



# Osage Beach FPD

Missouri

## Station 1 Study

AUGUST 2021

## Conditions Assessment & Recommendation

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# EXECUTIVE SUMMARY

## Osage Beach FPD

The Osage Beach Fire Protection District (“District”) contracted with WSKF Architect, Inc. (“WSKF”) in May 2021 to complete an assessment of the existing Fire Station 1 and to make recommendations as to Station repair, renovation and/or replacement.

A site visit and station assessment was completed on Thursday, May 6, 2021. This visit encompassed:

- Station Survey (visual survey of interior and exterior of existing station)
- Site Survey (visual survey of site conditions)
- Preliminary Space Needs/Programming (listing of all needed spaces for new station)

The existing station was built in 1986; 35-year service-life to date. Additions and renovations to the station were completed in 1998 (classroom addition), 2007 (watch office addition, offices renovation) and 2012 (deck addition/kitchen renovation).

The existing station provides approximately 10,300 gross square feet of space encompassing 5 back-in apparatus bays, daily living quarters for 4 fire fighters and office space for approximately 6 fire administration and administration support personnel. The existing station immediate site area is 2 acres plus and fronts onto Bluff Drive (2-lane, asphalt roadway).

One of the most significant challenges with fire stations of the age of Station 1 is the absence of regular station updating to meet and accommodate current industry standards and protocols. This is the situation with Station 1; lack of current building code compliance and health and wellness practices. Fire stations, which are classified as “Essential Facilities” by the building code, have been challenged with significant changes beginning in 2012 with the structural classification of such facilities as needing to meet Category IV listed in Chapter 16, Structural Design, of the International Building Code (IBC). Subsequent changes, beginning in 2015, of the IBC incorporated requirements for “shelters” within Essential Facilities. Lastly, the fire industry has been stricken with excessive percentages of firefighters developing cancer which has been linked to the profession and their living environment. These challenges, unless addressed as they develop, often tip the repair/renovate scale to the replace category. While the fire station “building” is far from obsolete, the use of this building as a fire station compliant with current industry standards is not financially prudent.

It is the recommendation of WSKF Architects, to replace existing Station 1. While Station 1 can certainly continue to provide facilities for continued District operations, the District should begin the process of replacing this station understanding that such a process is a lengthy endeavor typically requiring from 3 to 5 years to fully secure property, design the station, bid and build a replacement station. Even if property acquisition and design were to start in the Fall of 2021, the replacement station would not likely be ready for occupancy until the Fall of 2023-24.

# STATION 1 ASSESSMENT<sup>1</sup>

## Station 1 Site

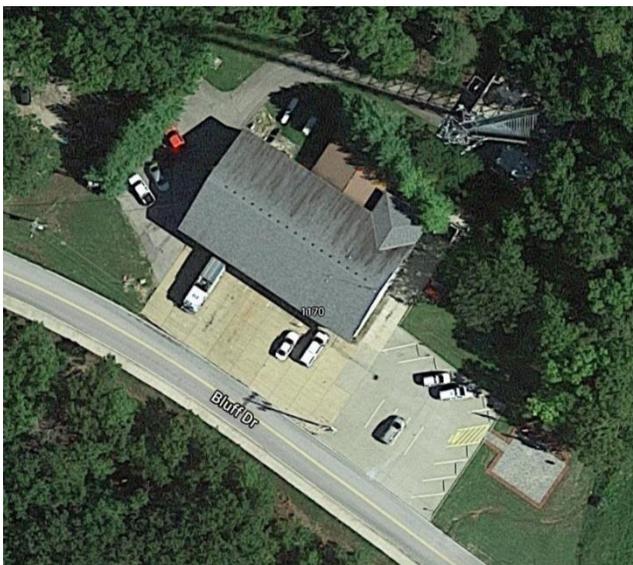
The existing Station 1 Site is located at 1170 Bluff Drive, Osage Beach, MO. While the entire acreage of the site is unknown, the immediate station environs is over 2 acres.

The station fronts onto Bluff Drive and is oriented in a NW/SE alignment (parallel to Bluff Drive). The station is approximately 110' x 60' with appurtenances for Classroom and Deck to the back of the facility. Also situated on this site is communications tower that is estimated to be in the 100 to 120-foot height range.

Visitor parking is located on the SE area of the site adjacent to a Public Safety Memorial and accommodates approximately 14 visitor parking stalls. Staff parking is generally to the NW of the station and provides approximately 8 parking stalls. Command staff parking is generally located at the front of the station. As the station was originally design with a service pit, an exterior walk-way to the service pit is provided at the 5<sup>th</sup> Bay.

Apparatus bays accommodate back-in parking via a front ramp that is approximately 50' deep. This dept of ramp allows for engine checks and routine maintenance without extending beyond the front property line. The front aprons were recently replaced with reinforced concrete. Trench drains were added to the apron near the building as the site slopes towards the bays.

Overhead electrical service is located across the front of the property with one pole located in the visitor parking lot. As the station is located on a curve, east/south bound traffic has restricted visibility of apparatus departing the station.



Aerial – Station 1

<sup>1</sup> Fire Station Assessment; Overview, Short Form, Long Form

## Station 1 Building Exterior

The existing Station 1 is a 2-story structure with exterior materials consisting of painted concrete masonry units (CMU), painted wood siding, asphalt shingles with painted wood fascia, soffit and trim. The station was recently painted. The roof is a gable profile with an over build for the rear deck. The classroom addition appears to be gable profile with wood frame structure with prefinished metal panel wall and roof.

Window and door openings are generally metal with windows being aluminum (prefinished) and doors being hollow metal (painted). Overhead garage doors are prefinished, painted metal with 2-rows of glass lites.

The deck at the rear of the station is wood-framed with insect screening.



Partial View – Front of Station

## Station 1 Building Interior

The building interior consist of apparatus bays, classroom, crew offices, command staff offices and 2<sup>nd</sup> floor living quarters. It appears that all office and living quarters is wood construction with drywall finish.

The apparatus bays are concrete floor and painted CMU walls. Most apparatus bay support space (space for gear storage, hose storage, etc.) and equipment (SCBA, ice maker, extractor, etc.) is located in the bays. Apparatus bays are approximately 16' in height. Bay doors are approximately 12'x14' with trolley-mount openers. OH section bay doors are 7 panels high and do not appear to be reinforced (wind-load reinforcing).

Most bays have overhead shore lines for apparatus charging. Bay lighting appears to be common fluorescent style lighting. Apparatus bay heating appears to be through unit heaters. Apparatus bay air treatment appears to be through filtration units. There appears to be 3 units.

Classroom addition is accessed through the apparatus bays. Room appears to be able to accommodate between 20 and 30 people.

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Crew offices are located on the 2<sup>nd</sup> floor and are accessible from the apparatus bays or from the living quarters. The crew offices include 2 workstations for duty personnel and one office for command personnel.

The living quarters includes a dayroom with 4 loungers connected to a dining room and stairway to the lower level.

The dining room is open to both the dayroom and the kitchen as well as access to the exterior, enclosed, deck. Dining room appears to have capacity for 4 crew.

The kitchen is adjacent to the dining room and includes stove/cooktop with hood, shelf-mounted microwave, refrigerators (3), pantries (3) and stainless-steel sink.

A corridor leads from the dayroom/dining/kitchen to the bunkroom. The crew bathroom/showers (2) are located off this corridor as well as the laundry.

The bunkroom is dormitory style with 12 individual, single bunks with lockers for each crew member. Intermixed with the bunk beds are benches as night stands.

First floor offices are for command staff including fire chief, Assistant Chief, Fire Marshal and Deputy Chiefs as well as administrative assistants.

A small lobby/reception area is located at the front the building for visitor greeting and holding.

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# STATION 1 SPACE NEEDS<sup>2</sup>

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## Overview

As a result of the District's desire to understand what the space requirements would be for a new Station 1, WSKF was tasked with creating a document that would list and define the needed spaces. That document is a series of spreadsheets for each of the major areas of the station; 1) Lobby, Administration and Support Services, 2) Apparatus Bays, 3) Health & Wellness and 4) Living Quarters. Additionally, the Space Needs also encompass the minimum site requirements associated with the station. The following page presents an overview of the Design/Space Needs for Station 1.

## Lobby, Administration & Support Services

This section of the space needs includes all of the public, office and general support spaces for the station. Additionally, this section includes the Training/Board Room functions. Lastly, this section would also include common or share use requirements such as technology space, mechanical space and similar share uses and Support Services.

## Apparatus Bays

This section encompasses the apparatus bays as well as all of the apparatus support spaces. Support spaces include such areas as gear storage, extractor, SCBA and similar support spaces.

## Health & Wellness

This area of the station provides for the recommended Decon and Decon protocol spaces. While this is not a large area, it is an important area when considering the process of event decontamination and the protocol associated with such activities.

## Living Quarters

As the title suggest, this area includes all of the spaces that facilitate and support personnel "living" in the station. Kitchen, dining, dayroom, bunkrooms, etc. are all part of the spaces needed for this portion of the building.

## Site

All site and site related areas are represented in this section. Visitor parking, crew parking, apparatus aprons and drives, trash enclosure and similar site elements are included in this section.

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<sup>2</sup> Osage Beach FPD, Fire Station 1 Space Needs

# PRELIMINARY FLOOR PLAN DESIGN<sup>3</sup>

## Overview

While the Space Needs document provides for a detailed listing of all of the needed spaces for Station 1, it does not provide a recommendation as to the layout and configuration of the spaces. The preliminary floor plan provides the arrangement of the spaces identified in the Space Needs document and also provides for the functional layout of all the needed spaces.

## Floor Plan

The preliminary floor plan includes all of the spaces listed in the Space Needs spreadsheets. The floor plan provides a recommended layout for all of the listed spaces that are representative of the area required for each space as well as the overall geometry of the plan. While this plan is very representative of the space needs, it is very preliminary and graphically to scale to allow for an understanding of the overall footprint/space requirements.

The floor plan is presented in color for ease of understanding the various areas denoted in the Space Needs. The Lobby, Administration & Support services are represented in blue. The Apparatus Bays are represented in red. The Health & Wellness are represented in yellow and the Living Quarters are represented in green. The grey areas are circulation/corridor as well as common use (mechanical, IT, etc.) uses.



Preliminary Floor Plan

<sup>3</sup> Osage Beach FPD, Preliminary Floor Plan



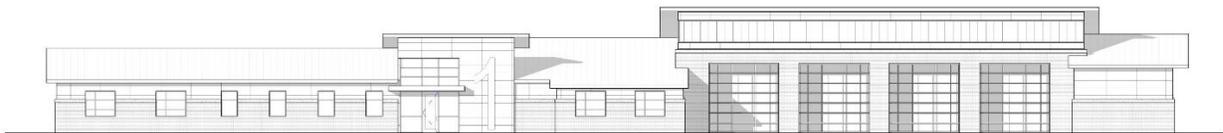
# PRELIMINARY EXTERIOR DESIGN<sup>5</sup>

## Overview

The preliminary exterior design provides an overall look and feel of the station as well as an understanding of the volumetric requirements for each of the spaces included in the floor plan. There are many options to exterior design, but this provides some insight into preliminary design thought.

## Exterior View

The preliminary exterior design depicts the front of the station with the apparatus bays in the foreground and the offices/living quarters to the left. The overall design is based on the use of a Pre-Engineered Metal Building (PEMB) structural frame, wall and roof assembly. The envisioned exterior materials are proposed based on long-term performance, prefinished coatings and durability for low maintenance. Prefinished metal panels, masonry at base of building and fiber cement panels for both aesthetics and station accents. All of the materials are combined for a very striking but long-term performance aesthetic. Such materials will have a durability of 40 years and more without a significant investment of maintenance funds.



FRONT ELEVATION  
02-10

<sup>5</sup> Osage Beach FPD, Preliminary Exterior Design

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## APPENDIX A: TABLE OF REFERENCES

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# Fire Station Assessment; Overview, Short Form, Long Form



### EXISTING FACILITY ASSESSMENT SURVEY

<b>STATION NAME/NO.:</b>	Fire Station #1 (Fire Headquarters)		
<b>STATION ADDRESS/LOCATON:</b>	1170 Bluff Drive, Osage Beach, MO 65065		
			
<p>The station has been in service for 35 years and has undergone several renovation and expansion projects. Current code required life safety provisions are missing. Provisions for fire fighter health and wellness have not kept pace with industry best practices. Provisions for personnel and facility security is lacking to non-existent. Code requirements for this facility type have changed since the original construction making the existing conditions generally non-compliant.</p>			
<b>STRUCTURE</b>			
Date of Construction	1986		
Date(s) of Renovation/Expansion	1998 (classroom), 2007 (upstairs offices), 2012 (deck & kitchen)		
Building Age	35		
Building Area (SF):	~10,300		
Maximum Station Staffing Capability	4 Fire Personnel, 6 Administrative Personnel		
Seismic Protection (if required)	Non-Compliant		
Category IV Conformance (if required)	Non-Compliant		
ICC 500 Conformance (if applicable)	Non-Compliant		
Hardened Space / Storm Shelter	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	
Special Considerations	Overall, fair to poor condition		
<b>HEALTH / WELLNESS &amp; SAFETY / SECURITY</b>			
Sprinklers / Smoke Detection	<input type="checkbox"/> N	<input type="checkbox"/> Sprinklers	<input type="checkbox"/> N <input type="checkbox"/> Smoke Detection
<b>BUILDING ASSESSMENT</b>			
Special Considerations	Overall, fair to poor condition		
<b>MEP ASSESSMENT</b>			
Special Considerations	Overall, fair to poor condition		
<b>SITE ASSESSMENT</b>			
Site Risks/Other Observations	Overall, good to fair; no drive-thru bays		
<b>INTERIOR ACCESSIBILITY / ADA</b>			
Special Considerations	Overall, fair condition		

Exceptional-New/Well Maintained; Good-Some Repair; Fair-Repair/Replace; Poor-Replace

### EXISTING FACILITY ASSESSMENT SURVEY

<b>STATION NAME/NO.:</b>	Fire Station #1 (Fire Headquarters)			
<b>STATION ADDRESS/LOCATON:</b>	1170 Bluff Drive, Osage Beach, MO 65065			
				
<p>The station has been in service for 35 years and has undergone several renovation and expansion projects. Life safety provisions are visibly missing. Provisions for fire fighter health and wellness have not kept pace with industry best practices. Provisions for personnel and facility security is lacking to non-existent. Code requirements for this facility type have changed since the original construction making the existing conditions generally non-compliant.</p>				
<b>STRUCTURE</b>				
Date of Construction	1986			
Date(s) of Renovation/Expansion	1998 (classroom), 2007 (upstairs offices), 2012 (deck & kitchen)			
Building Age	35			
Construction Type	IV-B			
Building Construction	CMU Masonry, Wood Trusses, Wood-Stud Walls, Masonry Veneer			
Building Area (SF):	~10,300			
Number of Stories:	Two - Living Quarters upstairs/Apparatus Bays-Offices downstairs			
Site Area (SF & Acres):	SF: ~130,000+	Acres: ~3.1+		
Maximum Station Staffing Capability	4 Fire Personnel, 6 Administrative Personnel			
Seismic Protection (if required)	Non-Compliant			
Category IV Conformance (if required)	Non-Compliant			
ICC 500 Conformance (if applicable)	Non-Compliant			
Hardened Space / Storm Shelter	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No		
Generator	<input checked="" type="checkbox"/> Yes	<input type="checkbox"/> No		
Auxiliary Power	<input type="checkbox"/> Full Facility	<input checked="" type="checkbox"/> Partial Fac.	<input type="checkbox"/> NG	Fuel Source
General Condition	Fair			
Generator Enclosure (storm rated?)	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	Hurricane Shutters	
Special Considerations	Overall, fair to poor condition			
<b>HEALTH / WELLNESS &amp; SAFETY / SECURITY</b>				
Sprinklers / Smoke Detection	<input type="checkbox"/> N	<input type="checkbox"/> Sprinklers	<input type="checkbox"/> N	<input type="checkbox"/> Smoke Detection
Decontamination / Biohazard Disposal	<input type="checkbox"/> Yes	<input checked="" type="checkbox"/> No	<input type="checkbox"/> N/A	
Haz. Bldg Materials (lead/asbestos/etc.)	Unknown			
Entry Flooring/Trip Hazards	N			
Night Lights to Apparatus Bays	<input type="checkbox"/> Yes	<input type="checkbox"/> No	<input type="checkbox"/> N/A	

Decon Type	Sink Compartment					
Gear Wash	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	N/A
Extractor	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	N/A
Gear Dry & Type	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	N/A
Ice Maker Location	Apparatus Bays					
Gear Storage	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	N/A
Gear Storage Location	Apparatus Bays					
Gear Lockers No.	12					
SCBA	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	N/A
Apparatus Exhaust System	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	<input type="checkbox"/>	N/A
HVLS Ceiling Fans	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	N/A
Apparatus Exhaust System Type	Filtration					
Mechanical System Type/Age	Split Systems					
Natural Light in Spaces	Y					
Security	<input checked="" type="checkbox"/>	Access Cntrl	<input type="checkbox"/>	Fencing	<input type="checkbox"/>	Video Surveillance
Other Security Measures	None					
Fire Extinguishers	Y					
Special Considerations	Overall, fair to poor condition					
<b>ASSIGNED APPARATUS / VEHICLES</b>						
<b>Apparatus</b>	<b>Assigned Staffing</b>		<b>Comments</b>			
Rapid Response Unit #: ALS-11	2					
Truck #: E-11	5					
Other Vehicles #: L-11, B-11, ET-11	CS					
<i>*If an apparatus is cross-staffed, enter "CS" after the minimum staffing number.</i>						
<b>BUILDING ASSESSMENT</b>						
Building Envelope / Exterior Finishes	CMU, Brick Masonry Veneer, Siding					
Window Material	Alum.					
Roof Construction	Steep Slope, Shingles					
Exterior Doors	Alum., Hollow Metal					
Emergency Operations Center (EOC)	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	N/A
Elevator(s) (quantity/type)	N					
Rated Bunk Walls	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	N/A
Bunk Space	<input type="checkbox"/>	Individual	<input checked="" type="checkbox"/>	Dormitory		
Number of Beds	12, Cold-Bunk Condition					
Bunk Lockers/Storage (location/type/number)	Y, Bunkroom					
Bunk Accessories (desk, tv, etc.)	Night Stands					
Personal Laundry (Washer/Dryer)	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		
Shower Facilities	<input checked="" type="checkbox"/>	Individual Rooms	<input type="checkbox"/>	Dormitory Style		

No. of Showers	<input type="checkbox"/>	Men's	<input type="checkbox"/>	Women's	2	Unisex
No. of Toilets	<input type="checkbox"/>	Men's	<input type="checkbox"/>	Women's	2	Unisex
Lavatory Style (for personnel)	<input type="checkbox"/>	Wall Hung	<input checked="" type="checkbox"/>	Vanity		
Exercise/Fitness Facilities	0 SF					
Kitchen/Dining	300 SF					
Kitchen Appliances	Range, Oven, Hood, Refrigerators					
Kitchen Refrigerators/Pantries	3 Refrig./3 Pantries					
Access to Outdoor Patio	Y					
Private vs. Public Space Separation	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		
Office Space	Watch Offices (300 SF), District Admin. Offices (1,600 SF)					
Personal Study Space	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No		N/A
Training/Meeting Rooms	Training-900 SF					
Adequate Waiting Area	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		N/A
Adequate Office Storage	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No		N/A
Adequate Living Storage	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No		N/A
Adequate Apparatus Storage	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No		N/A
Apparatus Bays (include #)	<input type="checkbox"/>	Drive-through Bays			5	Back-in Bays
Apparatus Bay - Overhead Door Size(s)	12x14					
Sill Condition at Apparatus Bay Doors	Flat					
Overhead Door Operator	<input checked="" type="checkbox"/>	Trolley	<input type="checkbox"/>	Jack-Shaft	<input type="checkbox"/>	Bi-Fold
Overhead Door Safety Features	Infrared Eyes					
Apparatus Bay Drains	Cross Floor Drains					
Apparatus Clearance (front/back)	58'					
Apparatus Bay Width	14'-8"					
Apparatus Bay Floor (condition/slope)	Concrete, sloped					
Work Shop	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		N/A
Hose Storage	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		N/A
Hose Wash	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No		N/A
Special Considerations	Overall, fair to poor condition					
<b>MEP ASSESSMENT</b>						
Plumbing Assessment	No emergency eye wash, flush tank fixtures					
HVAC Assessment	Split-Systems, Limited FA, Standalone T-Stat controls, No Type I hood					
Electrical Assessment	Aging electrical service, service panels nearing end of useful life					
Special Systems Assessment	Limited special systems					
Building Risks/Site Risks	No Fire Protection, Limited Detection, No Hood w/Fire Suppression					
Special Considerations	Overall, fair to poor condition					

SITE ASSESSMENT						
Topography	Generally slopes high to low from west to east					
Landscaping Quality	Fair					
Site Lighting	Limited					
Storm Water Drainage	Trench drains added to front of bays					
Downspouts Below Grade	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	N/A
Sustainability	Limited					
Paving & Concrete	Apron: Concrete aprons, relatively new					
	Curbs: None					
	Joints: Good condition					
	Other:					
Parking Counts	8	Staff	13	Visitor	1	ADA
Other Parking (count/type)	None					
Sidewalk (ROW connect, condition, accessibility)	No dedicated walk					
Front Door Visible	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		
Private vs. Public Space Separation	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		
Street Access Vertical Elevation	Generally the same					
Line of Sight	South-bound traffic has limited sight distance					
Front Apron Length	60' +					
Rear Apron Length (if applicable)	NA					
Apparatus Maneuvering Clearance	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		
Access & Egress To/From Site - Apparatus	Back-in apparatus design					
Access & Egress To/From Site - Staff	Generally good					
Access & Egress To/From Site - Visitors	Visitor parking is good					
Bollards (OH Doors, Other)	Yes					
Flagpole	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	2	How Many?
Fill Hydrant	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		
Hydrant Locations	Unknown					
Other Site Structures (type/function)	Communications tower at rear of site					
Training Tower / Other	NA					
Outdoor Patio	Yes					
Outdoor Fitness	No					
Special Considerations	Overall, good to fair; no drive-thru bays					

INTERIOR ACCESSIBILITY / ADA						
Int/Ext. Doors (access clearance / threshold)	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		
Doors (handles/opening pressure)	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		
Water Fountain (height/accessibility)	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		

Signage ( <i>height / braille</i> )	X	Yes		No
Floor Transitions ( <i>interior/exterior</i> )	X	Yes		No
Floor Slopes ( <i>interior ramps, etc.</i> )	X	Yes		No
<b>PUBLIC ACCESSIBLE AREAS</b>				
Sinks ( <i>height, pipe wrap</i> )	X	Yes		No
Dispensers/Accessory ( <i>mounting height</i> )		Yes	X	No
Countertops ( <i>heights</i> )		Yes	X	No
Grab Bars	X	Yes		No
Protruding Objects-Accessible Route(s)		Yes	X	No
Public Access Rooms ( <i>toilets/training/etc.</i> )	X	Yes		No
<b>EXTERIOR ACCESSIBILITY / ADA</b>				
ADA Parking Striping/Signage	X	Yes		No
Access between ADA Parking & Building	X	Yes		No
Other Access to Building		Yes	X	No
Slopes of Accessible Access Pathways	X	Yes		No
Special Considerations	Overall, fair condition			

<b>WSKF CONDITION RATINGS &amp; DEFINITIONS</b>	
<b>Exceptional</b>	New or well-maintained condition, little to no visual evidence of wear and tear, damage, or other deficiencies.
<b>Good</b>	Some wear and tear, damage, or other deficiencies are visible but still in a functioning and acceptable condition.
<b>Fair</b>	Subjected to some hard and/or long-term wear and tear or damage, nearing the end of its useful life and should be monitored for additional deterioration
<b>Poor</b>	At the end of its useful or serviceable life due to age and condition, replacement should be considered imminent

SITE ASSESSMENT						
Topography	Generally slopes high to low from west to east					
Landscaping Quality	Fair					
Site Lighting	Limited					
Storm Water Drainage	Trench drains added to front of bays					
Downspouts Below Grade	<input type="checkbox"/>	Yes	<input checked="" type="checkbox"/>	No	<input type="checkbox"/>	N/A
Sustainability	Limited					
Paving & Concrete	Apron: Concrete aprons, relatively new					
	Curbs: None					
	Joints: Good condition					
	Other:					
Parking Counts	8	Staff	13	Visitor	1	ADA
Other Parking (count/type)	None					
Sidewalk (ROW connect, condition, accessibility)	No dedicated walk					
Front Door Visible	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		
Private vs. Public Space Separation	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		
Street Access Vertical Elevation	Generally the same					
Line of Sight	South-bound traffic has limited sight distance					
Front Apron Length	60' +					
Rear Apron Length (if applicable)	NA					
Apparatus Maneuvering Clearance	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		
Access & Egress To/From Site - Apparatus	Back-in apparatus design					
Access & Egress To/From Site - Staff	Generally good					
Access & Egress To/From Site - Visitors	Visitor parking is good					
Bollards (OH Doors, Other)	Yes					
Flagpole	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No	2	How Many?
Fill Hydrant	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		
Hydrant Locations	Unknown					
Other Site Structures (type/function)	Communications tower at rear of site					
Training Tower / Other	NA					
Outdoor Patio	Yes					
Outdoor Fitness	No					
Special Considerations	Overall, good to fair; no drive-thru bays					

INTERIOR ACCESSIBILITY / ADA						
Int/Ext. Doors (access clearance / threshold)	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		
Doors (handles/opening pressure)	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		
Water Fountain (height/accessibility)	<input checked="" type="checkbox"/>	Yes	<input type="checkbox"/>	No		

Signage ( <i>height / braille</i> )	X	Yes		No
Floor Transitions ( <i>interior/exterior</i> )	X	Yes		No
Floor Slopes ( <i>interior ramps, etc.</i> )	X	Yes		No
<b>PUBLIC ACCESSIBLE AREAS</b>				
Sinks ( <i>height, pipe wrap</i> )	X	Yes		No
Dispensers/Accessory ( <i>mounting height</i> )		Yes	X	No
Countertops ( <i>heights</i> )		Yes	X	No
Grab Bars	X	Yes		No
Protruding Objects-Accessible Route(s)		Yes	X	No
Public Access Rooms ( <i>toilets/training/etc.</i> )	X	Yes		No
<b>EXTERIOR ACCESSIBILITY / ADA</b>				
ADA Parking Striping/Signage	X	Yes		No
Access between ADA Parking & Building	X	Yes		No
Other Access to Building		Yes	X	No
Slopes of Accessible Access Pathways	X	Yes		No
Special Considerations	Overall, fair condition			

<b>WSKF CONDITION RATINGS &amp; DEFINITIONS</b>	
<b>Exceptional</b>	New or well-maintained condition, little to no visual evidence of wear and tear, damage, or other deficiencies.
<b>Good</b>	Some wear and tear, damage, or other deficiencies are visible but still in a functioning and acceptable condition.
<b>Fair</b>	Subjected to some hard and/or long-term wear and tear or damage, nearing the end of its useful life and should be monitored for additional deterioration
<b>Poor</b>	At the end of its useful or serviceable life due to age and condition, replacement should be considered imminent

# Osage Beach FPD, Fire Station 1 Space Needs

**Osage Beach FPD - Space Needs**  
**Station 1**  
Osage Beach, MO

June 11, 2021

<b>A. LOBBY, ADMINISTRATION &amp; SUPPORT SERVICES</b>						
<b>RM. NO.</b>	<b>ROOM NAME</b>	<b>DESIGN REQUIREMENTS</b>	<b>RM. SIZE (L)</b>	<b>RM. SIZE (W)</b>	<b>PROPOSED AREA</b>	<b>NOTES</b>
A-1	Vestibule	security needs, 2 front office people may be at the station alone	8	10	80	
A-2	Lobby	display capability	12	12	144	
A-3	Public Toilet	off lobby	7	8	56	
A-4	Reception	glass separation between visitors and reception, bullet-resistant glass, three workstations	15	24	360	
A-5	Mail/Copy Room	both admin and staff use this room	10	14	140	
A-6	Fire Chief Office	5 person table	15	16	240	
A-7	Assistant Chief Office		13	16	208	
A-8	Fire Marshal	storage for plans / lay out space	12	16	192	
A-9	Fire Inspector		11	16	176	
A-10	Fire Inspector		11	16	176	
A-11	EMS Chief		12	16	192	
A-12	Breakroom	kitchenette space, prefer dual use	16	18.5	296	
A-13	Captain's Office		10	12	120	
A-14	Future Officer's Office	same size as the Captain's Office	10	12	120	
A-15	Shift / Watch Office	reports, online training, work area, 4 computers, ems included in this office as well	10	18	180	
A-16	Training / Board Room	min. 50 occupancy - tables and chairs, multi-use room, AV, zoom conferencing, two projection screens, provide some layouts w/ tables and chairs + side chairs off to one side, may be nice to sell that it is a community room, outside access needed, coffee maker w/ water line, could share kitchenette with staff breakroom or could be a counterspace, setup for board room (3 members now but could add 2 - space), no conference room needed	38	43	1634	
A-17	Training Storage	Storage for tables and chairs	7	8	56	
A-18	Training General Storage		8	10	80	
A-19	Women's Restroom	for training room and offices	9	18	162	
A-20	Men's Restroom	for training room and offices	9	18	162	
A-21	Office Storage		8	10	80	
A-22	General Storage		8	10	80	
A-23	Water Service		8	8	64	
A-24	Electrical		8	10	80	
A-25	Mechanical		10	14	140	
A-26	Bunker Gear	extra gear storage	8	10	80	

**Osage Beach FPD - Space Needs**  
**Station 1**  
*Osage Beach, MO*

June 11, 2021

A-27	Uniform Storage		6	8	48	
A-28	Janitor - Office Area	cleaning supplies	5	7	35	
A-29	Janitor - Living Quarters		5	7	35	
A-30	Technology	server cabinet, radio equipment	8	8	64	
A-31						
<b>Lobby, Admin, &amp; Support Subtotal</b>					<b>5,480</b>	
<b>Grossing Factor (33%)</b>					<b>1,808</b>	
<b>Lobby, Admin, &amp; Support Total</b>					<b>7,288</b>	

<b>B. APPARATUS BAYS</b>						
RM. NO.	ROOM NAME	DESIGN REQUIREMENTS	RM. SIZE (L)	RM. SIZE (W)	PROPOSED AREA	NOTES
B-1	Bays	4 double deep bays, 2 drive-thru, want more wall space so 2 are back-in (may change, could be just one), 14x14 glass sectional doors, 18' wide bays, water between bays and shoreline power to each bay, waterproofing on the walls - epoxy paint to 10', densifier and coating to repel grease and oil on floor, slip resistance is important, HVLS fans, do not need security screen doors, security noise when people walk through/into the bays (motion detection), filtration issues (air hog, loud), like direct capture, whole bay exhausting - manual and automatic (sensor checked annually), heated 6' apron, maybe heat entrance path to admin/entry	78	80	6,240	
B-2	Gear Storage / Storm Shelter	24 @ 2 sets of gear (coat and pants), gear grid, wall mounted, 20" clearance below	13	24	312	
B-3	Gear Wash	extractor, laundry washer/dryer stacked unit, drying cabinet (dries gear and hose)	9	13	117	combined with Decon/Janitor Alcove (sf listed is correct)
B-4	Hose/Rack Storage	3 racks 6' W x 18" D x 6' H	9	10	90	
B-5	Workshop	large bench w/ light, air, power, repair blowers, chain saws, small engines, fuel cabinet, along back wall, not a separate room	7	12	84	
B-6	Decon / Janitor Alcove	laundry/utility sink, stainless steel sink w/ side boards, on-site gross Decon, eye wash station, wash down area, backboard wash area, mop sink	8	10	80	combined with Gear Wash (sf listed is correct)
B-7	Medical Supplies	conditioned space, sink, locked	10	16	160	
B-8	SCBA & Cascade Bottle Storage	need ventilation - current station has issues, air compressor - lines run throughout, don't fill bottles here now 3M tanks and cascade and two spares on the back wall, someone delivers them, space cascade to store tanks, service people can come in the bay, two components total 6' W x 5' D Requires two 60 amp circuits	11	12	132	
B-10	General Storage	salt rock for winter, DEF - 30 gallon drums, etc.	8	8	64	
<b>Apparatus Bay Subtotal</b>					<b>7,279</b>	
<b>Grossing Factor (15%)</b>					<b>1,092</b>	
<b>Apparatus Bays Total</b>					<b>8,371</b>	

**Osage Beach FPD - Space Needs**  
**Station 1**  
Osage Beach, MO

June 11, 2021

Equipment List						
APPARATUS	L	W	H	TURNING RADIUS		
E1 Brush Truck	250"	92"	146"	O/O:	C/C:	
E2 Ladder Truck	438"	100"	146"	O/O:	C/C:	
E3 Engine	416"	100"	125"	O/O:	C/C:	
E4 Tanker	300"	100"	146"	O/O:	C/C:	
E5 EMS	266"	80"	82"	O/O:	C/C:	
E6	<i>Height of Cab Tipped: 15'-6"</i>			O/O:	C/C:	
E7				O/O:	C/C:	

C. HEALTH & WELLNESS						
RM. NO.	ROOM NAME	DESIGN REQUIREMENTS	RM. SIZE (L)	RM. SIZE (W)	PROPOSED AREA	NOTES
C-1	Personnel Laundry	Washer/Dryer for personnel clothing after event	7.5	13.5	101	
C-2	Detox/Heated Exercise				0	
C-3	Fitness	5-6 working out at one time	26	35	910	
C-4	Lockers	through-wall cubbies for a change of clothes (24 cubbies, 6 wide, 4 tall)			0	
C-5	Shower/Toilet	one shower			0	
C-6					0	
<b>Health &amp; Wellness Subtotal</b>					<b>1,011</b>	
<b>Grossing Factor (33%)</b>					<b>334</b>	
<b>Health &amp; Wellness Total</b>					<b>1,345</b>	

D. LIVING QUARTERS						
RM. NO.	ROOM NAME	DESIGN REQUIREMENTS	RM. SIZE (L)	RM. SIZE (W)	PROPOSED AREA	NOTES
D-1	Kitchen	three closet pantries, three refrigerators with ice makers, no dishwasher, coffee maker w/ water line, no recycling, type 1 commercial hood Refrigerators are Whirlpool Gold series - 35 5/8" W x 70 1/8" H x 35 1/2" D Stove is a KitchenAid - six burner, gas - 35 7/8" W x 36" H x 31 1/4" D	15	21	315	
D-2	Dining	dining for 8 minimum	14	21	294	
D-3	Day Room	8 loungers, tiered flooring is okay, floor outlets next to chairs, wall mount smart tv (large), display for training (flash drive, mobile device) Height: 46", Width (Seat): 23.5", Depth (Seat): 22", Length (Recline): 71" Height (Base): 25", Width (Total): 36.5, Depth (Arm): 6", Length (Non-Recline): 37" Weight: 115 lbs. Packaged Dims: 37.5" x 31" x 34.5"	18.5	21.5	398	
D-4	Unisex Restroom		7	8	56	

**Osage Beach FPD - Space Needs**  
**Station 1**  
Osage Beach, MO

June 11, 2021

D-6	Bunk Room 1	minimum of five on duty each day but seven assigned here, sleeping quarters for eight people, cold bunk vs. hot bunk design - prefer cold bunk, lockers in the bunk rooms, thru-wall locker w/ corridor - Berardi (never mind), ff prefer dormitory style bunk room, partition walls between bunks, provide different bunk layout options for review, captain sleeps in dormitory too, twin xl, 8 on shift max so 24 beds total, operable windows, ceiling fans, reading lights, night stand, R-2 occupancy, sprinkle entire building so no need to separate building	10	13.5	135
D-7	Bunk Room 2		10	13.5	135
D-8	Bunk Room 3		10	13.5	135
D-9	Bunk Room 4		10	13.5	135
D-10	Bunk Room 5		10	13.5	135
D-11	Bunk Room 6		10	13.5	135
D-12	Bunk Room 7		10	13.5	135
D-13	Bunk Room 8		10	13.5	135
D-14	Unisex Shower/Toilet 1		7	11	77
D-15	Unisex Shower/Toilet 2		7	11	77
D-16	Unisex Shower/Toilet 3		7	11	77
D-17	Unisex Shower/Toilet 4		7	11	77
D-18	Study/Training Space		8	8	64
D-19	Personnel Laundry	7.5	13.5	101	
D-20					
<b>Living Quarters Subtotal</b>					<b>2,616</b>
<b>Grossing Factor (33%)</b>					<b>863</b>
<b>Living Quarters Total</b>					<b>3,479</b>

<b>E. SITE</b>						
<b>RM. NO.</b>	<b>ROOM NAME</b>	<b>DESIGN REQUIREMENTS</b>	<b>RM. SIZE (L)</b>	<b>RM. SIZE (W)</b>	<b>PROPOSED AREA</b>	<b>NOTES</b>
E-1	Firefighter Parking	16 spaces - firefighters, 7 spaces with carport - 3 additional uncovered for admin, minimum to meet code/design - talk with city	64	80	5120	
E-2	Covered Admin. Parking	7 admin spaces with carports	44	70	3080	
E-3	Uncovered Admin. Parking	3 uncovered admin spaces	30	20	600	
E-3	Visitor Parking	3 spaces	30	20	600	
E-4	Apparatus Bay Aprons				0	
E-5	FF Outdoor Patio	natural gas grill and electric smoker, outdoor activity that is no visible to the public	14	20	280	
E-6	Admin. Outdoor Patio	for administration area, off breakroom	14	20	280	
E-7	Emergency Generator	propane (or natural gas if available), visual screen would be nice			0	
E-8	Site Drives/Paving				0	
E-9	Lawn/Green Space				0	
E-10	Outdoor Storage	mowers, fuel, etc.	10	10	100	
E-11	Trash Enclosure	dumpster - same size that they have currently			0	
E-12	Fuel Tank	diesel fuel, visual screen, 660 gallons			0	

**Osage Beach FPD - Space Needs**  
**Station 1**  
*Osage Beach, MO*

June 11, 2021

E-13	Monument Sign	pin mounted letters	0
E-14	Flagpole(s)	memorial, take it to the new station, 2 flagpoles (American and state)	0
E-15			0
		<b>Site Subtotal</b>	<b>10,060</b>
		<b>Grossing Factor (50%)</b>	<b>5,030</b>
		<b>Site Total</b>	<b>15,090</b>

<b>DESIGN / SPACE NEEDS SUMMARY</b>	
<b>A. LOBBY, ADMINISTRATION &amp; SUPPORT SERVICES</b>	<b>7,288</b>
<b>B. APPARATUS BAYS</b>	<b>8,371</b>
<b>C. HEALTH &amp; WELLNESS</b>	<b>1,345</b>
<b>D. LIVING QUARTERS</b>	<b>3,479</b>
	<b>Building Total 20,483</b>
<b>E. SITE</b>	<b>15,090</b>
	<b>Building/Site Total* 35,573</b>

\* Excludes required setbacks, landscaping, drives and open space

# Osage Beach FPD, Preliminary Floor Plan



# Osage Beach FPD, Prototype Site Plan

(Not the actual or final site)



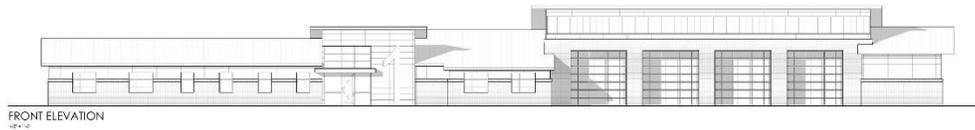
OSAGE BEACH FIRE PROTECTION DISTRICT - SITE PLAN

07 / 15 / 2021



# Osage Beach FPD, Preliminary Exterior Design

(Not final)



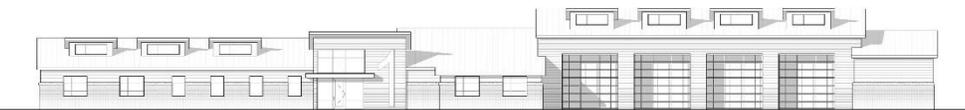
FRONT ELEVATION  
10-11

OPTION #1



OSAGE BEACH FIRE PROTECTION DISTRICT

08 / 13 / 2021



FRONT ELEVATION  
10-12

OPTION #2



OSAGE BEACH FIRE PROTECTION DISTRICT

08 / 13 / 2021

# Osage Beach FPD, Statement of Probable Cost

## Osage Beach FPD - Station 1 Master Budget

July 23, 2021

### Prelim. Project Cost Summary

The following is a summary of project related costs for the proposed Osage Beach Fire Protection District, Station 1; 21,088 SF, fire facilities. This is a working summary with other project costs to be added as such becomes available or needed.

Item	Cost	Description
1 Land Purchase	\$ -	TBD
2 FF&E	\$ 342,500	refer to WSKF estimate
3 Survey	\$ 5,500	WSKF estimate
4 Geotechnical Investigation	\$ 10,000	WSKF estimate
5 Building Cost Estimate	\$ 6,853,600	WSKF estimate
6 Site Development Cost Est.	\$ 2,108,800	WSKF estimate
7 Building Permit	\$ 20,027	WSKF estimate based on OSB Fee Schedule
8 Site Development Fee	\$ 42,176.00	assume not req'd
9 Zoning Fees	\$ -	assume not req'd
10 Special Inspections	\$ 15,000	WSKF estimate
11 Preliminary Development Fee	\$ -	assume not req'd
12 Final Development Fee	\$ -	assume not req'd
13 Special Use Permit	\$ -	assume not req'd
14 Legal Notice Publication	\$ 250	WSKF estimate
15 Sign Permit	\$ 10	WSKF estimate based on OSB Fee Schedule
16 Water Impact Charge	\$ 143,750	WSKF estimate based on OSB Fee Schedule
17 Water Meter Fees	\$ 750	WSKF estimate based on OSB Fee Schedule
18 Sewer Development Charge	\$ 142,000	WSKF estimate based on OSB Fee Schedule
19 Sewer Capacity Charge	\$ 43,000	WSKF estimate based on OSB Fee Schedule
20 CoE Permitting	\$ -	assume not req'd
21 DNR Fees	\$ -	assume not req'd
22 County Collections	\$ -	assume not req'd
23 City Staff	\$ -	assume not req'd
24 ITS Personnel Costs	\$ -	assume not req'd
25 Computers	\$ -	included in WSKF FF&E cost estimate
26 Monitors	\$ -	included in WSKF FF&E cost estimate
27 Communication Systems	\$ -	TBD
28 Phones	\$ -	TBD
29 Fitness Equipment	\$ -	included in WSKF FF&E cost estimate
30 Fiber Extension	\$ -	included in item 6 IF service is nearby
31 Gas Extension	\$ -	included in item 6 IF service is nearby
32 Electrical Service Extension	\$ -	included in item 6 IF service is nearby
33 Design Fees	\$ 896,240	10% of Bldg. + Site Cost (allowance, final cost likely lower)
<b>Total</b>	<b>\$ 10,623,603</b>	