AGENDA ITEM

2.a.

LOGAN - CACHE AIRPORT AUTHORITY BOARD MEETING
JANUARY 2, 2025
DRAFT MINUTES

The Logan-Cache Airport Authority Board convened in a regular session on Thursday January 2, 2025 at 8:30 a.m. in the Cache County Historic Courthouse, County Council Chambers, 199 North Main, Logan, Utah.

ATTENDANCE

Members of the Airport Authority Board in Attendance:
John Kerr – Chair -- At large appointment by Airport Authority Board
Brett Hugie – Vice Chair – At large appointment by Logan City
David Zook – Cache County Executive
Mayor Holly Daines – Logan City Mayor
Jeannie F. Simmonds – Logan City Council – At large appointment by Logan City
Ryan Snow – At-large appointment by Cache County

Members of the Airport Authority Board Absent:
Karl Ward – Cache County Council – At large appointment by Cache County

Also in Attendance:
Bob Low – Airport Manager
Kasey Maxwell – Airport Intern
B. LaCroix – Logan City Fire Department
Robert Stephens – Logan City Fire Department
Conner Butterfield – Lochner Engineering
Judd Hill – Lochner Engineering
Aaron Dyches – USU Aviation
Baron Wesemann – USU Aviation
Shawn Milne – Director of Regional Economic Development, BRAG
Scott Weaver – Leading Edge Aviation
Kim Hall
Russ Kirkham
Brad Wursten
Mike Spindler
Ed Fisher
Janeen Allen – Minutes

1. CALL TO ORDER

Chairman John Kerr called the meeting to order at 8:30 a.m.

2. ACTION ITEMS

a. **APPROVAL OF MINUTES – November 7, 2024**

ACTION: Motion was made by Mayor Holly Daines and seconded by Executive David Zook to approve the minutes of November 7, 2024 as written. The vote in favor was unanimous, 6-0 (Karl Ward absent for vote)

b. **ELECTION OF BOARD CHAIR AND VICE CHAIR**
Chairman Kerr requested nominations for Board Chair and Vice Chair.

ACTION: Mayor Holly Daines nominated David Zook for Chair and John Kerr for Vice Chair. There were no other nominations. John Kerr called for a vote. The vote in favor was unanimous, 6-0 (Karl Ward absent for vote)

c. **APPOINTMENTS OF LOGAN CITY AND CACHE COUNTY ECONOMIC DEVELOPMENT DIRECTORS AS EX OFFICIO BOARD MEMBERS** (**Attachment A**).
Chairman Zook expressed that a review of the Airport Authority Bylaws, shows there was an expectation that the economic development directors from both Logan City and Cache County would be able to serve as ex officio members of the board. He then appointed Kirk Jensen from Logan City and Shawn Milne from Cache County as ex officio members of the board and asked them to come and take seats on the dais.

Mr. Zook introduced Mr. Milne and gave a short background including his experience with aviation related matters on the state level. Mayor Daines then introduced Mr. Jensen as one with vast economic development experience and history working with the airport.

3. MANAGER'S REPORT

Bob Low presented the Manager's Report consisting of the following:

- **Year-End Budget Surplus Purchases** – Some remaining budget from last year was used to purchase a FOD mat for the airport. FOD stands for Foreign Objects and Debris. The FOD mat is pulled behind a vehicle and picks up debris that falls onto taxi lanes, taxiways and runways. Also purchased with remaining budget was a new pressure washer to clean lights on taxiways and runways that birds have messed on. They were also able to order a PAPI digital aiming device kit that directs the light to be at a certain angle on an aircraft's final approach. The device helps measure the angle to make sure it is correct for approaching aircraft.
- **Paraglider Restrictions at Airport** – Mr. Low was informed by the FAA upon their investigation of an incident at our airport decided to severely restrict paraglider use at the airport requiring anyone wanting to fly a paraglider to call the air route traffic control center

for approval which will more than likely will not be given. The reason they gave him for this restriction is that the airport is too busy for paraglider use.

Mr. Low explained that the paragliders operate on the abandoned runway off to the west. They come in on the gravel road and through a gate which they have the com. He also complained that there have been a few instances where they have tracked mud back down the taxiway and left it for the airport staff to clean up.

- **Potential Investor** – Mr. Low has been approached by an investor from Montreal, Canada who would like to develop some land at our airport. Chairman Zook recommended forming a committee with the two new economic development director board members and Mr. Low. He then asked if any other board members would like to be on the committee. Jeannie Simmonds volunteered to be on it. He asked the new committee to follow up on this issue and then report back to the airport authority board.

  Mr. Hugie asked about the status of all the Part 139 Certification Inspection issues. He wanted to get an update on where everything is on that front. A quick discussion determined that all timely issues have been resolved except the paint project that requires the weather to warm up before they can complete it.

4. DISCUSSION ITEMS

a. **LAND LEASE REVIEW – BOB LOW**

Mr. Low provided a revised copy of the lease agreement that the subcommittee has been working on. He indicated that recommendations from the Board are included in this version. Mr. Low thanked Marv Halling who presented at the last meeting for pointing out the unfairness of the uniform lease rate to small hangar owners.

A lengthy discussion followed with input from Lochner Engineering Representative, Judd Hill. The board members discussed the fairness of charges for small and large hangars, the importance of efficient use of land and the need for fairness in the lease agreements. Jeannie Simmonds recommended a consistent rate of 43 cents per square foot for all hangars (footprint only) or a lesser amount for hangars (footprint only) with additional charges for land around hangars.

At the end of the discussion, the Board agreed to review the lease agreement and provide direction to the manager to finalize the document. Chairman Zook asked Mr. Low to provide the board members with a redline version of the lease agreement reflecting all the changes for their review. It will be on the next agenda as an action item.

b. **MASTER PLAN UPDATE – JUDD HILL, LOCHNER ENGINEERING**

Mr. Hill said that the Master Plan draft is complete and is currently under review by the Technical Advisory Committee.

Board members discussed potential development areas and the need for public input and FAA approval.

c. **2025 CAPITAL PROJECTS – CONNOR BUTTERFIELD, LOCHNER**
Mr. Butterfield provided the Board with a list of the 2025 Airport Capital Projects including:

- **Paint Project** – Bids in and waiting for warmer weather
- **Taxilane Kilo** – Federal and State project 1.1 million total project cost – local match $30,000
- **Snow Removal Equipment** – Estimating $250,000 Federal and State project – Local match $6,000
- **Taxiway Charlie** – State and Local
- **PAPI Project** – Still waiting to hear from the FAA

Board members discussed the importance of these projects and the need for timely completion.

d. **FINANCIAL REPORT** (**Attachment B**).
Mr. Zook provided board members with a current financial report and said he would like to have one at each meeting going forward.
Jeannie Simmonds requested a person from the Finance Office come and explain the budget to the board members.
Mr. Zook said it will be on the agenda for the next meeting.

e. **OPEN ITEMS**

- Professor Wesemann provided an update on the 2025 Airport Open House, including planned events and coordination with UDOT Division of Aeronautics. Board members discussed the importance of the open house in showcasing aviation to the community and the need for proper planning and coordination.

- Mayor Holly Daines and John Kerr provided updates on ongoing projects, including the tower repair and the lease expansion for Leading Edge Aviation. The Board agreed to review and finalize these projects at the next meeting.

5. NEXT SCHEDULED BOARD MEETING

Thursday, February 6, 2025 at 8:30 a.m. – Cache Historic Courthouse, Council Chambers

6. CLOSED MEETING

ACTION: Motion was made by Mayor Holly Daines and seconded by Jeannie Simmonds to enter a closed meeting to discuss the purchase, exchange, or lease of real property pursuant to Utah Code 52-4-205(d). The vote in favor was unanimous, 6-0 (Karl Ward absent for vote)

10:14 am – Mayor Daines left the meeting
10:30 am – Mayor Daines left the meeting

ACTION: Motion was made by Brett Hugie and seconded by Ryan Snow to go out of the closed meeting and reconvene in a regular Airport Authority Board meeting. The vote in favor was unanimous, 4-0 (Mayor Holly Daines, Jeannie Simmonds, and Karl Ward absent for vote)

Upon reconvening, a few items were brought up by board member, Brett Hugie, for clarification, including

- Airport Emergency Plan
- Leading Edge Expansion and Site Request – Mr. Snow clarified that his motion was intended to give direction to Leading Edge to move forward in the process.
- Clarification regarding the $20,000 grant received by the Airport Authority Board in determining how the funds will be spent.

7. ADJOURN

The meeting adjourned at 10:42 a.m.

LOGAN – CACHE AIRPORT AUTHORITY BOARD
JANUARY 2, 2025

ATTACHMENT A

APPOINTMENTS

01/02/2025

LOGAN-CACHE AIRPORT AUTHORITY BOARD

EX-OFFICIO NON-VOTING BOARD MEMBER
LOGAN CITY ECONOMIC DEVELOPMENT DIRECTOR

KIRK JENSEN
290 North 100 West
Logan, UT 84321
435-716-9015
kirk.jensen@loganutah.org

Appointed to a Two-Year Term
Beginning: 01/01/2025
Expiring: 12/31/2026

EX-OFFICIO NON-VOTING BOARD MEMBER
CACHE COUNTY ECONOMIC DEVELOPMENT DIRECTOR

SHAWN MILNE
170 North Main Street
Logan, UT 84321
801-514-4444
ShawnM@BRAG.Utah.gov

Appointed to a Two-Year Term
Beginning: 01/01/2025
Expiring: 12/31/2026

LOGAN – CACHE AIRPORT AUTHORITY BOARD
JANUARY 2, 2025

ATTACHMENT B

CACHE COUNTY GOVERNMENT
REVENUES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING DECEMBER 31, 2024

AIRPORT FUND

		ENCUMBRANCE	YTD ACTUAL	TOTAL	BUDGET	UNEARNED	PCNT
	INTERGOVERNMENTAL REVENUE						
277-33-15000	FED GRANT - SCASDP	.00	.00	.00	505,700.00	505,700.00	.0
277-33-15400	FED GRANT - FAA SIGN REPLACE	.00	134,442.64	134,442.64	135,400.00	957.36	99.3
277-33-44402	STATE GRANT	.00	6,319.60	6,319.60	33,100.00	26,780.40	19.1
277-33-70105	LOGAN CITY-SHARED NET EXP	.00	.00	.00	100,000.00	100,000.00	.0
	TOTAL INTERGOVERNMENTAL REVE	.00	140,762.24	140,762.24	774,200.00	633,437.76	18.2
	MISCELLANEOUS REVENUE						
277-36-10000	INTEREST	.00	.00	.00	1,500.00	1,500.00	.0
277-36-15000	GAS TAX REFUND	.00	4,702.52	4,702.52	8,000.00	3,297.48	58.8
277-36-16000	LANDING FEES	.00	8,200.00	8,200.00	5,500.00	(2,700.00)	149.1
277-36-18000	FUEL FLOW -STORAGE FEES	.00	33,674.37	33,674.37	20,000.00	(13,674.37)	168.4
277-36-19000	FIRE DEPARTMENT STANDBY FEES	.00	5,250.00	5,250.00	5,000.00	(250.00)	105.0
277-36-90000	SUNDRY REVENUE	.00	4,100.00	4,100.00	4,000.00	(100.00)	102.5
	TOTAL MISCELLANEOUS REVENUE	.00	55,926.89	55,926.89	44,000.00	(11,926.89)	127.1
	AIRPORT LAND LEASE REVENUES						
277-37-80000	AIRPORT FEES-LAND LEASE INCOM	.00	75,686.48	75,686.48	111,200.00	35,513.52	68.1
	TOTAL AIRPORT LAND LEASE REVE	.00	75,686.48	75,686.48	111,200.00	35,513.52	68.1
	CONTRIBUTIONS & TRANSFERS						
277-38-20000	CONTRIBUTION - CACHE COUNTY	.00	.00	.00	100,000.00	100,000.00	.0
277-38-90000	APPROPRIATED FUND BALANCE	.00	.00	.00	613,100.00	613,100.00	.0
277-38-90500	APP FUND BALANCE - PO	.00	.00	.00	55,000.00	55,000.00	.0
	TOTAL CONTRIBUTIONS & TRANSFE	.00	.00	.00	768,100.00	768,100.00	.0
	TOTAL FUND REVENUE	.00	272,375.61	272,375.61	1,697,500.00	1,425,124.39	16.1

CACHE COUNTY GOVERNMENT
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING DECEMBER 31, 2024

AIRPORT FUND

		ENCUMBRANCE	YTD ACTUAL	TOTAL	BUDGET	UNEXPENDED	PCNT
	AIRPORT						
277-4460-110	FULL TIME EMPLOYEES	.00	77,712.21	77,712.21	89,500.00	11,787.79	86.8
277-4460-120	PART TIME EMPLOYEES	.00	18,822.12	18,822.12	47,700.00	28,877.88	39.5
277-4460-130	EMPLOYEE BENEFITS	.00	44,416.00	44,416.00	52,600.00	8,184.00	84.4
277-4460-210	SUBSCRIPTIONS & MEMBERSHIPS	.00	25.00	25.00	100.00	75.00	25.0
277-4460-220	PUBLIC NOTICES	.00	5.58	5.58	300.00	294.42	1.9
277-4460-230	TRAVEL	.00	686.39	686.39	2,000.00	1,313.61	34.3
277-4460-240	OFFICE SUPPLIES	.00	336.09	336.09	1,000.00	663.91	33.6
277-4460-250	EQUIPMENT SUPPLIES & MAINT	10,284.01	11,653.49	21,937.50	25,000.00	3,062.50	87.8
277-4460-251	NON CAPITALIZED EQUIPMENT	.00	.00	.00	6,000.00	6,000.00	.0
277-4460-260	BUILDING & GROUNDS	.00	14,292.48	14,292.48	21,800.00	7,507.52	65.6
277-4460-261	SNOW REMOVAL	.00	59,419.82	59,419.82	65,000.00	5,580.18	91.4
277-4460-262	VEGETATION CONTROL - CHEMICAL	.00	10,000.00	10,000.00	12,000.00	2,000.00	83.3
277-4460-263	VEGETATION CONTROL - MOWING	.00	4,564.39	4,564.39	5,000.00	435.61	91.3
277-4460-270	UTILITIES	.00	22,909.92	22,909.92	27,000.00	4,090.08	84.9
277-4460-280	COMMUNICATIONS	.00	1,992.55	1,992.55	5,000.00	3,007.45	39.9
277-4460-290	FUEL	.00	5,282.75	5,282.75	10,000.00	4,717.25	52.8
277-4460-291	UNION PACIFIC PROPERTY LEASE	37,600.00	.00	37,600.00	37,600.00	.00	100.0
277-4460-311	PROFESSIONAL SERVICES	.00	47,186.60	47,186.60	346,800.00	299,613.40	13.6
277-4460-330	EDUCATION & TRAINING	.00	29,320.00	29,320.00	33,000.00	3,680.00	88.9
277-4460-510	INSURANCE	.00	18,137.01	18,137.01	18,000.00	(137.01)	100.8
277-4460-620	MISC SERVICES	.00	73.03	73.03	1,000.00	926.97	7.3
277-4460-621	MISC BOARD SERVICES/TRAVEL	.00	5,472.13	5,472.13	6,000.00	527.87	91.2
277-4460-625	LOGAN FIRE - STANDBY FEES	.00	.00	.00	5,000.00	5,000.00	.0
277-4460-730	IMPROVEMENTS	.00	38,574.00	38,574.00	55,000.00	16,426.00	70.1
277-4460-739	GRANT PROJECTS	43,249.00	189,412.94	232,661.94	463,000.00	230,338.06	50.3
277-4460-990	CONTRIBUTION TO FUND BALANCE	.00	.00	.00	2,700.00	2,700.00	.0
	TOTAL AIRPORT	91,133.01	600,294.50	691,427.51	1,338,100.00	646,672.49	51.7

CACHE COUNTY GOVERNMENT
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 12 MONTHS ENDING DECEMBER 31, 2024

AIRPORT FUND

		ENCUMBRANCE	YTD ACTUAL	TOTAL	BUDGET	UNEXPENDED	PCNT
	CONTRIBUTIONS						
277-4800-477	TRANSFER OUT - AIRPORT CAPITAL	.00	.00	.00	359,400.00	359,400.00	.0
	TOTAL CONTRIBUTIONS	.00	.00	.00	359,400.00	359,400.00	.0
	TOTAL FUND EXPENDITURES	91,133.01	600,294.50	691,427.51	1,697,500.00	1,006,072.49	40.7
	NET REVENUE OVER EXPENDITURES	(91,133.01)	(327,918.89)	(419,051.90)	.00	419,051.90	.0

LOGAN – CACHE AIRPORT AUTHORITY BOARD
MEETING PACKET
FEBRUARY 6, 2025

AGENDA ITEM

3.a.

CACHE COUNTY GOVERNMENT
REVENUES WITH COMPARISON TO BUDGET
FOR THE 1 MONTHS ENDING JANUARY 01, 2025

AIRPORT FUND

		ENCUMBRANCE	YTD ACTUAL	TOTAL	BUDGET	UNEARNED	PCNT
	INTERGOVERNMENTAL REVENUE						
277-33-70105	LOGAN CITY-SHARED NET EXP	.00	.00	.00	100,000.00	100,000.00	.0
	TOTAL INTERGOVERNMENTAL REVE	.00	.00	.00	100,000.00	100,000.00	.0
	MISCELLANEOUS REVENUE						
277-36-10000	INTEREST	.00	.00	.00	30,000.00	30,000.00	.0
277-36-15000	GAS TAX REFUND	.00	.00	.00	8,000.00	8,000.00	.0
277-36-16000	LANDING FEES	.00	.00	.00	5,500.00	5,500.00	.0
277-36-18000	FUEL FLOW -STORAGE FEES	.00	.00	.00	20,000.00	20,000.00	.0
277-36-19000	FIRE DEPARTMENT STANDBY FEES	.00	.00	.00	5,000.00	5,000.00	.0
277-36-90000	SUNDRY REVENUE	.00	.00	.00	4,000.00	4,000.00	.0
	TOTAL MISCELLANEOUS REVENUE	.00	.00	.00	72,500.00	72,500.00	.0
	AIRPORT LAND LEASE REVENUES						
277-37-80000	AIRPORT FEES-LAND LEASE INCOM	.00	.00	.00	113,400.00	113,400.00	.0
	TOTAL AIRPORT LAND LEASE REVE	.00	.00	.00	113,400.00	113,400.00	.0
	CONTRIBUTIONS & TRANSFERS						
277-38-20000	CONTRIBUTION - CACHE COUNTY	.00	.00	.00	100,000.00	100,000.00	.0
277-38-90000	APPROPRIATED FUND BALANCE	.00	.00	.00	629,022.00	629,022.00	.0
	TOTAL CONTRIBUTIONS & TRANSFE	.00	.00	.00	729,022.00	729,022.00	.0
	TOTAL FUND REVENUE	.00	.00	.00	1,014,922.00	1,014,922.00	.0

CACHE COUNTY GOVERNMENT
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 1 MONTHS ENDING JANUARY 01, 2025

AIRPORT FUND

		ENCUMBRANCE	YTD ACTUAL	TOTAL	BUDGET	UNEXPENDED	PCNT
	AIRPORT						
277-4460-110	FULL TIME EMPLOYEES	.00	.00	.00	162,673.00	162,673.00	.0
277-4460-115	OVERTIME	.00	.00	.00	3,000.00	3,000.00	.0
277-4460-120	PART TIME EMPLOYEES	.00	.00	.00	62,428.00	62,428.00	.0
277-4460-130	EMPLOYEE BENEFITS	.00	.00	.00	114,521.00	114,521.00	.0
277-4460-210	SUBSCRIPTIONS & MEMBERSHIPS	.00	.00	.00	100.00	100.00	.0
277-4460-220	PUBLIC NOTICES	.00	.00	.00	300.00	300.00	.0
277-4460-230	TRAVEL	.00	.00	.00	4,000.00	4,000.00	.0
277-4460-240	OFFICE SUPPLIES	.00	.00	.00	1,500.00	1,500.00	.0
277-4460-250	EQUIPMENT SUPPLIES & MAINT	.00	.00	.00	46,000.00	46,000.00	.0
277-4460-251	NON CAPITALIZED EQUIPMENT	.00	.00	.00	13,000.00	13,000.00	.0
277-4460-260	BUILDING & GROUNDS	.00	.00	.00	25,000.00	25,000.00	.0
277-4460-261	SNOW REMOVAL	.00	.00	.00	65,000.00	65,000.00	.0
277-4460-262	VEGETATION CONTROL - CHEMICAL	.00	.00	.00	12,000.00	12,000.00	.0
277-4460-263	VEGETATION CONTROL - MOWING	.00	.00	.00	5,000.00	5,000.00	.0
277-4460-270	UTILITIES	.00	.00	.00	27,000.00	27,000.00	.0
277-4460-280	COMMUNICATIONS	.00	.00	.00	5,000.00	5,000.00	.0
277-4460-290	FUEL	.00	.00	.00	10,000.00	10,000.00	.0
277-4460-291	UNION PACIFIC PROPERTY LEASE	.00	.00	.00	20,000.00	20,000.00	.0
277-4460-311	PROFESSIONAL SERVICES	.00	.00	.00	1,000.00	1,000.00	.0
277-4460-330	EDUCATION & TRAINING	.00	.00	.00	44,000.00	44,000.00	.0
277-4460-510	INSURANCE	.00	.00	.00	18,000.00	18,000.00	.0
277-4460-621	MISC BOARD SERVICES/TRAVEL	.00	.00	.00	8,000.00	8,000.00	.0
277-4460-625	LOGAN FIRE - STANDBY FEES	.00	.00	.00	8,000.00	8,000.00	.0
	TOTAL AIRPORT	.00	.00	.00	655,522.00	655,522.00	.0

CACHE COUNTY GOVERNMENT
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 1 MONTHS ENDING JANUARY 01, 2025

AIRPORT FUND

		ENCUMBRANCE	YTD ACTUAL	TOTAL	BUDGET	UNEXPENDED	PCNT
	CONTRIBUTIONS						
277-4800-477	TRANSFER OUT - AIRPORT CAPITAL	.00	.00	.00	359,400.00	359,400.00	.0
	TOTAL CONTRIBUTIONS	.00	.00	.00	359,400.00	359,400.00	.0
	TOTAL FUND EXPENDITURES	.00	.00	.00	1,014,922.00	1,014,922.00	.0
	NET REVENUE OVER EXPENDITURES	.00	.00	.00	.00	.00	.0

CACHE COUNTY GOVERNMENT
REVENUES WITH COMPARISON TO BUDGET
FOR THE 1 MONTHS ENDING JANUARY 01, 2025

CAPITAL PROJECT AIRPORT

		ENCUMBRANCE	YTD ACTUAL	TOTAL	BUDGET	UNEARNED	PCNT
477-33-15000	FED GRANT - SCASDP	.00	.00	.00	1,203,000.00	1,203,000.00	.0
477-33-44402	STATE GRANT	.00	.00	.00	862,200.00	862,200.00	.0
	TOTAL SOURCE 33	.00	.00	.00	2,065,200.00	2,065,200.00	.0
	SOURCE 38						
477-38-10277	TRANSFER IN - AIRPORT	.00	.00	.00	359,400.00	359,400.00	.0
	TOTAL SOURCE 38	.00	.00	.00	359,400.00	359,400.00	.0
	TOTAL FUND REVENUE	.00	.00	.00	2,424,600.00	2,424,600.00	.0

CACHE COUNTY GOVERNMENT
EXPENDITURES WITH COMPARISON TO BUDGET
FOR THE 1 MONTHS ENDING JANUARY 01, 2025

CAPITAL PROJECT AIRPORT

		ENCUMBRANCE	YTD ACTUAL	TOTAL	BUDGET	UNEXPENDED	PCNT
	AIRPORT						
477-4460-730	IMPROVEMENTS	.00	.00	.00	2,222,600.00	2,222,600.00	.0
477-4460-740	CAPITALIZED EQUIPMENT	.00	.00	.00	202,000.00	202,000.00	.0
	TOTAL AIRPORT	.00	.00	.00	2,424,600.00	2,424,600.00	.0
	TOTAL FUND EXPENDITURES	.00	.00	.00	2,424,600.00	2,424,600.00	.0
	NET REVENUE OVER EXPENDITURES	.00	.00	.00	.00	.00	.0

LOGAN – CACHE AIRPORT AUTHORITY BOARD
MEETING PACKET
FEBRUARY 6, 2025

AGENDA ITEM

4.b.

2022 lease 2022 lease changes
2024 lease 2024 changes

LOGAN-CACHE AIRPORT AUTHORITY
GROUND LEASE AGREEMENT

This lease is made and entered into by and between the Logan-Cache Airport Authority, which shall be called the "LESSOR" in this agreement and the "LESSEE" as indicated below:

Name: _____

Address: _____

Phone: _____

Email: _____

Contact: _____

In consideration of the mutual terms and conditions contained in this agreement, the parties hereto do hereby agree as follows:

A. Leased Premises

Lessor hereby leases to Lessee and Lessee hereby leases from Lessor the following Hangar Site located at the Logan-Cache Airport:

Designated Number: _____

Tax ID Number: _____

Total Site ~~Hangar~~ Dimensions: _____

B. Rent

1. Lessee shall pay rent to the Lessor for the Hangar Site in the amount of $_____ per year.
2. Annual rent payments shall be payable in advance and due on or before July 1st of each year during the term of this lease. For the initial and final lease periods, the amount of rent due will be prorated for the respective periods based on the rental rate due for that period. Lessee agrees to pay a late charge of ten percent (10%) of the amount due for any amount not received within thirty (30) days of the due date.
3. The Lessor and the Lessee agree that the rent due under this agreement shall be increased by ~~two percent (2% per year)~~ at least the social security cost of living percentage per year. All rents due under this agreement will be increased for the cost of living adjustment as of July 1st of the year regardless of the specific date when the lease was entered into. ~~Prepaid rent shall not be adjustable and shall be considered rent paid in full for the period prepaid.~~

4. The Lessee will also be assessed a one-time hookup fee of $1,000.00 or the current Logan City connection fee, whichever is greater, for sewer and water service.
5. Lessee shall be responsible for all utility services, charges and costs of installation and maintenance. Utility services include but are not limited to water, sewer, power, gas, and telecommunications.

C. Term

1. The initial term of this lease shall be for the following period of 10 years from: _____ to _____
~~The lease may be renewed under the same terms and conditions for an additional ten year term by Lessee giving Lessor advance written notice at least 180 days prior to expiration of the initial term of this lease.~~
2. The lease may be terminated by either party upon written notice given at least 180 days ~~six (6) months~~ prior to termination.

D. Improvements

1. Lessee has the right to construct and maintain the hangar and aviation-related improvements on the premises subject to the terms of this lease.
2. Any hangars or improvements, including any modifications, must comply with the provisions of the Uniform Building Code, Uniform Fire Code, and other uniform codes and standards adopted by the City, as well as any applicable federal or state laws relating to airport structures. No hangar or permitted improvement may be erected or modified without a city building permit having first been obtained by the Lessee and permission obtained from the Lessor. Permission shall not be unreasonably withheld.
3. Upon the termination of this lease, Lessee shall have the right to remove the hangar and any improvements erected by the Lessee; provided, however, that the Lessee, upon such removal, shall leave the Hangar Site clean and free of debris, concrete, litter, abandoned equipment and materials. The removal must be completed within sixty (60) days from the date of termination. Lessor shall have the option, upon receipt of notice from the Lessee of the intention of the Lessee to remove the hangar or improvements, to purchase the hangar or improvements at a fair market value. Lessor shall exercise the option by written notice thereof within thirty (30) days of the notice of intention to terminate.

E. Restrictions

1. The premises' use must be primarily devoted to housing and maintaining aircraft and aviation-related equipment. Peripheral use for storage of other non-hazardous items is allowed. Lessee may not use the premises primarily for non-aviation related purposes.
2. Storage of fuel on premises is not allowed except in regular, built-in aircraft fuel tanks. Fuel dispensing from permanently-installed containers at the fuel farm may be allowed, but only where the tanks and pumps are installed in accordance with fire and building codes, and where the fuel is used only by the Lessee. Selling fuel to other parties is not allowed unless the Lessee meets standards established by the Logan-Cache Airport Authority and pays a dispensing fee to the Logan-Cache Airport Authority.

3. Users may self-fuel their own aircraft in the designated area away from the hangars. Fuel hauled to the airport for this purpose may not be kept inside the hangars. Aircraft are not allowed to be fueled inside the hangars.
4. No signs may be displayed on the exterior of any hangar or improvement, other than the hangar number, without the prior written consent of the Lessor. Such approval shall not be unreasonably withheld.

F. Compliance with Applicable Laws

Lessee shall at all times comply with all applicable federal, state, county and city laws, rules, ordinances, and regulations for the use of the hangar, airport facilities, and the airport including, but not limited to, those rules and regulations promulgated by the Federal Aviation Administration, as well as the airport zoning regulations contained in the Master Plan adopted by the city for the Logan-Cache Airport. Any violation of any applicable federal, state, county and city laws, rules, ordinances and regulations shall be deemed a violation of this lease.

G. Lessor Reservations

1. Lessor reserves the exclusive right to develop or improve the airport or any portions thereof and take any necessary action or steps to protect the aerial approaches of the airport against obstructions including, but not limited to, height, building and use restrictions as to the premises leased hereunder if Lessor reasonably deems that the buildings and improvements or the use thereof by the Lessee constitutes an obstruction or danger to the safe operation of the airport.
2. Lessor shall reserve the right to enter any hangar at reasonable times for the purpose of inspecting the premises for Fire Code issues, safety factors and compliance with the Uniform Building Code and other applicable federal, state and county codes and requirements, and to verify the identification and location of aircraft located within the hangar upon ten (10) days notice.

H. Default

In the event the Lessee fails to pay any rental payments as required by the terms of this lease or in the event that the Lessee fails to comply with any other provision of this agreement, Lessor shall have the right, after thirty (30) days notice to the Lessee of such default or failure to comply and upon the failure of the Lessee to cure the default, to terminate this agreement and to remove the Lessee from the premises. Upon such removal, the Lessor may retain possession of the Hangar Site premises and lease the same to other parties as it may, in its discretion, deem reasonable and necessary. Upon such termination, the Lessee agrees to peaceably vacate the premises and to remove the hangar, improvements, and any equipment located therein within sixty (60) days from the date of said termination. Upon the failure to remove the hangar, improvements, or equipment within that time period, such hangar, improvements, or equipment shall revert to the Lessor or be removed by the Lessor and Lessee shall be responsible for any and all expenses incurred by Lessor for the removal. Any amounts that are the responsibility of the Lessee are due and payable to Lessor upon presenting proof of the expenses incurred to the Lessee. Lessor retains its option to acquire the hangar and any improvements as provided in Paragraph D.

I. Prohibition Against Assignment

This lease may not be assigned nor sublet without the prior written consent of the Lessor. Said consent shall not be unreasonably withheld. In the event the hangar is sold, the new owner will be required to execute a new lease agreement with Lessor.

J. Indemnification and Liability Insurance

1. Lessee shall indemnify and hold the Lessor harmless from any and all damages incurred by Lessee, any of its affiliates, guests, and/or invitees, and Lessee shall indemnify and hold Lessor harmless for any and all damages incurred to the property of the Lessee. Lessee further agrees to indemnify ~~any person or property of the Lessee~~ and to protect and save harmless the Lessor from any liability or expenses of defense or otherwise by reason of any injury to any person or any property upon the premises or surrounding areas during the term of this lease including reasonable attorney's fees and cost.
   ~~If Lessee maintains a pre-existing fuel tank upon the premises, Lessee shall obtain and maintain a general liability insurance policy designating the Lessor as a co-insured party with minimum coverage of $1,000,000.00 general liability. Lessee shall provide Lessor a certificate of insurance on an annual basis showing the above coverage.~~
2. Lessee shall obtain and maintain a general liability insurance policy, in full force and effect at all times during the term of the lease, with minimum general liability coverage of $1,000,000.00 combined single limit per occurrence. The policies are to contain, or be endorsed to contain the following provisions:
   a. The Logan-Cache Airport Authority, its officers, officials, employees and volunteers are to be covered as additional insured. The coverage shall contain no special limitations on the scope of protection afforded to the Logan-Cache Airport Authority, its officers, officials, employees and volunteers.
   b. Lessee's insurance shall be primary insurance as respect to the Logan-Cache Airport Authority, its officers, officials, employees and volunteers. Any insurance maintained by the Logan-Cache Airport Authority, its officers, officials, employees and volunteers shall be in excess of the lessee's insurance and shall not contribute with it.
   c. Lessee shall provide Lessor a certificate of insurance on an annual basis showing the above coverage. If no current certificate of insurance is provided to Lessor, the Lessee will be deemed to be in default under this agreement.

K. Subordination

This lease shall be subordinate to the provisions of any existing or future agreement between the Lessor and the United States relative to the operation or maintenance of the airport if such agreement is required as a condition precedent to the obtaining or expenditure of federal funds for the development and use of the airport.

L. Construction Performance

If Lessee is building a hangar, Lessee agrees to obtain a building permit within ninety (90) ~~(30)~~ days from the date Lessee signs this agreement. It is also agreed that building will commence within one hundred twenty (120) ~~(90)~~ days from the Lessee signing this agreement. An extension on the building of the hangar may be requested from the Lessor. The extension request must be made to the Lessor in writing if more than one hundred twenty (120) days is required. ~~be made to the Lessor in writing if more than one hundred twenty (120) days is required.~~ The hangar must be completed within one hundred eighty (180) days of commencement of construction. The Lessee is responsible for securing the construction site to assure that it is safe for tenants and visitors, and does not obstruct or interfere with business activities at the airport.

M. Governing Law

This agreement is to be interpreted in accordance with the laws of the State of Utah.

N. Notice

Should Notice be required under this agreement, any and all correspondence shall be provided in writing to the parties and given by either personal delivery with a signed acknowledgment of receipt; by registered or certified mail, postage prepaid, with return receipt requested; by an established, nationally-recognized commercial courier service, charge prepaid, with written proof of delivery; or by electronic mail with confirmation copy sent by an established, nationally-recognized commercial courier service, as provided above, within 24 hours after the time and date of the electronic mail transmission. Written Notice shall be addressed to the following designated representatives:

Lessee:

Name:_____

Address:_____

Email:_____

Lessor:

Name:_____

Address:_____

Email:_____

IN WITNESS THEREOF, the parties have executed the agreement in duplicate, each of which shall be deemed an original, on the_____ day of _____, 20_____ .

LESSOR:	LESSEE:
Logan-Cache Airport Authority	_____
By: _____ Board Chair	By: _____ Signature

LOGAN – CACHE AIRPORT AUTHORITY BOARD
MEETING PACKET
FEBRUARY 6, 2025

AGENDA ITEM

4.e.

Cache County

Janeen Allen <janeen.allen@cachecounty.gov>

Self Serve Storage Tank Reconsideration

1 message

Scott Weaver <sweaver@leaviation.com> Tue, Feb 4, 2025 at 9:11 AM
To: "bob.low@cachecounty.gov" <bob.low@cachecounty.gov>
Cc: "ryansnowcpa@gmail.com" <ryansnowcpa@gmail.com>, Brett Hugie <Brett.Hugie@cve.com>, "John Kerr - Logan-Cache Airport - UT (kerrjohna@comcast.net)" <kerrjohna@comcast.net>, Janeen Allen <janeen.allen@cachecounty.gov>, "david.zook@cachecounty.gov" <david.zook@cachecounty.gov>, "holly.daines@loganutah.org" <holly.daines@loganutah.org>

Good morning, Mr. Low,

I am requesting the Airport Authority's reconsideration in allowing Leading Edge Aviation to continue with installing a self-serve avgas storage tank on the south end of the ramp. March 2022 the Airport Authority approved Leading Edge Aviation to install a 2,000-gallon avgas self-service fuel tank. Shortley after I began the project Mr. John Kerr and Mr. Bill Francis had asked me to stop the project as they wanted to explore other options, and I complied. Attached is the location site Armstong approved and my engineering drawing for the tank.

We would like to increase the size of the tank and install a 15,000-gallon avgas self-serve storage tank this Summer.

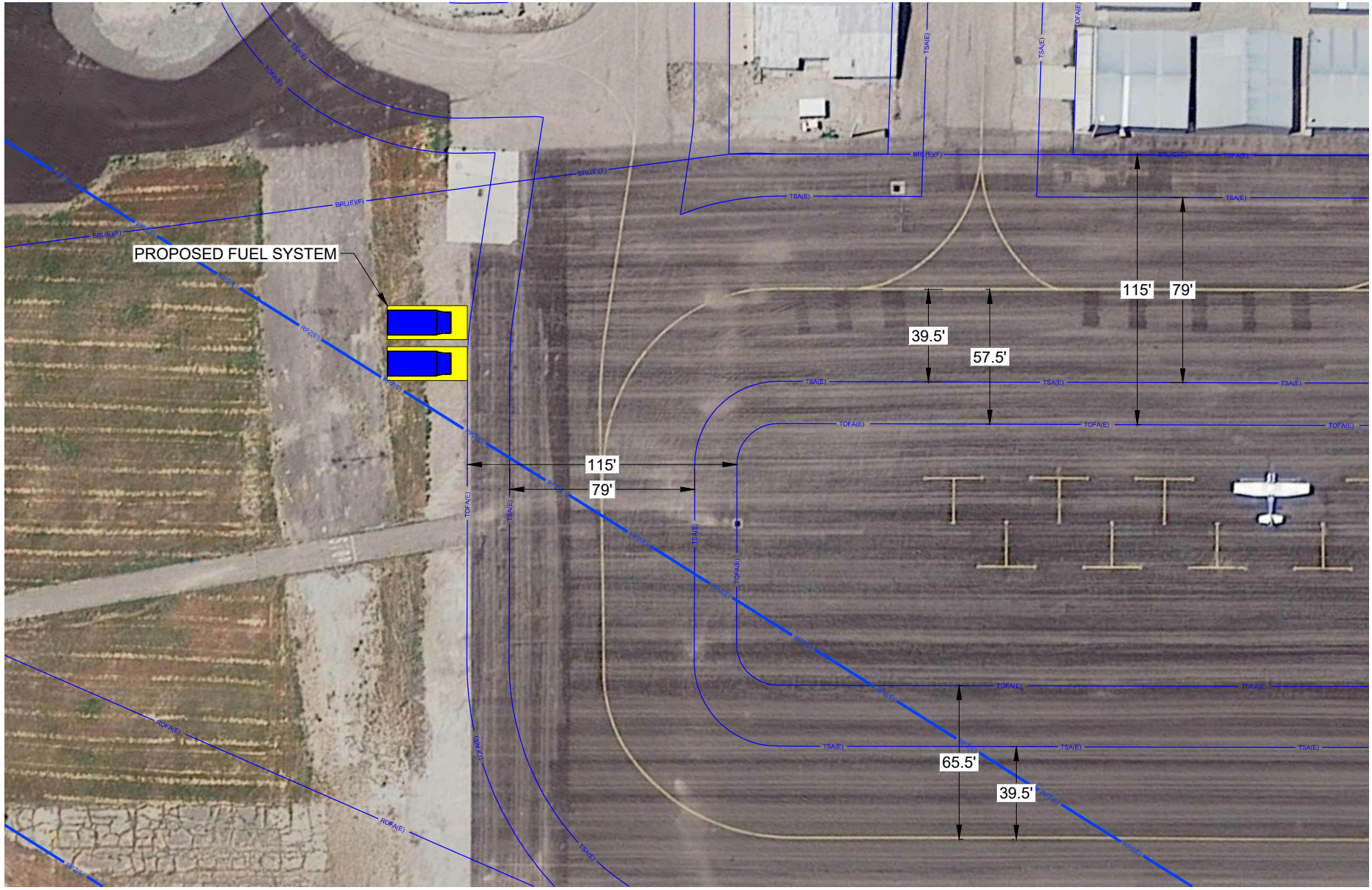
Thank you for your reconsideration,

Scott Weaver
Leading Edge Aviation

2 attachments

Fuel System-Exhibit.pdf
917K

Logan_UT Plan Set 011720.pdf
9070K



N

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SCALE IN FEET

LOGAN-CACHE AIRPORT
LOGAN, UTAH

FUEL SYSTEM EXHIBIT

ARMSTRONG
PLANNING ENGINEERING CONSTRUCTION
www.armstrongconsultants.com

S:_Utah\Logan\Misc Requests\Fuel System Update-2019\Fuel System.dwg 11/21/2019 11:13:19 AM LBACHMAN

INSTALLATION OF A NEW ABOVE GROUND FUEL TANK
FOR
LEADING EDGE AVIATION @ LOGAN-CACHE AIRPORT
2500 N. 900W., LOGAN, UT 84321

SHEET INDEX

SCOPE OF WORK

1. INSTALL SEDIMENT & EROSION CONTROL MEASURES AS DEFINED HEREIN IN ACCORDANCE W/ STATE, COUNTY & AIRPORT REQUIREMENTS.
2. EXCAVATE & PREPARE SOIL FOR NEW SLAB AS DIRECTED HEREIN.
3. INSTALL NEW ELECTRICAL WIRING AND AS DEFINED HEREIN.
4. INSTALL NEW REINFORCED TANK SLAB.
5. INSTALL NEW ELECTRICAL SERVICE CONNECTION.
6. INSTALL NEW 2,000 GALLON AST W/ DISPENSER, HOSE REEL & ASSOCIATED EQUIPMENT FOR STORAGE & DISPENSING OF AVIATION GASOLINE (AVGAS).

SPECIAL INSPECTIONS

SPECIAL INSPECTIONS SHALL BE PERFORMED IN ACCORDANCE WITH IBC 2018

CONCRETE CONSTRUCTION (IBC 1704.4)

1. INSPECTIONS OF REINFORCING STEEL
2. PLACEMENT & CURING
3. FORM WORK
4. INSPECT BOLTS TO BE INSTALLED IN CONCRETE PRIOR TO & DURING PLACEMENT OF CONCRETE
5. FRESH CONCRETE SHALL BE SAMPLED TO FABRICATE SPECIMENS FOR STRENGTH TESTS, PERFORM SLUMP & AIR CONTENT TESTS, & DETERMINE TEMPERATURE OF CONCRETE.
6. INSPECT FORM WORK FOR SHAPE, LOCATION & DIMENSIONS OF CONCRETE MEMBER BEING FORMED.

SOILS (IBC 1704.7)

1. SOIL SITE PREPARATION
2. FILL PLACEMENT
3. IN PLACE DENSITY
4. SUBGRADE FOR FOUNDATIONS OR SLABS

DESIGN TEAM / APPLICANT INFORMATION

N.D. ERYOU, PhD, PE
CONSULTING ENGINEER
1460 BREEZY WAY
SPRING HILL, FL 34608
PHONE: (352) 684-7275 FAX: (800) 660-6724
EMAIL: alex@eryouengineering.com

PROPERTY INFORMATION

LOGAN-CACHE AIRPORT
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 84321

CONTRACTOR INFORMATION

AMERICAN ENVIRONMENTAL ASSESSMENT CORPORATION
3977 AVIATION LOOP
SANFORD, FLORIDA 32773

PHONE: (631) 586-2000

POINT OF CONTACT: PAUL SUNDBY
PSUNDBY@AMERICAN-ENVIRONMENTAL.NET

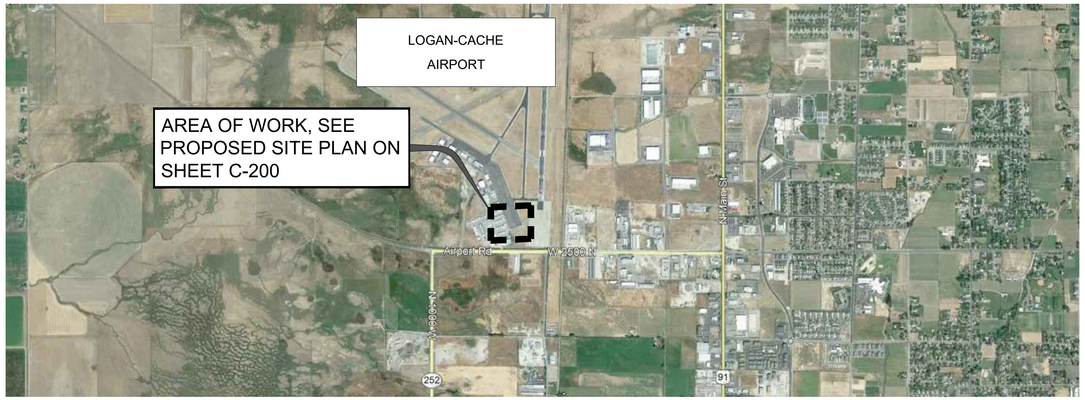
FACILITY OPERATOR INFORMATION

LEADING EDGE AVIATION
2500 NORTH AIRPORT DRIVE, SUITE 2
LOGAN, UTAH 84321

PHONE: (435) 752-5955

GENERAL NOTES

1. THE CONTRACTOR SHALL REVIEW ALL DOCUMENTS AND VERIFY ALL DIMENSIONS AND FIELD CONDITIONS AND SHALL CONFIRM THAT WORK IS BUILDABLE AS SHOWN. ANY CONFLICTS OR OMISSION, ETC., SHALL BE IMMEDIATELY REPORTED TO THE ENGINEER FOR CLARIFICATION PRIOR TO THE PERFORMANCE OF ANY WORK IN QUESTION.
2. DO NOT SCALE DRAWINGS. WRITTEN DIMENSIONS SHALL GOVERN IN ALL INSTANCES. IN CASE OF CONFLICT, NOTIFY THE ENGINEER.
3. CONTRACTOR SHALL COORDINATE AND OBTAIN ALL NECESSARY APPROVALS AND INSPECTIONS AS REQUIRED BY LOCAL GOVERNING JURISDICTIONS.
4. THE CONTRACTOR IS EXPECTED TO KEEP PREMISES CLEAN DURING CONSTRUCTION. TRASH WILL NOT BE ALLOWED TO ACCUMULATE IN THE SPACE DURING CONSTRUCTION. ALL DEBRIS SHALL BE REMOVED DAILY. FINAL CLEAN UP AND REPAIR IS PART OF THIS WORK. REMOVE ALL DUST, DEBRIS, OILS, STAINS, FINGERPRINTS AND LABELS FROM ALL EXPOSED FINISHED SURFACES. SAFE WORKING AREA AND CONDITIONS SHALL BE MAINTAINED AT ALL TIMES.
5. IT IS THE CONTRACTOR'S RESPONSIBILITY TO FURNISH AND INSTALL ALL WORK FIXTURES AND EQUIPMENT NECESSARY TO COMPLETE PROJECT AS PER PLANS. THE CONTRACTOR IS TO DELIVER PROJECT CLEAN AND READY FOR USE AS APPROVED BY OWNER.
6. THE CONTRACTOR SHALL VERIFY LOCATIONS OF EXISTING UTILITIES BEFORE COMMENCING WORK. CARE SHALL BE TAKEN TO PROTECT ALL UTILITIES WHICH ARE TO REMAIN.
7. ALL REQUESTS FOR SUBSTITUTIONS OF ANY SPECIFIED ITEMS SHALL BE SUBMITTED IN WRITING TO THE ENGINEER AND WILL BE CONSIDERED ONLY IF THE ALTERNATE PROPOSED IS PROVEN TO BE MORE ADVANTAGEOUS TO THE OWNER WITH RESPECT TO DELIVERY DATE, QUALITY, OR COST. UNDER NO CIRCUMSTANCES WILL THE ENGINEER BE REQUIRED TO PROVE THAT A PRODUCT PROPOSED FOR SUBSTITUTION IS OR IS NOT OF EQUAL QUALITY TO THE PRODUCT SPECIFIED.
8. PERFORM ALL WORK IN ACCORDANCE WITH ACCEPTED CONSTRUCTION STANDARDS. ALL CONSTRUCTION SHALL BE IN STRICT ACCORDANCE WITH THE PLANS AND SPECIFICATIONS UNLESS A VARIANCE IS APPROVED BY THE LANDLORD AND OR ENGINEER.
9. CONTRACTOR SHALL BE RESPONSIBLE FOR A COMPLETE AND OPERATIONAL TENANT SPACE, INCLUDING ALL FINISHES, MECHANICAL, ELECTRICAL AND PLUMBING SYSTEMS AND FIRE PROTECTION SYSTEMS.
10. ALL WORK PERFORMED SHALL BE IN STRICT COMPLIANCE WITH GOVERNING FEDERAL, STATE, AND LOCAL BUILDING CODE REQUIREMENTS, EXECUTED IN ACCORDANCE WITH ACCEPTED INDUSTRY STANDARDS AND SHALL CONFORM TO SPECIFIC REGULATIONS AS MANDATED BY THE OWNER, THE TENANT, AND THE ENGINEER.
11. THESE DRAWINGS ARE THE PROPERTY OF N.D. ERYOU, PHD, PE CONSULTING ENGINEER, INC. AND ARE NOT TO BE REPRODUCED OR COPIED IN WHOLE OR PART. THESE DRAWINGS ARE TO BE USED FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREIN AND ARE NOT TO BE USED ON ANY OTHER PROJECT.



KEY MAP
NOT TO SCALE

ENLARGED LOCATION MAP
NOT TO SCALE

CODE REFERENCES

- INTERNATIONAL BUILDING CODE (2018)
- INTERNATIONAL FUEL GAS CODE (2018)
- ICC INTERNATIONAL MECHANICAL CODE (2018)
- INTERNATIONAL FIRE CODE (2018)
- NATIONAL ELECTRICAL CODE, ARTICLE 515, BULK STORAGE PLANTS
- NFPA ~ NATIONAL ELECTRICAL CODE (2018)
- NFPA–1 ~ LIFE SAFETY CODE
- NFPA 704 ~ STANDARD FOR IDENTIFICATION OF HAZARDOUS MATERIALS
- NFPA 407 ~ AIRCRAFT FUEL SERVICING
- NFPA 30 ~ FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE
- NFPA 70 ~ NATIONAL ELECTRIC CODE (2011)
- AMERICAN PETROLEUM INSTITUTE, #1529 (AVIATION FUELING HOSE)
- AMERICAN PETROLEUM INSTITUTE, #1542 (AIRPORT EQUIPMENT MARKING)
- LOCAL UTILITY AUTHORITY REGULATIONS
- (IECC) INTERNATIONAL ENERGY CONSERVATION CODE (2018)

RECOGNIZED STANDARDS & GUIDELINES

- UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
- INTERNATIONAL BUILDING CODE (2018)
- NATIONAL ELECTRICAL CODE, ARTICLE 515, BULK STORAGE PLANTS
- NFPA 407, AIRCRAFT FUEL SERVICING
- NFPA 30, FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE
- AMERICAN PETROLEUM INSTITUTE, #1542~AIRPORT EQUIPMENT MARKING
- FAA ADVISORY CIRCULAR 150/5300–13, AIRPORT DESIGN

ISSUES/REVISIONS

No.	Description	Date

N. D. Eryou, PhD, PE
Consulting Engineering
Central Florida Office
1460 Breezy Way
Spring Hill, FL 34608
Phone: (352) 684-7275
Fax (800) 660-6724
Email: alex@eryouengineering.com
Southwest Florida Office
5051 Castello Drive, Suite 244
Naples, Florida 34103
Phone: (352) 684-7275
Fax (800) 660-6724
Email: alex@eryouengineering.com

LE AVIATION
LEADING EDGE AVIATION
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

American Environmental Aviation
3977 AVIATION LOOP, SANFORD, FLORIDA 32773
PHONE: (631) 586-2000

INSTALLATION OF A NEW ABOVE GROND FUEL TANK
LEADING EDGE AVIATION
LOGAN-CACHE AIRPORT
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

SHEET DESCRIPTION:

COVER SHEET
&
SITE DATA

SEAL & SIGNATURE

BRIAN E. LEWIS, P.E.
UTAH P.E. # 5013586-2203
EXP. DATE: 3/31/2021

DATE: DECEMBER 2019
PROJECT NO.: AEAC-LOGAN
DRAWING BY: MSK
CHK. BY: AGN
DWG No:
T-100
CADD FILE NO.
LOGAN-CACHE-Set.dwg

Logan_Cache_Set.dwg, Jan 17, 2020, 2:53pm

1. SCOPE OF WORK

THE INTENT OF THE PROJECT IS TO PROVIDE NEW FUEL STORAGE TANK & DISPENSING EQUIPMENT FOR DIRECT TO AIRCRAFT FUELING (AVGAS).

- **INSTALL NEW AVGAS TANK, DISPENSER & HOSE REEL AS INDICATED HEREIN.**

2. TANK:

INSTALL THE FOLLOWING TANK:

- NEW 2,000 GALLON AST W/ DISPENSER, HOSE REEL & ASSOCIATED EQUIPMENT AD DEFINED HEREIN.

3. DISPENSERS (AVGAS):

DISPENSER PROPOSED HEREIN FOR THE DIRECT TO AIRCRAFT DELIVERY OF AVGAS SHALL BE INSTALLED W/ A SHEAR VALVE @ BASE PER CODE REQUIREMENTS.

DISPENSER WILL BE CONNECTED TO NEW 75' HOSE REEL W/DRY BREAK DISCONNECT & 1" OVER WING NOZZLE.

DISPENSER SHALL BE INSTALLED W/ FILTER VESSEL BETWEEN DISPENSER & HOSE REEL.

4. AVIATION FUEL RECOVERY UNITS::

1 FUEL RECOVERY UNIT SHALL BE INSTALLED FOR USE WITH AVGAS AST AT FUEL FARM. (SUMP SAVER)

5. OVERFILL ALARMS & MECHANICAL SHUT DOWN:

TANKS SHALL BE INSTALLED WITH AN OVERFILL ALARM PREVENTION SYSTEM IN PLACE WHICH PROVIDES FOR AN AUDIBLE ALARMS WHEN INDIVIDUAL TANKS REACH 90% CAPACITY. FILL PIPING AT ALL TANKS PROPOSED HEREIN IN SHALL BE AFFIXED WITH A HIGH LEVEL SHUT OFF VALVE WHICH MECHANICALLY STOPS FLOW TO TANK WHEN 95% CAPACTIY IS REACHED.

6. ELECTRICAL:

NEW MAIN POWER PANEL TO BE PROVIDED AS INDICATED.
FUEL FARM PANEL TO BE LOCATED OUTSIDE CLASS I AREA. ALL SWITCH GEAR & COMPONENTS MUST MEET NEC AND LOCAL CODE REQUIREMENTS.

ASME (AMERICAN SOCIETY OF MECHANICAL ENGINEERS)

ASME 31.3 PROCESS PIPING CODE

NFPA (NATIONAL FIRE PROTECTION ASSOCIATION)

NFPA 30 FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE (2008)
NFPA 70 NEC NATIONAL ELECTRIC CODE
NFPA 407 STANDARD FOR AIRCRAFT FUEL SERVICING
NFPA 410 STANDARD ON AIRCRAFT MAINTENANCE

ENVIRONMENTAL PROTECTION AGENCY (EPA)

FACILITY RESPONSE PLAN FOR SPILL PREVENTION COUNTER-MEASURE AND CONTROL PLAN (SPCC)

40 CFR PART 112 OIL POLLUTION PREVENTION

FAA (FEDERAL AVIATION AUTHORITY)

FAA AC/150/5230-4B AIRCRAFT FUEL STORAGE, HANDLING AND DISPENSING ON AIRPORTS (DRAFT)
FAA 7460-1 FORM NOTICE OF PROPOSED CONSTRUCTION

AMERICAN PETROLEUM INSTITUTE (API)

API-1541-IDENTIFICATION MARKINGS FOR DEDICATED AVIATION FUEL MANUFACTURING AND DISTRIBUTION FACILITIES, AIRPORT STORAGE AND MOBILE FUELING EQUIPMENT.
API-1581-SPECIFICATION AND QUALIFICATION PROCEDURES FOR AVIATION JET FUEL FILTER/SEPARATOR (LISTED IN ATA 103)

FUELING SYSTEM IS TO MEET THE FOLLOWING RECOGNIZED STANDARDS AND GUIDELINES:

- UTAH DEPARTMENT OF ENVIRONMENTAL QUALITY
- INTERNATIONAL BUILDING CODE (2018)
- NATIONAL ELECTRICAL CODE, ARTICLE 515, BULK STORAGE PLANTS
- NFPA 407, AIRCRAFT FUEL SERVICING
- NFPA 30, FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE
- AMERICAN PETROLEUM INSTITUTE, #1542~AIRPORT EQUIPMENT MARKING
- FAA ADVISORY CIRCULAR 150/5300-13, AIRPORT DESIGN

2. NEW AST TANKS SHALL BE UL-2085 LISTED,AND MEET THE REQUIREMENTS OF ALL OTHER AUTHORITIES HAVING JURISDICTION.

AVGAS PUMP / FILTER SPECIFICATIONS AND TEST REQUIREMENTS:

1. AVGAS PUMP/FILTER ASSEMBLIES SHALL MEET NATA, ATA, AND API STANDARDS AND SHALL BE CONSTRUCTED IN ACCORDANCE WITH ACCEPTED INDUSTRY PRACTICES. ALL PIPING SHALL BE TESTED AT 75 PSI., AND ALL WIRING SHALL BE IN ACCORDANCE WITH NFPA/NEC REQUIREMENTS.

TESTING:

1. AIR PRESSURE TEST PIPING @ 75 PSI FOR 60 MINUTES.
2. CONFIRM PROPER OPERATION OF TANK INVENTORY CONTROL SYSTEM AND TANK OVERFILL ALARMS AND JET FUEL TANK FILL VALVE PROXIMITY SWITCHES.
3. FUEL HANDLING MODULES TO BE COMMISSIONED BY EQUIPMENT MANUFACTURER, WITNESSED BY THE FUEL SUPPLIER AND THE ENGINEER.
4. ALL TANKS SHOP TESTED WITH 3-5 PSI AIR PRESSURE & DOUBLE WALL TESTING PROCEDURES.
5. ADDITIONALLY, TANK TIGHTNESS TESTING PERFORMED PER VACUUM TEST (2.6 HG) ON INTERSTIS AT MANUFACTURER'S FACILITY WHEN SHIPPING, RE-VERIFIED AT ARRIVAL TO FACILITATE SITE AND HELD THROUGH THE COMPLETION OF INSTALLATION.

PIPING:

1. AVGAS HORIZONTAL AST'S SHALL BE FITTED WITH FUEL RESISTANT EPOXY INTERIOR COATING. TANK MFG SHALL PROVIDE FOR SUMP DRAIN TO REMOVE WATER FROM TANKS.
2. LOADING AND UNLOADING (DISPENSING) CONNECTIONS ARE TO BE PAINTED AS PER API 1542:
   AVGAS - RED BACKGROUND, WHITE LETTERS "AVGAS 100LL", BLUE BANDING ON SILVER.
3. ALL METAL IN CONTACT WITH AVIATION FUEL TO BE FREE OF ZINC, CADMIUM, COPPER, AND THEIR ALLOYS.
4. STEEL PIPING TO BE SCHEDULE 10 TYPE 304 SS, WITH WELDED FLANGED JOINTS.
5. FOR THREADED PIPE COUPLINGS, TEFLON TAPE OR TEFLON PIPE DOPE IS TO BE USED.
6. FOR FLANGED FITTINGS, SYNTHETIC GASKET MATERIAL, IS TO BE COMPATIBLE WITH THE FUEL PRODUCT BEING HANDLED. (BUNA-N, TEFLON, OR VITON-A OR GARLOCK 3000)
7. STATIC ELECTRICITY GROUNDING CABLES MUST BE PROVIDED AT THE TRUCK UNLOADING & LOADING STATIONS.
8. PIPING IS DIAGRAMMATIC ONLY, MANUFACTURER IS RESPONSIBLE FOR ACTUAL LAYOUT AND PROPER SUPPORT OF PIPING SYSTEM.

CODE REFERENCES

- INTERNATIONAL BUILDING CODE (2018)
- INTERNATIONAL FUEL GAS CODE (2018)
- ICC INTERNATIONAL MECHANICAL CODE (2018)
- INTERNATIONAL FIRE CODE (2018)
- NATIONAL ELECTRICAL CODE, ARTICLE 515, BULK STORAGE PLANTS
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RECOGNIZED STANDARDS & GUIDELINES

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- AMERICAN PETROLEUM INSTITUTE, #1542~AIRPORT EQUIPMENT MARKING
- FAA ADVISORY CIRCULAR 150/5300-13, AIRPORT DESIGN

GENERAL:

1. ALL WORK TO BE IN STRICT ACCORDANCE WITH ALL APPLICABLE FEDERAL, STATE, COUNTY, AND LOCAL CODES AND IN STRICT ACCORDANCE WITH APPLICABLE NATIONAL FIRE PROTECTION ASSOCIATION AND NATIONAL ELECTRICAL CODE SPECIFICATIONS AND ASME 31.3 (PROCESS PIPING CODE)
2. ALL MATERIALS SHALL MEET OR EXCEED APPLICABLE MANUFACTURERS WRITTEN SPECIFICATIONS.
3. ALL EQUIPMENT SHALL BE INSTALLED / PIPED / WIRED IN STRICT COMPLIANCE WITH THE REQUIREMENTS AND RECOMMENDATIONS OF THE EQUIPMENT MANUFACTURER.
4. A CLEARLY IDENTIFIED AND EASILY ACCESSIBLE EMERGENCY SWITCH SHALL BE PROVIDED AT A LOCATION AT LEAST 20' BUT NOT MORE THAN 100' FROM THE DISPENSER(S) TO ALLOW FOR POWER SHUTOFF IN THE EVENT OF AN EMERGENCY.
5. NO SMOKING / STOP ENGINE SIGN TO BE POSTED IN DISPENSING AREAS.
6. THE PRODUCT NAME AND HAZARDOUS MATERIAL SIGN SHALL BE STENCILLED ON TANK SO AS TO BE VISIBLE FROM GRADE AFTER INSTALLATION.
7. TANK FILL TO BE COLOR CODED USING AMERICAN PETROLEUM INSTITUTE SYSTEM OF IDENTIFICATION AS IMPLEMENTED BY LOCAL CODE.
8. INSTALLER SHALL FURNISH WRITTEN APPROVAL OF COMPLETED INSTALLATION FROM ALL GOVERNING AGENCIES.
9. ALL PIPING TO BE ADEQUATELY SUPPORTED TO REDUCE THE POSSIBILITY OF DAMAGE DUE TO EXCESS STRESS, DEFLECTION, ETC.
10. TANK / DIKE ASSEMBLY TO BE LISTED AND LABELED BY UNDERWRITERS LABORATORIES,
11. ALL NEW TANKS TO BE FACTORY PRESSURE TESTED FOR LEAKAGE AT 3-5 PSIG PRIOR TO BEING FILLED WITH PRODUCT OR PLACED INTO OPERATION.
12. ALL UNUSED TANK TAPPING ARE TO BE PLUGGED.
13. PRIMARY PIPING TO BE AIR TESTED AT 75 PSIG FOR 60 MIN. ALL JOINTS TO BE CHECKED FOR LEAKAGE USING A SOAP SOLUTION. THE TANK MUST BE VENTED TO ATMOSPHERE PRIOR TO PRESSURIZING PIPING.
14. CONTRACTOR SHALL PROTECT ALL EXISTING STRUCTURES AND EQUIPMENT ADJACENT TO THE WORK AND PROJECT, SUPPORT AND RELOCATE, IF NECESSARY, ALL EXPOSED LINES AND MAKE COMPLETE RESTORATION OF DAMAGED PIPING, CONDUIT, WIRING, CABLES AND APPURTENANCES AT NO COST TO THE OWNER OF SAID UTILITIES, AUTHORITY, OR THE AIRPORT AUTHORITY.
15. THESE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATE THE GENERAL ARRANGEMENT OF THE VARIOUS SYSTEMS AND THE APPROXIMATE RELATIVE LOCATIONS OF THE EQUIPMENT / DEVICES / ITEMS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THAT THERE IS ADEQUATE SPACE AT THE LOCATIONS INDICATED FOR ALL THE EQUIPMENT / DEVICES/ ITEMS PRIOR TO INSTALLATION OF SAME IF PLAN LAYOUT SPACING OR INTENT IS CHANGED, THESE CHANGES MUST BE BROUGHT TO THE ATTENTION OF THE ENGINEER FOR APPROVAL.
16. ALL EQUIPMENT AND COMPONENTS SHALL BE PROPERLY GROUNDED AS INDICATED ON THE DRAWINGS AND/OR AS REQUIRED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE.
17. ALL ELECTRICAL CONDUITS ARE SHOWN DIAGRAMMATICALLY. EXACT RUNS SHALL BE DETERMINED BY THE CONTRACTOR IN THE FIELD, EXCEPT WHERE SPECIFICALLY DIMENSIONED ON THE PLAN.
18. ALL EXPOSED CONDUIT SHALL BE PROPERLY SUPPORTED BY APPROVED HANGERS OF ANGLE OR CHANNEL CONSTRUCTION.
19. EXACT CONDUIT STUB UP LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR BASED ON THE MANUFACTURER'S DRAWINGS OF THE RESPECTIVE EQUIPMENT. CONDUITS SHALL BE INSTALLED TO MATCH THE EQUIPMENT FURNISHED.
20. ALL 3 PHASE MOTOR STARTERS SHALL BE NEMA SIZE 1 EXCEPT AS NOTED.
21. FOR AREAS CLASSIFIED AS CLASS 1, DIV 1, ALL ELECTRICAL MATERIALS SHALL BE OF EXPLOSION PROOF CONSTRUCTION. ALL CONDUIT ENTERING THIS AREA SHALL INCLUDE SEAL OFF FITTING. ALL WORK TO BE CONDUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE NATIONAL ELECTRICAL CODE.
22. ALL OUTDOOR ELECTRICAL ENCLOSURES INCLUDING WIREWAY SHALL BE TYPE NEMA 4X.
23. ALL EXPOSED CARBON STEEL TANK SURFACES SHALL BE COATED AT A MINIMUM WITH A PRIMER COAT, A BOND COAT AND ONE OR MORE FINAL COATS OF PAINT. APPLICATION METHODS SHALL MEET THE REQUIREMENTS OF THE STEEL STRUCTURES PAINTING COUNCIL AND THE NATIONAL ASSOCIATION OF CORROSION ENGINEERS. CONTRACTOR SHALL PROVIDE PAINT / COATING SPECIFICATIONS FOR TANKS, PIPING & SKIDS FOR ENGINEER REVIEW.
24. PRIOR TO ANY TRENCHING EXCAVATION, SOIL BORINGS AND/OR UNDERGROUND EXPLORATION, THE CONTRACTOR SHALL NOTIFY ALL UTILITIES.
25. PRIOR TO CONSTRUCTION, THE CONTRACTOR(S) SHALL BE RESPONSIBLE FOR THE LEGAL TONING & MARKING OUT OF THE SITE TO ENSURE THERE ARE NO UNKNOWN UTILITIES THAT MAY EXIST IN THE WORK AREA.
26. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS & SPECIFICATIONS FOR ALL NEW EQUIPMENT TO ENGINEER OF RECORD FOR REVIEW & APPROVAL PRIOR TO INSTALL.

811 Know what's below. Call before you dig.

ISSUES/REVISIONS

No.	Description	Date

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LE AVIATION
LEADING EDGE AVIATION
2500 NORTH AIRPORT DRIVE
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INSTALLATION OF A NEW ABOVE GROND FUEL TANK
LEADING EDGE AVIATION
LOGAN-CACHE AIRPORT
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

SHEET DESCRIPTION:

GENERAL NOTES

SEAL & SIGNATURE

BRIAN E. LEWIS, P.E.
UTAH P.E. # 5015586-2203
EXP. DATE: 3/31/2021

DATE: DECEMBER 2019
PROJECT NO.: AEAC-LOGAN
DRAWING BY: MSK
CHK. BY: AGN
DWG No:
T-110
CADD FILE NO.
LOGAN-CACHE-Set.dwg

Codes [edit]

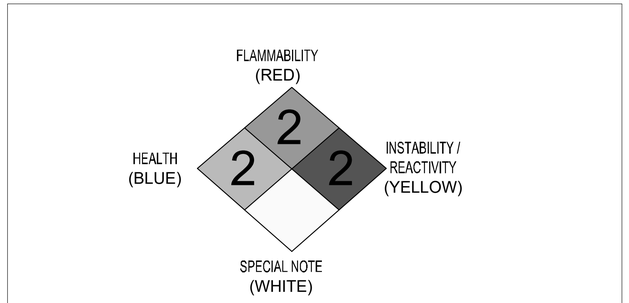
The four divisions are typically color-coded with red indicating flammability, blue indicating level of health hazard, yellow for chemical reactivity, and white containing codes for special hazards. Each of health, flammability and reactivity is rated on a scale from 0 (no hazard) to 4 (severe risk). See the latest version of NFPA 704 sections 5, 6, 7 and 8 for the specifications of each classification.[2]

Flammability (red)	
0	Materials that will not burn under typical fire conditions (e.g. carbon dioxide), including intrinsically noncombustible materials such as concrete, stone and sand (Materials that will not burn in air when exposed to a temperature of [820 °C (1,500 °F)] for a period of 5 minutes)
1	Materials that require considerable preheating, under all ambient temperature conditions, before ignition and combustion can occur (e.g. mineral oil). Includes some finely divided suspended solids that do not require heating before ignition can occur. Flash point at or above 93 °C (200 °F).
2	Must be moderately heated or exposed to relatively high ambient temperature before ignition can occur (e.g. diesel fuel) and some finely divided suspended solids that do not require heating before ignition can occur. Flash point between 38 and 93 °C (100 and 200 °F).
3	Liquids and solids (including finely divided suspended solids) that can be ignited under almost all ambient temperature conditions (e.g. gasoline). Liquids having a flash point below 23 °C (73 °F) and having a boiling point at or above 38 °C (100 °F) or having a flash point between 23 and 38 °C (73 and 100 °F).
4	Will rapidly or completely vaporize at normal atmospheric pressure and temperature, or is readily dispersed in air and will burn readily (e.g. acetylene, diethylzinc). Includes pyrophoric substances. Flash point below 23 °C (73 °F).

Health (blue)	
0	Poses no health hazard, no precautions necessary and would offer no hazard beyond that of ordinary combustible materials (e.g. wood)
1	Exposure would cause irritation with only minor residual injury (e.g. acetone)
2	Intense or continued but not chronic exposure could cause temporary incapacitation or possible residual injury (e.g. diethyl ether)
3	Short exposure could cause serious temporary or moderate residual injury (e.g. chlorine)
4	Very short exposure could cause death or major residual injury (e.g. hydrogen cyanide, phosphine, carbon monoxide, sarin, hydrofluoric acid)

Instability/Reactivity (yellow)	
0	Normally stable, even under fire exposure conditions, and is not reactive with water (e.g. helium)
1	Normally stable, but can become unstable at elevated temperatures and pressures (e.g. propene)
2	Undergoes violent chemical change at elevated temperatures and pressures, reacts violently with water, or may form explosive mixtures with water (e.g. white phosphorus, potassium, sodium)
3	Capable of detonation or explosive decomposition but requires a strong initiating source, must be heated under confinement before initiation, reacts explosively with water, or will detonate if severely shocked (e.g. ammonium nitrate, chlorine trifluoride)
4	Readily capable of detonation or explosive decomposition at normal temperatures and pressures (e.g. nitroglycerin, chlorine azide, chlorine dioxide)

Special notice (white)	
The white "special notice" area can contain several symbols. The following symbols are defined by the NFPA 704 standard.	
OX	Oxidizer, allows chemicals to burn without an air supply (e.g. potassium perchlorate, ammonium nitrate, hydrogen peroxide).
~~W~~	Reacts with water in an unusual or dangerous manner (e.g. cesium, sodium, sulfuric acid).
SA	Simple asphyxiant gas. Specifically limited to the following gases: nitrogen, helium, neon, argon, krypton and xenon.[2]



	HAZARD CLASS	FLAMMABILITY (RED)	INSTABILITY / REACTIVITY (YELLOW)	SPECIAL NOTE (WHITE)	HEALTH (BLUE)	
AVGAS	IA	3	0	-	1	3 1 0

MATERIAL CLASSIFICATION

ABBREVIATIONS

L	ANGLE
@	AT
℄	CENTERLINE
ø	DIAMETER
⊥	PERPENDICULAR
⊏	CHANNEL
#	POUND or NUMBER
(E)	EXISTING
ACOUS.	ACOUSTICAL
A.D.	AREA DRAIN
ADJ.	ADJUSTABLE
A.F.F.	ABOVE FINISH FLOOR
AGGR.	AGGREGATE
AL.	ALUMINUM
APPROX.	APPROXIMATE
ARCH.	ARCHITECTURAL
ASB.	ASBESTOS
ASBO	AS SELECTED BY OWNER
ASPH.	ASPHALT
BD.	BOARD
BITUM.	BITUMINOUS
BLDG.	BUILDING
BLK.	BLOCK
BLKG.	BLOCKING
BM.	BEAM
BOT.	BOTTOM
B.O.	BY OWNER
B.T.B.	BACK TO BACK
CAB.	CABINET
C.B.	CATCH BASIN
CEM.	CEMEMT
CER.	CERAMIC
C.I.	CAST IRON
CLF	CHAIN LINK FENCE
CLG.	CEILING
CLO.	CLOSET
CLR.	CLEAR
CNTR.	CONTRACTOR
COL.	COLUMN
CONC.	CONCRETE
CONSTR.	CONSTRUCTION
CONT.	CONTINUOUS
CORR.	CORRIDOR
CTSK.	COUNTERSUNK
CTR.	CENTER
DBL.	DOUBLE
DEPT.	DEPARTMENT
D.F.	DRINKING FOUNTAIN
DET.	DETAIL
DIA.	DIAMETER
DIM.	DIMENSION
DISP.	DISPENSER
DN.	DOWN
D.O.	DOOR OPENING
DR.	DOOR
DS.	DOWNSPOUT
DWR.	DRAWER
D.S.P.	DRY STANDPIPE
DWG.	DRAWINGS
E	EXISTING
EA.	EACH
E.J.	EXPANSION JOINT
EL.	ELEVATION
ELEC.	ELECTRICAL
ELEV.	ELEVATOR
EMER.	EMERGENCY
ENCL.	ENCLOSURE
E.P.	ELECTRICAL PANEL
EQ.	EQUAL
EQPT.	EQUIPMENT
ETC.	ETCETERA
E.W.C.	ELECTRIC H2O0 COOLER
(E)	EXISTING
EXIST.	EXISTING
EXPO.	EXPOSED
EXP.	EXPANSION
EXT.	EXTERIOR
F.A.	FIRE ALARM
F.B.	FLAT BAR
F.D.	FLOOR DRAIN
FDN.	FOUNDATION
F.E.	FIRE EXTINGUISHER
F.E.C.	FIRE EXTINGUISHER CAB
F.H.C.	FIRE HOSE CABINET
FIN.	FINISH
FL.	FLOOR
FLASH.	FLASHING
FLUOR.	FLUORESCENT
F.O.C.	FACE of CONCRETE
F.O.F.	FACE of FINISH
F.O.S.	FACE of STUDS
FPRF.	FIREPROOF
F.S.	FULL SIZE
FT.	FOOT or FEET
F.T.	FIRE TREATED
FTG.	FOOTING
FURR.	FURRING
F&I	FINISH and INSTALL
FUT.	FUTURE
F.W.P.	FABRIC WRAPPED PANEL
GA.	GAUGE
GALV.	GALVANIZED
G.B.	GRAB BAR
G.C.	GENERAL CONTRACTOR
GL.	GLASS/GLAZING
GND.	GROUND
GR.	GRADE
GYP.	GYPSUM
GWB	GYPSUM WALL BOARD
H.B.	HOME BID
H.C.	HOLLOW CAB
HDWD.	HARDWOOD
HDWE.	HARDWARE
H.M.	HOLLOW METAL
HORIZ.	HORIZONTAL
HR.	HOUR
HGT.	HEIGHT
I.D.	INSIDE DIAMETER (DIM.)
INSUL.	INSULATION
INT.	INTERIOR
JAN.	JANITOR
JT.	JOINT
KIT.	KITCHEN
LAB.	LABORATORY
LAM.	LAMINATE
LAV.	LAVATORY
LKR.	LOCKER
LT.	LIGHT
MAX.	MAXIMUM
M.C.	MEDICINE CABINET
MECH.	MECHANICAL
MEMB.	MEMBRANE
MTL.	METAL
MFR.	MANUFACTURER
MH.	MANHOLE
MIN.	MINIMUM
MIR.	MIRROR
MISC.	MISCELLANEOUS
M.O.	MASONRY OPENING
MTD.	MOUNTED
MUL.	MULLION
MW	MONITORING WELL
N.	NEW
N.I.C.	NOT IN CONTRACT
NO. or #	NUMBER
NOM.	NOMINAL
N.T.S.	NOT TO SCALE
O.A.	OVERALL
OBS.	OBSCURE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER (DIM.)
OFF.	OFFICE
OPNG.	OPENING
OPP.	OPPOSITE
PRCST.	PRECAST
PL.	PLATE
P.LAM.	PLASTIC LAMINATE
PLAS.	PLASTER
PLYWD.	PLYWOOD
PR.	PAIR
PT.	POINT
P.T.D.	PAPER TOWEL DISPENSER
P.T.D/R	CONBINATION PAPER TOWEL DISPENSER & RECEPTACLE
Q.T.	QUARRY TILE
R	RELOCATE
RAD.	RADIUS
R.D.	ROOF DRAIN
REF.	REFERENCE
REFR.	REFRIGERATOR
RGTR.	REGISTER
REINF.	REINFORCED
RESIL.	RESILIENT
RM.	ROOM
R.O.	ROUGH OPENING
RWD.	REDWOOD
R.W.L.	RAIN WATER LEADER
S.	SOUTH
S.C.	SOLID CORE
S.C.D.	SEAT COVER DISPENSER
SCHED.	SCHEDULE
S.D.	SOAP DISPENSER
SECT.	SECTION
SH.	SHELF
SHR.	SHOWER
SHT.	SHEET
SIM.	SIMILAR
S.N.D.	SANITARY NAPKIN DISPENSER
S.N.R.	SANITARY NAPKIN RECEPTACLE
SNT.	SEALANT
SPEC.	SPECIFICATION
SQ.	SQUARE
S.S.	STAINLESS STEEL
S.SK.	SERVICE SINK
STA.	STATION
STD.	STANDARD
STL.	STEEL
STOR.	STORAGE
STRL.	STRUCTURAL
SUSP.	SUSPENDED
SYM.	SYMMETRICAL
TRD.	TREAD
T.B.	TOWEL BAR
T.C.	TOP OF CURB
TEL.	TELEPHONE
TER.	TERRAZZO
T.&G.	TONGUE AND GROOVE
THK.	THICK
T.O.	TRIMED OPENING
T.P.	TOP OF PAVEMENT
T.P.D.	TOILET PAPER DISPENSER
T.V.	TELEVISION
T.W.	TOP OF WALL
TYP.	TYPICAL
U.S.	UNDERSIDE
UNF.	UNFINISHED
U.O.N.	UNLESS OTHERWISE NOTED
UR.	URINAL
V.C.T.	VINYL COMPOSITION TILE
VERT.	VERTICAL
VEST.	VESTIBULE
V.I.F.	VERIFY IN FIELD
W.	WEST
W/	WITH
W.C.	WATER CLOSET
WD.	WOOD
W/O	WITHOUT
WP.	WATERPROOF
WSCT.	WAINSCOT
WT.	WEIGHT

LEGEND

- SMH — SANITARY MANHOLE
- PROPOSED STORM WATER LEACHING BASIN
- EXISTING STORM WATER LEACHING BASIN
- LEACHING BASIN W/ OPEN GRATE CASTING
- PB — LEACHING BASIN W/ OPEN GRATE CASTING, INSTALLED WITH POLLUTION PREVENTION BAFFLE
- 1 / A201 — ELEVATION NUMBER / DRAWING NUMBER
- 3 / A407 — SECTION REFERENCE NUMBER / DRAWING REFERENCE NUMBER
- 1 / A304 — DETAIL REFERENCE NUMBER / DRAWING REFERENCE NUMBER
- DENOTES HANDICAPPED USE
- 2A: 40 BC FIRE EXTINGUISHER
- 80 BC : 150 LB WHEELED FIRE EXTINGUISHER
- 3" DIA. HDPE DRAIN PIPE, INSIDE 6" DIA. HDPE CONTAINMENT PIPE
- DW FUEL PRODUCT PIPING (JET = 3", AVGAS = 2")
- JET FUEL AND AVGAS FUEL PIPING
- DRAIN PIPE GRAVITY DRAINED FROM CONTAINMENT DIKE
- AVGAS VAPOR RECOVERY

Know what's below. Call before you dig.

ISSUES/REVISIONS

No.	Description	Date

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PHONE: (631) 586-2000

INSTALLATION OF A NEW ABOVE GROND FUEL TANK
LEADING EDGE AVIATION
LOGAN-CACHE AIRPORT
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

SHEET DESCRIPTION:

ABBREVIATIONS, LEGEND & NOTES

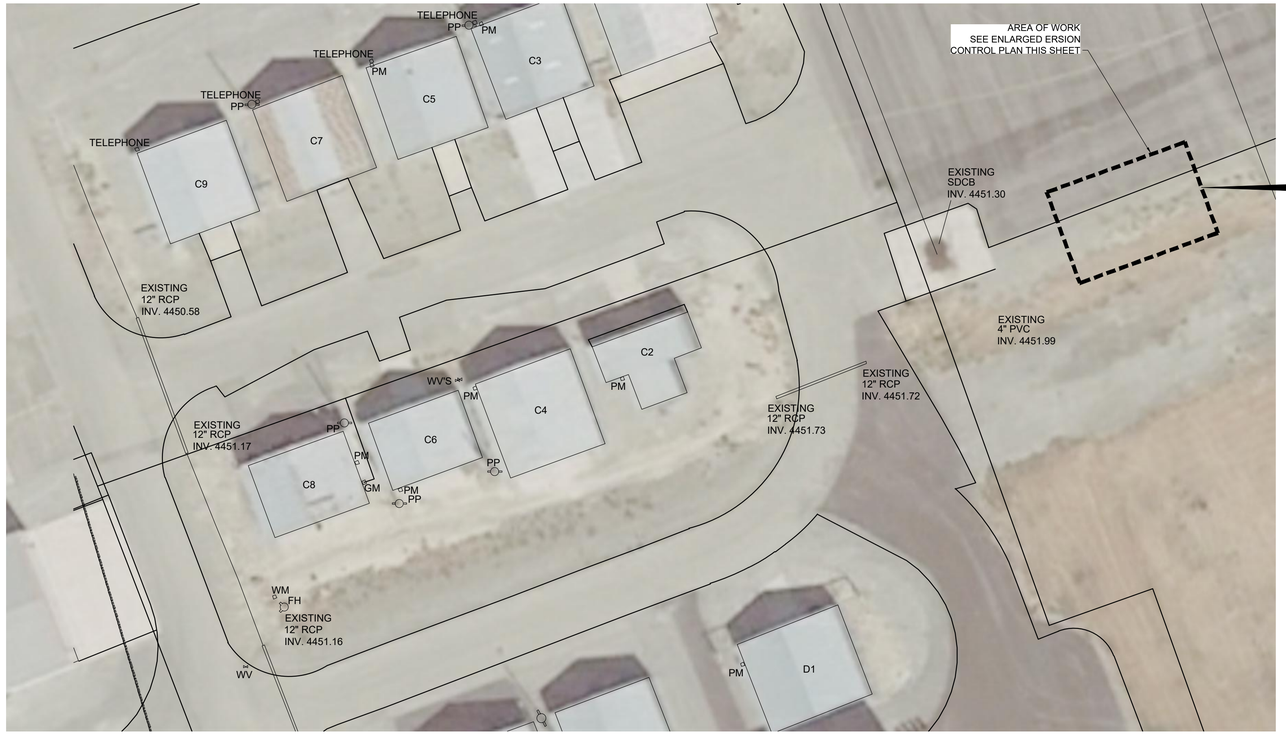
SEAL & SIGNATURE

BRIAN E. LEWIS, P.E.
UTAH P.E. # 5013586-2203
EXP. DATE: 3/31/2021

DATE: DECEMBER 2019
PROJECT NO.: AEAC-LOGAN
DRAWING BY: MSK
CHK. BY: AGN
DWG No:

T-120

CADD FILE NO.
LOGAN-CACHE-Set.dwg

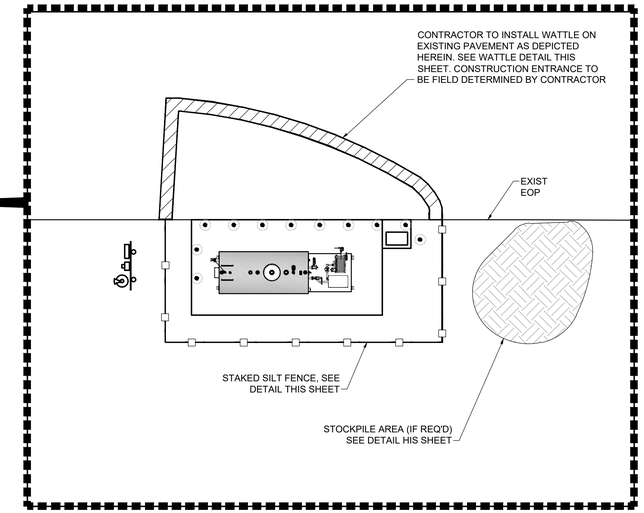


EXISTING CONDITIONS, EROSION & SEDIMENT CONTROL PLAN

SCALE: 1" = 30'

0 15 30 60

SCALE IN FEET



ENLARGED VIEW SITE PLAN

SCALE: 1" = 10'

0 5 10 20

SCALE IN FEET

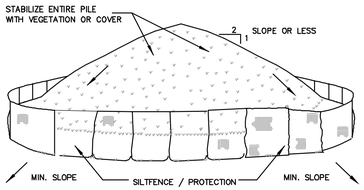
Erosion Control Wattles, Coir Logs

WATTLE / FILTER FABRIC SOCK

NOT TO SCALE

LEGEND

- STAKED SILT FENCE
- WATTLE / FILTER FABRIC SOCK



INSTALLATION NOTES

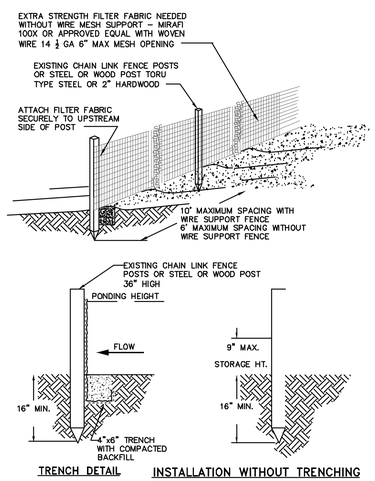
1. AREA CHOSEN FOR STOCKPILING OPERATIONS SHALL BE DRY AND STABLE.
2. MAXIMUM SLOPE OF STOCKPILE SHALL BE 1:2.
3. UPON COMPLETION OF SOIL STOCKPILING, EACH PILE SHALL BE SURROUNDED WITH EITHER SILT FENCING OR STRAWBALES, THEN STABILIZED WITH VEGETATION OR COVERED.
4. SEE DETAIL FOR INSTALLATION OF SILTFENCE.
5. STOCKPILING ON STANDIFORD AVENUE SIDE OF SITE ONLY.

SOIL MANAGEMENT

1. STOCKPILES OF CONTAMINATED SOILS MUST BE COVERED WITH TEMPORARY PLASTIC FILM OR SHEETING TO PREVENT STORMWATER FROM COMING INTO CONTACT WITH THEM. SITE CONTROLS MUST BE EMPLOYED THAT PROTECT DRAG-OUT INTO A CITY STREET FROM THE DEVELOPMENT AND, IF A CLEAN-UP ACTION SITE (CONTAMINATED), FROM THE DAY-TO-DAY OPERATIONS.
2. STOCKPILE PERIMETERS MUST HAVE A CONTAINMENT BARRIER ON ALL FOUR SIDES OF EVERY STOCKPILE TO PREVENT STORMWATER RUN-ON AND MATERIAL RUNOFF. BARRIERS CAN CONSIST OF CONCRETE CURBING, SILT FENCING, OR OTHER BERMING MATERIAL, DEPENDING ON THE ACTIVITY, SIZE, AND RESOURCES AVAILABLE.
3. AREAS UNDER STOCKPILES OF CONTAMINATED SOILS ARE NOT REQUIRED TO BE PAVED, HOWEVER, AN IMPERVIOUS LAYER MUST BE PLACED BENEATH THE STOCKPILE TO PROTECT UNCONTAMINATED AREAS FROM POTENTIAL LEACHATE. EXAMPLES OF IMPERVIOUS LAYERS INCLUDE, BUT ARE NOT LIMITED TO, ASPHALT, CONCRETE, OR A GEOMEMBRANE.

SOIL STOCKPILING DETAIL

NOT TO SCALE



TRENCH DETAIL — INSTALLATION WITHOUT TRENCHING

NOTES:

1. SILT FENCE SHALL BE PLACED ON SLOPE CONTOURS TO MAXIMIZE PONDING EFFICIENCY.
2. INSPECT AND REPAIR FENCE AFTER EACH STORM EVENT AND REMOVE SEDIMENT WHEN NECESSARY. 9" MAXIMUM RECOMMENDED STORAGE HEIGHT.
3. REMOVED SEDIMENT SHALL BE DEPOSITED TO AN AREA THAT WILL NOT CONTRIBUTE SEDIMENT OFF-SITE AND CAN BE PERMANENTLY STABILIZED.
4. WHERE POSSIBLE ATTACH SILT FENCE TO EXISTING CHAIN LINK FENCE.

SILT FENCE DETAIL

NOT TO SCALE

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ISSUES/REVISIONS

No.	Description	Date

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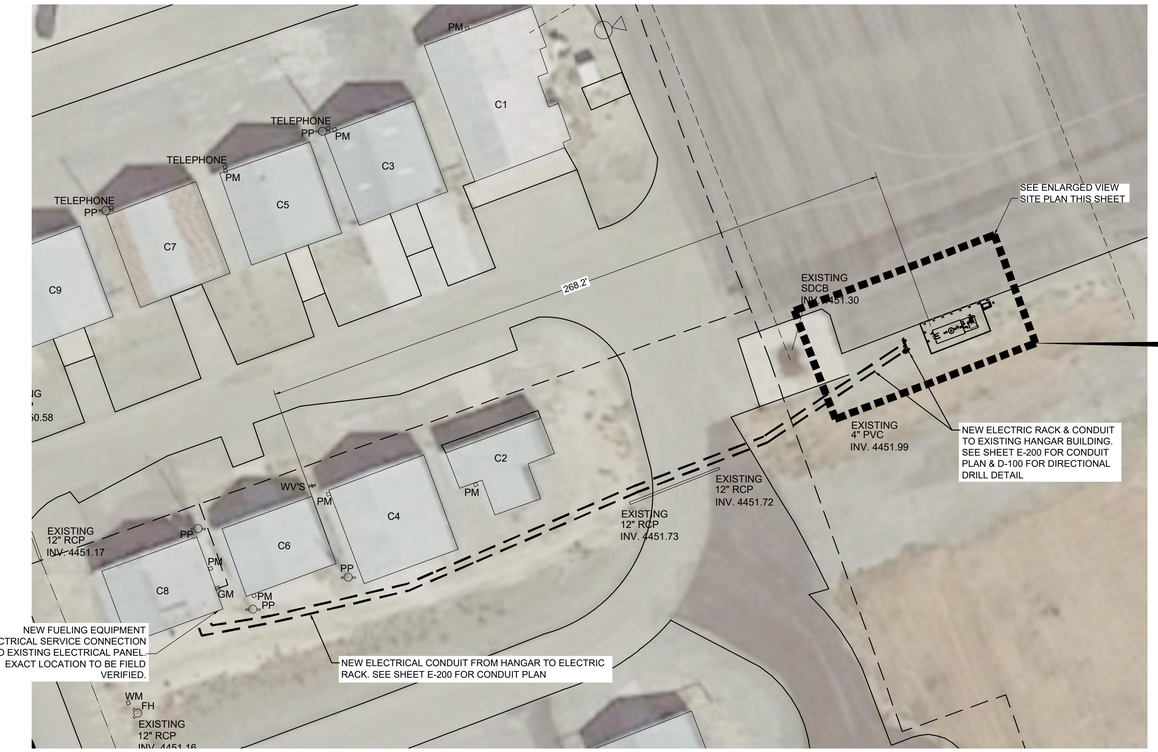
SHEET DESCRIPTION:

EXISTING CONDITIONS , EROSION & SEDIMENT CONTROL PLAN

SEAL & SIGNATURE

BRIAN E. LEWIS, P.E.
UTAH P.E. # 5013586-2203
EXP. DATE: 3/31/2021

DATE: DECEMBER 2019
PROJECT NO.: AEAC-LOGAN
DRAWING BY: MSK
CHK. BY: AGN
DWG No:
C-100
CADD FILE NO.
LOGAN-CACHE-Set.dwg

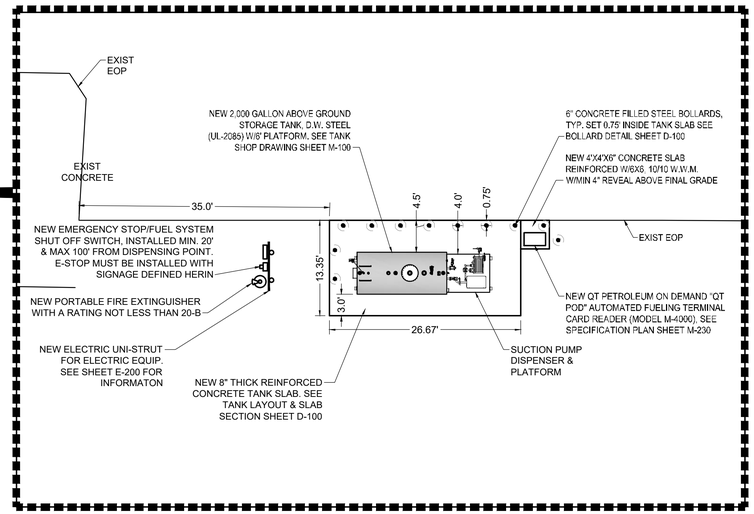


NOTE:
ELECTRIC CONDUIT DEPICTED DIAGRAMMATICALLY, ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD. CONTRACTOR SHALL INSTALL CONDUIT TO MAINTAIN MINIMUM 10' SEPARATION FROM EXISTING DRAINAGE OR WATER LINES.

OVERALL SITE PLAN

SCALE: 1" = 30'

0 15 30 60
SCALE IN FEET



ENLARGED VIEW SITE PLAN

SCALE: 1" = 10'

0 5 10 20
SCALE IN FEET

ISSUES/REVISIONS

No.	Description	Date

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LE AVIATION
LEADING EDGE AVIATION
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

American Environmental Aviation
3977 AVIATION LOOP, SANFORD, FLORIDA 32773
PHONE: (631) 586-2000

INSTALLATION OF A NEW ABOVE GROND FUEL TANK
LEADING EDGE AVIATION
LOGAN-CACHE AIRPORT
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

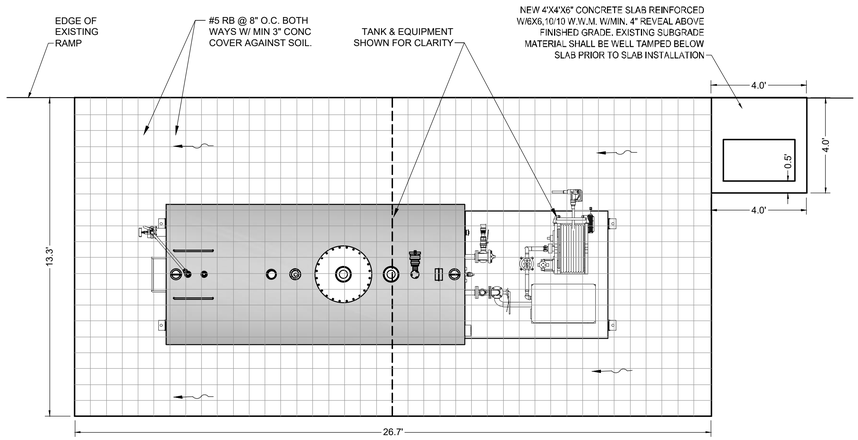
SHEET DESCRIPTION:

PROPOSED SITE PLAN

SEAL & SIGNATURE

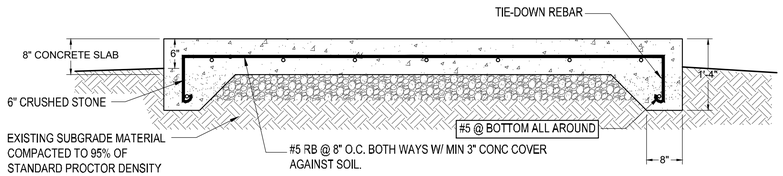
BRIAN E. LEWIS, P.E.
UTAH P.E. # 5013586-2203
EXP. DATE: 3/31/2021

DATE: DECEMBER 2019
PROJECT NO.: AEAC-LOGAN
DRAWING BY: MSK
CHK. BY: AGN
DWG No:
C-200
CADD FILE NO.
LOGAN-CACHE-Set.dwg



TANK SLAB LAYOUT PLAN

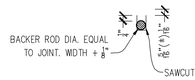
SCALE 1" = 3'



SLOPE PAD 1/8" / FT TO TANK REAR.

TANK SLAB SECTION

NTS



CONTROL JOINT DETAIL

NOT TO SCALE

SAWED CONSTRUCTION JOINT SHALL BE CUT TO A DEPTH OF 25% OF TOTAL SLAB THICKNESS.
TANK SLAB CJ MINIMUM DEPTH = 1.5"
EQUIPMENT SLAB CJ MINIMUM DEPTH = 1.5"
FUEL TRANSFER AREA DRIVE MAT CJ MINIMUM DEPTH = 2"

CONCRETE NOTES:

1. ALL JOINTS TO BE FILLED WITH A 3/4" BEAD OF SIKA FLEX OR 1A CONCRETE SURFACE TO BE BROOM FINISHED FOR NON-SLIP SURFACE & EDGES CHAMFERED AS NOTED,
2. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 301,315 & 318 LATEST EDITIONS
3. FOLLOW ACI RECOMMENDATIONS FOR COLD WEATHER CONDITIONS. ALL CONCRETE SLABS SHALL BE COVERED WITH BURLAP AND KEPT CONTINUOUSLY MOIST FOR A MINIMUM OF 5 DAYS.
4. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI @ 28 DAYS. ALL REBAR TO BE GRADE 60 BILLET STEEL CONFORMING TO ASTM A-615

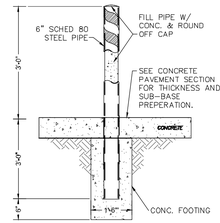
CONCRETE SLAB & FOOTING NOTES:

1. ALL SLABS & FOOTINGS HAVE BEEN DESIGNED ASSUMING AN ALLOWABLE SOIL BEARING PRESSURE OF 1,500 PSF.
2. EXISTING SOIL MAY BE USED AS SUBGRADE MATERIAL IF COMPACTED AS REQUIRED BY DESIGN SECTIONS & DETAILS PROVIDED HEREIN.

VEHICLE IMPACT PROTECTION GUARD POSTS SHALL BE CONSTRUCTED IN THE FOLLOWING MANNER:

A. SHALL BE NOT LESS THAN 4" IN DIAMETER AND CONCRETE FILLED.
B. SET NOT LESS THAN 3' DEEP IN A CONCRETE FOOTING OF NOT LESS THAN A 15" DIAMETER.
C. THE TOP OF THE POSTS NOT LESS THAN 3' ABOVE GROUND.
D. LOCATED NOT LESS THAN 3' FROM A PROTECTED OBJECT.
E. AND SPACED NOT MORE THAN 4' BETWEEN POSTS ON CENTER.

INSTALLATION
CONCRETE



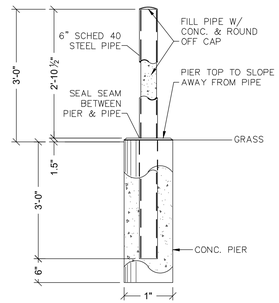
CONFORMING TO NFPA 30 & IFC SECTION 312 BOLLARDS SHALL BE PAINTED SAFETY YELLOW

BOLLARDS TO BE PAINTED SAFETY YELLOW OR INSTALLED WITH SAFETY YELLOW HDPE BOLLARD SLEEVES.

IF BOLLARD IS LOCATED IN AN OPEN AREA PIPE TO BE PAINTED WITH ALTERNATING YELLOW AND BLACK STRIPES 3" WIDE

OPTION #2

INSTALLATION
GRASS

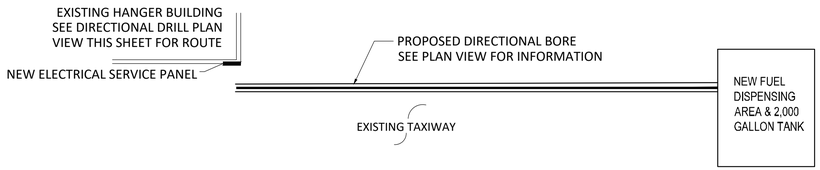


CONFORMING TO NFPA 30 & IFC SECTION 312 BOLLARDS SHALL BE PAINTED SAFETY YELLOW

OPTION #1

BOLLARD INSTALLATION OPTIONS

NTS



DIRECTIONAL DRILL NOTES:

1. ALL HDD INSTALLATION ACTIVITIES SHALL BE IN ACCORDANCE WITH THE GOVERNING UTILITY AGENCY STANDARDS & PROCEDURES.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFICATION OF AFFECTED AGENCIES AND COORDINATION WITH ALL UTILITIES PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL PROVIDE BORE LOG TO GOVERNING AGENCY WITHIN 30 DAYS OF COMPLETION

TYPICAL HORIZONTAL DIRECTIONAL DRILL UNDER EXIST ROADWAY \ DRIVEWAY

NOT TO SCALE

ISSUES/REVISIONS

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SHEET DESCRIPTION:

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SEAL & SIGNATURE

BRIAN E. LEWIS, P.E.
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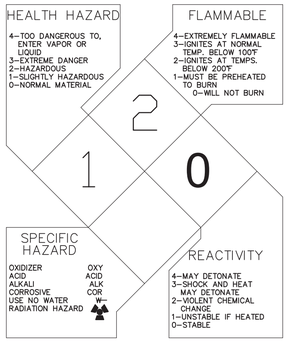
DWG No:
D-100
CADD FILE NO.
LOGAN-CACHE-Set.dwg

EMERGENCY PROCEDURE

IN THE EVENT OF A FUEL SPILL OR FIRE AT THE FUEL FACILITY, THE FUELERS SHALL IMPLEMENT THE WRITTEN EMERGENCY RESPONSE PLAN (REQUIRED UNDER 40CFR PART 112). AFTER THE IMMEDIATE EMERGENCY IS RESPONDED TO BY ACTIVATING THE EMERGENCY STOPS, THE AGENCIES LISTED IN THE ERP & SPCC PLANS SHALL BE CONTACTED PROMPTLY. THE FUELING FACILITY OWNER / OPERATOR SHALL HOLD ERP & SPCC TRAINING EXERCISES ANNUALLY TO ENSURE THAT THE FUELING SYSTEM OPERATORS ARE FULLY AWARE OF THE PROCEDURES AND CHAIN OF COMMAND FOR OUTSIDE AGENCIES.

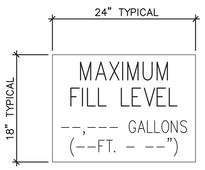
EMERGENCY PROCEDURE SIGN

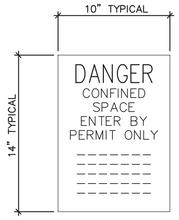
NTS



NFPA DIAMOND DESCRIPTION

NOT TO SCALE



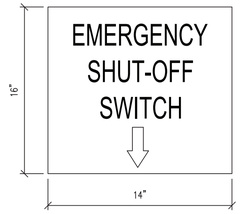


CONFINED SPACE & MAX FILL SIGNAGE DETAILS

NOT TO SCALE

E-STOP SIGNAGE NOTES

1. EMERGENCY SHUT OFF TO BE MANUALLY RESETTABLE AND DESIGNED TO ALLOW ONLY AUTHORIZED PERSONNEL TO RESET THE SYSTEM.
2. SIGNS FOR EMERGENCY SHUT OFF MUST BE INSTALLED 7 FT ABOVE FINISHED GRADE WITHIN 50 FT, IN ACCORDANCE WITH NFPA 704.
3. LETTERS MUST BE MINIMUM 2" TALL.



ANSI Z535 and OSHA 1910.145 APPROVED
TO BE INSTALLED ABOVE EMERGENCY SHUT-OFF
IN CLEAR VIEW OF DISPENSERS

EMERGENCY FUEL SHUT-OFF PUSH BUTTON

NOT TO SCALE

SIGNAGE NOTES

1. ALL SIGNAGE TO BE INSTALLED AS PER AIRPORT REQUIREMENTS.
2. ALL TANKS TO BE LABELED AND PIPING TO BE COLOR CODED AND LABELED AS REQUIRED. BY FAA & API.

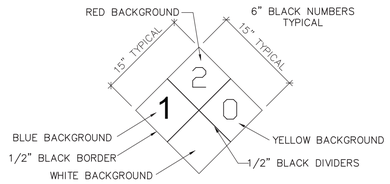
FUEL AREA WARNING SIGNAGE & LABELING SPECS

FUELING AREAS SHALL BE AFFIXED WITH HAZARD IDENTIFICATION SIGNAGE AS PER IFC 2018.

HAZARD IDENTIFICATION SIGNS: UNLESS OTHERWISE EXEMPTED BY THE FIRE CODE OFFICIAL, VISIBLE HAZARD IDENTIFICATION SIGNS AS SPECIFIED IN NFPA 704 FOR THE SPECIFIC MATERIAL CONTAINED SHALL BE PLACED ON STATIONARY CONTAINERS AND ABOVE GROUND TANKS AT ENTRANCES TO LOCATIONS WHERE HAZARDOUS MATERIALS ARE STORED, DISPENSED, USED OR HANDLED IN QUANTITIES REQUIRING A PERMIT AND AT SPECIFIC ENTRANCES AND LOCATIONS DESIGNATED BY THE FIRE CODE OFFICIAL.

SIGNAGE SHALL NOT BE OBSCURED OR REMOVED, SHALL BE ENGLISH AS A PRIMARY LANGUAGE OR IN SYMBOLS ALLOWED BY THIS CODE, SHALL BE DURABLE, AND THE SIZE, COLOR AND LETTERING SHALL BE APPROVED.

LABELING & SIGNAGE: THE FIRE CODE OFFICIAL IS AUTHORIZED TO REQUIRE WARNING SIGNS FOR THE PURPOSES OF IDENTIFYING THE HAZARDS OF STORING OR USING FLAMMABLE LIQUIDS. SIGNAGE FOR IDENTIFICATION AND WARNING SUCH AS FOR THE INHERENT HAZARD OF FLAMMABLE LIQUIDS OR SMOKING SHALL BE PROVIDED.



N.F.P.A. LABELS

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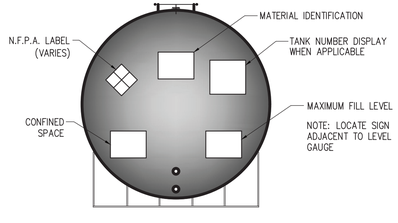
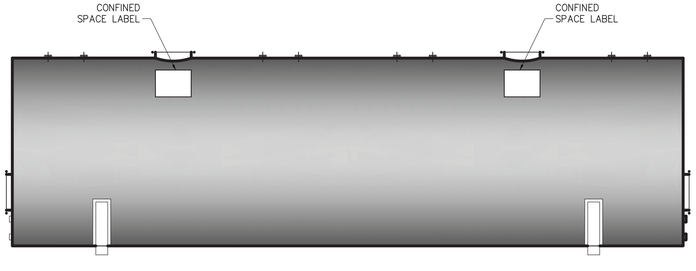


HORIZONTAL TANK - END VIEW

NOT TO SCALE



HORIZONTAL TANK - SIDE VIEW

NOT TO SCALE

SIGNAGE DESIGN REQUIREMENTS

SIGNAGE DESIGN REQUIREMENTS
INFORMATIONAL SIGNAGE IS REQUIRED FOR SOME SITE USES AND ACTIVITIES THAT HAVE THE POTENTIAL TO CONTAMINATE STORM WATER. SIGNAGE ADDRESSES GOOD HOUSEKEEPING RULES AND PROVIDES EMERGENCY RESPONSE MEASURES IN CASE OF AN ACCIDENTAL SPILL.
ANY APPLICABLE SPILL RESPONSE SUPPLIES NEED TO BE CLEARLY MARKED AND LOCATED WHERE THE SIGNAGE IS POSTED AND NEAR THE HIGH-RISK ACTIVITY AREA. MORE THAN ONE SPILL RESPONSE KIT MAY BE NECESSARY TO ACCOMMODATE LARGER ACTIVITY AREAS. SPILL RESPONSE SUPPLIES, SUCH AS ABSORBENT MATERIAL AND PROTECTIVE CLOTHING, TO BE AVAILABLE AT ALL POTENTIAL SPILL AREAS. EMPLOYEES SHOULD BE FAMILIAR WITH THE SITE'S OPERATIONS AND MAINTENANCE PLAN AND/OR PROPER SPILL CLEANUP PROCEDURES.
ALL SIGNAGE MUST CONFORM TO THE REQUIREMENTS DESCRIBED BELOW.

- SIGNS MUST BE LOCATED WHERE THEY ARE PLAINLY VISIBLE FROM ALL ACTIVITY AREAS. MORE THAN ONE SIGN MAY BE NEEDED TO ACCOMMODATE LARGER ACTIVITY AREAS.
- SIGNS MUST BE WATER-RESISTANT.
- SIGNS MUST PROVIDE SAFETY PRECAUTIONS.
- SIGNS MUST PROVIDE IMMEDIATE SPILL RESPONSE PROCEDURES--FOR EXAMPLE: "TURN THE VALVE LOCATED AT. . ." AND "USE ABSORBENT MATERIALS."
- SIGNS MUST HAVE EMERGENCY CONTACT(S) AND TELEPHONE NUMBER(S)--FOR EXAMPLE: "CALL 911" AND "FL DEP ORLANDO EMERGENCY RESPONSE NUMBER 407-897-4100".

REQUIREMENTS
SIGNAGE MUST BE PROVIDED AT THE STORAGE AREA AND AT SHUT-OFF VALVES IF HAZARDOUS MATERIALS OR OTHER MATERIALS OF CONCERN ARE STORED (AS DETERMINED BY BES). SIGNAGE MUST BE LOCATED SO IT IS PLAINLY VISIBLE FROM ALL STORAGE ACTIVITY AREAS AND LOCATED NEXT TO THE SHUT-OFF VALVE. MORE THAN ONE SIGN MAY BE NEEDED TO ACCOMMODATE LARGE STORAGE AREAS.

REQUIREMENTS
SIGNAGE MUST BE PROVIDED AT THE FUEL DISPENSING AREA AND MUST BE PLAINLY VISIBLE FROM ALL FUELING ACTIVITY AREAS. SIGNAGE MUST ALSO BE PROVIDED AT THE SHUT-OFF VALVE AREAS.

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SHEET DESCRIPTION:

SIGNAGE & TANK LABELING DETAILS & SPECIFICATIONS

SEAL & SIGNATURE

BRIAN E. LEWIS, P.E.
UTAH P.E. # 5013586-2203
EXP. DATE: 3/31/2021

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DRAWING BY: MSK
CHK. BY: AGN
DWG No:

D-200

CADD FILE NO.
LOGAN-CACHE-Set.dwg

NOTE:

1. TANK AND EQUIPMENT SKID SHALL BE ANCHORED IN 4 PLACES AS DEFINED BY THE EQUIPMENT FABRICATOR USING 3/4" DIA, GRADE 36 GALVANIZED STEEL ANCHOR BOLTS W/MIN 6" EMBEDMENT INTO CONCRETE TANK SLAB.

2. AST ANCHORS SHALL BE CAST IN PLACE OR DRILLED & EPOXIED USING HILTI RE500 3V ADHESIVE ANCHOR SYSTEM.

TANK & PIPING REQUIREMENTS

A. DESIGN, CONSTRUCTION AND GENERAL INSTALLATION REQUIREMENTS FOR TANKS. THE DESIGN, FABRICATION AND CONSTRUCTION OF TANKS SHALL COMPLY WITH NFPA 30. EACH TANK SHALL BEAR A PERMANENT NAMEPLATE OR MARKING INDICATING THE STANDARD USED AS THE BASIS OF DESIGN.

B. PIPING SYSTEMS. PIPING SYSTEMS, AND THEIR COMPONENT PARTS, FOR FLAMMABLE AND COMBUSTIBLE LIQUIDS SHALL BE IN ACCORDANCE WITH SECTIONS 3403.6.1 THROUGH 3403.6.11.

C. TANK VENTS FOR NORMAL VENTING. TANK VENTS FOR NORMAL VENTING SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH SECTIONS 3404.2.7.3.1 THROUGH 3404.2.7.3.6.

- **VENT PIPE OUTLETS.** VENT PIPE OUTLETS FOR TANKS STORING CLASS I, II OR IIIA LIQUIDS SHALL BE LOCATED SUCH THAT THE VAPORS ARE RELEASED AT A SAFE POINT OUTSIDE OF BUILDINGS AND NOT LESS THAN 12 FEET (3658 MM) ABOVE THE FINISHED GROUND LEVEL. VAPORS SHALL BE DISCHARGED UPWARD OR HORIZONTALLY AWAY FROM ADJACENT WALLS TO ASSIST IN VAPOR DISPERSION. VENT OUTLETS SHALL BE LOCATED SUCH THAT FLAMMABLE VAPORS WILL NOT BE TRAPPED BY EAVES OR OTHER OBSTRUCTIONS AND SHALL BE AT LEAST 5 FEET (1524 MM) FROM BUILDING OPENINGS OR LOT LINES OF PROPERTIES THAT CAN BE BUILT UPON. VENT OUTLETS ON ATMOSPHERIC TANKS STORING CLASS IIIB LIQUIDS ARE ALLOWED TO DISCHARGE INSIDE A BUILDING IF THE VENT IS A NORMALLY CLOSED VENT.

  EXCEPTION: VENT PIPE OUTLETS ON TANKS STORING CLASS IIIB LIQUID INSIDE BUILDINGS AND CONNECTED TO FUEL-BURNING EQUIPMENT SHALL BE LOCATED SUCH THAT THE VAPORS ARE RELEASED TO A SAFE LOCATION OUTSIDE OF BUILDINGS.

- **INSTALLATION OF VENT PIPING.** VENT PIPING SHALL BE DESIGNED, SIZED, CONSTRUCTED AND INSTALLED IN ACCORDANCE WITH SECTION 3403.6. VENT PIPES SHALL BE INSTALLED SUCH THAT THEY WILL DRAIN TOWARD THE TANK WITHOUT SAGS OR TRAPS IN WHICH LIQUID CAN COLLECT. VENT PIPES SHALL BE INSTALLED IN SUCH A MANNER SO AS NOT TO BE SUBJECT TO PHYSICAL DAMAGE OR VIBRATION.

- **MANIFOLDING.** TANK VENT PIPING SHALL NOT BE MANIFOLDED UNLESS REQUIRED FOR SPECIAL PURPOSES SUCH AS VAPOR RECOVERY, VAPOR CONSERVATION OR AIR POLLUTION CONTROL.

- **ABOVE-GROUND TANKS.** FOR ABOVE-GROUND TANKS, MANIFOLDED VENT PIPES SHALL BE ADEQUATELY SIZED TO PREVENT SYSTEM PRESSURE LIMITS FROM BEING EXCEEDED WHEN MANIFOLDED TANKS ARE SUBJECT TO THE SAME FIRE EXPOSURE.

- **UNDERGROUND TANKS.** FOR UNDERGROUND TANKS, MANIFOLDED VENT PIPES SHALL BE SIZED TO PREVENT SYSTEM PRESSURE LIMITS FROM BEING EXCEEDED WHEN MANIFOLDED TANKS ARE FILLED SIMULTANEOUSLY.

- **TANKS STORING CLASS I LIQUIDS.** VENT PIPING FOR TANKS STORING CLASS I LIQUIDS SHALL NOT BE MANIFOLDED WITH VENT PIPING FOR TANKS STORING CLASS II AND III LIQUIDS UNLESS POSITIVE MEANS ARE PROVIDED TO PREVENT THE VAPORS FROM CLASS I LIQUIDS FROM ENTERING TANKS STORING CLASS II AND III LIQUIDS, TO PREVENT CONTAMINATION AND POSSIBLE CHANGE IN CLASSIFICATION OF LESS VOLATILE LIQUID.

- **TANK VENTING FOR TANKS AND PRESSURE VESSELS STORING CLASS IB AND IC LIQUIDS.** TANKS AND PRESSURE VESSELS STORING CLASS IB OR IC LIQUIDS SHALL BE EQUIPPED WITH VENTING DEVICES WHICH SHALL BE NORMALLY CLOSED EXCEPT WHEN VENTING UNDER PRESSURE OR VACUUM CONDITIONS, OR WITH LISTED FLAME ARRESTERS. THE VENTS SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH SECTION 21.4.3 OF NFPA 30 OR API 2000.

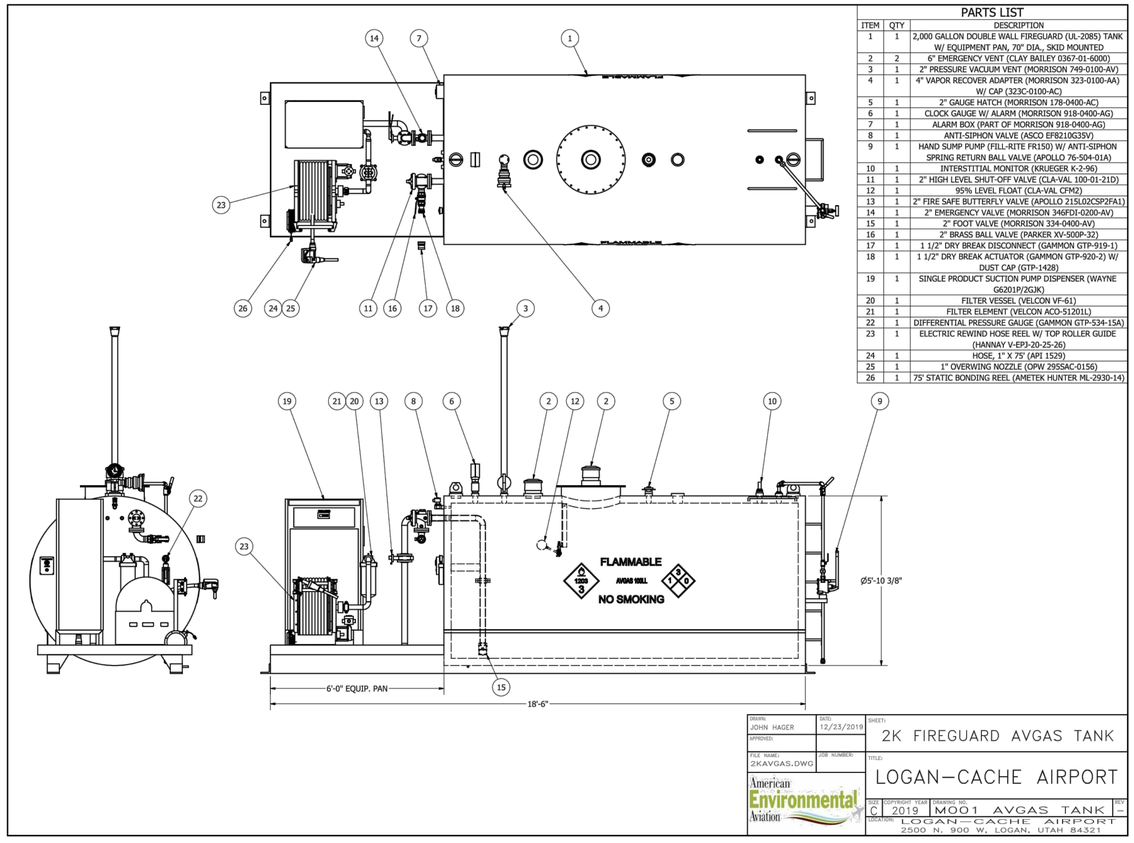
D. INTERNATIONAL FIRE CODE - EMERGENCY VENTING. STATIONARY, ABOVE-GROUND TANKS SHALL BE EQUIPPED WITH ADDITIONAL VENTING THAT WILL RELIEVE EXCESSIVE INTERNAL PRESSURE CAUSED BY EXPOSURE TO FIRES. EMERGENCY VENTS FOR CLASS I, II AND IIIA LIQUIDS SHALL NOT DISCHARGE INSIDE BUILDINGS. THE VENTING SHALL BE INSTALLED AND MAINTAINED IN ACCORDANCE WITH SECTION 22.7 OF NFPA 30.

EXCEPTION: TANKS LARGER THAN 12,000 GALLONS (45 420 L) IN CAPACITY STORING CLASS IIIB LIQUIDS WHICH ARE NOT WITHIN THE DIKED AREA OR THE DRAINAGE PATH OF CLASS I OR II LIQUIDS DO NOT REQUIRE EMERGENCY RELIEF VENTING.

E. FILLING, EMPTYING AND VAPOR RECOVERY CONNECTIONS. FILLING, EMPTYING AND VAPOR RECOVERY CONNECTIONS TO TANKS CONTAINING CLASS I, II OR IIIA LIQUIDS SHALL BE LOCATED OUTSIDE OF BUILDINGS IN ACCORDANCE AT A LOCATION FREE FROM SOURCES OF IGNITION AND NOT LESS THAN 5 FEET (1524 MM) AWAY FROM BUILDING OPENINGS OR LOT LINES OF PROPERTY THAT CAN BE BUILT ON. SUCH OPENINGS SHALL BE PROPERLY IDENTIFIED AND PROVIDED WITH A LIQUID-TIGHT CAP WHICH SHALL BE CLOSED WHEN NOT IN USE..

F. FIRE PROTECTION OF SUPPORTS. SUPPORTS OR PILINGS FOR ABOVE-GROUND TANKS STORING CLASS I, II OR IIIA LIQUIDS ELEVATED MORE THAN 12 INCHES (305 MM) ABOVE GRADE SHALL HAVE A FIRE-RESISTANCE RATING OF NOT LESS THAN 2 HOURS IN ACCORDANCE WITH THE FIRE EXPOSURE CRITERIA SPECIFIED IN ASTM E 1529.

ALL TANKS HAVE BEEN POSITIONED IN COMPLIANCE WITH INTERNATIONAL FIRE CODE.



PARTS LIST		
ITEM	QTY	DESCRIPTION
1	1	2,000 GALLON DOUBLE WALL FIREGUARD (UL-2085) TANK W/ EQUIPMENT PAN, 70" DIA., SKID MOUNTED
2	2	6" EMERGENCY VENT (CLAY BAILEY 0367-01-6000)
3	1	2" PRESSURE VACUUM VENT (MORRISON 749-0100-AV)
4	1	4" VAPOR RECOVER ADAPTER (MORRISON 323-0100-AA) W/ CAP (323C-0100-AC)
5	1	2" GAUGE HATCH (MORRISON 178-0400-AC)
6	1	CLOCK GAUGE W/ ALARM (MORRISON 918-0400-AG)
7	1	ALARM BOX (PART OF MORRISON 918-0400-AG)
8	1	ANTI-SIPHON VALVE (ASCO EF8210G35V)
9	1	HAND SUMP PUMP (FILL-RITE FR150) W/ ANTI-SIPHON SPRING RETURN BALL VALVE (APOLLO 76-504-01A)
10	1	INTERSTITIAL MONITOR (KRUEGER K-2-96)
11	1	2" HIGH LEVEL SHUT-OFF VALVE (CLA-VAL 100-01-21D)
12	1	95% LEVEL FLOAT (CLA-VAL CPH2)
13	1	2" FIRE SAFE BUTTERFLY VALVE (APOLLO 215L02CSP2FA1)
14	1	2" EMERGENCY VALVE (MORRISON 346FDI-0200-AV)
15	1	2" FOOT VALVE (MORRISON 334-0400-AV)
16	1	2" BRASS BALL VALVE (PARKER XV-500P-32)
17	1	1 1/2" DRY BREAK DISCONNECT (GAMMON GTP-919-1)
18	1	1 1/2" DRY BREAK ACTUATOR (GAMMON GTP-920-2) W/ DUST CAP (GTP-1428)
19	1	SINGLE PRODUCT SUCTION PUMP DISPENSER (WAYNE G6201P/2GJK)
20	1	FILTER VESSEL (VELCON VF-61)
21	1	FILTER ELEMENT (VELCON ACO-51201L)
22	1	DIFFERENTIAL PRESSURE GAUGE (GAMMON GTP-534-15A)
23	1	ELECTRIC REWIND HOSE REEL W/ TOP ROLLER GUIDE (HANNAY V-EPJ-20-25-26)
24	1	HOSE, 1" X 75' (API 1529)
25	1	1" OVERWING NOZZLE (OPW 295SAC-0156)
26	1	75' STATIC BONDING REEL (AMETEK HUNTER ML-2930-14)

DRAWN: JOHN HAGER	DATE: 12/23/2019	SHEET: 2K FIREGUARD AVGAS TANK	
APPROVED:			
FILE NAME: 2KAVGAS.DWG	JOB NUMBER:	TITLE: LOGAN–CACHE AIRPORT	
American Environmental Aviation		SIZE: C	COPYRIGHT YEAR: 2019	DRAWING NO.: M001 AVGAS TANK	REV: –
		LOCATION: LOGAN–CACHE AIRPORT 2500 N. 900 W. LOGAN, UTAH 84321	

2,000 GALLONUL-2085 FIREGUARD AST SHOP DRAWING
NTS

ISSUES/REVISIONS

No.	Description	Date

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LE AVIATION
LEADING EDGE AVIATION
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

American Environmental Aviation
3977 AVIATION LOOP, SANFORD, FLORIDA 32773
PHONE: (631) 586-2000

INSTALLATION OF A NEW ABOVE GROND FUEL TANK
LEADING EDGE AVIATION
LOGAN-CACHE AIRPORT
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

SHEET DESCRIPTION:

TANK
SHOP
DRAWINGS

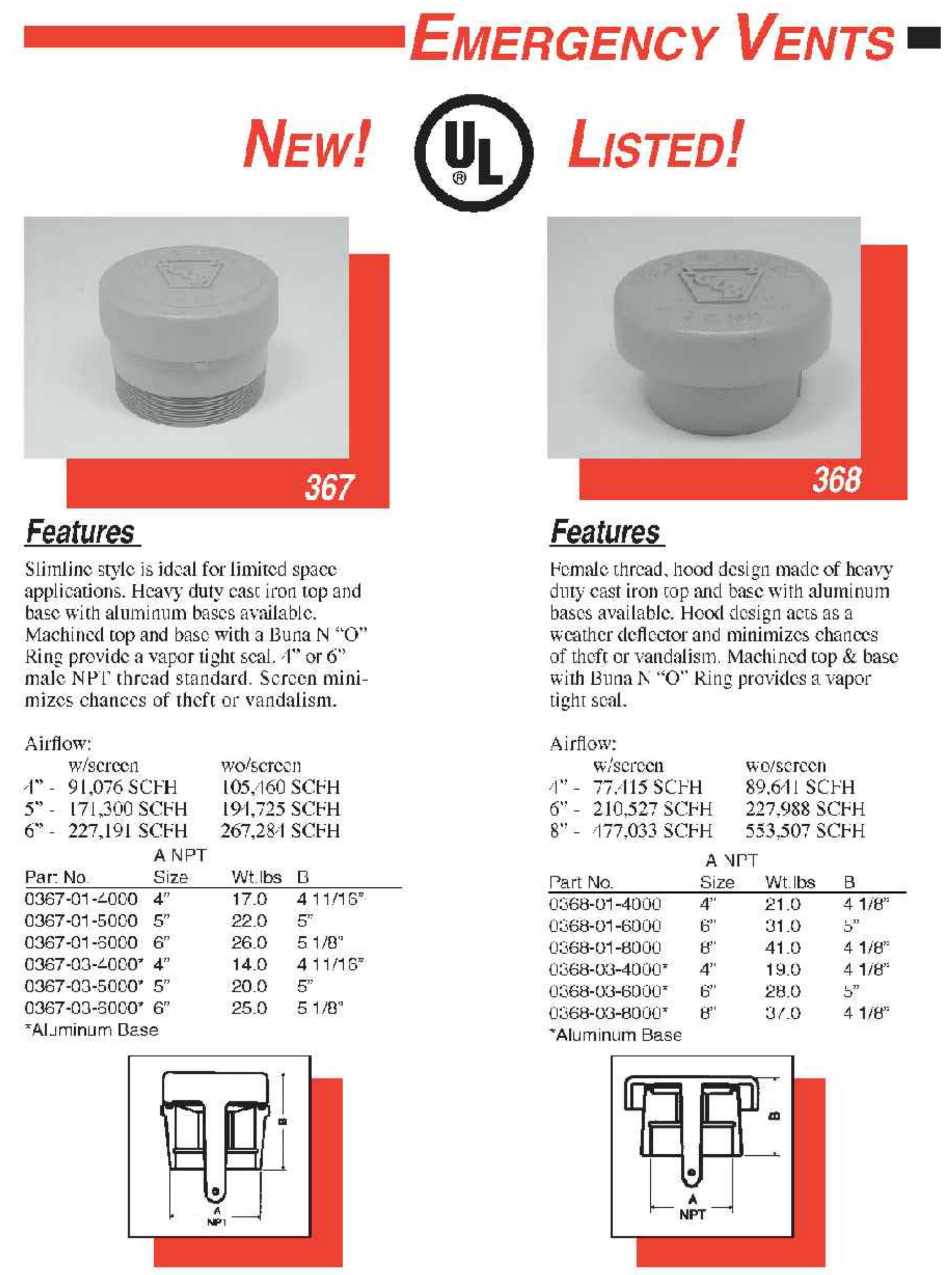
SEAL & SIGNATURE

BRIAN E. LEWIS, P.E.
UTAH P.E. # 5013586-2203
EXP. DATE: 3/31/2021

DATE: DECEMBER 2019
PROJECT NO.: AEAC-LOGAN
DRAWING BY: MSK
CHK. BY: AGN
DWG No: M-100
CADD FILE NO. LOGAN-CACHE-Set.dwg

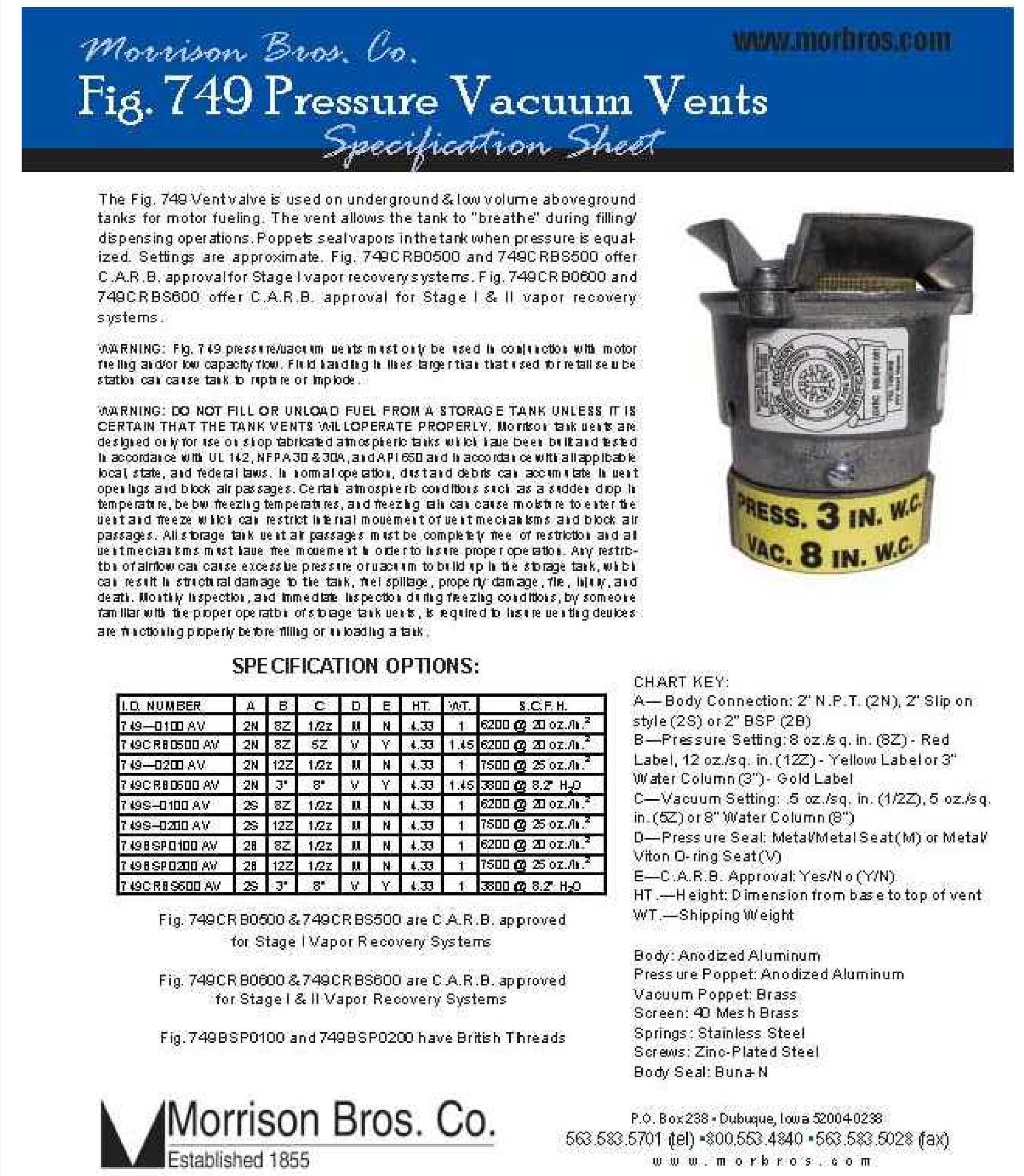
2" GAUGE HATCH
(MORRISON 178-0400-AC)

NOT TO SCALE



6" EMERGENCY VENT
(CLAY BAILEY 0367-01-6000)

NOT TO SCALE

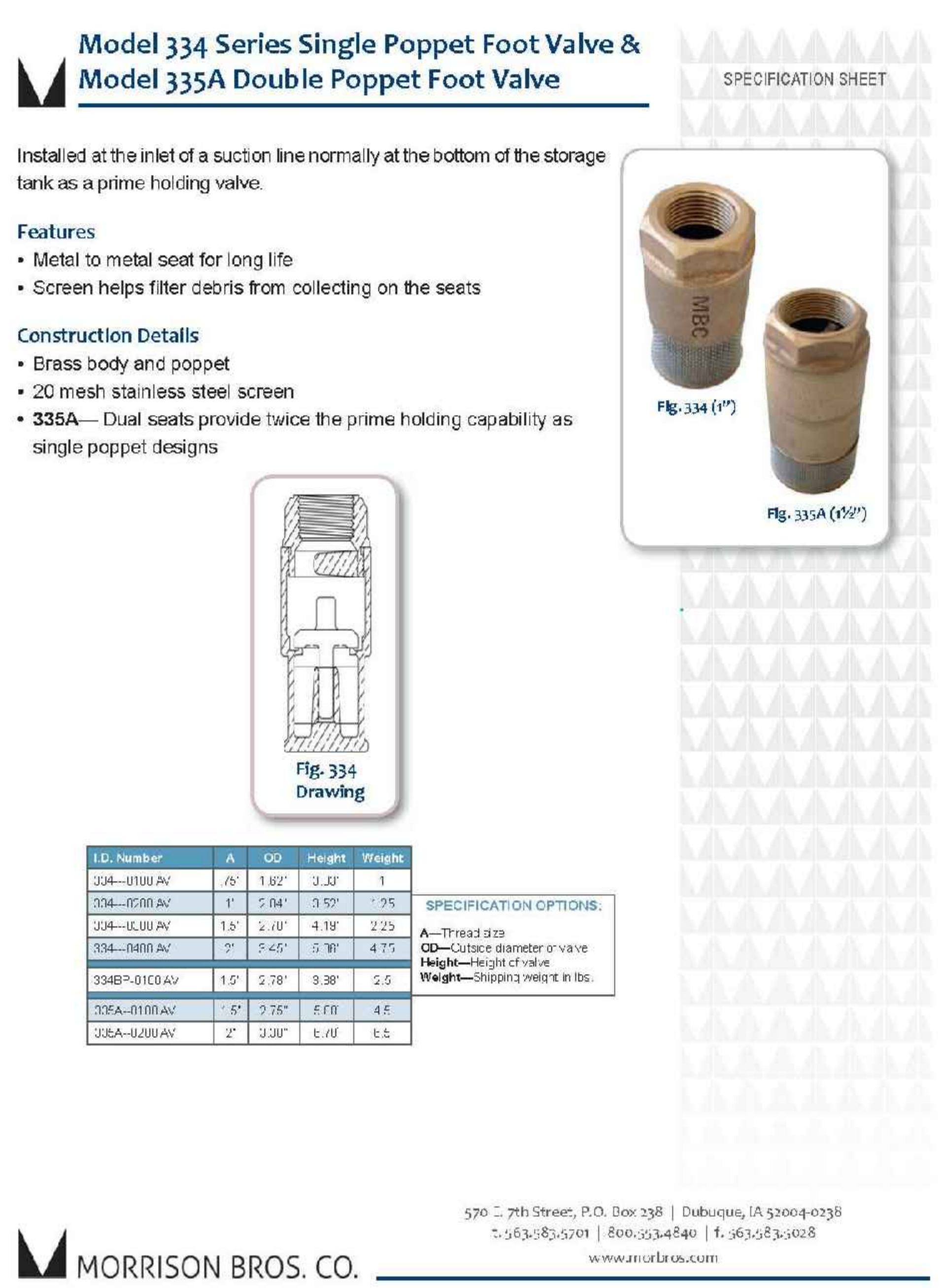


2" PRESSURE VACUUM VENT
(MORRISON 749-0100-AV)

NOT TO SCALE

4" VAPOR RECOVERY ADAPTOR
(MORRISON 323-0100-AA) +
CAP (323C-0100-AC)

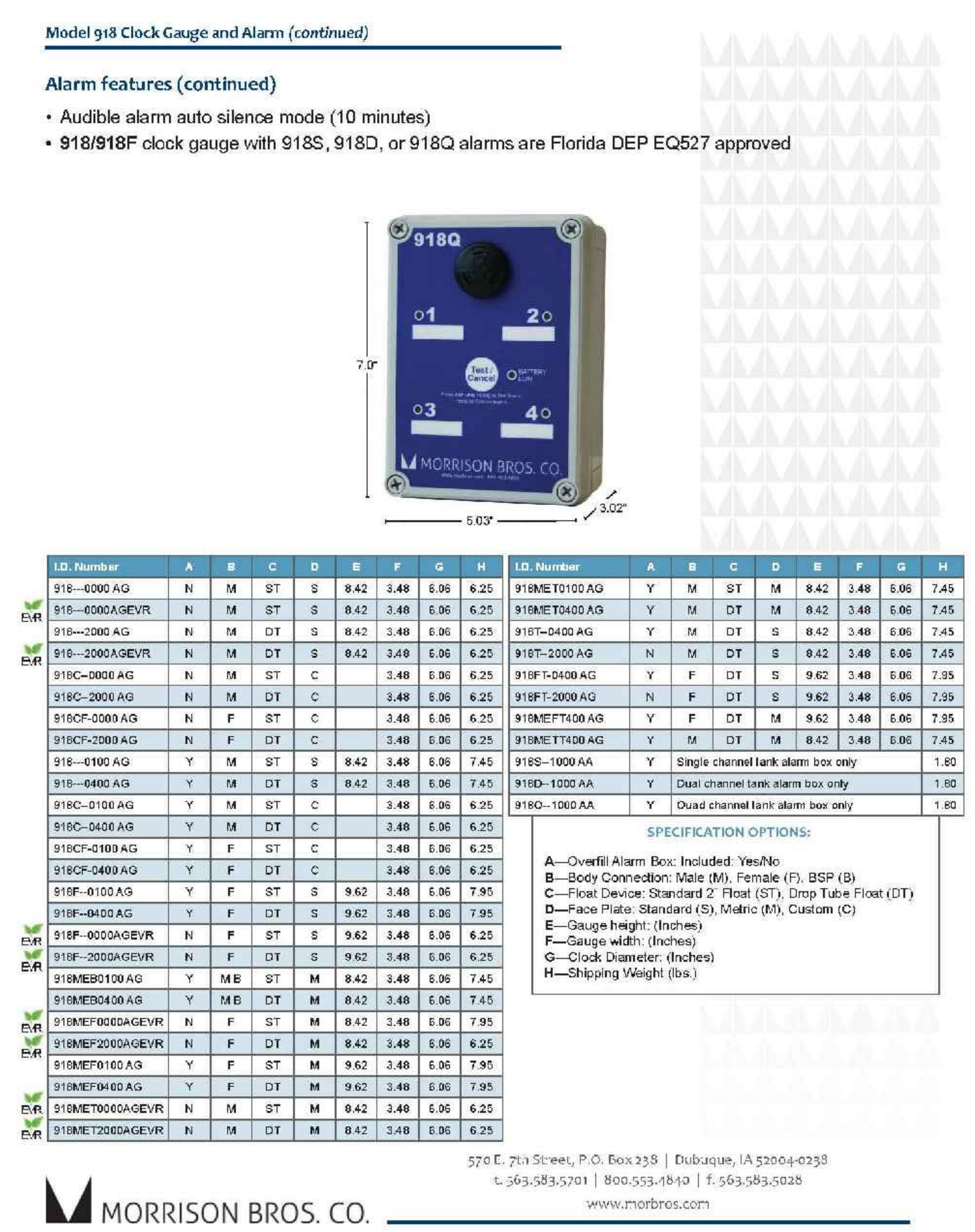
NOT TO SCALE



2" FOOT VALVE
(MORRISON 334-0400-AV)

NOT TO SCALE

CLOCK GAUGE W/ ALRAM + ALARM BOX
(MORRISON 918-0400-AG)



ANTI-SYPHON VALVE
(ASCO EF8210G35V)

NOT TO SCALE

ISSUES/REVISIONS		
No.	Description	Date

NOTICE

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LE AVIATION

LEADING EDGE AVIATION
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

American Environmental Aviation

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PHONE: (631) 586-2000

INSTALLATION OF A NEW ABOVE GROND FUEL TANK
LEADING EDGE AVIATION
LOGAN-CACHE AIRPORT
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

SHEET DESCRIPTION:

FUELING SYSTEM EQUIPMENT SPECIFICATIONS

SEAL & SIGNATURE	
	DATE: DECEMBER 2019
	PROJECT NO.: AEAC-LOGAN
	DRAWING BY: MSK
	CHK. BY: ACN
	DWG No: M-200
BRIAN E. LEWIS, P.E. UTAH P.E. # 5013586-2203 EXP. DATE: 3/31/2021	CADD FILE NO. LOGAN-CACHE-Set.dwg

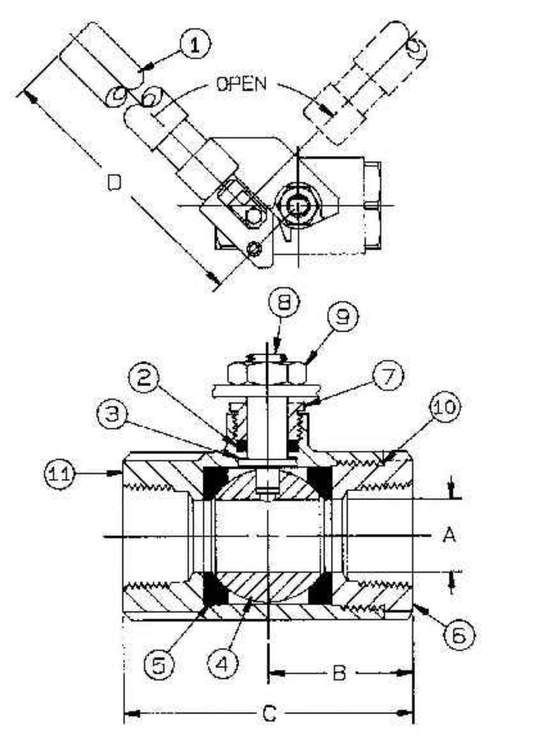
76-500 SERIES

Stainless Steel Ball Valve with Spring Return Handle

Female NPT Thread, 1/4" to 1" 2000 CWP (psig), 1.25" to 2" 1500 CWP (psig). Cold Non-Shock.
150 psig Saturated Steam.
Vacuum Service to 29 inches Hg.
MSS SP-110 compliant.

FEATURES

- Spring return to close ("01" suffix)
- Spring return to open ("08" suffix)
- Carbon and Graphite Reinforced seats (MPTFE)
- All components of lever are stainless steel
- Operating torque is approximately three times standard valve torque
- Blow-out-proof stem design
- Adjustable packing gland
- Meets NACE MR0175 (2000) & MR0103 (2012)
- Investment cast components



OPTIONS AVAILABLE: (More information in Section J)

(SUFFIX)	OPTION	SIZES
-01	Standard Configuration	All
-P -01-	BSPP (Parallel) Thread Connection	1/4" to 2"
-T -01-	BSPT (Tapered) Thread Connection	1/4" to 2"
-08-	90° Reversed Stem	1/4" to 2"
-14-	Side Vented Ball (Uni-Directional)	1/4" to 2"
21	UHMWPE Seals (Non PTFE)	1/4" to 2"
-24-	Graphite Packing	1/4" to 2"
35	PTFE Trim	1/4" to 2"
-44-	Seal Welded	1/4" to 2"
-49-	Assembled Dry	1/4" to 2"
-52-	Two Tack Welds	1/4" to 2"
-57-	Oxygen Cleaned	1/4" to 2"
-60-	Grounded Ball & Stem	1/4" to 2"

STANDARD MATERIAL LIST

	PART	MATERIAL
1	Handle	SS w/vinyl
2	Stem packing	Multifill PTFE (MPTFE)
3	Stem bearing	RPTFE
4	Ball	A276-316
5	Seat (2)	Multifill PTFE (MPTFE)
6	Retainer	A276-316 (1/4" to 1") A351 CF8M (1.25" to 2")
7	Gland nut	A276-316
8	Stem	A276-316
9	Lever nut	18-8 SS
10	Body seal	PTFE (1.25" to 2")
11	Body	A351-CF8M

PRODUCT NUMBER	SIZE	A	B	C	D	WT.
76-501-01A	1/4"	0.37	1.03	2.06	7.00	1.26
76-502-01A	3/8"	0.37	1.03	2.06	7.00	1.25
76-503-01A	1/2"	0.50	1.12	2.25	7.00	1.31
76 504 01A	3/4"	0.68	1.50	3.00	7.00	1.98
76-505-01A	1"	0.87	1.68	3.37	7.00	2.35
76-506-01	1.25"	1.00	2.00	4.00	9.00	3.96
76-507-01	1.5"	1.25	2.18	4.37	9.00	4.78
76-508-01	2"	1.50	2.75	5.50	9.00	6.66

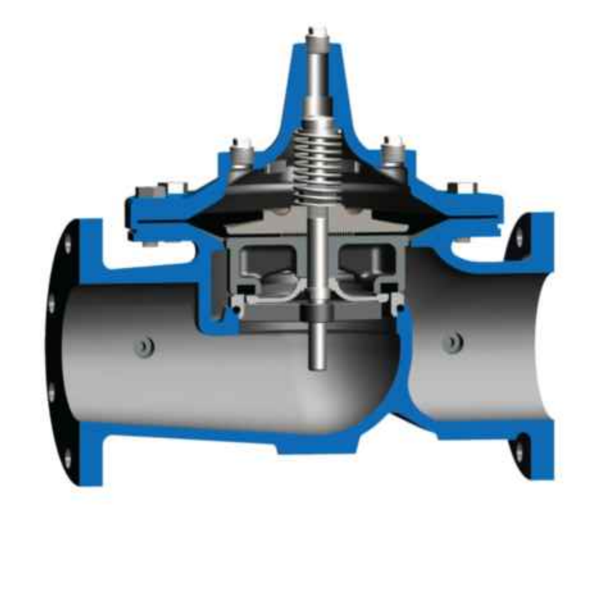
FOR PRESSURE/TEMPERATURE RATINGS:
REFER TO PAGE M-14, GRAPH NO. 14 (1/4" TO 1")
REFER TO PAGE M-13, GRAPH NO. 12 (1.25" TO 2")

 H-9

HAND SUMP PUMP ANTI-SYPHON SPRING RETURN BALL VALVE (APOLLO 76-504-01A)

NOT TO SCALE

CLA-VAL —MODEL— 100-01 Hytrol Valve



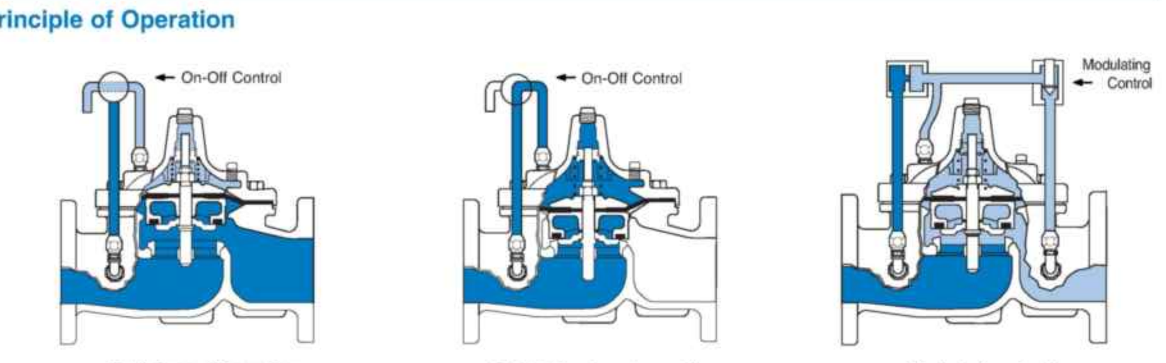
- Drip-Tight, Positive Seating
- Service Without Removal From Line
- Threaded, Flanged or Grooved Ends
- Globe or Angle Pattern
- 100% Factory Tested

The Cla-Val Model 100-01 Hytrol Valve is a hydraulically operated, diaphragm actuated, globe or angle pattern valve. It consists of three major components: body, diaphragm assembly, and cover. The diaphragm assembly is the only moving part.

The diaphragm assembly is guided top and bottom by a precision machined stem. It utilizes a non-wicking diaphragm of nylon fabric bonded with synthetic rubber. A resilient synthetic rubber disc retained on three and one half sides by a disc retainer forms a drip-tight seal with the renewable seat when pressure is applied above the diaphragm.

The Model 100-01 is the basic valve used in nearly all Cla-Val Automatic Control Valves. It is the valve of choice for system applications requiring remote control, pressure regulation, solenoid operation, rate of flow control, liquid level control or check valve operation. The rugged simplicity of design and packless construction assure a long life of dependable, trouble-free operation. It is available in various materials and in a full range of sizes, with either threaded, flanged or grooved ends. Its applications are unlimited.

Principle of Operation



Full Open Operation
When pressure in the cover chamber is relieved to a zone of lower pressure, the line pressure at the valve inlet opens the valve, allowing full flow.

Tight Closing Operation
When pressure from the valve inlet is applied to the cover chamber, the valve closes drip-tight.

Modulating Action
The valve holds any intermediate position when operating pressures are equal above and below the diaphragm. A Cla-Val "Modulating" Pilot Control will allow the valve to automatically compensate for line pressure changes.

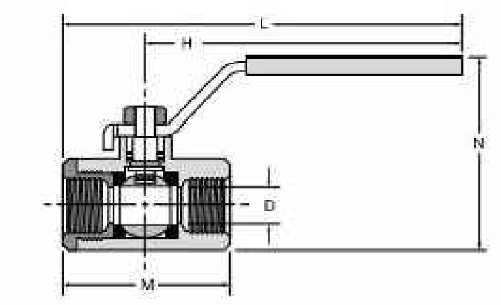
CLA-VAL

2" HIGH LEVEL SHUT OFF VALVE (CLA-VAL 100-01-21D)

NOT TO SCALE

Female-Female Pipe Ends XV500P-20, XV500P-24, XV500P-32

PART NO.	PIPE THREAD [PTF]	OCTAGON	H	L	M	N	FLOW DIA.D
XV500P-20	1-1/4	1.93	6.22	8.05	3.66	3.98	1.18
XV500P-24	1-1/2	2.13	6.22	8.23	4.02	4.43	1.50
XV500P-32	2	2.69	6.22	8.58	4.76	5.02	1.89



2" BRASS BALL VALVE (PARKER XY-500P-32)

NOT TO SCALE

Model 346 Series External Emergency Valves

SPECIFICATION SHEET

Application

The Morrison Fig. 346 Series External Emergency Valve is designed for installation at the outlet of an AST or in a liquid transfer line where product flow must be stopped in the event of a fire. The flanges on the 346FDI models conform to ANSI B16.42 specifications for class 150 raised face ductile iron flanges.

Operational Criteria

- 346DI/SS models: cold, non-shock maximum operating pressure 200 psi W.O.G.
- 346FDI models: cold, non-shock maximum operating pressure 250 psi W.O.G.

Materials of Construction

- O-ring... Teflon® encapsulated flourocarbon elastomer
- Spring... 302 stainless steel
- Seal nut/plug... 303 stainless steel
- Handle... Brass
- Fulcrum shaft... 303 stainless steel
- Groove pin... Steel
- Hold open hook... Stainless steel

Certifications and Listings

- Fuse link is UL listed

Fig. 346FDI

Fig. 346DI

Fig. 346SS

Item Number	A	B	C	D	E	F	G	H	I	J	K	L
346FDI0200 AV	2"	F	DI	TFE	DI	DI	165°	4	6¼"	6½"		15.0
346FDI0300 AV	3"	F	DI	TFE	DI	DI	165°	4	8⁷/₃₂"	8⅝"		29.40
346FDI0400 AV	4"	F	DI	TFE	DI	DI	165°	8	11¼"	11½"		72.0
346DI-1000 AV	¾"		DI	TFE	DI	DI	165°		5"	6¹⁵/₁₆"	I	7.30
346DI-1100 AV	1"		DI	TFE	DI	DI	165°		5"	6¹⁵/₁₆"	I	7.30
346DI-1200 AV	1¼"		DI	TFE	DI	DI	165°		5"	6¹⁵/₁₆"	I	7.0
346DI-0400 AV	1½"		DI	TFE	DI	DI	165°		5"	5⁷/₁₆"		6.80
346DI-0500 AV	2"		DI	TFE	DI	DI	165°		5"	5⁷/₁₆"		6.20
346DI-0600 AV	3"		DI	TFE	DI	DI	165°		7"	8¹¹/₆₄"		15.50
346SS-1000 AV	¾"		SS	TFE	SS	SS	165°		5"	6¹⁵/₁₆"	SS	8.60
346SS-1100 AV	1"		SS	TFE	SS	SS	165°		5"	6¹⁵/₁₆"	SS	8.60
346SS-1200 AV	1¼"		SS	TFE	SS	SS	165°		5"	6¹⁵/₁₆"	SS	8.50
346SS-0100 AV	1½"		SS	TFE	SS	SS	165°		5"	5⁷/₁₆"		8.0
346SS-0200 AV	2"		SS	TFE	SS	SS	165°		5"	5⁷/₁₆"		7.0

SPECIFICATION OPTIONS:

A—Size (inches)
B—Mounting connection: Flanged (F) or Female NPT (Blank)
C—Body/cap material: Ductile iron (DI) or 316 stainless steel (SS)
D—Gasket material: Teflon® (TFE)
E—Poppet: Ductile iron (DI) or 316 stainless steel (SS)
F—Lever arm: Ductile iron (DI) or 316 stainless steel (SS)
G—Fuse link: 165° F STD. (212°F Optional); Fuse link is UL Listed
H—Number of bolt holes
I—Height of valve (inches)
J—Length of valve (inches)
K—Reducing bushings: Iron (I) or 316 stainless steel (SS)
L—Shipping weight (lbs)

Companion flanges, flange gaskets, nuts, bolts and washers available.

MORRISON BROS. CO.

570 E. 7th Street, P.O. Box 238 | Dubuque, IA 52004-0238
t. 563.583.5701 | 800.553.4840 | f. 563.583.5028
www.morbros.com

2" EXTERNAL E-VALVE (MORRISON 346FDI-0200-AV)

NOT TO SCALE

CLA-VAL MODEL 129-01 (Full Internal Port) 629-01 (Reduced Internal Port) Float Valve

- Accurate and Repeatable Level Control
- Proportional Flow
- Reliable Hydraulic Operation
- Drip-Tight Positive Shut-Off
- Completely Automatic Operation

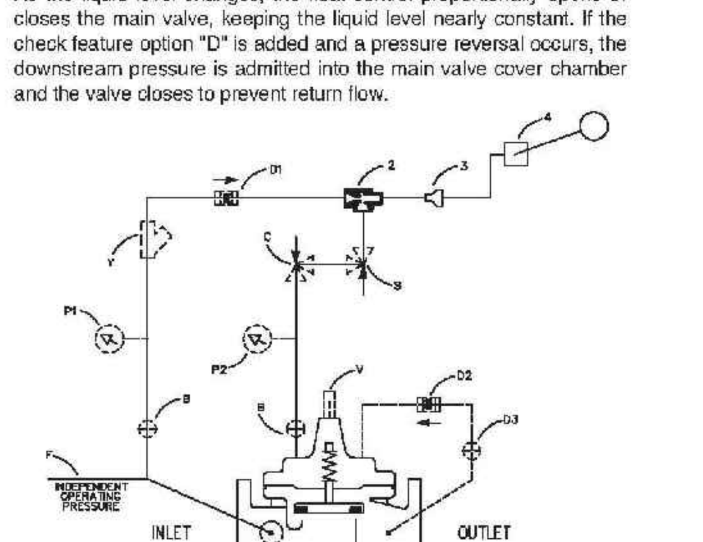
The Cla-Val Model 129-01/629-01 Float Valve maintains a relatively constant level in storage tanks and reservoirs by admitting flow into the tank in direct proportion to the flow out of the tank. It is a hydraulically operated, pilot controlled, diaphragm valve. The rotary disc type float operated pilot control is installed at the high liquid level in the reservoir and is connected via tubing or pipe to the main valve. As the liquid level changes, the float control proportionally opens or closes the main valve, keeping the liquid level nearly constant. If the check feature option "D" is added and a pressure reversal occurs, the downstream pressure is admitted into the main valve cover chamber and the valve closes to prevent return flow.

Schematic Diagram

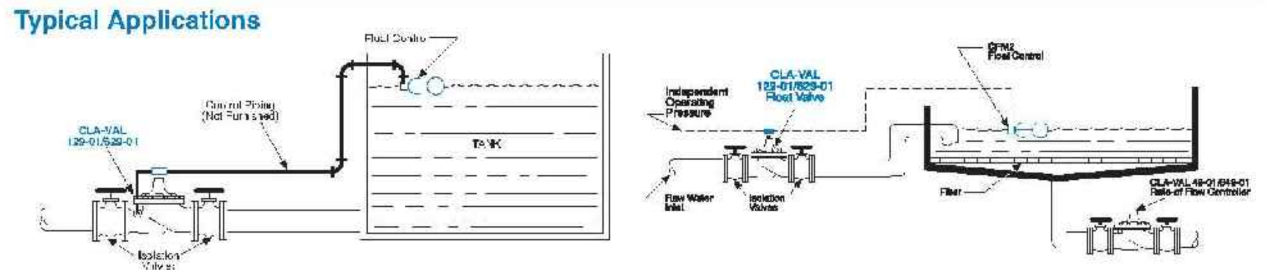
Item	Description
1	Hytrol (Main Valve)
2	X47A Ejector
3	Bell Reducer
4	CFM2 Float Control

Optional Features

Item	Description
A	X46A Flow Cleaner Strainer
B	CK2 (Isolation Valve)
C	CV Flow Control (Closing)
D	Check Valves With Isolation Valve
F	Independent Operating Pressure
P	X141 Pressure Gauge
S	CV Speed Control (Opening)
V	X101 Valve Position Indicator
Y	X43 "Y" Strainer



Typical Applications



Piping and Tank Sizing
Install valve and control as shown in the diagram above. The float control should be located in a still liquid surface. If it is necessary to obtain this condition, a stilling well should be constructed. Mount the float control on the connecting piping with the outlet port at the desired high water level. When a separate source of supply pressure (Option F) is used by the pilot control system, that pressure must at all times be constant and equal to or greater than the pressure at the valve inlet.

Filter Liquid Level Control
Maintains constant level in rapid sand filter. Usually requires the use of an independent operating pressure as shown.

DO NOT USE FOR ON-OFF SERVICE.

Note: We recommend protecting tubing and valve from freezing temperatures.

CLA-VAL

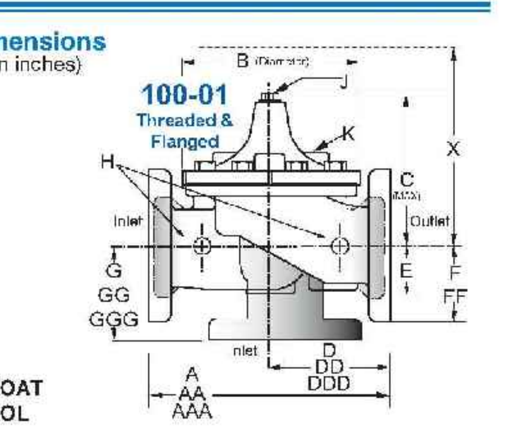
Model 129-01 (Uses Basic Valve Model 100-01)

Pressure Ratings (Recommended Maximum Pressure - psi)

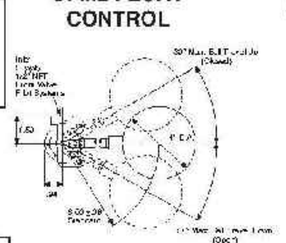
Valve Body & Cover		Pressure Class				
		Flanged			Grooved	Threaded
Grade	Material	ANSI Standards*	150 Class	300 Class	300 Class	End‡ Details
ASTM A536	Ductile Iron	B16.42	250	400	400	400
ASTM A216-WCB	Cast Steel	B16.5	285	400	400	400
ASTM B62	Bronze	B16.24	225	400	400	400

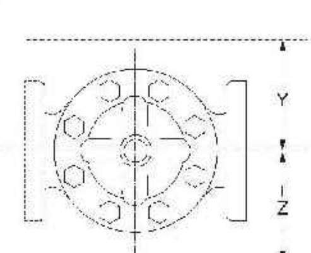
Note: * ANSI standards are for flange dimensions only. Flanged valves are available faced but not drilled.
‡ End Details machined to ANSI B2.1 specifications.
Valves for higher pressure are available; consult factory for details

Dimensions (In inches)



CFM2 FLOAT CONTROL





Materials

Component	Standard Material Combinations		
Body & Cover	Ductile Iron	Cast Steel	Bronze
Available Sizes	1" - 36"	1" - 16"	1" - 16"
Disc Retainer & Diaphragm Washer	Cast Iron	Cast Steel	Bronze
Trim: Disc Guide, Seat & Cover Bearing	Bronze is Standard Stainless Steel is Optional		
Disc	Buna-N® Rubber		
Diaphragm	Nylon Reinforced Buna-N® Rubber		
Stem, Nut & Spring	Stainless Steel		

For material options not listed, consult factory.
Cla-Val manufactures valves in more than 50 different alloys.

Model 129-01 Dimensions (In Inches) — Important Notice: Do Not Oversize

Valve Size (Inches)	1	1 1/4	1 1/2	2	2 1/2	3	4	6	8	10	12	14	16	18	20	24	30	36
A Threaded	7.25	7.25	7.25	9.38	11.00	12.50	—	—	—	—	—	—	—	—	—	—	—	—
AA 150 ANSI	—	—	8.50	9.38	11.00	12.00	15.00	20.00	25.38	29.75	34.00	39.00	41.38	46.00	52.00	61.50	63.00	76.00
AAA 300 ANSI	—	—	9.00	10.00	11.62	13.25	15.62	21.00	26.38	31.12	35.50	40.50	43.50	47.64	53.62	63.24	64.50	76.00
B Dia.	5.62	5.62	5.62	6.62	8.00	9.12	11.50	15.75	20.00	23.62	28.00	32.75	35.50	41.50	45.00	53.16	56.00	66.00
C Max.	5.50	5.50	5.50	6.50	7.56	8.19	10.62	13.38	16.00	17.12	20.88	24.19	25.00	39.06	41.90	43.93	54.60	61.50
D Threaded	3.25	3.25	3.25	4.75	5.50	6.25	—	—	—	—	—	—	—	—	—	—	—	—
DD 150 ANSI	—	—	4.00	4.75	5.50	6.00	7.50	10.00	12.69	14.88	17.00	19.50	20.81	—	—	30.75	—	—
DDD 300 ANSI	—	—	4.25	5.00	5.88	6.38	7.88	10.50	13.25	15.56	17.75	20.25	21.62	—	—	31.62	—	—
E	1.12	1.12	1.12	1.50	1.69	2.06	3.19	4.31	5.31	9.25	10.75	12.62	15.50	12.95	15.00	17.75	21.31	24.56
F 150 ANSI	—	—	2.50	3.00	3.50	3.75	4.50	5.50	6.75	8.00	9.50	10.50	11.75	15.00	16.50	19.25	22.50	25.60
FF 300 ANSI	—	—	3.08	3.25	3.75	4.13	5.00	6.25	7.50	8.75	10.25	11.50	12.75	15.00	16.50	19.25	24.00	25.60
G Threaded	1.88	1.88	1.88	3.25	4.00	4.50	—	—	—	—	—	—	—	—	—	—	—	—
GG 150 ANSI	—	—	4.00	3.25	4.00	4.00	5.00	6.00	8.00	8.62	13.75	14.88	15.69	—	—	22.06	—	—
GGG 300 ANSI	—	—	4.25	3.50	4.31	4.38	5.31	6.50	8.50	9.31	14.50	15.62	16.50	—	—	22.90	—	—
H NPT Body Tapping	.375	.375	.375	.375	.50	.50	.75	.75	1	1	1	1	1	1	1	1	2	2
J NPT Cover Center Plug	.25	.25	.25	.50	.50	.50	.75	.75	1	1	1.25	1.5	2	1.5	1.5	1.5	2	2
K NPT Cover Tapping	.375	.375	.375	.375	.50	.50	.75	.75	1	1	1	1	1	1	1	1	2	2
Stem Travel	0.4	0.4	0.4	0.6	0.7	0.8	1.1	1.7	2.3	2.8	3.4	4.0	4.5	5.1	5.63	6.75	7.5	8.5
Approx. Ship Wt. Lbs.	15	15	15	35	50	70	140	285	500	780	1165	1600	2265	2982	3900	6200	7703	11720
X Pilot System	11	11	11	13	14	15	17	29	31	33	36	40	40	43	47	68	79	85
Y Pilot System	9	9	9	9	10	11	12	20	22	24	26	29	30	32	34	39	40	45
Z Pilot System	9	9	9	9	10	11	12	20	22	24	26	29	30	32	34	39	42	47

Note: The top two flange holes on valve size 36 are threaded to 1 1/2" 6 UNC.

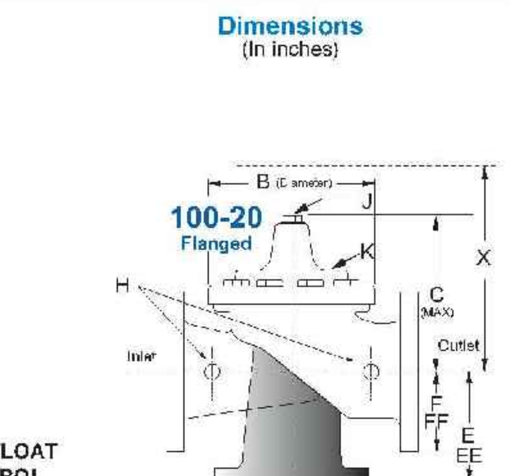
Model 629-01 (Uses Basic Valve Model 100-20)

Pressure Ratings (Recommended Maximum Pressure - psi)

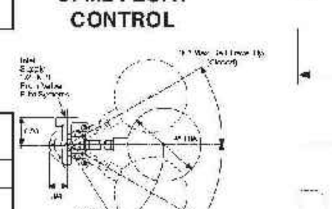
Valve Body & Cover		Pressure Class		
		Flanged		
Grade	Material	ANSI Standards*	150 Class	300 Class
ASTM A536	Ductile Iron	B16.42	250	400
ASTM A216-WCB	Cast Steel	B16.5	285	400
ASTM B62	Bronze	B16.24	225	400

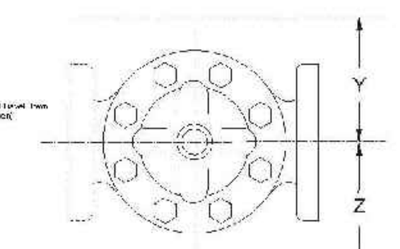
Note: * ANSI standards are for flange dimensions only. Flanged valves are available faced but not drilled.
Valves for higher pressure are available; consult factory for details

Dimensions (In inches)



CFM2 FLOAT CONTROL





Materials

Component	Standard Material Combinations		
Body & Cover	Ductile Iron	Cast Steel	Bronze
Available Sizes	3" - 48"	3" - 16"	3" - 16"
Disc Retainer & Diaphragm Washer	Cast Iron	Cast Steel	Bronze
Trim: Disc Guide, Seat & Cover Bearing	Bronze is Standard Stainless Steel is Optional		
Disc	Buna-N® Rubber		
Diaphragm	Nylon Reinforced Buna-N® Rubber		
Stem, Nut & Spring	Stainless Steel		

For material options not listed, consult factory.
Cla-Val manufactures valves in more than 50 different alloys.

Model 629-01 Dimensions (In Inches) — Important Notice: Do Not Oversize

Valve Size (Inches)	3	4	6	8	10	12	14	16	18	20	24	30	36	42	48
A 150 ANSI	10.25	13.88	17.75	21.38	26.00	30.00	34.25	35.00	42.12	48.00	48.00	63.25	65.00	76.00	94.50
AA 300 ANSI	11.00	14.50	18.62	22.38	27.38	31.50	35.75	36.62	43.63	49.62	49.75	63.75	67.00	76.00	94.50
B Dia.	6.62	9.12	11.50	15.75	20.00	23.62	27.47	28.00	35.44	35.44	35.44	53.19	56.00	66.00	66.00
C Max.	7.00	8.62	11.62	15.00	17.88	21.00	20.88	25.75	25.00	31.00	31.00	43.94	54.60	61.50	61.50
D 150 ANSI	—	6.94	8.88	10.69	CF*	CF*	CF*	CF*	CF*	CF*	CF*	—	—	—	—
DD 300 ANSI	—	7.25	9.38	11.19	CF*	CF*	CF*	CF*	CF*	CF*	CF*	—	—	—	—
E 150 ANSI	—	5.50	6.75	7.25	CF*	CF*	CF*	CF*	CF*	CF*	CF*	—	—	—	—
EE 300 ANSI	—	5.81	7.25	7.75	CF*	CF*	CF*	CF*	CF*	CF*	CF*	—	—	—	—
F 150 ANSI	3.75	4.50	5.50	6.75	8.00	9.50	11.00	11.75	15.88	14.56	17.00	19.88	25.50	28.00	31.50
FF 300 ANSI	4.12	5.00	6.25	7.50	8.75	10.25	11.50	12.75	15.88	16.06	19.00	22.00	27.50	28.00	31.50
H NPT Body Tapping	.375	.50	.75	.75	1	1	1	1	1	1	1	1	2	2	2
J NPT Cover Center Plug	.50	.50	.75	.75	1	1	1.25	1.25	2	2	2	2	2	2	2
K NPT Cover Tapping	.375	.50	.75	.75	1	1	1	1	1	1	1	1	2	2	2
Stem Travel	0.6	0.8	1.1	1.7	2.3	2.8	3.4	3.4	4.5	4.5	4.5	6.5	7.5	8.5	8.5
Approx. Ship Wt. Lbs.	45	85	195	330	625	900	1250	1380	1500	2551	2733	6500	8545	12450	13100
X Pilot System	13	15	27	30	33	36	36	41	40	46	55	68	79	85	86
Y Pilot System	10	11	18	20	22	24	26	26	30	30	30	39	40	45	47
Z Pilot System	10	11	18	20	22	24	26	26	30	30	30	39	42	47	49

*Consult Factory
Note: The top two flange holes on valve sizes 36 thru 48 are threaded to 1 1/2" 6 UNC.

129-01 Valve Selection

100-01 Pattern: Globe (G), Angle (A), End Connections: Threaded (T), Grooved (Gr), Flanged (F) Indicate Available Sizes

		1	1¼	1½	2	2½	3	4	6	8	10	12	14	16	18	20	24	30	36
Valve Size	Inches	1	1¼	1½	2	2½	3	4	6	8	10	12	14	16	18	20	24	30	36
	mm	25	32	40	50	65	80	100	150	200	250	300	350	400	450	500	600	750	900
Basic Valve 100-01	Pattern	[illegible]																	
	End Detail	[illegible]																	
Suggested Flow (gpm)	Maximum	55	93	125	210	300	460	800	1800	3100	4900	7000	8400	11000	14000	17000	25000	42000	50000
Suggested Flow (Liters/Sec)	Maximum	3.5	6	8	13	19	29	50	113	195	309	442	530	694	883	1073	1577	2650	3150

100-01 Series is the full internal port Hytrol. *Globe Grooved Only

629-01 Valve Selection

100-20 Pattern: Globe (G), Angle (A), End Connections: Flanged (F) Indicate Available Sizes

		3	4	6	8	10	12	14	16	18	20	24	30	36	42	48
Valve Size	Inches	3	4	6	8	10	12	14	16	18	20	24	30	36	42	48
	mm	80	100	150	200	250	300	350	400	450	500	600	750	900	1000	1200
Basic Valve 100-20	Pattern	[illegible]														
	End Detail	F	F	F	F	F	F	F	F	F	F	F	F	F	F	F
Suggested Flow (gpm)	Maximum	260	580	1025	2300	4100	6400	9230	9230	16500	16500	16500	28000	33500	33500	33500
Suggested Flow (Liters/Sec)	Maximum	16	37	65	145	258	403	581	581	1040	1040	1040	1764	2115	2115	2115

100-20 Series is the reduced internal port size version of the 100-01 Series.

Pilot System Specifications

Pressure Rating
Maximum: 300 psi

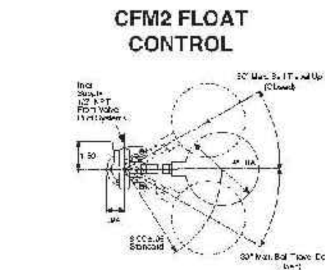
Temperature Range
Water: to 180°F

Materials
Pilot Control System:
Cast Bronze ASTM B-62 with 303 Stainless Steel Trim, Bronze fittings and copper tubing.

Optional Materials
Aluminum, Bronze and Stainless Steel

Control Piping (customer supplied)
Use either copper tubing or brass pipe between CFM2 Float Control and the main valve pilot system.
1/2" dia. for distances less than 25 feet.
3/4" dia. for greater distances.

CFM2 FLOAT CONTROL



When Ordering, Please Specify

1. Catalog No. 129-01 or No. 629-01
2. Valve Size
3. Pattern - Globe or Angle
4. Pressure Class
5. Threaded or Flanged
6. Materials Desired
7. Desired Options
8. When Vertically Installed

CLA-VAL P.O. Box 1325 • Newport Beach, CA 92659-0325 • Phone: 949-722-4800 • Fax: 949-548-5441 • E-mail: claval@cla-val.com • Website cla-val.com

95% LEVEL FLOAT - (CLA-VAL CFM2)

NOT TO SCALE

ISSUES/REVISIONS		
Description	No.	Date

NOTICE
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Naples, Florida 34103
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LE AVIATION
LEADING EDGE AVIATION
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

American Environmental Aviation
3977 AVIATION LOOP, SANFORD, FLORIDA 32773
PHONE: (631) 586-2000

INSTALLATION OF A NEW ABOVE GROND FUEL TANK
LEADING EDGE AVIATION
LOGAN-CACHE AIRPORT
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

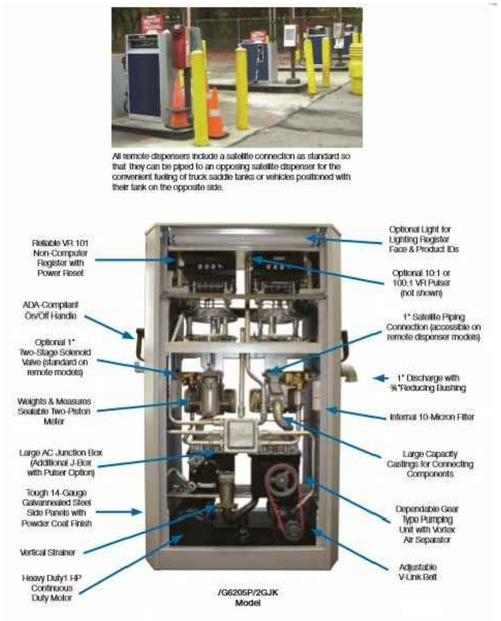
SHEET DESCRIPTION:

FUELING SYSTEM EQUIPMENT SPECIFICATIONS

SEAL & SIGNATURE

BRIAN E. LEWIS, P.E.
UTAH P.E. # 5013586-2203
EXP. DATE: 3/31/2021

DATE:	DECEMBER 2019
PROJECT NO.:	AEAC-LOGAN
DRAWING BY:	MSK
CHK. BY:	AGN
DWG No:	M-210
CADD FILE NO.	LOGAN-CACHE-Set.dwg



SINGLE PRODUCT SUCTION PUMP DISPENSER
(WAYNE G6201P/2GJK)

NOT TO SCALE

GAMMON

GAMMON TECHNICAL PRODUCTS, INC.
P.O.BOX 400 - 2300 HWY 34
MANASQUAN, N.J. 08736

PHONE 732 223-4600
FAX 732 223-5778
WEBSITE www.gammontech.com
STORE www.gammontechstore.com

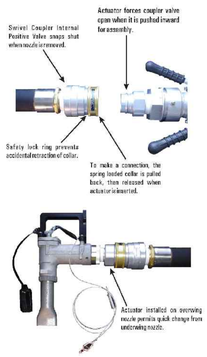
DRY BREAK QUICK DISCONNECT

BULLETIN 31 (10-09)

HEAVY DUTY DRY BREAK QUICK DISCONNECT

WITH STAINLESS STEEL BALL RACE RING TO RESIST WEAR

Fast change from **OVERWING** to **UNDERWING** nozzle
NO SPILL FROM HOSE



FAST OPERATION
Connect or disconnect in seconds, without tools. To connect, pull back the sleeve, push the connector into the coupler, and release the sleeve. To disconnect, pull back the sleeve coupler and connector halves separate. The valve opens automatically when the halves are connected.

DEPENDABLE OPERATION
The ball-lock mechanism is the simplest, most reliable type in use, providing positive connection under constant or surge flow - even excessive shock. Ball bearing sleeve lock permits 360° swivel action, preventing build-up of hose torque. Hardened stainless steel balls give extra long service. Stainless steel ball race resists wear for longer life.

Molded U-Packer seal provides contact over several times the normal O-ring sealing area. Its design embodies a self-energizing feature that gives a positive seal at all pressures. This seal is capable of sealing under side loads and will tolerate small scratches and some dirt without leakage.

TIGHT SEAL DISCONNECTED
The poppet has a metal-to-metal stop to control compression on the valve O-ring seal. The seal is recessed and wedged in the couple body to keep it in place. The stop also prevents poppet blow-out.

LOW PRESSURE DROP DESIGN
1½" size: 2.6 psi @ 50 gpm
2" size: 2.9 psi @ 100 gpm

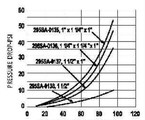
All couplers and actuators are made of aluminum unless stated otherwise. They are **NOT** designed for suction service.

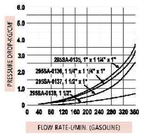
1 1/2" DRY BREAK DISCONNECT (GAMMON GTP-919-1) +
1 1/2" DAY BREAK ACTUATOR (GAMMON GTP-920-2)

NOT TO SCALE

OPW 295SA & SAJ Aircraft Nozzles

For Overwing Aircraft Service





Ordering Specifications

Product #	Inlet Thread		Spout O.D	
	in.	mm	lbs. kg	in. mm
295SA-0135	1	25	4.60 2.10	1 25
295SA-0136	1¼	32	4.50 2.00	1 25
295SA-0137	1½	38	4.50 2.00	1 25
295SA-0138	1½	38	5.10 2.33	1⅝ 41
295SAJ-0200	1½	38	5.60 2.53	2½ 54
295SAC-0158*	1¼	32	4.50 2.00	1 25
295SAC-0157*	1½	38	4.50 2.00	1 25
295SAC-0158*	1½	38	5.15 2.33	1⅝ 41
295SAC-0200*	1½	38	5.65 2.60	2½ 54

*Check Valve

Materials

Body: Cast aluminum
Main Stem: Stainless steel
Stem Seal: Buna-N O-Ring
Disc: Viton®
Spout: Aluminum

Features

- Aluminum Body – lighter weight, easier to maneuver.
- Dual Poppets – easy-to-open nozzle against high inlet pressures.
- Color-Coded Composite Lever Guards – helps distinguish between AVGAS and Jet A. Easily replaced in lever guard kit.
- Right Angle Design – provides larger lever area for better grip and easier control.
- Vinyl-Coated Lever – insulates fingers against cold.
- 100 Mesh Strainer – prevents foreign matter from entering fuel tank; easy to remove and clean.
- Dust Cap – keeps spout free from dirt and stops fuel drippage when connected.
- Adjustable Dash Pot – permits adjusting the main poppet closure rate over a wide range of flows to overcome line shock with minimum afterflow.
- Easily replaced spout – the spout is easily threaded into the body. Replacement spouts are readily available from OPW.
- Built-In Swivel – eliminates twisting and kinking of the hose. This swivel is electroless nickel-plated and has full-bearing surfaces.
- NPT Female Threads at Inlet End of 295SA – accepts all 1", 1-1/4" or 1-1/2" male connections.
- NPT Female Threads At Inlet End Of 295SAJ – accepts all 1-1/2" male connections.
- Unique Jet Aircraft Spout Design of 295SAJ – to help prevent inadvertent fueling of piston engine aircraft with turbine fuel.
- Ground Wire Assembly – included on all aviation nozzles.

Design working pressure

- 110 psi (7.58 bar) maximum pressure

Level Guard Replacement Kits

Product #	Nozzle
295KLG-0300	295SA-0135, 0136, 0137, 295SAC-0156, 0157 Red
295KLG-0350	295SA-0138, 295SAC-0158 Red
295KLG-0400	295SAJ-0200, 295SAC-0200 Black

All lever guard kits include two lever sub-assembly.
295 Series Instruction Sheet Order Number: **IHP23JPA**

NOTE: See OPW's Website at www.opwglobal.com for product instruction sheets, trouble-shooting guides, how-to-use guide and to view the Do's & Don'ts at the Gas Pump video.

OPW

9393 Princeton-Glendale Road ◆ Hamilton, Ohio USA 45011 Phone: (800) 422-2537 ◆ Fax: (800) 421-3297

1" OVERWING NOZZLE
(OPW 295 SAC-0156)

NOT TO SCALE

ML-2930 & ML-3416 Static Grounding/Bonding Reels for Heavy Duty Applications

Features & Specs:

Available in 50 ft, 75 ft and 100 ft models

- Patented latch mechanism holds cable at any desired length. A slight tug on the cable releases latch.
- Automatic retraction featuring our SPIR'ATOR prestressed spiral spring.
- Retraction speed is governed by a brake system designed to limit the speed from 2 ft/sec to 7ft sec.
- Zinc coated steel construction with Bake on Mil spec finish and gasketed drum to protect operatin parts.
- All bearing surfaces are permanent self lubricating.
- NSN Listings (Click here for part number cross reference.
- Military Specification A-A-50696
- Electrical Resistance - 10 Ohms max between damp and mounting base
- Life Cycle: tested to 5,000 cycles
- Operating Temperture Range: -65ºF to 125ºF (-54ºC to 52ºC)
- Storage Temperature Range: -80ºF to 160ºF (-62ºC to 71ºC)

75' STATIC BONDING REEL
(AMETEK HUNTER ML-2930-14

NOT TO SCALE

Pressure Regulator Valve Model-664

Installation Instructions

The model 664 Pressure Regulator Valve is designed for use with suction type dispensers. The model 664 Pressure Regulator Valve is intended to be used with above ground storage tank systems, or in Booster Systems with a submerged pump in an under ground tank. The model 664 Pressure Regulator valve is designed for fueling systems with a maximum pressure or 50 P.S.I.

DANGER **Gasoline and petroleum products are explosive and flammable. To prevent personal injury or death, damage to equipment or property, follow proper safety precautions when installing or servicing EBW equipment.**

The model 664 Valve must be securely anchored to island or dispenser with the shear section level with the base of dispenser and top surface of island (See figure 1). It can be mounted to a Stabilizer Bar Kit (figure 2) using mounting bracket 664-304-01.

When installing the Pressure Regulator Valve to piping, always apply a wrench between the valve shear section and the pipe being tightened to prevent shear section damage.

Install Pressure Relief Valve
All valves used with the model 664 valve must be equipped with thermal expansion relief valves to prevent damage to the Pressure Regulator Valve or piping, which could cause loss of product and contamination of the environment. Thermal expansion can create pressures in excess of the model 664 maximum pressure of 50 P.S.I., and result in valve failure.

Run piping from the valve vent to be terminated at an elevation equal to the top of storage tank or suction pump, whichever is higher. Vent must be open to atmosphere.

If a solenoid valve is used with the model 664 Pressure Regulator Valve, it must be wired so the solenoid valve is open only when the pump motor is running!

Installation of the model 664 Pressure Regulator Valve and other piping components must be in accordance with the latest National Fire Protection Association Codes, N.F.P.A.-30 and N.F.P.A-30A.

N.F.P.A. 30 Para 2-2.7-1 revision requires a shut off or gate valve. This valve is used to close the system and prevent product loss when equipment downstream of the above ground tank is being maintained or replaced.

N.F.P.A. 30 A Para 2-1.7 revision requires the tank outlet be equipped with a device, such as a solenoid valve or antisiphon valve, positioned adjacent to and downstream from the gate or shut off valve. This must be installed and adjusted such that liquid cannot flow by gravity or siphon from the tank in case of piping or hose failure when the dispenser is not in use.

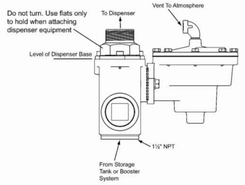


Figure 1: 644 Valve Side View

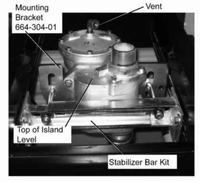


Figure 2: 644 Valve Installation

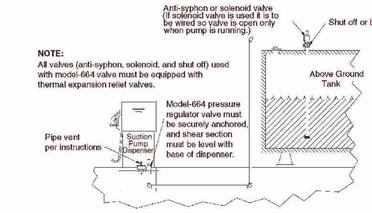


Figure 3: Installation with Above-Ground Tank

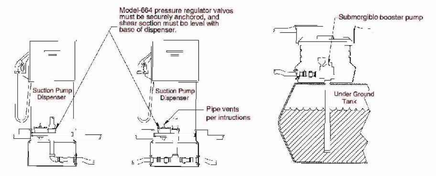


Figure 4: Booster System Installation

Franklin Fueling Systems
3760 Marsh Road
Madison, WI 53718, U.S.A.
Tel: +1 608 838 8786
Tel: USA & Canada: 1 800 225 9787
Tel: Mexico: 001 800 738 7610
www.franklinfueling.com

EBW PRESSURE REGULATOR VALVE
(MODEL 664)

NOT TO SCALE

ISSUES/REVISIONS

Description	No.	Date

NOTICE
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Consulting Engineer

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Email: alex@eryouengineering.com

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LEADING EDGE AVIATION
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

American Environmental Aviation
3977 AVIATION LOOP, SANFORD, FLORIDA 32773
PHONE: (631) 586-2000

INSTALLATION OF A NEW ABOVE GROND FUEL TANK
LEADING EDGE AVIATION
LOGAN-CACHE AIRPORT
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

SHEET DESCRIPTION:

FUELING SYSTEM EQUIPMENT SPECIFICATIONS

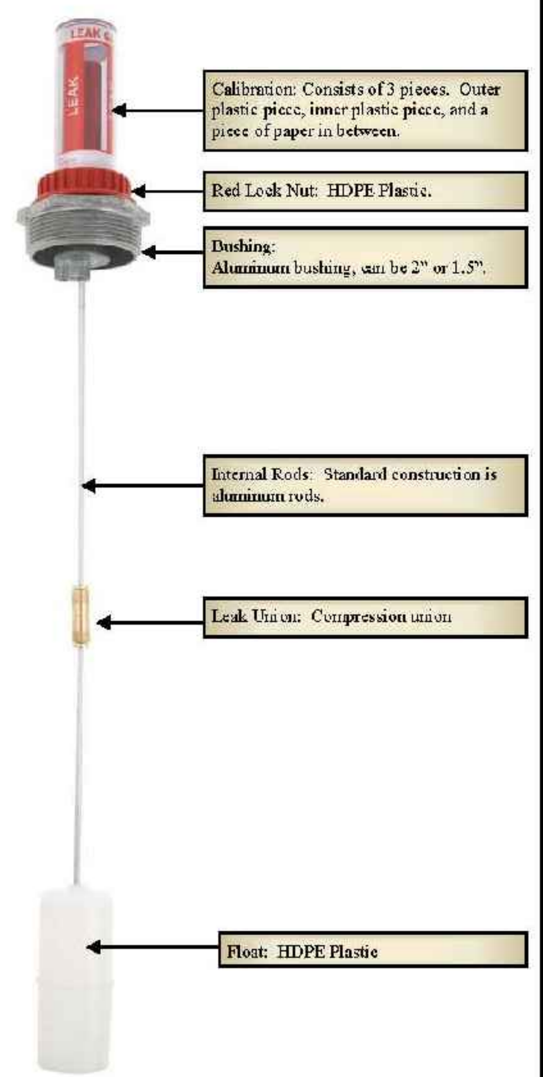
SEAL & SIGNATURE

BRIAN E. LEWIS, P.E.
UTAH P.E. # 5013586-2203
EXP. DATE: 3/31/2021

DATE: DECEMBER 2019
PROJECT NO.: AEAC-LOGAN
DRAWING BY: MSK
CHK. BY: AGN
DWG No:
M-220
CADD FILE NO.
LOGAN-CACHE-Set.dwg

KRUEGER SENTRY GAUGE®

The Leak Gauge—Type K - FDEP EQ 675



What it is:

Top mounted liquid leak gauge that can measure from 6 inches to 170 inches in depth. Bushing size can be 2" or 1.5". Gauges are custom made in house to fit your tank. This gauge is designed to monitor either the interstitial space of a double wall containment system, or it can mount into an external monitoring pipe.

Additional Options - Not included:

Audible Alarm Accessory: This add on feature can turn your mechanical gauge into an audible Hi or Lo level alarm.

Gauge Guard: A cover that protects the exposed plastic components on top of the gauge.

Instructions for Operation:

This gauge is a simple visual tool. If the red indicator rises into the viewing window, it is indicating that there is a leak occurring in your double wall containment system. Once installed, you simply view the calibration to monitor your interstitial space. The indicator is not calibrated. It simply indicates leak or no leak.

Environmental Protection

The Leak gauge is officially approved for use in double wall containment systems by several state environmental protection agencies.

- Florida DEP
- Michigan DEP

Approval Letters can be found on the Leak Gauge page of our website.

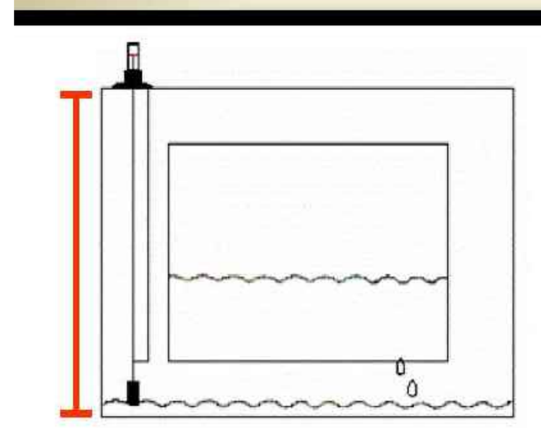
Krueger Sentry Gauge
1873 Siesta Lane
Green Bay, WI 54313
www.ksentry.com

KRUEGER SENTRY GAUGE®

Contact us for more info:
Ph: 920-434-8860
Fax: 920-434-8897
Email: info@ksentry.com

KRUEGER SENTRY GAUGE®

Ordering, Installation, Maintenance and Operation



Ordering Instructions:

Part Number Layout-
K-(Opening Size)-(interstitial depth)-(options)

1. State the gauge type (Type K)
2. State the opening size your are using. (1.5"---2")
3. State the interstitial tank depth (pictured left).
4. List other material options and accessories that you prefer. These options and accessories can be located on page 2 of this document. Skip this if you want standard materials.

Example Part numbers

- K-2-48
- K-2-24-GLC

Maintenance:

The Leak Gauge can fail in one of three ways

- The calibration assembly on the outside of the tank can become weathered, unreadable, or broken.
- The connecting rods that extend into the tank can come apart or become damaged.
- The float that sits at the bottom of the gauge can come off or become saturated with product.

Recommended Maintenance Procedures:

- Once per month: Inspect the top of the unit once per month to ensure that the calibration is visible, readable, and unbroken. (these top pieces can be easily replaced without having to replace the whole gauge)
- Once every 6 months: Unthread the unit and carefully remove it from the tank. Be sure all rods are connected as one piece from the red indicator all the way down to the float. Also inspect the float for damage or leakage. To ensure proper working order, manually raise the float arm from empty to full to be sure that the red indicator freely moves up and down with the motion of the float rod.

Installation Instructions:

Assemble for single rod gauge- 6 to 42 inch:

1. Lower gauge into monitoring space, and thread in the bushing.

Assembly for dual rod gauge- 43 to 76 inch:

1. Connect rods together with connector.
2. To disassemble press on top of connector.
3. Be sure connection is secure, lower into monitoring space, and thread in the bushing.

Assembly for multiple rod gauge- 77 inches and up:

1. Remove cotton ball from top of calibration.
2. Connect rods together with brass connectors, use 3/8" and 7/16" wrench to tighten or loosen connectors.
3. Be sure connection is secure, lower into monitoring space, and thread in the bushing.

Instructions for Operation:

This gauge is a simple visual tool. If the red indicator rises into the viewing window, it is indicating that there is a leak occurring in your double wall containment system. Once installed, you simply view the calibration to monitor your interstitial space. The indicator is not calibrated. It simply indicates leak or no leak.

Krueger Sentry Gauge
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Green Bay, WI 54313
www.ksentry.com

KRUEGER SENTRY GAUGE®

Contact us for more info:
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Email: info@ksentry.com

INTERSTITIAL MONITOR
(KRUGER K-2-96)

NOT TO SCALE

QTpod petroleum on demand M4000

SPECIFICATIONS

Processor
Intel® E3827 processor with 4 GB random access memory and 120 GB of solid-state flash memory. This non volatile storage provides protection of all transaction data in the event of a power loss.

Communications
Direct-connect 10/100/1000 Ethernet is standard, in addition to the Cellular and WiFi options.

Display
All M4000 models come with a daylight readable 1024x600 color pixel LCD display, with auto-dimming, that provides plenty of room for detailed operating instructions.

Card Reader
Easy-to-use insert style card reader captures ANSI track one and track two data. Version with self-encryption of card's account number is standard.

Thermal Printer
Prints receipts which contain all the pertinent information including date, time, amount, gallons, fuel type, customer name, and total amount of the sale. Changing paper rolls is fast and easy.

Unit Construction
Constructed of stainless steel with gasket protected key-locked doors providing protection for the enclosed computer equipment. A powder coat finish ensures that the terminal will look good for years to come.

Additional Safety Features
Custom safety features may be displayed prior to allowing fueling. These can be configured to have a customer acknowledge the statement before proceeding.

Keypads
Rugged, backlit, touch-sensitive numeric keypad and dual display-side buttons are included. Key activation provides tactile vibration feedback.

Standard Hardware Features
Dimensions
Size (approx.): 69" H x 20" W x 9.5" D
Weight: shipped in 2 parts, 54 + 58 lbs.
Power Requirements
110 240 VAC 50/60 Hz
Internal 12VDC power supply
Operating Temperatures
-20.2°F to +158°F (-29°C to +70°C)

Hose Control Capability
Standard system controls one mechanical hose; expansion kits available for up to 32 total hoses; Up to 8 mechanical hoses and the balance can be electronic dispensers.

Pulser Compatibility
Able to handle pulser resolutions from 1:1 to 1000:1, both single and dual channels: quadrature and staggered modes supported. Inputs handle 12VDC switching at up to 200 pulses / sec.

Dispensers
Designed to work with existing or new mechanical and electronic dispensers and registers.

Siteminder (web application)
The powerful, yet easy-to-use Siteminder software runs from your device's web browser and is used to set prices, perform unit configuration and view sales transactions processed by your M4000 automated fueling terminal.

Credit Card Processing
QTpod provides the necessary banking relationships for complete credit card processing, from authorization to bank deposits.

MasterCard, VISA, American Express & Discover
The terminal allows you to transmit bank card transactions to a card processing firm, which deposits the funds directly into a designated bank account. Deposits are typically available in 24 hours to two business days depending on the banking institution.

Oil Company / Private Cards
QTpod accepts all oil company aviation cards as well as private issue cards.

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M4000 Components

The M4000 Automated Fuel Terminal consists of a terminal head that is attached to a pedestal. Most site preparation work centers around the running of conduit protected conductors into the mounting pad for connection within the pedestal.

The pedestal and head are shipped in separate 45" x 15" x 25" containers weighing 54 and 58 pounds.

The pedestal is designed with a single door and a shelf that is over 18" from the bottom (Figure 9). The shelf is to be drilled for conduit holes so that rigid, explosion-proof conduit can be stubbed up to the shelf. Once wires in the conduit are pulled and rung out, they can be terminated to the circuitry inside the pedestal. For Direct Pump interfacing that would-be the DPI Relay Module, which itself is mounted onto the Direct Pump Interface (DPI) board. For Serial Protocol Dispensers, it would be 3rd party interface hardware. The optional high visibility Multi-Line Display interface installs inside the pedestal and connects to the DPI board via a ribbon cable.


Figure 1 - M4000 Consists of the Terminal Head & Pedestal

System Requirements

The QT Petroleum on Demand M4000 Automated Fuel Terminal has been designed to directly control multiple mechanical and/or electrical dispensers. A maximum total of 32 dispensers can be controlled with up to eight of those being direct mechanical. The standard system comes equipped to handle a single dispenser or fueling point by default. Optional expansion DPI Relay-Module Boards provide support for additional dispensers for fueling points. The M4000 requires power in the range of 110 – 240 VAC, 50/60 Hz and is referred to as "Line Voltage" in the remainder of the documentation.

Note: The QT Petroleum on Demand M4000 may require a 3rd party serial interface for some electronic dispensers, such as the Wayne Select or Gilbarco Legacy models. Call QT Petroleum on Demand for guidance if you have an electronic dispenser.

The following list of items are required equipment to successfully interface a mechanical dispenser with the M4000 fuel terminal:

1. A fuel flow pulser must be fitted to each dispenser. The M4000 can be configured to work with a variety of pulser types and resolutions, including pulses derived from the penny wheel. When using the penny wheel, the pulser should provide one pulse per penny of fuel dispensed. The pulser may be either solid state or dry contact but it must switch a 12 Volt DC load at a frequency of up to 200 pulses/second. The Western Electronics and OPW model 500 and Veeder-Root solid state pulsers have been used with good success (Figures 2 & 3). The M4000 provides an isolated 12 VDC supply for each dispenser to power solid state pulsers.

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Figure 2 - The OPW "Pipe Bomb" Pulser


Figure 3 - The Veeder Root 12v "Tano Con" Pulser

2. A dry contact switch which closes when the mechanical register has been reset to zero AND opens when the pump handle is returned to the "OFF" position (Figure 4).
3. An electrically operated main flow valve that will allow full fuel flow when provided with a Line Voltage source.
4. An electrically operated slow flow valve which, when energized at Line Voltage, will restrict fuel flow to about 1-3 gallons per minute.
5. If an electric reset motor is used, it should also operate at Line Voltage (a separate signal is provided by the terminal to power each reset motor).

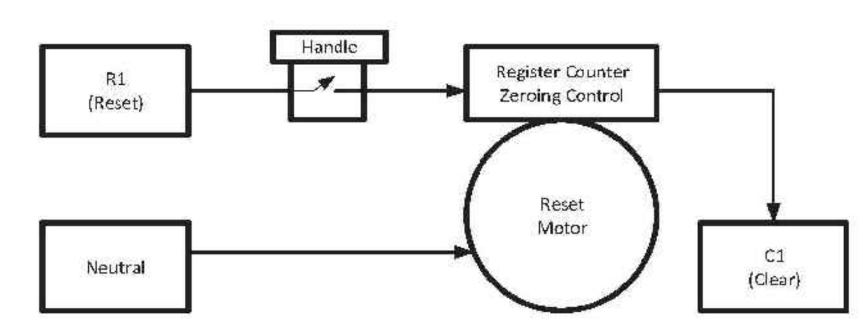

Figure 4: Reset Motor Circuit

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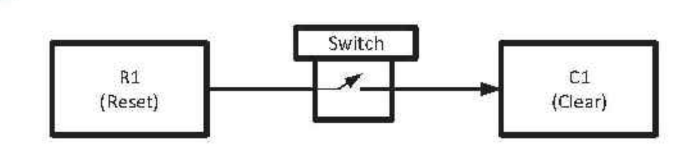

Figure 5: Mimic Switch Circuit

Two examples (Figures 4 & 5) of dry contact switch schematics. The reset motor circuit is typical for gas station style dispensers. The Mimic Switch Circuit is the minimum necessary for the M4000 direct dispenser interface.

6. The DPI board is not designed to directly drive pump motors. We require the use of high current relays (sometimes referred to as contactors) on the pump control output circuits (P1/P2, etc.) to keep the terminal electronics isolated from high current drawn by fuel pump motors. See Figures 7 & 8 for examples of relay placement. QTpod recommends using solid-state relays (SSRs) as they do not generate electrical arcing noise. They are required if the relays are located within the pedestal, where the electrical noise can adversely affect the digital electronics (Contact QTpod support for SSR recommendations).
7. A CAT5 or CAT6 Ethernet cabling is needed if a direct internet connection is used for card authorization & settlement as well as communication with the QTpod Cloud application. Cellular or Wi-Fi can be used depending on distance and site coverage.
8. The terminal and dispenser components are powered by Line Voltage line power. It is highly recommended that a large (10 AWG) ground wire is used in this conduit for lightering dissipation purposes.
9. Referring to the provided wiring guide & and schematic ensure that all high voltage circuits are delivered through the appropriate underground conduit to the terminal location. Typically, 1/2" and a 3/4" rigid conduit is run from each dispenser directly to the pedestal. In addition, a 3/4" rigid conduit is typically run from the pedestal to the nearest electrical distribution box.
10. Be sure each high voltage line is labeled correctly with both the signal name and dispenser number. Do not mix high voltage and low voltage wires within the conduits (unless low voltage wire is shielded) as mixing may cause unreliable system operation. Minor variations may exist such as the location of the main pump motors. Contact QTpod for assistance if you are unsure about your application.

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Wiring Requirements - Option A

The Field Wiring diagrams on this page and the next describes general requirements for conduits and wires. The actual number of wires ultimately depend on individual components, their location, power ratings, etc. In general, these are what is required;

1. Pulser signal wires (Low voltage conduit from fuel dispenser to pedestal as shown in the drawing below as Conduit A). Each pulser circuit has two inputs plus an isolated ground and 12VDC. Refer to Section 3 for pulser wiring requirements.
2. Dispenser component signal wires (High voltage conduit from fuel dispenser to pedestal (Conduit B)
3. One Cat 5 or 6 Ethernet cable (if applicable) to pedestal. (Conduit C)
4. A source of local power (High voltage conduit from circuit breaker to pedestal. (Conduit D)
5. Pump control wiring (High voltage conduit from pedestal to pump control relay. (Conduit E)
6. Any other required conduit, typically for a tank mounted pump motor(s), hose reels, outdoor lighting, etc. (Conduit F).

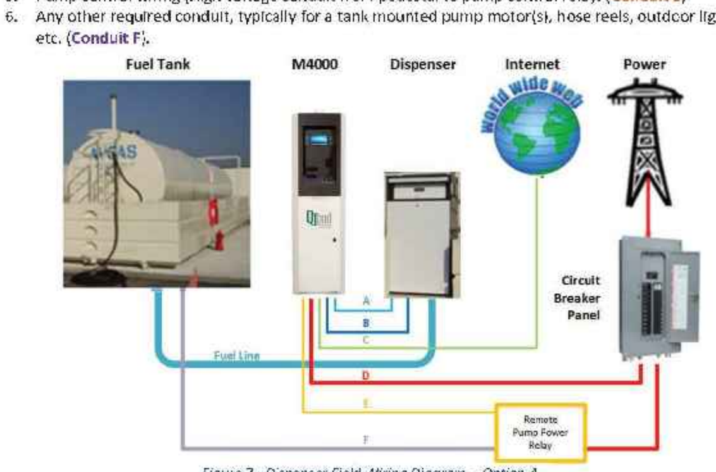

Figure 7 - Dispenser Field Wiring Diagram - Option A

Rigid Conduit	Size	Description of wires inside conduit
A	1/2"	Low voltage for pulser wires
B	3/4"	High voltage for dispenser signal wire (reset, clear, slow & fast valves)
C	1/2"	Low voltage for Ethernet Cable (if needed)
D	3/4"	High voltage for terminal and dispenser power
E	1/2"	High voltage pump control wiring
F	1/2"	Other required conduit

NOTE: This diagram is for a single dispenser setup. For more than one dispenser, add additional B & C conduits for each additional dispenser and add another pump relay control wire in conduit E.

NOTE: The low voltage conductors may be placed in the high voltage conduit if they are in shielded cable. This would eliminate the requirement for a separate conduit just for low voltage wires.

IMPORTANT NOTES: Use stranded wire only. Each pump motor must be actuated through 30 amp relays. This applies to 120V and 240V motors. If you deviate from these requirements, please call QTpod at (303) 444-3590.

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Wiring Requirements - Option B

An area of variation from site to site is the pump actuation circuitry. In general, it is necessary to wire the pump motor(s) through a relay so that the current draw required by the pump motor(s) does not pass through the DPI board (see Figure 8). The relay(s) can be located anywhere that is convenient (Electrical Service Panel or pedestal, for example) and the pump actuation wires can be routed directly to the pump or share conduit with the rest of the high voltage wires.

Typically, your conduit and wiring layout will look like either "Option A" or "Option B" depicted in (Figures 7 & 8). Use them as a starting point to map out your actual wiring requirements. Keep in mind, these are recommendations only. You are responsible for Electrical Code compliance. It is strongly recommended you consult and/or contract with a qualified electrician as you proceed with this work.

Note: When setting up electric hose reels, consider routing the hose reel circuit through the NC side of the pump relay so that while the pump is running, the hose reel is "dead" and thus presents no safety hazard.

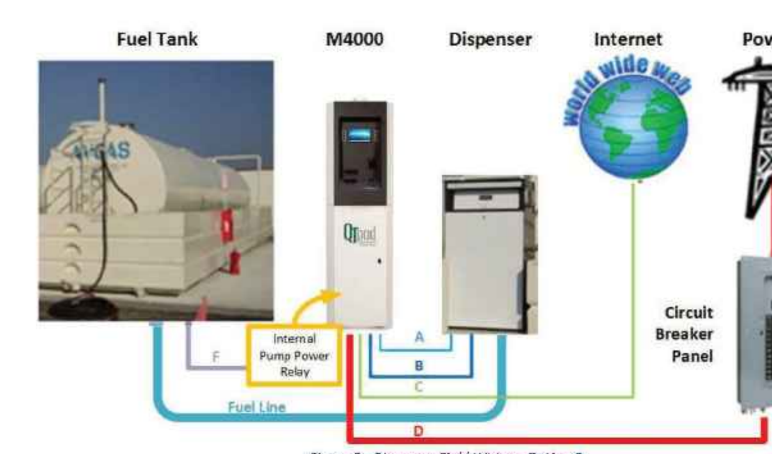

Figure 8 - Dispenser Field Wiring - Option B

Rigid Conduit	Size	Description of wires inside conduit
A	1/2"	Low voltage for pulser wires
B	3/4"	High voltage for dispenser signal wire (reset, clear, slow & fast valves)
C	1/2"	Low voltage for Ethernet Cable (if needed)
D	3/4"	Multiple High voltage for pump motor, terminal and dispenser power
E	1/2"	High voltage pump control wiring

NOTE: This diagram is for a single dispenser setup. For more than one dispenser, add additional B & C conduits for each additional dispenser.

NOTE: The low voltage conductors may be placed in the high voltage conduit if they are in shielded cable. This would eliminate the requirement for a separate conduit just for low voltage wires.

IMPORTANT NOTES: Use stranded wire only. Each pump motor must be actuated through 30 amp relays. This applies to 120V and 240V motors. If you deviate from these requirements, please call QTpod at (303) 444-3590.

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QT PETROLEUM ON DEMAND (QT POD) AUTOMATED FUELING TERMINAL CARD READER (MODEL M 4000)

NOT TO SCALE

ISSUES/REVISIONS		
Description	No.	Date

NOTICE
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS ACTING UNDER THE DIRECTION OF A PROFESSIONAL ENGINEER, OR LICENSED ARCHITECT, TO ALTER THIS DRAWING

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LE AVIATION
LEADING EDGE AVIATION
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

American Environmental Aviation
3977 AVIATION LOOP, SANFORD, FLORIDA 32773
PHONE: (631) 586-2000

INSTALLATION OF A NEW ABOVE GROND FUEL TANK
LEADING EDGE AVIATION
LOGAN-CACHE AIRPORT
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

SHEET DESCRIPTION:

FUELING SYSTEM EQUIPMENT SPECIFICATIONS

SEAL & SIGNATURE

BRIAN E. LEWIS, P.E.
UTAH P.E. # 5013586-2203
EXP. DATE: 3/31/2021

DATE: DECEMBER 2019
PROJECT NO.: AEAC-LOGAN
DRAWING BY: MSK
CHK. BY: ACN
DWG No: M-230
CADD FILE NO. LOGAN-CACHE-Set.dwg

VF-61, VF-61E, VF-62

Clean Dry Fuels and Oils with High Performance **Aquacon®** Filter Cartridges

Features

- Free and emulsified water to less than 5 ppm
- 1/2 micrometer particulate removal
- Provides protection against "slugs" of water
- Pressure increase signals cartridge change
- Use with existing filter housings

VF-61 with Optional DP Gauge — VF-61E with Band Clamp Closure — VF-62 with Optional Hand Knobs

Contact Information:

Parker Hannifin Corporation
Velcon Filtration Division
1210 Garden of the Gods Road
Colorado Springs, CO 80907

phone 719 531 5855
fax 719 531 5690
vfsales@parker.com

www.velcon.com

Applications

Fuels

- Jet Fuel
- Avgas
- Motor Gasoline
- Diesel fuel
- Biodiesel Fuel

Oils

- Insulating Oil
- Hydraulic Oil
- Lubricating Oil
- Selected Solvents

Description

The VF-61, and VF-62 are versatile filter housings designed for use with several different high performance *Aquacon* filter cartridges, as well as a variety of paper filters and coalescer/separator cartridges. Refer to the cartridge selection table on page 4.

Aquacon cartridges filter out water by chemically locking it into layers of super-absorbent media. Water removal efficiency is not affected by common surfactants or additives. Water capacity is as much as 1-1/2 quarts, depending on the flow rate. These cartridges also effectively filter out dirt, rust and other particulates.(See caution)

As a cartridge reaches its water-holding limit, the media expands very rapidly and restricts the flow. For oils and other high viscosity liquids, the pressure drop will rapidly increase, signaling the need to change cartridges.

The VF-61, with ACO series cartridges installed, has become the standard for low flow rate full flow aviation fuel monitor applications.

Use the VF-61E with band clamp closure for areas with limited space.

Over Pressure Protection

When exposed to a high concentration of water, the differential pressure across an absorbent cartridge (AC, ACO, AD, or ASL Series cartridges) will immediately increase. Pressure bypasses or other means to limit the inlet pressure to 75 psi (5 bar) should be installed to prevent cartridge from collapsing.

Recommended Spares:

- 1 each G-0986 Buna-N O-Ring
- If Viton O-Rings are desired, 2 each G-0986A
- 6 each Cartridges

Caution

To protect the fuel system, including the filter housing & other components, be sure to install pressure relief valve(s).

Do not use *Aquacon®* absorbent cartridges (AC, ACO, AD or ASL Series) with pre-mixed jet fuel containing anti-icing additives, or with gasoline/alcohol blends.

Ordering Information

- Specify Model VF-61, VF-61E, or VF-62 Filter Housing
- Unit is supplied with G-0986 Buna-N O-Ring and 1/8" valve and 1/2" drain plug installed. 1/2" petcock drain valve is shipped loose.
- Cartridges are not supplied and must be ordered separately.
- Viton O-Rings (P/N G-0986A) are available but must be ordered separately. They are recommended for gasoline and solvent applications.Caution

Specification

Filter Housing VF-61, VF-61E, VF-62:

- Max. Pressure: 150 psi
- Connection: 1½" NPT
- Seal: Buna-N O-Ring (P/N G-0986)
- 1/8" brass petcock vent valve and 1/2" drain valve
- Material:
  - VF-61, VF-62: Die cast aluminum head and closure clamp assembly; carbon steel shell with TGIC-Polyester coated exterior and interior.
  - VF-61E: Die cast aluminum head; stainless steel band clamp; carbon steel shell with TGIC-Polyester coated exterior and interior.
- Weight:
  - VF-61: 10 lbs., Shipping Weight: 12lbs.
  - VF-61E: 8 lbs., Shipping Weight: 10 lbs.\
  - VF-62: 16 lbs., Shipping Weight: 18 lbs.

Cartridges

- Max. Operating Temp.: 200°F
- Collapse Strength: 75 psi (5 bar)
- pH Range: 5 - 9
- Nom. Filtration Efficiency: 98%

Options

- Part Number 554Y020 is a Carbon Steel 1/2" NPT Ball Valve, with Mounting Nipple
- Part Number CK-1488 quick release hand bolts (set of 4) to replace closure bolts (as shown on page 2) VF-61 and VF-62 only.
- Part Number 10678 Differential Pressure Gauge Assembly (See Form #1959)

Parker Velcon

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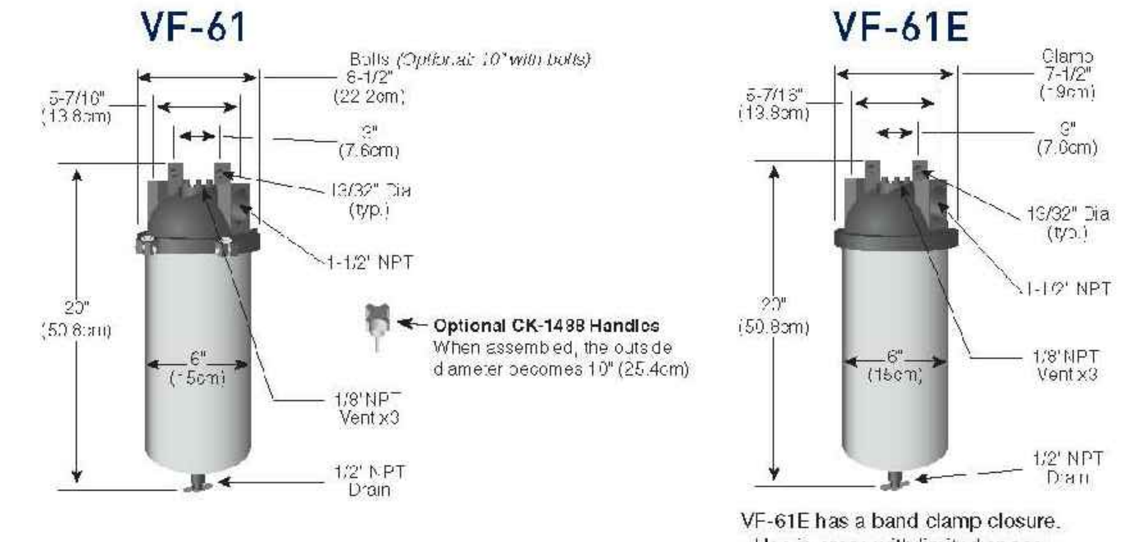
Dimensional Drawings

Drawings are not to scale. Dimensions are shown for estimating purposes only.

Allow 6 inches (15.2 cm) below the vessel to safely remove the vessel to gain access to the cartridge.

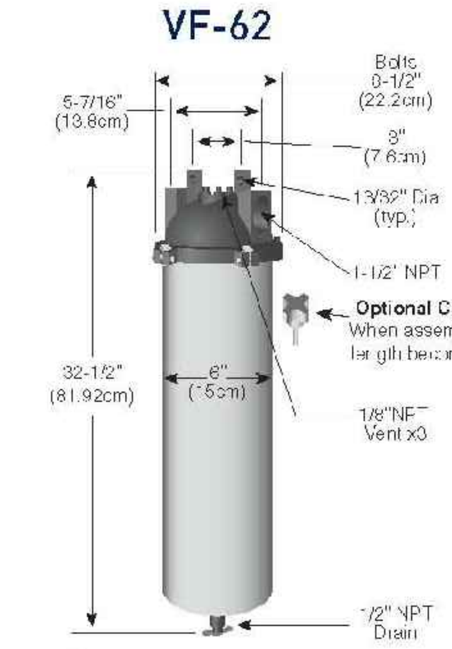


VF-61E has a band clamp closure. Use in areas with limited space.

Optional Differential Pressure Gauge

Color Indicates Pressure Drop

Green: Clean 0 - 15 psi
Red: Change 16 - 25 psi



VF-62 has a longer body for areas and applications that require higher flow rate.

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Filter Cartridge Selection Table

Housing P/N	Product being filtered	Application	Cartridge P/N	Data Sheet	Type	Micron	Flow Rate (GPM)
VF-61, VF-61E	Jet Fuel & Avgas[1]	Dirt & Free water	ACO-512P3L	1681	*Aquacon®* (Absorbent)	0.3	5-50
			ACO-51201L			0.5	5-50
			OS-51288	1858	Coalescer/ Separator	0.5	Jet: 5-35 Avgas: 5-45
	Mo-gas		AC-51205	1582	*Aquacon®* (Absorbent)	5	5-50
	Diesel[1]		AD-51225	1655		25	15-50
			OS-51286	2118	Coalescer/ Separator	5	5-18
	Biodiesel		AD-51225	1655	*Aquacon®* (Absorbent)	25	15-50
	Oils		AC-51205	1582	*Aquacon®* (Absorbent)	5	Varies with oil viscosity[2]
			AD-51225	1655		25	
	Solvents		ASL-51201	1692		1	5-50
	ALL	Dirt	FO-512PL1/2	1549	Paper Filter	0.5	Fuels: 5-50 Oils: Varies with oil viscosity[3]
			FO-512PL05			5	
			FO-512PL25			25	
			FOS-512PL25	1734	Synthetic Filter	25	
VF-62	Jet Fuel & Avgas[1]	Dirt & Free water	ACO-52401L	1681	*Aquacon®* (Absorbent)	0.5	10-100
	Motor Gasoline		AC-52405	1582		5	10-100
	Diesel[1]		AD-52425	1655		25	30-100
	Biodiesel						
	Oils		AC-52405	1582		5	Varies with viscosity See Form #1709
			AD-52425	1655		25	
	Solvents		ASL-52401	1692		1	10-100
	ALL	Dirt	FO-524PL1/2	1549	Paper Filter	0.5	2-100
			FO-524PL05			5	
			FO-524PL25			25	

(1) For aviation and diesel fuel applications, always install a differential pressure gauge or other means of determining differential pressure.
(2) See Data Sheet #1709 for absorbent cartridge (AC, AD) flow rates.
(3) See Data Sheet #1532 for paper filter (FO) flow rates, see Data Sheet #1747 for synthetic filter (FOS) flow rates.

Please consult installation instructions and operating procedures that accompany products for more detailed information.

Parker Hannifin Corporation
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1210 Garden of the Gods Road
Colorado Springs, CO 80907 USA
tel +1 719 531 5855
www.velcon.com

FILTER VESSEL (VELCON VF-61)

NOT TO SCALE

Filter Housings

VF-61, VF-61E, VF-62

Clean Dry Fuels and Oils with High Performance *Aquacon®* Filter Cartridges

FEATURES

- **Free and emulsified water to less than 5 ppm**
- **1/2 micrometer particulate removal**
- **Provides protection against "slugs" of water**
- **Pressure increase signals cartridge change**
- **Use with existing filter housings**

DESCRIPTION

The VF-61, and VF-62 are versatile filter housings designed for use with several different high performance **Aquacon** filter cartridges, as well as a variety of paper filters and coalescer/separator cartridges. Refer to the cartridge selection table on page 3.

Aquacon cartridges filter out water by chemically locking it into layers of super-absorbent media. Water removal efficiency is not affected by common surfactants or additives. Water capacity is as much as 1½ quarts, depending on the flow rate. These cartridges also effectively filter out dirt, rust and other particulates. (See caution, page 4)

As a cartridge reaches its water-holding limit, the media expands very rapidly and restricts the flow. For oils and other high viscosity liquids, the pressure drop will rapidly increase, signaling the need to change cartridges.

The VF-61, with ACO series cartridges installed, has become the standard for low flow rate full flow aviation fuel monitor applications.

Use the VF-61E with band clamp closure for areas with limited space.

APPLICATIONS

Jet Fuel	Insulating Oil
Avgas	Hydraulic Oil
Motor Gasoline	Lubricating Oil
Diesel Fuel	Selected Solvents
Biodiesel Fuel	

VF-61

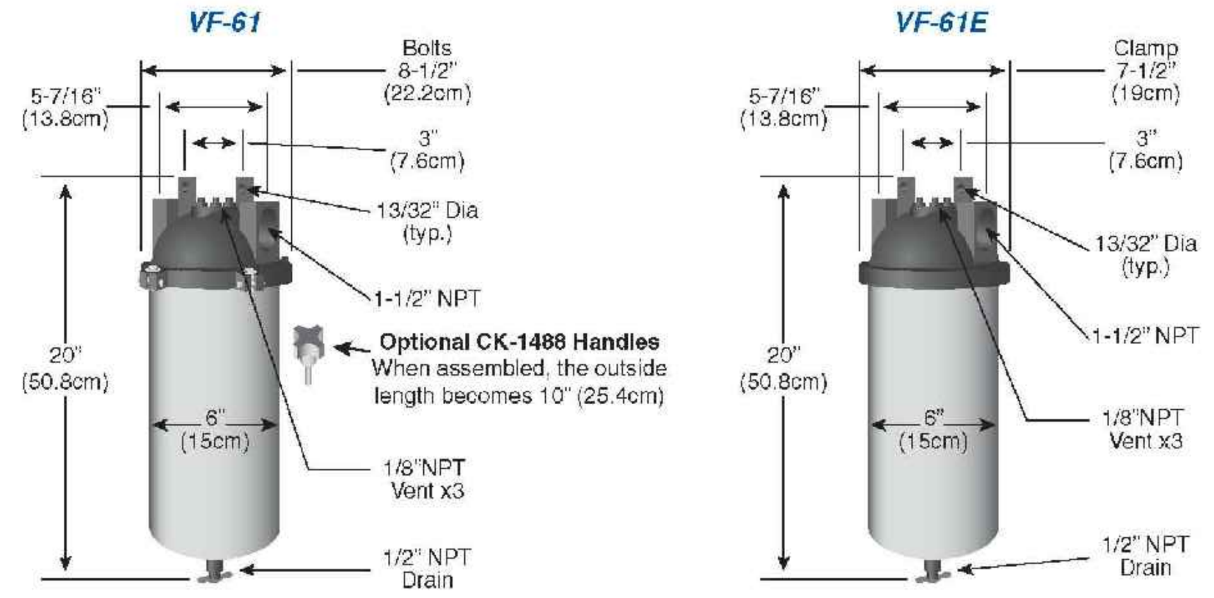
VF-62
Pictured with Optional Hand Knobs

VF-61E
with Band Clamp Closure

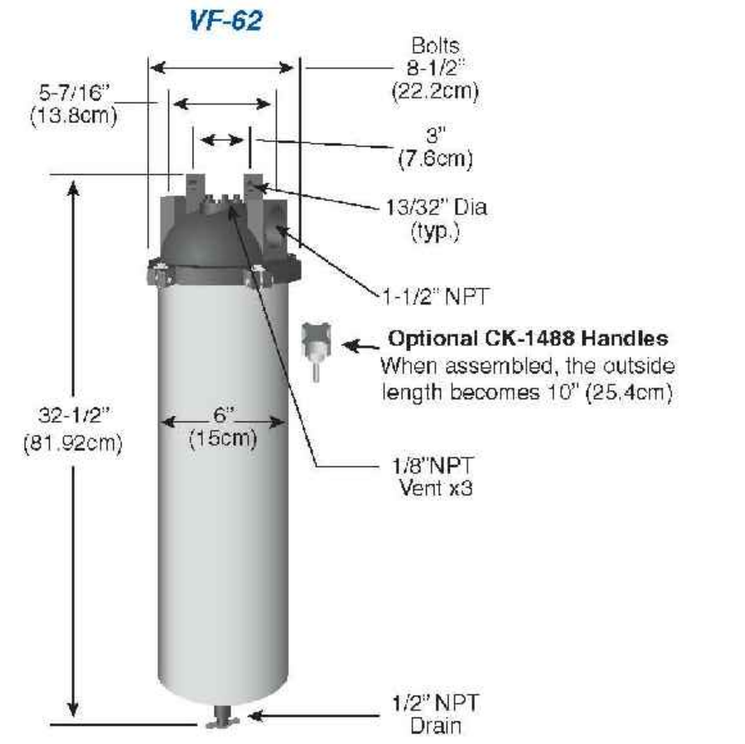
2105-R1 10/11

DIMENSIONAL DRAWINGS

Please note: Drawings are not to scale. Dimensions are shown for estimating purposes only.
Allow 6 inches (15.2 cm) below the vessel to safely remove the vessel to gain access to the cartridge.



VF-61E has a band clamp closure. Use in areas with limited space.



VF-62 has a longer body for areas and applications that require higher flow rate.

FILTER CARTRIDGE SELECTION TABLE

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VF-61, VF-61E	Jet Fuel & Avgas[1]	Dirt & Free water	ACO-512P3L	1681	*Aquacon®* (Absorbent)	0.3	5-50
			ACO-51201L			0.5	5-50
			OS-51288	1858	Coalescer/ Separator	0.5	Jet: 5-35 Avgas: 5-45
	Mo-gas		AC-51205	1582	*Aquacon®* (Absorbent)	5	5-50
	Diesel[1]		AD-51225	1655		25	15-50
			OS-51286	2118	Coalescer/ Separator	5	5-18
	Biodiesel		AD-51225	1655	*Aquacon®* (Absorbent)	25	15-50
	Oils		AC-51205	1582	*Aquacon®* (Absorbent)	5	Varies with oil viscosity[2]
			AD-51225	1655		25	
	Solvents		ASL-51201	1692		1	5-50
	ALL	Dirt	FO-512PL1/2	1549	Paper Filter	0.5	Fuels: 5-50 Oils: Varies with oil viscosity[3]
			FO-512PL05			5	
			FO-512PL25			25	
			FOS-512PL25	1734	Synthetic Filter	25	
VF-62	Jet Fuel & Avgas[1]	Dirt & Free water	ACO-52401L	1681	*Aquacon®* (Absorbent)	0.5	10-100
	Motor Gasoline		AC-52405	1582		5	10-100
	Diesel[1]		AD-52425	1655		25	30-100
	Biodiesel						
	Oils		AC-52405	1582		5	Varies with viscosity See Form #1709
			AD-52425	1655		25	
	Solvents		ASL-52401	1692		1	10-100
	ALL	Dirt	FO-524PL1/2	1549	Paper Filter	0.5	2-100
			FO-524PL05			5	
			FO-524PL25			25	

NOTES:

(1) For aviation and diesel fuel applications, always install a differential pressure gauge or other means of determining differential pressure.

(2) See Data Sheet #1709 for absorbent cartridge (AC, AD) flow rates.

(3) See Data Sheet # 1532 for paper filter (FO) flow rates, see Data Sheet # 1747 for synthetic filter (FOS) flow rates.

Please consult installation instructions and operating procedures that accompany products for more detailed information.

SPECIFICATIONS

Filter Housing VF-61, VF-61E, VF-62

- Maximum Operating Pressure: 150 psi
- Inlet/Outlet Connection: 1½" NPT
- Closure Seal: Buna-N O-Ring (P/N G-0986)
- ⅛" brass petcock vent valve and ½" drain valve
- Material:
  - **VF-61, VF-62:** Die cast aluminum head and closure clamp assembly; carbon steel shell with epoxy coated exterior and interior.
  - **VF-61E:** Die cast aluminum head; stainless steel band clamp; carbon steel shell with epoxy coated exterior and interior.
- Weight:
  - **VF-61:** 10 lbs., Shipping Weight: 12lbs.
  - **VF-61E:** 8 lbs., Shipping Weight: 10 lbs.
  - **VF-62:** 16 lbs., Shipping Weight: 18 lbs.

Cartridges

- Maximum Operating Temperature: 200°F
- Collapse Strength: 75 psi (5 bar)
- pH Range: 5 - 9
- Nominal Filtration Efficiency: 98%

ORDERING INFORMATION

- Specify Model VF-61, VF-61E, or VF-62 Filter Housing
- Unit is supplied with G-0986 Buna-N O-Ring and ⅛" valve and ½" drain plug installed. ½" petcock drain valve is shipped loose.
- Cartridges are not supplied and must be ordered separately.
- Viton O-Rings (P/N G-0986A) are available but must be ordered separately. They are recommended for gasoline and solvent applications.

RECOMMENDED SPARES

- 1 each G-0986 Buna-N O-Ring
- If Viton O-Rings are desired, 2 each G-0986A
- 6 each Cartridges

OPTIONS

- Part Number 554Y020 is a Carbon Steel ½" NPT Ball Valve, with Mounting Nipple
- Part Number CK-1488 quick release hand bolts (set of 4) to replace closure bolts (as shown on page 2) VF-61 and VF-62 only.
- Part Number 10678 Differential Pressure Gauge Assembly (See Form #1959)

DIFFERENTIAL PRESSURE GAUGE

Color Indicates Pressure Drop

Green: Clean 0 - 15 psi
Red: Change 16 - 25 psi

P/N 10678

OVER PRESSURE PROTECTION

When exposed to a high concentration of water, the differential pressure across an absorbent cartridge (AC, ACO, AD, or ASL Series cartridges) will immediately increase. Pressure bypasses or other means to limit the inlet pressure to 75 psi (5 bar) should be installed to prevent cartridge from collapsing.

CAUTION

To protect the fuel system, including the filter housing & other components, be sure to install pressure relief valve(s).

CAUTION

Do not use ***Aquacon®*** absorbent cartridges (AC, ACO, AD or ASL Series) with pre-mixed jet fuel containing anti-icing additives, or with gasoline/alcohol blends.

Velcon products are sold and serviced by a world-wide representative network. To order, contact Headquarters or your LOCAL REPRESENTATIVE:

COMPANY HEADQUARTERS:
Velcon Filters, LLC
1210 Garden of the Gods Road
Colorado Springs, CO 80907-3410
Phone: 1.800.531.0180 / 1.719.531.5855
Fax: 719.531.5690
e-mail: vfsales@velcon.com
www.velcon.com
MANUFACTURING PLANTS LOCATED AT:
Colorado Springs, Colorado
Sylacauga, Alabama
Ponca City, Oklahoma
OFFICES AND AFFILIATES IN:
Canada, Germany, Singapore, & Spain

Liquid Filtration and Separation Specialists

FILTER ELEMENT (VELCON ACO-51201L)

NOT TO SCALE

ISSUES/REVISIONS		
Description	No.	Date

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American Environmental Aviation
3977 AVIATION LOOP, SANFORD, FLORIDA 32773
PHONE: (631) 586-2000

INSTALLATION OF A NEW ABOVE GROND FUEL TANK
LEADING EDGE AVIATION
LOGAN-CACHE AIRPORT
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

SHEET DESCRIPTION:

FUELING SYSTEM EQUIPMENT SPECIFICATIONS

SEAL & SIGNATURE	
	DATE: DECEMBER 2019
	PROJECT NO.: AEAC-LOGAN
	DRAWING BY: MSK
	CHK. BY: AGN
	DWG No: M-240
BRIAN E. LEWIS, P.E. UTAH P.E. # 5013586-2203 EXP. DATE: 3/31/2021	CADD FILE NO. LOGAN-CACHE-Set.dwg

ELECTRICAL NOTES

CONTRACTOR SHALL PROTECT AND SUPPORT ALL EXISTING STRUCTURES AND EQUIPMENT ADJACENT TO THE WORK AND PROJECT, SUPPORT AND RELOCATE, IF NECESSARY, ALL EXPOSED LINES AND MAKE COMPLETE RESTORATION OF DAMAGED PIPING, CONDUITS, WIRING, CABLES AND APPURTENANCES AT NO COST TO THE OWNER OF SAID UTILITIES, AUTHORITY OR ENGINEERS.

ALL WORK SHALL BE DONE BY A LICENSED ELECTRICIAN IN COMPLIANCE WITH REGULATIONS OF THE FOLLOWING CODES/AGENCIES/UTILITIES:

(A) LOCAL UTILITY AUTHORITY
(B) LOCAL BUILDING AND FIRE CODES
(C) ALL APPLICABLE NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) CODES
(D) ALL APPLICABLE BUILDING OFFICIAL & CODE ADMINISTRATORS. (BOCA) CODES
(E) ALL LOCAL, STATE, AND FEDERAL SAFETY REGULATIONS.
(F) ALL LOCAL, STATE, AND FEDERAL ENVIRONMENTAL PROTECTION. REGULATIONS.
(G) DESIGN SAFETY STANDARDS FOR ELECTRICAL SYSTEMS (OSHA)
(H) ANY OTHER PUBLIC AGENCIES HAVING JURISDICTION.

UTILITY INTERRUPTIONS MUST BE REQUESTED NO LESS THAN (72) HOURS PRIOR TO NEED AND MAY NOT BE GRANTED FOR THE TIME REQUESTED IF CONDITIONS SO WARRANT. FOR TIE-IN TO EXISTING UTILITIES, COORDINATION MUST BE MADE WITH THE CONTRACTING OFFICER IN ORDER TO ASSURE A MINIMUM OF INCONVENIENCE TO ALL CONCERNED

THE DRAWINGS DO NOT INDICATE ALL OF THE EXISTING EQUIPMENT, DEVICES, WIRING, STRUCTURES, PIPING, ETC., EITHER EXPOSED OR CONCEALED, PRIOR TO COMMENCING CONSTRUCTION, THE CONTRACTOR SHALL OBTAIN OR VERIFY THE EXACT LOCATION OF ALL THE EXISTING ITEMS THAT AFFECT THE WORK.

THE DRAWINGS ARE DIAGRAMMATIC IN NATURE AND INDICATE THE GENERAL ARRANGEMENT OF THE VARIOUS SYSTEMS AND THE APPROXIMATE/RELATIVE LOCATIONS OF THE EQUIPMENT/DEVICES/ITEMS. IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO DETERMINE THAT THERE IS ADEQUATE SPACE AT THE LOCATIONS INDICATED FOR ALL THE EQUIPMENT/DEVICES/ITEMS PRIOR TO INSTALLATION OF SAME.

ALL WORK SHALL BE GROUNDED AS INDICATED ON THE DRAWINGS AND/OR AS REQUIRED IN ACCORDANCE WITH NATIONAL ELECTRICAL CODES.

ALL EQUIPMENT SHALL BE INSTALLED AND WIRED IN STRICT COMPLIANCE WITH THE REQUIREMENTS AND RECOMMENDATIONS OF THE EQUIPMENT MANUFACTURER.

THE CONTRACTOR SHALL PROVIDE EXPLOSION PROOF ELECTRICAL WIRING, EQUIPMENT AND DEVICES SUITABLE FOR INSTALLATION IN CLASS 1, DIVISION 1, GROUP C AND D LOCATIONS FOR AS REQUIRED BY NEC SECTIONS 501 AND 514 FOR THIS TYPE OF INSTALLATION.

THE CONTRACTOR SHALL PROVIDE SEAL-OFF FITTINGS AS SHOWN ON THE DRAWINGS, AND WHERE CONDUITS EGRESS OR INGRESS CLASS 1, DIVISION 1 AREAS, AND/OR AS REQUIRED BY NEC SECTIONS 501 AND 514.

ELECTRICAL SYMBOL LEGEND

KEY RESET CONTROL
EMERGENCY PUSHBUTTON STATION
TRANSFORMER
REMOTE ALARM (A)
FUSE
JUNCTION BOX (J)
CONTACT NO
MOTOR/HP (M1)
CONTACT NC
CIRCUIT BREAKER
SWITCH
PUSH BUTTON
FIRE ALARM SMOKE DETECTOR (SD)
DEADMAN SWITCH
FIRE ALARM HORN/STROBE, 75 CANDELA, MTD. AT 80"AFF (H/S 1500)
PPB — POWER PULL BOX
CPB — COMMUNICATIONS PULL BOX
FAB — FIRE ALARM PULL BOX
FSPB — FIRE SUPPRESSION SYSTEM PULL BOX
ELECTRICAL PANEL
DISCONNECT SWITCH
GFI — 20A, 120V, GROUNDING TYPE DUPLEX RECEPTACLE WITH GROUND FAULT PROTECTION
20A, 208V, GROUNDING TYPE DUPLEX RECEPTACLE
WALL MOUNTED LIGHTING FIXTURE
1X4' CEILING MOUNTED LIGHTING FIXTURE
EMERGENCY BATTERY PACK LIGHTING FIXTURE
CEILING MOUNTED JUNCTION BOX (J)
LIGHTING SWITCH
CONDUIT RUNNING EXPOSED IN CEILING OR WALLS

NOTE:

NOT ALL OF THE SYMBOLS SHOWN ABOVE ARE NECESSARILY USED ON THIS PROJECT

NOTE:

NOT ALL OF THE SYMBOLS SHOWN ABOVE ARE NECESSARILY USED ON THIS PROJECT

NOTES

1. POWER AND CONTROL WIRES SHALL BE RUN IN SEPARATE CONDUITS.
2. ALL WIRING TO BE XHHW-2 INSULATED AND GROUNDED AS PER NEC AND NFPA 514.
3. ALL CONDUITS EXITING THE HAZARDOUS AREAS ARE TO BE SEALED WITH EPOXY FILLED SEALING FITTINGS PRIOR TO ENTRY INTO A NON-HAZARDOUS ZONES.
4. SEAL FITTINGS ARE REQUIRED AT EACH SENSOR BUT ARE NOT SHOWN FOR SIMPLICITY.
5. ALL CONDUITS TO MEET LATEST REQUIREMENTS OF NATIONAL ELECTRIC CODE.
6. (NFPA 70) AND THE AUTOMOTIVE AND MARINE SERVICE STATION CODE (NFPA 30A).
7. FOR EXACT AMOUNT AND SIZE OF LOW VOLTAGE CONTROL WIRES REFER TO MANUFACTURER'S RECOMMENDATIONS.
8. UNDERGROUND CONDUITS RUNNING FROM ELECTRICAL PANEL OR CONTROL EQUIPMENT TO DISPENSERS TO BE THREADED RIGID METAL.
9. ALL UNDERGROUND CONDUITS SHALL BE ENCASED IN CONCRETE.
10. EMERGENCY DISCONNECT SWITCHES.
    AN APPROVED, CLEARLY IDENTIFIED AND READILY ACCESSIBLE EMERGENCY DISCONNECT SWITCH SHALL BE PROVIDED AT AN APPROVED LOCATION, TO IMMEDIATELY SHUT DOWN THE TRANSFER OF FUEL TO THE FUEL DISPENSERS IN THE EVENT OF A FUEL SPILL OR OTHER EMERGENCY. AN EMERGENCY DISCONNECT SWITCH FOR EXTERIOR FUEL DISPENSERS SHALL BE LOCATED WITHIN 100 FEET (30480 MM) OF, BUT NOT LESS THAN 20 FEET (6096 MM) FROM, THE FUEL DISPENSERS. FOR INTERIOR FUEL-DISPENSING OPERATIONS, THE EMERGENCY DISCONNECT SWITCH SHALL BE INSTALLED AT AN APPROVED LOCATION. AN APPROVED SIGN SHALL BE POSTED ON OR IMMEDIATELY ADJACENT TO SUCH DEVICES AND SHALL READ: EMERGENCY FUEL SHUTOFF. SUCH EMERGENCY DISCONNECT SWITCHES SHALL BE OF A TYPE THAT IS RESET MANUALLY
11. AT ALL TIMES THE CONTRACTOR WILL BE SOLELY AND COMPLETELY RESPONSIBLE FOR CONDITION OF JOB SITE, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY AND FOR ALL NECESSARY INDEPENDENT ENGINEERING REVIEWS OF THESE CONDITIONS. THE ENGINEERS JOB SITE REVIEW IS NOT INTENDED TO INCLUDE REVIEW OF THE ADEQUACY OF THE CONTRACTORS SAFETY MEASURES.
12. THE CONTRACTOR SHALL MAKE AN EXAMINATION OF THE SITE. HE SHALL COMPARE THE SITE WITH THE DRAWINGS AND SPECIFICATIONS AND SATISFY HIMSELF AS TO CONDITIONS UNDER WHICH WORK IS TO BE PERFORMED. HE SHALL ASCERTAIN AND CHECK THE LOCATIONS OF ANY EXISTING STRUCTURES OR EQUIPMENT WHICH MAY AFFECT THIS WORK, NO ALLOWANCE SHALL SUBSEQUENTLY BE MADE IN HIS BEHALF FOR ANY EXPENSE TO WHICH HE MAY BE PUT DUE TO FAILURE OR NEGLECT ON HIS PART TO MAKE SUCH EXAMINATION.
13. ALL WORK SHALL BE COORDINATED WITH THE OWNER TO MAINTAIN CONTINUITY OF SERVICE AND MAXIMUM UTILIZATION OF THE OWNERS FACILITY. ALL WORK SHALL BE BID ON A 'NORMAL TIME' BASIS WITH PREMIUM TIME IN ADDITION ONLY AS AUTHORIZED FOR CORE BORING OR OTHER WORK WHICH WILL BE NOISY, DIRTY OR OTHERWISE OBSTRUCT THE WORK PROCESS.
14. THE CURRENT ISSUE OF ALL NFPA, CEC, CBC, UBC, UFC, ANSI, OSHA, ASTM, NEMA, AND OTHER NATIONALLY PUBLISHED CODES OR STANDARDS, AS WELL AS STATE AND LOCAL CODES AND ORDINANCES, SHALL APPLY TO THIS WORK WHETHER ADOPTED BY LOCAL AGENCIES OR NOT. THE MOST STRINGENT CODE SHALL APPLY.
15. NOTHING ON THE DRAWINGS OR SPECIFICATIONS INTENDED TO ALLOW A VIOLATION OF ELECTRICAL WORKING SPACE AROUND ELECTRICAL EQUIPMENT. A 30"W MIN x 48"D x 6'-6"H SPACE SHALL BE CLEAR TO THE FLOOR IN FRONT OF ALL ELECTRICAL PANELS, CONTROLS OR ITEMS THAT REQUIRE MAINTENANCE OR ACCESS WHILE ENERGIZED. ANY DEVIATION FROM THIS MINIMUM SHALL BE APPROVED IN WRITING.
16. ALL CONDUITS SHALL RUN TIGHT TO SLAB AND BEAMS. WHERE EQUIPMENT IS INSTALLED TIGHT TO SLAB, RUN CONDUIT BELOW OR ABOVE AS TIGHT TO EQUIPMENT AS POSSIBLE.
17. DO NOT SUPPORT CONDUITS FROM DUCTS, MECHANICAL SUPPORTS OR EQUIPMENT OF ANY KIND.
18. ALL CABLES, CONDUITS, PIPING OR EQUIPMENT LOCATIONS AND ELEVATIONS ARE APPROXIMATE. THE CONTRACTOR IS RESPONSIBLE FOR FIELD CHECKING AND MAKING ALL NECESSARY OFFSETS, AS REQUIRED, TO AVOID EXISTING INTERFERENCES AND COORDINATE WITH OTHER TRADES.
19. IDENTIFY EACH CONDUCTOR BY SHRINK-ON INDIVIDUALLY MARKED BRADY-TAGS AND EACH ELECTRICAL ITEM BY BLACK-WHITE-BLACK ENGRAVED SCREW-ON PLASTIC NAMEPLATE, LEGEND PER DRAWING.
20. ALL GROUND WIRES SHALL BE SEGREGATED FROM PHASE CONDUCTORS IN CONDUITS TO MINIMIZE GROUND LOOPS.
21. ELECTRICAL DESIGN BASED UPON TYPICAL VENDOR EQUIPMENT. COORDINATE FINAL INSTALLATION WITH ACTUAL EQUIPMENT FURNISHED.
22. THE CONTRACTOR SHALL PROVIDE ALL FUSES REQUIRED FOR PROJECT POWER INCLUDING ANY FUSES BLOWN DURING INITIAL TESTING.
23. BONDING JUMPERS SHALL BE INSTALLED TO INSURE CONTINUITY WHERE CONDUIT CONNECTIONS AT CONCENTRIC KNOCKOUTS ARE TO SERVE AS A GROUND.
24. ELECTRICAL CONTRACTOR SHALL BE RESPONSIBLE FOR DAMAGES TO ALL WALLS, FLOORS AND PAVING. IF DAMAGE OCCURS DURING CONSTRUCTION. THEY SHALL COORDINATE WITH OWNER TO PATCH, PAINT AND REPAIR TO MATCH EXISTING CONDITIONS.
25. ABOVEGROUND CONDUIT SHALL BE RIGID STEEL.
26. UNDERGROUND CONDUIT SHALL BE PVC W/RGS RISERS EXCEPT WHERE ENTERING PANEL OR SWITCHGEAR. PROVIDE CONDUIT SEAL-OFFS AS REQUIRED BY CODE.
27. MINIMUM BURIAL DEPTH FOR UNDERGROUND CONDUITS SHALL BE 24".

ISSUES/REVISIONS

No.	Description	Date

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LE AVIATION
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American Environmental Aviation
3977 AVIATION LOOP, SANFORD, FLORIDA 32773
PHONE: (631) 586-2000

INSTALLATION OF A NEW ABOVE GROND FUEL TANK
LEADING EDGE AVIATION
LOGAN-CACHE AIRPORT
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

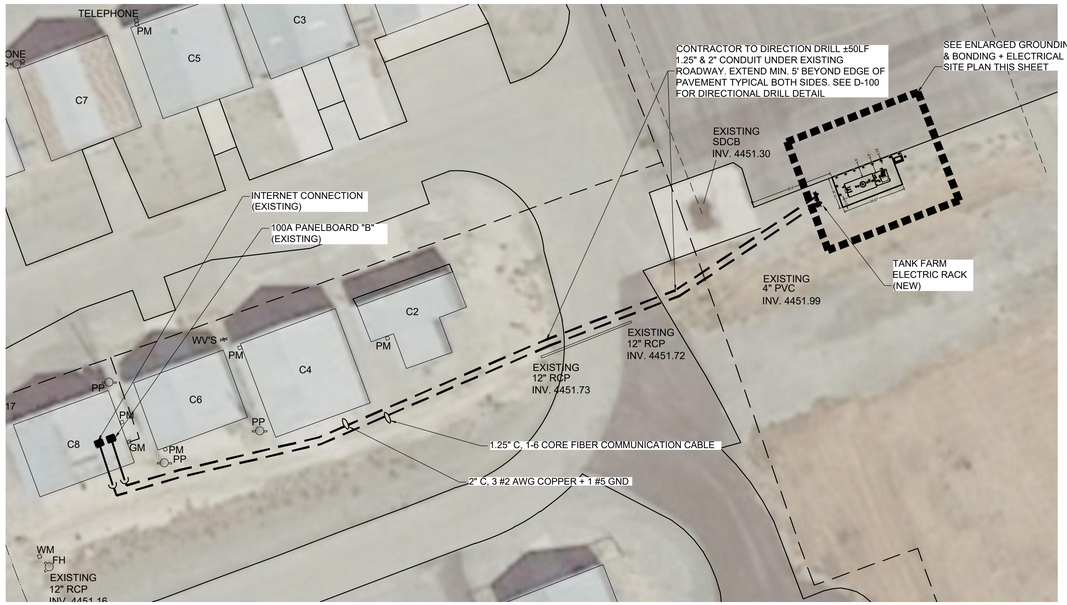
SHEET DESCRIPTION:

ELECTRICAL NOTES

SEAL & SIGNATURE

BRIAN E. LEWIS, P.E.
UTAH P.E. # 5013586-2203
EXP. DATE: 3/31/2021

DATE: DECEMBER 2019
PROJECT NO.: AEAC-LOGAN
DRAWING BY: MSK
CHK. BY: AGN
DWG No:
E-100
CADD FILE NO.
LOGAN-CACHE-Set.dwg



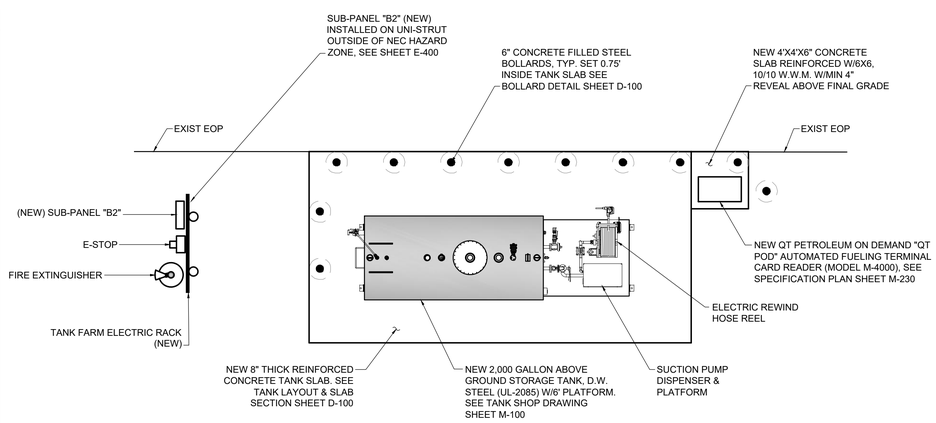
NOTE:
ELECTRIC CONDUIT DEPICTED DIAGRAMMATICALLY, ACTUAL LAYOUT TO BE DETERMINED IN THE FIELD. CONTRACTOR SHALL INSTALL CONDUIT TO MAINTAIN MINIMUM 10' SEPARATION FROM EXISTING DRAINAGE OR WATER LINES.

OVERALL ELECTRICAL SITE PLAN

SCALE: 1" = 30'

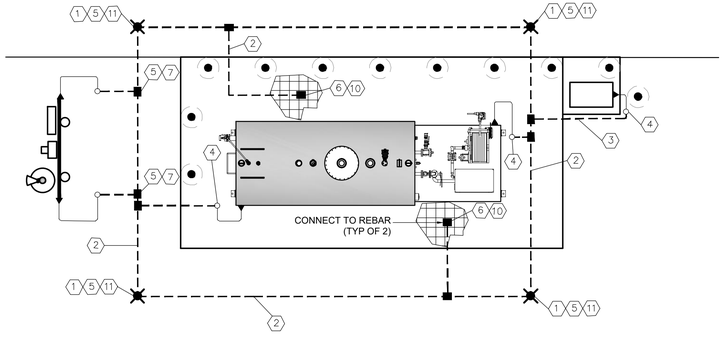
0 15 30 60

SCALE IN FEET



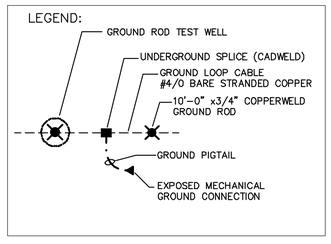
ENLARGED ELECTRICAL SITE PLAN

SCALE: 1" = 5'



ENLARGED GROUNDING, BONDING SITE PLAN

SCALE: 1" = 5'



BILL OF MATERIALS

ITEM	ITEM	MANUFACTURER
1	3/4" x 10'-0" COPPER CLAD GROUND ROD	–
2	#4/0 AWG BARE COPPER WIRE	–
3	#2 XHHW-2 AWG GREEN COPPER WIRE	–
4	CONDUIT PVC 3/4" SCH 40	–
5	CADWELD WELD METAL	CADWELD 115
6	CADWELD WELD METAL	CADWELD 150
7	CADWELD TYPE "TA" #4/0 – #2 HORIZONTAL TEE MOLD	CADWELD TAC-201V
8	CADWELD TYPE "TA" #4/0 – #4/0 HORIZONTAL TEE MOLD	CADWELD TAC-202Q
9	#4/0 XHHW-2 AWG GREEN INSULATED COPPER WIRE	BURNDY GAR6426
10	CADWELD TYPE "RJ" 4/0 CABLE TO #8 REBAR MOLD	CADWELD RJE-582Q
11	CADWELD TYPE "GT" #4/0 – 3/4" GROUND ROD MOLD	CADWELD GTC-182Q
12	COMPRESSION LUG FOR #2 AWG COPPER WIRE	BURNDY YAZC-2LN

NOTE: FOR INFORMATION PURPOSES ONLY, QUANTITIES MAY BE APPROXIMATE

GROUNDING NOTES

1. FOR ELECTRICAL ABBREVIATIONS, LEGEND, NOTES & SPECIFICATIONS, SEE DWG E-100.
2. CONDUIT ROUTING IS SHOWN DIAGRAMMATICALLY ONLY AND IS NOT INTENDED TO SHOW EXACT EQUIPMENT LOCATION OR CONDUIT ROUTING. THE ELECTRICAL CONTRACTOR SHALL DETERMINE, IN THE FIELD, THE BEST ROUTING TO AVOID ANY INTERFERENCE WITH EXISTING UNDERGROUND UTILITIES, EXISTING ABOVEGROUND STRUCTURES OR OTHER EQUIPMENT. THE ELECTRICAL CONTRACTOR SHALL FOLLOW EQUIPMENT MANUFACTURER'S RECOMMENDATIONS FOR INSTALLATION AND TERMINATION OF CONDUIT AND WIRING.
3. GROUND CONNECTORS AT MAIN GROUND LOOP SHALL BE MADE USING EXOTHERMIC CONNECTIONS, SIMILAR TO "CADWELD" OR APPROVED EQUAL.
4. THE NEW GROUND LOOP CABLE SHALL BE CONTINUOUS.
5. GROUNDING CABLE SHALL BE INSTALLED WITHOUT SHARP BENDS OR KINKS, AND WHERE BENDS OR LOOPS ARE REQUIRED, THEY SHALL BE MADE WITH AS LARGE A RADIUS AS POSSIBLE.
6. ALL CONNECTIONS TO BE GROUNDED, CONNECTED OR BONDED MUST BE MADE TO CLEAN AND BRIGHT METAL SURFACES.
7. ELECTRICAL CONTRACTOR SHALL VERIFY GROUND CONNECTIONS POINTS ON COMPRESSOR AND DRYER SKIDS.
8. BURIED GROUND WIRE SHALL BE A MINIMUM OF 24 INCHES BELOW FINISHED GRADE.
9. GROUNDING SHALL BE PERFORMED AS SPECIFIED IN THE 2008 NEC, ARTICLE 250.
10. GROUND WIRES THRU CONCRETE SHALL HAVE A SLEEVE THAT EXTENDS 4" ABOVE GRADE. THE SLEEVES SHALL BE SCHEDULE 40 PVC PIPE FILLED WITH GE RTV SILICONE, AFTER GROUND WIRE HAS BEEN INSTALLED.
11. #4/0 BARE COPPER GROUND WIRE SHALL BE RUN IN TRENCH WITH POWER CONDUITS AND CONTROL CONDUITS.
12. USE COUPLING AND DRIVING STUD TO DRIVE GROUND ROD TO AVOID MUSHROOMING.
13. BOND TOGETHER ALL CONDUIT STUB-UPS IN SAME LOCATION AND CONNECT TO MAIN GROUND CABLE.
14. THE NEW GROUNDING SYSTEM SHALL BE TESTED TO SHOW A RESISTANCE TO GROUND OF NO MORE THAN 25 OHMS.
15. GROUND TESTS CALLED FOR IN NOTES 14 SHALL BE CARRIED OUT USING A "DEDICATED GROUND TESTER".
16. REMOVABLE GUARD POSTS HAVE SUBSTANTIAL CONCRETE FOOTING SEE POST GROUNDING DETAIL ON THIS DRAWING. ELECTRICAL CONTRACTOR SHALL COORDINATE LOCATION OF GROUND LOOP TO AVOID THESE FOOTINGS.
17. EACH VESSEL SHALL BE GROUNDED.
18. ALL CONDUITS IN PULL BOX SHALL BE BONDED TOGETHER AND CONNECTED TO MAIN GROUND LOOP WITH #2AWG COPPER WIRE.

ISSUES/REVISIONS

No.	Description	Date

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INSTALLATION OF A NEW ABOVE GROND FUEL TANK
LEADING EDGE AVIATION
LOGAN-CACHE AIRPORT
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

SHEET DESCRIPTION:
ELECTRICAL SITE, GROUNDING & BONDING PLAN

SEAL & SIGNATURE

BRIAN E. LEWIS, P.E.
UTAH P.E. # 5013586-2203
EXP. DATE: 3/31/2021

DATE: DECEMBER 2019
PROJECT NO.: AEAC-LOGAN
DRAWING BY: MSK
CHK. BY: AGN
DWG No:
E-200
CADD FILE NO.
LOGAN-CACHE-Set.dwg

BUILDING "C8"
EXISTING
PANELBOARD SCHEDULE "B"

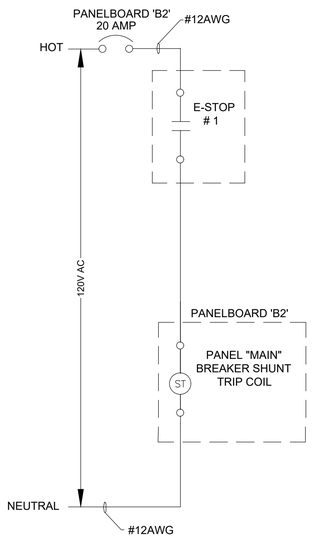
CONNECTED VOLTAMPS Aø	Bø	LOAD DESCRIPTION	WIRES AWG	POLES	AMPS	CKT.	BUS A	BUS B	CKT.	AMPS	POLES	LOAD DESCRIPTION	WIRES AWG	CONNECTED VA Aø	Bø
		SPACE				1			2						
						3			4	20/20		EXISTING LOAD			
3450		FUEL FARM – ELECTRIC RACK	2	2	100	5			6						
	1200	SUB-PANEL "B2" FEEDER				7			8						
3450	1200	TOTAL CONNECTED VA										TOTAL DEMAND VA			
SUB-TOTAL VA		TOTAL CONNECTED AMPS										TOTAL DEMAND AMPS		SUB-TOTAL VA	

PANELBOARD RATINGS			PANELBOARD FEATURES		
VOLTAGE	BUS AMPS	MAIN DEVICE	ENCLOSURE	BRANCH POLES	BRANCH DEVICES
☐ 120/208 3ø,4W	■ 100A ☐ 400A	☐ MAIN LUGS ONLY	☐ FLUSH	■ 8 ☐ 36	■ CIRCUIT BREAKERS ☐ FUSES
■ 120/240 1ø,4W	☐ 200A ☐ 600A	☐ 100A CIRCUIT BREAKER	■ SURFACE	☐ 18 ☐ 42	☐ _____TO BE GFCI BREAKERS
☐ 277/480 3ø,4W	☐ 225A ☐ ___A	☐ _____A FUSED SWITCH	■ NEMA 4X	☐ 24 ☐ ___	☐ LOAD CENTER PERMITTED
INTERRUPTING RATING (AIC SYM)		☐ SERVICE ENTRANCE RATED	■ HINGED DOOR	NOTES	
☐ 10,000A ☐ 30,000A ☐ 65,000A		NEUTRAL BUS / BUS MATERIAL	■ KEYED LATCH	①	
☐ 14,000A ☐ 42,000A ☐ 100,000A		☐ 50% ☐ 200% ■ COPPER	☐ DOOR-IN-DOOR	②	
■ 22,000A ☐ 50,000A ☐ ___000A		■ 100% ☐ ___% ☐ ALUMINUM	☐ STAINLESS STEEL	③	
☐ SERIES RATING PERMITTED		■ GROUND BUS REQUIRED	☐ PAINTED STEEL	④	
☐ _____PANELS IN PARALLEL		☐ THROUGH FEED LUGS REQUIRED	■ NAMEPLATE	⑤	

(NEW)
TANK FARM
SUB-PANEL "B2"

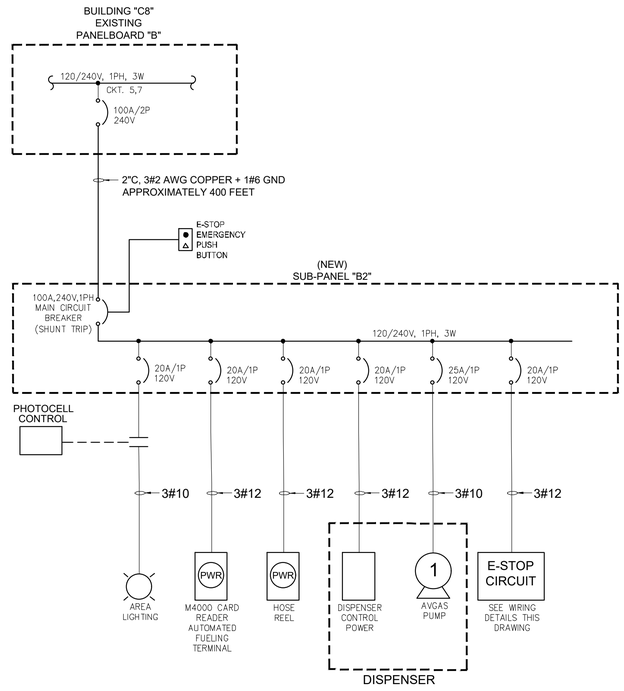
CONNECTED VOLTAMPS Aø	Bø	LOAD DESCRIPTION	WIRES AWG	POLES	AMPS	CKT.	BUS A	BUS B	CKT.	AMPS	POLES	LOAD DESCRIPTION	WIRES AWG	CONNECTED VA Aø	Bø
360		LIGHTING	12	1	20	1			2			SPACE			
	600	CARD READER – M4000	12	1	20	3			4						
1200		HOSE REEL	12	1	20	5			6						
	600	DISPENSER	12	1	20	7			8						
1920		(1HP) DISPENSER PUMP MOTOR	10	1	20	9			10						
		SPACE				11			12						
						13			14						
						15			16						
						17			18						
						19			20						
						21			22						
						23			24						
3480	1200	TOTAL CONNECTED VA	3480	1200								TOTAL DEMAND VA			
SUB-TOTAL VA		TOTAL CONNECTED AMPS	29	10								TOTAL DEMAND AMPS		SUB-TOTAL VA	

PANELBOARD RATINGS			PANELBOARD FEATURES		
VOLTAGE	BUS AMPS	MAIN DEVICE	ENCLOSURE	BRANCH POLES	BRANCH DEVICES
☐ 120/208 3ø,4W	■ 100A ☐ 400A	☐ MAIN LUGS ONLY	☐ FLUSH	☐ 12 ☐ 36	■ CIRCUIT BREAKERS ☐ FUSES
■ 120/240 1ø,4W	☐ 200A ☐ 600A	■ 100A CIRCUIT BREAKER	■ SURFACE	☐ 18 ☐ 42	☐ _____TO BE GFCI BREAKERS
☐ 277/480 3ø,4W	☐ 225A ☐ ___A	☐ _____A FUSED SWITCH	■ NEMA 4X	■ 24 ☐ ___	☐ LOAD CENTER PERMITTED
INTERRUPTING RATING (AIC SYM)		☐ SERVICE ENTRANCE RATED	■ HINGED DOOR	NOTES	
☐ 10,000A ☐ 30,000A ☐ 65,000A		NEUTRAL BUS / BUS MATERIAL	■ KEYED LATCH	① SHUNT TRIP MAIN BREAKER FOR E-STOP CIRCUIT	
☐ 14,000A ☐ 42,000A ☐ 100,000A		☐ 50% ☐ 200% ■ COPPER	☐ DOOR-IN-DOOR	②	
■ 22,000A ☐ 50,000A ☐ ___000A		■ 100% ☐ ___% ☐ ALUMINUM	☐ STAINLESS STEEL	③	
☐ SERIES RATING PERMITTED		■ GROUND BUS REQUIRED	☐ PAINTED STEEL	④	
☐ _____PANELS IN PARALLEL		☐ THROUGH FEED LUGS REQUIRED	■ NAMEPLATE	⑤	



E–STOP CIRCUIT

NTS



ELECTRICAL SINGLE LINE DIAGRAM

NTS

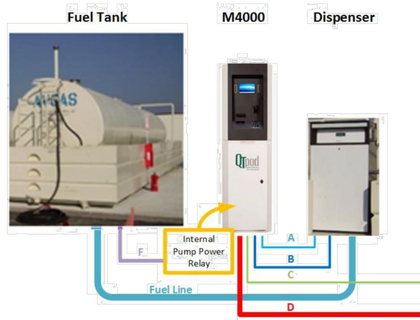
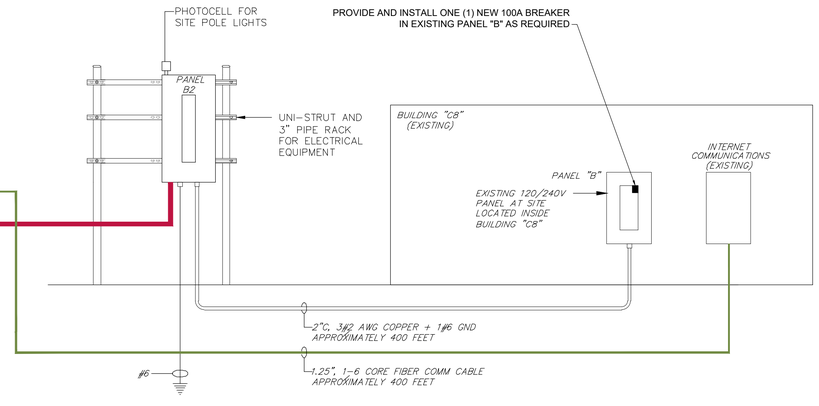


Figure 8 - Dispenser Field Wiring - Option B

Rigid Conduit	Size	Description of wires inside conduit
A	1/2"	Low voltage for pulser wires
B	3/4"	High voltage for dispenser signal wire (reset, clear, slow & fast valves)
C	1/2"	Low voltage for Ethernet Cable (if needed)
D	3/4"	Multiple High voltage for pump motor, terminal and dispenser power
E	1/2"	High voltage pump control wiring



ELECTRICAL RISER DIAGRAM

SOURCE = 120/240V NO SCALE

ISSUES/REVISIONS

No.	Description	Date

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INSTALLATION OF A NEW
ABOVE GROND FUEL TANK
LEADING EDGE AVIATION
LOGAN-CACHE AIRPORT
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

SHEET DESCRIPTION:

ELECTRICAL
DIAGRAMS &
PANELBOARD SCHEDULE

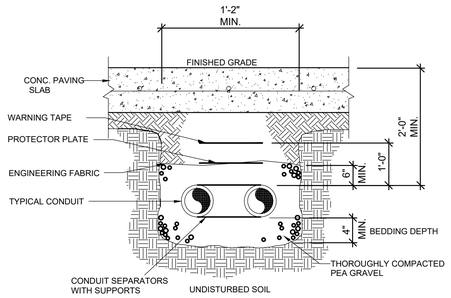
SEAL & SIGNATURE

BRIAN E. LEWIS, P.E.
UTAH P.E. # 501586-2203
EXP. DATE: 3/31/2021

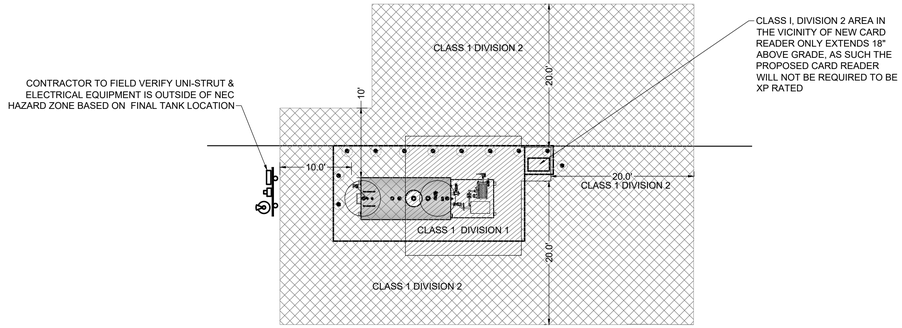
DATE: DECEMBER 2019
PROJECT NO.: AEAC-LOGAN
DRAWING BY: MSK
CHK. BY: AGN
DWG No:

E-300

CADD FILE NO.
LOGAN-CACHE-Set.dwg



6 CONDUIT TRENCH
NOT TO SCALE



NEC HAZARD ZONE DEFINITION PLAN

SCALE: 1" = 10'

HAZARDOUS CLASSIFICATION LEGEND:

NOTE: SPACE IN VAULT (WHERE APPLICABLE) IS A CLASS 1, DIVISION 1 HAZARDOUS AREA.

THIS DRAWING REPRESENTS GENERAL IDENTIFICATION OF HAZARDOUS AREA CLASSIFICATIONS. REFER TO THE DETAIL, DRAWINGS, SPECIFICATIONS AND N.E.C. ARTICLE 500 FOR ADDITIONAL SPECIFIC REQUIREMENTS.

HAZARDOUS LOCATION: CLASS 1, DIVISION 1, GROUP D

HAZARDOUS LOCATION: CLASS 1, DIVISION 2, GROUP D

NEC ARTICLE 515

OUTDOOR EQUIPMENT: OF THE TYPE COVERED IN FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE, NFPA 30-1990 (ANSI), SECTION 5-3.3.2 WHERE FLAMMABLE VAPOR-AIR MIXTURES MAY EXIST UNDER NORMAL OPERATION.

- DIVISION 1: SPACE WITHIN 3 FEET OF ANY EDGE OF SUCH EQUIPMENT, EXTENDING IN ALL DIRECTIONS.
- DIVISION 2: SPACE WITHIN 3 FEET AND 8 FEET OF ANY EDGE OF SUCH EQUIPMENT, EXTENDING IN ALL DIRECTIONS. ALSO SPACE UP TO 3 FEET ABOVE FLOOR OR GRADE LEVEL WITHIN 3 FEET TO 10 FEET FROM ANY EDGE OF SUCH EQUIPMENT.

VENTING DISCHARGE UPWARD:

- DIVISION 1: WITHIN 3 FEET OF OPEN END OF VENT, EXTENDING IN ALL DIRECTIONS.
- DIVISION 2: SPACE BETWEEN 3 FEET AND 5 FEET OF OPEN END OF VENT, EXTENDING IN ALL DIRECTIONS.

REMOTE PUMP-INDOOR:

- DIVISION 1: ANY PIT, BOX, OR SPACE BELOW GRADE LEVEL IF ANY PART IS WITHIN A HORIZONTAL DISTANCE OF 10 FEET FROM ANY EDGE OF PUMP.
- DIVISION 2: WITHIN 3 FEET OF ANY EDGE OF PUMP, EXTENDING IN ALL DIRECTIONS. ALSO UP TO 18 INCHES ABOVE GRADE LEVEL WITHIN 10 FEET HORIZONTALLY FROM ANY EDGE OF PUMP.

GROUNDING NOTES:

1) GROUNDING AND BONDING, CLASS I, DIVISIONS 1 AND 2. WIRING AND EQUIPMENT IN CLASS I, DIVISION 1 AND 2 LOCATIONS SHALL BE GROUNDED AS SPECIFIED IN ARTICLE 250 AND IN ACCORDANCE WITH THE REQUIREMENTS OF NEC ARTICLE 501.30 (A) AND (B). AS FOLLOWS:
(A) BONDING. THE LOCKNUT-BUSHING AND DOUBLE-LOCKNUT TYPES OF CONTACTS SHALL NOT BE DEPENDED ON FOR BONDING PURPOSES, BUT BONDING JUMPERS WITH PROPER FITTINGS OR OTHER APPROVED MEANS OF BONDING SHALL BE USED. SUCH MEANS OF BONDING SHALL APPLY TO ALL INTERVENING RACEWAYS, FITTINGS, BOXES, ENCLOSURES, AND SO FORTH BETWEEN CLASS I LOCATIONS AND THE POINT OF GROUNDING FOR SERVICE EQUIPMENT OR POINT OF GROUNDING OF A SEPARATELY DERIVED SYSTEM.

EXCEPTION: THE SPECIFIC BONDING MEANS SHALL BE REQUIRED ONLY TO THE NEAREST POINT WHERE THE GROUNDED CIRCUIT CONDUCTOR AND THE GROUNDING ELECTRODE ARE CONNECTED TOGETHER ON THE LINE SIDE OF THE BUILDING OR STRUCTURE DISCONNECTING MEANS AS SPECIFIED IN 250.32(B), PROVIDED THE BRANCH CIRCUIT OVERCURRENT PROTECTION IS LOCATED ON THE LOAD SIDE OF THE DISCONNECTING MEANS.

(B) TYPES OF EQUIPMENT GROUNDING CONDUCTORS. FLEXIBLE METAL CONDUIT AND LIQUIDTIGHT FLEXIBLE METAL CONDUIT SHALL NOT BE USED AS THE SOLE GROUND-FAULT CURRENT PATH. WHERE EQUIPMENT BONDING JUMPERS ARE INSTALLED, THEY SHALL COMPLY WITH 250.102. ARTICLE 501-CLASS I LOCATIONS 501.30 2008
EXCEPTION: IN CLASS I, DIVISION 2 LOCATIONS, THE BONDING JUMPER SHALL BE PERMITTED TO BE DELETED WHERE ALL OF THE FOLLOWING CONDITIONS ARE MET:

(1) LISTED LIQUIDTIGHT FLEXIBLE METAL CONDUIT 1.8 M (6 FT) OR LESS IN LENGTH, WITH FITTINGS LISTED FOR GROUNDING, IS USED.

(2) OVERCURRENT PROTECTION IN THE CIRCUIT IS LIMITED TO 10AMPERES OR LESS.

(3) THE LOAD IS NOT A POWER UTILIZATION LOAD.

2) METHOD OF BONDING AT THE SERVICE SHALL BE DONE IN COMPLIANCE WITH NEC ARTICLE 250.92 (B).

ELECTRICAL CONTINUITY AT THE SERVICE EQUIPMENT, SERVICE RACEWAYS AND SERVICE CONDUCTORS ENCLOSURE SHALL BE ENSURED BY ONE OF THE FOLLOWING METHODS:

1- BONDING EQUIPMENT TO THE GROUNDED SERVICE CONDUCTOR IN A MANNER PROVIDED IN 250.8.

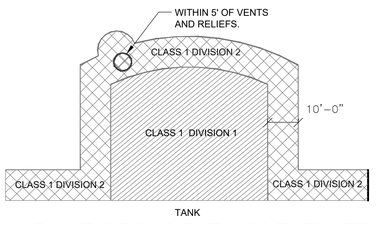
2- CONNECTIONS UTILIZING THREADED COUPLINGS OR THREADED BOSSES ON ENCLOSURES WHERE MADE UP WRENCH TIGHT.

3- THREADLESS COUPLINGS AND CONNECTORS WHERE MADE UP FOR METAL RACEWAYS OR METAL-CLAD CABLES.

4- OTHER APPROVED DEVICES SUCH AS BONDING TYPE LOCKNUTS AND BUSHINGS.

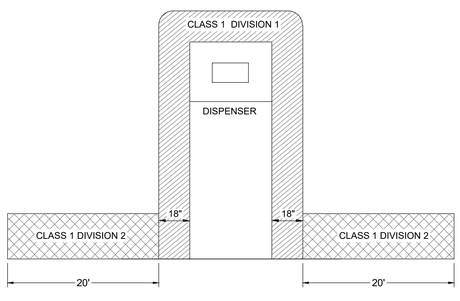
3) BONDING IN HAZARDOUS (CLASSIFIED) LOCATIONS SHALL BE IN COMPLIANCE WITH NEC ARTICLE 250.100.

REGARDLESS OF THE VOLTAGE OF THE ELECTRICAL SYSTEM, THE ELECTRICAL CONTINUITY OF THE NON-CURRENT-CARRYING METAL PARTS OF EQUIPMENT, RACEWAYS, AND OTHER ENCLOSURES IN ANY HAZARDOUS (CLASSIFIED) LOCATION AS DEFINED IN ARTICLE 500 SHALL BE ENSURED BY ANY OF THE METHODS SPECIFIED FOR SERVICES IN ARTICLE 250.92(B) THAT ARE APPROVED FOR THE WIRING METHOD USED.



ABOVE GROUND TANK ELEVATION HAZARDOUS AREAS

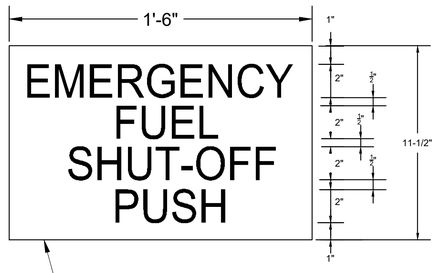
NTS



NOTE: RULES FOR VENTS AND FILL PORTS SHOWN ELSEWHERE ON THIS SHEET APPLY.

DISPENSING EQUIPMENT HAZARDOUS AREA DEFINITION

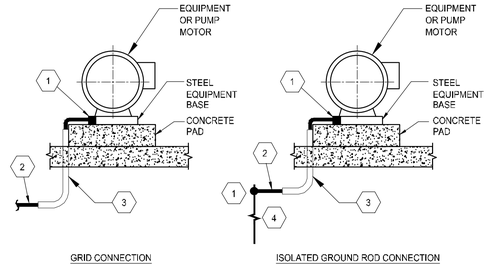
NOT TO SCALE



1. LOCATE SIGN IN A MANNER SUCH THAT IT CAN BE READILY SEEN FROM A DISTANCE OF AT LEAST 25 FEET. MOUNT APPROXIMATELY 7' A.G.

EMERGENCY FUEL SHUT-OFF SIGN

NOT TO SCALE

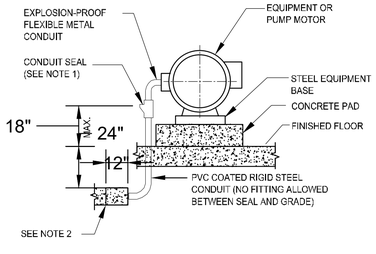


TYPICAL EQUIPMENT FRAME GROUNDING CONNECTION DETAILS

NOT TO SCALE

KEYNOTES:

1. EXOTHERMIC WELD CONNECTION (GROUND BOND CONNECTION)
2. COPPER CONDUCTOR TO MAIN GROUNDING GRID, UNLESS NOTED:
   #6 LIGHT FIXTURE STANDARDS
   #1/0 FUEL PUMPS FILTER SEPARATORS.
   #6 F/S #4 OTHER MOTORS.
   #6 MISCELLANEOUS EQUIPMENT AND METALLIC STRUCTURES.
3. 1" SCH. 40 PVC CONDUIT STUB-UP THRU SLAB/FOUNDATION, ADJACENT TO EQUIPMENT FRAME, SEAL CONDUIT WITH JET FUEL SEALANT. CORE DRILL EXISTING SLABS WHERE REQUIRED.
4. 10' X 3/4" COPPER CLAD GROUND ROD.



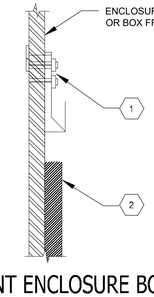
TYPICAL EQUIPMENT MOTOR CONNECTION DETAIL

NOT TO SCALE

1. IF SEAL IS GREATER THAN 18" FROM MOTOR TO TERMINAL BOX, A SECOND SEAL MUST BE INSTALLED AT MOTOR TERMINAL BOX.
2. MAKE TRANSITION TO CONCRETE-ENCASED SCHEDULE 40 PVC.

KEYNOTES:

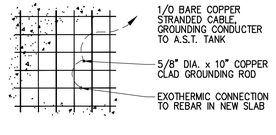
1. 2 HOLE CABLE LUG COMPRESSION TYPE FITTING WITH TWO 5/8" DIA. NON-FERRUS BOLTS.
2. COPPER GROUND CABLE, CONNECTED TO GROUND GRID OR GROUND ROD IF GROUND GRID IS NOT AVAILABLE.



TYPICAL EQUIPMENT ENCLOSURE BOLTED GROUNDING CONNECTION DETAIL

NOT TO SCALE

ALL A.S.T.'S SHALL BE DAISY CHAINED TOGETHER WITH 1/0 COPPER CONNECTED TO ALL TANKS.



AST GROUNDING DETAIL

NOT TO SCALE

ISSUES/REVISIONS

No.	Description	Date

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INSTALLATION OF A NEW ABOVE GROND FUEL TANK
LEADING EDGE AVIATION
LOGAN-CACHE AIRPORT
2500 NORTH AIRPORT DRIVE
LOGAN, UTAH 81321

SHEET DESCRIPTION:

NEC HAZARD ZONE DEFINITION PLAN & DETAIL

SEAL & SIGNATURE

BRIAN E. LEWIS, P.E.
UTAH P.E. # 5013586-2203
EXP. DATE: 3/31/2021

DATE: DECEMBER 2019
PROJECT NO.: AEAC-LOGAN
DRAWING BY: MSK
CHK. BY: AGN
DWG No:
E-400
CADD FILE NO.
LOGAN-CACHE-Set.dwg

LOGAN – CACHE AIRPORT AUTHORITY BOARD
MEETING PACKET
FEBRUARY 6, 2025

AGENDA ITEM

4.g.

TOWER REPAIR - Specifications Historic Tower Logan-Cache Airport		Raymond Construction	Sorensen & Gnehm Const	Paul Davis
Clean up-Remove and dispose of all debris on all levels (four levels) of the structure			3,500.00	
Tear out and remove carpet, pad, and damaged drywall	$_____	4,060.00	2,400.00	3,458.95
Tear off and remove acoustic ceiling tiles	$_____	1,150.00	2,600.00	711.74
Repair Roof				
Roof-Tear off and Dispose of existing roofing materials	$_____	8,125.00	8,430.00	1,455.32
Install new 60 mil membrane	$_____	13,329.00		2,815.63
Install flashing and curbing	$_____	inc		2,435.30
Glass Repair				
Install tempered glass to match existing material in existing frame works.	$_____	56,801.00	68,801.00	12,544.79
Replace the rotting wood sill material	$_____	3,133.00	3,200.00	987.97
Install flashing to preserve wood sills	$_____	2,130.00		7,139.86
Paint/seal wood sills to preserve	$_____	1,737.00		582.94
Other		-	18,326.20	-
		90,465.00	107,257.20	32,132.50
ALTERNATE – TOWER DEMO				
Demolish tower and dispose of all debris	$_____	62,506.00	-	-
Restore site to match surrounding area	$_____	7,887.00	-	-
		70,393.00	-	-