

The Commonwealth of Massachusetts
City/Town of Westfield

GIS Coordinates
_____ LAT. _____
_____ LONG. _____
_____ License Number _____

Application For License

Massachusetts General Law, Chapter 148 §13

New License Amended License

Application is hereby made in accordance with the provisions of Chapter 148 of the General Laws of Massachusetts for a license to store flammables, combustibles or explosives on land in buildings or structures herein described.

Location of Land: 74 Medeiros Way 70R-23 & 70R-24
Number, Street and Assessor's Map and Parcel ID

Attach a plot plan of the property indicating the location of property lines and all buildings or structures.

Owner of Land: Old Dominion Freight Line

Address of Land Owner: 500 Old Dominion Way, Thomasville, NC 27360

Use and Occupancy of Buildings and Structures: _____

If this is an application for amendment of an existing license, indicate date of original license and any subsequent amendments

Attach a copy of the current license

Flammable and Combustible Liquids, Flammable Gases and Solids

Complete this section for the storage of flammable and combustible liquids, solids, and gases; see 527 CMR 14; Attach additional pages if needed. All tanks and containers are considered full for the purposes of licensing and permitting.

PRODUCT NAME	CLASS	MAXIMUM QUANTITY	UNITS gal., lbs, Cubic feet Gallons	CONTAINER UST, AST, IBC, drums
Diesel	II	15,000	Gallons	AST
DEF		1,000	Gallons	AST
Windshild Washer Fluid		55	Gallons	Drum
Antifreeze		55	Gallons	Drum
Fresh Motor Oil	II	55	Gallons	Drum

Total quantity of all flammable liquids to be stored: 55

Total quantity of all combustible liquids to be stored: 15,055

Total quantity of all flammable gases to be stored: N/A

Total quantity of all flammable solids to be stored: N/A

LP-gas (Complete this section for the storage of LP-gas or propane)

Indicate the maximum quantity of LP-gas to be stored and the sizes and capacities of all storage containers. (See 527 CMR 6)

❖ Maximum quantity (in gallons) of LP-gas to be stored in aboveground containers: 165 gallons total

List sizes and capacities of all aboveground containers used for storage: 36 - 20 pound Cylinder

❖ Maximum quantity (in gallons) of LP-gas to be stored in underground containers: _____

List sizes and capacities of all underground containers used for storage: _____

Total aggregate quantity of all LP-gas to be stored: _____

Fireworks (Complete this section for the storage of fireworks)

Indicate classes of fireworks to be stored and maximum quantity of each class. (See 527 CMR 2)

❖ Maximum amount (in pounds) of Class 1.3G: _____ Type/class of magazine used for storage: _____

❖ Maximum amount (in pounds) of Class 1.4G: _____ Type/class of magazine used for storage: _____

❖ Maximum amount (in pounds) of Class 1.4: _____ Type/class of magazine used for storage: _____

Total aggregate quantity of all classes of fireworks to be stored: N/A

Explosives (Complete this section for the storage of explosives)

Indicate classes of explosive to be stored and maximum quantity of each class. (See 527 CMR 13)

❖ Maximum amount (in pounds) of Class 1.1: _____ Number of magazines used for storage: _____

❖ Maximum amount (in pounds) of Class 1.2: _____ Number of magazines used for storage: _____

❖ Maximum amount (in pounds) of Class 1.3: _____ Number of magazines used for storage: _____

❖ Maximum amount (in pounds) of Class 1.4: _____ Number of magazines used for storage: _____

❖ Maximum amount (in pounds) of Class 1.5: _____ Number of magazines used for storage: _____

❖ Maximum amount (in pounds) of Class 1.6: _____ Number of magazines used for storage: _____

I, _____, hereby attest that I am authorized to make this application. I acknowledge that the information contained herein is accurate and complete to the best of my knowledge and belief. I acknowledge that all materials stored pursuant to any license granted hereunder must be stored or kept in accordance with all applicable laws, codes, rules and regulations, including but not limited to Massachusetts Chapter 148, and the Massachusetts Fire Code (527 CMR). I further acknowledge that the storage of any material specified in any license granted hereunder may not exceed the maximum quantity specified by the license.

Signature Joshua Barwick Date 4/17/11 Name Joshua Barwick

Fire Department Use Only

I, _____, Head of the _____ Fire Department endorse this application with my

Approval Disapproval

Signature of Head of the Fire Department _____ Date _____

Recommendations: _____



INSTALL 15,000 GALLON UL-2085 AST (DIESEL) w/DISPENSER, 1,000 GALLON COLD-CLIMATE DEF AST & DISPENSER, OWS, CANOPY, FUEL ISLAND TERMINAL, VACUUM, 20' CONEX WITH INTERNAL LIGHTING, HEATING, VENTILATION, AIR COMPRESSOR & LUBRICATION EQUIPMENT (OIL, AF, WWF), FSC & ATG.

OLD DOMINION FREIGHT LINE
Westfield, MA

74 Medeiros Way (Summit Lock Rd)
Westfield, MA 01085

Approved for:
CONSTRUCTION

Revised: 7/14/2021
GENERAL CONTRACTOR

NOTES
NOTE THIS DRAWING IS FOR INFORMATION ONLY AND IS DIAGRAMMATIC IN NATURE

FUELPORT
19931 Patrick Henry Hwy
Jetersville, VA 23083
1 (804) 561-2166

Copyright 2006-2021 by Beneficial Systems
All rights reserved. This document is the property of Beneficial Systems. It is to be used for the specific project referred to herein and is not to be used on any other projects, in whole or in part, except by the express written agreement of Beneficial Systems.

Rev	Change/Issue	Date
1	Issue for 2019-2021	2/19/21
2	Issue for 2021	2/22/21
3	Issue for 2021	4/9/21
4	Issue for 2021	7/13/21
5	Issue for 2021	7/14/21

Sheet 1 of 12

Beneficial Systems
© 2006-2021 Beneficial Systems
All Rights Reserved

Project:
ODFL
Westfield, MA

Quotation
1014-211-00

Issue:
Approved For Construction
Revision 5

Contents, Codes & Specifications	Code
2/18/21	DVA
2/18/21	DVA
7/13/21	DVA
7/13/21	RM

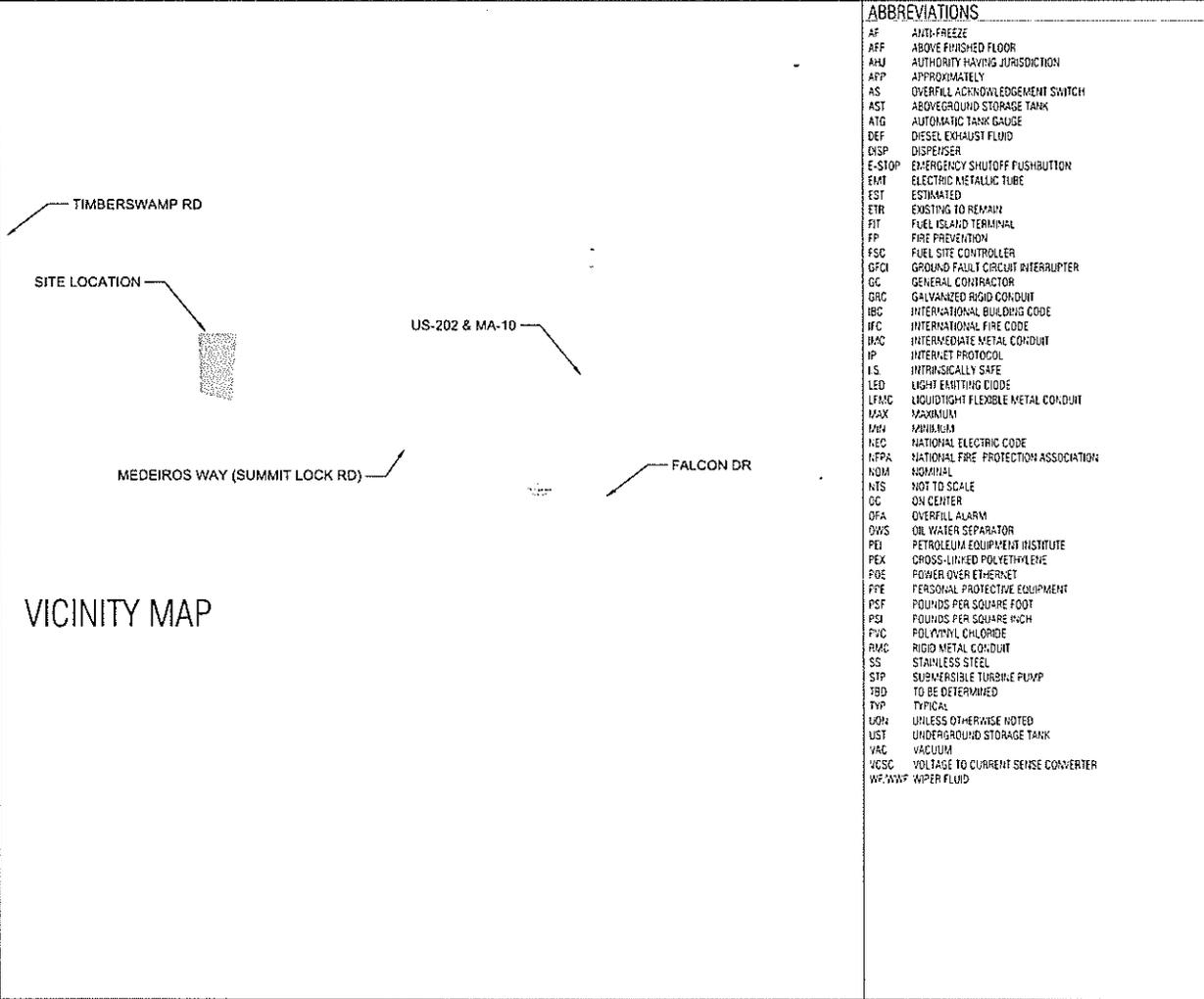
Table of Contents

Page	Sheet	Title
1	G001	Contents, Codes & Specifications
2	A101	Site Plan
3	A102	Equipment Site
4	A103	Fuel System Equipment Plan
5	A104	Fuel Area Concrete Plan
6	A105	Fuel Equipment Slab Loads
7	A106	Fuel Area Underground Plan
8	A502	OWS Installation Elevation & Sections
9	A601	CONEX Anchor Details & Calculations
10	A602	AST Anchor Details & Calculations
11	A603	DEF AST Anchor Details & Calculations
12	E201	Electrical Equipment Elevation

NOTE: SHEETS ARE REORGANIZED & RENUMBERED FROM DRAWING SETS PRIOR TO REVISION 4

NOTE: SHEET A501 IS PURPOSEFULLY OMITTED FROM THIS DRAWING SET.

THIS DRAWING SUBSET INCLUDES ONLY G001 AND A101



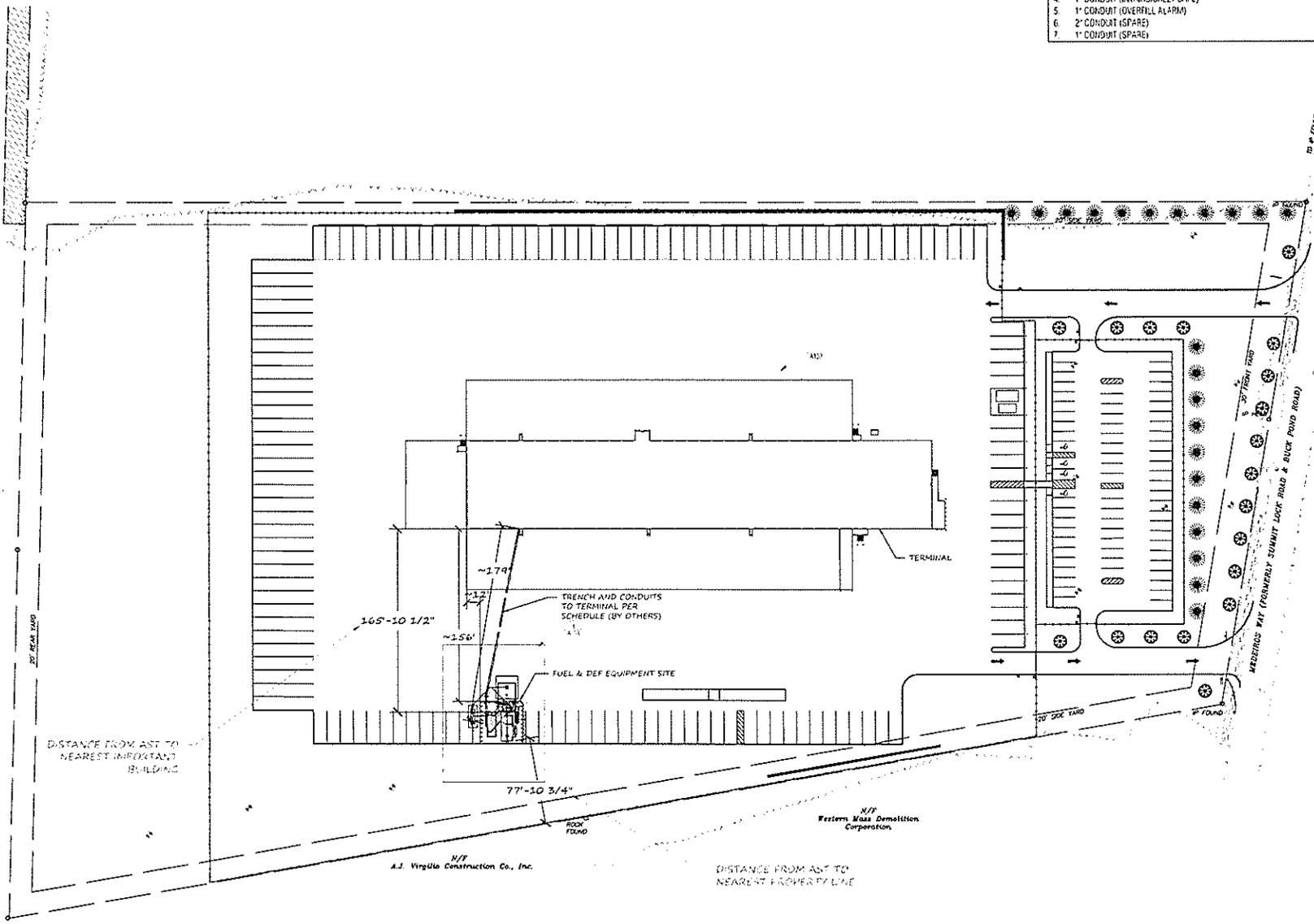
ABBREVIATIONS

- AF ANTI-FREEZE
- AFF ABOVE FINISHED FLOOR
- AHJ AUTHORITY HAVING JURISDICTION
- APP APPROXIMATELY
- AS OVERFILL ALARM/EDGEMENT SWITCH
- AST ABOVEGROUND STORAGE TANK
- ATG AUTOMATIC TANK GAUGE
- DEF DIESEL EXHAUST FLUID
- DISP DISPENSER
- E-STOP EMERGENCY SHUTOFF PUSHBUTTON
- EMT ELECTRIC METALLIC TUBE
- EST ESTIMATED
- ETR EXISTING TO REMAIN
- FIT FUEL ISLAND TERMINAL
- FP FIRE PREVENTION
- FSC FUEL SITE CONTROLLER
- GFCI GROUND FAULT CIRCUIT INTERRUPTER
- GC GENERAL CONTRACTOR
- GRC GALVANIZED RIGID CONDUIT
- IBC INTERNATIONAL BUILDING CODE
- IFC INTERNATIONAL FIRE CODE
- IMC INTERMEDIATE METAL CONDUIT
- IP INTERNET PROTOCOL
- IS INTRINSICALLY SAFE
- LED LIGHT EMITTING DIODE
- LFD LIQUIDTIGHT FLEXIBLE METAL CONDUIT
- MAX MAXIMUM
- MIN MINIMUM
- NEC NATIONAL ELECTRIC CODE
- NFPA NATIONAL FIRE PROTECTION ASSOCIATION
- NOM NOMINAL
- NTS NOT TO SCALE
- ON CENTER
- OFA OVERFILL ALARM
- OVS OIL WATER SEPARATOR
- PEI PETROLEUM EQUIPMENT INSTITUTE
- PEX CROSS-LINKED POLYETHYLENE
- PBE POWER OVER ETHERNET
- PPE PERSONAL PROTECTIVE EQUIPMENT
- PSF POUNDS PER SQUARE FOOT
- PSI POUNDS PER SQUARE INCH
- PVC POLYVINYL CHLORIDE
- RMC RIGID METAL CONDUIT
- SS STAINLESS STEEL
- STP SUBMERSIBLE TURBINE PUMP
- TBD TO BE DETERMINED
- TYP TYPICAL
- UNLESS OTHERWISE NOTED
- UST UNDERGROUND STORAGE TANK
- VAC VACUUM
- VCS VOLTAGE TO CURRENT SENSE CONVERTER
- WWF WIPER FLUID

CODE REVIEW DATA:
 FIRE CODE NFPA 1-2015 WITH AMENDMENTS (BASIS: NFPA 1-2015)
 NATIONAL ELECTRICAL CODE 2020 (BASIS: NFPA 70-2020)
 INTERNATIONAL BUILDING CODE 2009 WITH AMENDMENTS (BASIS: IBC-2009)
 FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE 2012 (BY REFERENCE: NFPA 30-2012)
 CODE FOR MOTOR FUEL DISPENSING FACILITIES AND REPAIR GARAGES 2012 (BY REFERENCE: NFPA 304-2012)
 INTERNATIONAL FIRE CODE 2009 (BASIS: IFC-2009)

USING REFERENCE ARCHITECTURAL SITE PLAN PROVIDED TO BENEFICIAL SYSTEMS ON September 25, 2019 (2019_09_25) [PRELIMINARY]

CONDUIT SCHEDULE	
1.	2" CONDUIT OR LARGER (FOR E&E)
2.	1" CONDUIT (NETWORK FIBER/CAT-5E)
3.	1" CONDUIT (BACKFILL IN ENTIRETY (Pole-Net)
4.	1" CONDUIT (INTRINSICALLY SAFE)
5.	1" CONDUIT (OVERHULL AL-PPM)
6.	2" CONDUIT (SPARE)
7.	1" CONDUIT (SPARE)



1 SITE PLAN

Approved for:
CONSTRUCTION

Revised: 7/14/2021
GENERAL CONTRACTOR
EQUIPMENT CODES WITH FROM 2015

NOTES
NOTE: THIS DRAWING IS FOR INFORMATION ONLY AND IS DIAGRAMMATIC IN NATURE

FUEL PORT
19931 Patrick Henry Hwy
Jetersville, VA 23083
1 (804) 561-2166

Copyright 2006-2021 by Beneficial Systems
All rights reserved. This document is the property of Beneficial Systems. It is to be used for the specific project referred to herein and is not to be used on any other projects, in whole or in part, except by the express written agreement of Beneficial Systems.

Rev	Change/Issue	Date
1	ISSUE FOR PERMIT	2/19/21
2	REVISIONS	3/22/21
3	REVISIONS	4/9/21
4	REVISIONS	7/13/21
5	REVISIONS	7/14/21

Sheet 2 of 12

Beneficial Systems
© 2006-2021 Beneficial Systems
All R ights Reserved

Project: **ODFL**
Westfield, MA

Quotation: **1014-211-00**

Issue: 7/14/2021
Approved For Construction
Revision 5

Site Plan **A101**

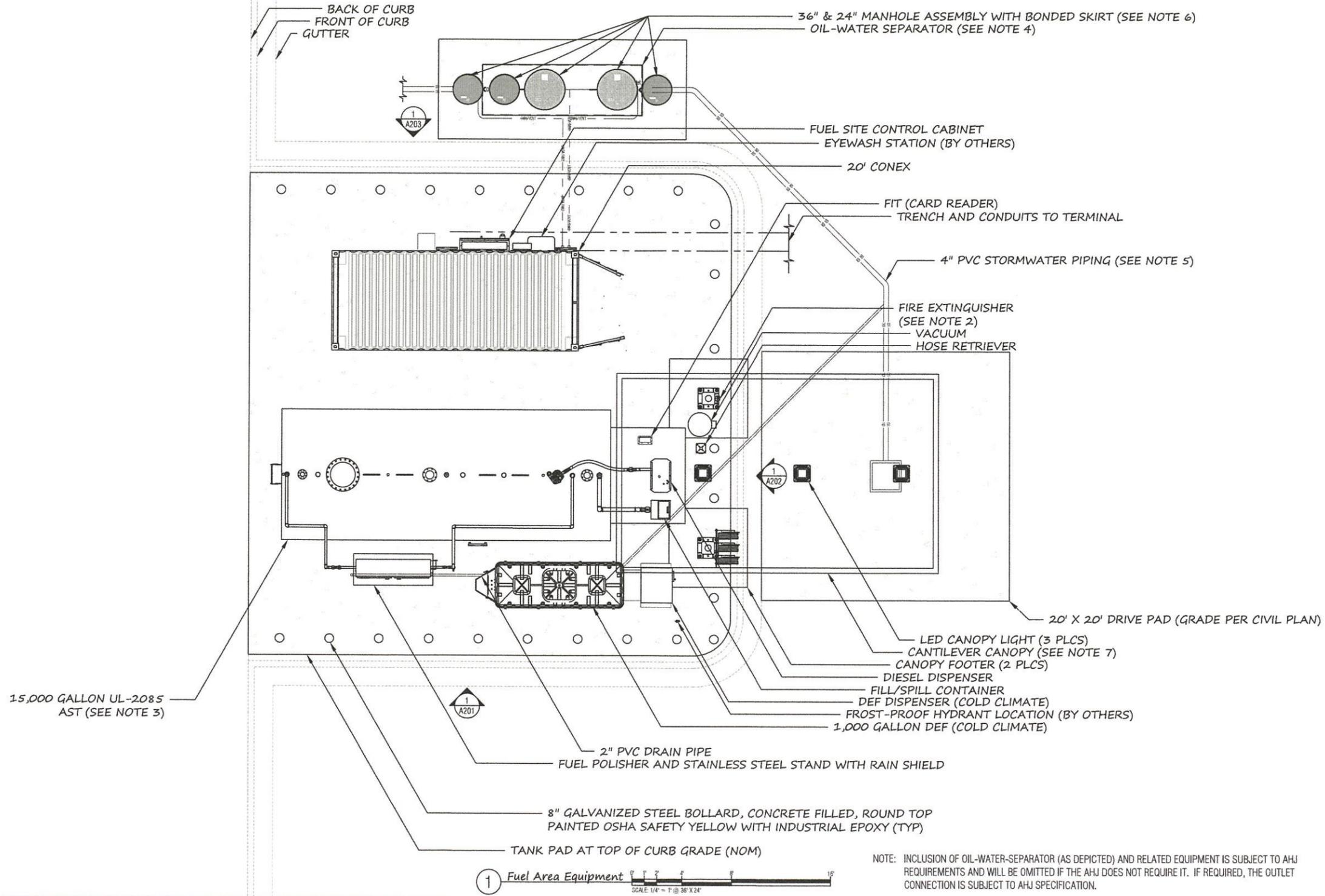
2/18/21	DVA
2/18/21	DVA
7/13/21	DVA
7/13/21	RM

APPROVED FOR CONSTRUCTION BY: [Signature]

GENERATED: July 14, 2021 FOR: ARCH-D (36 x 24) SHEET: Plan-Simple FILE: BENEFUEL-MULTIEQUIPMENT-BLOCK.DWG

NOTES

1. ALL PLACARDS AND SAFETY SIGNAGE REQUIRED BY NFPA 30A, OSHA, ENFORCED BUILDING AND FIRE CODES, THIS DESIGN OR THE AHJ ARE TO BE INSTALLED AND CLEARLY VISIBLE. PLACARDS AND SIGNS MUST EACH CONFORM TO THEIR APPLICABLE STANDARDS, SUCH AS NFPA 704, OSHA HAZCOM 2012 OR DOT.
2. FIRE EXTINGUISHER RATED 4A:80B:C OR BETTER, 10 LB OR LARGER WITH DISCHARGE RATE OF 1 LB/SEC OR GREATER ARE REQUIRED. INCLUDE SIGNAGE AT EACH FIRE EXTINGUISHER LOCATION TO ASSIST VISUALLY LOCATING NEAREST AVAILABLE EXTINGUISHER.
3. EACH AST, DISPENSER OR PIECE OF EQUIPMENT AND STORAGE BUILDING OR CONEX MUST BEAR PLACARDS AND/OR LABELS APPROPRIATE AND REQUIRED BY APPLICABLE CODES, THE AHJ OR THE EQUIPMENT MANUFACTURER, SUCH AS, TANK DESIGN/TEST STANDARD (UL-2085 ETC.), THE CONTENTS OF THE TANKS, AND SAFETY REQUIREMENTS FOR THE AREA SUCH AS 'NO SMOKING' ETC. LABELS, WHERE REQUIRED, SHALL INCLUDE EQUIPMENT AND SAFETY INSTRUCTIONS FOR OPERATION, USE AND OR STORAGE.
4. EXACT LOCATION AND DEPTH OF BURIAL OF THE OWS AND DEPTH AND GRADE OF PIPING IS SUBJECT TO THE SITE CONDITIONS AND GRADE MEASUREMENT, OUTLET TO BE CONNECTED TO EXISTING STORMWATER MANAGEMENT SYSTEM. FLOWRATE, CAPACITY, PIPE SIZING, SURFACE AND PIPING GRADING AND BURMING AROUND FUELING PAD TO FOLLOW DETAILS PROVIDED.
5. SLOPE WATER PIPING AT 1/8" PER FOOT (1%) FOR 4" PIPING, 1/4" PER FOOT (2%) FOR 1-1/2" PIPING.
6. MANHOLES SET WITH RIM 1" ABOVE GRADE, CONCRETE SLOPED AWAY FROM RIM AT APPROXIMATELY 1" PER 1' TO ASSURE NO STORMWATER STANDS OR RUNS OVER MANHOLES. SEE CONCRETE DETAILS SHEET AND OWS INSTALLATION SHEETS FOR DETAILS AND SPECIFICS.
7. CANOPY STRUCTURE, ASSEMBLY, FOOTINGS, ANCHORS AND ATTACHMENTS TO FOLLOW DESIGN AND INSTRUCTIONS PROVIDED IN SHOP DRAWINGS AND ENGINEER STAMPED PLANS PROVIDED BY MANUFACTURER.



Approved for:
CONSTRUCTION

Revised: 7/14/2021
GENERAL CONTRACTOR
DESTROY ALL PLAN COPIES WITH PRIOR DATES

Notes
NOTE: THIS DRAWING IS FOR INFORMATION ONLY AND IS DIAGRAMMATIC IN NATURE.

FUELPORT
BY BENEFICIAL
19931 Patrick Henry Hwy
Jetersville, VA 23083
1 (804) 561-2166

Copyright 2006-2021 by Beneficial Systems. All rights reserved. This document is the property of Beneficial Systems. It is to be used for the specific project referred to herein and is not to be used on any other projects, in whole or in part, except by the express written agreement of Beneficial Systems.

Rev	Change/Issue	Date
1	Updated equipment per ODFL, added Lube and associated details.	3/19/21
AFC-GC	Revised issue of AFC-GC (Rev 1)	3/22/21
2	Clerical/drafting revisions.	3/22/21
3	Revised Lube Notes & Details, Relocated Lube E-Stop	4/9/21
4	15K AST, OWS, FP Drain, A101 Revised for Permitting, Reorganized	7/13/21
5	Updated code analysis & compliance	7/14/21

Sheet 4 of 12

Beneficial Systems
©2006-2021 Beneficial Systems
All Rights Reserved

Project:
ODFL

Westfield, MA

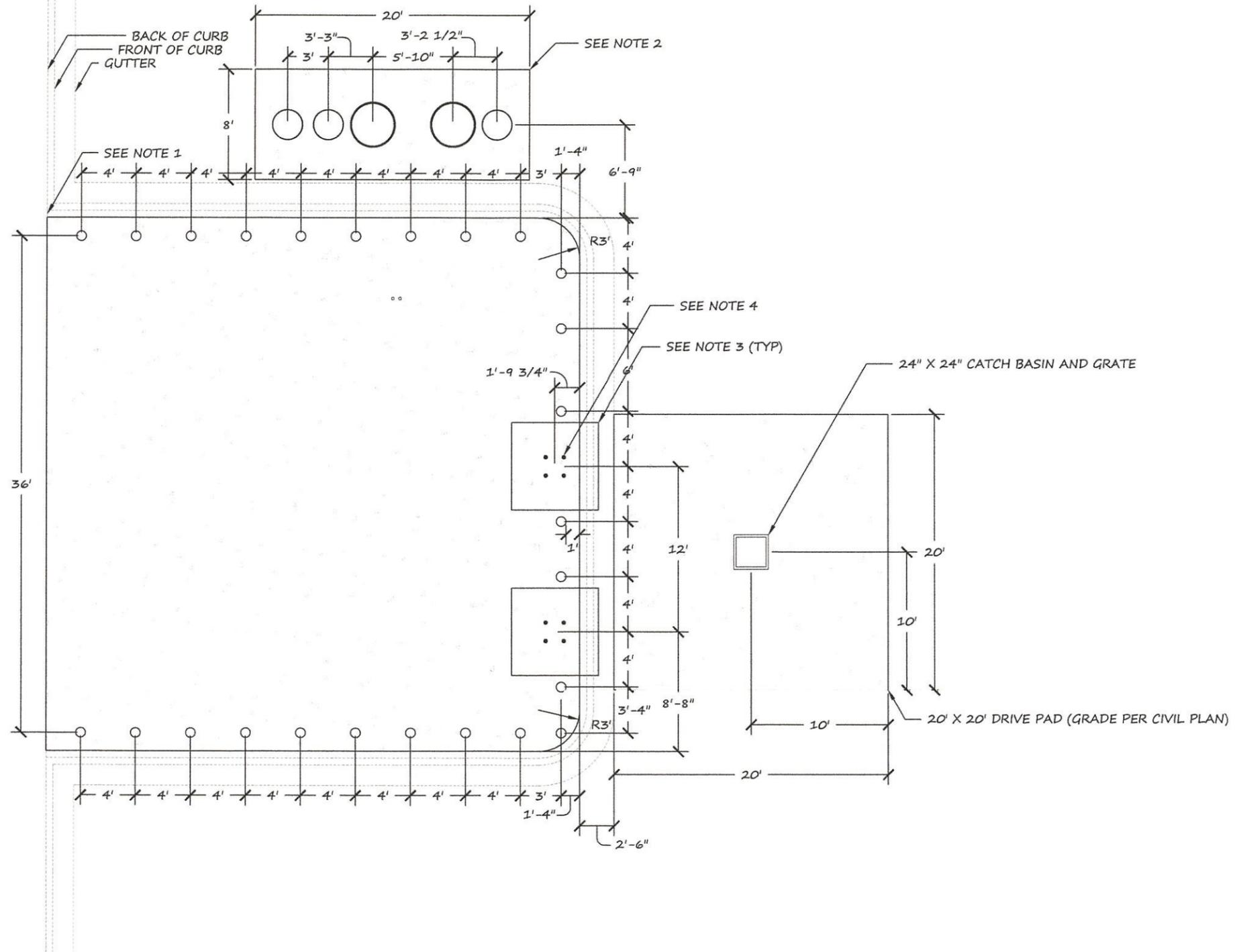
Quotation:
1014-211-00

Issue: 7/14/2021
Approved For Construction
Revision: 5

Fuel System Equipment Plan	A103
Designed Date: 2/18/21	Designed by: DVA
Drawn Date: 2/18/21	Drawn by: DVA
Revised Date: 7/13/21	Revised by: DVA
Checked Date: 7/13/21	Checked by: RM

NOTE: INCLUSION OF OIL-WATER-SEPARATOR (AS DEPICTED) AND RELATED EQUIPMENT IS SUBJECT TO AHJ REQUIREMENTS AND WILL BE OMITTED IF THE AHJ DOES NOT REQUIRE IT. IF REQUIRED, THE OUTLET CONNECTION IS SUBJECT TO AHJ SPECIFICATION.

GENERATED: July 14, 2021 FOR: ARCH-D (36 x 24) SHEET: Concrete FILE: BENEFICIAL-MULTIEQUIPMENT-BLOCK.DWG



NOTES

1. FILL GAP BETWEEN EQUIPMENT PAD AND BACK OF CURB WITH NON-SHRINK GROUT OR CONCRETE. IF CURB IS IN-PLACE PRIOR TO POURING TANK PAD, POUR TO BACK OF CURB, INCLUDE EXPANSION JOINT MATERIALS AS REQUIRED. FINISH PAD TO NOMINAL ELEVATION OF TOP OF CURB.
2. WHERE INCLUDED, MINIMUM PAD SIZE OVER OWS IS DEPICTED.
3. WHERE INCLUDED, TYPICAL CANOPY FOOTINGS DEPICTED ARE FOR REFERENCE ONLY, SEE MANUFACTURER'S CERTIFIED FOOTING DRAWINGS FOR CONSTRUCTION DETAILS AND SPECIFICATIONS.
4. WHERE DIESEL AST IS INCLUDED, INCLUDE 3" NOMINAL HOLE COMPLETELY PENETRATING SLAB AND INTO BASE MATERIALS.
5. ALL UNDERGROUND WORK SHALL BE PLACED PRIOR TO CONCRETE SLAB PLACEMENT. COORDINATE CONCRETE WORK WITH OTHER ON-SITE TRADES. TRENCH AND CONDUITS TO TERMINAL TO BE BY OTHERS, OTHER CONDUITS IN EQUIPMENT AREA TO BE PLACED BY ELECTRICAL CONTRACTOR.

Approved for:
CONSTRUCTION

Revised: 7/14/2021
GENERAL CONTRACTOR
DESTROY ALL PLAN COPIES WITH PRIOR DATES

Notes
NOTE: THIS DRAWING IS FOR INFORMATION ONLY AND IS DIAGRAMMATIC IN NATURE.

FUELPORT
BY BENEFICIAL
19931 Patrick Henry Hwy
Jetersville, VA 23083
1 (804) 561-2166

Copyright 2006-2021 by Beneficial Systems.
All rights reserved. This document is the property of Beneficial Systems. It is to be used for the specific project referred to herein and is not to be used on any other projects, in whole or in part, except by the express written agreement of Beneficial Systems.

Rev	Change/Issue	Date
1	Updated equipment per GDFL, added Lube and associated details/revs.	3/19/21
AFC-GD	Revised issue of AFC-GC (Rev 1)	3/22/21
2	Clerical/drafting revisions.	3/22/21
3	Revised Lube Notes & Details, Relocated Lube E-Stop	4/9/21
4	15K AST, OWS, FP Drain, A101 Revised for Permitting, Reorganized	7/13/21
5	Updated code analysis & compliance	7/14/21

Sheet 5 of 12

Beneficial Systems
©2006-2021 Beneficial Systems
All Rights Reserved

Project:
ODFL

Westfield, MA

Quotation:
1014-211-00

Issue: 7/14/2021
Approved For Construction
Revision: 5

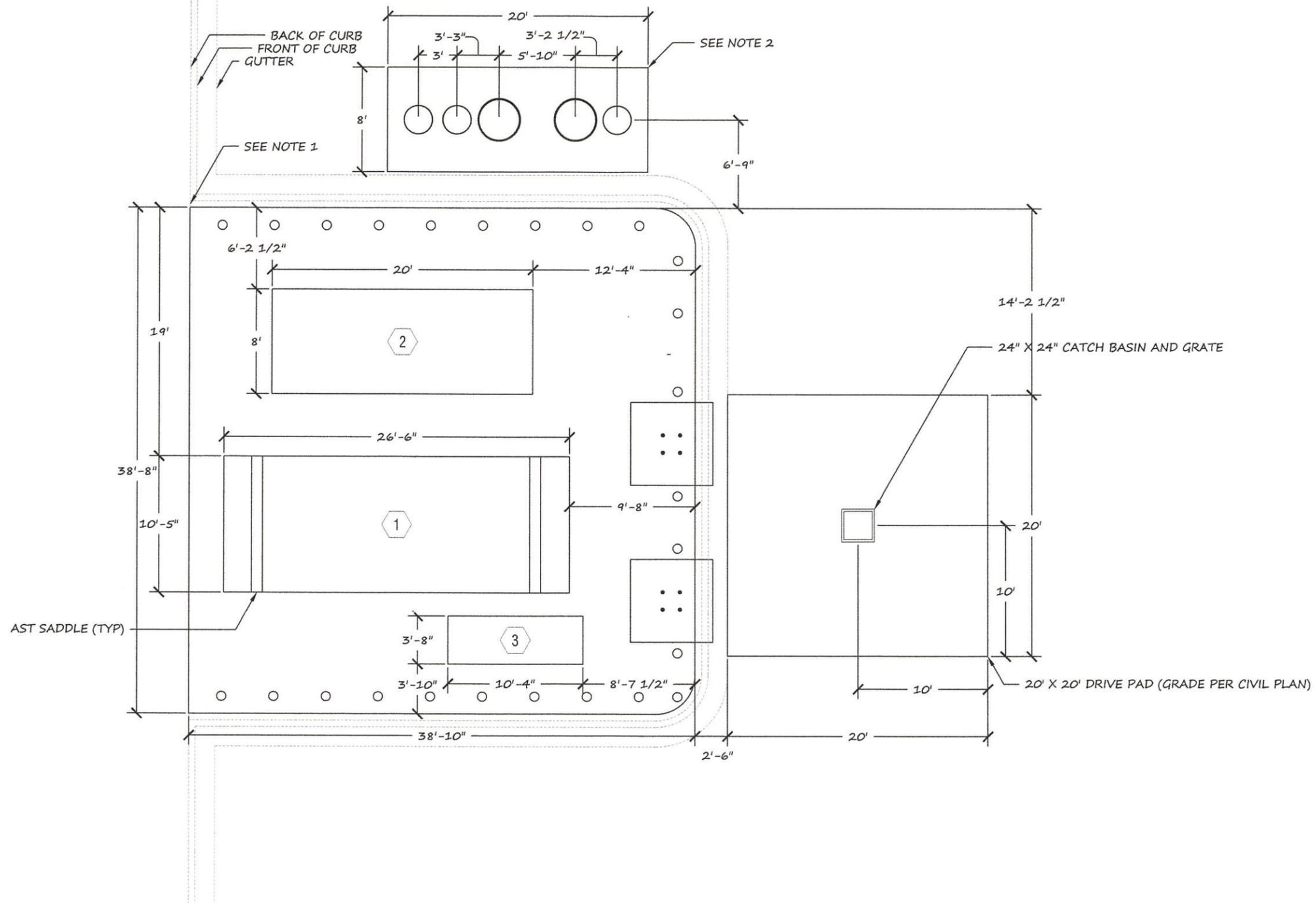
Fuel Area Concrete Plan		A104
Designed Date	2/18/21	Designed by
Drawn Date	2/18/21	Drawn by
Revised Date	7/13/21	Revised by
Checked Date	7/13/21	Checked by
		DVA
		DVA
		DVA
		RM

1 Fuel Area Concrete Plan
SCALE: 1/4" = 1' @ 36" X 24"

GENERATED: July 14, 2021 FOR: ARCH-D (36 X 24) SHEET: SlabLoad FILE: BENEFUEL-MULTIEQUIPMENT-BLOCK.DWG

NOTES
SHEET KEY NOTES

1. DIESEL AST
DESIGN WEIGHT 142,000 POUNDS
2. 20' INTERMODAL SHIPPING CONTAINER (CONEX)
DESIGN WEIGHT 8,000 POUNDS
3. 1,000 GALLON DEF AST
DESIGN WEIGHT 12,000 POUNDS



1 Fuel Area Concrete Plan
 SCALE: 1/4" = 1' @ 36" X 24"

Approved for:
CONSTRUCTION

Revised: 7/14/2021
 GENERAL CONTRACTOR

DESTROY ALL PLAN COPIES WITH PRIOR DATES

Notes
 NOTE: THIS DRAWING IS FOR INFORMATION ONLY AND IS DIAGRAMMATIC IN NATURE.

FUELPORT
 BY BENEFICIAL
 19931 Patrick Henry Hwy
 Jetersville, VA 23083
 1 (804) 561-2166

Copyright 2006-2021 by Beneficial Systems. All rights reserved. This document is the property of Beneficial Systems. It is to be used for the specific project referred to herein and is not to be used on any other projects, in whole or in part, except by the express written agreement of Beneficial Systems.

Rev	Change/Issue	Date
1	Updated equipment per ODFL, added Lube and associated details/dim.	3/19/21
AFC-GC	Revised issue of AFC-GC (Rev 1)	3/22/21
2	Clerical/drafting revisions.	3/22/21
3	Revised Lube Notes & Details, Relocated Lube E-Stop	4/9/21
4	15K AST, QWS, FP Drain, A101 Revised for Permitting, Reorganized	7/13/21
5	Updated code analysis & compliance	7/14/21

Sheet 6 of 12

Beneficial Systems
 ©2006-2021 Beneficial Systems
 All Rights Reserved

Project:
ODFL

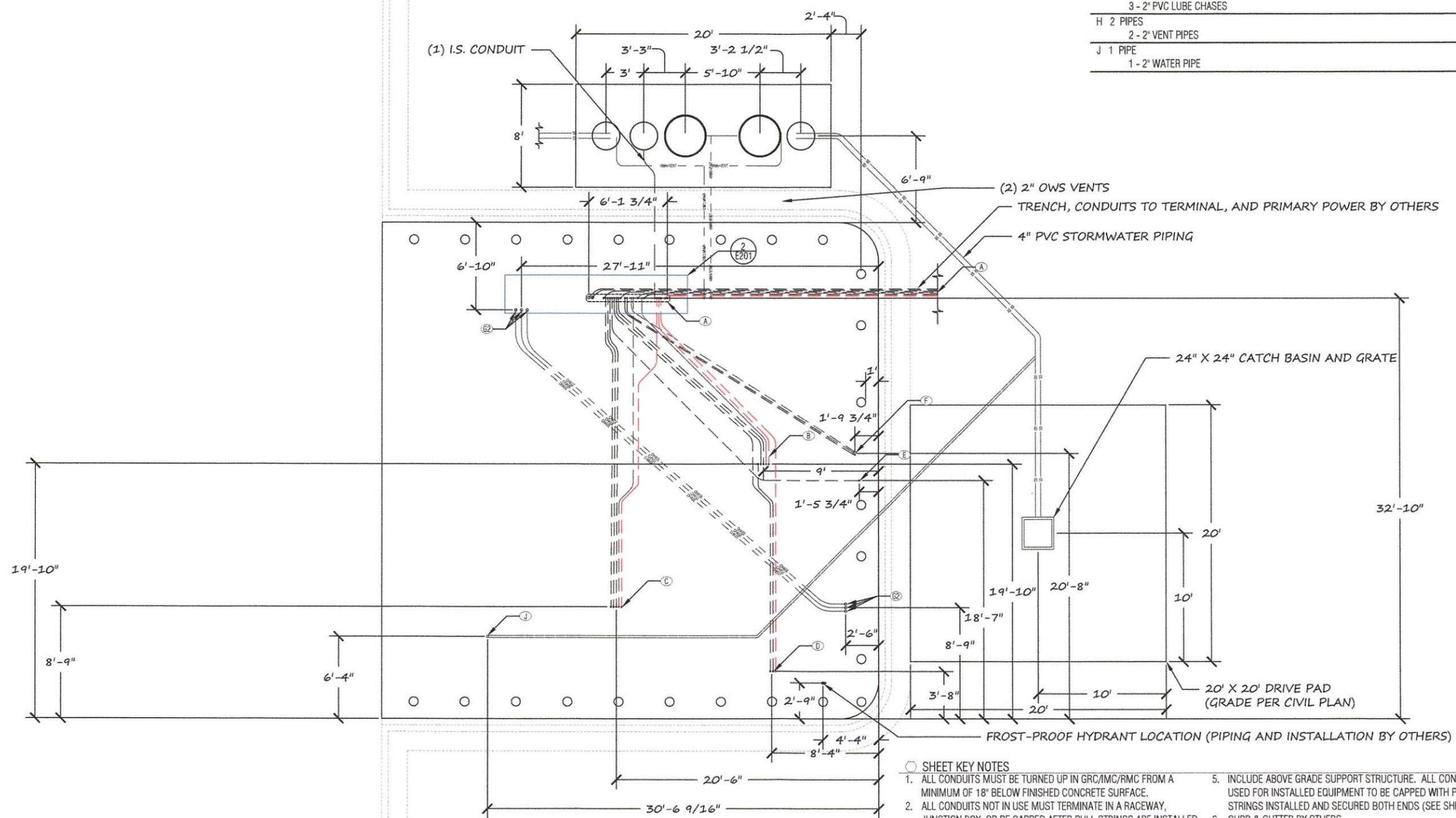
 Westfield, MA

Quotation:
1014-211-00

Issue: 7/14/2021
 Approved For Construction
 Revision: 5

Fuel Equipment Slab Loads	A105
Designed Date: 2/18/21	Designed by: DVA
Drawn Date: 2/18/21	Drawn by: DVA
Revised Date: 7/13/21	Revised by: DVA
Checked Date: 7/13/21	Checked by: RM

GENERATED: July 14, 2021 FOR: ARCH-D (36 x 24) SHEET: Plan-Underground FILE: BENEFUEL-MULTIEQUIPMENT-BLOCK.DWG



○ CONDUIT SCHEDULE

A	8 CONDUITS TOTAL 2 - 2" CONDUIT 5 - 1" CONDUIT 1 - 1" CONDUIT (GRC IN ENTIRETY)
B	5 CONDUITS TOTAL 4 - 1" CONDUIT 1 - 1" CONDUIT (GRC IN ENTIRETY)
C	5 CONDUITS TOTAL 5 - 1" CONDUIT
D	3 CONDUITS TOTAL 3 - 1" CONDUIT
E	1 CONDUIT TOTAL 1 - 1" CONDUIT
F	3 CONDUITS TOTAL 3 - 1" CONDUIT
G1	NOT APPLICABLE
G2	3 CHASES TOTAL 3 - 2" PVC LUBE CHASES
H	2 PIPES 2 - 2" VENT PIPES
J	1 PIPE 1 - 2" WATER PIPE

Approved for:
CONSTRUCTION

Revised: 7/14/2021
GENERAL CONTRACTOR
DESTROY ALL PLAN COPIES WITH PRIOR DATES

Notes
NOTE: THIS DRAWING IS FOR INFORMATION ONLY AND IS DIAGRAMMATIC IN NATURE.

FUELPORT
BY BENEFICIAL
19931 Patrick Henry Hwy
Jetersville, VA 23083
1 (804) 561-2166

Copyright 2006-2021 by Beneficial Systems. All rights reserved. This document is the property of Beneficial Systems. It is to be used for the specific project referred to herein and is not to be used on any other projects, in whole or in part, except by the express written agreement of Beneficial Systems.

Rev	Change/Issue	Date
1	Updated equipment per ODFL, added Lube and associated details/adj.	3/19/21
AFC-GC	Revised issue of AFC-GC (Rev 1)	3/22/21
2	Clerical/drafting revisions.	3/22/21
3	Revised Lube Notes & Details, Relocated Lube E-Stop	4/9/21
4	15K AST, OWS, FP Drain, A101 Revised for Permitting, Reorganized	7/13/21
5	Updated code analysis & compliance	7/14/21

Sheet 7 of 12

Beneficial Systems
©2006-2021 Beneficial Systems
All Rights Reserved

Project:
ODFL

Westfield, MA

Quotation:
1014-211-00

Issue: 7/14/2021
Approved For Construction
Revision: 5

Fuel Area Underground Plan		A106
Designed Date	2/18/21	Designed by
Drawn Date	2/18/21	Drawn by
Reviewed Date	7/13/21	Reviewed by
Checked Date	7/13/21	Checked by
		DVA
		DVA
		DVA
		RM

○ SHEET KEY NOTES

- ALL CONDUITS MUST BE TURNED UP IN GRC/IMC/RMC FROM A MINIMUM OF 18" BELOW FINISHED CONCRETE SURFACE.
- ALL CONDUITS NOT IN USE MUST TERMINATE IN A RACEWAY, JUNCTION BOX, OR BE CAPPED AFTER PULL STRINGS ARE INSTALLED AND SECURED AT BOTH ENDS.
- ALL CONDUITS ENTERING OR EXITING ANY CLASSIFIED AREA MUST INCLUDE SEALING FITTINGS INSTALLED AT 18" AFF.
- ROUTE AND SECURE ALL ABOVE GROUND CONDUITS TO AVOID ANY TRIP HAZARDS OR IMPINGING ACCESS.
- INCLUDE ABOVE GRADE SUPPORT STRUCTURE. ALL CONDUITS NOT USED FOR INSTALLED EQUIPMENT TO BE CAPPED WITH PULL STRINGS INSTALLED AND SECURED BOTH ENDS (SEE SHEET NOTES).
- CURB & GUTTER BY OTHERS.
- PARKING STALL LINE LAYOUT AND PAINTING BY OTHERS.
- CONDUIT SIZES LISTED ARE MINIMUM REQUIREMENTS.

1 Fuel Area Underground Plan SCALE: 1/4" = 1' @ 30' X 24'

Approved for:
CONSTRUCTION

Revised: 7/14/2021
GENERAL CONTRACTOR
DESTROY ALL PLAN COPIES WITH PRIOR DATES

Notes
NOTE: THIS DRAWING IS FOR INFORMATION ONLY AND IS DIAGRAMMATIC IN NATURE.

FUELPORT
BY BENEFICIAL
19931 Patrick Henry Hwy
Jetersville, VA 23083
1 (804) 561-2166

Copyright 2006-2021 by Beneficial Systems. All rights reserved. This document is the property of Beneficial Systems. It is to be used for the specific project referred to herein and is not to be used on any other projects, in whole or in part, except by the express written agreement of Beneficial Systems.

Rev	Change/Issue	Date
1	Updated equipment per ODFL, added Lube and associated details/adj.	3/19/21
AFC-GC	Revised issue of AFC-GC (Rev 1)	3/22/21
2	Clarical/drafting revisions.	3/22/21
3	Revised Lube Notes & Details, Relocated Lube E-Stop	4/9/21
4	15K AST, OWS, FP Drain, A101 Revised for Permitting, Reorganized	7/13/21
5	Updated code analysis & compliance	7/14/21

Sheet 8 of 12

Beneficial Systems
©2006-2021 Beneficial Systems
All Rights Reserved

Project:
ODFL

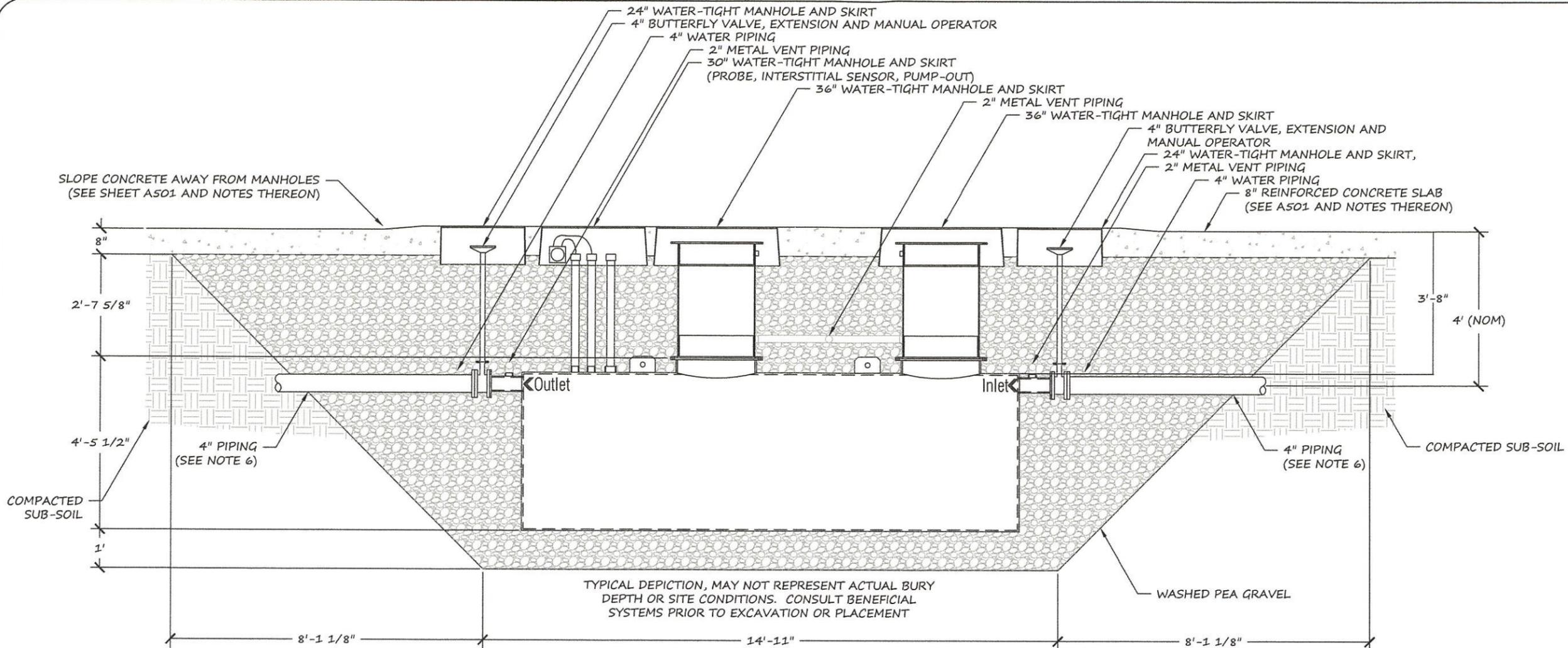
Westfield, MA

Quotation:
1014-211-00

Issue: 7/14/2021
Approved For Construction
Revision: 5

OWS Installation Elevation & Sections
A502

Designed Date	2/18/21	Designed by	DVA
Drawn Date	2/18/21	Drawn by	DVA
Revised Date	7/13/21	Revised by	DVA
Checked Date	7/13/21	Checked by	RM

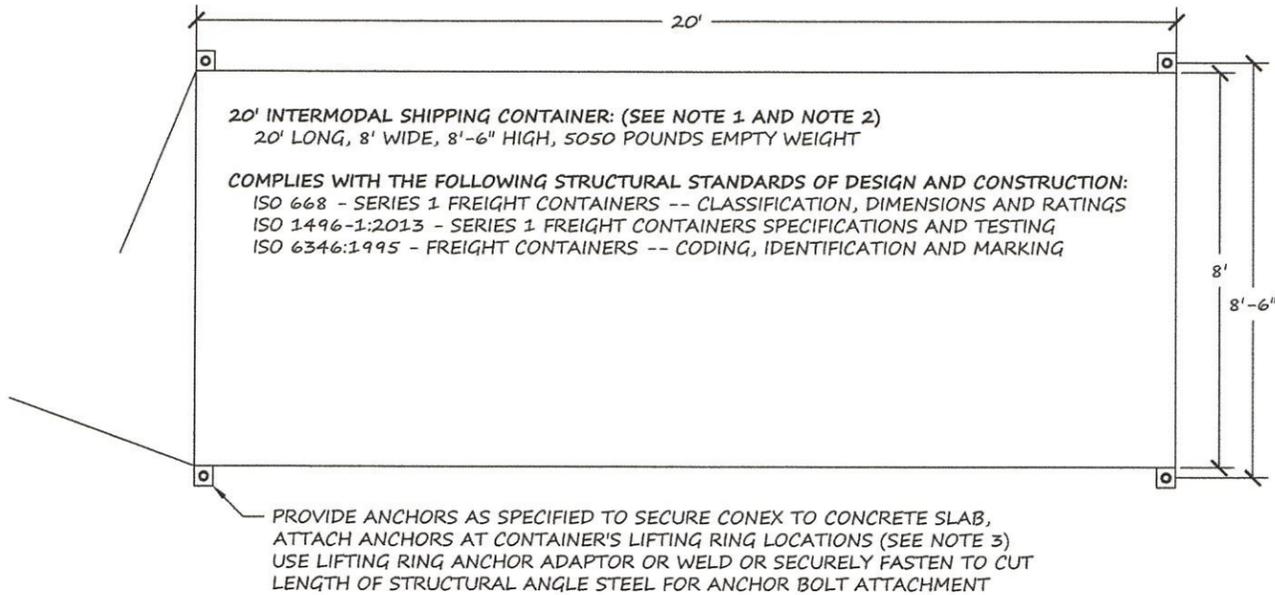


- SHEET GENERAL NOTES**
- OWS BURY DEPTH SHOWN AT 36" NOMINAL, SITE CONDITIONS MAY REQUIRE ADJUSTMENT
 - TYPICAL EXCAVATION ILLUSTRATED USING 1:1 ANGLE OF REPOSE, ACTUAL SITE CONDITIONS MAY NECESSITATE DIFFERING ANGLES AND BENCHING OF EXCAVATIONS PER OSHA GUIDELINES
 - SEE A103 FOR PLACEMENT AND MANHOLE PLACEMENT DIMENSIONS
 - REQUIRED BURIAL DEPTH DEPENDANT UPON SITE DRAINAGE PLAN AND PIPING DEPTHS FROM CIVIL DRAWINGS, MANWAY EXTENSIONS, RISERS AND VALVE OPERATOR EXTENSIONS MUST BE ADJUSTED FOR DIFFERING DEPTHS REQUIRED BY SITE.
 - FOR BURIAL DEPTHS OTHER THAN INDICATED, CONFIRM THE SUITABILITY OF THE INDICATED EQUIPMENT WITH BENEFICIAL SYSTEMS PRIOR TO EXCAVATION AND INSTALLATION
 - INLET AND OUTLET PIPING SHOWN IS ASSUMED TO COMPLY WITH APPROVED CIVIL STORMWATER PLAN. IF PIPING SIZE IS TO BE OTHER THAN WHAT IS SHOWN, THEN CONSULT BENEFICIAL SYSTEMS PRIOR TO EXCAVATION FOR, OR PLACEMENT OF, THE OWS OR ANY OTHER ELEMENTS OF THE DRAINAGE SYSTEM

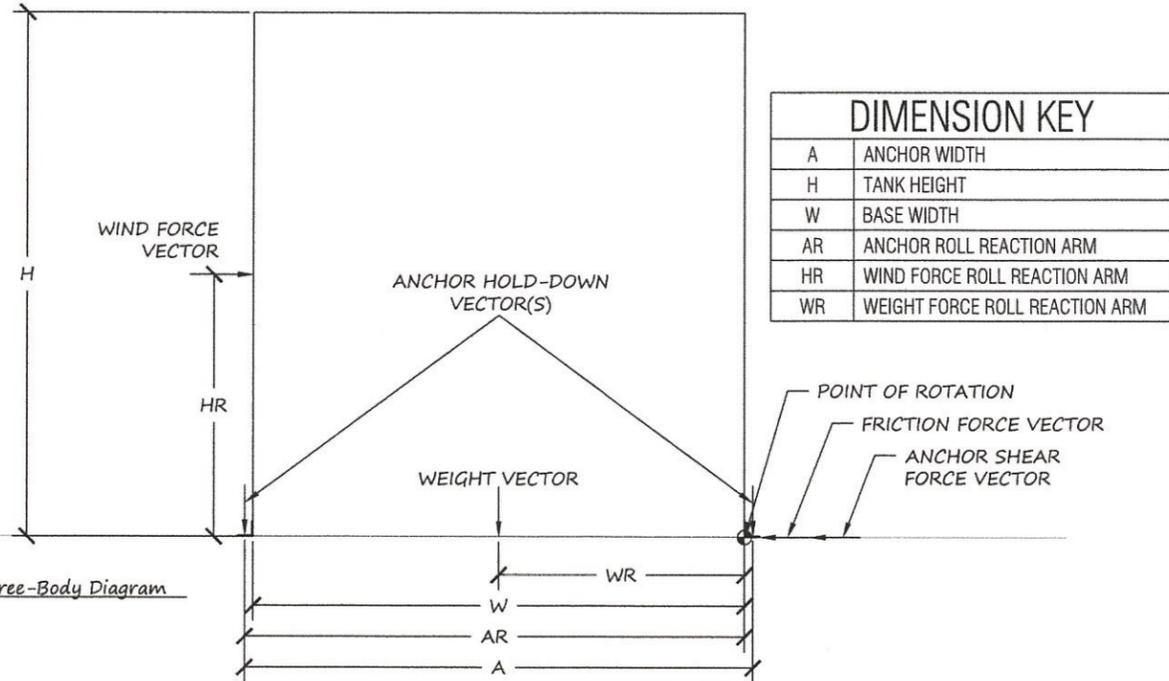
OWS FLOW RATE CALCULATION
CALCULATIONS PROVIDED WITH CONSTRUCTION DOCUMENTS (AFC)

GENERATED: July 14, 2021 FOR: ARCH-D (36 x 24) SHEET: BaseSideView FILE: BENEFICIAL-OWS.DWG

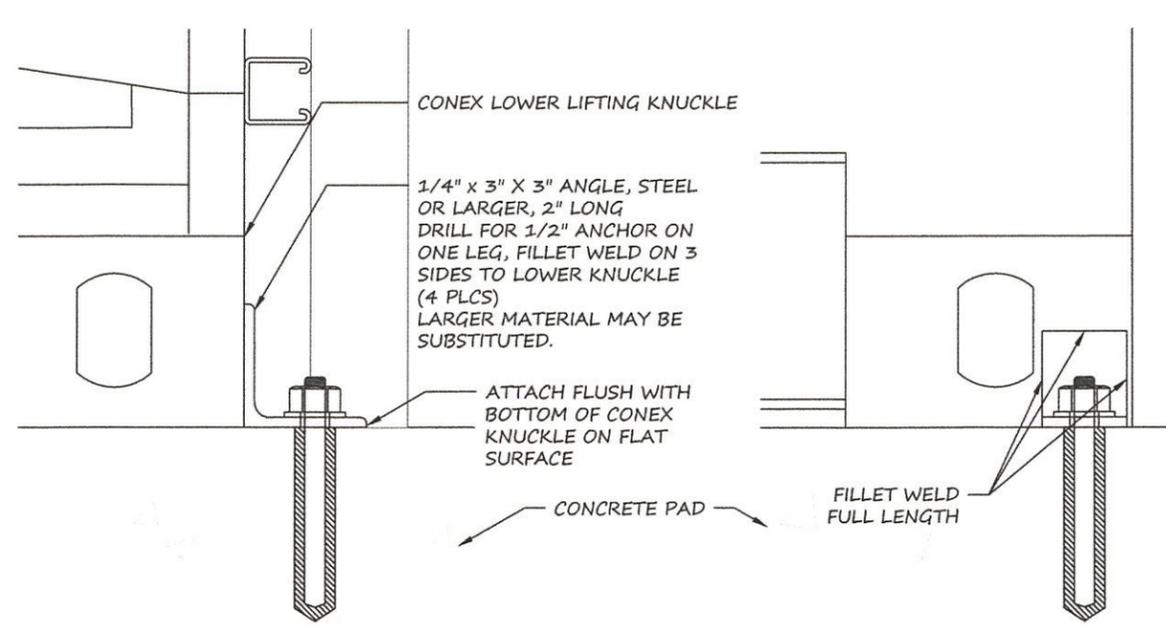
CONEX LOADING CALCULATIONS & ANCHORAGE



1 CONEX Anchor Detail
Scale: 1:20 @ 36"x24"



2 CONEX Free-Body Diagram
Scale: NTS



3 CONEX Anchor Detail Side
Scale: 6" = 1' @ 36" x 24"

4 CONEX Anchor Detail Face
Scale: 6" = 1' @ 36" x 24"

DESIGN LOAD AND ANCHOR CALCULATIONS

CALCULATIONS PROVIDED WITH CONSTRUCTION DOCUMENTS (AFC)

Approved for:
CONSTRUCTION

Revised: 7/14/2021
GENERAL CONTRACTOR
DESTROY ALL PLAN COPIES WITH PRIOR DATES

Notes
NOTE: THIS DRAWING IS FOR INFORMATION ONLY AND IS DIAGRAMMATIC IN NATURE.

FUELPORT
BY BENEFICIAL
19931 Patrick Henry Hwy
Jetersville, VA 23083
1 (804) 561-2166

Copyright 2006-2021 by Beneficial Systems. All rights reserved. This document is the property of Beneficial Systems. It is to be used for the specific project referred to herein and is not to be used on any other projects, in whole or in part, except by the express written agreement of Beneficial Systems.

Rev	Change/Issue	Date
1	Updated equipment per ODFL, added Lube and associated detail/adj.	3/19/21
AFC-GC	Revised issue of AFC-GC (Rev 1)	3/22/21
2	Clerical/drafting revisions.	3/22/21
3	Revised Lube Notes & Details, Refabricated Lube E-Stop	4/9/21
4	ISA, AST, OWS, RP Draw, A101 Revised for Permitting, Reorganized	7/13/21
5	Updated code analysis & compliance	7/14/21

Sheet 9 of 12

Beneficial Systems
©2006-2021 Beneficial Systems
All Rights Reserved

Project:
ODFL

Westfield, MA

Quotation:
1014-211-00

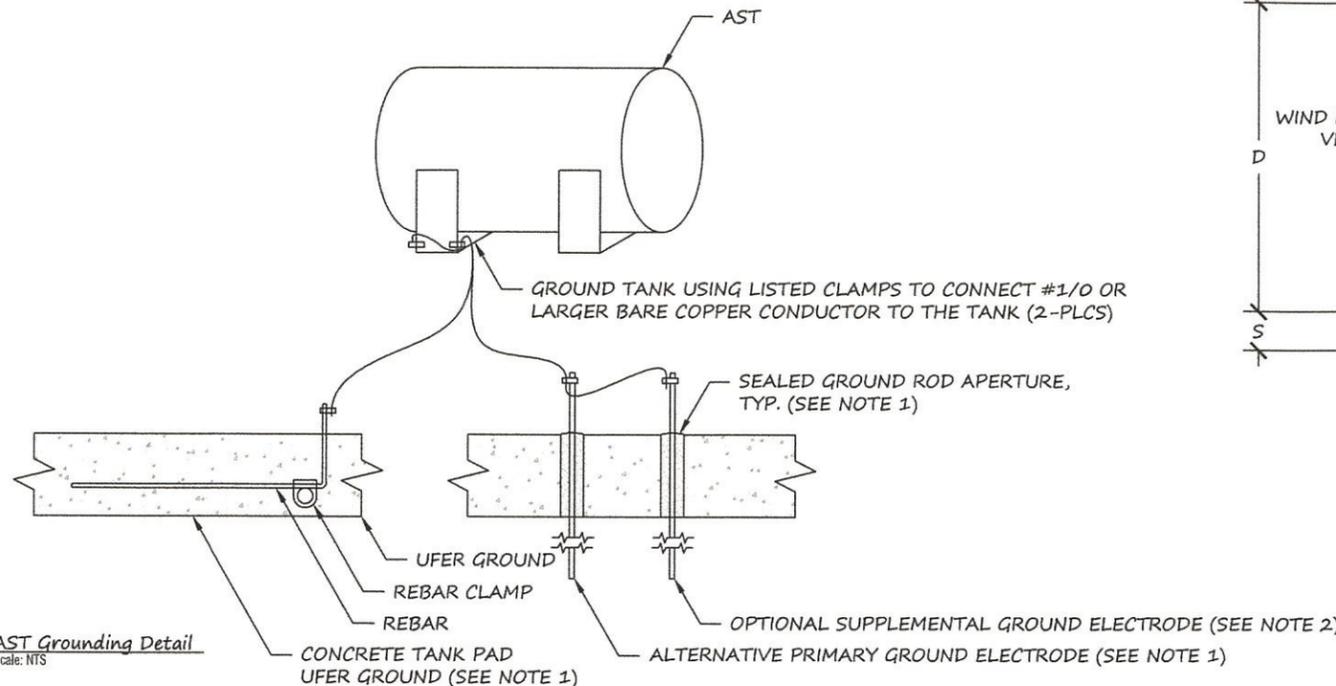
Issue: 7/14/2021
Approved For Construction
Revision: 5

CONEX Anchor Details & Calculations		A601
Designed Date:	2/18/21	Designed by: DVA
Drawn Date:	2/18/21	Drawn by: DVA
Revised Date:	7/13/21	Revised by: DVA
Checked Date:	7/13/21	Checked by: RM

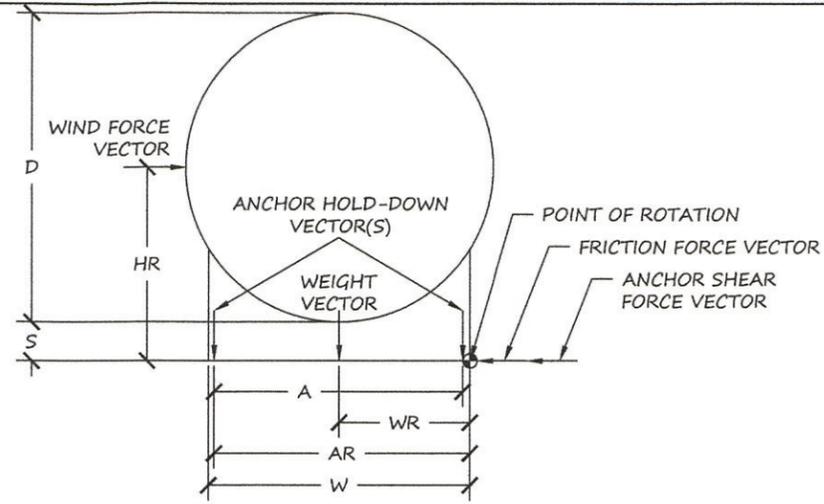
GENERATED: July 14, 2021 FOR: ANCH-D (36 x 24) SHEET: Anchor-Conex FILE: BENEFUEL-MULTIPOINT-PRINT-BLOCK.DWG

- NOTES**
- 20' CONEX TO COMPLY WITH STRUCTURAL AND DESIGNATION/LABELING STANDARDS.
ISO 668 - SERIES 1 FREIGHT CONTAINERS - CLASSIFICATION, DIMENSIONS AND RATINGS.
ISO 1496-1:2013 - SERIES 1 FREIGHT CONTAINERS SPECIFICATIONS AND TESTING.
ISO 6346:1995 - FREIGHT CONTAINERS - CODING, IDENTIFICATION AND MARKING.
 - NOMINAL EMPTY WEIGHT OF CONTAINER 5050 POUNDS, 20' LONG, 8' WIDE, 8'-6" HIGH, DOORS IN ONE END ONLY.
 - SEE ENGINEERING CALCULATIONS FOR ANCHOR TYPE, COUNT AND LOCATIONS REQUIRED TO SECURE CONEX, AND SAFETY FACTOR IN EACH MODE. CONFIRM SUBSURFACE CONDITIONS, WIND LOADING, AND SLAB SPECIFICATIONS ARE CONSISTENT WITH ENGINEERING CALCULATION ASSUMED CONDITIONS.
 - BY INSPECTION LATERAL WIND LOADING REPRESENTS THE LIMITING CASE FOR ANCHORING AGAINST SLIDING OR ROLL-OVER REACTIONS.

GENERATED: July 14, 2021 FOR: ARCH-D (36 x 24) SHEET: Anchor-AST FILE: BENEFUEL-MULTIEQUIPMENT-BLOCK-DWG

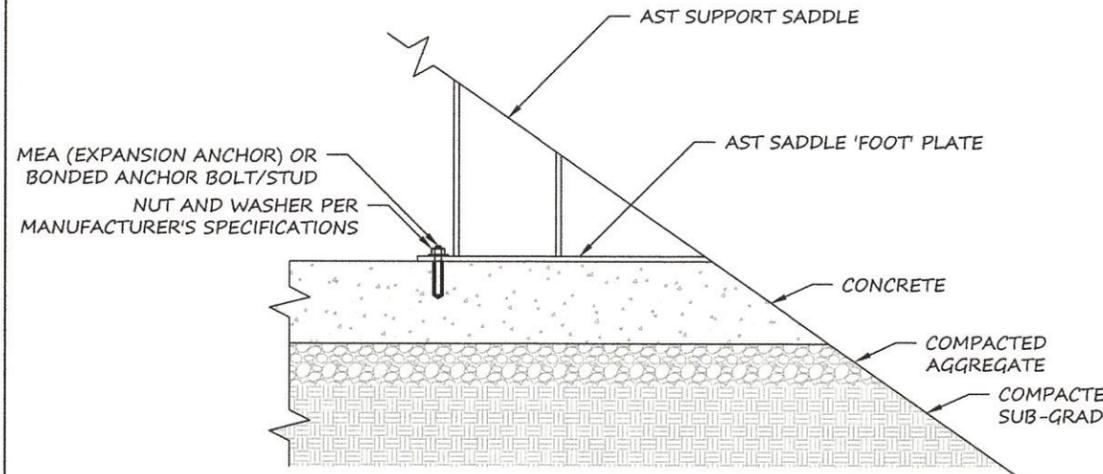


1 AST Grounding Detail
Scale: NTS



3 AST Free-Body Diagram & Anchor Illustration
Scale: NTS

DIMENSION KEY	
A	ANCHOR WIDTH
D	TANK DIAMETER
S	SADDLE HEIGHT
W	SADDLE WIDTH
AR	ANCHOR ROLL REACTION ARM
HR	WIND FORCE ROLL REACTION ARM
WR	WEIGHT FORCE ROLL REACTION ARM



2 AST Anchor Detail
Scale: NTS

- NOTES**
- PRIMARY GROUNDING ELECTRODE SHALL BE EITHER
 - A CONCRETE-ENCASED ELECTRODE IN THE FORM OF 20' OF BARE #4 COPPER WIRE LAID AT LEAST 2" OFF THE BOTTOM OF AN UNINSULATED CONCRETE FOOTING. ATTACH THE WIRE TO THE LARGEST DIAMETER REBAR PRESENT THAT IS AT LEAST 20' LONG WITH A LISTED CLAMP. WHEN A VAPOR BARRIER IS PRESENT AROUND THE FOOTING IN EXPANSIVE SOILS, ROUTE AT LEAST 20' OF BARE #2 COPPER WIRE IN DIRECT CONTACT WITH THE EARTH BURIED AT LEAST 30" BELOW GRADE INSTEAD OF THE CONCRETE-ENCASED ELECTRODE
 - GROUNDING ELECTRODE, IN THE FORM OF ONE 10' X 3/4" COPPER CLAD GROUND ROD DRIVEN INTO THE EARTH THROUGH AN APERTURE DRILLED IN THE CONCRETE TANK PAD. AFTER INSTALLATION, SEAL APERTURE(S) IN CONCRETE PAD WITH NON-SHRINK GROUT OR APPROVED RTV ELASTOMERIC SEALANT
 - SUPPLY SUPPLEMENTAL GROUNDING ELECTRODES AS NEEDED SUCH THAT GROUND RESISTANCE IS LESS THAN 25 OHMS. CONNECT GROUND ROD(S) USING LISTED CLAMPS FOLLOWING MANUFACTURER'S INSTRUCTIONS AND SIZE CONDUCTOR PER NEC, NOT SMALLER THAN #1/0 COPPER
 - ONE GROUNDING ELECTRODE MAY BE USED FOR MULTIPLE ASTS, PROVIDED THAT THEY ARE SITUATED SUCH THAT THE LENGTH OF GROUNDING CONDUCTOR FROM THE ELECTRODE TO THE AST IS NO GREATER THAN 4' TO THE FIRST ATTACHED CLAMP AND INTRODUCES NO HAZARDS
 - ANCHOR AST TO CONCRETE TANK PAD AT EACH ATTACHED SADDLE USING (4) 3/4" OR LARGER SIZED STUDS/BOLTS SECURED WITH EXPANSION ANCHORS (MEA) OR BONDED ANCHORS, PENETRATING NOT LESS THAN 4" INTO THE CONCRETE TANK PAD. ALTERNATIVELY SECURE WITH AST MANUFACTURER SPECIFIED MEANS
 - BY INSPECTION, LATERAL WIND LOADING REPRESENTS THE LIMITING CASE FOR ANCHORING AGAINST SLIDING OR ROLL-OVER REACTIONS

DESIGN LOAD AND ANCHOR CALCULATIONS

CALCULATIONS PROVIDED WITH CONSTRUCTION DOCUMENTS (AFC)

Approved for:
CONSTRUCTION

Revised: 7/14/2021
GENERAL CONTRACTOR
DESTROY ALL PLAN COPIES WITH PRIOR DATES

Notes
NOTE: THIS DRAWING IS FOR INFORMATION ONLY AND IS DIAGRAMMATIC IN NATURE.

FUELPORT
BY BENEFICIAL
19931 Patrick Henry Hwy
Jetersville, VA 23083
1 (804) 561-2166

Copyright 2006-2021 by Beneficial Systems. All rights reserved. This document is the property of Beneficial Systems. It is to be used for the specific project referred to herein and is not to be used on any other projects, in whole or in part, except by the express written agreement of Beneficial Systems.

Rev	Change/Issue	Date
1	Updated equipment per ODFL, added Lube and associated details/adj.	3/19/21
AFC-GC	Revised issue of AFC-GC (Rev 1)	3/22/21
2	Clerical/drafting revisions.	3/22/21
3	Revised Lube Notes & Details, Relocated Lube E-Stop	4/9/21
4	1SK AST, DWS, PP Drain, A101 Revised for Permitting, Reorganized	7/13/21
5	Updated code analysis & compliance	7/14/21

Sheet 10 of 12

Beneficial Systems
©2006-2021 Beneficial Systems
All Rights Reserved

Project:
ODFL

Westfield, MA

Quotation:
1014-211-00

Issue: 7/14/2021
Approved For Construction
Revision: 5

AST Anchor Details & Calculations	A602
Designed by: 2/18/21	Designed by: DVA
Drawn by: 2/18/21	Drawn by: DVA
Checked by: 7/13/21	Checked by: DVA
Reviewed by: 7/13/21	Reviewed by: RM

Approved for:
CONSTRUCTION

Revised: 7/14/2021
GENERAL CONTRACTOR
DESTROY ALL PLAN COPIES WITH PRIOR DATES

Notes
NOTE: THIS DRAWING IS FOR INFORMATION ONLY AND IS DIAGRAMMATIC IN NATURE.

FUELPORT
BY BENEFICIAL
19931 Patrick Henry Hwy
Jetersville, VA 23083
1 (804) 561-2166

Copyright 2006-2021 by Beneficial Systems.
All rights reserved. This document is the property of Beneficial Systems. It is to be used for the specific project referred to herein and is not to be used on any other projects, in whole or in part, except by the express written agreement of Beneficial Systems.

Rev	Change/Issue	Date
1	Updated equipment per ODFL, added Lube and associated details/adj.	3/19/21
AFC-GC	Revised issue of AFC-GC (Rev 1)	3/22/21
2	Clerical/drafting revisions.	3/22/21
3	Revised Lube Notes & Details, Relocated Lube E-Stop	4/9/21
4	15K AST, OWS, FP Drain, A101 Revised for Permitting, Reorganized	7/13/21
5	Updated code analysis & compliance	7/14/21

Sheet 12 of 12

Beneficial Systems
©2006-2021 Beneficial Systems
All Rights Reserved

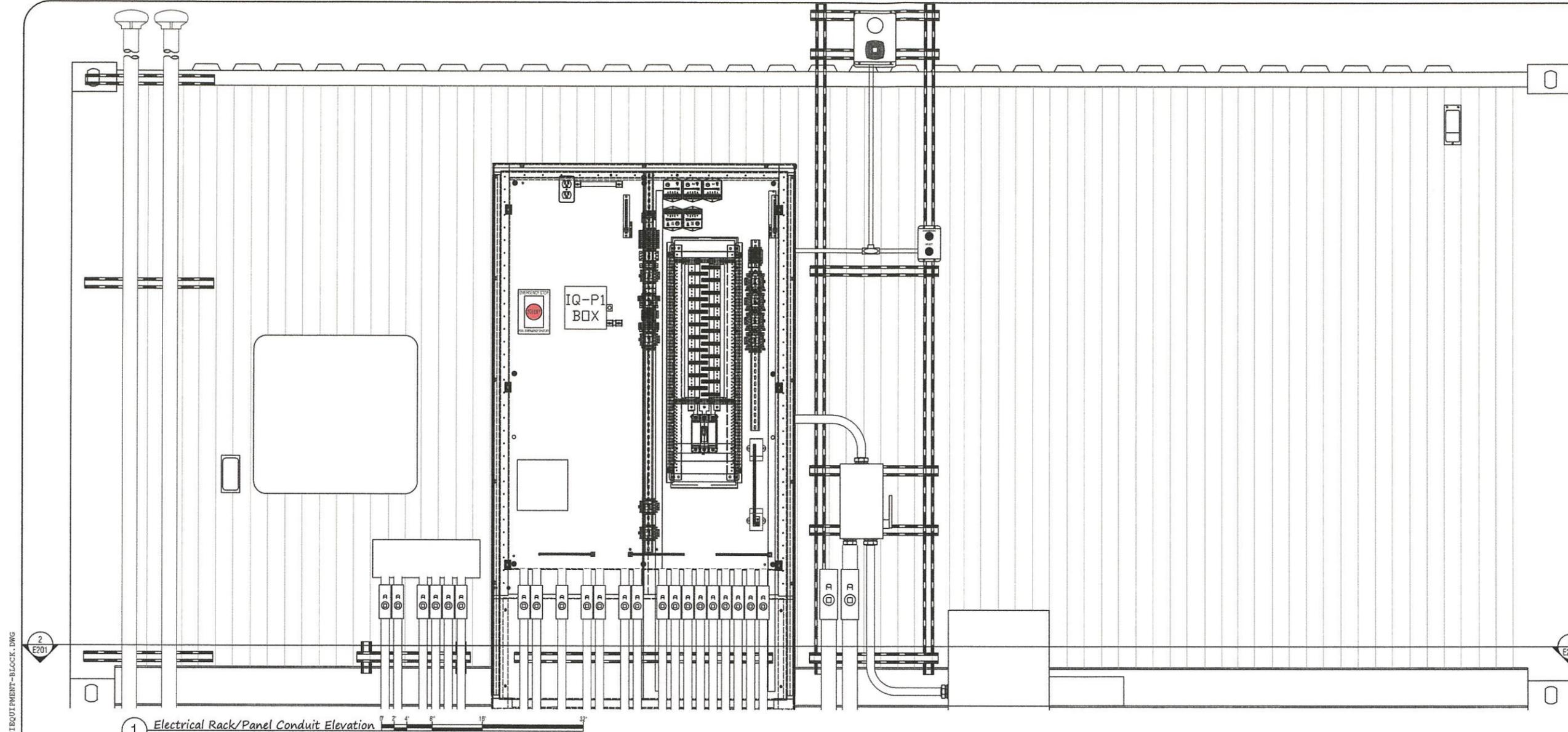
Project:
ODFL

Westfield, MA

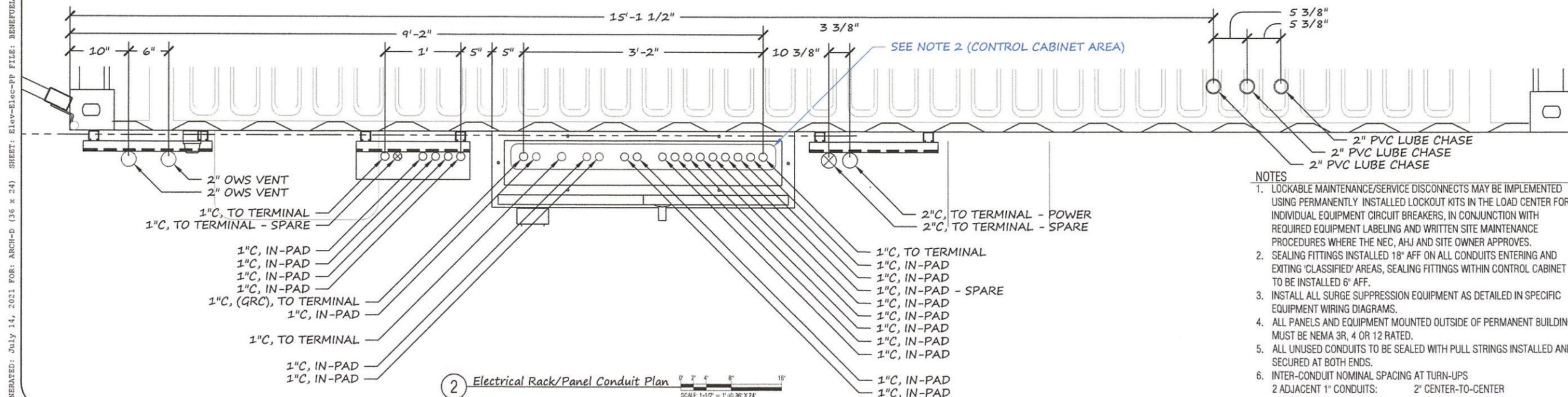
Quotation:
1014-211-00

Issue: 7/14/2021
Approved For Construction
Revision: 5

Electrical Equipment Elevation		E201
Designed Date	2/18/21	Designed by
Drawn Date	2/18/21	Drawn by
Revised Date	7/13/21	Revised by
Checked Date	7/13/21	Checked by
		DVA
		DVA
		RM



1 Electrical Rack/Panel Conduit Elevation
SCALE: 1-1/2" = 1' @ 36" X 24"



2 Electrical Rack/Panel Conduit Plan
SCALE: 1-1/2" = 1' @ 36" X 24"

- NOTES**
- LOCKABLE MAINTENANCE/SERVICE DISCONNECTS MAY BE IMPLEMENTED USING PERMANENTLY INSTALLED LOCKOUT KITS IN THE LOAD CENTER FOR INDIVIDUAL EQUIPMENT CIRCUIT BREAKERS, IN CONJUNCTION WITH REQUIRED EQUIPMENT LABELING AND WRITTEN SITE MAINTENANCE PROCEDURES WHERE THE NEC, AHJ AND SITE OWNER APPROVES.
 - SEALING FITTINGS INSTALLED 18" AFF ON ALL CONDUITS ENTERING AND EXITING 'CLASSIFIED' AREAS, SEALING FITTINGS WITHIN CONTROL CABINET TO BE INSTALLED 6" AFF.
 - INSTALL ALL SURGE SUPPRESSION EQUIPMENT AS DETAILED IN SPECIFIC EQUIPMENT WIRING DIAGRAMS.
 - ALL PANELS AND EQUIPMENT MOUNTED OUTSIDE OF PERMANENT BUILDINGS MUST BE NEMA 3R, 4 OR 12 RATED.
 - ALL UNUSED CONDUITS TO BE SEALED WITH PULL STRINGS INSTALLED AND SECURED AT BOTH ENDS.
 - INTER-CONDUIT NOMINAL SPACING AT TURN-UPS
2 ADJACENT 1" CONDUITS: 2" CENTER-TO-CENTER
1" ADJACENT TO 2" CONDUIT: 2-3/4" CENTER-TO-CENTER

GENERATED: July 14, 2021 FOR: ARCH-D (36 X 24) SHEET: Elec-PP FILE: BENEFICIAL-EQUIPMENT-BLOCK.DWG



INSTALL 15,000 GALLON UL-2085 AST (DIESEL) w/DISPENSER, 1,000 GALLON COLD-CLIMATE DEF AST & DISPENSER, OWS, CANOPY, FUEL ISLAND TERMINAL, VACUUM, 20' CONEX WITH INTERNAL LIGHTING, HEATING, VENTILATION, AIR COMPRESSOR & LUBRICATION EQUIPMENT (OIL, AF, WWF), FSC & ATG.

OLD DOMINION FREIGHT LINE

Westfield, MA

74 Medeiros Way (Summit Lock Rd)
Westfield, MA 01085

Approved for:
CONSTRUCTION

Revised: 7/14/2021
GENERAL CONTRACTOR
DESTROY ALL PLAN COPIES WITH PRIOR DATES

Notes
NOTE: THIS DRAWING IS FOR INFORMATION ONLY AND IS DIAGRAMMATIC IN NATURE.

FUELPOR
BY BENEFICIAL
19931 Patrick Henry Hwy
Jetersville, VA 23083
1 (804) 561-2166

Copyright 2006-2021 by Beneficial Systems. All rights reserved. This document is the property of Beneficial Systems. It is to be used for the specific project referred to herein and is not to be used on any other projects, in whole or in part, except by the express written agreement of Beneficial Systems.

Rev	Change/Issue	Date
1	Updated equipment per ODFL, added Lube and associated details/drafts.	3/19/21
AFC-GC	Revised issue of AFC-GC (Rev 1)	3/22/21
2	Clerical/drafting revisions.	3/22/21
3	Revised Lube Notes & Details, Relocated Lube E-Stop	4/9/21
4	15K AST, OWS, FP Drain, A101 Revised for Permitting, Reorganized	7/13/21
5	Updated code analysis & compliance	7/14/21

Sheet 1 of 12

Beneficial Systems
©2006-2021 Beneficial Systems
All Rights Reserved

Project:
ODFL

Westfield, MA

Quotation:
1014-211-00

Issue: 7/14/2021
Approved For Construction
Revision: 5

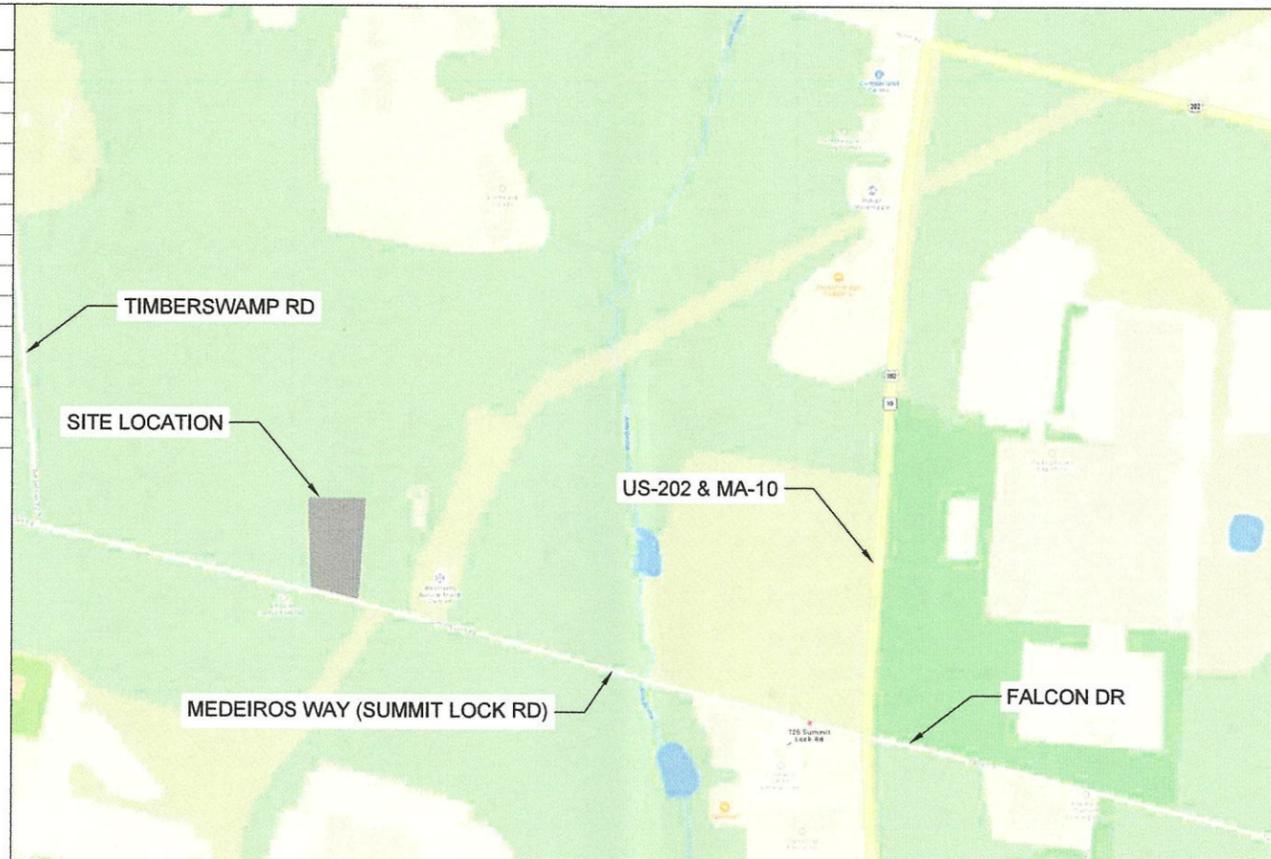
Contents, Codes & Specifications	G001
Designed Date: 2/18/21	Designed by: DVA
Drawn Date: 2/18/21	Drawn by: DVA
Revised Date: 7/13/21	Revised by: DVA
Checked Date: 7/13/21	Checked by: RM

Table of Contents

Page	Sheet	Title
1	G001	Contents, Codes & Specifications
2	A101	Site Plan
3	A102	Equipment Site
4	A103	Fuel System Equipment Plan
5	A104	Fuel Area Concrete Plan
6	A105	Fuel Equipment Slab Loads
7	A106	Fuel Area Underground Plan
8	A502	OWS Installation Elevation & Sections
9	A601	CONEX Anchor Details & Calculations
10	A602	AST Anchor Details & Calculations
11	A603	DEF AST Anchor Details & Calculations
12	E201	Electrical Equipment Elevation

NOTE: SHEETS ARE REORGANIZED & RENUMBERED FROM DRAWING SETS PRIOR TO REVISION 4

NOTE: SHEET A501 IS PURPOSEFULLY OMITTED FROM THIS DRAWING SET.



VICINITY MAP

ABBREVIATIONS

AF	ANTI-FREEZE
AFF	ABOVE FINISHED FLOOR
AHJ	AUTHORITY HAVING JURISDICTION
APP	APPROXIMATELY
AS	OVERFILL ACKNOWLEDGEMENT SWITCH
AST	ABOVEGROUND STORAGE TANK
ATG	AUTOMATIC TANK GAUGE
DEF	DIESEL EXHAUST FLUID
DISP	DISPENSER
E-STOP	EMERGENCY SHUTOFF PUSHBUTTON
EMT	ELECTRIC METALLIC TUBE
EST	ESTIMATED
ETR	EXISTING TO REMAIN
FIT	FUEL ISLAND TERMINAL
FP	FIRE PREVENTION
FSC	FUEL SITE CONTROLLER
GFCI	GROUND FAULT CIRCUIT INTERRUPTER
GC	GENERAL CONTRACTOR
GRC	GALVANIZED RIGID CONDUIT
IBC	INTERNATIONAL BUILDING CODE
IFC	INTERNATIONAL FIRE CODE
IMC	INTERMEDIATE METAL CONDUIT
IP	INTERNET PROTOCOL
I.S.	INTRINSICALLY SAFE
LED	LIGHT EMITTING DIODE
LFMC	LIQUIDTIGHT FLEXIBLE METAL CONDUIT
MAX	MAXIMUM
MIN	MINIMUM
NEC	NATIONAL ELECTRIC CODE
NFPA	NATIONAL FIRE PROTECTION ASSOCIATION
NOM	NOMINAL
NTS	NOT TO SCALE
OC	ON CENTER
OFA	OVERFILL ALARM
OWS	OIL WATER SEPARATOR
PEI	PETROLEUM EQUIPMENT INSTITUTE
PEX	CROSS-LINKED POLYETHYLENE
POE	POWER OVER ETHERNET
PPE	PERSONAL PROTECTIVE EQUIPMENT
PSF	POUNDS PER SQUARE FOOT
PSI	POUNDS PER SQUARE INCH
PVC	POLYVINYL CHLORIDE
RMC	RIGID METAL CONDUIT
SS	STAINLESS STEEL
STP	SUBMERSIBLE TURBINE PUMP
TBD	TO BE DETERMINED
TYP	TYPICAL
UON	UNLESS OTHERWISE NOTED
UST	UNDERGROUND STORAGE TANK
VAC	VACUUM
VCSC	VOLTAGE TO CURRENT SENSE CONVERTER
WF/WWF	WIPER FLUID

CODE REVIEW DATA:

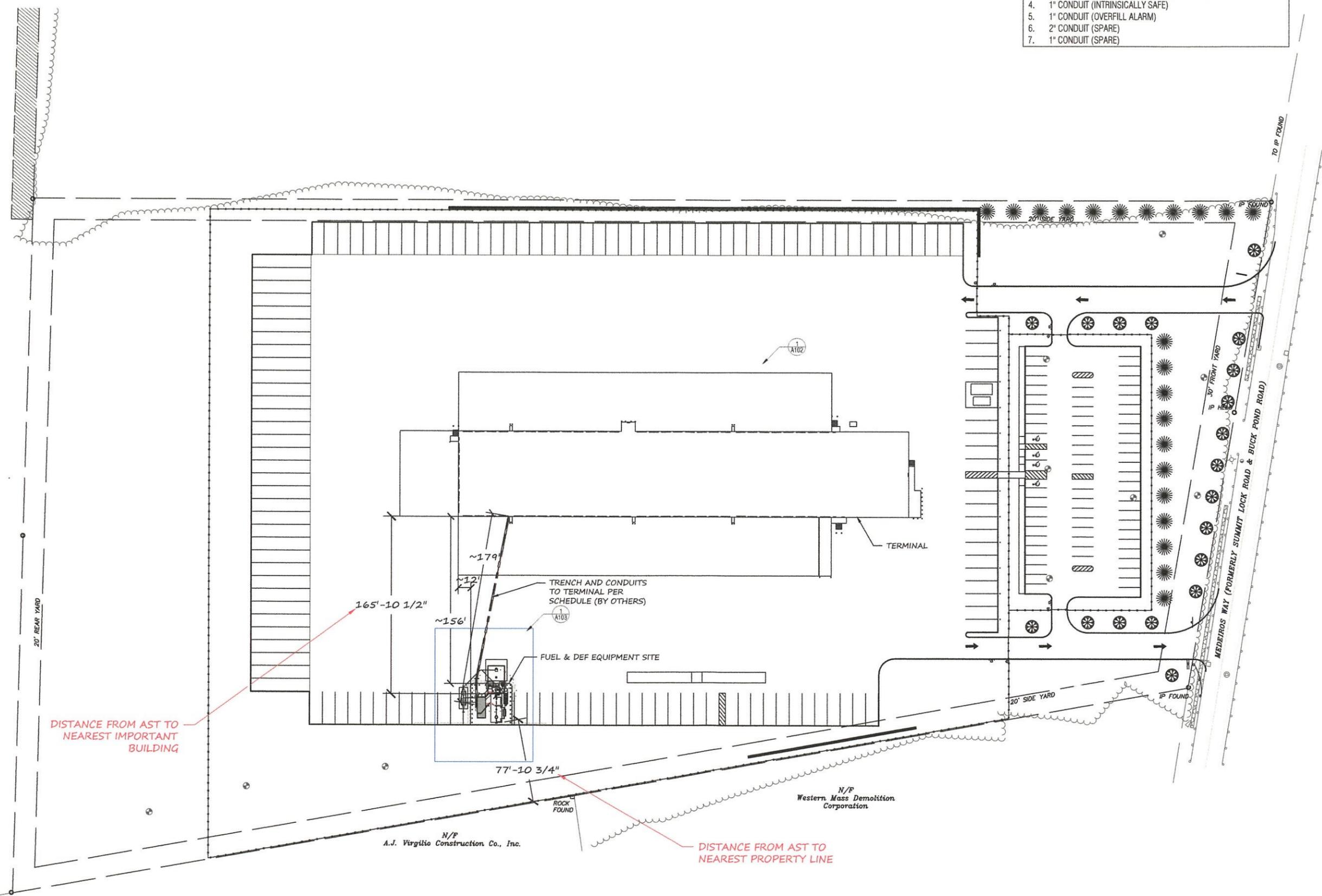
FIRE CODE NFPA 1-2015, WITH AMENDMENTS	(BASIS: NFPA 1-2015)
NATIONAL ELECTRICAL CODE 2020	(BASIS: NFPA 70-2020)
INTERNATIONAL BUILDING CODE 2009, WITH AMENDMENTS	(BASIS: IBC-2009)
FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE 2012	(BY REFERENCE: NFPA 30-2012)
CODE FOR MOTOR FUEL DISPENSING FACILITIES AND REPAIR GARAGES 2012	(BY REFERENCE: NFPA 30A-2012)
INTERNATIONAL FIRE CODE 2009	(BASIS: IFC-2009)

USING REFERENCE ARCHITECTURAL SITE PLAN PROVIDED TO BENEFICIAL SYSTEMS ON September 25, 2019 (2019_09_25) [PRELIMINARY]

GENERATED: July 14, 2021 FOR: ARCH-D (36 x 24) SHEET: Site FILE: BENEFICIAL-SITE.DWG

CONDUIT SCHEDULE

1. 2" CONDUIT OR LARGER (POWER)
2. 1" CONDUIT (NETWORK, FIBER/CAT-5E)
3. 1" CONDUIT, IMC/GRC IN ENTIRETY (Petro-NET)
4. 1" CONDUIT (INTRINSICALLY SAFE)
5. 1" CONDUIT (OVERFILL ALARM)
6. 2" CONDUIT (SPARE)
7. 1" CONDUIT (SPARE)



Approved for:
CONSTRUCTION

Revised: 7/14/2021
GENERAL CONTRACTOR
DESTROY ALL PLAN COPIES WITH PRIOR DATES

Notes
NOTE: THIS DRAWING IS FOR INFORMATION ONLY AND IS DIAGRAMMATIC IN NATURE.

FUELPOR
BY BENEFICIAL
19931 Patrick Henry Hwy
Jetersville, VA 23083
1 (804) 561-2166

Copyright 2006-2021 by Beneficial Systems.
All rights reserved. This document is the property of Beneficial Systems. It is to be used for the specific project referred to herein and is not to be used on any other projects, in whole or in part, except by the express written agreement of Beneficial Systems.

Rev	Change/Issue	Date
1	Updated equipment per ODFL, added Lube and associated details.	3/19/21
AFC-GC	Revised issue of AFC-GC (Rev 1)	3/22/21
2	Clerical/drafting revisions.	3/22/21
3	Revised Lube Notes & Details, Relocated Lube E-Stop	4/9/21
4	15K AST, OWS, FP Drain, A101 Revised for Permitting, Reorganized	7/13/21
5	Updated code analysis & compliance	7/14/21

Sheet 2 of 12

Beneficial Systems
©2006-2021 Beneficial Systems
All Rights Reserved

Project:
ODFL

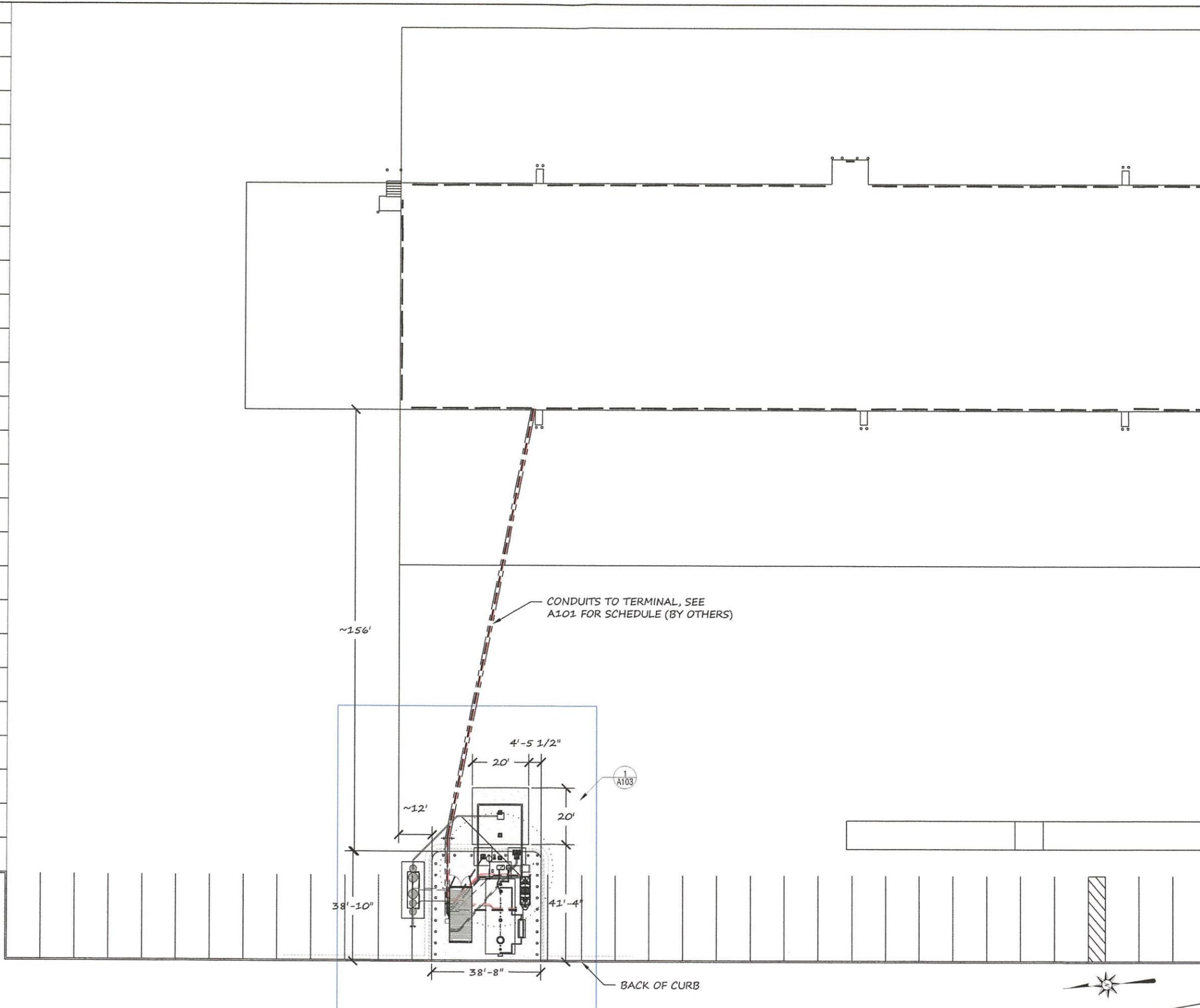
Westfield, MA

Quotation:
1014-211-00

Issue: 7/14/2021
Approved For Construction
Revision: 5

Site Plan	A101
Designed Date: 2/18/21	Designed by: DVA
Drawn Date: 2/18/21	Drawn by: DVA
Permitted Date: 7/13/21	Permitted by: DVA
Checked Date: 7/13/21	Checked by: RM

GENERATED: July 14, 2021 FOR: ARCH-D (36 x 24) SHEET: BSite FILE: BENEFICIAL-SITE.DWG



1 SITE PLAN SCALE: 1/16" = 1' @ 30" X 24"

Approved for:
CONSTRUCTION

Revised: 7/14/2021
GENERAL CONTRACTOR

DESTROY ALL PLAN COPIES WITH PRIOR DATES

Notes
NOTE: THIS DRAWING IS FOR INFORMATION ONLY AND IS DIAGRAMMATIC IN NATURE.

FUELPORT
BY BENEFICIAL
19931 Patrick Henry Hwy
Jetersville, VA 23083
1 (804) 561-2166

Copyright 2006-2021 by Beneficial Systems. All rights reserved. This document is the property of Beneficial Systems. It is to be used for the specific project referred to herein and is not to be used on any other projects, in whole or in part, except by the express written agreement of Beneficial Systems.

Rev	Change/Issue	Date
1	Updated equipment per GDFL added Lube and associated details/add.	3/19/21
AFC-GC	Revised Issue of AFC-GC (Rev 1)	3/22/21
2	Clerical/drafting revisions.	3/22/21
3	Revised Lube Notes & Details, Relocated Lube E-Stop	4/9/21
4	15K AGT, OWS, FP Drain, A101 Revised for Permitting, Reorganized	7/13/21
5	Updated code analysis & compliance	7/14/21

Sheet 3 of 12

Beneficial Systems
©2006-2021 Beneficial Systems
All Rights Reserved

Project:
ODFL

Westfield, MA

Quotation:
1014-211-00

Issue: 7/14/2021
Approved For Construction
Revision: 5

Equipment Site	A102
Designed Date:	2/18/21
Designed by:	DVA
Drawn Date:	2/18/21
Drawn by:	DVA
Revised Date:	7/13/21
Revised by:	DVA
Checked Date:	7/13/21
Checked by:	RM

Oil & Water Separation at its Best!

New Technology (U.S. Patent No. 5,229,015 and 5,500,132), by Kleerwater™, Sets Increased Performance Levels and Produces Cost Savings.

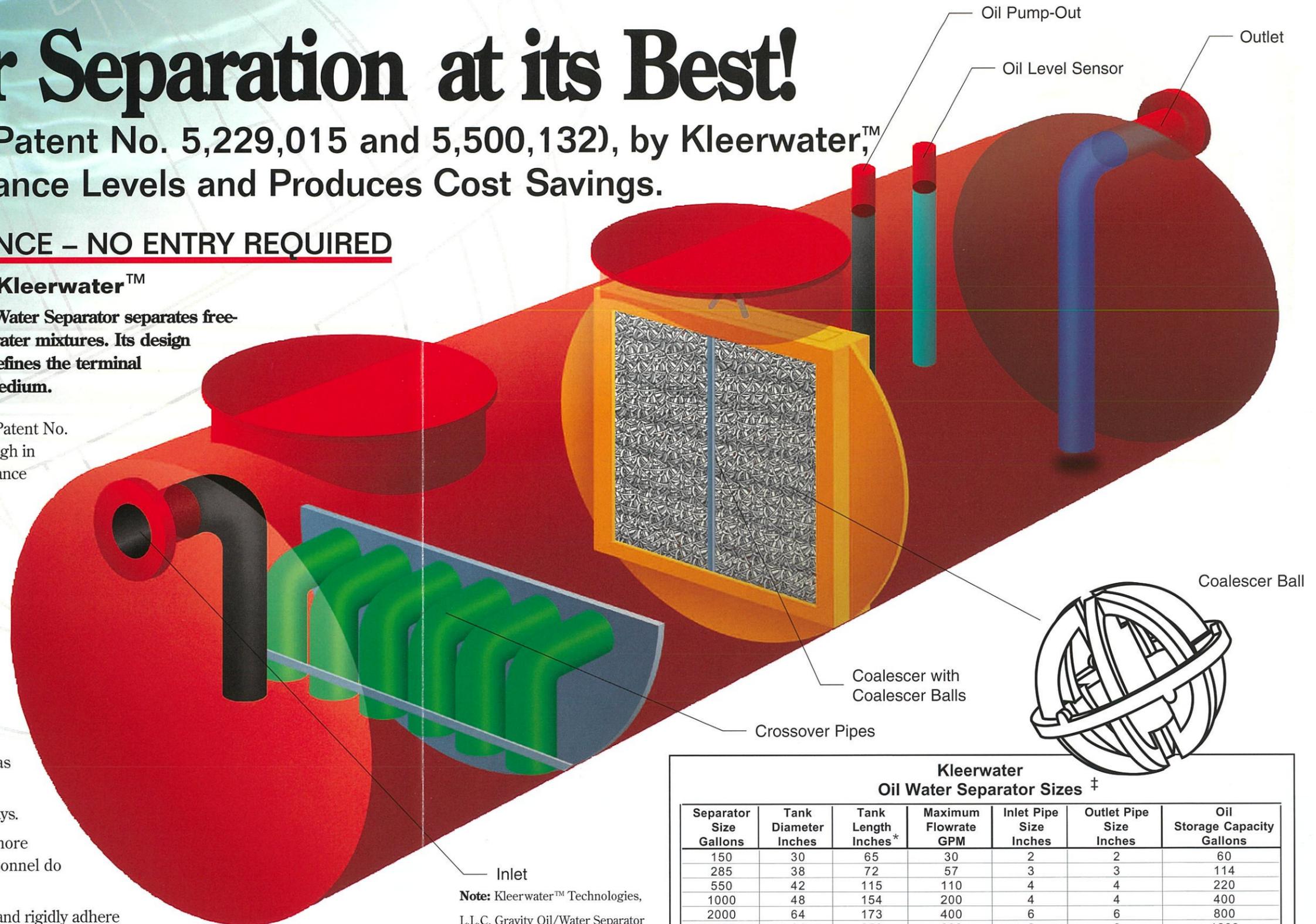
EASY MAINTENANCE – NO ENTRY REQUIRED

Coalescer "Ball" by Kleerwater™

The Kleerwater™ Gravity Oil/Water Separator separates free-floating oils and greases from water mixtures. Its design is based on Stokes' law, which defines the terminal velocity of oil spheres in a liquid medium.

The development of the patented Coalescer "Ball" (U.S. Patent No. 5,229,015) by Kleerwater™ is a technological breakthrough in the Oil/Water Separator industry. Its increased performance results in benefits and cost savings for you.

- Kleerwater's Coalescer Ball produces higher efficiency performance flow rates, which results in smaller size separators, thereby reducing installation costs.
- Kleerwater's patented single coalescer design provides superior oil/water separation at flow rates necessary to meet storm water run off amounts throughout the United States.
- The separator chamber is designed for optimum separation of oil mixtures as a function of surface area and retention times. The separation chamber has a maximum oil storage capacity of 40%.
- Coalescer is accessible from grade level through manways.
- Ball design promotes efficient ease of cleaning for more cost-effective maintenance and less down time. Personnel do NOT need to enter separator for routine cleaning.
- Separators may be single or double wall construction and rigidly adhere to Underwriters Laboratories UL-58, UL-142, UL-1746, and UL-2215 standards and specifications. Effluent output concentrations can meet the strictest of requirements with regard to State and Federal mandates under the Resource Conservation and Recovery Act and Clean Water Act.



Separator Size Gallons	Tank Diameter Inches	Tank Length Inches*	Maximum Flowrate GPM	Inlet Pipe Size Inches	Outlet Pipe Size Inches	Oil Storage Capacity Gallons
150	30	65	30	2	2	60
285	38	72	57	3	3	114
550	42	115	110	4	4	220
1000	48	154	200	4	4	400
2000	64	173	400	6	6	800
3000	64	259	600	6	6	1200
4000	64	346	800	8	8	1600
5000	72	346	1000	8	8	2000
6000	72	410	1200	8	8	2400
8000	84	403	1600	10	10	3200
9000	96	346	1800	10	10	3600
10000	96	389	2000	10	10	4000
12000	96	461	2400	12	12	4800
15000	96	576	3000	12	12	6000
20000	120	490	4000	14	14	8000

Inlet

Note: Kleerwater™ Technologies, L.L.C. Gravity Oil/Water Separator will not remove Chemical Emulsions, Dissolved Hydrocarbons or Volatile Organic Compounds (VOC). Do not direct solvents or highly dissolved solids, (untreated sanitary sewage) into separator.

*Overall length includes grit chamber and separator. ‡ Separators available in both cylindrical and rectangular configurations.

For more information call: **877.826.5872**
800.922.1932

www.modweldco.com



Kleerwater™

Oil/Water Separator

Kleerwater™
Oil/Water Separator



Kleerwater™

Oil/Water Separator

U.S. PATENT NO.
5,229,015 AND 5,500,132

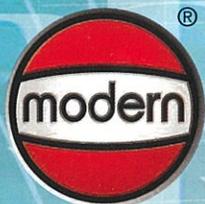
COALESCER "BALL"

Three Major Advantages of Kleerwater:

- Highest quality effluent 5PPM
- Approximately twice as efficient as parallel plate separators
- Simple routine maintenance with no confined space entry

Designed for the following businesses:

- PETROLEUM MARKETING FACILITIES (Service Stations & Convenience Stores)
- PARKING LOTS / STRUCTURES
- VEHICLE REPAIR AND MAINTENANCE SHOPS
- BULK OIL TERMINALS & LOADING RACKS
- MATERIAL HANDLING FACILITIES
- AIRPORTS
- BUS TERMINALS
- MARITIME
- RAILROAD YARDS
- REFINERIES, STEEL MILLS
- UTILITIES
- TRUCK STOPS
- PETRO CHEMICAL PLANTS
- MILITARY INSTALLATIONS
- TANK FARMS



MODERN WELDING CO., INC.

A Kleerwater™ Certified Licensed Manufacturer

www.modweldco.com

**Manufacturers
Located Nationwide**



COALESCER "BALL"

**U.S. PATENT NO.
5,229,015 and 5,500,132**
**New Technological
Breakthrough for the
Oil/Water Separator
Industry**

YOUR MODERN WELDING REPRESENTATIVE CAN HELP

Modern Welding Company offers regional delivery that will save you money and time. Visit our website at www.modweldco.com to see a list of our fabrication facilities and view our complete product line. Call Modern Welding Company for details.

Klerwater™ oil/water separators are a licensed product of Klerwater™ Technologies.

U.S. Patent No. 5,229,015 and 5,500,132

PERFORMANCE / WARRANTY

Modern Welding Company's Klerwater™ Gravity Oil/Water Separator will remove "free floating" oils from oil/water mixtures and attain an effluent-free hydrocarbon concentration as low as 5 ppm when specified.

External corrosion protection included.



MODERN WELDING CO., INC.

Corporate Office

2880 New Hartford Road • Owensboro, KY 42303

Phone: 270-685-4400 • Fax: 270-684-6972

877 826 5872 • 800 922 1932

E-mail: modern@modweldco.com

www.modweldco.com

Modern Welding Co. of Iowa, Inc.

2818 Mt. Pleasant Rd.

Burlington, Iowa 52601

Phone: 319-754-6577

Fax: 319-754-8428

modern8@modweldco.com

Manufacturing Subsidiaries

Modern Welding Co. of Owensboro, Inc.

1450 E. Parrish Ave.

Owensboro, Kentucky 42303

Phone: 270-683-5323

Fax: 270-684-5245

modern1@modweldco.com

Modern Welding Co. of Ohio, Inc.

One Modern Way

Newark, Ohio 43055

Phone: 740-344-9425

Fax: 740-344-6018

modern5@modweldco.com

Modern Welding Co. of Texas, Inc.

2 Locations

715 Sakowitz St.

Houston, Texas 77020

Phone: 713-675-4211

Fax: 713-673-4062

modern7@modweldco.com

Modern Welding Co. of Georgia, Inc.

300 Prep Phillips Dr.

Augusta, Georgia 30901

Phone: 706-722-3411

Fax: 706-724-8133

modern14@modweldco.com

Modern Welding Co. of Florida, Inc.

1801 Atlanta Ave.

Orlando, Florida 32806

Phone: 407-843-1270

Fax: 407-423-8187

modern6@modweldco.com

200 N. Main St.

Rhame, Texas 76078

Phone: 817-636-2215

Fax: 817-636-2680

modern15@modweldco.com

Modern Custom Fabrication, Inc.

2421 E. California Ave.

Fresno, California 93271

Phone: 559-264-4741

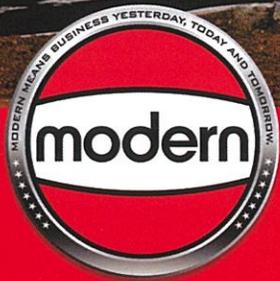
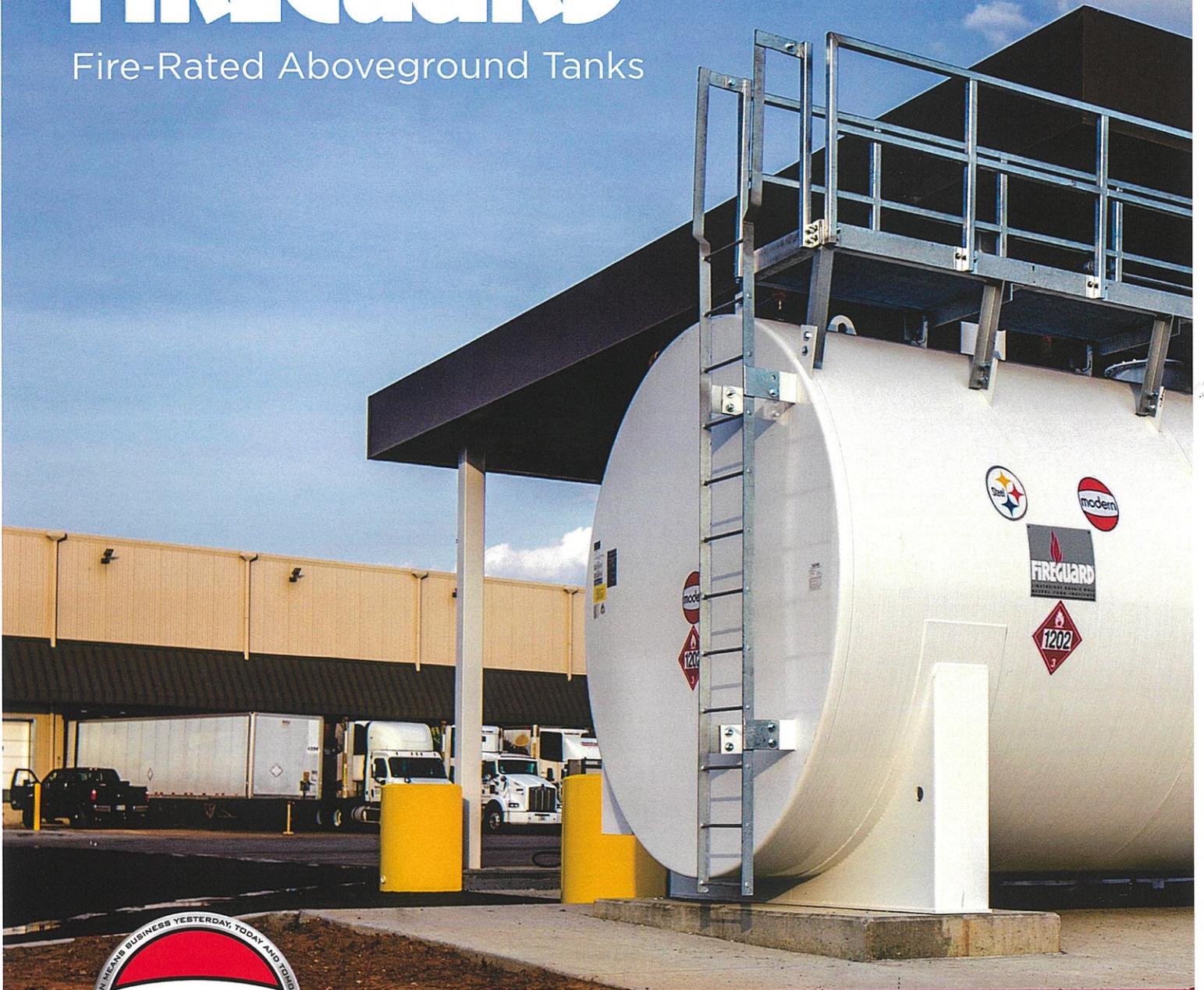
Fax: 559-237-3413

modern16@modweldco.com



FIREGUARD[®]

Fire-Rated Aboveground Tanks



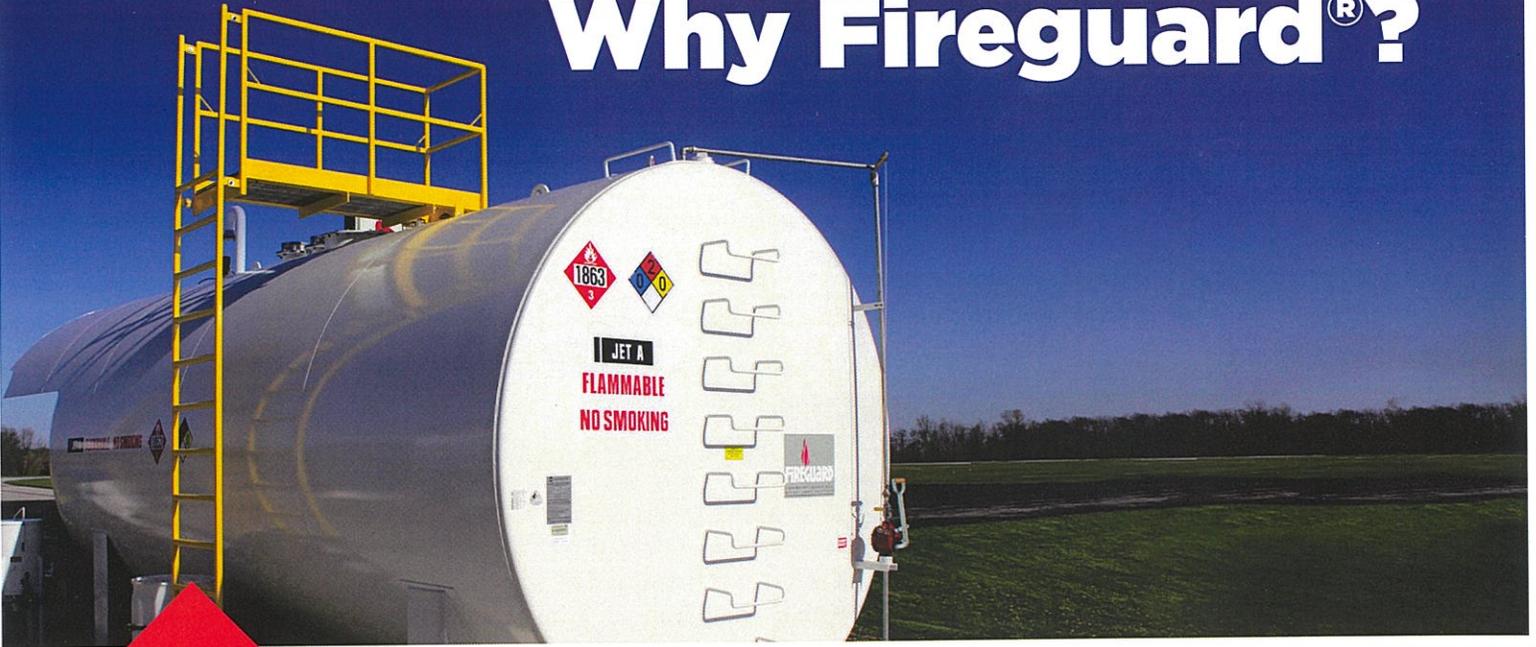
Modern Welding Company, Inc.

Toll Free: (800) 922-1932

Phone: (270) 685-4400

modweldco.com

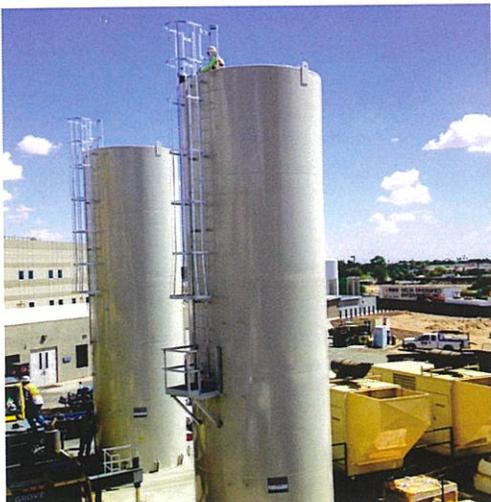
Why Fireguard®?



FIREGUARD® double-wall, fire-protected aboveground storage tanks feature an inner and outer steel tank with lightweight thermal insulation that exceeds the UL 2-hour fire test.

Features

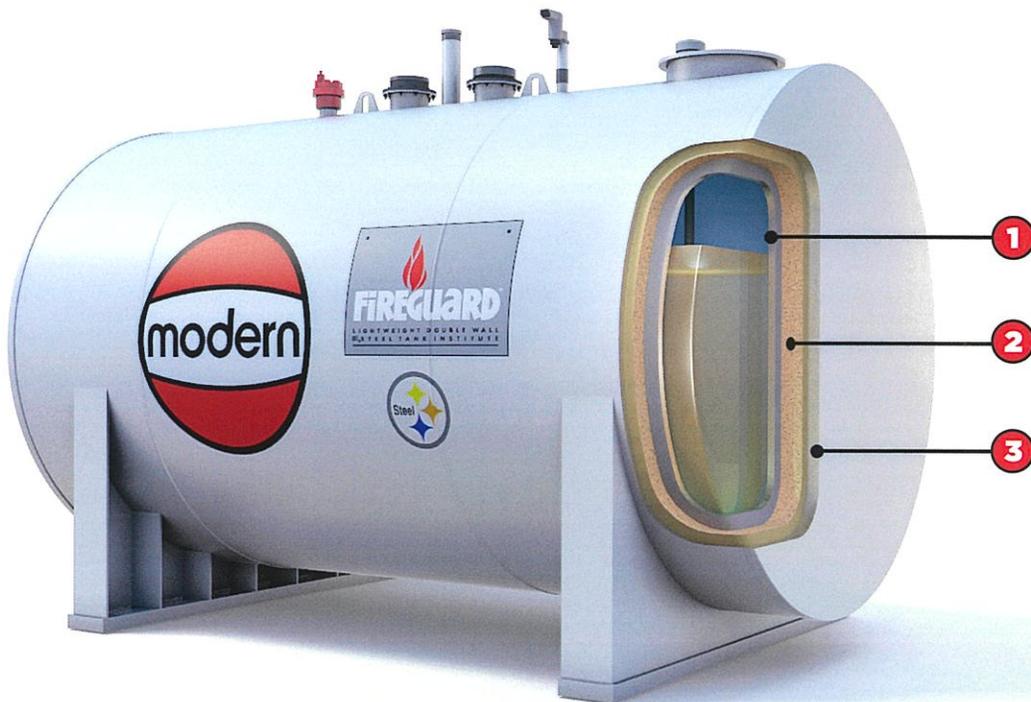
- Insulating material is 75% lighter than concrete, reducing shipping, installation and relocation costs
- Insulates product from ambient temperature variations, reducing emissions to the environment
- Compatible with a wide range of fuels and chemicals, including biodiesel and ethanol
- Support designs available for all seismic requirements
- Meets 4-hour furnace test requirements
- Interstitial space can be monitored for leak detection
- Capacities range up to 70,000 gallons
- Low-cost compartments and customization
- Built to nationally-recognized STI standards with a strict third-party quality control inspection program
- Ballistic and vehicle impact resistant
- Hose stream tested



The Standard

in Fire-Rated AST's

- UL-2085 Listed
- Inner and outer steel tanks are built to UL-142 standards
- Optional UL-752 Level 9 advanced ballistics construction available on certain configurations
- National Fire Protection Association (NFPA) 30 & 30A
- International Fire Code (IFC)
- California Air Resources Board (CARB) Standing Loss Control testing requirements for air emissions
- Steel Tank Institute (STI) Standard F941 for Protected Aboveground Storage Tanks
- ULC-S655 Underwriters Laboratories of Canada Standard
- Alternative construction to tank diking requirements



**1 Steel Primary Tank
Built to UL Standards**

**3 Steel Secondary Tank
Built to UL Standards**

2 Lightweight Thermal Insulation

- Unique feature that helped Fireguard® exceed the UL 2-hour fire test
- Sufficiently porous to facilitate quick emergency venting and/or leak detection



FIREGUARD® SPECIFICATIONS – CYLINDRICAL DESIGN

GALLONS	DIAMETER	LENGTH	APPROX. WEIGHT (lbs.)
186	48	54	2,119
250	48	68	2,513
300	50	72	2,821
500	54	70	2,413
560	54	78	2,606
1,000	54	134	5,338
1,000	70	78	5,005
1,500	70	114	6,537
2,000	70	150	8,309
2,500	70	186	9,644
3,000	70	222	10,979
4,000	78	233	13,523
4,000	90	175	14,072
5,000	79	290	18,998
5,000	103	169	17,149
6,000	79	347	21,961
6,000	103	199	19,206
8,000	103	259	23,319
10,000	103	331	28,256
12,000	103	391	32,370
15,000	127	313	35,821
20,000	127	415	44,506
25,000	127	517	55,891
30,000	127	619	64,575
40,000	144	635	93,000
50,000	144	792	110,000

All dimensions are outer. Please note that all dimensions and weights are approximate. Individual tanks may vary from these values.

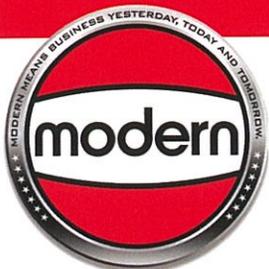
Is Your Aboveground Tank Everything It's Cracked Up To Be?



Concrete Encased

- Secondary containment is tightness-tested at the manufacturing site using standard, economical testing procedures.
- Fireguard®'s steel outer wall provides low-cost maintenance and protects the insulation material from weathering.
- An average 12,000 gallon Fireguard® weighs under 35,000 pounds - well within the legal load limit for trucking.

- The secondary containment on certain designs may require elaborate and expensive procedures to be tested on-site.
- Exposed concrete outer wall is susceptible to cracking, spalling and weathering - problems that are expensive to correct and are usually not covered by warranty.
- An average 12,000 gallon concrete-encased tank weighs upwards of 100,000 pounds. Imagine the advantages gained in handling a 12,000 gallon Fireguard® tank that weighs a third of that.



Revised: 08/2019



Modern Welding Company, Inc.

Subsidiaries Nationwide

Toll Free: (800) 922-1932 | Phone: (270) 685-4400

modweldco.com