SUTPHEN

Family Owned and Operated since 1890!

Date 7/12/2021
Keith Exel
Sales & Marketing

Sutphen SPH100 Mid-Mount Aerial Platform 100’

Originator of the Mid-Mount Aerial Platform

- Tom Sutphen created the mid-mount aerial platform apparatus
- Since 1963, Sutphen has been building the mid-mount aerial platform, far longer than any other in the industry
- While the concept of the aerial has stayed the same, Sutphen continues to innovate upon the original design
- With its light weight and superior maneuverability, there is no matching the SPH100

Sutphen Extreme Duty Monarch Chassis

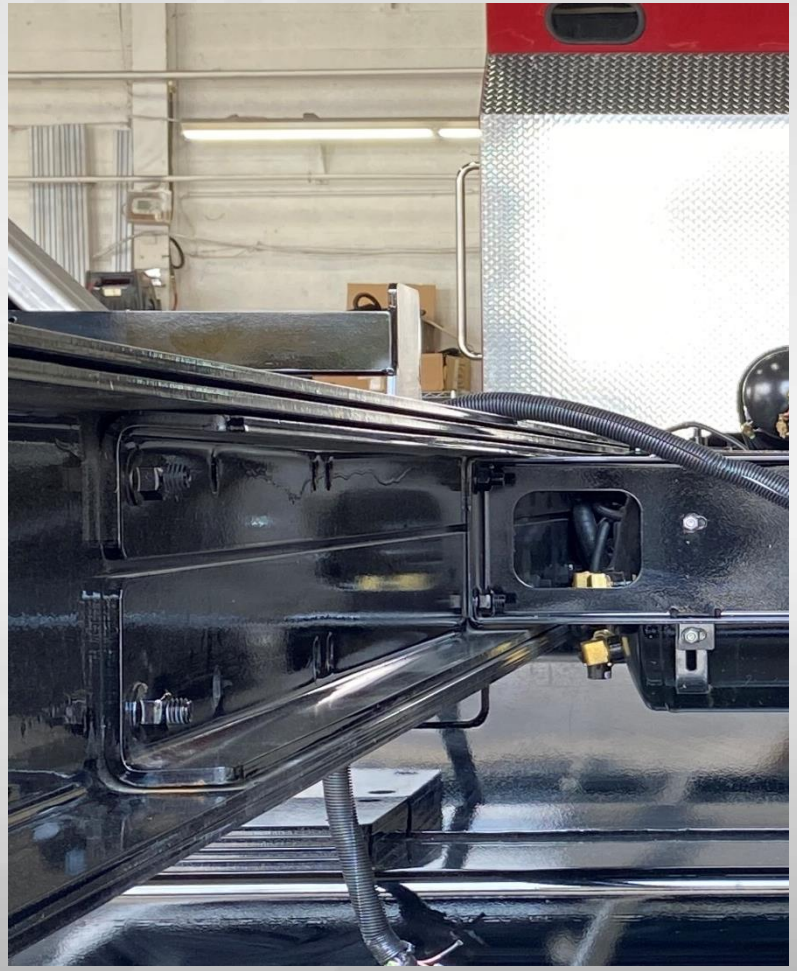
- Every SPH100 is paired with our Extreme Duty Monarch Chassis
- Sutphen uses the same heavy duty chassis regardless of apparatus, single axle or tandem axle, all Sutphen apparatus come with our Extreme Duty Monarch Chassis

Sutphen Extreme Duty Monarch Chassis

- Heavy wall 6061-T6 extruded aluminum
- 5052-H32 aluminum sheet panels
- Roll cage design
- Double wall on front of cab
- Bowed roof design
- Standard integrated drip rail

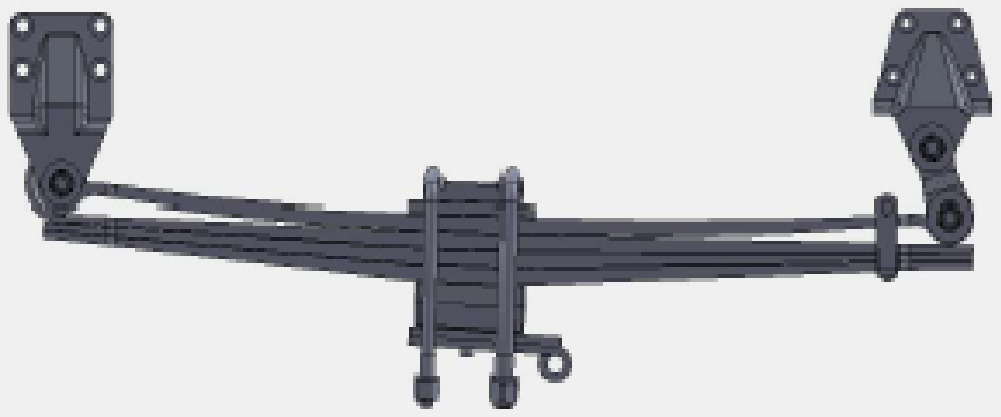
Frame Rails

- Frame Rails come standard with 10” Double-Domex rails, with triple rails at the rear suspension
- Frame rails are treated in Cathacoat process to ensure life longevity
- Integrated fuel beam at rear crossmember
- Standard lifetime warranty



Axles and Suspensions

- Front leaf suspension options range from 23,000-25,500lbs
  - Meritor – 23,000lbs
  - Dana/Standens – 25,500lbs
  - Hendrickson Steertek – 23,000 & 24,000lbs
- Rear suspension option is a Link 52,000lb air ride



Bumper Options

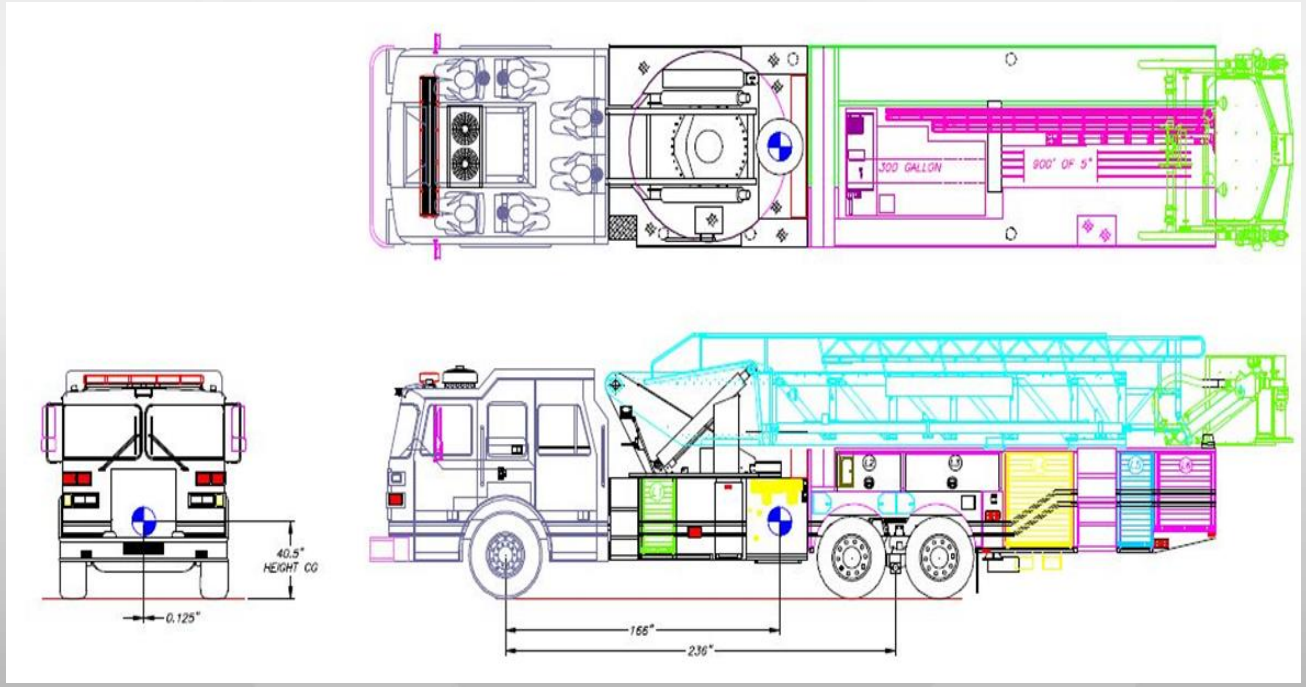
- The SPH100 has no limitations to its bumper offerings due to not needing front stabilizers
- Full width/full depth trough
- Front suction
- Discharge
- Booster reel
- Rescue Bumper
- Winch

Unobstructed visibility

- Compared to a rear-mount platform aerial, there is no overhang off the front of the cab
- Innovative cab windshield design provides maximum driver visibility

Low Center of Gravity

- Low center of gravity since the aerial device is in the center of the truck
- Better weight distribution providing better stability
- NFPA center of gravity requirement is 58.6”
  - SPH100 center of gravity is 42”



Low Overall Height

Standard Height

- Standard height is 11’-6”
- Due to Sutphen’s aluminum aerial design, it benefits from not needing a torque box, which significantly lowers the overall height

Low Overall Height

Stowable Rails

- Stowable rail option allows for the overall height to be decreased to 11’-0”
- This special feature allows to save valuable inches when clearance matters

Low Overall Height

- Stowable handrails fold down when the aerial is not in use
- When needed to be accessed, handrails can quickly and easily be deployed, while still maintaining integrity

Low Overall Height

No Rail

- No rail option available if height is need to be reduced further
- This allows for the aerial to be as low as 10’-6”

Low Overall Height

Extra High Rail

- Extra high rail option is available
- This allows for an additional 4” of height to the climbing rail making the overall height 11’-10”

Wheelbase

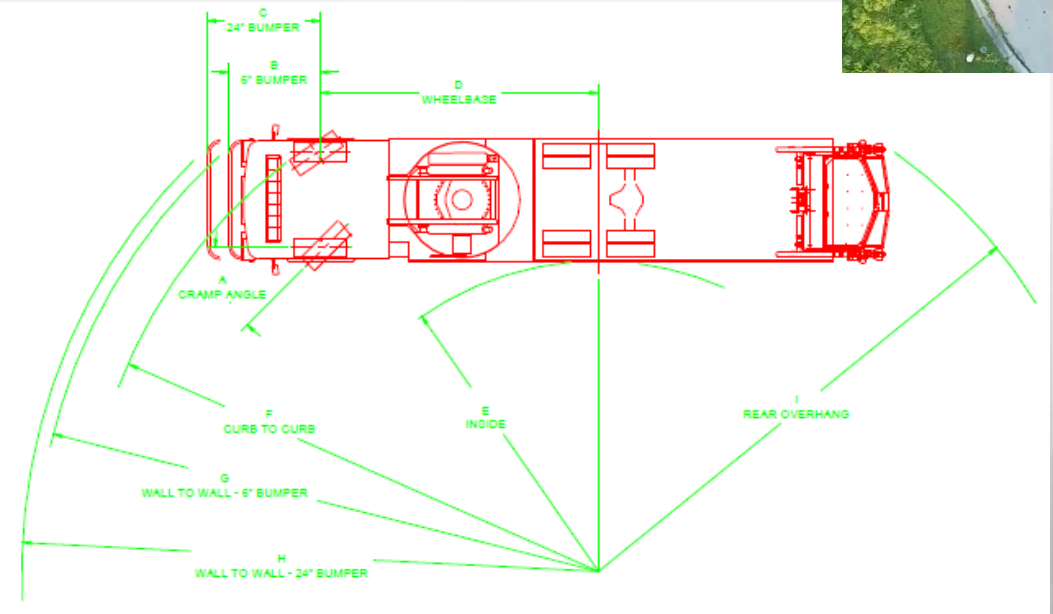
- Maneuverability sets the SPH100 apart from all other mid-mount platforms
- At 230”, it has the shortest wheelbase in the industry
- It has the tightest curb-to-curb turning radius in the industry at 33’-2”

Turning Radius – 230” Wheelbase

Parameters			
A	Cramp Angle (maximum)	45 deg.	425 Tires
B	Front Overhang 6” Bumper	76”	
C	Front Overhang 24” Bumper	94”	
D	Wheelbase	230”	

Calculated Results		
E	Inside Turning Radius	18’-5”
F	Curb to Curb	33’-2”
G	Wall to Wall 6” Bumper	37’-1”
H	Wall to Wall 24” Bumper	38’-1”
I	Rear Overhang Swing	32’-11

Cramp Angle may vary due to vehicle configuration.
Curb to Curb based on a 9” curb



Body Construction

- Grade 304 stainless steel providing maximum stability
- Modularized compartments are bolted together
  - This allows for easier/quicker maintenance, which save time and money
- Compartmentation is available in roll-up or stainless hinged doors
- Sub-frame is also stainless steel

Compartmentation Space

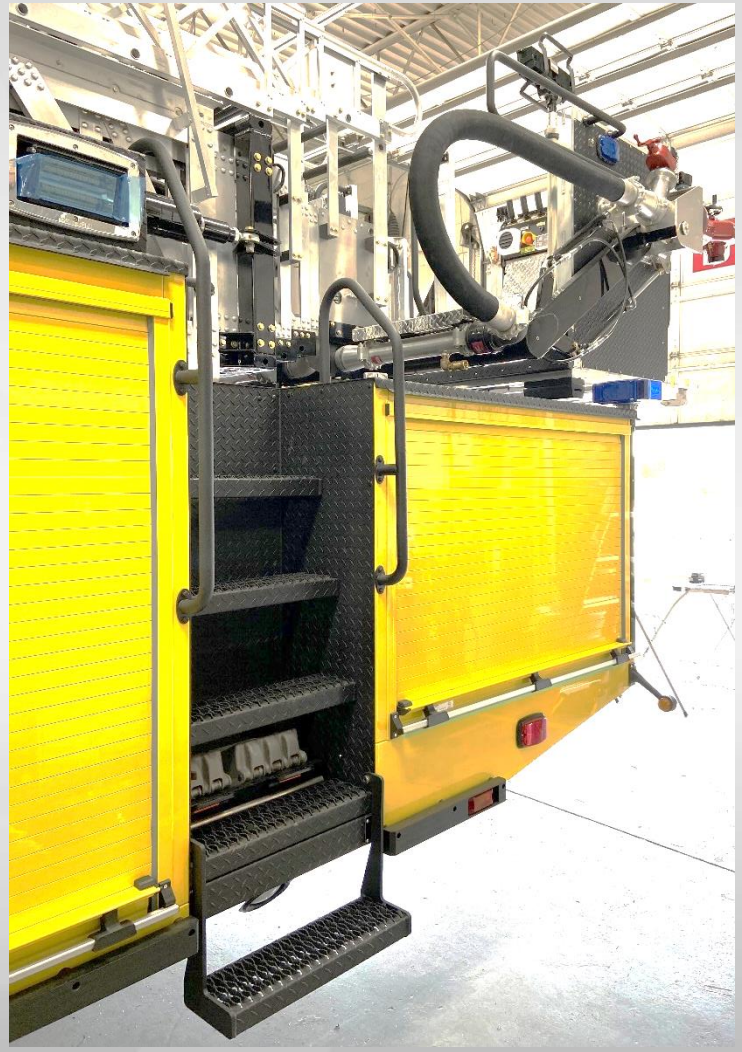
- With Full depth and Full height compartment space, the SPH100 offers more storage than any other aerial in its class
- Depending on body selection, compartmentation space could exceed 300 cubic feet, no pump/no tank option allows for up 500 cubic feet
- Pack your platform like a pumper

Pedestal Access

- Quick, direct, and easy pedestal access
- Saves valuable time when on scene on scene with limited crew

Platform Access

- The SPH100 offers safe, clear, and unimpeded access to the platform from the ground
- Direct and easy platform access is vital when reporting for emergency scene intervention



Stabilizers

Two sets of stabilizers

- (1) set of H-style at the center of the aerial
- (1) set of rear Downriggers behind the rear tires
- Fastest set-up time in the industry
- Centralized jack controls

Stabilizers

Short jacking capable

- This allows for operating the aerial in the tightest of locations

Cab Tilt Access

- One added benefit to not needing front stabilizers is cab tilt access
- The cab tilt function can be accessed anytime the aerial is operating
- This is an invaluable necessity if the engine area needs accessed while on scene

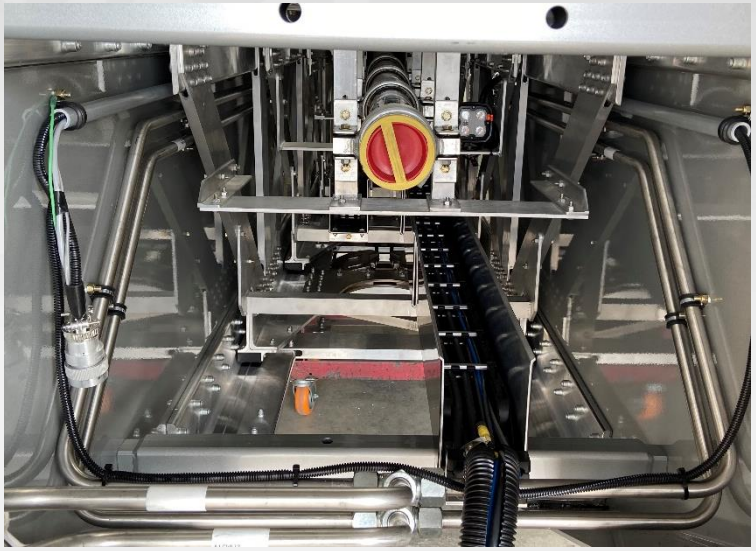
Box Boom Design

Aerial device is entirely constructed of 6061-T6 aluminum and aluminum Huck Bolts

- Aluminum dissipates heat better, which extends aerial life
- Sutphen's aluminum aerial weighs 10,000-20,000lbs less than welded steel aerials
- Corrosion resistant
- No paint needed
- All of the above allow for Sutphen to offer an industry leading 30 year structural warranty

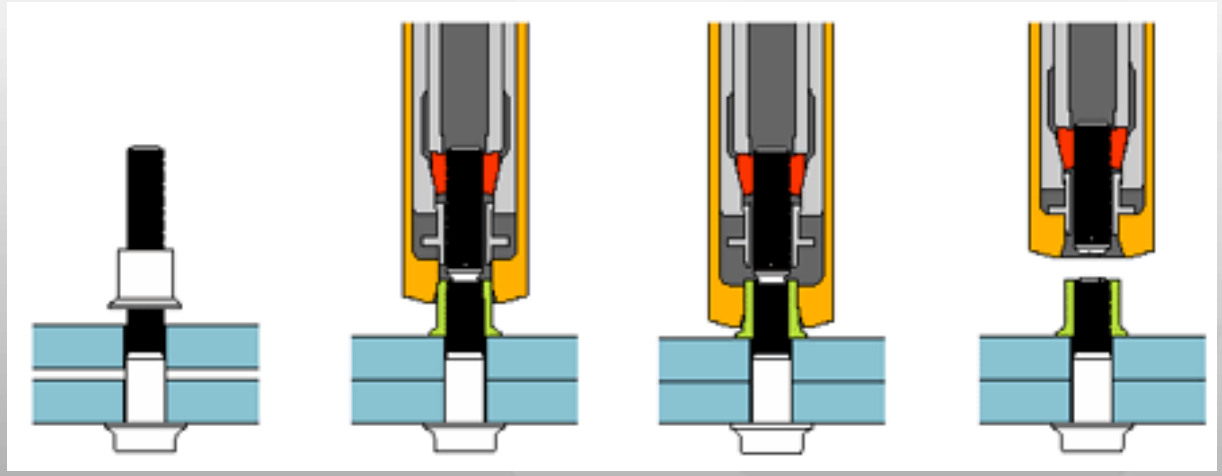
Box Boom Design

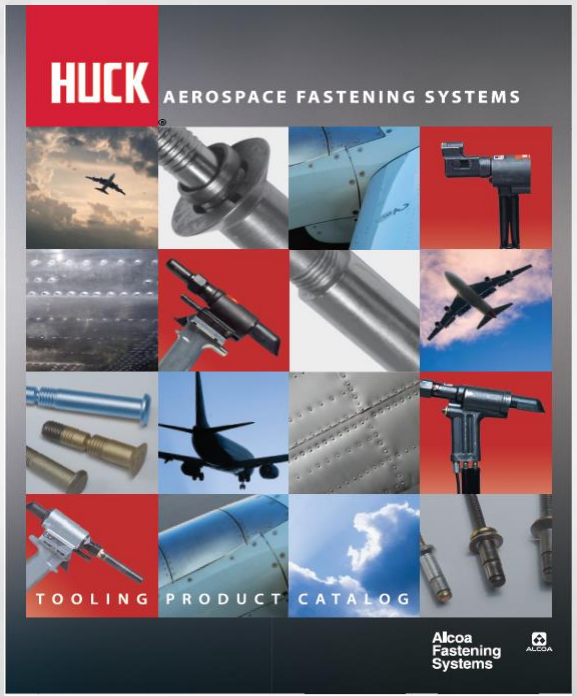
- SPH100 is a four-sided box boom design with 5-sections
- Entire aerial is assembled with Huck Bolts with no welds
- Waterway, electric cables and breathing air lines are all safely protected inside the box boom.



Huck Bolt Fastening Technology

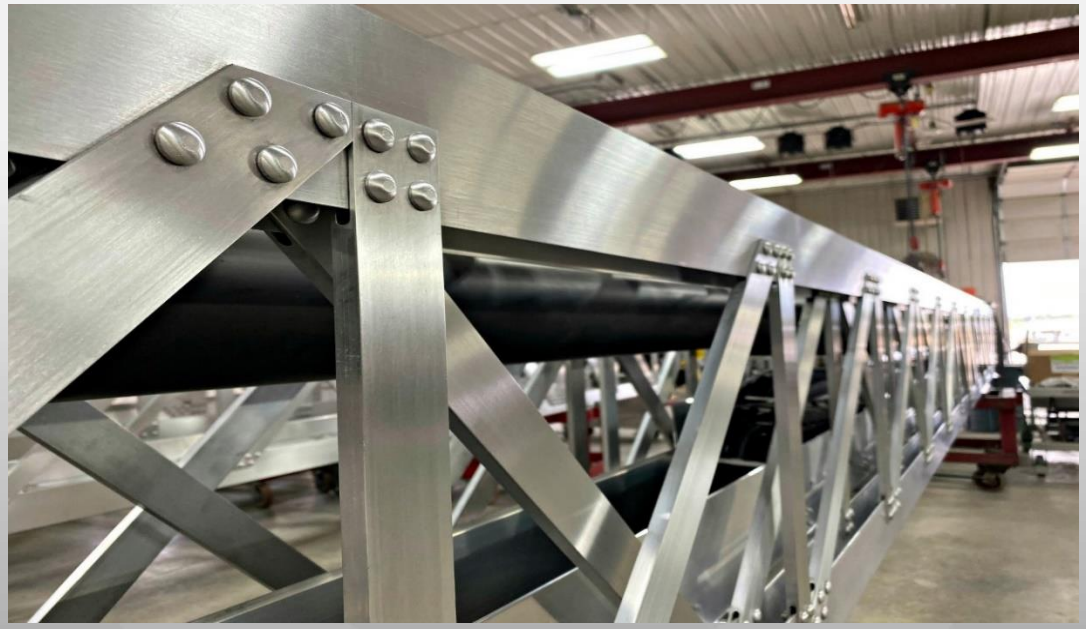
- Fastening technology widely used in high performing products such as railcars, satellites, and airplanes.
- Sutphen is the only fire truck manufacturer in the world that integrates Huck bolting on it's aerial device.
- Sutphen integrates Huck Bolts technology on its aerials from the chassis frame rail, the body, and the aerial design





Huck Bolt Fastening Technology

- Consistent accurate application every time
- No welding
- Ease of inspection due to no welds
- Ease of maintenance
- Lacings are field repairable if damaged due to fireman factors. This means less time out of service, which steel aerials cannot offer this benefit



Overall Light Weight Benefits

With the SPH100 being 10,000lbs – 20,000lbs lighter than other manufacturers it offers so many benefits

- Enhanced braking capability
- Better acceleration
- Less wear on chassis and aerial components
- No proprietary parts
- Increased life longevity of the aerial
- Cost of ownership is significantly less than a steel aerial

LOOK BEYOND THE SMOKE

THE SPH 100 – THE MOST VERSATILE BUCKET IN THE INDUSTRY

Platform Size

- Largest platform in the industry at almost 20 cubic feet
- Platform is constructed from aluminum to maintain light weight
- Weight capacity 1,000lbs dry and 500lbs wet

Platform Doors

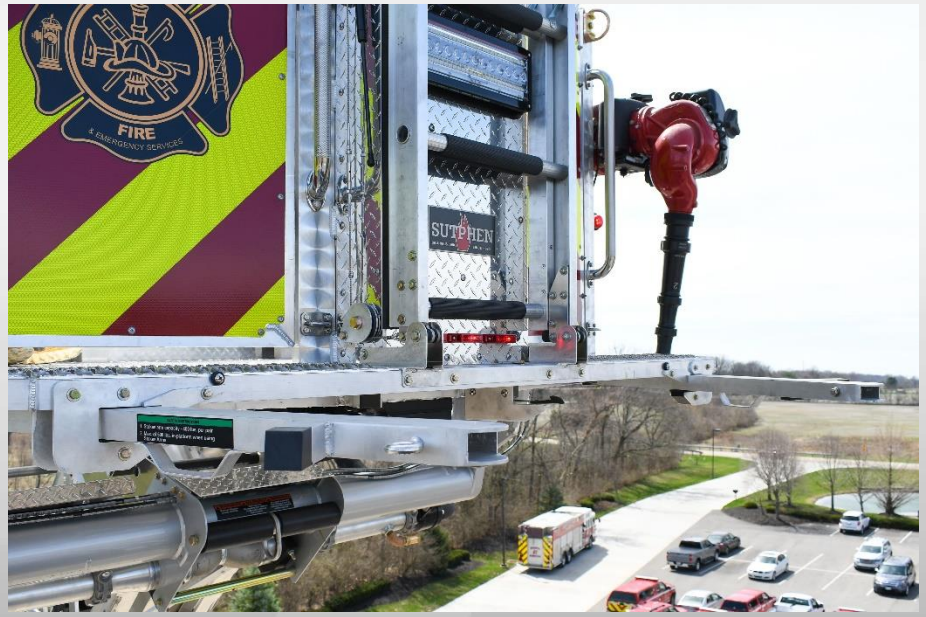
- Platform features two access/egress doors
- Doors are unimpeded to allow for safe rescue when in emergency

Parapet Ladder

- Allows for safe roof top entry and exit to/from platform
- Easy platform controlled lever to operate ladder
- Feature isn’t available with front platform mounted monitors

Stokes Arms

- Arms hold a stokes basket allowing to work with patient
- Capable of sustaining 400lbs
- Maximum platform weight is 500lbs when carrying stokes basket
- Front platform mounted monitors cannot offer this feature



Lifting Eye

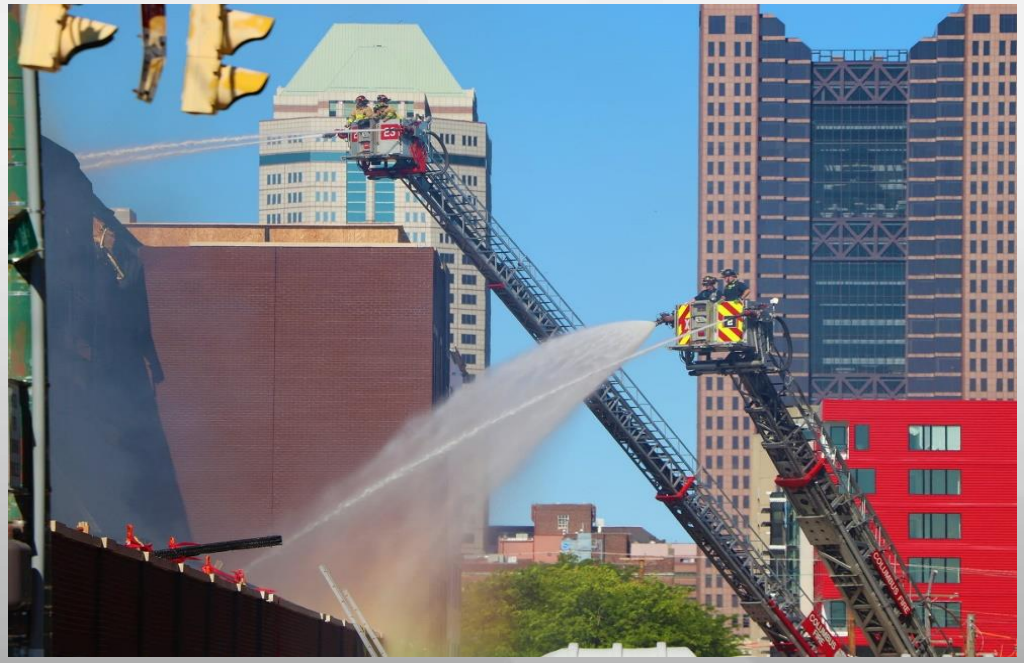
- Single lifting eye attached to the bottom of the platform for hoisting a stokes basket
- Capable of handling up to 800lbs
- Note, this is for lifting not repelling…

Monitors

- Design showcases side mounted adjustable dual monitors
- This allows to work off the front of the platform if needed
- This allows for maximum coverage area that front mounted monitors cannot
- Monitors are located at working height, not on the platform floor

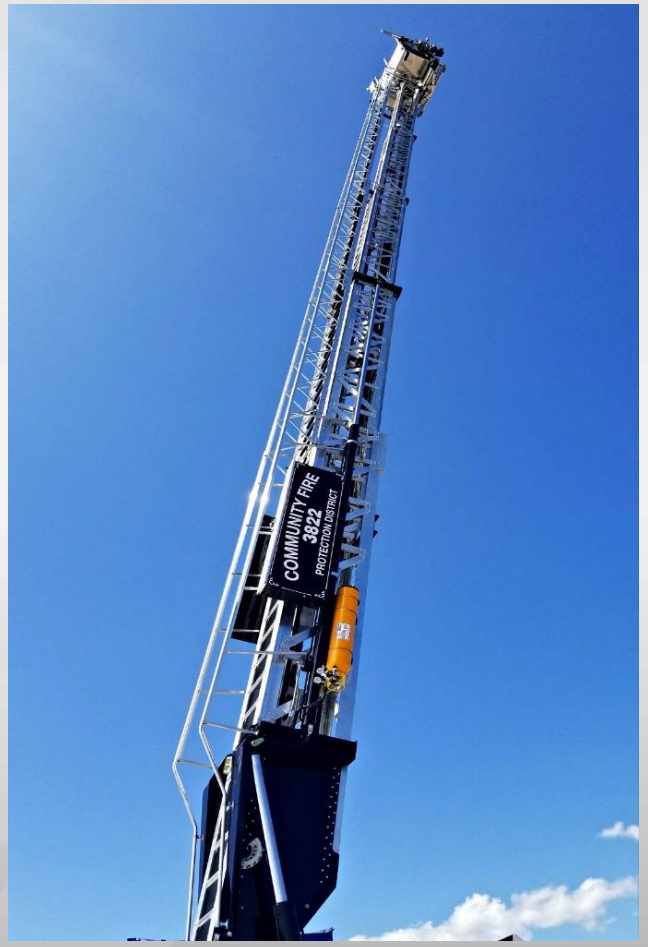
Monitors Continued…

- Monitors available in manual and electric
- Monitors rated at 1250gpm each or 2000gpm combined.
- No envelope controls allow for max flow from one monitor at any moment
- Tip load allows for 1,000lbs dry and 500lbs wet



Aerial Device

- Vertical Reach – 100’
- Horizontal reach – 89’-4”
- Wind rated for 35mph sustained and 50mph gusts
- No load chart necessary
- Industry leading 3:1 safety factor



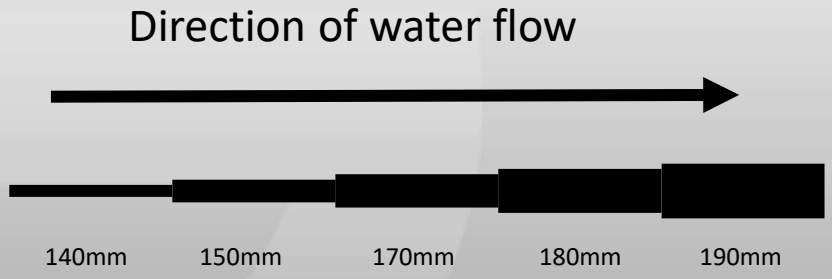
Scrub Angle

- 70-degree below-grade scrub angle allows for more versatility at every emergency scene

Aerial Flow

SPH100 has a unique inverted waterway design

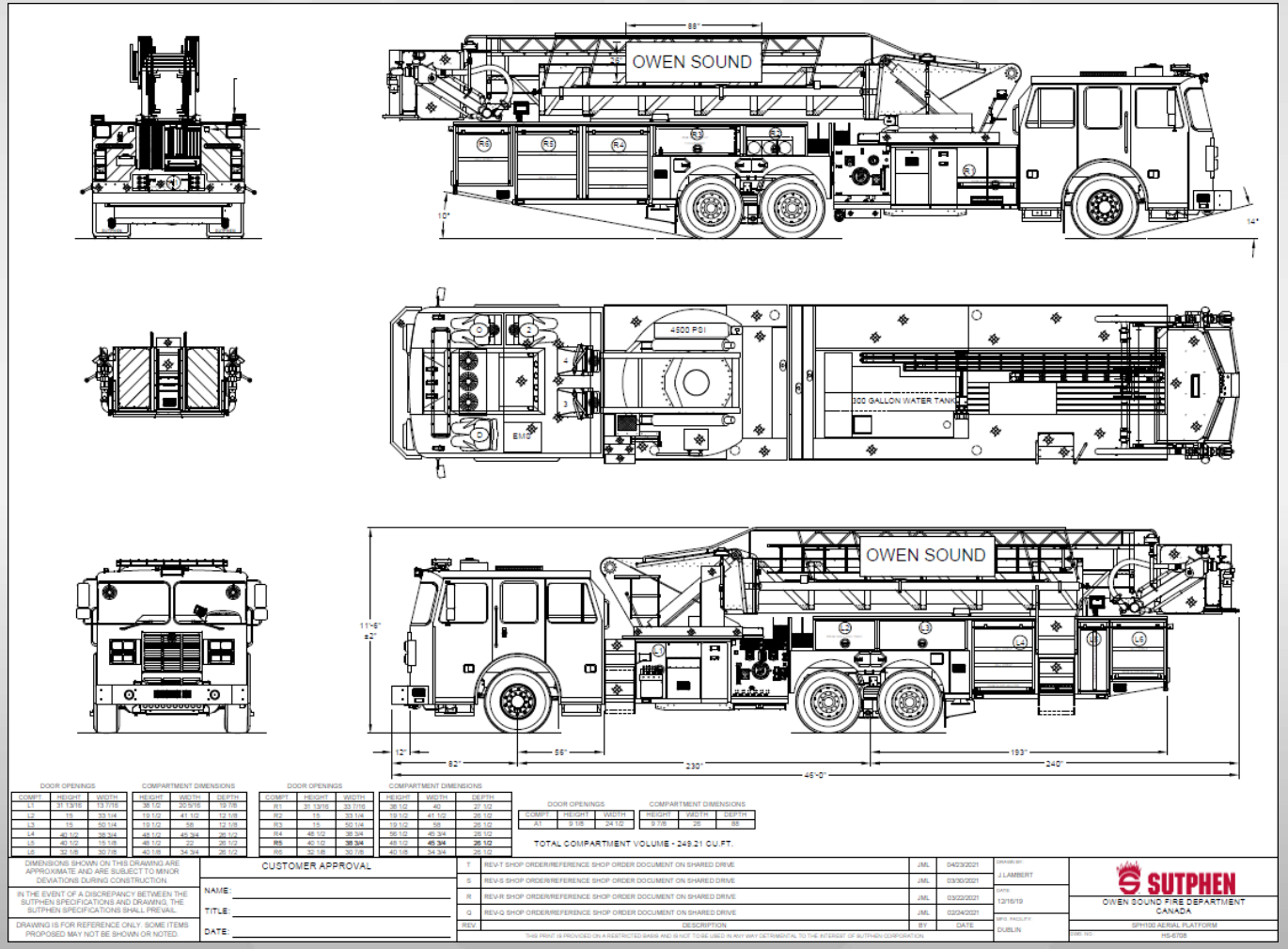
- Waterway size increases in size when extended
- (5) section waterway features internal gaskets/seals
- Minimizes wear while maximizing flow



Reduced Friction Loss

- Mid-mount design minimizes water flow re-direction, water goes from the pump directly up the waterway
- Allows increased flow efficiency and higher water flow

Body Options – SPH-1



DOOR OPENINGS			COMPARTMENT DIMENSIONS		
COMPT	HEIGHT	WIDTH	HEIGHT	WIDTH	DEPTH
L1	31 13/16	13 7/16	36 1/2	20 5/16	19 7/8
L2	15	33 1/4	19 1/2	41 1/2	12 1/8
L3	15	50 1/4	19 1/2	58	12 1/8
L4	40 1/2	38 3/4	48 1/2	45 3/4	26 1/2
L5	40 1/2	15 1/8	48 1/2	22	26 1/2
L6	32 1/8	30 7/8	40 1/8	34 3/4	26 1/2

DOOR OPENINGS			COMPARTMENT DIMENSIONS		
COMPT	HEIGHT	WIDTH	HEIGHT	WIDTH	DEPTH
R1	31 13/16	33 7/16	36 1/2	40	27 1/2
R2	15	33 1/4	19 1/2	41 1/2	26 1/2
R3	15	50 1/4	19 1/2	58	26 1/2
R4	48 1/2	38 3/4	56 1/2	45 3/4	26 1/2
R5	40 1/2	38 3/4	48 1/2	45 3/4	26 1/2
R6	32 1/8	30 7/8	40 1/8	34 3/4	26 1/2

DOOR OPENINGS			COMPARTMENT DIMENSIONS		
COMPT	HEIGHT	WIDTH	HEIGHT	WIDTH	DEPTH
A1	9 1/8	24 1/2	9 7/8	26	88

TOTAL COMPARTMENT VOLUME - 249.21 CU.FT.

DIMENSIONS SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE SUBJECT TO MINOR DEVIATIONS DURING CONSTRUCTION.

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CUSTOMER APPROVAL

NAME:

TITLE:

DATE:

REV	DESCRIPTION	BY	DATE
T	REV-T SHOP ORDER/REFERENCE SHOP ORDER DOCUMENT ON SHARED DRIVE	JML	04/23/2021
S	REV-S SHOP ORDER/REFERENCE SHOP ORDER DOCUMENT ON SHARED DRIVE	JML	03/30/2021
R	REV-R SHOP ORDER/REFERENCE SHOP ORDER DOCUMENT ON SHARED DRIVE	JML	03/22/2021
Q	REV-Q SHOP ORDER/REFERENCE SHOP ORDER DOCUMENT ON SHARED DRIVE	JML	02/24/2021

THIS PRINT IS PROVIDED ON A RESTRICTED BASIS AND IS NOT TO BE USED IN ANY WAY DETRIMENTAL TO THE INTEREST OF SUTPHEN CORPORATION.

DRAWN BY: J. LAMBERT

DATE: 12/16/19

SPEC FACILITY: DUBLIN

DWG. NO: HS-6708

SUTPHEN

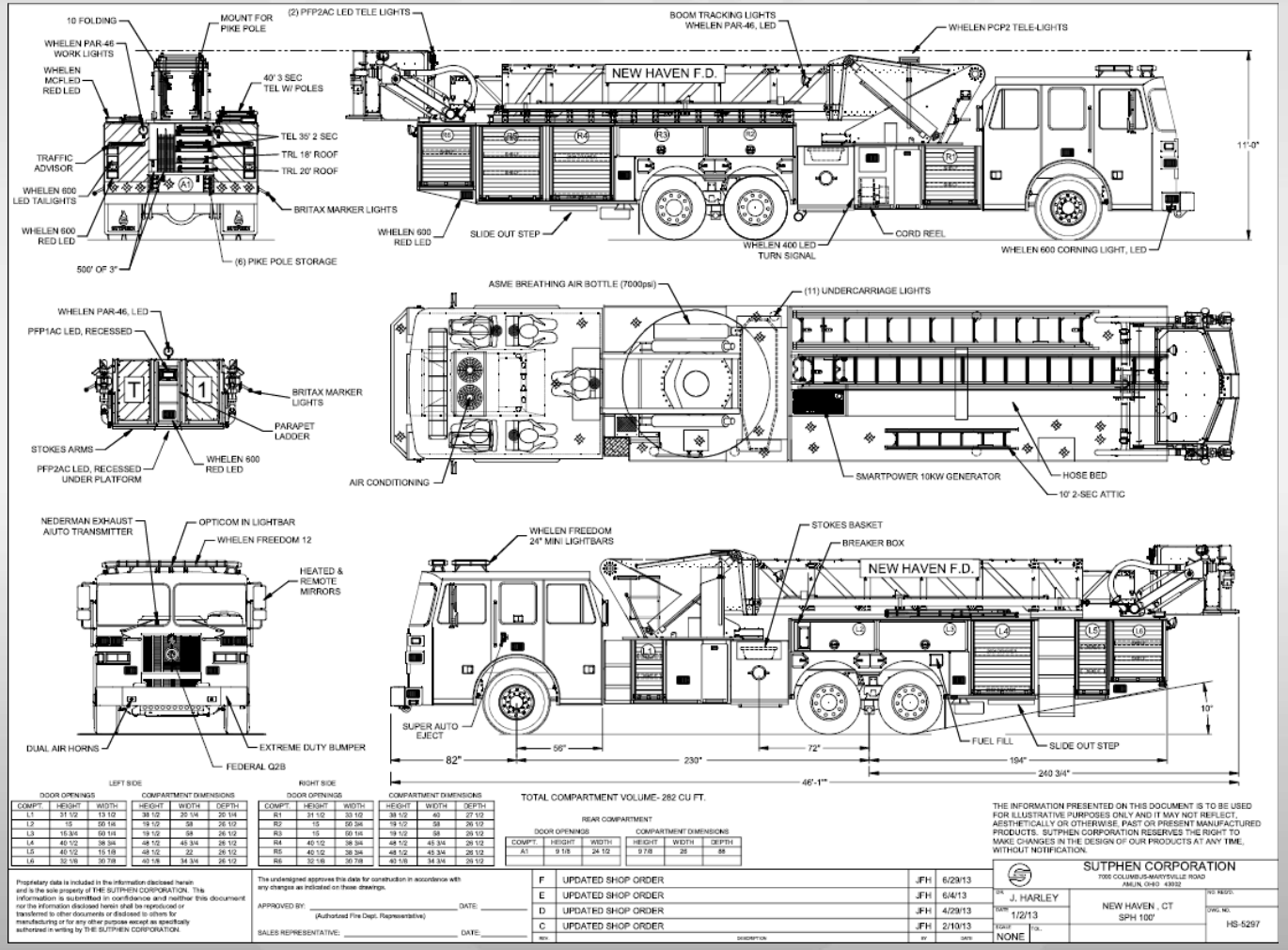
OWEN SOUND FIRE DEPARTMENT
CANADA

SPH100 AERIAL PLATFORM

Body Options – SPH-1

- 48/48 Body
- 2000 GPM Pump
- 300 – 500 Gallon Tank
- 900’ of 5” Hose Load Capacity

Body Options – SPH-2



LEFT SIDE

DOOR OPENINGS			COMPARTMENT DIMENSIONS		
COMPT.	HEIGHT	WIDTH	HEIGHT	WIDTH	DEPTH
L1	31 1/2	13 1/2	39 1/2	26 1/4	26 1/4
L2	15	56 1/4	19 1/2	58	26 1/2
L3	15 3/4	59 1/4	19 1/2	58	26 1/2
L4	40 1/2	36 3/4	48 1/2	45 3/4	26 1/2
L5	40 1/2	15 1/8	48 1/2	22	26 1/2
L6	32 1/8	36 7/8	40 1/8	34 3/4	26 1/2

RIGHT SIDE

DOOR OPENINGS			COMPARTMENT DIMENSIONS		
COMPT.	HEIGHT	WIDTH	HEIGHT	WIDTH	DEPTH
R1	31 1/2	33 1/2	39 1/2	40	27 1/2
R2	15	56 3/4	19 1/2	58	26 1/2
R3	15	59 1/4	19 1/2	58	26 1/2
R4	40 1/2	36 3/4	48 1/2	45 3/4	26 1/2
R5	40 1/2	38 3/4	48 1/2	45 3/4	26 1/2
R6	32 1/8	36 7/8	40 1/8	34 3/4	26 1/2

TOTAL COMPARTMENT VOLUME- 282 CU FT.

REAR COMPARTMENT

DOOR OPENINGS			COMPARTMENT DIMENSIONS		
COMPT.	HEIGHT	WIDTH	HEIGHT	WIDTH	DEPTH
A1	9 1/8	24 1/2	9 7/8	28	88

The undersigned approves this date for construction in accordance with any changes as indicated on these drawings.

APPROVED BY: _____ DATE: _____
(Authorized Fire Dept. Representative)

SALES REPRESENTATIVE: _____ DATE: _____

REV.	DESCRIPTION	BY	DATE
F	UPDATED SHOP ORDER	JFH	6/29/13
E	UPDATED SHOP ORDER	JFH	6/4/13
D	UPDATED SHOP ORDER	JFH	4/29/13
C	UPDATED SHOP ORDER	JFH	2/10/13

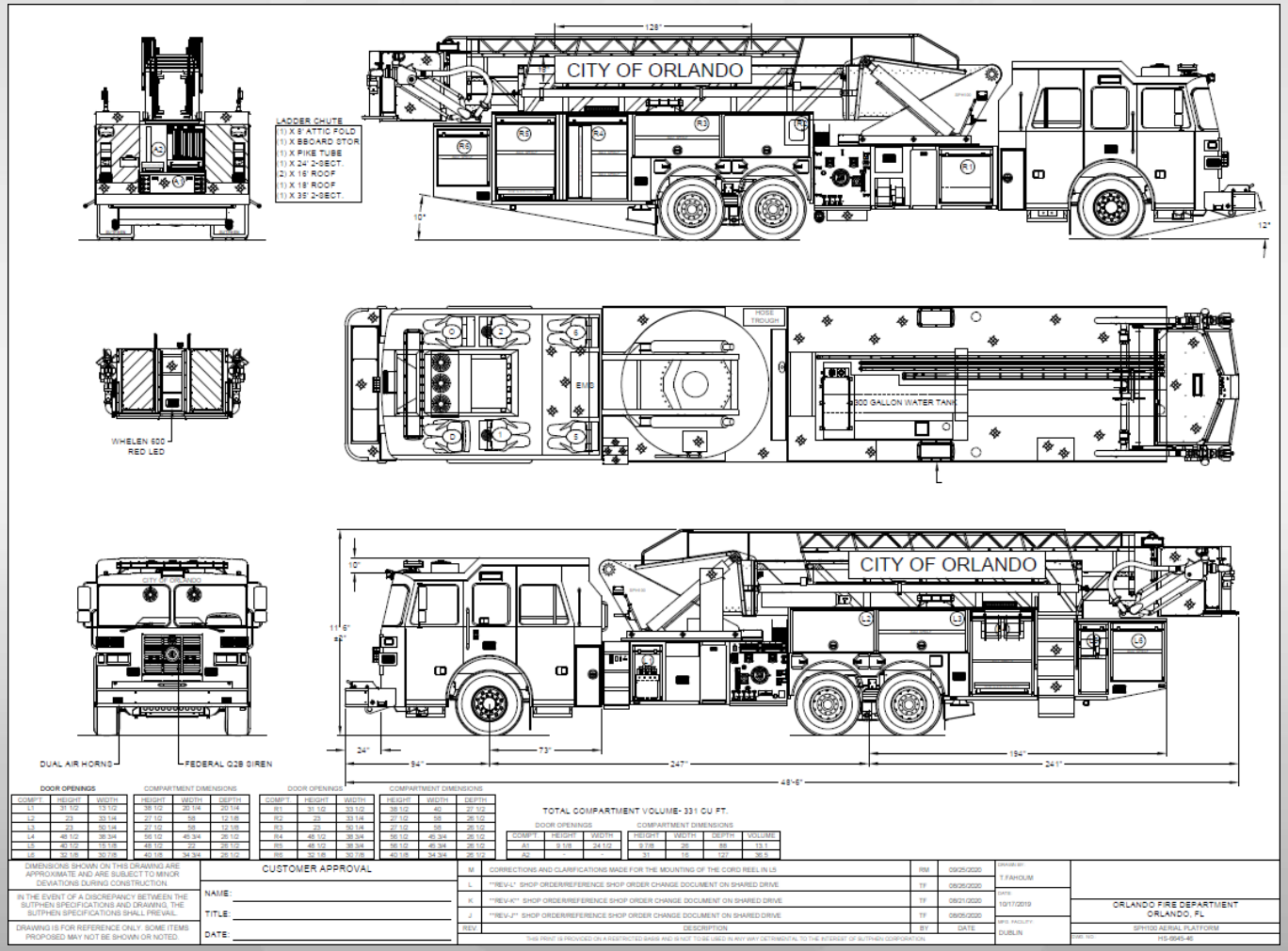
SUTPHEN CORPORATION
7000 COLUMBUS-MARYSVILLE ROAD
AMLIN, OHIO 43002

DR. J. HARLEY	NEW HAVEN , CT	REV. REQ'D.	
DATE 1/2/13	SPH 100'	DWG. NO.	HS-5297
ISSUE NONE	TO...		

Body Options – SPH-2

- 48/48 Body
- No Pump
- No Tank
- Varying Hose/Ladder Capacity

Body Options – SPH-3



DOOR OPENINGS		
COMPT.	HEIGHT	WIDTH
L1	31 1/2	13 1/2
L2	23	33 1/4
L3	23	50 1/4
L4	46 1/2	38 3/4
L5	40 1/2	15 1/8
L6	32 1/8	30 7/8

COMPARTMENT DIMENSIONS		
HEIGHT	WIDTH	DEPTH
38 1/2	20 1/4	20 1/4
27 1/2	58	12 1/8
27 1/2	58	12 1/8
58 1/2	45 3/4	26 1/2
46 1/2	22	26 1/2
40 1/8	34 3/4	26 1/2

DOOR OPENINGS		
COMPT.	HEIGHT	WIDTH
R1	31 1/2	33 1/2
R2	23	33 1/4
R3	23	50 1/4
R4	46 1/2	38 3/4
R5	46 1/2	38 3/4
R6	32 1/8	30 7/8

COMPARTMENT DIMENSIONS		
HEIGHT	WIDTH	DEPTH
38 1/2	40	27 1/2
27 1/2	58	26 1/2
27 1/2	58	26 1/2
58 1/2	45 3/4	26 1/2
58 1/2	45 3/4	26 1/2
40 1/8	34 3/4	26 1/2

TOTAL COMPARTMENT VOLUME- 331 CU FT.

DOOR OPENINGS		
COMPT.	HEIGHT	WIDTH
A1	9 1/8	24 1/2
A2		

COMPARTMENT DIMENSIONS			
HEIGHT	WIDTH	DEPTH	VOLUME
9 7/8	26	88	13.1
31	16	127	36.5

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CUSTOMER APPROVAL

NAME:

TITLE:

DATE:

REV	DESCRIPTION	BY	DATE
M	CORRECTIONS AND CLARIFICATIONS MADE FOR THE MOUNTING OF THE CORD REEL IN LS	RM	09/25/2020
L	"REV-L" SHOP ORDER/REFERENCE SHOP ORDER CHANGE DOCUMENT ON SHARED DRIVE	TF	08/25/2020
K	"REV-K" SHOP ORDER/REFERENCE SHOP ORDER CHANGE DOCUMENT ON SHARED DRIVE	TF	08/21/2020
J	"REV-J" SHOP ORDER/REFERENCE SHOP ORDER CHANGE DOCUMENT ON SHARED DRIVE	TF	08/05/2020

DRAWN BY: T.FAHOUM

DATE: 10/17/2019

SPEC ENGR'G: DUBLIN

ORLANDO FIRE DEPARTMENT
ORLANDO, FL

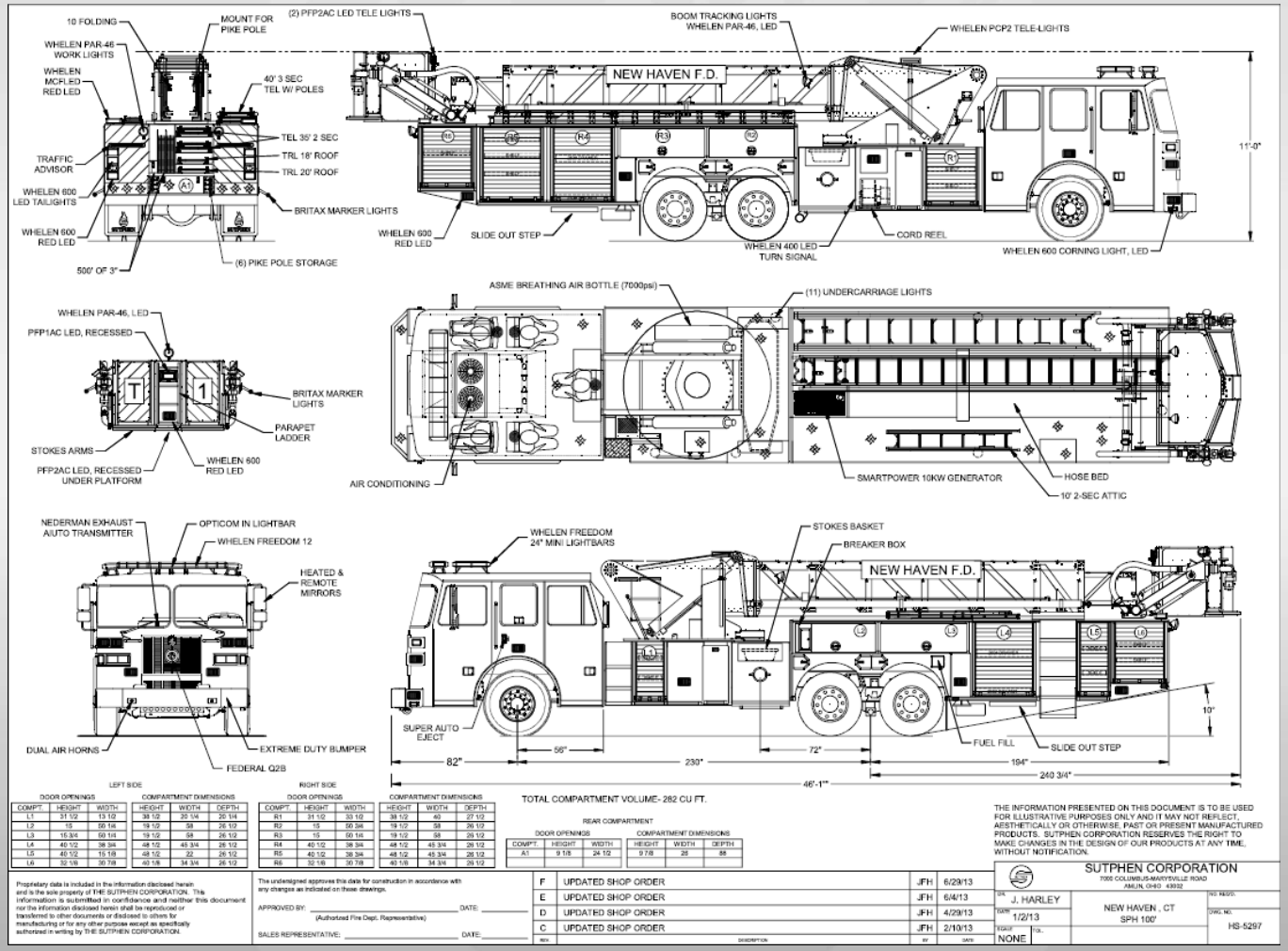
SPH100 AERIAL PLATFORM

DWG NO: HS-9545-46

Body Options – SPH-3

- 56/56 Body
- 2000 GPM Pump
- 300 - 500 Gallon Tank
- 900’ of 5” Hose Load Capacity

Body Options – SPH-4



LEFT SIDE

DOOR OPENINGS			COMPARTMENT DIMENSIONS		
COMPT.	HEIGHT	WIDTH	HEIGHT	WIDTH	DEPTH
L1	31 1/2	13 1/2	38 1/2	20 1/4	20 1/4
L2	15	50 1/4	19 1/2	58	26 1/2
L3	15 3/4	50 1/4	19 1/2	58	26 1/2
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L6	32 1/8	36 7/8	40 1/8	34 3/4	26 1/2

RIGHT SIDE

DOOR OPENINGS			COMPARTMENT DIMENSIONS		
COMPT.	HEIGHT	WIDTH	HEIGHT	WIDTH	DEPTH
R1	31 1/2	33 1/2	38 1/2	40	27 1/2
R2	15	50 3/4	19 1/2	58	26 1/2
R3	15	50 1/4	19 1/2	58	26 1/2
R4	40 1/2	38 3/4	48 1/2	45 3/4	26 1/2
R5	40 1/2	38 3/4	48 1/2	45 3/4	26 1/2
R6	32 1/8	36 7/8	40 1/8	34 3/4	26 1/2

TOTAL COMPARTMENT VOLUME- 282 CU FT.

REAR COMPARTMENT

DOOR OPENINGS			COMPARTMENT DIMENSIONS		
COMPT.	HEIGHT	WIDTH	HEIGHT	WIDTH	DEPTH
A1	9 1/8	24 1/2	9 7/8	26	88

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(Authorized Fire Dept. Representative)

SALES REPRESENTATIVE: _____ DATE: _____

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F	UPDATED SHOP ORDER	JFH	6/29/13
E	UPDATED SHOP ORDER	JFH	6/4/13
D	UPDATED SHOP ORDER	JFH	4/29/13
C	UPDATED SHOP ORDER	JFH	2/10/13

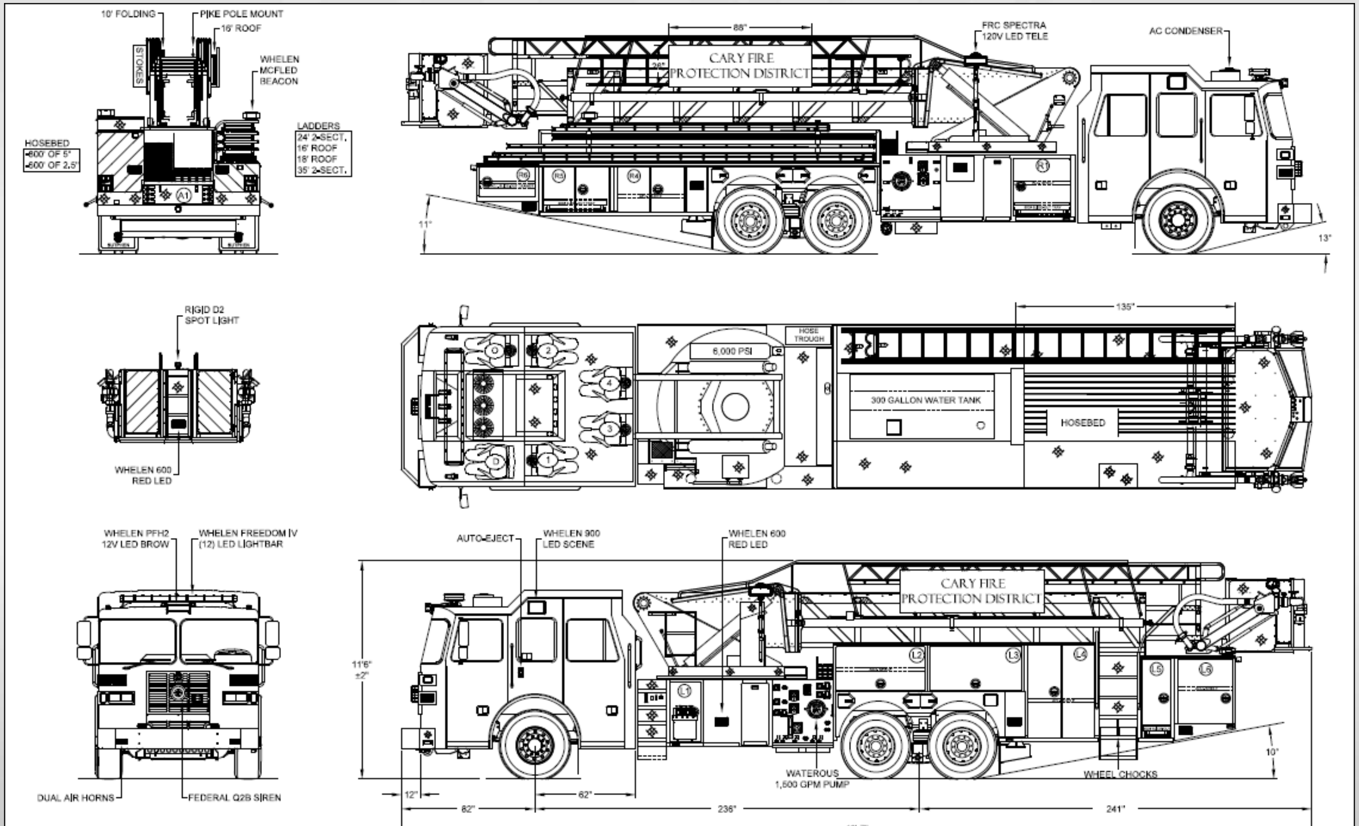
SUTPHEN CORPORATION
7000 COLUMBUS-MARYSVILLE ROAD
AMLIN, OHIO 43002

DR. J. HARLEY	NEW HAVEN , CT SPH 100'	NO. REQ'D.
DATE 1/2/13		DWG. NO. HS-5297
SCALE NONE	TOL.	

Body Options – SPH-4

- 56/56 Body
- No Pump
- No Tank
- Varying Hose/Ladder Capacity

Body Options – SPH-7



DOOR OPENINGS			COMPARTMENT DIMENSIONS		
COMPT.	HEIGHT	WIDTH	HEIGHT	WIDTH	DEPTH
L1	35 1/4	13 1/2	38 1/2	20 1/4	20 1/4
L2	23	50 1/4	27 1/2	58	26 1/2
L3	23	50 1/4	27 1/2	58	26 1/2
L4	51 3/4	37 1/2	56 1/2	45 3/4	26 1/2
L5	43 3/4	15	48 1/2	22	26 1/2
L6	35 3/8	30 3/4	40 1/8	34 3/4	26 1/2

DOOR OPENINGS			COMPARTMENT DIMENSIONS		
COMPT.	HEIGHT	WIDTH	HEIGHT	WIDTH	DEPTH
R1	34 1/2	32 1/2	38 1/2	40	27 1/2
-	-	-	-	-	-
-	-	-	-	-	-
R4	23 1/2	37 1/2	28	45 3/4	26 1/2
R5	23 1/2	37 1/2	28	42 5/8	26 1/2
R6	11 5/8	30 7/8	18 5/8	37 3/4	26 1/2

TOTAL COMPARTMENT VOLUME- 198 CU FT.

DOOR OPENINGS			COMPARTMENT DIMENSIONS		
COMPT.	HEIGHT	WIDTH	HEIGHT	WIDTH	DEPTH
A1	9 1/8	24 1/2	9 7/8	26	88

DIMENSIONS SHOWN ON THIS DRAWING ARE APPROXIMATE AND ARE SUBJECT TO MINOR DEVIATIONS DURING CONSTRUCTION.

IN THE EVENT OF A DISCREPANCY BETWEEN THE SUTPHEN SPECIFICATIONS AND DRAWING, THE SUTPHEN SPECIFICATIONS SHALL PREVAIL.

DRAWING IS FOR REFERENCE ONLY, SOME ITEMS PROPOSED MAY NOT BE SHOWN OR NOTED.

CUSTOMER APPROVAL

NAME: ____________________

TITLE: ____________________

DATE: ____________________

REV.	DESCRIPTION	BY	DATE
F	POST-PRODUCTION REVISION	RM	09/20/16
E	HOSEBED LENGTHENED 5" TOWARDS CAB PER ENGINEERING MODEL	RM	06/17/16
D	L2 / L3 BODY COMPARTMENTS CHANGED TO FULL DEPTH TO MAXIMIZE UTILIZATION OF SPACE	RM	03/13/16
C	FURTHER CLARIFICATIONS FOR INTERCOM SYSTEM	RM	02/05/16

DRAWN BY: R.MILLER
DATE: 10/02/15
MFG. FACILITY: DUBLIN

SUTPHEN
CARY FIRE PROTECTION DISTRICT
CARY, IL
SPH100 AERIAL PLATFORM
DWG. NO. HS-6391

Body Options – SPH-7

- 56/48 Body
- 2000 GPM Pump
- 300 - 500 Gallon Tank
- 900’ of 5” Hose Load Capacity
- Ladder Rack on Body

Why a Sutphen SPH100?

- Tried and proven – longest manufacturer of the mid-mount platform
- Extreme duty chassis
- Body design
- Aerial device – box boom design
- Aerial device – platform versatility
- Overall light weight
- Enhanced abilities
- Cost of ownership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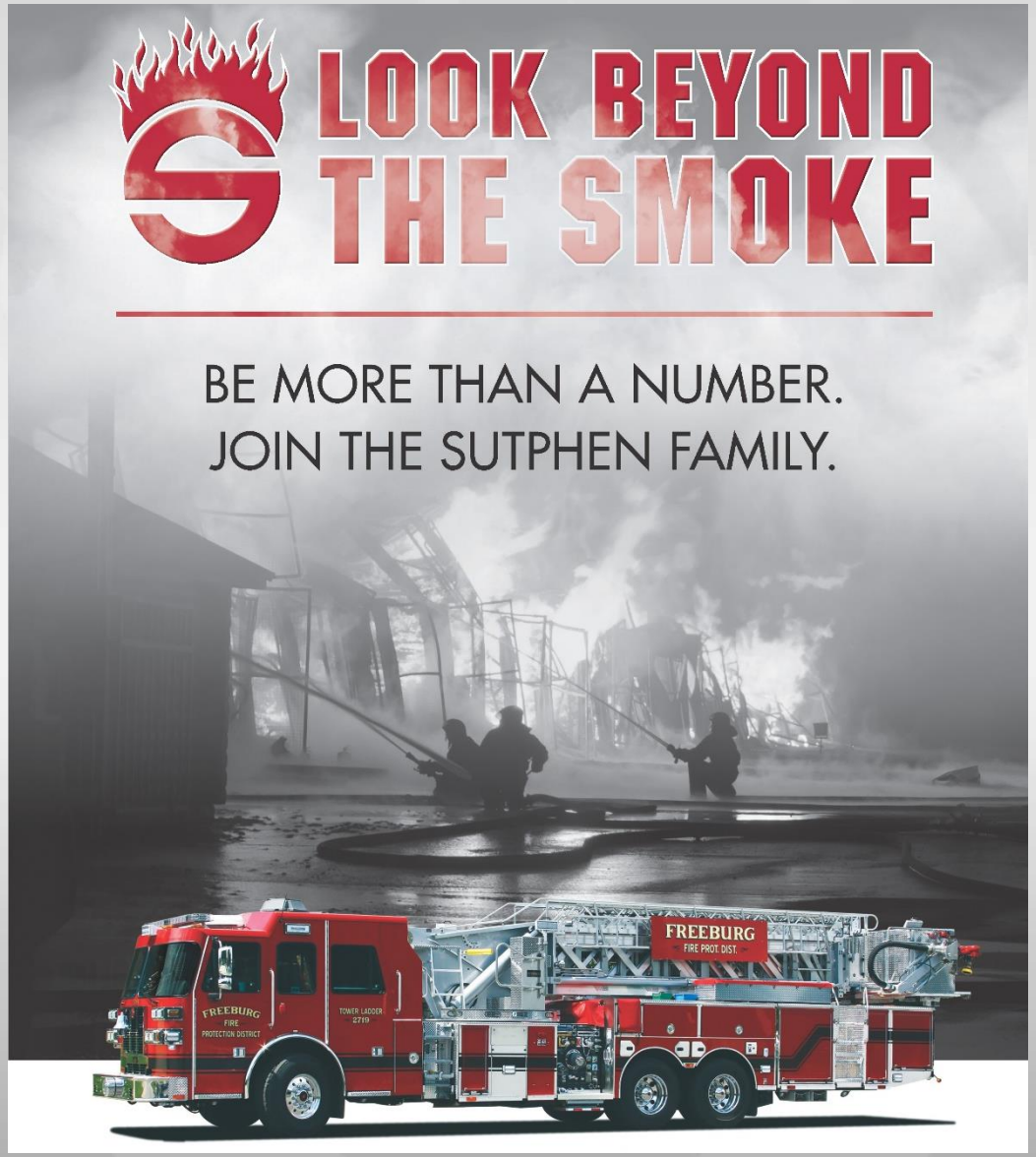
LOOK BEYOND
THE SMOKE
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