

CLAIMS -

What is claimed is:

1. A drone dock and delivery box with an expanding/accordion floor for accepting a group of multiple drone deliveries of a goods/parcel to a person requesting a delivery, the drone dock comprising:

- (a) a structure for expanding the receiving section for containing multiple parcels with a raiseable floor and the structure with a motorized sliding door;
- (b) a means for locating the drone dock with GPS and then for permitting the drone to accurately approach and to dock with the station;
- (c) a means of engaging the drone dock such that a stable connection/attachment can be made;
- (d) a means of transferring each of the goods/parcels from the drone to the interior of the structure of the drone dock;
- (e) a means of preserving the predetermined temperature with a powered hot/cold plate and temperature assist and control unit(160);
- (f) a means for securely storing the goods/parcels once to the interior of the structure of the drone dock;
- (g) a means of disengaging/releasing the drone from the drone dock;
- (h) a means of encrypted communication between the drone and the drone dock which has a specific GPS address and communication to the person requesting the delivery of the goods/parcel;
- (i) a set of functional components incorporated within the box to prevent damage and deterioration during the transfer and or subsequent storage;

(j) a set of optional features;
(k) a set of identification feature;
(l) a set of additional features on the drone; and
(m) a set of local features
wherein the goods/parcel that is delivered to the person requesting can be tracked and delivered and a set of demographics regarding the tracking and delivery can provide data for a marketing study.

2. The drone dock and delivery box with an expanding/accordion floor in claim 1 wherein the means for securely storing the goods/parcels once transferred to the interior of the structure of the drone dock is selected from the group consisting of a keypad for onsite access to the drone dock, a facial recognition camera, and a fingerprint activated release system.

3. The drone dock and delivery box with an expanding/accordion floor in claim 1 wherein the means for locating the drone dock with GPS and then for permitting the drone to accurately approach and to dock with the station is selected from a group consisting of cold beam technology, laser beam, radar, lidar, Quick Response (QR) code tags, and radio frequency identification (RFID).

4. The drone dock and delivery box with an expanding/accordion floor in claim 1 wherein the means of encrypted communication between the drone and the drone dock is selected from the group consisting of Wi-Fi, Bluetooth, hot spot, and satellite systems and wherein the drone dock has

encrypted communication and tracking of a driverless vehicles, a robots, and vendors that interact with the drone dock and wherein the drone dock can track and interface with an aerial drone, a commercial carrier, a driverless car (UAV) and a robot.

5. The drone dock and delivery box with an expanding/accordion floor in claim 1 wherein the functional component to prevent damage and deterioration during the transfer and or subsequent storage is selected from the group consisting of a soft receiving pad, a curved side, a sealed door, a temperature-controlled interior, and a heated sliding door.

6. The drone dock and delivery box with an expanding/accordion floor in claim 1 wherein the optional features are selected from the group consisting of a charging station for drone batteries, an exchange mechanism for a drone battery, a charging station for a cellular telephone, a charging station for an electric scooter, a charging station for an electric bike and a charging station for an electric vehicle.

7. The drone dock and delivery box with an expanding/accordion floor in claim 1 wherein the optional feature is a collector to identify explosive material, biohazards, illegal drugs, and anthrax.

8. The drone dock and delivery box with an expanding/accordion floor in claim 1 wherein the optional

feature is an ultraviolet scan system to eradicate disease, virus and harmful materials.

9. The drone dock and delivery box with an expanding/accordion floor claim 1 wherein the optional feature is an ozone applicator to eradicate disease, virus and harmful materials.

10. The drone dock and delivery box with an expanding/accordion floor in claim 1 wherein the set of identification features are a barcode reader and a Quick Response (QR) reader.

11. The drone dock and delivery box with an expanding/accordion floor in claim 1 wherein the set of identification features include a weight and dimension sensor, barcode reader, and QR reader.

12. The drone dock and delivery box with an expanding/accordion floor in claim 1 wherein the set of identification feature is a tattoo printer for reverse logistics and for return of parcels.

13. The drone dock and delivery box with an expanding/accordion floor in claim 1 wherein an additional feature on the drone dock is a weather monitoring system.

14. The drone dock and delivery box with an expanding/accordion floor in claim 1 wherein an additional

feature on the drone dock is a paint/tag and track component to track vehicles and packages.

15. The drone dock and delivery box with an expanding/accordion floor in claim 1 wherein an additional feature on the drone dock is a camera with facial recognition software to track humans and pets.

16. The drone dock and delivery box with an expanding/accordion floor in claim 1 wherein an additional feature on the drone dock is an encoded chip track to track a lost drone dock receptacle.

17. The drone dock and delivery box with an expanding/accordion floor in claim 1 wherein the local feature is a set of two-way speakers with a dog whistle and wherein the speakers can emit loud sirens to alert emergency vehicles and first responders.

18. The drone dock and delivery box with an expanding/accordion floor in claim 1 wherein the local feature is a set of LED lights that are colored and can strobe flash and wherein the LED lights can alert emergency vehicles and first responders.

19. The drone dock and delivery box for accepting goods/parcels in claim 1 wherein the local feature is a flood light.

20. An inground vault **(150)** for underground homeowner association installation drone dock and delivery box for accepting goods/parcels as drone deliveries to a person requesting the goods/parcels with a multiple set of hot and cold sections comprising:

- (a) a structure for providing a hot and cold section with an interior wherein each of the hot or cold section can move/roll to the side and enable the drone dock **(131)** to separate each good/parcel of a group of multiple goods/parcels with a raiseable floor and to maintain and preserve each of the goods/parcels at a predetermined temperature, and the structure having a motorized sliding door;
- (b) a means for locating the drone dock with GPS and then for permitting the drone to accurately approach and to dock with the station;
- (c) a means of engaging the drone dock such that a stable connection/attachment can be made;
- (d) a means of transferring each of the goods/parcels from the drone to the interior of the structure of the drone dock;
- (e) a means of preserving the predetermined temperature with a powered hot/cold plate and temperature assist and control unit **(160)**;
- (f) a means for securely storing the goods/parcels once transferred to the interior of the structure of the drone dock;
- (g) a means of disengaging/releasing the drone from the drone dock;
- (h) a means of encrypted communication between the drone and the drone dock which has a specific GPS address and

communication to the person requesting the delivery of the goods/parcels;

- (i) a functional component incorporated within the box to prevent damage and deterioration during the transfer and subsequent storage;
- (j) a transport unit to carry and transport the drone dock;
- (j) a set of optional features;
- (k) a set of identification features;
- (l) a set of additional features on the drone dock; and
- (m) a set of local features.

wherein the goods/parcel that is delivered to the person requesting the goods/parcels can be tracked and delivered and a set of demographics regarding the tracking and delivery can provide data for a marketing study.

21. The inground vault drone dock and delivery box for accepting goods/parcels in claim 20 wherein the means for securely storing the goods/parcels once transferred to the interior of the structure of the drone dock is selected from the group consisting of a keypad for onsite access to the drone dock, a facial recognition camera, and a fingerprint activated release system.

22. The inground vault drone dock and delivery box for accepting goods/parcels in claim 20 wherein the mobile drone dock and delivery box for accepting goods/parcels in claim 20 wherein the means for securely storing the goods/parcels once transferred to the interior of the structure of the drone dock is selected from the group consisting of a keypad for onsite

access to the drone dock, a facial recognition camera, and a fingerprint activated release system.

23. The inground vault drone dock and delivery box for accepting goods/parcels in claim 20 wherein the means for locating the drone dock with GPS and then for permitting the drone to accurately approach and to dock with the station is selected from a group consisting of cold beam technology, laser beam, radar, lidar, Quick Response (QR) code tags, and radio frequency identification (RFID).

24. The vault drone dock and delivery box for accepting goods/parcels in claim 20 wherein the means of encrypted communication between the drone and the drone dock is selected from the group consisting of Wi-Fi, Bluetooth, hot spot, and satellite systems and wherein the drone dock has encrypted communication and tracking of a driverless vehicles, a robots, and vendors that interact with the drone dock and wherein the drone dock can track and interface with an aerial drone, a commercial carrier, a driverless car (UAV) and a robot.

25. The inground vault drone dock and delivery box for accepting goods/parcels in claim 20 wherein the functional component to prevent damage and deterioration during the transfer and or subsequent storage is selected from the group consisting of a soft receiving pad, a curved side, a sealed door, a temperature-controlled interior, and a heated sliding door.

26. The inground vault drone dock and delivery box for accepting goods/parcels in claim 20 wherein the optional features are selected from the group consisting of a charging station for drone batteries, an exchange mechanism for a drone battery, a charging station for a cellular telephone, a charging station for an electric scooter, a charging station for an electric bike and a charging station for an electric vehicle.

27. The inground vault drone dock and delivery box for accepting goods/parcels in claim 20 wherein the optional feature is a collector to identify explosive material biohazards, illegal drugs, and anthrax.

28. The inground vault drone dock and delivery box for accepting goods/parcels in claim 20 wherein the optional feature is an ultraviolet scan system to eradicate disease, virus and harmful materials.

29. The inground vault drone dock and delivery box for accepting goods/parcels in claim 20 wherein the optional feature is an ozone applicator to eradicate disease, virus and harmful materials.

30. The inground vault drone dock and delivery box for accepting goods/parcels in claim 20 wherein the set of identification feature is a barcode reader.

31. The vault dock and delivery box for accepting goods/parcels in claim 20 wherein the set of identification feature is a weight and dimension sensor.

32. The inground vault drone dock and delivery box for accepting goods/parcels in claim 20 wherein the set of identification feature is a tattoo printer for reverse logistics and for return of parcels.

33. The inground vault drone dock and delivery box for accepting goods/parcels in claim 20 wherein an additional feature on the drone dock is a weather monitoring system.

34. The inground vault drone dock and delivery box for accepting goods/parcels in claim 20 wherein an additional feature on the drone dock is a tag and track component to track vehicles and packages.

35. The inground vault drone dock and delivery box for accepting goods/parcels in claim 20 wherein an additional feature on the drone dock is a camera with facial recognition software to track humans and pets.

36. The inground vault drone dock and delivery box for accepting goods/parcels in claim 20 wherein an additional feature on the drone dock is an encoded chip track to track a lost drone dock receptacle.

37. The inground vault drone dock and delivery box for accepting goods/parcels in claim 20 wherein the local feature

is a set of two-way speakers with a dog whistle and wherein the speakers can emit loud sirens to alert emergency vehicles and first responders.

38. The inground vault drone dock and delivery box for accepting goods/parcels in claim 20 wherein the local feature is a set of LED lights that are colored and can strobe flash and wherein the LED lights can alert emergency vehicles and first responders.

39. The inground vault drone dock and delivery box for accepting goods/parcels in claim 20 wherein the local feature is a flood light.