTC-2	GLTC-3	GLTC-4	GLTC-1	GLTC-6	GLTC-8	GLTC-9	GLTC-11	GLTC-13	GLTC-15
TO STRUCTURE ID	GLTC-3	GLTC-4	GLTC-5	GLTC-6	GLTC-7	GLTC-9	GLTC-10	GLTC-12	GLTC-14	GLTC-16
STRUCTURE TYPE	DI-3C	DI-3C	DI-3B	DI-7	DI-7	DI-3B	DI-3B	TRENCH	36" RISER	DI-1
STRUCTURE LENGTH	12	12	10	12.8	12.8	12	12	26	12	12
FEATURE ID	P-2	P-3	P-4	P-1	P-5	P-6	P-7	TRENCH	DB	DB
CLASS	RCP CLIII	RIPRAP	RCP CLIII	RCP CLIII						
PIPE SIZE	24	30	30	18	24	18	24	12	12	12
PIPE LENGTH	126	158	266	20	161	237	47	26	77	37
RIM ELEVATION	828.6	828.6	828.6	822	822	844	831	814	817.5	809.3
INVERT UP	823.1	822.4	821.5	819	818.8	834	825.5	813	812	808
INVERT DOWN	822.4	821.5	820	818.9	818	828	825	812	811.6	807.8
SLOPE	0.0056	0.0057	0.0056	0.005	0.005	0.0253	0.0106	0.0385	0.0052	0.0054





GREATER LYNCHBURG TRANSIT COMPANY

1201 Hampton Street, P.O. Box 797  
Lynchburg, VA 24505-0797

PROJECT ADDRESS:  
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Lynchburg, VA  
24501-4901

Operations & Maintenance Facility

BID DOCUMENTS



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ALEXANDRIA ARCHITECTURE, ENGINEERING, LAND SURVEYING & LANDSCAPE ARCHITECTURE, P.C.



Drainage

- 1. Contractor shall exercise care, especially at intersections and gutter lines, to provide positive drainage. Any areas where water is impounded shall be corrected by Contractor at no additional cost. Positive drainage of all roadway areas to the storm drain inlets or other acceptable drainage channels as noted on the plans is required.
- 2. Contractor shall maintain existing streams, ditches, drainage structures, culverts and flows at all times during the work. Contractor shall pay for all personal injury and property damage which may occur as a result of failing to maintain adequate drainage.
- 3. All pipes, DF's and other structures shall be inspected by the Engineer before being backfilled or buried. The Engineer may require Contractor, at no additional cost, to uncover and re-cover such structures if they have been backfilled or buried without such inspection.
- 4. All catch basins encompassed within new construction shall be converted to drop inlets.
- 5. Class I Rip Rap modifications allows for a reduction in stone depth from 2.0' to a minimum of 1.0' as directed by the Engineer.
- 6. Removed pipe shall be the property of Contractor and if not salvaged for re-use, shall be disposed of lawfully.
- 7. All storm sewer pipe and drop inlets shall be cleared of debris and eroded material prior to final acceptance.
- 8. All storm sewer pipe joints shall be seated and sealed in accordance with the manufacturer's specifications.
- 9. All existing roof drains and other drainage conduit tied into existing pipe shall be tied into new pipe. All existing roof drains and other drainage conduit blocked or disrupted from their pre-construction drainage patterns shall be shortened, extended or otherwise connected to the new work using materials approved by the Engineer, and in such a way that the new drainage patterns are acceptable to Engineer. Costs are to be included under the various unit bid items. No separate payment will be made.

EXTENDED DETENTION POND DRAINAGE AREA DA-1 AND DA-2 COMBINED

Summary for Pond 5P: EXTENDED DETENTION

Inflow Area = 319,295 sf, 74.00% Impervious, Inflow Depth = 1.81" for 10-Year event  
Inflow = 34.32 cfs @ 12.06 hrs, Volume= 46,186 cf  
Outflow = 4.05 cfs @ 12.64 hrs, Volume= 29,731 cf, Atten= 88%, Lag= 33.7 min  
Primary = 4.05 cfs @ 12.64 hrs, Volume= 29,731 cf  
Secondary = 0.00 cfs @ 2.00 hrs, Volume= 0 cf

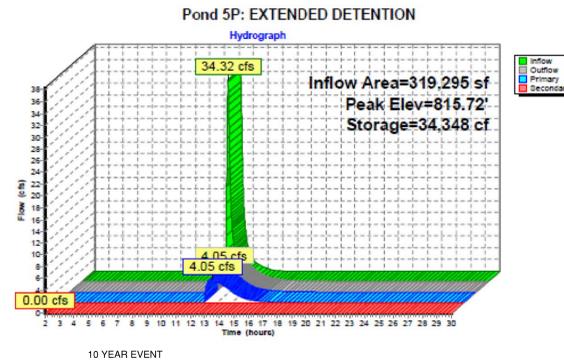
Routing by Stor-Ind method, Time Span= 2.00-30.00 hrs, dt= 0.01 hrs  
Peak Elev= 815.72' @ 12.64 hrs Surf.Area= 11,560 sf Storage= 34,348 cf  
Plug-Flow detention time= 107.3 min calculated for 29,731 cf (62% of inflow)  
Center-of-Mass det. time= 91.7 min ( 833.8 - 742.1 )

Table with columns: Volume, Invert, Avail. Storage, Storage Description. Includes elevation and surface area data.

Table with columns: Device, Routing, Invert, Outlet Devices. Lists culvert and riser specifications.

Primary Outflow Max=4.04 cfs @ 12.64 hrs HW=815.72' (Free Discharge)  
1=Culvert (Passes 4.04 cfs @ 5.35 cfs potential flow)  
2=10 year orifice (Orifice Controls 2.22 cfs @ 1.80 fps)  
3=Top Riser ( Controls 0.00 cfs)  
5=2 Year orifice (Orifice Controls 3.62 cfs @ 4.96 fps)

Secondary Outflow Max=0.00 cfs @ 2.00 hrs HW=812.00' (Free Discharge)  
4=Emergency Spillway ( Controls 0.00 cfs)



POND/OUTFALL SIZING CALCULATION



Summary for Pond 3P: BIOFILTER-4

Inflow Area = 60,113 sf, 74.00% Impervious, Inflow Depth = 3.21" for 10-Year event  
Inflow = 8.14 cfs @ 11.96 hrs, Volume= 16,071 cf  
Outflow = 3.08 cfs @ 12.06 hrs, Volume= 15,859 cf, Atten= 62%, Lag= 6.0 min  
Discarded = 0.38 cfs @ 12.06 hrs, Volume= 1,320 cf  
Primary = 2.71 cfs @ 12.06 hrs, Volume= 14,539 cf

Routing by Stor-Ind method, Time Span= 2.00-30.00 hrs, dt= 0.01 hrs  
Peak Elev= 809.12' @ 12.06 hrs Surf.Area= 5,486 sf Storage= 5,486 cf  
Plug-Flow detention time= 65.4 min calculated for 15,859 cf (99% of inflow)  
Center-of-Mass det. time= 56.4 min ( 879.9 - 821.5 )

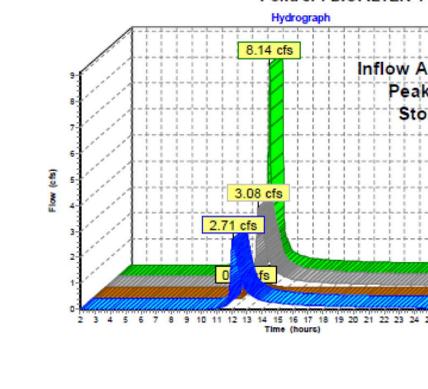
Table with columns: Volume, Invert, Avail. Storage, Storage Description. Includes elevation and surface area data.

Table with columns: Device, Routing, Invert, Outlet Devices. Lists culvert and orifice specifications.

Discarded Outflow Max=0.38 cfs @ 12.06 hrs HW=809.12' (Free Discharge)  
1=Exfiltration (Exfiltration Controls 0.38 cfs)  
3=Orifice/Grate (Passes 0.38 cfs @ 0.71 cfs potential flow)  
4=Orifice/Grate ( Controls 0.00 cfs)

Primary Outflow Max=2.71 cfs @ 12.06 hrs HW=809.12' (Free Discharge)  
2=Culvert (Barrel Controls 2.71 cfs @ 3.84 fps)

Pond 3P: BIOFILTER-4



NOTE: DRAINAGE AREA DA-3 DRAINS TO THE PERMEABLE PAVEMENT WHICH HAS BEEN DESIGNED TO STORE THE 25 YEAR/24 HOUR STORM EVENT.

Summary for Pond 5P: EXTENDED DETENTION

Inflow Area = 319,295 sf, 74.00% Impervious, Inflow Depth = 2.15" for 25-Year event  
Inflow = 39.92 cfs @ 12.08 hrs, Volume= 57,272 cf  
Outflow = 5.90 cfs @ 12.55 hrs, Volume= 38,808 cf, Atten= 85%, Lag= 28.2 min  
Primary = 5.90 cfs @ 12.55 hrs, Volume= 38,808 cf  
Secondary = 0.00 cfs @ 2.00 hrs, Volume= 0 cf

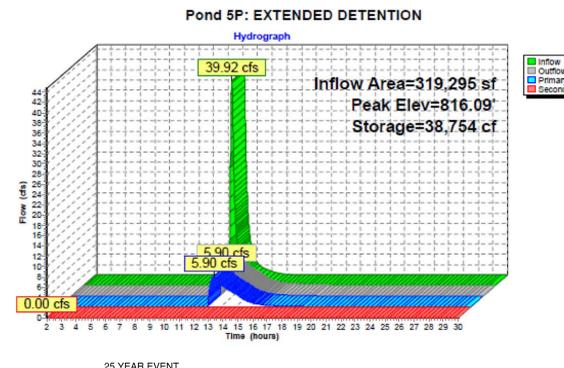
Routing by Stor-Ind method, Time Span= 2.00-30.00 hrs, dt= 0.01 hrs  
Peak Elev= 816.09' @ 12.55 hrs Surf.Area= 12,058 sf Storage= 38,754 cf  
Plug-Flow detention time= 99.7 min calculated for 38,808 cf (66% of inflow)  
Center-of-Mass det. time= 84.1 min ( 826.5 - 742.4 )

Table with columns: Volume, Invert, Avail. Storage, Storage Description. Includes elevation and surface area data.

Table with columns: Device, Routing, Invert, Outlet Devices. Lists culvert and riser specifications.

Primary Outflow Max=5.89 cfs @ 12.55 hrs HW=816.09' (Free Discharge)  
1=Culvert (Passes 5.89 cfs @ 6.19 cfs potential flow)  
2=18 year orifice (Orifice Controls 1.43 cfs @ 2.82 fps)  
3=Top Riser ( Controls 0.00 cfs)  
5=2 Year orifice (Orifice Controls 4.46 cfs @ 5.68 fps)

Secondary Outflow Max=0.00 cfs @ 2.00 hrs HW=812.00' (Free Discharge)  
4=Emergency Spillway ( Controls 0.00 cfs)



Summary for Pond 5P: EXTENDED DETENTION

Inflow Area = 319,295 sf, 74.00% Impervious, Inflow Depth = 3.30" for 100-Year event  
Inflow = 69.05 cfs @ 12.04 hrs, Volume= 87,914 cf  
Outflow = 7.36 cfs @ 12.56 hrs, Volume= 69,419 cf, Atten= 89%, Lag= 31.0 min  
Primary = 7.36 cfs @ 12.56 hrs, Volume= 69,419 cf  
Secondary = 0.00 cfs @ 2.00 hrs, Volume= 0 cf

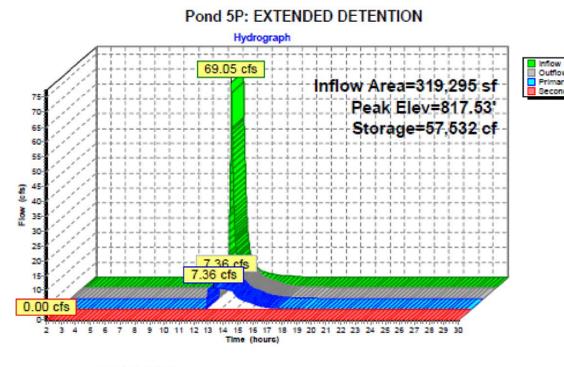
Routing by Stor-Ind method, Time Span= 2.00-30.00 hrs, dt= 0.01 hrs  
Peak Elev= 817.53' @ 12.56 hrs Surf.Area= 14,138 sf Storage= 57,532 cf  
Plug-Flow detention time= 101.5 min calculated for 69,419 cf (79% of inflow)  
Center-of-Mass det. time= 85.0 min ( 829.1 - 744.0 )

Table with columns: Volume, Invert, Avail. Storage, Storage Description. Includes elevation and surface area data.

Table with columns: Device, Routing, Invert, Outlet Devices. Lists culvert and riser specifications.

Primary Outflow Max=7.36 cfs @ 12.56 hrs HW=817.53' (Free Discharge)  
1=Culvert (Barrel Controls 7.36 cfs @ 9.36 fps)  
2=10 year orifice (Passes < 6.19 cfs potential flow)  
3=Top Riser (Passes < 0.17 cfs potential flow)  
5=2 Year orifice (Passes < 6.36 cfs potential flow)

Secondary Outflow Max=0.00 cfs @ 2.00 hrs HW=812.00' (Free Discharge)  
4=Emergency Spillway ( Controls 0.00 cfs)



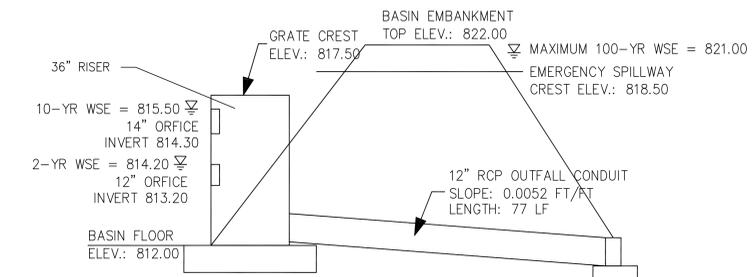
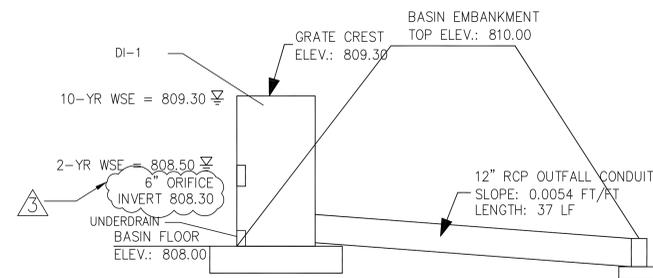
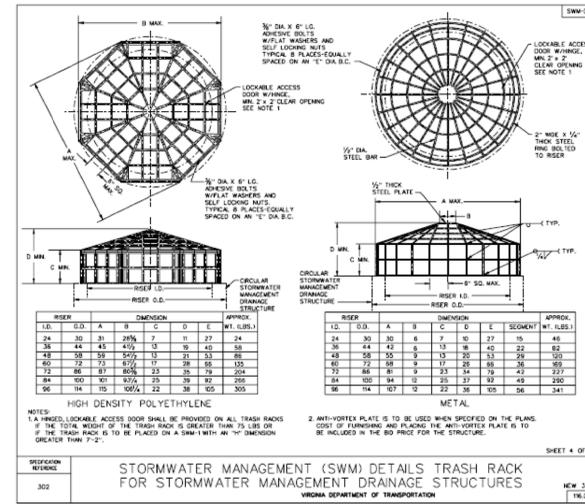
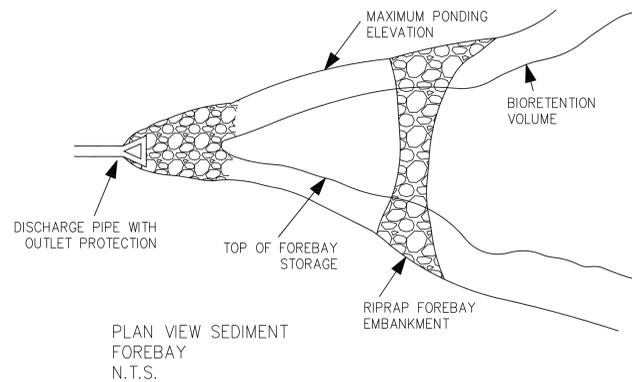
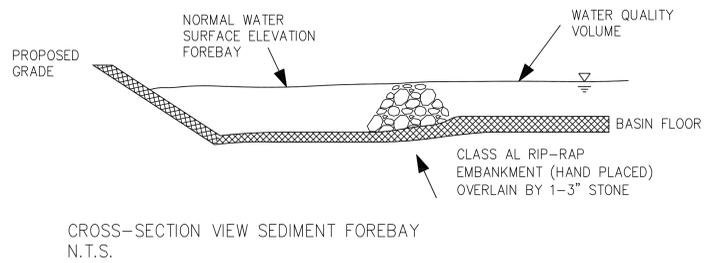
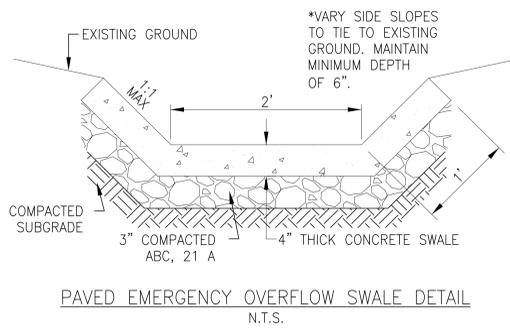
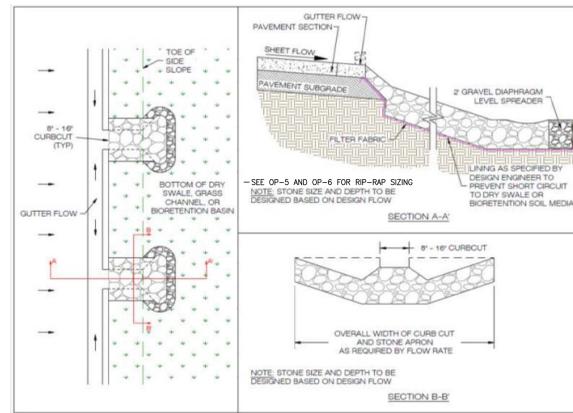
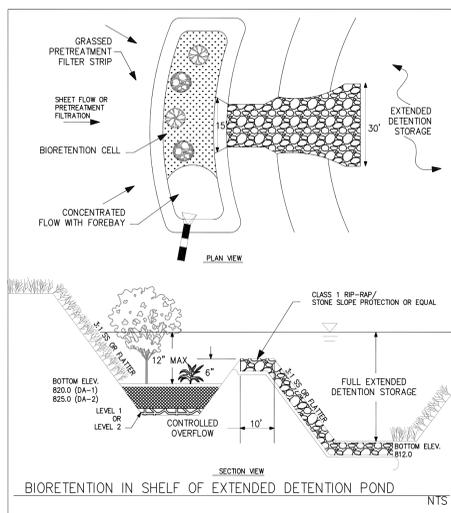
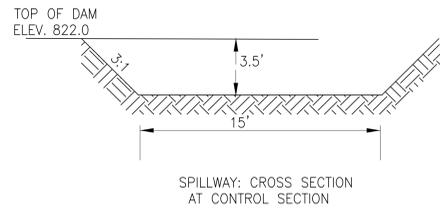
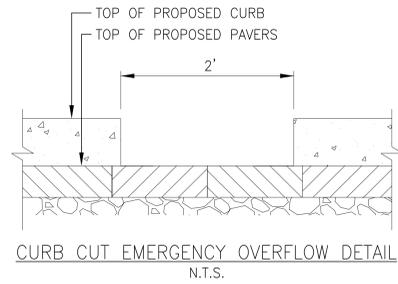
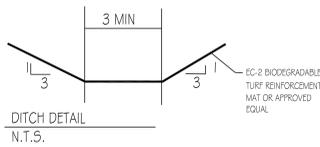
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STORMWATER/DRAINAGE CALCULATIONS

Table with columns: DATE, SCALE, DWG, CHK, DWG, PROJ. No., DWG. No.

C304



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Lynchburg, VA 24505-0707

PROJECT ADDRESS:  
419 Bradley Dr.  
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Operations &  
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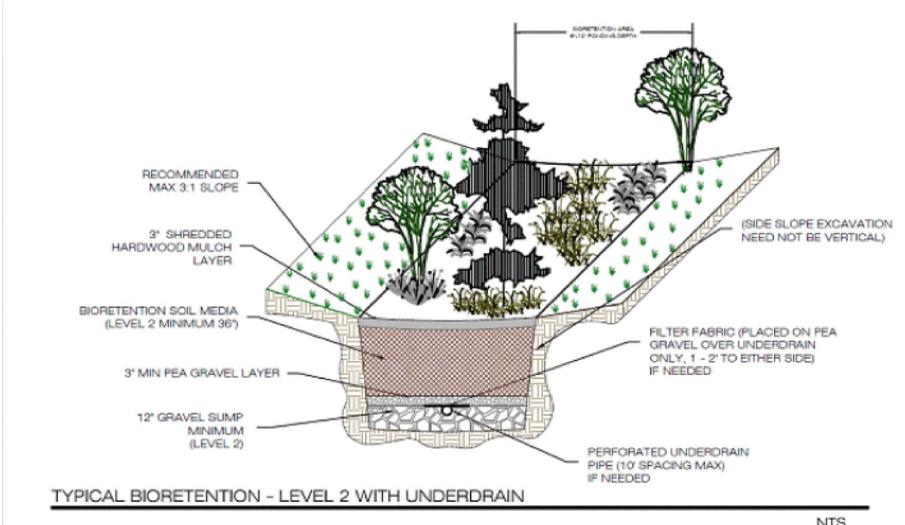
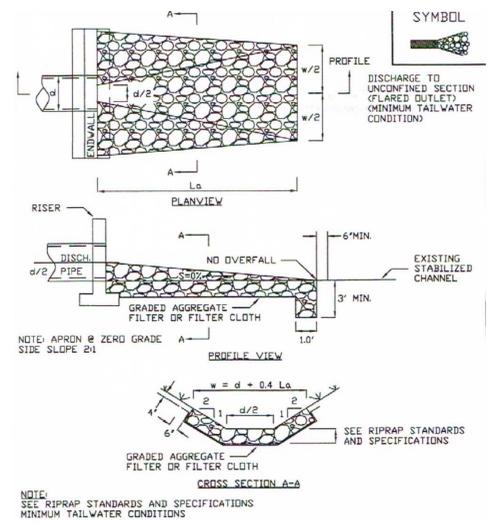
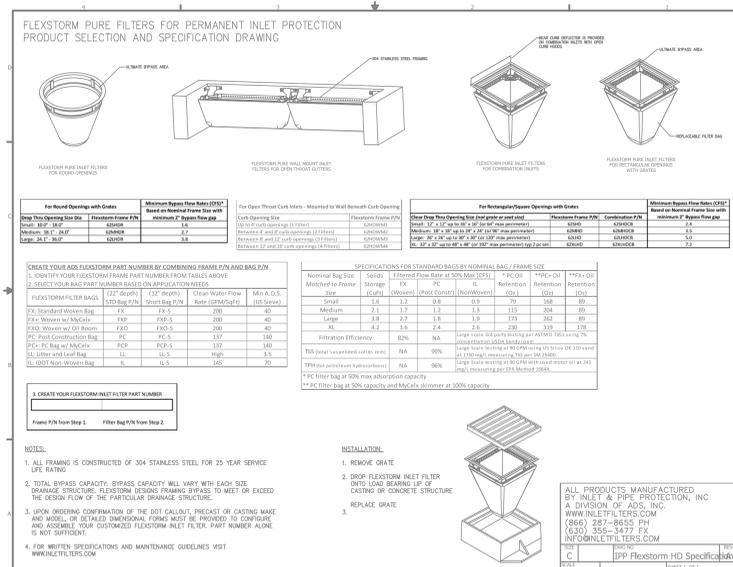
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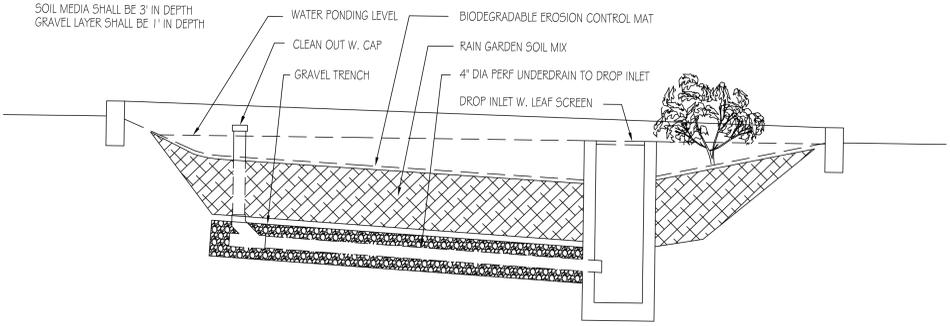
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CHECKED: WLW  
PROJECT NO.: 444005  
DWG. NO.:

STORMWATER/DRAINAGE  
SUPPORTING DETAILS

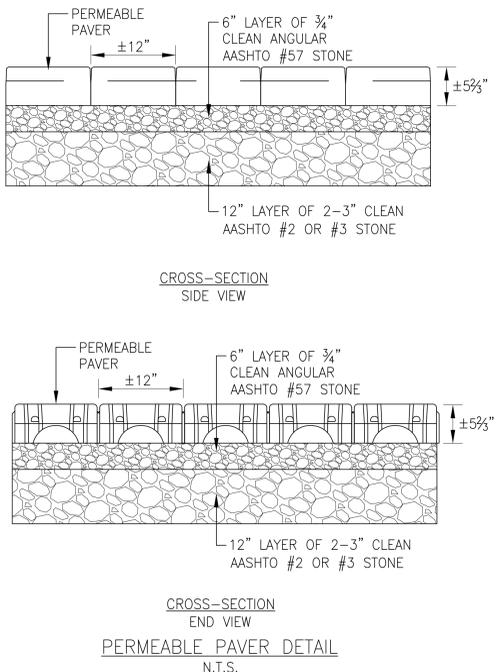
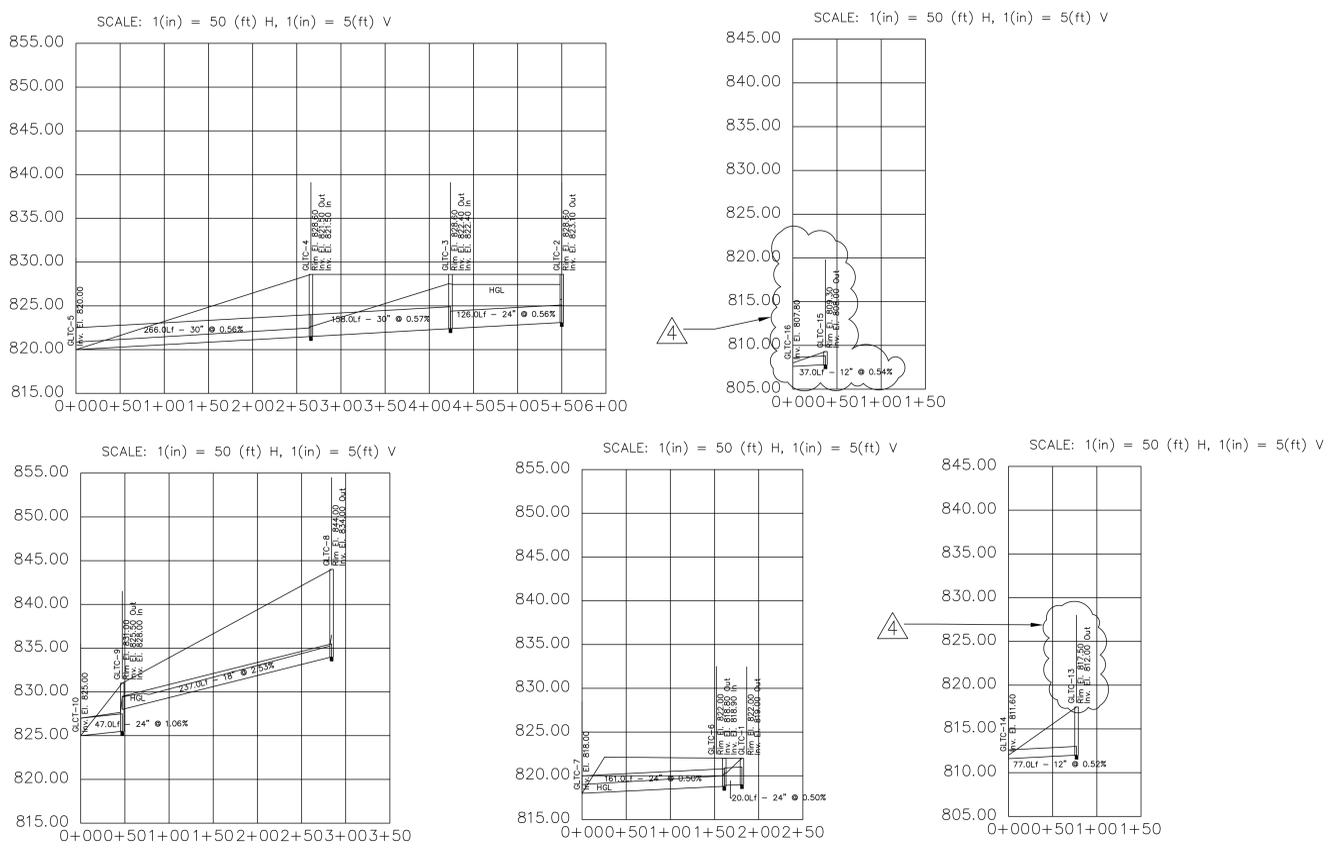
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FOR ALL THREE BIORETENTION AREAS:



### STORMSEWER PROFILES



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### STORMWATER/DRAINAGE SUPPORTING DETAILS

DATE: 10/28/2014  
SCALE: 1"=5'  
DRAWN: LLW  
CHECKED: WJW  
PROJECT NO.: 444005  
DRAWING NO.: C501A

## PROCESS SYSTEMS PIPE AND TUBING SCHEDULE

SERVICE	SIZE	MATERIAL	PIPE WEIGHT	TUBING WALL THICKNESS	JOINTS	FITTINGS	
						MATERIAL	CLASS
AUTOMATIC TRANSMISSION FLUID (ATF)	1 1/2" AND 1 1/4"	CARBON STEEL		0.095	THREADED (SWAGelok)	STEEL BAR STOCK	
	1" AND DOWN	CARBON STEEL		0.049	O-RING FACE SEAL (SWAGelok)	STEEL BAR STOCK	
CHASSIS (COMMON) GREASE (CG)	1 1/2" AND 1 1/4"	CARBON STEEL A53 GR. B SEAMLESS	SCHEDULE 160		SOCKET WELD	FORGED STEEL	9000
DIESEL EXHAUST FLUID (DEF)	1" AND DOWN	STAINLESS STEEL TYPE 304		0.049	O-RING FACE SEAL (SWAGelok)	STAINLESS STEEL BAR STOCK	
	1" AND DOWN	COPPER	TYPE L		SOLDER	WROUGHT COPPER	
ENGINE OIL (EO)	1 1/2" AND 1 1/4"	CARBON STEEL		0.095	THREADED (SWAGelok)	STEEL BAR STOCK	
	1" AND DOWN	CARBON STEEL		0.049	O-RING FACE SEAL (SWAGelok)	STEEL BAR STOCK	
GEAR OIL (GO)	1 1/2" AND DOWN	CARBON STEEL, A53 GR. B ERW	SCHEDULE 40		SOCKET WELD	FORGED STEEL	3000
USED COOLANT (UC)	1 1/2" AND DOWN	COPPER	TYPE L		SOLDER	WROUGHT COPPER	
	1 1/2" AND 1 1/4"	CARBON STEEL		0.095	THREADED (SWAGelok)	STEEL BAR STOCK	
USED OIL (UO)	1" AND DOWN	CARBON STEEL		0.049	O-RING FACE SEAL (SWAGelok)	STEEL BAR STOCK	
	1" AND DOWN	COPPER	TYPE L		SOLDER	WROUGHT COPPER	
WINDSHIELD WASHER FLUID (WWF)	1" AND DOWN	COPPER	TYPE L		SOLDER	WROUGHT COPPER	

**NOTES:**

1. INSTALL TEE FITTINGS AT ALL BRANCH OUTLET LOCATIONS.
2. REFER TO SPECIFICATION SECTION 115810 FOR ADDITIONAL PRODUCT DATA AND INSTALLATION REQUIREMENTS.
3. REFER TO SPECIFICATION SECTION 099000 FOR PIPE PAINTING REQUIREMENTS.



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ADDENDUM #1

Proj. No. 444505

Date 1/13/15

Ref. Dwg. D301

No. SD-1

## SECTION 11 5810

### FLUID LUBRICATION PIPING

#### PART 1 - GENERAL

##### 1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, apply to this Section.

##### 1.2 SUMMARY

- A. This Section includes fluid lubrication piping, specialties, and accessories within the building.

##### 1.3 PERFORMANCE REQUIREMENTS

- A. Minimum Working-Pressure Rating: Unless otherwise indicated, minimum pressure requirement for piping is 150 psig.

##### 1.4 QUALITY ASSURANCE

- A. Steel Support Welding: Qualify processes and operators according to AWS D1.1/D1.1M, "Structural Welding Code - Steel."
- B. Welding: Qualify processes and operators according to ASME Boiler and Pressure Vessel Code: Section IX.
  - 1. Comply with provisions in ASME B31 Series, "Code for Pressure Piping."
  - 2. Certify that each welder has passed AWS qualification tests for welding processes involved and that certification is current.
- C. ASME Compliance: Comply with ASME B31.9, "Building Services Piping," for materials, products, and installation. Safety valves and pressure vessels shall bear the appropriate ASME label.
- D. All components shall be fully tested and documented to operate as a complete system
- E. Manufacturer's Representative: The manufacturer authorized representative shall be factory trained and certified personnel providing service, startup, and quality control field labor for the project from their local office
  - 1. Installation: Provide a qualified manufacturer's representative at site to supervise work related to equipment installation, check out and start up.
- F. Training: Provide technical representative to train Owner's maintenance personnel in operation and maintenance of specified equipment

- G. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.
- H. Comply with NFPA 30, "Flammable and Combustible Liquids Code," and NFPA 30a

## 1.5 ACTION SUBMITTALS

- A. Product Data: For each type of the following:
  - 1. Piping
  - 2. Valves. Include flow and pressure drop curves based on manufacturer's testing for calibrated-orifice balancing valves and automatic flow-control valves.
- B. Provide piping schedule indicating type of intended installation and installation location. Refer to piping schedule below.
- C. Shop/Coordination Drawings: Produced in electronic format (compatible with Autocad 2008) Detailed at ¼" =1'-0" scale, double lined. Drawings shall indicate duct and pipe layout and elevation, and all equipment with manufacturers' recommended maintenance access. The following items shall be shown and coordinated with each other, using input from installers of the items and trades involved: (Submit 3 hard copies of all documents to Architect for Review and Approval):
  - 1. Duct and piping installation in all spaces, indicating coordination with general construction, building components, and other building services. Indicate proposed changes to duct and piping layout.
  - 2. Fabrication, assembly, and installation, including plans, elevations, sections, components, and attachments to other work.
  - 3. Fabrication of pipe anchors, hangers, supports for multiple pipes, alignment guides.
  - 4. Detail location of anchors, alignment guides, and expansion joints and loops.
  - 5. Piping layout indicating sizes, configuration, and service.
  - 6. Elevation of top of ducts and pipes.
  - 7. Dimensions of main duct runs from building grid lines.
  - 8. Duct and pipe fittings.
  - 9. Reinforcement and spacing.
  - 10. Suspended ceiling components.
  - 11. Structural members to which duct and piping will be attached.
  - 12. Room walk paths and equipment access
  - 13. Items penetrating finished ceiling including the following:
    - a. Lighting fixtures.
    - b. Air outlets and inlets.

## 1.6 INFORMATION SUBMITTALS

- A. Certificates: For certification required in "Quality Assurance" Article.
- B. Welding certificates.

- C. Field quality-control test reports.

## PART 2 - PRODUCTS

### 2.1 PIPING MATERIALS

- A. Refer to Part 3 "Piping Applications" Article for applications of pipe, tube, and fitting materials.

### 2.2 COPPER TUBE AND FITTINGS

- A. Drawn-Temper Copper Tubing: ASTM B 88, Type L.
- B. Wrought-Copper Fittings: ASME B16.22.

### 2.3 STEEL PIPE AND FITTINGS

- A. Steel Pipe: ASTM A 53/A 53M, black steel with plain ends; type, grade, and wall thickness as indicated in Part 3 "Piping Applications" Article.
- B. Malleable-Iron Threaded Fittings: ASME B16.3, Classes 150 and 300 as indicated in "Piping Applications" Article
- C. Malleable-Iron Unions: ASME B16.39; Classes 150, 250, and 300 as indicated in Part 3 "Piping Applications" Article.
- D. Wrought-Steel Fittings: ASTM A 234/A 234M, wall thickness to match adjoining pipe.
- E. Steel Pipe Nipples: ASTM A 733, made of same materials and wall thicknesses as pipe in which they are installed

### 2.4 STAINLESS STEEL PIPING

- A. Stainless-Steel Pipe: ASTM A 312/A 312M, Schedule 40.
- B. Stainless-Steel Pipe Fittings: ASTM A 182

### 2.5 JOINING MATERIALS

- A. Solder Filler Metals: ASTM B 32, lead-free alloys. Include water-flushable flux according to ASTM B 813.
- B. Welding Filler Metals: Comply with AWS D10.12/D10.12M for welding materials appropriate for wall thickness and chemical analysis of steel pipe being welded.

## 2.6 DIELECTRIC FITTINGS

- A. General Requirements: Assembly of copper alloy and ferrous materials with separating nonconductive insulating material. Include end connections compatible with pipes to be joined.
- B. Dielectric Nipples:
  - 1. Performance: Subject to compliance with requirements and related documents, provide products meeting a minimum performance of the following:
  - 2. Description:
    - a. Standard: IAPMO PS 66
    - b. Electroplated steel nipple. complying with ASTM F 1545.
    - c. Pressure Rating: 2000 psig at 225 deg F.
    - d. End Connections: Male threaded or grooved.
    - e. Lining: Inert and noncorrosive, propylene

## 2.7 VALVES

- A. Refer to fluid lubrication system specifications and drawings for valve type and location.

## PART 3 - EXECUTION

### 3.1 PIPING APPLICATIONS

- A. General: Unions, transition, and special fittings with pressure ratings same as or higher than system pressure rating may be used in applications below, unless otherwise indicated.
- B. Fluid Piping System
  - 1. The contractor to provide the following required steel pipe and/or copper tubing to make up fluid lubrication system and connection to dispense reels. The contractor to furnish and install all required hangers, brackets, fittings, hardware to attach piping. The fluid lubrication system to be tested per manufacturer's standards. Refer to process drawings for piping schedule.

<u>Fluid/Service</u>	<u>Type</u>
<del>Engine Oil (EO)</del>	<del>Sch 40 Steel Pipe, Grade B, ERW</del>
<del>Windshield Washer Fluid (WWF)</del>	<del>Copper Pipe</del>
<del>Automatic Transmission Fluid (ATF)</del>	<del>Sch 40 Steel Pipe, Grade B, ERW</del>
<del>Engine Coolant (EC)</del>	<del>Copper Pipe</del>
<del>Gear Oil (GO)</del>	<del>Sch 40 Steel Pipe, Grade B, ERW</del>
<del>Chassis Grease (CG)</del>	<del>Sch 160 Steel Pipe, Grade B, seamless</del>
<del>Diesel Exhaust Fluid (DEF)</del>	<del>Sch 40 Stainless Steel Pipe, type 304</del>
<del>Used Oil</del>	<del>Sch 40 Steel Pipe</del>
<del>Used Coolant</del>	<del>Copper Pipe</del>

### 3.2 PIPING INSTALLATION

- A. Drawing plans, schematics, and diagrams indicate general location and arrangement of piping systems. Indicate piping locations and arrangements if such were used to size pipe and calculate friction loss, expansion, pump sizing, and other design considerations. Install piping as indicated unless deviations to layout are approved on Coordination Drawings.
- B. Install piping indicated to be exposed and piping in equipment rooms and service areas at right angles or parallel to building walls. Diagonal runs are prohibited unless specifically indicated otherwise.
- C. Install piping to permit valve servicing.
- D. Install piping at indicated slopes.
- E. Install piping free of sags and bends.
- F. Install fittings for changes in direction and branch connections.
- G. Select system components with pressure rating equal to or greater than system operating pressure.
- H. Install groups of pipes parallel to each other, spaced to permit applying insulation and servicing of valves.
- I. Install drains, consisting of a tee fitting, NPS 3/4 ball valve, and short NPS 3/4 threaded nipple with cap, at low points in piping system mains and elsewhere as required for system drainage.
- J. Install piping at a uniform grade of 0.2 percent upward in direction of flow.
- K. Reduce pipe sizes using eccentric reducer fitting installed with level side up.
- L. Install branch connections to mains using tee fittings in main pipe, with the branch connected to the bottom of the main pipe. For up-feed risers, connect the branch to the top of the main pipe.
- M. Install unions in piping, NPS 2 and smaller, adjacent to valves, at final connections of equipment, and elsewhere as indicated.
- N. Install shutoff valve immediately upstream of each dielectric fitting.

### 3.3 JOINT CONSTRUCTION

A. Refer to process drawing for piping schedule

~~A. Copper Wrought copper fittings and soldered joints~~

~~B. Steel Pipe~~

~~1. EO, ATF, and used oil threaded malleable iron 300 psi fittings and threaded joints~~

~~2. Grease Forged steel 9000 psi socket weld fittings and welded joints~~

~~3. GO Forged steel 3000 psi socket weld fittings and welded joints~~

~~C. Stainless Steel Pipe~~

- ~~1. DEF Class 150 Stainless wrought socket weld fittings~~

3.4 DIELECTRIC FITTING INSTALLATION

- A. Install dielectric fittings in piping at connections of dissimilar metal piping and tubing.
- B. Dielectric Fittings for NPS 2 and Smaller: Use dielectric nipples.

3.5 VALVE INSTALLATION

- A. Install valves in accessible locations, protected from possible damage.
- B. Install valves at pump outlet and at inlet to hose reel.

3.6 HANGER AND SUPPORT INSTALLATION

- A. Install hangers for horizontal steel piping with the following maximum spacing and minimum rod sizes:
  1. NPS 1/2 and Smaller: Maximum span, 60 inches; minimum rod size, 3/8 inch.
  2. NPS 3/4 to NPS 1-1/4: Maximum span, 84 inches; minimum rod size, 3/8 inch.
  3. NPS 1-1/2: Maximum span, 108 inches; minimum rod size, 3/8 inch.
  4. NPS 2: Maximum span, 10 feet; minimum rod size, 3/8 inch.
- B. Support vertical steel pipe at each floor and at spacing not greater than 10 feet.
- C. Install the following pipe attachments:
  1. Adjustable steel clevis hangers for individual horizontal piping less than 20 feet long.
  2. Provide copper-clad hangers and supports for hangers and supports in direct contact with copper pipe

3.7 PIPE JOINT CONSTRUCTION

- A. Ream ends of pipes and tubes and remove burrs. Bevel plain ends of steel pipe.
- B. Remove scale, slag, dirt, and debris from inside and outside of pipe and fittings before assembly.
- C. Soldered Joints: Apply ASTM B 813, water-flushable flux, unless otherwise indicated, to tube end. Construct joints according to ASTM B 828 or CDA's "Copper Tube Handbook," using lead-free solder alloy complying with ASTM B 32.
- D. Welded Joints: Construct joints according to AWS D10.12/D10.12M, using qualified processes and welding operators according to Part 1 "Quality Assurance" Article.

### 3.8 PAINTING

- A. Paint metal piping, valves and piping specialties, except components, with paint or protective coating.
  - 1. Latex Over Alkyd Primer System: MPI INT 5.1Q.
    - a. Prime Coat: Quick-drying alkyd metal primer.
    - b. Intermediate Coat: Interior latex matching topcoat.
    - c. Topcoat: Interior latex (semigloss).
  - 2. Color:
    - a. Engine oil- Blue
    - b. Automatic Transmission Fluid- Orange
    - c. Gear oil- Lt Blue
    - d. Common grease- Green
    - e. Windshield washer fluid- White
    - f. Engine coolant- Green
- B. Damage and Touchup: Repair marred and damaged factory-applied finishes with materials and by procedures to match original factory finish

### 3.9 LABELS

- A. General Requirements for Manufactured Pipe Labels: Preprinted, color-coded, with lettering indicating service, and showing flow direction.
- B. Self-Adhesive Pipe Labels: Printed plastic with contact-type, permanent-adhesive backing.
- C. Pipe Label Contents: Include identification of piping service using same designations or abbreviations as used on Drawings, pipe size, and an arrow indicating flow direction.
  - 1. Flow-Direction Arrows: Integral with piping system service lettering to accommodate both directions, or as separate unit on each pipe label to indicate flow direction.
  - 2. Lettering Size: At least 1-1/2 inches high
- D. Pipe label color schedule
  - 1. All labels
    - a. Background color: Black
    - b. Letter color: White

### 3.10 FIELD QUALITY CONTROL

- A. Manufacturer's Field Service: Engage a factory-authorized service representative to start-up inspect, test, and adjust components, assemblies, and equipment installations, including connections.
- B. General:

1. Installer must test in demonstrate the integrity of tanks, piping, and secondary containment as well as the satisfactory operation of gauging an monitoring systems, before the storage tank system is placed into service.
  2. Test all system components and piping for complete and correct system operation and demonstrate to owner prior to the system being placed in operation.
  3. All testing shall be in compliance with NFPA 30 and 30a requirements
- C. Piping:
1. Test aboveground piping at 150% of operating pressure but no less than 100 psig air pressure for two hours. Soap all joints.
  2. There shall be no drop in pressure
- D. Repair leaks and defects with new materials and retest system until satisfactory results are obtained.
- E. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.
- F. Report test results promptly and in writing to Architect.

**END OF SECTION**