



Development Services Application Contents

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Wing Narrative Letter

Lewisville Planning Department
Attn: Alternative Standard Committee
151 W Church Street
Lewisville, TX 75057

January 21, 2025

RE: Application Narrative Letter

Dear Overlay Board:

Please accept Wing Aviation LLC (Wing)’s application to the Alternative Standard Committee (ARC) as we work with Walmart to continue to provide on-demand drone delivery to Lewisville residents from the Walmart Superstore located at 801 W. Main Street. This location falls within the IH-35E Corridor Overlay District. Residents within a 6-mile radius from the store’s location may be eligible for service. Following feedback from your committee, Wing is requesting several alternative standards that align with our requests last year, while also proposing improvements to the site to better align with the intent of the code. Wing is requesting the following alternative standards:

- Outdoor Storage Standard:
 - To allow outside storage located in the front of the principal building.

In addition to requesting the same alternative standards as the previous year, Wing is proposing the following updates to better align with the intent of the code:

- Adding stone veneer to the existing kiosk, which will allow the storage structure to better align with the standards of the IH-35E Corridor Overlay District. See below for example photos.



wing.com
Wing Aviation LLC

As you know, Wing submitted a request to the ARC last year. Since launching in Lewisville at the Walmart on Main Street - we've received positive feedback from residents and community members. We are working closely with the Lewisville Planning Department on steps towards an ordinance for drone delivery set up in Lewisville. It was recommended to submit an additional request to the ARC to continue operations while the ordinance work is finalized.

Wing offers drone delivery. Our fleet of lightweight, highly automated delivery drones can transport small packages directly from businesses to homes in minutes. Wing delivery is safe, sustainable, and easy to integrate into existing delivery and logistics networks. Wing is part of Google's parent company, Alphabet. We initially brought our drone delivery technology to the Dallas-Fort Worth Metroplex in 2022. Wing and Walmart began working together a year later, launching a 30-minute drone delivery service from a Walmart Supercenter in Frisco, TX in September of 2023. We've steadily expanded to 11 additional stores, as part of [Walmart's initiative](#) to offer drone delivery to up to 75% of the DFW population.

Wing is committed to continuing safe site operations in compliance with the City of Lewisville. We welcome any questions or feedback. Thank you for your time and support.

Sincerely,

A handwritten signature in black ink, appearing to read "Ian Bright".

Ian Bright, Global Site Launch Lead, Wing Aviation LLC



wing.com
Wing Aviation LLC

Property Owner’s Authorization for Development Services Application



Date: October 25th, 2024
TO: Planning Department
City of The Lewisville
151 West Church Street
Lewisville, Texas 75057
RE: **Property Owner’s Authorization for a Request for Development Services Application – Property Located at 801 West Main Street (the “Property”).**

On behalf of Wal-Mart Real Estate Business Trust (“Trust”) (“Walmart”), I hereby authorize Wing, and Kimley-Horn to serve as Walmart’s authorized agents (“Applicant”) for the purpose of seeking all requisite permits and approvals related to a drone delivery operation from the Property.

Applicant’s authorization is expressly limited to signing and delivering applications for permits and approvals that are related to a drone delivery operation on the Property. Further, this authorization does not empower Applicant to either negotiate on Walmart’s behalf or otherwise obligate Walmart in any manner whatsoever, including any attempt to obligate Walmart to pay for or construct improvements to the Property in connection with its drone delivery operation.

This authorization expires one calendar year from the date above unless specified otherwise.

Should you need additional information or have any questions regarding this authorization, please do not hesitate to contact Mark Richards at mark.richardson@walmart.com or 479-371-1001.

Respectfully,

WAL-MART REAL ESTATE BUSINESS TRUST

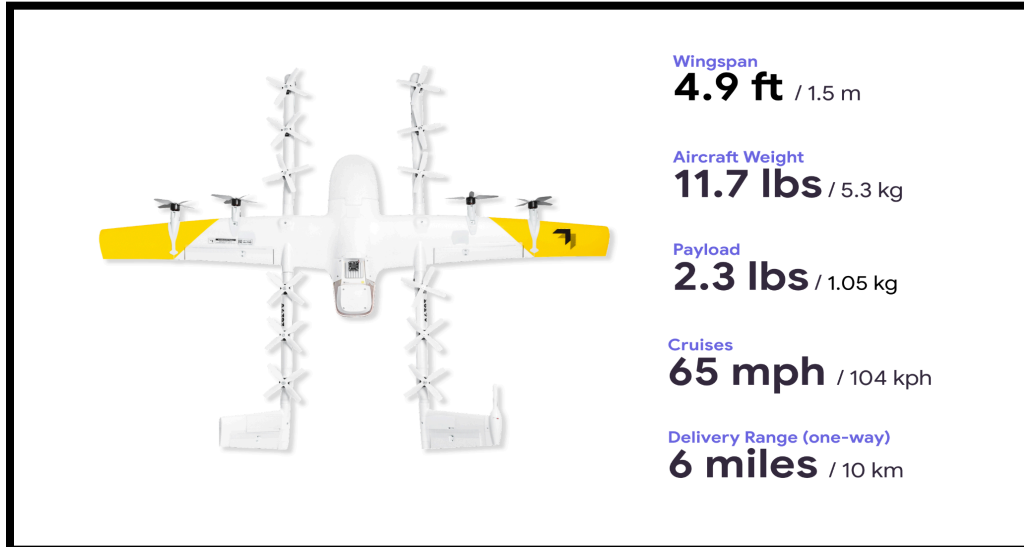
By: 
Name: Mark Richardson
Title: Senior Project Manager

Wing Operations Overview

Our drone delivery service offers Lewisville residents a convenient and safe delivery option.

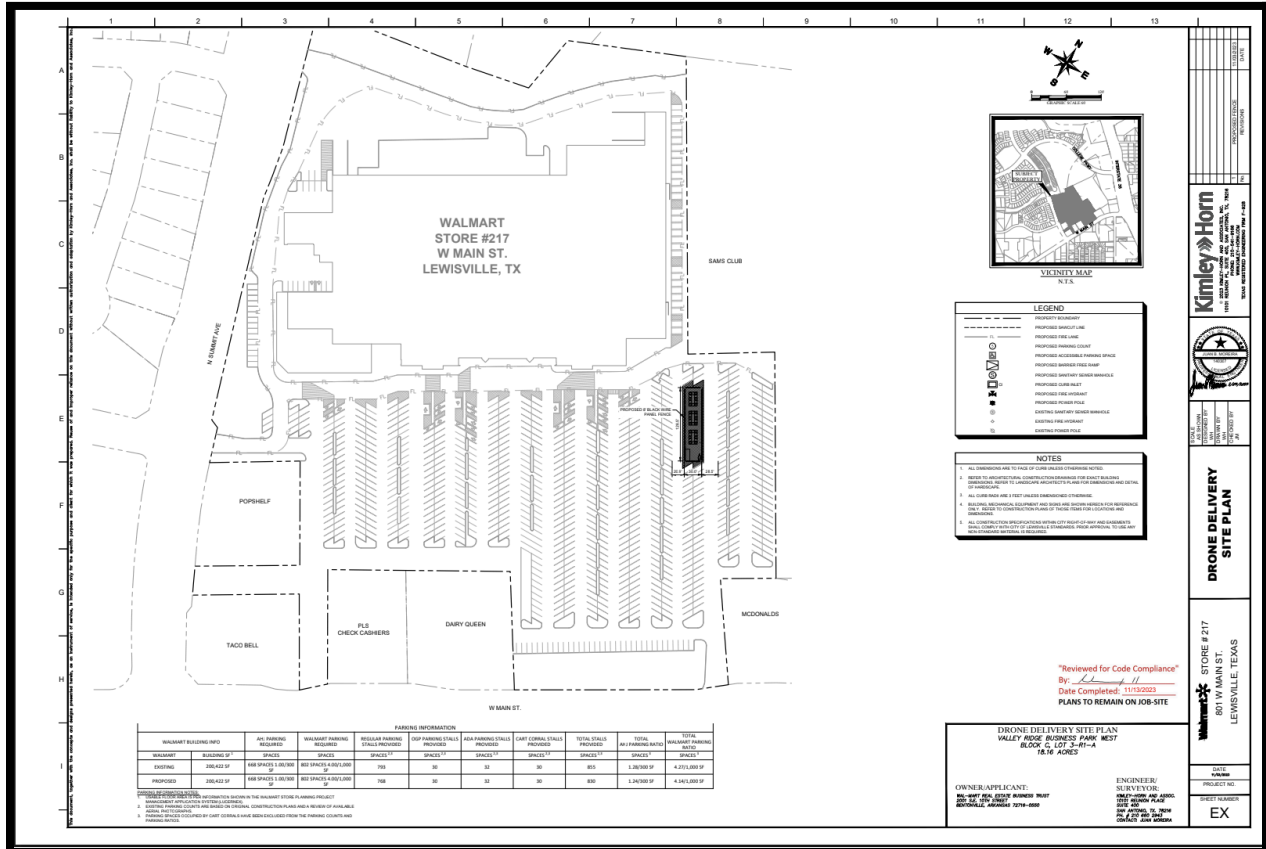
- **Order Process:** During the initial phase of the partnership with Walmart, customers order through the Wing Drone Delivery app. Thousands of items are available via drone delivery, including groceries, snacks and over-the-counter medicines. During checkout, customers select a precise delivery location on their property.

- **Flight Planning:** While team members at the store prepare the items, Wing’s software automatically calculates a route from the store, to the delivery spot, and then back to the store. The flight plan is then uploaded to the drone.
- **Package Pick Up:** Once the loader indicates the package is ready to go, the drone takes off automatically, proceeds to the pick up area, then hovers about 23 feet above the ground. The drone uses a winch to lower a tether, so the package can be hooked on. The winch pulls the package up to the aircraft, and secures it in place.
- **Flight Process:** The drone uses vertical propellers to climb to a cruising height of about 150 feet above the ground, and then transitions to horizontal flight using forward propellers and fixed wings. The drone navigates itself to the delivery spot at speeds of about 65 mph, conducting health checks along the way to make sure everything is operating correctly.
- **Delivery Process:** Once it reaches the delivery spot, the drone slows down, hovers, descends to a delivery height of 23 feet above ground, and then gently lowers the package on the tether. The drone automatically releases the package when it touches the ground, and there’s no need for the customer to unclip or assist with the delivery.
- **Return Flight:** The drone then climbs back to cruise height and returns to the store, where it lands on a charging pad and gets ready for its next mission.



Nest Set-Up and Site Logistics

As part of Wing’s partnership with Walmart, we established our operational site for drone operations known as the nest. The nest location and site set-up follow municipal permitting approvals with oversight from Walmart’s real estate and supply management teams. The site logistics for Wing’s nests are outlined below.



- **Drone Set-Up:**
 - Drones will be staged inside a fenced area in front of the store occupying approximately 28 parking spaces. The set-up still meets municipal requirements (1 sp per 300 sf) with the reduction in parking spaces.
- **Nest Location:**
 - Wing's nest is located adjacent to Walmart's curbside pick-up area, indicated in the site plan above with a yellow rectangle.
- **Nest Generator:**
 - The generator is on a mobile trailer that has wheel chocks when parked in place.
 - The generator is also earth-grounded via copper wire and pole into the ground surface.
- **Nest Lighting:**
 - There is no external lighting of the nest other than what's provided in the Walmart parking lots..
 - The parking lot lighting will not be impacted by the nest.
- **Security Cameras:**
 - There are security cameras attached to the aircraft's storage solution and power run off of the provided generator.

- Walmart parking lots also have security cameras installed that support security and safety at the Wing nest.
- **Service Gate Entrance:**
 - A large service gate is located near the generator for refueling and other operational activities.
 - Personnel gate(s) are typically located as close as practical to the store.
- **Distance to Fire Lane:**
 - The nest is roughly 62 ft. from the fire lane along the front of the store.

Nest Fencing and Storage

- **Nest Fencing:**
 - The galvanized & painted metal fence surrounding the nest is anchored to ground via ground type, specific anchors (concrete / asphalt).
 - The fencing features 10' wide, 2"x 4" grid pattern panels at 8' overall height.
 - All fence components are positioned entirely behind the fire access road striping to ensure the fence does not obstruct the adjacent fire apparatus access road.
 - The positioning of the fence also ensures that the fire access road boundary surface striping remains unobstructed.
- **Nest Storage for Drones - Storage Kiosk:**
 - The generator and aircraft storage are currently deployed to one side of the nest along the fence.
 - The nest includes a single locally built wooden kiosk with shingle or metal roof to match local design standards (standard dimensions of 20' length x 10' width x 11' height), dry bulk-storage type, and passive climate control.
 - Proposed changes to storage kiosk to better align with code:
 - The storage kiosk will be fully covered on 3 sides with stone/brick veneer to meet local standards requiring up to 80% coverage. See image below with stone sample palette:



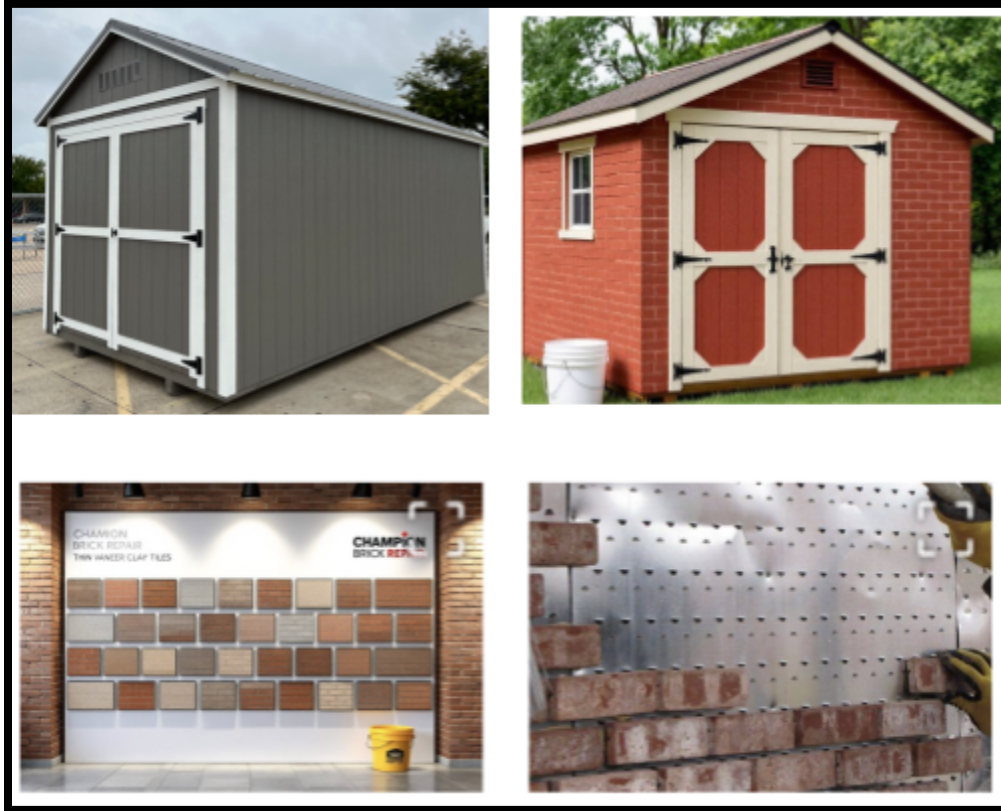


Figure: Standard Kiosk on the left and brick/veneered example upper right.

- The storage kiosk is located inside the nest fence. See example below:

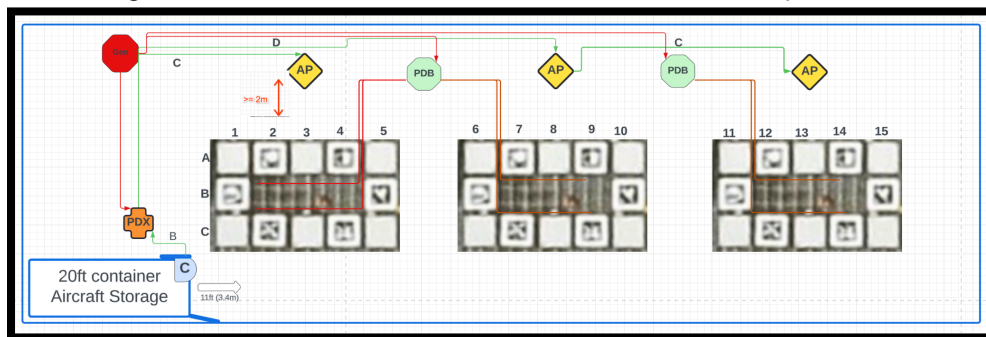




Figure: Example kiosk used at another Wing nest location.



Figure: Fence at Lewisville Nest