1. May 5, 2020 Agenda

   Documents:

   20200505.PDF

1.I. May 5, 2020 Workbook

   Documents:

   05-05-2020 WORKBOOK.PDF
MIDDLETOWN CITY COUNCIL AGENDA
TUESDAY, May 5, 2020

CITY COUNCIL BUSINESS MEETING – 5:30 PM – VIA ZOOM VIDEO CONFERENCING
This Middletown City Council meeting will be hosted on a Zoom video conference in response to the COVID-19 pandemic and the recently signed Ohio House Bill 197 temporarily amending the public meetings law. The meeting agenda will be conducted as normal, and will be streaming live on Facebook (on the City of Middletown’s page) and will be posted to YouTube (on the City of Middletown’s page)

MOMENT OF MEDITATION/PLEDGE OF ALLEGIANCE TO THE FLAG/ROLL CALL

CITIZEN COMMENTS- Citizen comments will be read into the record at the time set in the agenda. Comments can be submitted to Clerk of Council Amy Schenck via email prior to the meeting until 4:30 p.m. Tuesday, May 5, 2020 at amys@cityofmiddletown.org.

COUNCIL COMMENTS

CITY MANAGER REPORTS
Airport Drop Zone Update

CONSENT AGENDA . . Matters listed under the Consent Agenda are considered to be routine and will be enacted by one motion and one vote of consent. There will be no separate discussion of these items. If discussion is desired, that item will be removed and considered separately.
(a) To authorize the City Manager to enter into a contract with A&A Safety, Inc. to proceed with the 2020 Pavement Marking Program in an amount not to exceed $62,721.43.
(b) To authorize the City Manager to enter into a contract with A&A Safety Inc., of Amelia Ohio, for Rehabilitation of Runway Markings in the amount of $33,259.
(c) Proclaim May 4-9, 2020 National Economic Development Week

MOTION AGENDA
(a) To authorize the City Manager to enter into a contract with J.K. Meurer Corp. to proceed with the Transit Lot Paving project in the amount of $139,332.90.

LEGISLATION
1. Resolution No. R2020-11, a resolution to make adjustments to appropriations for current expenses and other expenditures of the City of Middletown, Counties of Butler and Warren, State of Ohio, for the period ending December 31, 2020. (General Fund) (Second Reading)

2. Ordinance No. O2020-20, an ordinance changing the zoning classification for a parcel located at the intersection of Jefferson Road and Spring Grove Lane from B-1 (Neighborhood Business District) to I-1 (Industrial Park District). (Second Reading)

3. Ordinance No. O2020-21, an ordinance amending the pay and benefits ordinances, Ordinance No. O2019-83 and Ordinance No. O2019-84. (Second Reading)

4. Ordinance No. O2020-22, an ordinance establishing a procedure for and authorizing an amendment of the contract with CBM Managed Services now known as Summit Food Service for jail food service and declaring an emergency.

It is the policy of the City of Middletown to make all public hearings an meetings accessible to all persons, in accordance with state and/or federal laws. If you have a disability which requires accommodation in order for you to attend and/or participate in this meeting, please contact us at 425-7831 at least forty-eight hours prior to the time of the meeting to advise us of the need for accommodation, and reasonable efforts shall be made to provide the same. This agenda may be accessed on the City of Middletown website @ http://www.cityofmiddletown.org.
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CITIZEN COMMENTS
COUNCIL COMMENTS
City Manager Reports

Middletown Regional Airport Drop Zone

May 5, 2020
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Page 58 - FAA Guidelines on Sport Parachuting
Page 86 - Citizen Feedback
Middletown Regional Airport
Drop Zone
Staff Report
April 20, 2020

TO: Susan Cohen, Acting City Manager

FROM: Chris Xeil Lyons, Economic Development Director
City of Middletown Economic Development Department

PURPOSE

To authorize the Airport Manager to relocate the skydiving drop zone/s from the current location/s to Area 3 on the attached map for the 2020 and 2021 calendar years.

BACKGROUND AND FINDINGS

In 2017, the City entered into a grant agreement with the Federal Aviation Administration (FAA) in which the City agreed to use an allocation of NPIAS grant funds to update the Middletown Regional Airport Master Plan and Airport Layout Plan (ALP). As part of that process, the consultant chosen to create the plan, Woolpert Inc., is required to perform a facility inventory in which all aviation assets, objects, and infrastructure are identified and determined to be within safety guidelines and other requirements. Those objects are then placed within the ALP.

From that point, a blueprint or pathway can be created. This then assists in obtaining assets needed to get to the ultimate goals of the master plan and the airport’s Capital Improvement Plan (CIP). To that end, the future location of the skydiving dropzone(s) must be determined for the Master Plan process to move forward. The dropzone boundaries and its interaction with all other aviation assets and safety surfaces must be determined, and necessary supports, rules, and safety regulations accounted for within the overall plan.

The dropzones themselves are merely object-free areas of maintained turf that will allow skydivers to land in a safe manner. There are multiple levels of diver proficiency and each level has a minimum safe object-free radius for the applicable dropzone size as suggested by the United States Parachute Association. The attached exhibit shows level A-D minimum dropzone radii within each of 4 ‘areas’ inside the airport boundary (1-4) that have been suggested as able to accommodate the dropzones.
Relocating the dropzones from their current location has been determined to be in the best interest of the airport’s long term growth. Having dropzones exist in the same space(s) as the airport’s runway and taxi safety areas introduces undue burdens on the operations, the airport, and its users when the option to accommodate the dropzones exists elsewhere on the airport. The airport has the responsibility to operate in such a manner as to minimize any identified safety hazards for all concerned. All operational rules and procedures must fall within the FAA’s established guidelines and be clearly communicated the airport’s users, tenants and the public.

The current dropzones have never been introduced into the ALP document as required by the FAA and, as such, no concerns were raised by outside authorities prior to the beginning of the ALP update process.

**STAFF RECOMMENDATION**

Staff is recommending that all dropzones located at Middletown Regional Airport be moved to Area 3 on the attached exhibit. Area 3 represents the best option for the dropzones at this point in time over a number of criteria.

Area 3 represents the largest object-free area overall on the airport. While the final shape, size, and location of the dropzones have to be determined, the area can easily accommodate the minimum object-free areas in a number of configurations as determined by negotiations with Start Skydiving.

Area 3 can be prepared for use in the shortest time frame and with the lowest cost. As this area is largely unused, mowing and maintenance can be assimilated into the overall airport process and costs associated with maintenance identified readily. This area would also present the fewest major projects (costs) in order to be able to accommodate the dropzones.

Skydiver pick-up can be accommodated in area 3 without having a vehicle cross the runway or having to leave airport property. A pathway has been identified in which the pick-up vehicle could drive to area 3 and not have to enter any of the airport’s safety and protection zones. Some suggested upgrades may be made to the path.

**FINANCIAL IMPACT**

No impact to the General Fund

Airport Revenues would see a modest increase to accommodate the cost of turf maintenance.

Attachments –
1. Airport Commission recommendation
2. Maps for dropzone options
3. Brandstetter Carroll dropzone cost estimates
4. Economic Development department cost estimates
5. Airport Commission recommendation
6. Airport Manager recommendation
7. Quadrex Aviation recommendation
8. Public input
Middletown Regional Airport Commission
Drop Zone Recommendation
City of Middletown – Airport Commission

Recommendation to City Council
Skydiving Drop Zone Location

Background

As part of the ongoing Airport Master Plan Update for the Middletown Regional Airport/Hook Field (MWO), the Middletown Airport Commission has been considering the existing location of the Start Skydiving Drop Zones. Information and data considered by the commission are presented herein as well as the formal recommendation of the Airport Commission for the relocation of the Start Skydiving Drop Zones. It should be noted that the objective of the Airport Commission is NOT to prohibit skydiving operations at MWO. The objective of the Commission is to accommodate all aeronautical activity (including skydiving) at the Airport in the safest manner possible. Any statements by any other party to the contrary are false.

The City of Middletown and MWO is the recipient of federal funding through the Federal Aviation Administration (FAA) through both regular airport entitlement funding mechanisms as well as grants through the Airport Improvement Program (AIP). Receipt of these funds in return requires the city and thereby the Airport to operate under FAA rules and regulations. These rules and regulations are primarily prescribed in Part 14 CFR, Aeronautics and Space, the United States Code of Federal Regulations¹.

MWO is part of the National Plan of Integrated Airport Systems (NPIAS)² developed by FAA which identifies and categorizes nearly 3,330 existing and proposed airports that within the national airport system, the roles they currently serve, and the amounts and types of airport development eligible for Federal funding under the Airport Improvement Program (AIP) over the next 5 years. The FAA is required to provide Congress with a 5-year Capital Improvement Program (CIP) estimate of AIP eligible development every two years. This 5-year CIP estimate is one of the primary outputs of a Master Plan Update.

The Airport Commission is attended by volunteers to advise the City of Middletown (City) in matters related to the operation of the MWO airport.

² https://www.faa.gov/airports/planning_capacity/npias/
The Middletown Airport Commission

The Middletown Airport Commission is comprised of volunteers charged to advise the City of Middletown in matters related to the operation of the Airport (MWO). The Commission would like to make the following points:

- As an airport that is included in the FAA NPIAS and a recipient of FAA funding, the operator of the airport cannot discriminate against any aviation related activity, event, or system.³
- The locations of skydiving/sport parachuting drop zones if on an airport is solely at the discretion of the airport owner.⁴
- Airports may designate suitable parachute landing area. Areas such as runways, taxiways, clearways, Safety Areas, and Obstacle Free Areas are not prohibitive areas, but should NOT be designated as a primary landing area.⁵

Federal Aviation Administration Position

The FAA does not expressly prohibit specific areas within the airport boundary; however, they do recommend that the drop zone be located outside protected areas such as Runway Protection Zones (RPZ), Runway Safety Areas (RSA) and Object Free Areas (OFA) of runways and taxiways. The FAA leaves it up to airport management, in this instance the City of Middletown, to determine the most appropriate drop zone locations.

The FAA originally published Advisory Circular (AC) 105-2 Sport Parachuting in 1968 to provide guidance regarding parachute operations. Over time, the AC has been updated up to the latest version 105-2E which was published in December 2013. In the current version, the only mention of Parachute Landing Areas (PLA) is found in Section 5(f):

Parachute Landing Areas. The FAA recommends that areas used as parachute landing areas remain unobstructed, with sufficient minimum radial distances to the nearest hazard. The guidelines in the USPA’s BSRs can be used in determining if the landing area is adequate.

³ FAA Order 5100.38D Change 1, AIP Handbook
⁴ FAA Order 5190.6B, FAA Airport Compliance Manual, Chapter 14 – Use Restriction
⁵ FAA Advisory Circular 105-2E, Sport Parachuting, Section 6.1(2)
United States Parachute Association (USPA)

The USPA has developed Basic Safety Requirements (BSR) and information for all skydiving activities. These requirements and information are for training, checking equipment, and conducting a wide variety of sport parachuting activities. While not approved by the FAA, the BSR’s are considered industry best practices and are widely accepted for use by individuals and parachute centers. The BSR’s may be obtained from: The United States Parachute Association, 5401 Southpoint Centre Boulevard, Fredericksburg, VA 22407. The association phone number is (540) 604-9740 and the USPA website is http://www.uspa.org. The FAA encourages skydivers to use facilities that conduct their operations in accordance with the USPA BSR’s or other similar skydiving best practices.  

Table 1, USPA Parachute Drop Zone Guidelines, list the dimensional specifications for each type of Drop Zone defined by the USPA.

<table>
<thead>
<tr>
<th>CLASS</th>
<th>PROFICIENCY OR ACTIVITY</th>
<th>DROP ZONE RADIUS (ft.)</th>
<th>DROP ZONE AREA (acres)</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>Solo Students &amp; A-License Holders</td>
<td>330</td>
<td>7.85</td>
</tr>
<tr>
<td>II</td>
<td>B &amp; C License Holders and Tandem Skydivers</td>
<td>165</td>
<td>1.96</td>
</tr>
<tr>
<td>III</td>
<td>D License Holders</td>
<td>40</td>
<td>0.12</td>
</tr>
</tbody>
</table>


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6 (FAA AC 205-2E Section 5 (a)
Existing Conditions

Three separate drop zones exist today at MWO. The existing Class I drop zone is located north of and directly adjacent to Runway 5/23 and south of and directly adjacent to Runway 8/26. The existing Class II drop zone is located between Runway 5/23 and the associated parallel taxiway. The existing Class III drop zone is located between the parallel taxiway and the apron immediately adjacent to the Start Skydiving Operations Hangar. Exhibit 1, Existing Drop Zone Locations, presents the location of each existing drop zone in graphical format.

Exhibit 1 – Existing Drop Zone Locations

Source: City of Middletown, Start Skydiving, Google Earth
Safety Concerns

The locations of the existing drop zones as presented in Exhibit 1 present several serious concerns for the Airport Commission with regards to safety. The primary concern of the commission is the proximity of the Drop Zones to both Runway 5/23 and Runway 8/26. The majority of the Class I and Class II Drop Zones fall within the boundaries of the Runway 5/23 Runway Safety Area (RSA) and Object Free Area (OFA). Exhibit 2, Runway 5/23 RSA and OFA, identifies the areas that fall under the RSA (depicted in red) and the OFA (depicted in orange). RSAs and OFAs are defined areas immediately surrounding a runway to facilitate the safe operation of aircraft on the associated runway. In practical terms, when a person, vehicle, or aircraft enters the boundary of either the OFA or RSA, the runway is at that moment considered to be occupied by that person, vehicle, or aircraft thus prohibiting the use of the runway by any other aircraft until the RSA and OFA are again clear. This includes landing skydivers.

Exhibit 2 – Runway 5/23 RSA and OFA

Source: City of Middletown, Google Earth
The majority of the area of the Class I and Class II Drop Zones fall within these safety areas. Table 2, *Percent of Drop Zones within Runway 5/23 Environment*, presents the approximate percentage of each drop zone that lies within the boundaries of either the Runway 5/23 RSA or OFA. Exhibit 3, *Drop Zone Areas within the Runway 5/23 Environment*, identifies these areas graphically.

### Table 2 – Percent of Drop Zones with Runway 5/23 Environment

<table>
<thead>
<tr>
<th>CLASS</th>
<th>TOTAL AREA (ft²)</th>
<th>AREA WITHIN 5/23 ENVIRONMENT (ft²)</th>
<th>PERCENT IMPACTED</th>
</tr>
</thead>
<tbody>
<tr>
<td>I</td>
<td>800,000</td>
<td>500,000</td>
<td>62.5%</td>
</tr>
<tr>
<td>II</td>
<td>700,000</td>
<td>700,000</td>
<td>100%</td>
</tr>
<tr>
<td>III</td>
<td>145,000</td>
<td>65,000</td>
<td>44.8%</td>
</tr>
</tbody>
</table>

*Source: City of Middletown, Start Skydiving, Middletown Airport Commission*

In addition to the physical landing of skydivers within the runway environment, the location of the Class I and Class II Drop Zones directly results in a significant number of skydivers and instructors crossing either Runway 5/23, the parallel taxiway, or both on foot or in a vehicle in order to return to the Start Skydiving operations facilities. These crossings exponentially increase the risk to the Airport and the City of Runway Incursions and accidents between aircraft, people, and vehicles. *Appendix 1* provides a listing of pilot complaints and incidents resulting from the skydiving operations on the existing Drop Zones.

### Exhibit 3 – Drop Zone Areas within the Runway 5/23 Environment

*Source: City of Middletown, Start Skydiving, Google Earth*
Risk Assessment

The following risk assessment is an adaptation of Figure 8-3-5B, “Risk Assessment for Parachute Operations at an Airport” found in FAA Order 8900.1, Flight Standards Information Management Systems (FSIMS), Change 502.

Drop Zone Area

In 2012, the FAA published draft standards for the design of parachute landing areas (PLAs) to be included as Appendix 19 of AC 150-5300-13, Airport Design. Subsequently, FAA published AC 150-5300-13A which superseded the earlier document but did not include any guidance regarding PLAs. In the absence of FAA guidance, the City of Middletown is using the USPA recommended standards for drop zone dimensions based on levels of proficiency presented in Table 1.

RISK HAZARDS

- Drop Zone operations capable of meeting minimum dimensional standards for safety
- Proximity to active runway and traffic patterns
- Access to Drop Zones without crossing of Runways or Taxiways

RISK MITIGATION MEASURES THAT COULD BE IMPLEMENTED

- Relocate the Drop Zone to an area that can accommodate standard circular Class I and II Drop Zones
- Relocate the Drop Zones away from airfield Safety Areas and Object Free Areas
Airport Traffic Patterns

Ideally any proposed Drop Zone would be located on the opposite side of the runway from the standard traffic pattern for aircraft using the runway to minimize potential conflicts with aircraft operating in the pattern. Unfortunately, the traffic pattern at MWO is located to the north of Runway 5/23 (left-traffic for Runway 5, right-traffic for Runway 23. This configuration is meant avoid the traffic pattern from overflying more densely populated areas of Middletown.

RISK HAZARDS
- Skydiving operations crossing active runway traffic pattern
- Skydiving operations crossing over runway at low altitude
- Skydiving operations occurring too close to active runway

RISK MITIGATION MEASURES THAT COULD BE IMPLEMENTED
- Relocate the Drop Zone to ensure skydivers remain above 2,000 feet above ground level (AGL) when crossing the traffic pattern
- Relocate the Drop Zone to ensure skydivers do not cross the active runway
- Relocate the Drop Zone to ensure recommended safe distance from Runway and Taxiway

Airport Ground Operations

The Class I Drop Zone is located on the opposite of Runway 5/23 and the Class II Drop Zone is located between Runway 5/23 and the parallel taxiway from the skydive operator’s base of operations. This requires a truck to transport departing and returning skydivers or for skydivers to walk across the runway, taxiway or both. Industry best practices mandate that vehicle crossings of runways and taxiways should be avoided to the extent possible and pedestrian crossings should be avoided completely.

RISK HAZARDS
- Pedestrian activity (landed skydivers) in the vicinity of aircraft movement areas (potential runway and/or taxiway incursions)
- Ground vehicles operating in aircraft movement areas (potential runway and/or taxiway incursions)

RISK MITIGATION MEASURES THAT COULD BE IMPLEMENTED
- Provide alternate route to avoid crossing runways and taxiways
- Post signage at crossing points outside of OFAs with instructions for skydivers and pilots
- Provide training to skydivers regarding runway/taxiway crossing procedures
- Provide vehicle driver training for those assigned to recover skydivers, this includes radio communications training
Aircraft Activity

MWO accommodates a wide variety of aircraft activity on a regular basis based on the facilities the Airport provides. This traffic ranges from small single-engine piston powered aircraft that are used by private individuals and flight training schools to large corporate aviation and charter aircraft utilizing large turbine powered aircraft similar to those used by passenger airlines.

RISK HAZARDS

- Student pilots with varying degrees of flight and radio communication proficiency
- Transient aircraft unaware of skydiving operations and risk mitigation measures that may be implemented

RISK MITIGATION MEASURES THAT COULD BE IMPLEMENTED

- Establish and disseminate best practices for operations in the vicinity of skydiving
- Skydive operator assist, update, and disseminate Standard Operating procedures (SOPs)
- Outreach to tenants, known users, nearby airports, and regional pilot organizations
- Safety briefings with based tenants and known users

Flight Training Operations

MWO is currently home to one full-time flight school (Middletown Regional Flight Training Institute). In addition, many other area flight training operations based at airport around Southwestern Ohio, and Southeastern Indiana routinely conduct flight training operations at MWO.

RISK HAZARDS

- Flight training operations in vicinity of skydiving activity
- Novice pilots

RISK MITIGATION MEASURES THAT COULD BE IMPLEMENTED

- Facilitate formal communications between known flight schools and skydive operator
- Safety briefings with based flight instructors and flight schools


Recommendations

While FAA and USPA Drop Zone guidance does not expressly prohibit the location of skydiving drop zones in areas directly adjacent to active runways/taxiways and within airfield safety areas, the guidance available is clear in that locating drop zones in such areas should be avoided when other viable options exist within the airport property. It is therefore the recommendation of the Middletown Airport Commission that the City of Middletown consider alternate locations for the Drop Zones at MWO. Exhibit 4, Proposed Drop Zone Locations, presents a series of three (3) potential Drop Zone locations at various locations within the existing airport property boundary. The drop zone locations identified are indicative of general areas available that remain clear of airfield safety areas. The exact configuration of the drop zones within these areas identified should be developed in consultation with Start Skydiving and other airport stakeholders at the time of implementation.

Exhibit 4 – Proposed Drop Zone Locations

Source: City of Middletown, Google Earth
The Middletown Airport Commission further recommends that the City of Middletown move to relocate the Skydiving Drop Zones at MWO to Proposed Drop Zone 3. This location provides a drop zone that achieves the following:

- Removes the Drop Zones from all airfield safety areas and object free areas
- Provides the greatest possible separation from the approach ends of Runway 5/23 of any drop zone locations considered
- Provides the greatest distance from the drop zone to any body of water (including the existing drop zones)
- Maintains clearance of the drop zones from the all potable water well buffer zones
- Allows for access to/from the proposed drop zones without requiring crossing of runways and taxiways via a secure airside service road identified by the green dashed line in Exhibit 5, Recommended Drop Zone

Exhibit 5 – Recommended Drop Zone

Source: City of Middletown, Google Earth, Middletown Airport Commission
The Middletown Airport Commission respectfully submits this recommendation to the City of Middletown City Council for consideration.

Middletown Airport Commission

Members:

Mr. Tom Rudolf – Chairman
Mr. Kurt Yearout
Mr. John Langhorne
Mr. Nick Brown, C.M.

Mr. Tom Anderson
Mr. Tom Wortley
Mr. Talbot Moon – City Council Representative
Appendix 1
Reported Pilot Complaints and Incidents

Pilot Complaints
- Tim Epperhart, owner of Middletown Regional Flight Training Institute (MRFTI) had to deviate from Runway 8/26 during operation of an aircraft due to a skydiver landing on the edge of Runway 8/26
- Ernie Striefthau had a near miss with skydiver while taxiing between hanger and building. Complaint lodged with airport manager. Complaint handled by Start Skydiving ownership to satisfaction of Mr. Striefthau.

Incidents
- September 14, 2019 – Hard Landing, skydiver transported to Atrium Medical Center
- September 15, 2019 – Hard Landing, skydiver transported by Care Flight Helicopter to Miami Valley Hospital. Care Flight experienced delays in landing due to skydivers in the air proximate to the runway which occurred after the order from Care Flight was issued to cease all jumps (refer Appendix 2 for an email from Fire Chief Paul Lolli regarding this incident)
- Multiple observations of Start Skydiving personnel crossing runway & taxiway by walking and by vehicle
Appendix 2

From: Lolli, Paul <paullo@cityofmiddletown.org>
Sent: Monday, September 16, 2019 9:46 AM
To: Quinlivan, Shelby <shelbyq@cityofmiddletown.org>
Cc: Adkins, Doug <douga@cityofmiddletown.org>; Eisenbraun, Matt <matte@cityofmiddletown.org>; Muterspaw, Rodney <rodneyr@cityofmiddletown.org>; Dickten, Dan <dandi@cityofmiddletown.org>
Subject: Skydiving Incident

Shelby,

In case you get media questions, there were two skydiving accidents at the airport over the weekend. One on Saturday Sept. 14th and one on Sunday Set. 15th. They both came in as “hard landings”. The incident on Sunday necessitated the use of Care Flight from Miami Valley Hospital as the injuries sustained were quite significant (early report is two fractured femurs and a fractured jaw); Saturdays patient was transported to Atrium Medical Center; we were told they were ground transported to Miami Valley Hospital later, but that has not been confirmed.

Matt & Dan, there was an issue with Sky Divers in the air as Care Flight was arriving and trying to land. They were delayed landing a bit while they circled the area assuring all skydivers were on the ground. I was told that the jump occurred after the Shift Commander advised Start Skydiving to cease jumps…not trying to make a big deal out of this because I still don’t have all the facts but may need to be something we need to address; I’ll get back with you. Any questions let me know,

Paul

Paul Lolli | Chief
City of Middletown — Division of Fire
2300 Roosevelt Blvd.
Middletown, Ohio 45044-4741
(513) 425-7996 Office
(513) 425-1820 Fax
City of Middletown - Airport Commission

Recommendation to City Council
FBO Space Requirements

Background
Throughout 2018 and 2019 the Airport Commission of the City of Middletown has been evaluating the airport management and operations as part of the ongoing Airport Master Plan Update. Those discussions have resulted in the non-renewal of the FBO contract with Start Aviation, LLC effective December 31, 2019. This decision was made to pave the way for future development of the airport as well as improve the safety, operations, and customer service of the airport for all aviation users.

The lease for the FBO office space which includes the first floor of Hanger 1707 expired on December 31, 2019. Since that time, Start Aviation, LLC has refused to vacate the space. This refusal to vacate has necessitated the lease of a trailer to temporarily house the FBO operation. The approximate costs of the trailer rental are:

- $8,000 to run utilities
- $7,600 delivery and setup
- $2,400 for 6-month lease.

The trailer is an unnecessary expense and a hinderance to efficient airport operations. Additionally, the hanger has lost the use of a women’s restroom for other hanger tenants. The parking lot to the east of Hanger 1707 needs to be designated for FBO use to facilitate the return of Enterprise Rental Cars and the courtesy cars provided by the city.

In order to facilitate the newly hired FBO employees, provide for mandated facilities, and provide a high level of service to transient aircraft, the Middletown Airport Commission strongly recommends that the expiration of the lease be enforced and the FBO managed by the City be allowed to relocate from the trailer to the FBO space in Hanger 1707.

The Middletown Airport Commission respectfully submits this recommendation to the City of Middletown City Council for consideration.

Middletown Airport Commission

Members:
Mr. Tom Rudolf – Chairman
Mr. Kurt Yearout
Mr. John Langhorne
Mr. Nick Brown, C.M.

Mr. Tom Anderson
Mr. Tom Wortley
Mr. Talbot Moon – City Council Representative
Middletown Regional Airport Drop Zone
Location Options 1-4
Maps
Proposed Site 4

Middletown Regional Airport

Legend
- Runway
- Turf Runway
- Airport Property
- Water Production Wells

Drop Zones
- Current
- Proposed
Middletown Regional Airport
Drop Zone Infrastructure
Cost Estimates
### Public Works

**Estimate to install City Basic Infrastructure**

#### Dropzone Area Options

<table>
<thead>
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<th>2</th>
<th>3</th>
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<tr>
<td>Cost of Improvements for Use as Drop Zone</td>
<td>$0</td>
<td>$30,000</td>
<td>$60,000</td>
<td>$0</td>
</tr>
<tr>
<td>gate</td>
<td>gravel road grading</td>
<td>mowing and smoothing</td>
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#### Cost of Non Aviation Infrastructure if Developed

<table>
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<th></th>
<th>Sewer</th>
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<th>Water</th>
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<td></td>
<td>$75,000</td>
<td>$500,000*</td>
<td>$150,000</td>
<td>$125,000**</td>
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<tr>
<td></td>
<td>$30,000</td>
<td>$150,000</td>
<td>$60,000</td>
<td>$0</td>
</tr>
</tbody>
</table>

*Requires Sewage Pump Station

**Requires Sewage Pump Station. Currently septic and should be changed regardless of future user.
Middletown Regional Airport
Drop Zone Recommendation
Quadrex Aviation
Questions and Answers
Regarding Skydiving Operations at
Middletown Regional Airport
From Quadrex Aviation

1. The locations of skydiving / sport parachute drop zones if on an airport is solely at the discretion of the airport owner. As long as it meets safe criteria – it can go anywhere (and with conditions for its use by skydivers).

Q. If the operator wishes to provide a drop zone for their customers on airport property, they must follow the direction of the owner and pay for its use. Reference?

A. FAA AIP Grant Assurance 22, Paragraph (a) holds the City responsible for ensuring MWO is “available for public use on reasonable terms and without unjust discrimination to all types, kinds and classes of aeronautical activities, including commercial aeronautical activities offering services to the public at the airport.”

FAA further states in Paragraph (i) that the City “may prohibit or limit any given type, kind or class of aeronautical use of the airport if such action is necessary for the safe operation of the airport or necessary to serve the civil aviation needs of the public.

My interpretation of these conditions suggests that unless the City can present a compelling case to prohibit skydiving (very difficult given previous cases), it is required to provide access for allowing skydiving operations. However, the City bears the responsibility for the safety of all aeronautical activity and thus may specify limitations regarding how the airport will be used.

An example of airport rules approved by the FAA limiting specific aeronautical activity under Grant Assurance 22(i) have included limiting skydiving operations to certain areas of the airfield and certain traffic patterns to avoid conflict with fixed-wing patterns. [5190.6B,14.4 (d) (1) (c)]

Compensation for the use of the Airport for skydiving is also addressed in FAA’s Compliance Manual by having the Sponsor consider “what is a reasonable fee that the jumpers and/or their organizations can pay for the privilege of using airport property?” In the context of establishing Minimum Standards for Aeronautical Service Providers, the emphasis is on the skydive operator as a commercial aeronautical activity and skydivers as their customers, suggesting reasonable fees are an acceptable practice. [5190.6B,2.14 (f) (4)]

There are many examples of airports charging a lease or other fees for the use of the drop zone and FAA has not appeared to interfere in the practice.

2. Drop zones immediately adjacent to operational airfield pavement require separation as “dependent” operations. Dependent VFR operations at small non-towered airports are conducted in a “see and avoid” environment. Independent (simultaneous) operations where the drop zone and runway/taxiway pavement are used at the same time are NOT permissible at any time. Since pilots are expected to observe standard right-of-way practices (i.e., yielding to skydivers), it effectively locks them out of using the airfield while skydivers are present. Reference?
A. The issue of dependent vs independent operations originates in AC 5300-13A, Airport Design, Paragraph 316 in the context of the separation of parallel runways. The minimum separation distance between two runways that would allow simultaneous (independent) landings and takeoffs in VFR conditions is 700 feet. Anything less is not authorized.

FAA has recognized in separate guidance that there are circumstances where aircraft activity such as glider towing and skydiving operations at airports without control towers may occur in close proximity of the active runway. And while dependent operations next to the runway are permissible, the FAA requires that the Runway Safety Area (RSA) and Obstacle Free Zone (OFZ) standards are met, (i.e., the RSA and OFZ must be clear of objects) before an aircraft may legally use the runway. To do otherwise may constitute a violation of 14 CFR Part 91.13 which states that “No person may operate an aircraft in a careless or reckless manner so as to endanger the life or property of another.” This can be interpreted that, in situations where skydivers are within or maneuvering to use the OFZ, aircraft are precluded from using the runway until the OFZ is clear.

The FAA has also published specific guidelines for assessing the risk of integrating on-airport skydiving activity. Figure 8-3-5B, “Risk Assessment for Parachute Operations at an Airport” is found in FAA Order 8900.1, Flight Standards Information Management System (FSIMS) Change 502. (attached). The following questions are used to objectively assess the risk:

**Drop Zone Area**

Is there an area suitable on the airport to accommodate skydiving operations? If so, does the center of the drop zone meet the recommended minimum safe distances from hazards and NAVAIDS for the appropriate skydiver experience level or activity?

**Airport Traffic Patterns**

Will the Drop Zone be located on the opposite side of the runway(s) established traffic pattern?

**Airport Ground Operations**

Would skydiving operation ground vehicles and pedestrians (skydivers and visitors) routinely cross a runway, taxiway, or Runway Safety Area (RSA)? Note: Routine runway/taxiway crossings are defined as crossings that would be part of the skydiving operator’s standard operating procedures for their skydiving activities.

**Flight Training Operations**

Do student pilots routinely use Airport? If so, how many student take-offs and landings occur per day (daylight hours)?

**Airport Procedures**

Does the airport have written airport procedures for skydiving operations? Is there a procedure for notifying airport users of changes to the airport procedures?
Referring back to Grant Assurance 22 (i), it is my opinion that if the Airport has the capability of safely accommodating both fixed wing and skydiving activity so to avoid conflicts, the City has a duty and the authority to place the drop zone in an area where the two activities can occur simultaneously. As was correctly noted in some of the material provided by the operator, the FAA is the final arbiter of safety. However, that is usually invoked in cases where a sponsor is attempting to prohibit skydiving citing safety concerns as justification. In matters regarding the location of a drop zone location, it will generally defer to the sponsor, providing guidance if there are safety issues (e.g., proximity to a runway, etc.).

3. **Student pilots have some minimum standard of training before they are allowed to fly solo. Skydivers must have some similar training before operating in the airport environment.**

Q. The operator may suggest they provide that but what assurance does City have that skydivers actually have read, understand, and agree to comply with SOPs. Reference?

A. Currently, there do not appear to be any assurances, I understand the City has developed a Draft Skydiving Operating Agreement they intend to enter in to with the Skydiving Operator that will require minimum standards of training.

Before students pilots are allow to fly solo (i.e., without an instructor on board), 14 CFR Part 61.87, **Solo Requirements for Student Pilots** must be met. A student pilot must demonstrate satisfactory aeronautical knowledge on a test that includes airspace rules and procedures for the airport where the solo flight will be performed. Also, the student pilot must have received pre-solo flight training that for maneuvers and procedures that includes airport traffic patterns, including entry and departure procedures. Typically, a flight student may have 10-15 hours of flight training plus ground instruction before they are allowed to solo.

The USPA’s Skydiver’s Information Manual, which provides basic safety requirements (BSRs) and recommendations for the conduct of safe and enjoyable skydiving, Compliance with the BSR’s is mandatory for USPA members (including drop zone operators) and while the USPA acknowledges, it has no regulatory powers, it can suspend or revoke a skydiver’s license.

Reviewing the current BSRs (2019-2020), skydivers, student or otherwise, are not mandated by federal regulations to have received an amount of instruction and training regarding their responsibilities for understanding the airspace rules and procedures of the specific airport commensurate with student pilots. The BSRs contain excerpts from 14 CFR Part 91, General Operating and Flight Rules, however these regulations were written primarily for pilots. The official FAA term “parachutist” does not appear in Part 91 however, 14 CFR Part 91.13 may be applicable to skydivers.

14 CFR Part 105, **Parachute Operations** is the principal regulation regarding parachutists and skydiving operations. However, Part 105.23, Parachute Operations Over or Onto Airports only addresses the following:

No person may conduct a parachute operation, and no pilot in command of an aircraft may allow a parachute operation to be conducted from that aircraft, over or onto any airport unless...
(b) For airports without an operating control tower, prior approval has been obtained from the management of the airport to conduct parachute operations over or on that airport.

c) A parachutist may drift over that airport with a fully deployed and properly functioning parachute if the parachutist is at least 2,000 feet above that airport’s traffic pattern, and avoids creating a hazard to air traffic or to persons and property on the ground.

The BSRs also contain FAA Advisory Circulars that provide recommendations for general operating procedures for skydiving on or near airports.

4. Skydivers should be addressed as independent operators (as opposed to letting the Operator speak for them in the collective). Operator assumes no legal, financial or other responsibility for the skydiver once they leave his aircraft. This is really where FAA has abdicated their responsibility. Reference?

A. I might have erred on the assertion that the skydive operator has no regulatory responsibility for the actions of their customers once they leave the aircraft. There was an enforcement action FAA took against a skydive operator that operated an aircraft where the skydivers jumped and descended through clouds, a deliberate violation of 14 CFR 105.17(a) [see FAA vs Pacific International Skydiving Center]. While the operator argued that they were not responsible for the actions of independent contractors (i.e., the pilot, as well as the tandem and videographer skydivers), the FAA made the assertion that...“Drop zone operators control all business operations at the drop zone” which was upheld by the court on appeal.

5. How can MWO be a designated Skydiving Drop Zone if there is no Agreement between the operator and the airport owner / sponsor, City of Middletown, in place to be a designated Drop Zone?

A. The policy is that the City is not designating the property as a drop zone but rather the DZ operator through their operating agreement. No agreement – no drop zone. Skydiving should not be authorized at MWO unless there is a valid operating agreement in place that includes established SOPs that the DZ operator agrees to promote and enforce.
§ 61.87 Solo requirements for student pilots.

(a) General. A student pilot may not operate an aircraft in solo flight unless that student has met the requirements of this section. The term “solo flight” as used in this subpart means that flight time during which a student pilot is the sole occupant of the aircraft or that flight time during which the student performs the duties of a pilot in command of a gas balloon or an airship requiring more than one pilot flight crewmember.

(b) Aeronautical knowledge. A student pilot must demonstrate satisfactory aeronautical knowledge on a knowledge test that meets the requirements of this paragraph:

(1) The test must address the student pilot's knowledge of -

   (i) Applicable sections of parts 61 and 91 of this chapter;

   (ii) Airspace rules and procedures for the airport where the solo flight will be performed; and

   (iii) Flight characteristics and operational limitations for the make and model of aircraft to be flown.

(2) The student's authorized instructor must -

   (i) Administer the test; and

   (ii) At the conclusion of the test, review all incorrect answers with the student before authorizing that student to conduct a solo flight.

(c) Pre-solo flight training. Prior to conducting a solo flight, a student pilot must have:

(1) Received and logged flight training for the maneuvers and procedures of this section that are appropriate to the make and model of aircraft to be flown; and

(2) Demonstrated satisfactory proficiency and safety, as judged by an authorized instructor, on the maneuvers and procedures required by this section in the make and model of aircraft or similar make and model of aircraft to be flown.

(d) Maneuvers and procedures for pre-solo flight training in a single-engine airplane. A student pilot who is receiving training for a single-engine airplane rating or privileges must receive and log flight training for the following maneuvers and procedures:

(1) Proper flight preparation procedures, including preflight planning and preparation, powerplant operation, and aircraft systems;

(2) Taxiing or surface operations, including runups;

(3) Takeoffs and landings, including normal and crosswind;

(4) Straight and level flight, and turns in both directions;
(5) Climbs and climbing turns;

(6) Airport traffic patterns, including entry and departure procedures;

(7) Collision avoidance, windshear avoidance, and wake turbulence avoidance;

(8) Descents, with and without turns, using high and low drag configurations;

(9) Flight at various airspeeds from cruise to slow flight;

(10) Stall entries from various flight attitudes and power combinations with recovery initiated at the first indication of a stall, and recovery from a full stall;

(11) Emergency procedures and equipment malfunctions;

(12) Ground reference maneuvers;

(13) Approaches to a landing area with simulated engine malfunctions;

(14) Slips to a landing; and

(15) Go-arounds.
Middletown Regional Airport
Drop Zone
Airport Manager Recommendation
Since 2009, the City of Middletown has accommodated a commercial skydiving operation on its airport allowing the use of land at no charge to the operator, Start Skydiving, for the operation of three parachute drop zones located on the west side of Runway 05 / 23, between Runway 05 / 23 and Taxiway A, and on the East side of Taxiway A. Start Skydiving jumpers land in drop zones located adjacent to the airport’s main runway and taxiway, (Reference Figure 1). The problem with this arrangement is that the drop zones in use are located in the Airport Runway and Taxiway Object Free Areas. OFA’s are centered on the ground on a runway, taxiway or taxi lane. They are designed and provided to enhance safety of aircraft operations by keeping aircraft clear of objects, except for objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes. These navigation objects are installed on break-away mounting systems.

Over the years, skydivers at the Middletown Regional Airport (MWO) landing outside the drop zones into OFA’s, over-flying the runway, inviting conflicts with other aeronautical operations, and causing separation of traffic at the airport have raised safety concerns among airport users. In order to provide the necessary safety for skydiving and aircraft to operate simultaneously on the airport, relocation of the current skydiving drop zones is necessary. These new relocated skydiving drop zones must be outside the airport’s Object Free Areas and away from the runway to better mitigate the risks associated with the safe co-existence of skydiving and other aeronautical activities at the Middletown Regional Airport.

The City is bound to a set of Grant Assurances by its acceptance of Federal Grant funding used to maintain and develop the airport. FAA AIP Grant Assurance 22, Paragraph (a) holds the City responsible for ensuring the airport is “available for public use on reasonable terms and without unjust discrimination to all types, kinds and classes or aeronautical activities, including commercial aeronautical activities offering services to the public at the airport.” FAA further states in Paragraph (i) that the City “may prohibit or limit any given type, kind or class of aeronautical use of the airport if such action is necessary for the safe operation of the airport needed to serve the civil aviation needs of the public.”

An example of airport rules approved by the FAA limiting specific aeronautical activity under Grant Assurance 22 (i) includes that in FAA Airport Compliance Manual Order 5190.6B 14.4 (d) (1) (c) “Limiting skydiving operations to certain areas of the airfield and certain traffic patterns to avoid conflict with fixed-wing aircraft patterns.”

In mid-2018, the City of Middletown took over the management of its airport by terminating the Airport Management Agreement with the private contract manager and hired me as the full time Airport Manager. I am a professional Airport Manager and Accredited Airport Executive through the American Association of Airport Executives with over 30 years of experience. Over the past 22 months much progress has been made at the City’s airport in terms of implementing regulatory programs and making improvements to the airport infrastructure. Airport Minimum Standards, Rules & Regulations and Standard Operating Procedures have been drafted and are ready for implementation that will help guide the
airport in a more professional direction and will enhance the City’s economic development goals for the airport.

Shortly thereafter in late 2019, the City engaged airport development consultant, Quadrex Aviation LLC of Melbourne, Florida, who specializes in Skydiving / Drop Zone Safety Analysis, to identify potential issues with Start Skydiving’s operations at the Middletown Airport. Quadrex has successfully conducted Skydiving Safety Risk Assessments at various airports that were experiencing skydiving operations safety issues. One of these airports was the Vance Brand Municipal Airport in Longmont Colorado where many of the same issues were being called-out in Middletown, including all those mentioned above, were also issues at the Vance Brand Airport.

Quadrex conducted a Skydiving / Drop Zone Safety Analysis at the Vance Brand Airport in 2019 that resulted in the relocation of skydiving drop zones, the establishment and use of Standard Operating Procedures and the operator is now paying rent for the use of the City’s airport property the drop zones are established on. As a result, these issues have all but been eliminated.

Over the past few years at MWO, complaints about skydiving activity have increased including jumpers approaching the drop zone overflying the runway at low altitudes, pedestrians crossing the runway, and off-drop zone landings. As a result, the City has initiated an independent safety risk assessment of various elements relevant to the skydiving operation at MWO. This assessment was designed to determine whether skydiving operations can continue to be accommodated safely at MWO, and if so, what risk mitigation measures should be implemented to maximize safety for all airport users.

From the Skydiving Safety Risk Analysis conducted by Quadrex Aviation at the MWO, the following recommended strategies by Quadrex were made to mitigate any risks associated with the co-existence of skydiving and other aeronautical activities:

A) Discontinue all skydiving operations in the designated Airport designated OFA’s.
B) Move the drop zone(s) away from runway / taxiway, runway safety area (RSA), and runway / taxiway object free areas. The Airport owner, in this case the City of Middletown, has identified the locations of the four potential Drop Zone(s) outside the Airport’s OFA’s.
C) Require a skydiving standard operating procedure (SOP) to be jointly-developed by the airport and skydiving operator.
D) Brief all skydivers of the SOP and require all to sign it indicating they understand it.
E) Report all landings outside of the new landing / drop zones to the airport manager.
F) Require the skydiving operator to pay the City for the use of the drop zones.

Four potential / designated drop zone area Options are shown on Attachment 1.: Option # 1 – located on the NE end of Taxiway A; Option 2 - located on the NW side of Runway 5 / 23 on North side of the turf runway; Option # 3 ), - located the West side or Runway 5 / 23 on the South side of the turf runway, South of runway 05 / 23, and #4 – located off the South end of Runway 5 / 23 in the current Smith Park complex. All are outside the airport object free
areas, yet still far away from the traffic pattern downwind leg with road access to both sites. These four potential drop zones are determined to be at much less risk for skydivers to encounter aircraft on the airport and in the traffic pattern, and vice versa, less risk for aircraft to encounter skydives. My recommendation on the location of the drop zone is the following by order of preference:

1. **Option # 3** – This would be the favored site for the drop zones and can be utilized immediately. The site is well away from the airport’s Object Free Areas and there is access to this site from the service road into the airport and well fields.

2. **Option # 2** – Option 2 is the next logical area that could accommodate the drop zones, however, there are no utilities that for future growth.

3. **Option # 4** – Aeronautically his would be the best overall location for the drop zones but is not readily available.

4. **Option # 1** – This area is size limited. An A license DZ would take up more space than what is available.

Additional findings from the Skydiving / Drop Zone Safety Analysis at MWO are contained in Attachment 2, Questions & Answers regarding Skydiving Drop Zones Operations and their locations at the MWO from our skydiving facilities development consultant, David Byers, Quadrex Aviation, LLC.

The Middletown airport is not making a case that skydiving leave the airport. However, on-site observations provided evidence that skydivers using MWO do not appear to operate in a consistently disciplined manner that provides any level of comfort to other airport users. Several areas of concern have been identified and must be addressed to offer opportunities to enhance the safe use of the Middletown airport by both pilots and skydivers.

The relocation of the drop zones and the development of updated Standard Operating Procedures lead the list of measures that should be considered immediately. Relocating the drop zone such as Option 3 initially and Option 4 for the long-term provides an optimum separation distance from the runway can be accomplished with the advice and cooperation of the Operator and FAA. The update of the SOPs requires the cooperation of the Operator and should include input from airport users.

Once these elements are in place, educating all users is vitally important to ensure that everyone understands what to expect at MWO and what is expected of them. This can be accomplished through the publication of the SOPs with distribution to all aeronautical tenants, users and posted online on the airport’s website. A safety meeting should be conducted to provide opportunities for user outreach and input.

As previously stated, skydiving is recognized by the FAA as an aeronautical activity. However, it should be recognized that many skydivers, especially novices and students, have very
limited aeronautical knowledge regarding the rules, policies, and guidelines that govern operating in the airport environment. All other airport users require some level of formal training and experience to operate safely at an airport. Requiring skydivers to acknowledge reading and understanding the Airport’s SOPs is a major step to assuring that they will be able to safely and consistently operate in harmony alongside other users.

As with all aviation activity, there is always little margin for error and a single misstep can have catastrophic results. By confronting the deficiencies that can diminish safety ahead of time, a safer environment can be developed and maintained to allow all users to enjoy City of Middletown’s airport facilities.

Dan Dickten, AAE
Airport Manager
Middletown Regional Airport
ATTACHMENT 1

Airport Map showing current Drop Zones
Object Free Areas and Proposed Drop Zones Locations
D. AGE REQUIREMENTS
1. For skydives made within the U.S. and its territories and possessions, skydivers are to be at least 18 years of age. [E, during interim]
2. For skydives made outside the U.S. and its territories and possessions, the minimum age is specified by the country's (or its national air sport control's) requirements. Such skydivers who are under 16 years of age will not be issued a USPA license.

E. MEMBERSHIP
USPA membership is required of any skydiver cleared for self-supervision at a USPA Group Member drop zone, except for non-resident foreign nationals that are a member of their own national aero club.

F. ALCOHOL AND DRUGS
1. No person may make a parachute jump, or attempt to make a jump, if that person is or appears to be under the influence of either:
   a. alcohol.
   b. any drug that affects that person's faculties in any way contrary to safety.

G. STUDENT SKYDIVERS
Note: All references to USPA instructional rating holders apply to higher rating holders in that training discipline.
1. General [E]
   a. All student training programs must be conducted under the direction and oversight of an appropriately rated USPA Instructor until the student is issued a USPA A license.
   b. A person conducting, training, or supervising student jumps must hold a USPA instructional rating according to the requirements that follow.
2. First-jump course [E]
   a. All first-jump non-method-specific training must be conducted by a USPA Instructor or a USPA Coach under the supervision of a USPA Instructor.
   b. All method-specific training must be conducted by a USPA Instructor rated in the method for which the student is being trained.

3. a. equipment
   b. aircraft and exit procedures
   c. freefall procedures (except IAD and static-line jumps)
   d. deployment procedures and parachute emergencies
   e. canopy flight procedures
   f. landing procedures and emergencies

4. Advancement criteria
   a. IAD and static line [E]
      (1) All jumps must be conducted by a USPA Instructor in that student's training method.
      (2) Before being cleared for freefall, all students must perform three successive jumps with practice deployments while demonstrating the ability to maintain stability and control from exit to opening.
      (3) All students must be under the direct supervision of an appropriately rated instructor until completing one successful clear-and-pull.
      (4) Following a successful clear-and-pull, each student must be supervised in the aircraft and in freefall by a USPA Coach or Instructor until demonstrating stability and heading control prior to and within five seconds after initiating two intentional disorienting maneuvers involving a back-to-earth presentation.
      (5) All ground training must be conducted by an instructor in that student's training method, until demonstrating stability and heading control prior to and within five seconds after initiating two intentional disorienting maneuvers involving a back-to-earth presentation.
§ 61.87 Solo requirements for student pilots.

(a) General. A student pilot may not operate an aircraft in solo flight unless that student has met the requirements of this section. The term "solo flight" as used in this subpart means that flight time during which a student pilot is the sole occupant of the aircraft or that flight time during which the student performs the duties of a pilot in command of a gas balloon or an airship requiring more than one pilot flight crewmember.

(b) Aeronautical knowledge. A student pilot must demonstrate satisfactory aeronautical knowledge on a knowledge test that meets the requirements of this paragraph:

(1) The test must address the student pilot's knowledge of -

   (i) Applicable sections of parts 61 and 91 of this chapter;

   (ii) Airspace rules and procedures for the airport where the solo flight will be performed; and

   (iii) Flight characteristics and operational limitations for the make and model of aircraft to be flown.

(2) The student's authorized instructor must -

   (i) Administer the test; and

   (ii) At the conclusion of the test, review all incorrect answers with the student before authorizing that student to conduct a solo flight.

(c) Pre-solo flight training. Prior to conducting a solo flight, a student pilot must have:

   (1) Received and logged flight training for the maneuvers and procedures of this section that are appropriate to the make and model of aircraft to be flown; and

   (2) Demonstrated satisfactory proficiency and safety, as judged by an authorized instructor, on the maneuvers and procedures required by this section in the make and model of aircraft or similar make and model of aircraft to be flown.

(d) Maneuvers and procedures for pre-solo flight training in a single-engine airplane. A student pilot who is receiving training for a single-engine airplane rating or privileges must receive and log flight training for the following maneuvers and procedures:

   (1) Proper flight preparation procedures, including preflight planning and preparation, powerplant operation, and aircraft systems;

   (2) Taxiing or surface operations, including runups;

   (3) Takeoffs and landings, including normal and crosswind;

   (4) Straight and level flight, and turns in both directions;
(5) Climbs and climbing turns;

(6) Airport traffic patterns, including entry and departure procedures;

(7) Collision avoidance, windshear avoidance, and wake turbulence avoidance;

(8) Descents, with and without turns, using high and low drag configurations;

(9) Flight at various airspeeds from cruise to slow flight;

(10) Stall entries from various flight attitudes and power combinations with recovery initiated at the first indication of a stall, and recovery from a full stall;

(11) Emergency procedures and equipment malfunctions;

(12) Ground reference maneuvers;

(13) Approaches to a landing area with simulated engine malfunctions;

(14) Slips to a landing; and

(15) Go-arounds.
§105.1 Applicability.

(a) Except as provided in paragraphs (b) and (c) of this section, this part prescribes rules governing parachute operations conducted in the United States.

(b) This part does not apply to a parachute operation conducted—

(1) In response to an in-flight emergency, or

(2) To meet an emergency on the surface when it is conducted at the direction or with the approval of an agency of the United States, or of a State, Puerto Rico, the District of Columbia, or a possession of the United States, or an agency or political subdivision thereof.

(c) Sections 105.5, 105.9, 105.13, 105.15, 105.17, 105.19 through 105.23, 105.25(a)(1) and 105.27 of this part do not apply to a parachute operation conducted by a member of an Armed Force—

(1) Over or within a restricted area when that area is under the control of an Armed Force.

(2) During military operations in uncontrolled airspace.
§105.3 Definitions.

For the purposes of this part—

Approved parachute means a parachute manufactured under a type certificate or a Technical Standard Order (C-23 series), or a personnel-carrying U.S. military parachute (other than a high altitude, high speed, or ejection type) identified by a Navy Air Facility, an Army Air Field, and Air Force-Navy drawing number, an Army Air Field order number, or any other military designation or specification number.

Automatic Activation Device means a self-contained mechanical or electro-mechanical device that is attached to the interior of the reserve parachute container, which automatically initiates parachute deployment of the reserve parachute at a pre-set altitude, time, percentage of terminal velocity, or combination thereof.

Direct Supervision means that a certificated rigger personally observes a non-certificated person packing a main parachute to the extent necessary to ensure that it is being done properly, and takes responsibility for that packing.

Drop Zone means any pre-determined area upon which parachutists or objects land after making an intentional parachute jump or drop. The center-point target of a drop zone is expressed in nautical miles from the nearest VOR facility when 30 nautical miles or less; or from the nearest airport, town, or city depicted on the appropriate Coast and Geodetic Survey World Aeronautical Chart or Sectional Aeronautical Chart, when the nearest VOR facility is more than 30 nautical miles from the drop zone.

Foreign parachutist means a parachutist who is neither a U.S. citizen or a resident alien and is participating in parachute operations within the United States using parachute equipment not manufactured in the United States.

Freefall means the portion of a parachute jump or drop between aircraft exit and parachute deployment in which the parachute is activated manually by the parachutist at the parachutist’s discretion or automatically, or, in the case of an object, is activated automatically.

Main parachute means a parachute worn as the primary parachute used or intended to be used in conjunction with a reserve parachute.

Object means any item other than a person that descends to the surface from an aircraft in flight when a parachute is used or is intended to be used during all or part of the descent.

Parachute drop means the descent of an object to the surface from an aircraft in flight when a parachute is used or intended to be used during all or part of that descent.

Parachute jump means a parachute operation that involves the descent of one or more persons to the surface from an aircraft in flight when an aircraft is used or intended to be used during all or part of that descent.

Parachute operation means the performance of all activity for the purpose of, or in support of, a parachute jump or a parachute drop. This parachute operation can involve, but is not limited to, the following persons: parachutist, parachutist in command and passenger in tandem parachute operations, drop zone or owner or operator, jump master, certificated parachute rigger, or pilot.

Parachutist means a person who intends to exit an aircraft while in flight using a single-harness, dual parachute system to descend to the surface.
Parachutist in command means the person responsible for the operation and safety of a tandem parachute operation.

Passenger parachutist means a person who boards an aircraft, acting as other than the parachutist in command of a tandem parachute operation, with the intent of exiting the aircraft while in-flight using the forward harness of a dual harness tandem parachute system to descend to the surface.

Pilot chute means a small parachute used to initiate and/or accelerate deployment of a main or reserve parachute.

Ram-air parachute means a parachute with a canopy consisting of an upper and lower surface that is inflated by ram air entering through specially designed openings in the front of the canopy to form a gliding airfoil.

Reserve parachute means an approved parachute worn for emergency use to be activated only upon failure of the main parachute or in any other emergency where use of the main parachute is impractical or use of the main parachute would increase risk.

Single-harness, dual parachute system means the combination of a main parachute, approved reserve parachute, and approved single person harness and dual-parachute container. This parachute system may have an operational automatic activation device installed.

Tandem parachute operation means a parachute operation in which more than one person simultaneously uses the same tandem parachute system while descending to the surface from an aircraft in flight.

Tandem parachute system means the combination of a main parachute, approved reserve parachute, and approved harness and dual parachute container, and a separate approved forward harness for a passenger parachutist. This parachute system must have an operational automatic activation device installed.

§105.5 General.

No person may conduct a parachute operation, and no pilot in command of an aircraft may allow a parachute operation to be conducted from an aircraft, if that operation creates a hazard to air traffic or to persons or property on the surface.

§105.7 Use of alcohol and drugs.

No person may conduct a parachute operation, and no pilot in command of an aircraft may allow a person to conduct a parachute operation from that aircraft, if that person is or appears to be under the influence of—

(a) Alcohol, or

(b) Any drug that affects that person’s faculties in any way contrary to safety.

§105.9 Inspections.

The Administrator may inspect any parachute operation to which this part applies (including inspections at the site where the parachute operation is being conducted) to determine compliance with the regulations of this part.
Subpart B—Operating Rules

§105.13   Radio equipment and use requirements.

(a)   Except when otherwise authorized by air traffic control—

(1)   No person may conduct a parachute operation, and no pilot in command of an aircraft may allow a parachute operation to be conducted from that aircraft, in or into controlled airspace unless, during that flight—

(i)   The aircraft is equipped with a functioning two-way radio communication system appropriate to the air traffic control facilities being used; and

(ii)  Radio communications have been established between the aircraft and the air traffic control facility having jurisdiction over the affected airspace of the first intended exit altitude at least 5 minutes before the parachute operation begins. The pilot in command must establish radio communications to receive information regarding air traffic activity in the vicinity of the parachute operation.

(2)   The pilot in command of an aircraft used for any parachute operation in or into controlled airspace must, during each flight—

(i)   Continuously monitor the appropriate frequency of the aircraft’s radio communications system from the time radio communications are first established between the aircraft and air traffic control, until the pilot advises air traffic control that the parachute operation has ended for that flight.

(ii)  Advise air traffic control when the last parachutist or object leaves the aircraft.

(b)   Parachute operations must be aborted if, prior to receipt of a required air traffic control authorization, or during any parachute operation in or into controlled airspace, the required radio communications system is or becomes inoperative.

§105.15   Information required and notice of cancellation or postponement of a parachute operation.

(a)   Each person requesting an authorization under §§105.21(b) and 105.25(a)(2) of this part and each person submitting a notification under §105.25(a)(3) of this part must provide the following information (on an individual or group basis):

(1)   The date and time the parachute operation will begin.

(2)   The radius of the drop zone around the target expressed in nautical miles.

(3)   The location of the center of the drop zone in relation to—

(i)   The nearest VOR facility in terms of the VOR radial on which it is located and its distance in nautical miles from the VOR facility when that facility is 30 nautical miles or less from the drop zone target; or

(ii)  the nearest airport, town, or city depicted on the appropriate Coast and Geodetic Survey World Aeronautical Chart or Sectional Aeronautical Chart, when the nearest VOR facility is more than 30 nautical miles from the drop zone target.
(4) Each altitude above mean sea level at which the aircraft will be operated when parachutists or objects exist the aircraft.

(5) The duration of the intended parachute operation.

(6) The name, address, and telephone number of the person who requests the authorization or gives notice of the parachute operation.

(7) The registration number of the aircraft to be used.

(8) The name of the air traffic control facility with jurisdiction of the airspace at the first intended exit altitude to be used for the parachute operation.

(b) Each holder of a certificate of authorization issued under §§105.21(b) and 105.25(b) of this part must present that certificate for inspection upon the request of the Administrator or any Federal, State, or local official.

(c) Each person requesting an authorization under §§105.21(b) and 105.25(a)(2) of this part and each person submitting a notice under §105.25(a)(3) of this part must promptly notify the air traffic control facility having jurisdiction over the affected airspace if the proposed or scheduled parachute operation is canceled or postponed.

§105.17 Flight visibility and clearance from cloud requirements.

No person may conduct a parachute operation, and no pilot in command of an aircraft may allow a parachute operation to be conducted from that aircraft—

(a) Into or through a cloud, or

(b) When the flight visibility or the distance from any cloud is less than that prescribed in the following table:

<table>
<thead>
<tr>
<th>Altitude</th>
<th>Flight Visibility (sm)</th>
<th>Distance from Clouds</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,200 feet or less above surface regardless of MSL altitude</td>
<td>3</td>
<td>500 feet below, 1,000 feet above 2,000 feet horizontal</td>
</tr>
<tr>
<td>More than 1,200 feet above surface but less than 10,000 feet MSL</td>
<td>3</td>
<td>500 feet below 1,000 feet above 2,000 feet horizontal</td>
</tr>
<tr>
<td>More than 1,200 feet above surface and at or above 10,000 feet MSL</td>
<td>5</td>
<td>1,000 feet below 1,000 feet above 1 mile horizontal</td>
</tr>
</tbody>
</table>

§105.19 Parachute operations between sunset and sunrise.

(a) No person may conduct a parachute operation, and no pilot in command of an aircraft may allow a person to conduct a parachute operation from an aircraft between sunset and sunrise, unless
the person or object descending from the aircraft displays a light that is visible for at least 3 statute miles.

(b) The light required by paragraph (a) of this section must be displayed from the time that the person or object is under a properly functioning open parachute until that person or object reaches the surface.

§105.21 Parachute operations over or into a congested area or an open-air assembly of persons.

(a) No person may conduct a parachute operation, and no pilot in command of an aircraft may allow a parachute operation to be conducted from that aircraft, over or into a congested area of a city, town, or settlement, or an open-air assembly of persons unless a certificate of authorization for that parachute operation has been issued under this section. However, a parachutist may drift over a congested area or an open-air assembly of persons with a fully deployed and properly functioning parachute if that parachutist is at a sufficient altitude to avoid creating a hazard to persons or property on the surface.

(b) An application for a certificate of authorization issued under this section must—

(1) Be made in the form and manner prescribed by the Administrator, and

(2) Contain the information required in §105.15(a) of this part.

(c) Each holder of, and each person named as a participant in a certificate of authorization issued under this section must comply with all requirements contained in the certificate of authorization.

(d) Each holder of a certificate of authorization issued under this section must present that certificate for inspection upon the request of the Administrator, or any Federal, State, or local official.

§105.23 Parachute operations over or onto airports.

No person may conduct a parachute operation, and no pilot in command of an aircraft may allow a parachute operation to be conducted from that aircraft, over or onto any airport unless—

(a) For airports with an operating control tower:

(1) Prior approval has been obtained from the management of the airport to conduct parachute operations over or on that airport.

(2) Approval has been obtained from the control tower to conduct parachute operations over or onto that airport.

(3) Two-way radio communications are maintained between the pilot of the aircraft involved in the parachute operation and the control tower of the airport over or onto which the parachute operation is being conducted.

(b) For airports without an operating control tower, prior approval has been obtained from the management of the airport to conduct parachute operations over or on that airport.

(c) A parachutist may drift over that airport with a fully deployed and properly functioning parachute if the parachutist is at least 2,000 feet above that airport’s traffic pattern, and avoids creating a hazard to air traffic or to persons and property on the ground.
§105.25 Parachute operations in designated airspace.

(a) No person may conduct a parachute operation, and no pilot in command of an aircraft may allow a parachute operation to be conducted from that aircraft—

(1) Over or within a restricted area or prohibited area unless the controlling agency of the area concerned has authorized that parachute operation;

(2) Within or into a Class A, B, C, D airspace area without, or in violation of the requirements of, an air traffic control authorization issued under this section;

(3) Except as provided in paragraph (c) and (d) of this section, within or into Class E or G airspace area unless the air traffic control facility having jurisdiction over the airspace at the first intended exit altitude is notified of the parachute operation no earlier than 24 hours before or no later than 1 hour before the parachute operation begins.

(b) Each request for a parachute operation authorization or notification required under this section must be submitted to the air traffic control facility having jurisdiction over the airspace at the first intended exit altitude and must include the information prescribed by §105.15(a) of this part.

(c) For the purposes of paragraph (a)(3) of this section, air traffic control facilities may accept a written notification from an organization that conducts parachute operations and lists the scheduled series of parachute operations to be conducted over a stated period of time not longer than 12 calendar months. The notification must contain the information prescribed by §105.15(a) of this part, identify the responsible persons associated with that parachute operation, and be submitted at least 15 days, but not more than 30 days, before the parachute operation begins. The FAA may revoke the acceptance of the notification for any failure of the organization conducting the parachute operations to comply with its requirements.

(d) Paragraph (a)(3) of this section does not apply to a parachute operation conducted by a member of an Armed Force within a restricted area that extends upward from the surface when that area is under the control of an Armed Force.

Subpart C—Parachute Equipment and Packing

§105.41 Applicability.

This subpart prescribed rules governing parachute equipment used in civil parachute operations.

§105.43 Use of single-harness, dual-parachute systems.

No person may conduct a parachute operation using a single-harness, dual-parachute system, and no pilot in command of an aircraft may allow any person to conduct a parachute operation from that aircraft using a single-harness, dual-parachute system, unless that system has at least one main parachute, one approved reserve parachute, and one approved single person harness and container that are packed as follows:

(a) The main parachute must have been packed within 180 days before the date of its use by a certificated parachute rigger, the person making the next jump with that parachute, or a non-certificated person under the direct supervision of a certificated parachute rigger.
(b) The reserve parachute must have been packed by a certificated parachute rigger—

(1) Within 180 days before the date of its use, if its canopy, shroud, and harness are composed exclusively of nylon, rayon, or similar synthetic fiber or material that is substantially resistant to damage from mold, mildew, and other fungi, and other rotting agents propagated in a moist environment; or

(2) Within 60 days before the date of its use, if it is composed of any amount of silk, pongee, or other natural fiber, or material not specified in paragraph (b)(1) of this section.

c) If installed, the automatic activation device must be maintained in accordance with manufacturer instructions for that automatic activation device.


§105.45 Use of tandem parachute systems.

(a) No person may conduct a parachute operation using a tandem parachute system, and no pilot in command of an aircraft may allow any person to conduct a parachute operation from that aircraft using a tandem parachute system, unless—

(1) One of the parachutists using the tandem parachute system is the parachutist in command, and meets the following requirements:

   (i) Has a minimum of 3 years of experience in parachuting, and must provide documentation that the parachutist—

   (ii) Has completed a minimum of 500 freefall parachute jumps using a ram-air parachute, and

   (iii) Holds a master parachute license issued by an organization recognized by the FAA, and

   (iv) Has successfully completed a tandem instructor course given by the manufacturer of the tandem parachute system used in the parachute operation or a course acceptable to the Administrator.

   (v) Has been certified by the appropriate parachute manufacturer or tandem course provider as being properly trained on the use of the specific tandem parachute system to be used.

(2) The person acting as parachutist in command:

   (i) Has briefed the passenger parachutist before boarding the aircraft. The briefing must include the procedures to be used in case of an emergency with the aircraft or after exiting the aircraft, while preparing to exit and exiting the aircraft, freefall, operating the parachute after freefall, landing approach, and landing.

   (ii) Uses the harness position prescribed by the manufacturer of the tandem parachute equipment.

(b) No person may make a parachute jump with a tandem parachute system unless—
(1) The main parachute has been packed by a certificated parachute rigger, the parachutist in command making the next jump with that parachute, or a person under the direct supervision of a certificated parachute rigger.

(2) The reserve parachute has been packed by a certificated parachute rigger in accordance with §105.43(b) of this part.

(3) The tandem parachute system contains an operational automatic activation device for the reserve parachute, approved by the manufacturer of that tandem parachute system. The device must—
   (i) Have been maintained in accordance with manufacturer instructions, and
   (ii) Be armed during each tandem parachute operation.

(4) The passenger parachutist is provided with a manual main parachute activation device and instructed on the use of that device, if required by the owner/operator.

(5) The main parachute is equipped with a single-point release system.


§105.47 Use of static lines.

(a) Except as provided in paragraph (c) of this section, no person may conduct a parachute operation using a static line attached to the aircraft and the main parachute unless an assist device, described and attached as follows, is used to aid the pilot chute in performing its function, or, if no pilot chute is used, to aid in the direct deployment of the main parachute canopy. The assist device must—
   (1) Be long enough to allow the main parachute container to open before a load is placed on the device.
   (2) Have a static load strength of—
      (i) At least 28 pounds but not more than 160 pounds if it is used to aid the pilot chute in performing its function; or
      (ii) At least 56 pounds but not more than 320 pounds if it is used to aid in the direct deployment of the main parachute canopy; and
   (3) Be attached as follows:
      (i) At one end, to the static line above the static-line pins or, if static-line pins are not used, above the static-line ties to the parachute cone.
      (ii) At the other end, to the pilot chute apex, bridle cord, or bridle loop, or, if no pilot chute is used, to the main parachute canopy.

(b) No person may attach an assist device required by paragraph (a) of this section to any main parachute unless that person is a certificated parachute rigger or that person makes the next parachute jump with that parachute.
(c) An assist device is not required for parachute operations using direct-deployed, ram-air parachutes.

§105.49 Foreign parachutists and equipment.

(a) No person may conduct a parachute operation, and no pilot in command of an aircraft may allow a parachute operation to be conducted from that aircraft with an unapproved foreign parachute system unless—

(1) The parachute system is worn by a foreign parachutist who is the owner of that system.

(2) The parachute system is of a single-harness dual parachute type.

(3) The parachute system meets the civil aviation authority requirements of the foreign parachutist's country.

(4) All foreign non-approved parachutes deployed by a foreign parachutist during a parachute operation conducted under this section shall be packed as follows—

(i) The main parachute must be packed by the foreign parachutist making the next parachute jump with that parachute, a certificated parachute rigger, or any other person acceptable to the Administrator.

(ii) The reserve parachute must be packed in accordance with the foreign parachutist's civil aviation authority requirements, by a certificated parachute rigger, or any other person acceptable to the Administrator.
U.S. Department of Transportation
Federal Aviation Administration
Advisory Circular on Sport Parachuting
1. PURPOSE. This advisory circular (AC) provides suggestions to improve sport parachuting safety and disseminates information to assist all parties associated with sport parachuting to be conducted in compliance with Title 14 of the Code of Federal Regulations (14 CFR) part 105. It also contains information for jumpers and riggers on parachuting equipment, on airport parachuting operations, jump pilot training, aircraft maintenance programs, parachute rigging, and procedures for Federal Aviation Administration (FAA) authorization for flight operations with a removed or modified door.

2. CANCELLATION. This AC cancels AC 105-2D, Sport Parachuting, dated May 18, 2011.

3. RELATED 14 CFR PARTS AND PUBLICATIONS. The FAA’s primary responsibility with respect to skydiving is the protection of air traffic and persons and property on the ground. Part 105 was developed to accomplish this task.

   a. Title 14 CFR. This paragraph describes the 14 CFR parts that are of interest to skydivers, parachute riggers, and jump aircraft pilots. They may be downloaded from the FAA’s website at http://www.faa.gov/regulations_policies/faa_regulations/. Since the Federal regulations and other publications may be amended at any time, all FAA regulations, ACs, and other documents are also available for download from the FAA’s website for continued compliance with current requirements.

      (1) Part 65, Certification: Airmen Other Than Flight Crewmembers. Subpart F concerns parachute riggers, their eligibility requirements, privileges, and performance standards.

      (2) Part 91, General Operating and Flight Rules. Parachute operators and jump pilots must comply with all applicable sections of part 91.

      (3) Part 105, Parachute Operations. This part is especially important to parachutists, parachute riggers, and the pilots who fly parachutists, since it contains regulations governing intentional parachute jumping.

      (4) Part 119, Certification: Air Carriers and Commercial Operators (§ 119.1(e)(6)). Pilots who conduct parachute operations within a 25 statute mile (sm) radius of the airport of departure may conduct them as commercial operations under part 91.

   b. Technical Standard Order (TSO)-C23, Personnel Parachutes Assemblies. The TSO-C23 series contains the minimum performance standards for parachute assemblies and components. Manufacturers design and test new parachutes to the most current TSO standards,
although they may continue to produce parachutes approved under earlier TSO standards. The most current TSO-C23 document may be obtained from the FAA website, http://www.faa.gov/regulations_policies/faq_regulations/.

c. Parachuting Symbols on Charts, Electronic Navigation Equipment, and Related Publications. Having parachuting symbols on aeronautical charts, electronic navigation equipment, and related publications helps alert pilots to the location of parachuting Drop Zones (DZ) and the need for extra caution in those areas. The FAA Aeronautical Information Services (FAA) collects, stores, and distributes static parachute jumping activities (PAJA) data for use in FAA publications, charts, and navigation databases.

    (1) Operators conducting parachute operations should report any additions, deletions, or changes to static PAJA data to the FAA air traffic control (ATC) facility with jurisdiction over the affected airspace. Operators should submit changes as outlined in part 105, § 105.15.

    (2) ATC facilities that have jurisdiction over the affected airspace should report any additions, deletions, or changes to static PAJA data to AJV-5. At a minimum, include location; distance and radial from the nearest very high frequency omni-directional range (VOR); maximum altitude; DZ radius; day/time of use; and the ATC frequency. Submit static PAJA changes to the Aeronautical Data, National Flight Data Center (NFDC) website at http://www.faa.gov/air_traffic/flight_info/aeronav/Aero_Data/.

4. BACKGROUND.

   a. Parachuting as an FAA-Recognized Aeronautical Activity. Sport parachuting (skydiving) continues to increase in popularity and is an FAA-recognized aeronautical activity even though parachutists are not certificated airmen. As an FAA-recognized aeronautical activity, regulations require airports that have received FAA funding to accommodate this activity unless the FAA determines that compatibility issues prohibit parachuting operations at a particular airport. FAA Order 5190.6, FAA Airport Compliance Manual, has more information regarding airport obligations.

   b. Training, Licensing, and Instructor Rating. Sport parachuting has certain inherent risks for all participants. The FAA encourages sport parachutists to complete formal training courses offered by nationally recognized organizations or organizations that have equivalent training programs. The United States Parachute Association (USPA) is an FAA-accepted, nationally recognized skydiving organization that licenses skydivers in the United States. Many local skydiving clubs, schools, and drop zone operators (DZO) require documentation of experience and competency before using their equipment and/or parachuting facilities. This documentation usually consists of a logbook with endorsements and/or a skydiving license issued by a nationally recognized organization.

   c. Parachute Equipment. Parachuting as a sport depends on equipment manufacturers, materials suppliers, parachute riggers, government and military agencies, and other industry professionals. The Parachute Industry Association (PIA) is an international trade association that brings all of these interests together for the purpose of advancing the technology and safety of parachutes and parachuting activities. The PIA creates, publishes, and maintains materials and technical and certification standards relating to parachutes, accessible on their website: http://www.pia.com.
5. SKYDIVER SAFETY.

a. Basic Safety Requirements (BSR). The USPA developed basic safety requirements and information for skydiving activities. These requirements and information are for training, checking equipment, and conducting a wide variety of sport parachuting activities. While not approved by the FAA, the BSRs are considered industry best practices and are widely accepted for use by individuals and parachute centers. The BSRs may be obtained from: The United States Parachute Association, 5401 Southpoint Centre Boulevard, Fredericksburg, VA 22407. The association’s phone number is (540) 604-9740 and the USPA website is http://www.uspa.org. The FAA encourages skydivers to use facilities that conduct their operations in accordance with the USPA BSRs or other similar skydiving association best practices.

b. Medical Certificates. While the regulations do not require an FAA medical certification, the FAA urges prospective skydivers to receive a physical examination prior to their first jump and on a periodic basis thereafter. The skydiver should inform the physician of the purpose of the examination.

c. Training Methods. The skydiving industry has developed various methods of first-jump instruction. The FAA recommends that beginning skydivers seek instruction from instructors that have met the qualifications set forth by a nationally recognized parachuting organization.

d. Safety Devices and Equipment.

(1) Deployment Assist Device. Section 105.47 requires that all persons making a parachute jump with a static line attached to the aircraft and main parachute use an assist device to aid the pilot chute in performing its function. An assist device is also required if no pilot chute is used in direct deployment of a round, main parachute canopy. The regulations do not require an assist device for direct deployment of a ram-air main parachute canopy.

(2) Automatic Activation Device (AAD). An AAD is a self-contained mechanical or electromechanical device attached to the parachute container that automatically releases the parachute closing system when it meets specific parameters, such as exceeding a specific vertical velocity and being at or below a specific altitude. Parachutists may attach this device to the main, reserve, or both. However, it is normally only attached to the reserve. An AAD does not physically open the parachute container or deploy the canopy, but rather initiates the container opening by pulling the ripcord pin or by cutting the container closing loop, allowing the canopy to deploy in a similar manner as when pulling the ripcord manually.

(a) The FAA requires that all tandem parachutes have an AAD installed on the reserve parachute. Many skydiving schools and clubs follow USPA BSRs and require the use of an AAD for all unlicensed skydivers.

(b) The FAA has not established Minimum Operational Performance Standards (MOPS) or a TSO for AADs. Therefore, the FAA recommends that anyone using an AAD review manufacturer’s reports conforming to the PIA Technical Standard TS-120, AAD Design and Testing Report Format, and independent third-party reports attesting to the AAD’s performance standard in order to make an educated decision prior to the use of any particular make or model of AAD. The FAA recommends that jumpers using AADs to satisfy the
requirements set forth in part 105 purchase them from manufacturers who provide such reports. Each parachute manufacturer approves the installation of the AAD on their equipment.

(c) Users of AADs should be aware of the device’s level of reliability and its operating limitations, be knowledgeable about the various parameters of the device, and be trained on the specific use and setting for the particular AAD. Users should be well informed about the use of the AAD and have access to the manufacturer’s instructions.

(d) Users should understand that AADs are strictly backup devices and are not intended to replace training or timely manual execution of emergency procedures. AADs may or may not initiate reserve parachute deployment at a sufficient altitude, depending upon various combinations of circumstances.

(e) Jumpers should make a prejump check using the manufacturer’s recommended procedures for proper setting, arming, and operational status verification to ensure the proper functioning of the AAD. This prejump check is usually made prior to boarding the aircraft to ensure that it is set at the proper altitude and under current weather conditions to aid in accuracy. This is especially important when using an AAD that has selectable or adjustable activation settings, or when the intended landing area is at an elevation different from that of the departure airfield.

(f) AADs may have selectable or adjustable altitude activation settings. Some AADs are preset for the intended type of operation (e.g., Tandem or Student), while others may be user-selectable. The model, version, and settings must be appropriate for the particular type of equipment and jump. Different manufacturers may have different arming altitudes, as well as different activation altitudes and vertical speeds for the similar settings.

(g) Since body position and other factors may cause a delay in the actual parachute opening altitude, the devices should only be used as a backup to manually deploying the reserve parachute. When the situation requires the use of the reserve parachute, the jumper should always manually pull the reserve ripcord using the established procedures for reserve deployment before ever reaching AAD activation altitude. The procedures for deployment of the reserve parachute are usually the same whether an AAD is installed or not.

(h) AAD malfunctions and activations should be reported to the AAD and container manufacturers, as well as to the USPA.

e. **Weather.** Strong or gusty winds can be dangerous, especially to student jumpers. In addition, skydivers and pilots should ensure adequate ceiling and visibility to maintain the required weather minimums.

f. **Parachute Landing Areas.** The FAA recommends that areas used as parachute landing areas remain unobstructed, with sufficient minimum radial distances to the nearest hazard. The guidelines in the USPA’s BSRs can be used in determining if the landing area is adequate.

g. **Water Safety Equipment.** Flotation gear should be worn whenever the intended exit point or landing point of a skydiver is within 1 mile of an open body of water.
h. **Advanced Parachuting.** Many of the safety suggestions presented in this AC are intended primarily for the student parachutist, who should make all jumps in a controlled training environment. Individual experience and judgment dictate what additional training should be obtained before undertaking more advanced parachuting activities. All parachutists should acquire experience and training before using unfamiliar or high-performance equipment.

i. **Prejump Equipment Checks.** The parachute system user has primary responsibility for the airworthiness of his equipment at the time of use. Prior to each jump, the user should inspect his equipment for serviceability, including at least general condition, AAD serviceability (see subparagraph 5d(2)), pilot chute bridle routing, main and reserve pin seating, and Reserve Static Line (RSL) routing and connection.

6. **PARACHUTE OPERATIONS ONTO AIRPORTS.**

a. **Stipulations for Landing at or Flying Over an Airport.** Most parachute operations take place at airports, including having the parachute landing area located on the airport property. Section 105.23 requires approval from airport management prior to skydiving onto any airport. However, § 105.23(c) allows a parachutist to drift over an airport with an open parachute without airport management approval as long as the parachutist remains at least 2,000 feet above that airport’s traffic pattern. Airport traffic patterns are generally 1,000 to 1,500 feet above ground level (AGL).

b. **Additional Aviation Activities.** A large number of airports that accommodate parachute operations also have different kinds of aviation activities taking place simultaneously, including flight training, glider and helicopter operations, emergency medical services, sightseeing operations, and aerobatic practice over or in the immediate vicinity of the airport. Many airports accommodate a large volume of transient traffic during skydiving operations.

c. **Shared Facility Airports.** The FAA recommends that shared facility airports have operating procedures so that each activity can operate safely by knowing the procedures for each of the other activities. Representatives of each type of activity can operate more effectively by knowing the procedures for each of the other activities. Representatives of each type of airport user group should develop procedures specific to their activity and share these procedures with other user groups. Airport management must ensure that airport policies and procedures are kept current, which can be accomplished via regularly scheduled meetings with all airport user groups.

(1) **Traffic Patterns.** With a minimum parachute opening altitude of 2,000 feet AGL (most parachutists open much higher), parachutes are nearly always open 800 feet or more above the traffic pattern altitude for any airport. Parachutes descend relatively slowly and are easy for pilots to acquire visually. Parachutists and pilots have a shared responsibility to see and avoid each other. Refer to AC 90-66, Recommended Standard Traffic Patterns and Practices for Aeronautical Operations at Airports without Operating Control Towers, for information on traffic patterns and parachute operations.

(2) **Parachute Landings on Airports.** Airports may designate suitable parachute landing areas. While skydivers attempt to land in such areas, at times there may be inadvertent landings
in other grass or hard-surfed areas. This could include landings on runways, taxiways, and other hard-surfed areas. Areas such as runways, taxiways, clearways, and Obstacle Free Zones (OFZ) are not prohibited areas but should not be designated as a primary landing area and should be vacated as soon as practical. Flying a parachute over runways at low altitudes should be avoided where possible. The FAA recommends that airport management work with parachute operators to develop standard operating procedures (SOP) for activities conducted by parachutists. Airports that receive or have received Federal funding or grant assurances may have additional requirements or restrictions to parachute landing areas. For additional information, refer to Order 5190.6; AC 150/5190-7, Minimum Standards for Commercial Aeronautical Activities; and AC 150/5300-13, Airport Design.

7. **JUMP AIRCRAFT MAINTENANCE AND JUMP PILOTS.** Whenever flights are offered for compensation or hire, the flight is considered a commercial operation under part 91, and Federal regulations require:

a. **Aircraft Inspections.** The operator must ensure the aircraft is maintained in accordance with part 91, § 91.409 as applicable:

   1. Section 91.409(a) and (b), annual and 100-hour inspection programs;

   2. Section 91.409(d), progressive inspection program;

   3. Section 91.409(f)(3), manufacturer’s inspection program; or

   4. Section 91.409(f)(4), approved inspection program.

b. **Aircraft Inspection Quality Assurance (QA).** Aircraft operated commercially under part 91 must be inspected by a person authorized to perform inspections under a 100-hour/annual program or an FAA-approved progressive inspection program consistent with the requirements for part 91 operations. Operators must maintain aircraft operated under 14 CFR part 125 or 135 under an FAA-approved maintenance program. The FAA recommends the use of an aircraft status sheet for QA.

c. **Additional Information on Acceptable Maintenance Programs.** Anyone conducting parachuting operations should contact his or her local FAA Flight Standards District Office (FSDO) for additional information on acceptable maintenance programs. Reviewing aircraft maintenance records can be simplified by the use of an aircraft status sheet (see Figure 1, FAA Aircraft Status Inspection List Example).
FIGURE 1. FAA AIRCRAFT STATUS INSPECTION LIST EXAMPLE

N________________ S/N________________ A/C Make and Model (M/M) ____________

Name of Airframe and Powerplant (A&P), Inspection Authorization (IA), or FAA Repair Station responsible for the inspection of the aircraft:

________________________________________________________________________

A&P or IA Certificate No. or Repair Station No.: ______________________________________________________

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8. PILOT RESPONSIBILITIES. The pilot in command (PIC) must adhere to all regulations applicable to the operation conducted. This includes, but is not limited to, the following:

   a. Pilot Certification, Experience, and Operating Requirements. The PIC is responsible for meeting the certification, proficiency, operating, and experience requirements of, but not limited to, 14 CFR parts 61, 91, and 105. Pilots conducting flight operations for compensation or hire are required to possess a Commercial Pilot Certificate with the appropriate ratings for the aircraft being flown and must have a current Class 2 medical certificate or equivalent.

   b. Jump Pilot Training. For those DZOs and parachuting operations that do not have a nationally recommended jump pilot training program, the FAA recommends that pilots flying aircraft for the purpose of sport parachuting have appropriate initial and recurrent training. The training program should include testing to ensure a high level of competence in the jump aircraft being flown. The training should include at least the following:

      (1) Ground Training.

         (a) Preflight inspection specific to jump aircraft and modifications.

         (b) Aircraft limitations.

         (c) Weight and Balance (W&B).

            1. Takeoff computations.

            2. Weight shift in flight procedures for exiting jumpers.

            3. Landing configuration.

         (d) Low-speed operations for jump runs.

            1. Maneuvering at minimum speed.

            2. Opening and closing jump door, if applicable.

            3. Stall recognition and recovery.

         (e) Emergency procedures.


            2. Emergencies caused by jump activities.

(f) Aircraft airworthiness determination.
   1. Maintenance requirements and procedures.
   2. Aircraft Status Inspection List (Figure 1).
   3. Minimum equipment list (MEL), if applicable.
   4. Logging maintenance discrepancies.

(g) Parachute packing in compliance with § 105.43.

(h) DZ surface and airspace familiarization.

(i) Descent procedures.
   2. AAD activation considerations with skydivers on board.

(2) Flight Training.

(a) Takeoffs and landings with representative loads.

(b) Center of gravity (CG) shift with jumper exit.

(c) Stall-spin prevention and recovery.

(d) Configuration for jump run and jumper exit, including procedures for tail strike avoidance.

(e) Skydive aircraft formation flying (if applicable), in accordance with USPA Formation Flying 101 guidance.

c. W&B Procedures. The PIC is solely responsible for assuring that the aircraft being flown is properly loaded and operated so that it stays within gross weight and CG limitations. The PIC should obtain additional aircraft station position information (loading schedule) for future W&B computations. The PIC is also responsible for reviewing these records and the flight manual to gain familiarity with an aircraft’s W&B procedures and flight characteristics.

d. Computing W&B. The PIC must include the following factors:

   (1) The maximum allowable gross weight and the CG limitations.

   (2) The currently configured empty weight and CG location.

   (3) The weight and CG location prior to each flight.

   (4) The weight and location of jumpers during each phase of the flight, in order to ensure that the aircraft stays within CG limits. The PIC must remain aware of CG shifts and their effects on aircraft controllability and stability as jumpers move into position for exiting the aircraft and as they exit.
e. **Operational Requirements.** The PIC is solely responsible for the operational requirements of parts 91 and 105, including compliance with the special operating limitations and placards required for flight with the door open or removed. The PIC is also responsible for ensuring that each occupant has been briefed on operation of his or her restraint system, procedures for ensuring aircraft W&B stays within limits while jumpers exit, and procedures to avoid tail strikes.

f. **Suitable Placards.** Placards should be located in the aircraft to help the pilot inform jumpers of the maximum approved loading and weight distribution. These placards should be located where anyone boarding the aircraft can see them. They should also clearly show the maximum approved seating capacity and the load distribution.

g. **Seatbelts and Approved Loading.** Section 91.107(a)(3)(ii) permits persons aboard an aircraft for the purpose of participating in sport parachuting activities to use the floor of the aircraft for a seat. However, among jump aircraft there are a wide variety of seats, benches, troop seats, and floor seating arrangements. In all cases, each person must have access to an installation-approved seatbelt. See Appendix 3, Seats and Restraint Systems, for additional information describing seat and restraint system configurations. The maximum number of skydivers is determined by that aircraft’s W&B limitations, as long as there is a seatbelt or restraint for each skydiver. The approved number of skydivers that each aircraft can carry for parachute operations will most commonly be found on FAA Form 337, Major Repair and Alteration (Airframe, Powerplant, Propeller, or Appliance), used for field approvals, or an aircraft Supplemental Type Certificate (STC).

h. **Oxygen.** Pilots must use oxygen when flying above 14,000 feet mean sea level (MSL). Operators must provide oxygen to occupants when the jump plane is above 15,000 feet MSL. Above 25,000 feet MSL, occupants should use pressure-demand oxygen systems. High-altitude jumps should be made only after becoming familiar with the problems and hazards created by low temperatures, lack of oxygen, and the various types of oxygen equipment. Jumpers should not attempt high-altitude jumps without an adequate supply of breathing oxygen (refer to § 91.211). Also, pilots must use oxygen while flying between 12,500 to 14,000 feet MSL for a duration of over 30 minutes.

i. **Altitude Reporting.** Pilots report altitudes in feet above MSL.

9. **PARACHUTE OPERATIONS IN DESIGNATED AIRSPACE.** Section 105.25 contains information on the ATC authorization and notification process (see Appendix 1, Table of Location of Jump Authorization or Notification).

   a. **Parachute Operations Restrictions.** No person may conduct a parachute operation, and no PIC of an aircraft may allow a parachute operation to be conducted from that aircraft:

      (1) Over or within a restricted or prohibited area, unless the controlling agency of the area concerned has authorized that parachute operation;

      (2) Within or into a Class A, B, C, or D airspace area without, or in violation of the requirements of, an ATC authorization issued under § 105.25; or
Within or into a Class E or G airspace area (except as provided in subparagraphs 9c and 9d), unless the ATC facility that has jurisdiction over the airspace at the first intended exit altitude receives notification of the parachute operation no earlier than 24 hours before and no later than 1 hour before the parachute operation begins.

b. Request for a Parachute Operation Authorization or Notification. Submit each request for a parachute operation authorization or notification required under this section to the ATC facility that has jurisdiction over the airspace at the first intended exit altitude and include the information prescribed by § 105.15(a).

c. Notification of Parachute Operations. For the purposes of subparagraph 9a(3), ATC facilities may accept a written notification from an organization that conducts parachute operations and lists the scheduled series of parachute operations over a period of time not longer than 12 calendar-months. The notification must contain the information prescribed by § 105.15(a) (see Appendix 1).

d. Armed Force. Subparagraph 9a(3) does not apply to a parachute operation conducted by a member of a Department of Defense (DOD) armed force within a restricted area that extends upward from the surface when that area is under the control of the DOD armed force.

10. JUMPS OVER AND INTO CONGESTED AREAS AND OPEN-AIR ASSEMBLIES OF PERSONS.

a. Off-Airport Jumps. A skydiver may make parachute jumps away from the usual on-airport parachute school, club, or center location, as long as landowner permission is obtained for the off-airport location.

b. Certificate of Authorization (COA). Section 105.21(a) requires an FAA COA in order to conduct a parachute operation over or into a congested area of a city, town, or settlement, or an open-air assembly of persons. The responsible person of the proposed jump must obtain this COA from the FAA FSDO that has jurisdiction over the site where the jump is proposed by submitting an application, FAA Form 7711-2, Certificate of Waiver or Authorization Application. A copy of FAA Form 7711-2 and information on filling out this form can be obtained from the local FSDO or downloaded from http://www.faa.gov. An application for a COA should be submitted at least 10 business-days in advance of the intended jump date to allow time for processing. Approval or denial of the application must be completed within 5 business-days of receipt by the FSDO.

11. AUTHORIZATION AND NOTIFICATION REQUIREMENTS FOR PARACHUTE OPERATIONS. Whether regulations require verbal or written authorization or a COA (FAA Form 7711-1, Certificate of Waiver or Authorization) for a parachute operation depends upon the type of airspace involved and the area where the parachutist intends to land. The airspace and landing area will determine the requirements. Parachutists and pilots can use Appendix I to determine what authorization or notification requirements are necessary for various types of jumps. The FAA recommends that anyone establishing a permanent DZ or a temporary jump site contact the ATC facilities nearest the site as early as possible. ATC personnel are in the best position to provide information on arrival and departure routes, airspace...
classifications, and other airspace operations that may affect the safe and efficient flow of a parachuting operation. If you are uncertain of the requirements after looking at Appendix 1, contact your local FSDO and/or ATC facility for additional information.

12. **EXHIBITION JUMPS AT OFF-AIRPORT LOCATIONS.**

   a. **Parachute Landing Areas.** The FAA requires the following size areas when issuing a COA for parachuting operations conducted over or into a congested area or an open-air assembly of persons.

   (1) **Open Field.** An open area, no less than 500,000 square feet (e.g., approximately 710 feet by 710 feet, or dimensions with a sum total that equals or exceeds 500,000 square feet) that will accommodate landing no closer than 100 feet from spectators. Allows a jumper to drift over the spectators with sufficient altitude (250 feet) so as to not create a hazard to persons or property on the ground.

   (2) **Level I.** An open area that will accommodate a landing area no smaller than 250,000 square feet (e.g., approximately 500 feet by 500 feet, or dimensions with a sum total that equals or exceeds 250,000 square feet) and which will accommodate landing no closer than 50 feet from spectators. Allows a jumper to pass over the spectators no lower than 250 feet, including the canopy and all external paraphernalia. Many open field athletic areas and airport operational areas constitute Level I landing areas.

   (3) **Level II.** An open area that will accommodate a rectangular, square, oval, or round-shaped landing area of approximately 5,000 square feet for no more than four jumpers, with at least 50 feet in width. Also accommodates an additional 800 square feet minimum for each additional jumper over four for any jumper landing within 30 seconds of the last of any four jumpers. This permits jumpers to land no closer than 15 feet from spectators and to pass over the spectators no lower than 50 feet, including the canopy and all external paraphernalia.

   (4) **Stadium.** A Level II landing area smaller than 450 feet in length by 240 feet in width and bounded on two sides or more by bleachers, walls, or buildings in excess of 50 feet high.

   (5) **Other Landing Area Considerations.**

      (a) A landing area that exceeds the maximum dimensions of a Level I landing area, that permits a parachutist to drift over a congested area or open-air assembly with a fully deployed and properly functioning parachute (if the parachutist is at sufficient altitude to avoid creating a hazard to persons and property on the ground) and that has no other safety concerns would likely not require a COA as required by § 105.21.

      (b) Any parachute jumping demonstration planned in conjunction with a public aviation event will require a COA with appropriate special provisions as required by § 105.21, even if the landing area exceeds the maximum dimensions for a Level I area. A parachute jumping demonstration planned in conjunction with a public aviation event is one that takes place any time after the first spectator arrives for the event that day.
(6) Tandem Jump Demonstrations. Only tandem instructors, rated by the USPA or authorized by the FAA General Aviation and Commercial Division (AFS-800), Federal Aviation Administration, Flight Standards Service, 800 Independence Avenue SW, Washington, DC 20591 may conduct tandem demonstrations. Tandem jumps may be authorized as follows:

(a) Tandem jumps into open field and Level I landing areas do not require any previous jump experience for the passenger.

(b) Tandem jumps into Level II areas require the passenger to have a USPA category D license with a Professional Exhibition (PRO) Rating.

(7) Alternate Landings Areas. Regardless of the parachutists’ experience, “runoffs” or escape areas must be identified.

(8) Intentional Cutaway. Cutaways may not be performed if the cutaway equipment will drift into the spectator area.

b. Qualification and Currency Requirements. In addition to landing area size requirements, the FAA also imposes qualification and currency requirements. The FAA recognizes and accepts USPA licenses and ratings found in the parachutist’s license and recent experience requirements that are established in FAA Order 8900.1, Volume 3, Chapter 6, Section 1, Issue a Certificate of Waiver or Authorization for an Aviation Event, located at http://fsims.faa.gov. In accordance with Order 8900.1, parachutists and instructors who are not members of the USPA and who wish to participate in a demonstration or exhibition jump over or into a congested area must present satisfactory evidence of the experience, knowledge, and skill equivalent to that required by the USPA and must have a letter of approval from AFS-800.

13. PARACHUTE EQUIPMENT RULES.

a. Parachute. Title 14 CFR part 1, § 1.1 defines a parachute as a device used, or intended to be used, to retard the fall of a body or object through the air. For the purposes of this AC, a parachute assembly normally, but not exclusively, consists of the following major components: a canopy, a deployment device, a pilot chute and/or drogue, risers, a stowage container, a harness, and an actuation device (ripcord). There are, of course, some lesser parts associated with these major components such as connector links, bridles, and hardware. The term “pack,” when used in this AC, refers to the complete harness-container system, including the main parachute container, plus the reserve parachute and associated components. Except for an RSL (if installed), it does not include the main canopy, main risers, or components that depart with the main canopy if it is jettisoned. If a container is designed to be easily disconnected from its harness (for storage or transport, for example), the term “pack” refers to the container/canopy assembly by itself, without the harness.

b. Parachute Harness. Section 105.43 requires a solo parachutist making an intentional jump wearing a single-harness dual-pack parachute to have at least one main parachute and one approved reserve parachute. For tandem jumps, the parachute system defined in § 105.3 includes a main parachute, a reserve parachute, a harness and dual parachute container, an AAD, and a forward harness for a passenger parachutist. For both solo and tandem parachutists, the harnesses
(including the forward harness of a tandem system) and reserve parachute packs must be approved types, but the main parachutes do not need approval. The following are examples of approved parachutes as defined in § 105.3:

1. **Parachutes Manufactured Under TSO-C23.** This TSO prescribes the minimum performance and QA standards for personnel parachutes that are carried aboard civil aircraft or by skydivers for emergency use, including reserve parachutes used for intentional jumps. The manufacturer must meet these standards before labeling its parachute or components as complying with the TSO.

2. **Demilitarized or Military Surplus Parachutes.** Military personnel-carrying parachutes (other than high-altitude, high-speed, or ejection kinds) identified by military drawing number, military order number, or any other military designation or specification. These parachutes are often referred to as demilitarized or military surplus parachutes.

c. **Assembly of Major Components.** The assembly or mating of approved parachute components from different manufacturers may be made by a certificated, appropriately rated parachute rigger in accordance with the parachute manufacturer’s instructions and without further authorization by the manufacturer or the FAA. Specifically, when various parachute components are interchanged, the parachute rigger should follow the canopy manufacturer’s instructions as well as the parachute container manufacturer’s instructions. However, the container manufacturer’s instructions take precedence when there is a conflict between the two.

1. Assembled parachute components must be compatible. Each component of the resulting assembly must function properly and may not interfere with the operation of the other components. For example:

   a. Do not install a canopy of lesser or greater pack volume than the intended design criteria for the specific size of container, since it could adversely affect the proper functioning of the entire parachute assembly.

   b. A TSO’d canopy may be assembled with a demilitarized harness, or vice versa, as long as the assembled components comply with the safety standard of the original design.

   c. In cases where a main canopy that is already mounted on risers is assembled to an existing harness/container system, ensure that the completed assembly functions correctly. Refer to the manufacturer’s instructions to see if and how the RSL (if installed) may be deactivated when equipment configuration does not permit its use.

2. Any questions about the operation of the assembly should be resolved by actual tests by the rigger to make certain the parachute is safe for emergency use.

3. For a single-harness parachute system, the strength of the harness must always be equal to or greater than the maximum force generated by the canopy during certification tests. The rigger who assembles the system should record these limits in a place accessible to the user when he or she dons the assembly. Some manufacturers may also specify minimum weights or speeds for safe operation.
(a) The maximum operating weight and maximum pack opening speed of components manufactured under TSO-C23c, TSO-C23d, and TSO-C23f are marked on the components themselves.

(b) In the case where either the harness or canopy of a single-harness system is certified under TSO-C23b and the manufacturer has not specified operating limits, derive the maximum pack opening speed for that component from the strength test table in the National Aerospace Standards Specification (NAS)-804, Parachutes.

1. For the maximum operating weight of the TSO-C23b component, use the highest weight in the table less than or equal to the maximum operating weight of the other component and use the corresponding speed in the table as the maximum pack opening speed of the TSO-C23b component.

2. For the maximum pack opening speed of the TSO-C23b component, use the highest speed in the table less than or equal to the maximum pack opening speed of the other component and use the corresponding weight in the table as the maximum operating weight of the TSO-C23b component.

(4) For tandem systems, there may be additional limits for each harness.

d. AAD Installation. The FAA accepts the installation (addition of pockets, channels, guides, etc., required for the AAD assemblage in the parachute container) of each make/model AAD as part of the paperwork that is submitted by the parachute manufacturer during the TSO approval for parachute harness/container systems. The TSO approval by the FAA and the AAD approval by the manufacturer (mentioned, for example, in § 105.43(b)) are for the installation only, and are based on AAD operation not interfering with normal function of the parachute. A retrofit installation, or installation of a make or model AAD other than those specifically authorized for use by the parachute manufacturer for a particular TSO or Military Specifications (MIL-SPEC)-approved parachute, constitutes an alteration to that parachute (see paragraph 16). Manufacturer and retrofit installations are done in consultation and agreement with the AAD manufacturer, and in accordance with established test procedures such as PIA Technical Standard (TS)-112, Harness/Container - AAD Installation Test Protocol.

e. Instructions for Maintenance, Repair, or Alteration of Specific Parachutes. These instructions may be available by contacting manufacturers. Many manufacturers provide their manuals online through their websites. The PIA website, http://www.pia.com, provides a good starting point for searches. When such instructions are not available, The Parachute Manual, Volumes I and II (Dan Poynter, 1991) and FAA-H-8083-17, Parachute Rigger Handbook, set out commonly accepted repair practices. The Parachute Manual and The Parachute Rigger Handbook can be purchased from commercial booksellers; The Parachute Rigger Handbook is also available for download at: https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/.

f. Parachutist’s Handling of Equipment. The user of a parachute system may perform simple assembly and disassembly operations necessary for transportation, handling, or storage between periods of use if the parachute’s design simplifies such assembly and disassembly without the use of complex operations.
g. **Removal of Pilot Chute.** A certificated senior or master parachute rigger may remove the pilot chute from a front-mounted (e.g., chest-type) reserve parachute if the canopy does not use a diaper, bag, or other deployment device. When complete, the parachute must have the plain marking, “PILOT CHUTE REMOVED.” This kind of parachute can be used for intentional jumping only.

h. **Extra Equipment.** The FAA does not consider the attachment of an instrument panel, knife sheath, or other material to the exterior of the parachute assembly an alteration. If attaching any extra equipment, take care not to impair the functional design of the system.

14. **PARACHUTE PACKING.**

a. **Reserve Parachutes.**

(1) A certificated and appropriately rated parachute rigger must pack the reserve parachute.

(2) Visiting foreign parachutists jumping parachute systems that the FAA has not approved must have their reserve parachutes packed by someone acceptable to the foreign parachutist’s Civil Aviation Authority (CAA) or by a FAA-certificated rigger.

(3) The certificated and appropriately rated parachute rigger must pack the reserve parachute within 180 days before the date of use if the parachute system is made of materials substantially resistant to mold, mildew, or other rotting agents, or within 60 days of the date of use otherwise.

(4) A parachute user must ensure that an AAD is maintained in accordance with the AAD manufacturer’s instructions and service requirements. When a rigger packs a reserve parachute, the rigger is only certifying that it meets all safety requirements on the day it is packed; therefore, riggers should note any maintenance or battery replacement due date(s) on the packing data card so that users are able to determine AAD airworthiness and ensure conformance to the regulations. AADs are to be installed in accordance with the harness/container manufacturer’s instructions.

(5) Only the rigger who did the packing, and whose seal is removed to permit scheduled or unscheduled maintenance or repairs to the reserve container, may open, reclose, and reseal it (e.g., AAD service or closing loop adjustment) within the 180-day or 60-day period in subparagraph 14a(3).

b. **Main Parachutes.** Main parachutes must be packed within 180 days before the date of use and be packed by any certificated parachute rigger or a person working under the direct supervision of a certificated parachute rigger. The person making the next jump (including a tandem parachutist in command, but not the passenger parachutist) may also pack the main parachute.
15. PARACHUTE REPAIRS.

a. **Major Repair.** A major repair, as defined in § 1.1, is a repair that, if improperly done, might appreciably affect airworthiness.

b. **Minor Repair.** A minor repair is a repair other than a major repair.

c. **Major or Minor Repair Determination.** When there is a question about whether a particular repair is major or minor, follow the manufacturer’s instructions. In the absence of the manufacturer’s instructions, riggers should use the FAA’s Parachute Rigger Handbook (FAA-H-8083-17) and Poynter’s Parachute Manual Volume I and II as guides. If the procedure calls for a master rigger, it should be considered a major repair. If the procedure allows for a senior rigger, it should be considered a minor repair.

(1) The same kind of repair may be classed as major or minor depending on size or proximity to key structural components. For example, a basic patch may be a minor repair if it is small and away from seams, but may be a major repair if it is large or adjacent to a seam.

(2) The same kind of repair may be classed as major or minor depending on whether it is done to an approved or unapproved component. For example, replacement of a suspension line on a reserve canopy is usually a major repair, while replacement of a suspension line on a main canopy is generally considered a minor repair (even if the identical technique is required for both replacements).

(3) If an operation results in an approved configuration, the operation is considered a repair. For example, if a parachute system is approved with and without an RSL, then removing or replacing RSL components is a repair that may be major or minor depending on whether, if improperly done, it might appreciably affect airworthiness. Similarly, resizing a harness, when the original design permits a range of sizes, is a repair when the resized harness remains within the permitted range.

(4) Only an appropriately rated master rigger or a manufacturer of approved parachute components may make major repairs. The manufacturer may designate certain repairs to be done only by the manufacturer or the manufacturer’s designee.

16. PARACHUTE ALTERATIONS.

a. **Configuration.** Alterations are changes to a parachute system configuration that the manufacturer or the manufacturer’s supervising FAA Aircraft Certification Office (ACO) has not approved. Examples include removing a deployment device from a reserve canopy, adding harness fittings to permit attaching an additional canopy, using nonstandard repair materials or techniques, or installation of a specific make/model AAD when the manufacturer has not authorized such changes. Changes that result in an approved configuration are considered repairs (see paragraph 15).

b. **Approval.** An alteration to an approved parachute system must be done in accordance with approved manuals and specifications and only by those with specific authorization to perform that alteration. Specific approval is not needed for the method of altering a non-TSO’d
main parachute canopy. A person seeking authorization to alter an approved parachute system should proceed as follows:

(1) A person qualified to alter a parachute (as listed below) should contact his or her local FAA FSDO inspector to discuss the proposed alteration. The applicant should be prepared to show the inspector the nature of the alteration by using a sample assembly, sketch, or drawing and be prepared to discuss the nature of the tests necessary for showing that the altered parachute meets all applicable requirements.

(2) The inspector will review the proposal with the applicant and a plan of action will be agreed upon.

(3) The applicant will then prepare an application, in the format of a letter, addressed to the local FSDO. Attach all pertinent data. The data should include:

- A clear description of the alteration;
- Drawings, sketches, or photographs, if necessary;
- Information such as thread size, stitch, pattern, materials used, and location of altered components; and
- Some means of identifying the altered parachute (model and serial number).

(4) The FSDO aviation safety inspector (ASI) may send an alteration to the ACO for review if the ASI is not experienced in parachute alterations. When satisfied, the inspector will indicate approval by date stamping, signing, and placing the FSDO identification stamp on the letter of application.

(5) Only a certificated and appropriately rated master parachute rigger, a current manufacturer of approved parachute systems or components, or any other manufacturer the Administrator considers competent may perform alterations to approved parachutes.

17. MATERIALS USED FOR REPAIRS TO TSO-APPROVED COMPONENTS.

a. Material Quality. Materials used for repairs to TSO-approved components including, but not limited to, fabric, suspension line, tape, webbing, thread, and hardware, must meet the same specifications, requirements, and certifications of the original materials used by the manufacturer.
b. **Parachute Fittings.** Hardware may be reconditioned and reused, as long as it complies with subparagraph 17a. However, the plating or replating of load-carrying parachute fittings may cause hydrogen embrittlement and subsequent failure under stress unless the plating is done properly. Chrome- or nickel-plated harness adjustment hardware may also have a smoother finish than the original and may permit slippage.

John Barbagallo
Deputy Director, Flight Standards Service
# APPENDIX 1. TABLE OF LOCATION OF JUMP AUTHORIZATION OR NOTIFICATION

<table>
<thead>
<tr>
<th>Location of Jump</th>
<th>Kind of Authorization Required</th>
<th>When to Apply or Notify</th>
<th>Where to Apply or Notify</th>
<th>Title 14 CFR Section Reference</th>
</tr>
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<tbody>
<tr>
<td>Over or onto any airport</td>
<td>Prior approval</td>
<td>Prior to jump</td>
<td>Airport management</td>
<td>§ 105.23</td>
</tr>
<tr>
<td>In or into Class E or G airspace</td>
<td>Air Traffic Control (ATC) notification</td>
<td>Between 24 hours and 1 hour prior to jump</td>
<td>ATC facility having jurisdiction</td>
<td>§ 105.25</td>
</tr>
<tr>
<td>In or into Class A, B, C, or D airspace</td>
<td>ATC authorization (see Note)</td>
<td>Prior to jump</td>
<td>ATC facility having jurisdiction</td>
<td>§ 105.25</td>
</tr>
<tr>
<td>Over or within a restricted or prohibited area</td>
<td>Prior authorization</td>
<td>Prior to jump</td>
<td>Controlling agency, as noted on sectional chart</td>
<td>§ 105.25</td>
</tr>
<tr>
<td>Over or into a congested area or open-air assembly of persons</td>
<td>FAA Form 7711-1, Certificate of Waiver or Authorization</td>
<td>10 business-days prior to jump</td>
<td>Flight Standards District Office (FSDO) having jurisdiction over the area where jump is to be made</td>
<td>§ 105.21</td>
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</tbody>
</table>

**Note:** Verbal authorization normally issued.
APPENDIX 2. OPERATION OF AIRCRAFT WITH DOOR REMOVED OR MODIFIED FOR PARACHUTING OPERATIONS

1. **Operating Limitations Revision.** The previous revision, Advisory Circular (AC) 105-2D, Sport Parachuting, Appendix 2, provided a list of aircraft that have Federal Aviation Administration (FAA)-approved door open or removal procedure authorization with operating limitations. That list did not include all the aircraft currently used in skydiving operations. Instead of continuing with the use of that list, contact your local Flight Standards District Office (FSDO) for information on getting an authorization to operate your aircraft with the door removed and/or a door modified to open/close in flight. Aircraft that have approved procedure and operating limitations in their FAA-approved Aircraft Flight Manual (AFM) or an FAA-approved Supplemental Type Certificate (STC) may operate in accordance with those documents.

2. **Operation with Modified or Removed Door.** Any aircraft type, utility/normal category model that has had FAA-approved data used for skydiving operations or door removal can be considered.

   a. **Required Data.** It is the responsibility of the applicant to supply the FAA aviation safety inspector (ASI) with any data necessary to have his or her aircraft approved to operate with a door removed or a door modified to open/close in flight during jump operations. If the aircraft is altered and operated in accordance with an STC, no other limitations are required.

   b. **Approved Data.** Many aircraft have jump door and/or restraint systems approved by type certificate (TC), STC, or field approval. Aircraft that have not been FAA-approved by TC, STC, or field approval must have the required data to address the alteration from a Designated Engineering Representative (DER), Organization Designation Authority (ODA), or other FAA-approved data. This data will allow the owner/operator the ability to apply for a field approval or one-time STC for that aircraft.

3. **Previously Approved Field Approvals.** Applicants can present a previously FAA-approved field approval for jump door, handles, step, and skydiver restraint systems as data for the field approval process if the FAA-approved data are for the same aircraft make, model, and series (M/M/S).

4. **Field Approval Process.** Applicants need to follow the latest guidance found in FAA Order 8900.1, Volume 4, Chapter 9, Selected Field Approvals, for a field approval process. This guidance can be found at http://fsims.faa.gov. Any changes to the flight manual require FAA and Aircraft Certification Office (ACO) approval. Applicants must include placards and skydiver restraint systems in the continued airworthiness instructions covering the repair of placards, restraint system components, steps, handles, jump doors, etc. Installation, removal, and inspection of installed equipment will be entered in the aircraft maintenance records, including the inspection checklist for the installation and operational check of restraint systems.
APPENDIX 3. SEATS AND RESTRAINT SYSTEMS

1. **Seating Configuration and Restraint System Safety.** Not all seating and restraint system configurations used in jump aircraft provide the same level of safety in the event of an emergency landing. This appendix provides general information concerning the relative safety of commonly used seating configurations and restraint systems. These safety assessments are based on available research data and in-service experience.

2. **General Information.**

   a. **Quick Release Track Fittings.** Single stud quick release track fittings have been shown to release from the track at dynamic loads much lower than their rated strength. Dual stud quick release fittings did not exhibit this behavior in dynamic tests. Therefore, dual stud quick release fittings of the type shown in Figure 2, Dual Stud Quick Release Track Fitting, provide a much more reliable restraint anchorage than single stud fittings.

   b. **Lap Belts.** Lap belts are only effective if there is a solid support surface behind the occupant, such as a seat back, aircraft sidewall, or bulkhead. Otherwise, a tether restraint that attaches to the parachute harness provides more effective restraint.

   c. **Restraint for Aft-Facing Parachutists.** Research has shown that to restrain aft-facing parachutists, the most effective point to attach a tether restraint to a parachute harness is at the junction of the leg straps, main lift web, and the horizontal back strap. Figure 3, Tether Restraint Usage, illustrates this attachment method, in which the tether loop encircles the junction by passing between the main lift web and the horizontal back strap, and between the upper leg strap and the lower leg strap. One way to achieve this is to route the tether loop under the upper leg strap, then under the main lift web before latching the loop, as depicted in Figure 4, Pass Tether Loop Under Upper Leg Strap; Figure 5, Pass Tether Loop Under Main Lift Web; and Figure 6, Latch Tether Loop Around Parachute Harness. Since these two components of the harness are easily accessible by the wearer, this attachment method should not be prone to misuse. It also provides more effective restraint than attaching at other points on the parachute harness since the restraining force is applied near the seated occupant’s center of gravity (CG).

   d. **Restraint Belts or Tethers.** Past experience and testing have shown the validity of attaching a restraint belt(s) or tether(s) to the parachute harness as part of the overall integrated restraint system. However, most manufacturers have not tested their parachute harness configurations to see if they can accept the load vectors that would be experienced during the actual use of this type of restraint configuration. Because of this, any parachute harness that has been subjected to actual use as part of an integrated restraint system must be removed from service and inspected by the manufacturer or a parachute rigger designated by the manufacturer to determine the continued airworthiness of the parachute harness. If the inspection shows that the harness is Airworthy, it may be returned to service.
3. **Specific Seating/Restraint Configurations.**

   a. **Side-Facing.** Conventional side-facing bench seats employing dual point lap belts are a superior means of carrying parachutists in aircraft large enough to accommodate them. They offer the advantages of being simple to use and can be designed to provide significant vertical energy absorption.

   b. **Rear-Facing Floor Seating.**

      (1) Restraints are more effective if attached to the floor instead of the sidewall. Only use sidewall attachments if floor attach points are not available.

      (2) Effectiveness is increased if overall tether length is kept as short as possible and the tether attachment to the aircraft is aft of the harness attachment point.

      (3) Single point, single tether restraints are not recommended.

      (4) Dual point, dual tether restraints offer superior restraint compared to single point, single tether restraints. This restraint method consists of two straps, each connecting the parachute harness to the aircraft floor on both sides of the parachutist as shown in Figure 7, Tether Restraint Attachment to Floor for Rear-Facing Floor Seats; Figure 8, Dual Point, Dual Tether Restraint Configuration for Rear-Facing Floor Seats; and Figure 9, Dual Point, Dual Tether Restraint Attachment to Floor for Rear-Facing Straddle.

   c. **Rear-Facing on Straddle Bench.**

      (1) Straddle benches can offer more occupant crash protection than floor seating since they can be designed to provide significant vertical energy absorption.

      (2) As with floor seating, restraints are more effective if attached to the floor instead of the sidewall.

      (3) Restraint effectiveness is improved if the tether strap is attached to the floor such that it is at an approximately 45-degree angle, as shown in Figure 9.

      (4) Single point, single tether restraints are not very effective.

      (5) Dual point, dual tether restraints offer superior restraint compared to single point, single tether restraints.
FIGURE 2. DUAL STUD QUICK RELEASE TRACK FITTING

FIGURE 3. TETHER RESTRAINT USAGE
FIGURE 4. PASS TETHER LOOP UNDER UPPER LEG STRAP

FIGURE 5. PASS TETHER LOOP UNDER MAIN LIFT WEB
FIGURE 6. LATCH TETHER LOOP AROUND PARACHUTE HARNESS

FIGURE 7. TETHER RESTRAINT ATTACHMENT TO FLOOR FOR REAR-FACING FLOOR SEATS
FIGURE 8. DUAL POINT, DUAL TETHER RESTRAINT CONFIGURATION FOR REAR-FACING FLOOR SEATS

FIGURE 9. DUAL POINT, DUAL TETHER RESTRAINT ATTACHMENT TO FLOOR FOR REAR-FACING STRADDLE
Middletown Regional Airport
Drop Zone
Citizen Input
I have had a long association with the airport starting in 1949 when I learned to fly. I have had a long commitment to the Airport Commission. I also owned three different hangers and based five different aircraft at the airport over the years.

Skydiving has been a source of revenue for the airport and an attraction to many. The drop zone has been a concern to local, transient and corporate pilots. There needs to be as good a compromise as possible to move the drop zone. MWO is a unique and very attractive facility and a great economic asset to Middletown, and by the way the Turf runway just adds to this asset and should be preserved.

Tom Wortley

Sent from my iPhone
Hi Matt,

I suggest zone 4, see attach map, which puts the landing zone on the same side of the runway as the skydiving office and is the farthest away from each runway. I landed my glider on the grass runway in 2018. I fly out of Caesar Creek Soaring Club. Thanks for allowing me to contribute by email.

--
Best Regards,
Chuck Lohre, chuck@lohre.com, President, SMPS-CPSM, LEED AP ID+C, Hubspot User
11223 Cornell Park Drive, Suite 301, Cincinnati OH 45242
Green Cincinnati Education Advocacy, Environmental Education, https://protect-us.mimecast.com/s/8G5QCPN95vF361Li0QG51
535 Windings Court, Cincinnati, OH 45220
513-961-1174, Cell 513-260-9025
Council members

Please see the attached letter relative to the proposed drop zone changes and other issues associated with Start Skydiving and airport regulations.

Thomas Anderson
Dear Middletown City Council,

I have kept an airplane at the Middletown Regional Airport for the last 29 years. I learned to fly at this airport and currently serve on the Airport Commission. I am a licensed aircraft mechanic and a retired Aeronautical Engineer. I provide this history to demonstrate my strong interest in the operation and utilization of the airport as a city asset and a piece of our transportation infrastructure.

Ever since Start Skydiving came to Middletown concern has been expressed about the location of the landing zones and their proximity to the runway and aircraft operating areas. Complaints to Start accomplished nothing since they were the airport managers. Complaints to the local FAA Flight Standards District Office (FSDO) had little or no effect because, as we have learned, they have no authority over airport design or operation. That authority belongs to the City of Middletown and the FAA Airport District Office (ADO). Complaints about Start Skydiving’s flight operations to the local FSDO were also relatively ineffective because of the close relationship between a number of FSDO employees and Start. There has been little or no appetite for The City of Middletown to address the issues related to Start, so the situation has remained unchanged since Start arrived and became the airport managers.

There have been numerous incidents between Start Skydiving jumpers, their aircraft and other operating aircraft. The proximity of the landing zones to the runways and taxiways have been the primary reason for these incidents. If one looks at the landing zone depiction that they display, it consumes the entire open area of the airport except for the runways and taxiways. Cars and people are not allowed near the aircraft operating areas, yet the parachutists wander across them whenever Start is in operation. Thankfully, the ADO has indicated this situation cannot continue. Moving the landing zone location off airport is the ultimate and safest solution to his situation and it keeps the airport available to all users and further economic development.

Start Skydiving flight operations have also been a concern. Unless mandated otherwise by the city or the FAA, the normal flight procedure is to enter downwind at approximately 1000ft AGL (Above Ground Level). Generally Start completely ignores the downwind leg of the pattern and enters the base leg at 4000ft AGL, far above where they can be seen or see others already in the pattern. While this may be legal, it is not safe and the only entity that can change it is the City of Middletown. The FAA does not mandate pattern altitude or procedures, it is only a recommendation on their part. This is similar to the current regulation mandated by the city many years ago that a right hand pattern be used for runways 23 and 28 to reduce low level flight over populated sections of the city. Normal flight procedures on and around the airport need to be re-established for the safety of all concerned.

Thank you for your attention to these issues

Thomas Anderson
Sirs:

I am providing feedback to the Council for the meeting on Feb 18th concerning the following questions:

1. The effect of the current drop zone areas on your operations/use of the airport

   We are the Civil Air Patrol and our aircraft is in Hangar 5, Bldg 2311 at the north end of the airport. Our operations have been impacted somewhat by the current skydiving operations. Our issues have centered around jumpers landing on the taxiways and runways during our operations. I personally have had to take evasive action a few times to avoid a skydiver. Overall, we are aware of the hazards and have made adjustments to stay safe. Our biggest issues has been getting fuel from Start Skydiving. Now that the FBO ops have been transferred away from Start Skydiving we feel the fuel issues will go away.

2. The possible impacts, from your perspective, on the 4 proposed drop zone areas

   We would support proposed drop zone 4. It has the least impact on flight operations at the airport.

3. The effect of additional development at the airport on your operations/use of the airport

   We are not aware of what additional development is being proposed. We fly several times a month and appreciate the new FBO operations in terms of providing fuel. We also use the grass strip for training occasionally. We have used the training rooms that were built by Start Skydiving and would like to use those in the future as well.

Please feel free to contact me concerning future Civil Air Patrol operations at MWO.

Semper Vigilans — Always Vigilant

Maj Russ Finney, CAP
GLR OH Sq 244 Commander
(C) 513.314.6891
(WK) 513.942.7000
Russell.Finney@Ohwg.cap.gov
U.S. Air Force Auxiliary
GoCivilAirPatrol.com
Ohwg.cap.gov
Esteeemed members of the Middletown City Council,

I feel it is imperative that I provide you with input regarding the existing and proposed location of the designated drop zones at the Middletown Regional Airport/Hook Field (MWO). Closure on this issue will provide the direction the city and the airport needs in order to move forward into the future and fully leveraging the valuable asset to the city that MWO is. I apologize for not being present at this meeting, but I am currently out of town serving as a track host for this year’s Airport Planning, Construction, and Design Symposium that is held by the American Association of Airport Executives and the Airport Consultant’s Council. As a member of the MWO Airport Commission for the past 3 years, an active FAA licensed Commercial Pilot, and an Airport Planning consultant, I would like to provide the following input.

Let me start by first saying that I am a proponent of skydiving at the airport. Any activity that drives traffic and operations at the airport is good for both the airport and the city…as long as it is performed in a safe and predictable manner. This is not a matter of the city vs. skydivers, or the airport vs. skydivers, this is a matter of safety, not only for pilots and aircraft operators, but for skydivers as well.

1. The existing location of the drop zones are in no way standard from an airport safety, planning, and design perspective. They do not comply with FAA guidance on the planning and layout of airports. Two of the three existing drop zones identified are either wholly, or partially within the Runway Safety Area (RSA) and require the crossing of active runways and/or taxiways by both ground vehicles and pedestrians. This situation should NEVER be considered to be standard practice. For instance, a runway is more than just the physical runway pavement. According to FAA Advisory Circular 150/5300-13A, Airport Design, the Runway is considered to be occupied and unavailable for use by other aircraft any time a person, vehicle, or aircraft is within the boundaries of the RSA, not just on the runway. Having skydivers, who are in most instances unfamiliar with the airport environment, and almost always without an aviation radio, crossing an active runway introduces a non-standard and unpredictable element of operation at the airport and puts the skydiver, the airport, and the city at risk. While it may be true and Start Skydiving will state that they have been operating in such a manner since arriving at the MWO, this does not mean the risk is not present and accepting this risk increases the liability to the airport, and the city to a point that is unnecessary. This is especially true when other, safer options for skydiving drop zones are available and absolutely viable. I have spent the better part of my 15-year career planning airports around the world with the primary objective of planning to make airports as safe and efficient as possible. A key component to that objective is to make the airport environment as consistent and predictable as possible. Having skydivers dropping within the near or between the runway and taxiway is neither. I personally have been in an aircraft taxiing on the parallel taxiway near the T-Hangars to the Runway 5 end and had a landing skydiver come “swooping” in from behind me out of sight and pass directly over the aircraft not than 20-30 feet above. THIS IS NEITHER SAFE, PREDICTABLE, OR ACCEPTABLE.
Furthermore, the location along the length of the runway is also at a point in which aircraft on the ground are operating with the maximum amount of energy and speed. This area of the runway is known as the “High Energy Zone” by the FAA. FAA guidance states that runway crossings in the High Energy Zone (defined as the middle third of the runway) are to be avoided to the extent possible. Further emphasis is placed on this guidance at airports without an Airport Traffic Control Tower such as MWO.

The end result of these unpredictable and non-standard operations at MWO is that when pilots are able to avoid the airport they will, and unfortunately for the City of Middletown, the region is bless with several viable airports within close proximity. It is well known within the pilot community of southwestern Ohio that MWO is a place to be avoided so as to avoid unfavorable interactions with skydivers. Put simply, the existing drop zone locations at MWO DO NOT provide a competitive advantage over other airports in the area.

2. Priority should be placed on developing the proposed drop zones in the following order. Please note that this is speaking from a purely aeronautical perspective:

a. #4 – This location provides the maximum separation of the airfield and landing skydivers while eliminating the need for any runway or taxiway crossings by either ground vehicles or pedestrians associated with skydiving operations. In addition to the separation of the drop zone and the airfield, this location is also on the opposite side of the airport as the standard aircraft traffic pattern for Runway 5/23 which further reduces the potential for interactions between aircraft and skydivers. This location provides for the safest operation of the airport.

b. #1 – This proposed location, would still represent an improvement over the existing drop zone locations in that it would eliminate the potential for runway and taxiway crossings by both ground vehicles, and pedestrians. However, this location introduces the potential for interactions between skydivers and aircraft on short-final approach to Runway 23. Aircraft that are on shot-final to a runway are in one of the most critical stages of flight and are therefore less able to react to changing circumstances in a safe manner. Oftentimes sudden deviations on short-final can be catastrophic. The potential for this is further increases in that Runway 23 is the predominate runway used because of the prevailing wind conditions at MWO. This option should only be considered if location #4 is deemed unavailable.

c. #2 & #3 – These locations, while not the best, do offer an improvement over the existing drop zone locations in that they remove the operation from the RSA. However, in order to realize the full benefit of these drop zones, a perimeter vehicle service road that remains outside the RSA and Object Free Area (OFA) to Runway 5/23 would be required in order to eliminate the need for runway crossings. The only other way to eliminate the runway crossings with either of these locations would be the development of a new sky diving facility along Carmody Boulevard.

3. What would the effect of additional development on operations at the airport? – So long as the additional development does not come at the cost of existing or potential future aviation infrastructure (i.e. runways or taxiways), penetrate the imaginary surfaces that protect the airspace around the airport, and is consistent with the approved Airport Master Plan
(underway), additional development at the airport should be encouraged! Additional activity that is performed safely and is consistent with FAA planning guidelines will only benefit the city and the airport.

I do hope that this information is helpful to the council in your decision-making process. I will happily make myself available for additional consultation or discussion at the council’s convenience should it be desired. Thank you for your time and consideration on this very important matter to the airport and the city.

Best regards,

Nick Brown
na.brown48@gmail.com
(513)594-5900
Option 4 offers the best of the options for relocating the DZ without significant impacts to other users of the runways/taxiways and doesn’t appear to adversely impact skydiving operations either.

Ken Curell
Pilot #1931955
937-478-3601

Sent from my iPad
Hello,

I would recommend a change to drop zone 4, for the skydiving drop zone.

Regards,
David Quam
Member of Caesar Creek
Soaring Club
Mimecast Attachment Protection has deemed this file to be safe, but always exercise caution when opening files.

Good morning Matt and Dan: I attach a courtesy copy of my thoughts regarding the ongoing discussion for the Airport’s Master Plan. I appreciate having the opportunity to participate and be heard during this important process. Please let me know if you have any questions regarding my submission. Best regards, Todd Bailey
My name is Todd Bailey. I am a 68 year old student pilot with experience using Middletown’s very fine airport. 
I have landed several times while skydivers are landing in the drop zone [DZ] near the runway. It is a very distracting experience and certainly has the potential to create unsafe conditions for the operation of aircraft close to the DZ. The pilot does not know how well the skydiver will control the landing in the DZ, nor the control of the parachute and other equipment after the landing. Also, another source of safety concern is that the skydivers must then transit back to the skydiving facility with their gear from wherever they landed – whether in the DZ or not. Pilots simply should not be distracted during takeoffs and landings and while flying in the pattern.

Moving the DZ away from the active runways and airport buildings and further away from the pattern is an excellent idea. Based on the presentation made on February 2, 2020 at the City Council retreat [which I attended], the possibility of relocating the DZ to former Aeronca property makes considerable sense [subject, of course, to an analysis of the location of obstacles such as power lines, poles and other safety considerations]. Such a move could also improve the efficiency of the jump operations given that the FAA is opposed to continued use of the current DZ near the airport buildings.

There is a Federal Regulation which directly applies here – 14 CFR Section 105.5 which states: “No person may conduct a parachute operation, and no pilot in command of an aircraft may allow a parachute operation to be conducted from an aircraft, if that operation creates a hazard to air traffic or to persons or property on the surface.”

This Federal Regulation is mandatory and has general application to all airports. Relocating the current DZ away from buildings and active tarmac and runway areas will satisfy this requirement. In addition, by relocating the DZ further to the south and away from the active runways, this presents additional safety benefits because the standard pattern for the downwind approach is on the northern side of the airport. Therefore, skydivers are at a greater distance from the aircraft operating in the pattern as the skydivers approach the new DZ.

The FAA approved turf runway is a valuable asset. I have used around 50 turf runways throughout the Midwest. Middletown’s turf runway is one of the region’s best. It does not cost very much to maintain on an annual basis. If the airport actively promoted this asset within the general aviation community, Middletown has the very clear potential to become an attractive destination for pilots who wish to learn how to use turf runways and obtain their “tail dragger” endorsement on their pilot’s license.

With the proximity to Frisch’s and the modest aviation museum being located at the airport and the excellent paved runway, pilots could fly here for lessons and training. Having used the grass strip at Waynesville [Red Stewart field] and taken lessons there, the turf runway at Middletown is far superior and has the amenities which are absent at Waynesville. I suggest that the proposed Master Plan take these facts into consideration.

If properly promoted, Middletown’s turf runway and its very attractive amenities present the prospect for additional revenue from an existing, low cost, high quality and valuable asset.

February 7, 2020
I am unsure if I will be able to attend the meeting on Tuesday night so I am submitting my response per the instructions.

I suggest the Sky Diving Drop Zone be at Zone 4.

Zone 4 is on the same side of the runway as the sky diving office, minimizing the need for runway interference for either runways.

Zone 4 is at one end of the runway minimizing the conflict with aircraft approaching the airport on three of the four runways.

Zone 4 is in a location that minimizes the potential conflict with most of the aircraft based on the airport.

Zone 4 would allow sky diving return on a shorter distance than the other zones where driving around the airport runways is appropriate therefore avoiding crossing the runway.

Zone 4 allows the continued uninterrupted use of the grass runway.

Regards,

Tom Rudolf
From: Craig MacVeigh  
President, National Aeronca Association  

To: Airport Board  
Middletown Regional Airport (MWO), Middletown, OH  

Subject: Proposed Drop Zones at Hook Field

I’m grateful that the Board is interested in the continued use and availability of the Turf Runway at this historic airport. I’m the President of the National AERONCA Association. We’ve been holding our Conventions at Hook Field since 1980. And I am a local land owner and pilot. I also want to say that I am retired military and 2nd generation Airborne. So I am definitely not Anti-Parachutes.

Here is my input, for what it’s worth.

To begin with I’ll give my input as an organization that is essentially a field Tenant for a one week period every 2 years. During this time we host 200+ vintage aircraft, many that were manufactured on the Field. Most of these aircraft have no electrical, so many will be without radios. Some of the aircraft also have a tailskid, vice a tailwheel and no brakes. That’s just how AERONCA made them. So the access to the Turf Runway is key for their safe operation.

I also think my comments would apply to many other groups that visit Hook Field for other events.

1. **Drop Zone 1**
   A. This area is directly in-line with the extended centerline of the Turf Runway. This is BAD. Just putting a note in the Field NOTAMS may cover the Liability of the Airport. But, it is setting up a ticking time bomb that will probably result in a catastrophic, fatal accident.
   B. This is the area that our group and other visiting groups (Short Wing Pipers, R/C Modelers, etc.) have traditionally used as their tie-down areas. The advantage to being there is that it keeps the associated activity separated from the regular airport operations, such as charter, flight instruction, Maintenance traffic and the cyclic jump operations. The few visiting aircraft that show up to get a burger for lunch, have always been easily handled by our aircraft handlers.

2. **Drop Zone 2**
   A. When using the Turf Runway, taking off to the East, if you want to avoid any possible traffic using the paved surface, you will make a left turn directly through this Drop Zone. This is routinely done during jump operations. The jump plane, while doing high tempo operations, will be making very steep patterns to the approach end of the runway. I’m not complaining about the jump plane’s pattern. It’s just what you need to do for efficient cyclic operations. But, when you know that’s going on, you try to maintain de-confliction, by not overflying the paved runway, although legal to do. So once again you are setting up a ticking time bomb that will probably result in a catastrophic, fatal accident.
3. Drop Zone 3  
   A. This is the Drop Zone that has worked. Assuming the Jumpers identify the Turf Runway as an active runway and avoid it.

4. Drop Zone 4  
   A. This Drop Zone is totally de-conflicted from any aircraft traffic. No negative thoughts.

I hope the Board will find my input helpful. Bottom-line: I don’t want to lose safe access to one of the nicest Turf Runways in the country. I also don’t want to eliminate the Jump Operation. It brings life, money and exposure of the Air Field to the community. I think there is enough room for all. But, I am really concerned that the use of Drop Zones 1 and 2 will negatively affect the lives and safety of jumpers and pilots.

Thank you for this opportunity to give my input.

Craig MacVeigh  
President, National Aeronca Association
I'm Craig MacVeigh, the President of the National Aeronca Association. We have been using Hook Field for our Conventions since 1080. I've attached a letter to the Airport Board, concerning our input on the proposed Jump Drop Zones.

If you have any questions please call me. (206) 512-0436

Thank You,
Craig MacVeigh
From: John Hart III <John3@startskydiving.com>
Sent: Tuesday, February 25, 2020 6:07 PM
To: Condrey, Nicole <nicolec@cityofmiddletown.org>; Moon, Talbott <talm@cityofmiddletown.org>; Nenni, Monica <monican@cityofmiddletown.org>; Mulligan, Joe <joem@cityofmiddletown.org>; Vitori, Ami <amiv@cityofmiddletown.org>; dept_citymanager <dept_citymanager@cityofmiddletown.org>
Cc: Dad <John@startskydiving.com>; Alex Hart <alex@startskydiving.com>; Diana Nelson <dnelson@selection.com>; Randy Ottinger <randyo@uspa.org>; kyle.lewis@aopa.org; Dad <jph@selection.com>
Subject: Re: Middletown Airport Skydiving Safety Presentation

Council Members,

I apologize for the followup email. It was brought to my attention that the sound clip on slide 33 was not playing automatically until the end of the slide as well as a typo on slide 34 (it should say Airports District Office, not Airsports). I have since corrected it and attached the corrected version to this email. Thank you for the feedback! Please let me know if you encounter any issues or have any questions.

Thank you!
On Tue, Feb 25, 2020 at 11:05 AM John Hart III <John3@STARTSKYDIVING.COM> wrote:

Dear Council Members,

Thank you for your valuable time and attention in listening to the concerns of your fellow citizens at the most recent council meeting. I also want to thank you for your time spent at the council retreat earlier this month. There were a lot of pertinent questions asked, but I noticed that you were not receiving truthful answers. After witnessing the misinformation that is being presented to you as facts, I spent two weeks preparing a presentation for you with the purpose of shedding light on the situation and topics being discussed. Unfortunately, I have not been given permission to present this information to you directly in person through an open forum discussion as I would have preferred. As a result, I have spent the past week converting my presentation to include narration so you could view it at your leisure whenever you choose from the comfort of wherever you choose. I have put a lot of time and energy into sharing this with you. I only ask that you please take the time to view this presentation in its entirety. It will only take less than 45 minutes to view the entire presentation from start to finish. You can also choose to stop the presentation at any point as many times as needed and continue it at another time if you are not able to view it in one sitting or if you would like to make notes.

Due to the narration and sound clips, you must download the file and open it with Microsoft PowerPoint on a computer that has speakers or headphones in order to view and hear the presentation properly. Please do not attempt to view the presentation online using Google Slides or even PowerPoint for web browsers. Viewing it online using any application other than
PowerPoint for Windows 10 will result in compatibility issues. If you do not have PowerPoint, you can download the Windows 10 PowerPoint Mobile app for free here: https://www.microsoft.com/store/productid/9WZDNCRFJB5Q

Please feel free to reach out to me directly if you have any issues viewing and/or listening to the presentation. It would also be my pleasure to answer questions that you have, so please do not hesitate to ask.

Here is the link to download the presentation:

City Presentation.pptx

Thank you again for your time and consideration in this matter,

--

John P. Hart III | USPA Membership #: 204253 | License #: D-30464
Drop-Zone Owner | Chief Instructor | Safety and Training Advisor

START SKYDIVING, LLC

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Toll-Free: (877) 465-8672 | Local: (513) 422-5867 | Cell: (513) 378-0407 | Fax: (513) 217-4778
Email: John3@STARTSKYDIVING.COM | Website: STARTSKYDIVING.COM

WATCH THE TEAM FASTRAK 9-11 TRIBUTE VIDEO ON YOUTUBE HERE:
http://www.youtube.com/watch?v=91C3YBEG32Q

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Start Skydiving Sets the Standards for Safety

This presentation includes narration, so please turn your sound on and volume up. Click to play sound clips and continue.

The entire presentation will take about 45 minutes to view completely from start to finish.

Please feel free to stop at any point and continue at your leisure. Thank you for your valuable time.
QUESTIONS THAT DESERVE ANSWERS

1. Does Start Skydiving actually "need" to move their landing areas at all in the first place? If so, what has changed recently that suddenly necessitates this? What factual evidence supports this?

2. Why can't Start Skydiving stay in its current location and coexist with the other proposed activities like they have safely and successfully done for over 12 years?

3. If the reason is because of "safety concerns," then what factual evidence supports this claim? In addition, how do you explain over 12 years of hundreds of thousands of safe and successful skydive operations at MWO without a single incident?
4. What is the FAA's opinion on the safety of the current landing areas? If it is so unsafe, then why haven't they stepped in to address it? (The FAA is responsible for deciding on all safety related changes at federally funded airports.)

5. What factual evidence supports the claim that pilots aren't flying and/or won't fly to MWO specifically because of Start Skydiving's operations and/or its landing area locations?

6. Will moving Start Skydiving and/or its landing areas increase their expenses and/or result in a net revenue loss for the business and/or the city (this can take many forms, such as fewer customers, less rent, fewer fuel purchases, fewer restaurant patrons, fewer hotel patrons, fewer vehicle rentals, fewer taxi rides, etc...)? If so, how much?
7. Will moving Start Skydiving and/or its landing areas result in a net increase in revenue generated by the airport for the city (this can take many forms, such as more rent, more fuel sales, more restaurant patrons, more hotel patrons, more vehicle rentals, more taxi rides, etc...)? If so, what is the estimated amount of additional income (estimated net income minus the current net income) that will be directly generated for the city by moving Start Skydiving and/or its landing areas?

8. Will moving Start Skydiving and/or its landing areas result in a decrease in their airport operations (takeoffs and landings)? If so, will it be significantly offset by an increase in airport operations from other activities?
1. Does Start Skydiving actually "need" to move their landing areas at all in the first place? If so, what has changed recently that suddenly necessitates this? What factual evidence supports this?

2. Why can't Start Skydiving stay in its current location and coexist with the other proposed activities like they have safely and successfully done for over 12 years?

3. If the reason is because of "safety concerns," then what factual evidence supports this claim? In addition, how do you explain over 12 years of hundreds of thousands of safe and successful skydive operations at MWO without a single incident?

4. What is the FAA's opinion on the safety of the current landing areas? If it is so unsafe, then why haven't they stepped in to address it?
REGULATIONS & REQUIREMENTS

• There are no Federal Aviation Regulations (FARs) regarding parachute landing areas.

• AC 105-2E is the only official FAA publication that mentions anything regarding parachute landing areas.
  
  – AC105-2E.1: “PURPOSE. This advisory circular (AC) provides suggestions to improve sport parachuting...”
  
  – AC105-2E.5(f): “The FAA recommends that areas used as parachute landing areas remain unobstructed, with sufficient minimum radial distances to the nearest hazard. The guidelines in the USPA’s BSRs can be used in determining if the landing area is adequate.”
1. Areas used for skydiving should be unobstructed, with the following minimum radial distances to the nearest hazard (waiverable by an S&TA):
   a. solo students and A-license holders—330 feet
   b. B- and C-license holders and all tandem skydives—165 feet
   c. D-license holders—40 feet

2. Hazards are defined as telephone and power lines, towers, buildings, open bodies of water in which a skydiver could drown, highways, vehicles, and clusters of trees covering more than 32,292 square feet.

3. Manned ground-to-air communications (e.g., radios, panels, smoke, lights) are to be present on the drop zone during skydiving operations.
SEPARATION + SIZE = SAFETY

- As a USPA Group Member Drop-Zone, Start Skydiving has pledged to uphold and abide by all USPA BSRs and separate parachute traffic.
- The most recommended method for separating parachute traffic is by having separate landing areas designated for various experience levels with physical boundaries on the ground that jumpers can use to easily and quickly identify each landing area.
- Start Skydiving achieves this through its current landing areas.
- Removing the physical boundaries that are currently separating each landing area will result in confusion and, eventually, a collision.
AC 105-2E.6(C)(2)

• AC 105-2E.6(c)(2) also states that while skydivers attempt to land in their designated areas, “... at times there may be inadvertent landings in other grass or hard-surfaced areas. This could include landings on runways, taxiways, and other hard-surfaced areas. Areas such as runways, taxiways, clearways, and Obstacle Free Zones (OFZ) are not prohibited areas...”

• Other related areas that are also not prohibited include Taxiway and Runway Safety Areas (TSA and RSA) and Object Free Areas (OFA).

• There are even some airports that only have a grass strip runway and are surrounded by forest so the skydivers have to land on the grass strip runway, since it’s not prohibited, and the pilots have to be cleared to land once the runway is free of jumpers.
FAA DEFINITIONS FROM AC 150/5300-13A

- **Object Free Area (OFA):** “An area centered on the ground on a runway, taxiway, or taxilane centerline provided to enhance the safety of aircraft operations by remaining clear of objects, except for objects that need to be located in the OFA for air navigation or aircraft ground maneuvering purposes.”

- **Object:** “Includes, but is not limited to, above ground structures, Navigational Aids (NAVAIDs), equipment, vehicles, natural growth, terrain, and parked or taxiing aircraft.”
FAA DEFINITIONS FROM AC 150/5300-13A

• **Obstacle Free Zone (OFZ):** “The OFZ is the three-dimensional airspace along the runway and extended runway centerline that is required to be clear of **obstacles** for protection for aircraft landing or taking off from the runway and for missed approaches.”

• **Obstacle:** “An existing **object** at a fixed geographical location or which may be expected at a fixed location within a prescribed area with reference to which vertical clearance is or must be provided during flight operation.”

• It is important to note that people are not defined as objects or obstacles by the FAA or as hazards by the USPA.
FAA DEFINITIONS FROM AC 150/5300-13A

- Runway Protection Zone (RPZ): “An area at ground level prior to the threshold or beyond the runway end to enhance the safety and protection of people and property on the ground.”

- Runway Safety Area (RSA): “A defined surface surrounding the runway prepared or suitable for reducing the risk of damage to aircraft in the event of an undershoot, overshoot, or excursion from the runway.”
  - This area must be free of objects, graded, and be able to support snow removal equipment, fire engines, and aircraft. These vehicles must be able to access this area from the runway at any point.
  - It must also have proper drainage and be kept clear of snow banks, bumps, and ditches. Grass must be kept no higher than six inches.
Current Landing Areas

- The triangle and rectangles below depict our current landing areas that meet the USPA recommended square footage and required minimum radial distances from obstacles for each experience level while also avoiding the runways, tarmac, and current Runway Safety Areas (RSAs), even though the FAA specifically states that these areas are not prohibited from being landed on by skydivers and are not defined as obstacles by the FAA and USPA.

Legend

- A-License & Student Landing Area (1240' x 300' x 800' with 25' clearance from runway)
- B- & C-License Landing Area (810' x 200' with 20' clearance from taxiway and runway)
- D-License and Tandem Landing Area (480' x 180' with 25' perimeter clearance from taxiway)
• The center of the airport near the runways and taxiways is the safest place for parachutes to land for several reasons:
  – It keeps all parachutes away from the river, the traffic pattern, and the runway ends where aircraft are higher and could hit a skydiver.
  – It keeps all parachutes in view at all times for pilots flying their pattern, as well as those that are taking off and landing.
  – Pilots can avoid parachutes more easily and more safely.
  – It forces parachutes to land parallel with the runway.
  – It keeps our landing areas within sprinting distance our first-aid room that provides immediate access to an emergency trauma kit.
• Moving our landing areas anywhere other than their current locations will unnecessarily result in severe safety issues.
View of Parachute Flight Zones of Current Landing Areas in Relation to MWO's Standard Aircraft Pattern

- The gray cones depict the possible areas where open parachutes may be flying for about two to seven minutes if a load has been dropped on a day without wind.
- The white line depicts the standard aircraft traffic pattern for MWO at the highest likely altitude (1,250' AGL) at any point for landing in either direction on RWY603.
- It is important to note that, even at the highest likely altitude that an aircraft would be flying their pattern, our current parachute flight zones do not intersect the traffic pattern at any point, regardless of landing direction.
Pilot's View of Landing Areas on Downwind Leg at 1,901' MSL (1,250' AGL) & 0.7 mi. from Runway

- Cones depict probable area where open parachutes may be flying for about two to five minutes if load has been dropped on a day with no wind.
View of Parachute Flight Zones of Proposed Landing Areas Moved North of Grass Strip along Carmody Blvd in Relation to MWO’s Standard Aircraft Pattern

- The gray cones depict the possible areas where open parachutes may be flying for about two to seven minutes if a load has been dropped on a day without wind.
- The white line depicts the standard aircraft traffic pattern for MWO at the highest likely altitude (1,250’ AGL) at any point for landing in either direction on RWY623.
- Notice that the parachute flight zones significantly intersect the aircraft traffic pattern. With any wind from the North or West, the parachute flight zones will intersect even more of the aircraft traffic pattern.
Pilot's View of Parachute Flight Zones of Proposed Landing Areas Moved North of 08/26 from Downwind Leg at 1,901' MSL (1,250' AGL) ~2/3rd Mi. from RW05/23

- The gray cones depict the possible area where open parachutes may be flying for about two to seven minutes if a load has been dropped on a day with no wind.
- Notice that the view is now within the parachute flight zone.
Pilot’s View of Parachute Flight Zones of Proposed Landing Areas Moved North of 08/26 from Downwind Leg at 1,401' MSL (750 AGL) about 2/3rds of a Mile from 05/23.

- The gray cones depict the possible area where open parachutes may be flying for about two to seven minutes if a load has been dropped on a day with no wind.
- Notice that the view is still within the parachute flight zone, even at the lowest altitude that aircraft would possibly be flying their downwind leg of the traffic pattern.
View of Parachute Flight Zones of Proposed Landing Areas Moved South of Grass Strip near Industrial Park in Relation to MWO's Standard Aircraft Pattern

- The gray cones depict the possible areas where open parachutes may be flying for about two to seven minutes if a load has been dropped on a day without wind.
- The white line depicts the standard aircraft traffic pattern for MWO at the highest likely altitude (1,250' AGL) at any point for landing in either direction on RWY503.
- Notice that the parachute flight zones significantly intersect the aircraft traffic pattern. With any wind from the North or West, the parachute flight zones will intersect even more of the aircraft traffic pattern.
Pilot's View of Parachute Flight Zones of Proposed Landing Areas Moved near Industrial Park from Downwind Leg at 1,901' MSL (1,250' AGL) ~2/3rd Mi. from RW05/23

- The gray cones depict the possible area where open parachutes may be flying for about two to seven minutes if a load has been dropped on a day with no wind.
- Notice that the view is now within the parachute flight zone.
Pilot's View of Parachute Flight Zones of Proposed Landing Areas Moved near Industrial Park from Downwind Leg at 1,401' MSL (750' AGL) ~2/3rds of a Mi. from 05/23

- The gray cones depict the possible area where open parachutes may be flying for about two to seven minutes if a load has been dropped on a day with no wind.
- Notice that the view is still within the parachute flight zone, even at the lowest altitude that aircraft would possibly be flying their downwind leg of the traffic pattern.
Pilot’s View on Downwind Leg at 1,900’ MSL (1,250’ AGL) about 2/3rds of a Mile Away from Runway with Landing Area Moved North of the Grass Strip Runway

- Moving our landing areas here will place our skydivers at the same altitude as aircraft in the downwind leg of their landing pattern, regardless of the landing direction.
Turn volume back down and click to proceed.

Turn volume up and click to play sound clip.

Click to play next sound clip.
PILOTS DO NOT “THREAD THE NEEDLE.”

They land on the runway.

• A pilot’s goal on every landing is to land safely on the runway.
• On final approach, this is their one and only focal point.
• They do not focus on what is next to the runway or anything that is not currently on the runway at that moment.
• They see a 6,100’ long by 100’ wide runway on which they must land.
• They do not see vertical barriers shooting 14,000 feet up into the sky, but they treat each landing as if there are walls on each side of the runway, regardless of the airport or what is actually on either side.
• There has never been a reported incident anywhere in the world where a plane has run off into a safety area and hit a skydiver.
What a Pilot would Actually See on Final Approach at 798' MSL (147' AGL) about 2/3rds of a Mile Away from the Runway

- Notice how much clear airspace there is and how wide open it is.
Pilot’s View of RW05 on Final Approach at 798' MSL (147' AGL) and 2/3rds of a Mile from End of Runway (a 2.5 degree Final Approach Angle or 24:1 Glide Slope Ratio)

- The gray cones depict the probable areas where open parachutes may be flying for about two to seven minutes if a load has been dropped on a day without wind.
- The clear box outlined in white directly above the runway depicts our 1,000' no-fly zone for parachutes.
Pilot's View of RW23 on Final Approach at 798' MSL (147' AGL) & 2/3rds of a Mi. from Displaced Threshold (a 2.5 deg. Final Approach Angle or 24:1 Glide Slope Ratio)

- The gray cones depict the probable areas where open parachutes may be flying for about two to seven minutes if a load has been dropped on a day without wind.
- The clear box outlined in white directly above the runway depicts our 1,000' no-fly zone for parachutes.
EASY TO SEE & AVOID

- Parachutes are typically brightly colored and large enough to easily identify in the air and fly much more slowly than powered aircraft, making it extremely easy for aircraft to see and avoid parachutes.
- Our pilots are always making announcements of their location and the amount of time left until they drop jumpers.
- Potential parachute activity at MWO is shown on sectional charts.
- It is even mentioned on the Automated Weather System.
- Start Skydiving has taken all the appropriate precautions to ensure the safety of all airport users.
The charts do not show where the landing areas are actually located.
PARACHUTES FLY PATTERNS TOO

- Skydivers fly very predictable patterns, just like aircraft do.
- Skydivers are only under parachute for about two to seven minutes on average before they land on the ground.
- More than 95% of this time is spent upwind of their designated landing areas and at least 1,000’ away from the runway horizontally.
- Most skydivers begin their final approach around 300’ AGL and land flying toward their target while facing into the wind as best they can without flying toward the runway or taxiway. This is typically the same direction that aircraft takeoff and land.
- At an average descent rate of about 1,000 feet per minute, this final approach from 300’ AGL only lasts no more than 18 seconds or less.
WE SET THE STANDARD IN SAFETY

• Start Skydiving works diligently to be the most safety-conscious skydiving center in the world and takes great pride in this.

• The FAA has even brought personnel out to MWO to show Start Skydiving to their trainees as a perfect example of how a safe and efficient skydiving center should operate at a federally-funded, non-towered, mixed-use airport.

• Safety studies conducted by third-party airport consultants for other airports have even used Start Skydiving as an example of how a drop-zone can be implemented safely without disrupting other airport operations.
ONLY THE FAA HAS THE AUTHORITY

• In FAA Order 5190.6B (the FAA Airport Compliance Manual) Chapter 14.3, the FAA states:
  – “In all cases, the FAA is the final arbiter regarding aviation safety...”
  – “The FAA, not the sponsor, is the authority to approve or disapprove aeronautical restrictions based on safety and/or efficiency at federally obligated airports.”

• If compatibility issues prevent the safe operation of different kinds of aviation activities utilizing the same airport simultaneously, then the FAA may determine that an Airsports Airspace Safety Analysis Study conducted by the local Flight Standards District Office (FSDO) is needed to resolve the issues.
ONLy the faa has the authority

• The regional Airsports District Office (ADO) ultimately makes the final determination once the analysis study is completed.
• An informal assessment was made by the FAA when our drop-zone and landing areas were originally established at the Middletown Regional Airport.
• The FAA had determined that our current landing areas are the safest and most efficient locations for all airport users.
AC 105-2E.4(A)

- In AC 105-2E.4(a), the FAA states, "Sport parachuting (skydiving) continues to increase in popularity and is an FAA-recognized aeronautical activity even though parachutists are not certificated airmen. As an FAA-recognized aeronautical activity, regulations require airports that have received FAA funding to accommodate this activity..."
AC 105-2E.6(A)

- At the council retreat, the question was asked, “Compared to other airports of similar size and function, how is the current drop-zone different at our airport than at other airports?”
- The answer that was provided is a complete fabrication.
- In AC 105-2E.6(a), the FAA states: “Most parachute operations take place at airports, including having the parachute landing area located on the airport property.”
- A simple Google search of skydiving centers confirms this.
- Another great place to receive the correct answer is the USPA.
AC 105-2E.6(B)

- AC 105-2E.6(b) goes on to further state, “A large number of airports that accommodate parachute operations also have different kinds of aviation activities taking place simultaneously, including flight training, glider and helicopter operations, emergency medical services, sightseeing operations, and aerobatic practice over or in the immediate vicinity of the airport. Many airports accommodate a large volume of transient traffic during skydiving operations.”

- Start Skydiving has safely operated simultaneously with all of these activities, in addition to hot air balloons, UAVs/drones, law enforcement aircraft, and military aircraft over the past 12 years.
DO THE LANDING AREAS ACTUALLY NEED TO BE MOVED? IF SO, WHY?

- Why can’t the landing areas remain in their current locations, which have proven to be the safest and most efficient locations for all airport users for over ten years?
- Why can’t the city just honor its lease agreement and build out our current facility so we can grow?
CROSSING RUNWAYS & TAXIWAYS

- There are no federal regulations regarding pedestrians and/or ground vehicles crossing a runway and/or taxiway at nontowered airports (unless it is Part 139 certified, which Middletown is not).
- The only official FAA document that references crossing a runway is the *FAA Guide to Ground Vehicle Operations*.
- This guide simply suggests general best practices recommended by the FAA that are not applicable to all airports and situations.
- They are not regulations.
- Nevertheless, Start Skydiving follows all FAA recommendations.
The following two statements are the only definitive rules stated by the FAA in this guide for vehicles crossing a non-towered runway:

- “When the control tower is closed or if there is no tower, the airport is referred to as non-towered. At a non-towered airport, you do not need controller permission before entering a runway or taxiway.”

- “When the tower is closed or you are operating at a non-towered airport, you may cross only when the runway is clear of aircraft, and then cross with extreme caution. Always look both ways before you cross any runway.”
“Below are some best practices for operating on a non-towered airport:

- When you approach the runways and taxiways, STOP, LOOK both ways, and LISTEN for aircraft that are landing or taking off. Vehicle windows should be open to do this properly.

- Alert others when you are using a taxiway or runway by always making an announcement on the radio before you enter. Be specific with your location and intentions.

- Always yield the right-of-way to taxiing aircraft and give them plenty of room. If an aircraft is headed toward you on the same taxiway, move out of the aircraft’s way.

- Always carry a radio tuned to the airport’s Common Traffic Advisory Frequency (CTAF) or UNICOM.
BEST PRACTICES CONTINUED...

• "If an aircraft is about to land on a runway that you need to cross, stop well clear of the runway. Continue to yield to the aircraft until it has landed and taxied off of the runway.

• Be aware that some aircraft at non-towered airports are not equipped with radios.

• Before you cross a runway, ensure that no potentially conflicting aircraft are taxiing, landing or taking off. Be aware of aircraft at non-towered airports that frequently make touch-and-go landings (immediately after landing, full power is applied and the aircraft takes off again)."
• Lastly, the guide states:

— "Extra vigilance is essential at non-towered airports, or when the control tower is not operating. While there may be CTAF or UNICOM frequencies available, pilots are not required to communicate or announce their position in the traffic pattern or on the surface. As a result, a driver can be lulled into complacency because the airport is not very busy. Nevertheless, always remain alert for the unexpected, even when aircraft traffic levels are light. Another factor involves the runway angle or slope, which makes it difficult or impossible to see the entire length of the runway. As a result, an aircraft can suddenly appear on a runway when you are crossing."
CROSSING THE RUNWAY

• While having flashing lights, listening to the radio, and making announcements on the radio are recommended best practices for ground vehicles that are able to do so, it is not required as there are many aircraft that do not have radios that frequently land on and cross the runways of nontowered airports.

• The same applies to pedestrians.

• When it comes to approaching and crossing a runway, the one rule that all pilots and ground personnel must follow is to see and avoid.
WE TRAIN HOW TO CROSS THE RUNWAY

- Before crossing a runway or taxiway on foot, our skydivers are trained to stop 50’ away and look, as well as listen, both ways multiple times, on the ground and in the air for incoming aircraft.

- If an aircraft is about to takeoff, land, or taxi past, our skydivers are trained to back away 200’ and kneel on the ground while maintaining eye contact with the aircraft until it has cleared the runway or taxied past. This signals to the pilot that the jumper sees the aircraft and is not going to cross in front of the aircraft.

- When crossing a runway or taxiway on foot, our skydivers are trained to all cross quickly in a group at the same time while staying vigilant.

- It only takes less than 15 sec. for a group to cross the runway on foot.
DRIVING AROUND...

- Forcing our jumpers and staff to drive or walk all the way around the airport property on city roads is not only unreasonable, it is also much more dangerous than crossing a runway by foot or vehicle.

- If forced to drive or walk on public roads, the city will be held liable for any accident or injury that occurs because we have warned you of the risk and there was a much safer alternative available that has worked without incident for over 12 years.

- It will also result in unsustainably high costs that will prohibit our growth and result in a decline in business operations.
“Pilots avoid flying to Middletown because of skydiving. The parachutes and/or their landing areas deter pilots from choosing to land in Middletown. Moving them will attract more pilots.”

— This myth is completely false and is not backed by any supportive evidence. Pilots do not care about skydivers landing on an airport or even near the runway.

— Pilots do not avoid flying to Middletown. They just simply don’t have a reason to come here. Skydive DeLand in Florida has landing areas between two runways of a very busy municipal airport. Corporate jets fly into and out of this airport on a daily basis without issue. Why? Because they have a reason!

— Incentivize corporations to headquarter in Middletown. Then pilots will have a reason to come here, regardless of skydiving.
“Airports are revenue generators. Charging fees for landings and parking and running the FBO will raise revenue.”

– This myth is also false. In fact, there is much evidence supporting the contrary.

– The more fees and higher the price of fuel and rent, the less likely aircraft will choose to come to Middletown.

– They will not come here just because the staff are friendly and the facilities are pretty.

– They especially won’t come here if there are landing fees, parking fees, high rent, and high fuel prices. Fuel flow fees, landing fees, and parking fees only raise customer costs, which will reduce the number of customers and the amount they will spend elsewhere in Middletown.
In the FAA Airport Compliance Manual, the FAA even states:

“As a practical matter, most airport sponsors recognize that aeronautical services are best provided by profit-motivated, private enterprises. However, there may be situations that the airport sponsor believes would support the airport providing aeronautical services. Examples include situations where the revenue potential is insufficient to attract private enterprises and it is necessary for the airport sponsor to provide the aeronautical service, or situations where the revenue potential is so significant that the airport sponsor chooses to perform the aeronautical activity itself in order to become more financially self-sustaining.”
RUNNING THE FBO

• The FBO at MWO does not generate significant revenue.
• Nonetheless, a profit-motivated, private enterprise, Start Skydiving, was willing to operate it since it purchases a majority of the fuel sold at the airport and already has the necessary equipment and properly trained staff for parking, towing, and fueling aircraft.

• We operated the FBO safely and efficiently.
• We always followed all regulations and industry best practices.
• We were always very friendly, kind, welcoming, and accommodating to all airport users. We offered 24/7 after-hours flight line services 365 days per year. In addition, we provided free amenities such as coffee, water, ice, popcorn, magazines, newspapers, concierge services, 24/7 access to showers, and a beautiful, quiet pilot lounge for pilots to enjoy.
• We saved the city hundreds of thousands of dollars in needless expenses.
RUNNING THE FBO

• Now, the FBO is being run out of a construction trailer sitting on the tarmac where planes pass by inches away in front of the beautiful courtyard that we built and maintain for airport customers to enjoy.

• Not only does it look terrible, it is also very dangerous. Someone can walk right in front of a plane as soon as they step out of the trailer. In addition, the wingtips of our planes could very easily hit this obstacle since it is sitting on the tarmac next to our loading areas. It also blocks the view of our landing areas and the runway from our front desk in case an incident occurs. No one asked us for our opinion.

• There is plenty of available clear space on the other side of the gate in front of the original FBO. It should be moved.
THE SELF-SERVE TANK

• The self-serve tank is placed in a very poor location.
• It is completely inconvenient for a vast majority of the tenants that would use it.
• It should be moved to the northeast near the t-hangars of the tenants that would actually use it.
• Currently, those tenants will have to taxi half a mile just to fill up and then taxi back another half a mile to take off.
• There is also plenty of space for it down there by the Warbirds Museum.
• “The airport is too congested, especially on the weekends. There are traffic jams. It’s chaos.”

  – This is another false claim. There is so much tarmac space that there are never any "traffic jams." It is certainly not "chaotic."
  – The airport may be busier on weekends with skydivers, flight school training, and local general aviation tenants, but each of these utilize completely separate areas of tarmac. When flying, they all communicate and coordinate with each other efficiently.

  – However, transient traffic is far less busy on the weekends. Most corporate jets only fly and conduct business during the weekdays when the airport is hardly active except for maybe some skydiving.

  – If the tank is kept in its current location, you can guarantee that there will be a line of aircraft blocking the tarmac.
IN CONCLUSION

- Start Skydiving’s current location is the safest and most efficient for all airport users.
- Over the past 12 years, we have safely coexisted and cooperated with nearly every form of aeronautical activity at MWO without issue.
- The FAA even uses Start Skydiving as an example of how a drop-zone should function.
- Why try to change something that works so well, especially at the expense of safety and the success local businesses?
CONSENT
AGENDA
DATE: April 22, 2020

TO: Susan Cohen, Acting City Manager

FROM: Scott Tadych, Public Works and Utilities Director
Prepared by Rob Nicolls, City Engineer

PURPOSE
Authorize the City Manager to enter into a contract with A&A Safety, Inc. to proceed with the 2020 Pavement Marking Program.

BACKGROUND AND FINDINGS
The City is proposing to proceed with the 2020 Pavement Marking Program which consists of renewing paint markings on streets where existing markings have deteriorated.

Two contractors submitted a bid for the project. A&A Safety submitted the lowest and best bid.

ALTERNATIVES
None.

FINANCIAL IMPACTS
The lowest bid received for this project was $62,721.43 which is 11% the next lowest bidder and 16% below the engineers estimate.

Staff recommends authorizing the award of a contract to A&A Safety Inc. in an amount not to exceed $62,721.43.

The project will be funded by the General Capital Fund (220). These funds are included in the 2020 budget.

EMERGENCY/NON EMERGENCY
Consent Agenda
ATTACHMENTS

Bid Tab
### 2020 PAVEMENT MARKING PROGRAM

#### BID TABULATION

**LEGAL NOTICE NO. 20-8139**  
**BIDS RECEIVED: April 22, 2020**

<table>
<thead>
<tr>
<th>CONTRACTOR’S NAME &amp; ADDRESS</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ENGINEER’S ESTIMATE</strong></td>
<td>$75,101.95</td>
</tr>
<tr>
<td><strong>A&amp;A SAFETY, INC.</strong></td>
<td>$62,721.43</td>
</tr>
<tr>
<td>1126 Ferris Road</td>
<td></td>
</tr>
<tr>
<td>Amelia, OH 45102</td>
<td></td>
</tr>
<tr>
<td><strong>THE AERO-MARK COMPANY LLC</strong></td>
<td>$69,891.16</td>
</tr>
<tr>
<td>10423 Danner Drive</td>
<td></td>
</tr>
<tr>
<td>Streetsboro, OH 44241</td>
<td></td>
</tr>
</tbody>
</table>

*A&A Safety, Inc. was the low bid in the amount of $62,721.43 which is 16% under the Engineer’s Estimate of $75,101.95*
April 23, 2020

TO: Susan Cohen, Acting City Manager

FROM: Chris Xeil Lyons, Economic Development Director
Prepared by Matt Eisenbraun, Economic Development Asst. Director

Airport Capital Projects
Contractor Agreement – Runway Markings

PURPOSE

To authorize the City Manager to enter into a contract with A&A Safety Inc., of Amelia Ohio, for Rehabilitation of Runway Markings in the amount of $33,259.

BACKGROUND AND FINDINGS

At the September 17, 2019 business meeting Council chose to pursue an airport capital grant that had been proposed and accepted by the Ohio Department of Transportation (ODOT), Aviation Division, for the rehabilitation of the runway safety and navigation markings at Middletown Regional Airport.

ODOT set a ceiling amount of $82,000 for the Rehabilitation of Runway Markings project (including administration and engineering) and after the bid process was completed, notified us on April 20 that they accepted the low bid for funding via the grant.

The bid from A&A Safety, Inc. of $33,259 came in at a substantially lower amount than the engineer’s estimate.

FINANCIAL IMPACT

Grant funding for projects via the ODOT Aviation system is provided on a 95/5 matching basis and does include engineering and/or administration costs.
Projected costs as funded by the ODOT grant

Total – *Rehabilitation of Runway Markings* $47,859

   ODOT Funding (95%) $45,466
   City Match Required (5%) $2,393

Contractor $33,259

Admin – Engineering $14,600

ODOT funds are available on a reimbursement basis.

**ALTERNATIVES**

The alternative is not utilizing the Grant Program and either not performing this project at this time and potentially paying for them entirely with Airport Capital Fund dollars when performed.

This project scored high as a ‘safety conditions’ consideration and will be required at some time in the future.

**EMERGENCY/NON-EMERGENCY**

Second Reading Emergency – ODOT would like to have the Grant funding encumbered by June 30, 2020 to avoid an extension request. The pandemic has delayed process in recent weeks.

**DEPARTMENTAL CLEARANCES**

Law
Finance

Attachments:
Bid Tab
Engineer’s recommendation
April 1, 2020

Matt Eisenbraun,
Assistant Economic Development Director
City of Middletown
One Donham Plaza
Middletown, Ohio 45042

RE: Pavement Markings

Dear Mr. Eisenbraun:

We have reviewed the bids received for the above referenced project on March 20, 2020. A copy of the Bid Summary and Tabulation is attached.

The lowest and best bid is from A & A Safety, Inc. for $33,259.00. They have experience with this type of project and meet the criteria for contract award.

Please contact us if you have any questions.

Sincerely,

BRANDSTETTER CARROLL INC.

Bruce Brandstetter
Senior Vice President

BGB/smb

Attachments: Contractor Experience and References
Bid Summary and Bid Tabulation

cc: File
<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>SPEC</th>
<th>DESCRIPTION</th>
<th>QUANTITY</th>
<th>UNIT</th>
<th>UNIT COST</th>
<th>TOTAL</th>
<th>UNIT COST</th>
<th>TOTAL</th>
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<tbody>
<tr>
<td>1</td>
<td>P-620-1</td>
<td>Surface Preparation</td>
<td>1</td>
<td>LS</td>
<td>$6,500.00</td>
<td>$6,500.00</td>
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<td>$2,338.40</td>
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<td>2</td>
<td>P-620-2</td>
<td>Runway Numbers</td>
<td>2,100</td>
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<td>$840.00</td>
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<td>3</td>
<td>P-620-3</td>
<td>Runway Centerline 36&quot; wide</td>
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<td>$2,620.80</td>
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<td>$507.00</td>
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<td>P-620-7</td>
<td>Aiming Point Markings</td>
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<td>$3,360.00</td>
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<td>$234.00</td>
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<td>9</td>
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<td>$7,320.00</td>
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<td>Reflective Media</td>
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<td>LB</td>
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<td>$1,375.00</td>
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<td>$2,425.00</td>
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<td>ODOT</td>
<td>Mobilization</td>
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<td>$1,000.00</td>
<td>$13,200.00</td>
<td>$13,200.00</td>
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<tr>
<td>12</td>
<td>SPEC</td>
<td>Maintaining Airfield Safety</td>
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<td>LS</td>
<td>$1,000.00</td>
<td>$1,000.00</td>
<td>$5,000.00</td>
<td>$5,000.00</td>
</tr>
</tbody>
</table>

**TOTAL BID ITEMS 1 THRU 12**

- **A & A SAFETY INC.**: $33,259.00
- **OSTROM PAINTING & SANDBLASTING, INC.**: $41,053.20
WHEREAS, the goal of Economic Development Week is to increase awareness for local programs that create jobs, advance career development opportunities and increase the quality of life in communities everywhere. Economic development is the creation of economic vitality for a community. It involves the thoughtful creation of a community vision which will attract employers and families alike; and

WHEREAS, economic developers promote economic well-being and quality of life for their communities by creating, retaining, and expanding jobs that facilitate growth, enhance wealth, and provide a stable tax base. Economic developers stimulate and incubate entrepreneurship in order to help establish the next generation of new businesses, which is the hallmark of the American economy; and

WHEREAS, economic development involves numerous facets that work together to retain and attract business, support workforce training and development resources for employers, and developing the community amenities and infrastructure that make a community a desirable place for individuals and families to choose to live, work and play.

NOW THEREFORE, I, Nicole Condrey, Mayor of the City of Middletown, Counties of Butler/Warren, State of Ohio, do hereby recognize and proclaim May 4-9, 2020, as

**National Economic Development Week**

*IN WITNESS WHEREOF, I have hereunto set my hand and affixed the seal of the City of Middletown this 5th day of May, 2020.*

Nicole Condrey, Mayor

Attest: Clerk of Council
MOTION

AGENDA
DATE April 22, 2020

TO: Susan Cohen, Acting City Manager

FROM: Scott Tadych, Public Works and Utilities Director
Prepared by Rob Nicolls, City Engineer

PURPOSE

Authorize the City Manager to enter into a contract with J.K. Meurer Corp. to proceed with the Transit Lot Paving project.

BACKGROUND AND FINDINGS

The City is proposing to proceed with the Transit Lot Paving project which consists of overlaying the existing asphalt lot with a new asphalt surface as well as making some concrete repairs to the existing ADA ramps.

Butler County Transit Authority requested the lot be repaved

Four contractors submitted a bid for the project. J.K. Meurer Corp. Inc. submitted the lowest and best bid.

ALTERNATIVES

None.

FINANCIAL IMPACTS

The lowest bid received for this project on April 1, 2020 was $139,332.90 which is 6% lower than the engineer’s estimate and 16% lower than the next bidder.

The project will be funded by the Transit Fund (530). Funds are appropriated.

EMERGENCY/NON EMERGENCY

Motion Agenda
ATTACHMENTS

Vicinity Map
Bid Tab
## TRANSIT LOT PAVING – 55 S. BROAD ST.

### BID TABULATION

**LEGAL NOTICE NO. 20-8134**  
**BIDS RECEIVED: April 1, 2020**

<table>
<thead>
<tr>
<th>Contractor’s Name &amp; Address</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Engineer’s Estimate</strong></td>
<td>$147,823.80</td>
</tr>
<tr>
<td><strong>J.K. MEURER CORP.</strong></td>
<td>$139,332.90</td>
</tr>
<tr>
<td>33 Glendale-Milford Road</td>
<td></td>
</tr>
<tr>
<td>Loveland, OH 45140</td>
<td></td>
</tr>
<tr>
<td><strong>WESTSIDE PAVING AND EXCAVATION INC.</strong></td>
<td>$161,824.00</td>
</tr>
<tr>
<td>6949 Ripple Road</td>
<td></td>
</tr>
<tr>
<td>Cleves, OH 45002</td>
<td></td>
</tr>
<tr>
<td><strong>PINNACLE PAVING AND SEALING INC.</strong></td>
<td>$170,059.04</td>
</tr>
<tr>
<td>787 Roundbottom Road</td>
<td></td>
</tr>
<tr>
<td>Milford, OH 45150</td>
<td></td>
</tr>
<tr>
<td><strong>BARRETT PAVING MATERIALS INC.</strong></td>
<td>$203,600.00</td>
</tr>
<tr>
<td>3751 Commerce Drive</td>
<td></td>
</tr>
<tr>
<td>Franklin, OH 45005</td>
<td></td>
</tr>
</tbody>
</table>

J.K. Meurer Corp. was the low bid in the amount of $139,332.90 which is 6% under the Engineer’s Estimate of $147,823.80
LEGISLATION
ITEM 1
RESOLUTION NO. R2020-11

A RESOLUTION TO MAKE ADJUSTMENTS TO APPROPRIATIONS FOR CURRENT EXPENSES AND OTHER EXPENDITURES OF THE CITY OF MIDDLETOWN, COUNTIES OF BUTLER AND WARREN, STATE OF OHIO, FOR THE PERIOD ENDING DECEMBER 31, 2020. (GENERAL FUND)

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Middletown, Butler/Warren Counties, Ohio that:

Section 1

The following sums are hereby removed from appropriated funds in the General Fund of the City to accounts of the City for the purposes herein described as follows:

FROM:  
City Manager, Accounts of 111 (100.111.51110) $30,000  
Human Resources, Accounts of 142 (100.142.51110) $6,000  
Human Resources, Accounts of 142 (100.142.51230) $7,500  
Law, Accounts of 150 (100.150.51230) $6,700  
Planning, Accounts of 162 (100.162.51230) $13,300  
Economic Development, Accounts of 164 (100.164.51110) $2,500  
Economic Development, Accounts of 164 (100.164.52480) $92,000  
Communications, Accounts of 165 (100.165.52480) $4,000  
Building Inspection, Accounts of 260 (100.260.51110) $54,000  
Building Inspection, Accounts of 260 (100.260.51211) $7,000  
Building Inspection, Accounts of 260 (100.260.51230) $15,500  
Building Maintenance, Accounts of 261 (100.261.51110) $9,000  
Building Maintenance, Accounts of 261 (100.261.51230) $15,500  
Parks Maintenance, Accounts of 542 (100.542.51230) $22,000

TO:  Unappropriated GENERAL Fund (Fund # 100) $285,000

TOTAL GENERAL FUND $285,000

Section 2

The Finance Director is hereby authorized to draw his warrants on the City Treasurer for payments from any of the foregoing appropriations upon receiving proper certificates and vouchers therefore, approved by the Board of Officers authorized by law to approve the same, or an ordinance or resolution of the City Council to make expenditures provided that no warrants shall be drawn or paid for salaries or wages except to persons employed by authority of and in accordance with law or ordinance.

Section 3

All legislation inconsistent herewith is hereby repealed.
Section 4

This resolution shall take effect and be in force from and after the earliest period allowed by law.

Nicole Condrey, Mayor

1st Reading: April 21, 2020
2nd Reading: 
Adopted: 
Effective: 

Attest: 
Clerk of City Council
DATE: April 9, 2020
TO: Susan Cohen, Acting City Manager
FROM: Jacob Burton, Finance Director

De-appropriation of General Fund Accounts

PURPOSE
To request a de-appropriation of expenditures from the General Fund in the amount of $285,000 to ensure these funds will not be spent in 2020.

BACKGROUND and FINDINGS
These de-appropriations are from savings already realized in the 2020 budget from vacant positions, lower than budgeted health insurance options chosen, and the decision to no longer hire a previously budgeted communications firm. This deappropriation is a first step to reduce the 2020 budgeted expenditures as a result of the anticipated COVID-19 economic impact. A summary of de-appropriations are as follows:

<table>
<thead>
<tr>
<th>Department</th>
<th>Reason</th>
<th>Account</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>City Manager</td>
<td>Vacant City Mgr. position</td>
<td>100.111.51110</td>
<td>30,000</td>
</tr>
<tr>
<td>HR</td>
<td>Vacant HR Mgr. position</td>
<td>100.142.51110</td>
<td>6,000</td>
</tr>
<tr>
<td>HR</td>
<td>Vacant HR Mgr. position</td>
<td>100.142.51230</td>
<td>7,500</td>
</tr>
<tr>
<td>Law</td>
<td>Health Ins. Choices less than budgeted</td>
<td>100.150.51230</td>
<td>6,700</td>
</tr>
<tr>
<td>Planning</td>
<td>Health Ins. Choices less than budgeted</td>
<td>100.162.51230</td>
<td>13,300</td>
</tr>
<tr>
<td>Econ. Dev.</td>
<td>Vacant ED Director position</td>
<td>100.164.51110</td>
<td>2,500</td>
</tr>
<tr>
<td>Econ. Dev.</td>
<td>Cancel Communications firm</td>
<td>100.164.52480</td>
<td>92,000</td>
</tr>
<tr>
<td>Communications</td>
<td>Cancel Communications firm</td>
<td>100.165.52480</td>
<td>4,000</td>
</tr>
<tr>
<td>Bldg. Inspection</td>
<td>Vacant Field Inspector position</td>
<td>100.260.51110</td>
<td>54,000</td>
</tr>
<tr>
<td>Bldg. Inspection</td>
<td>Vacant Field Inspector position</td>
<td>100.260.51211</td>
<td>7,000</td>
</tr>
<tr>
<td>Bldg. Inspection</td>
<td>Vacant Field Inspector position</td>
<td>100.260.51230</td>
<td>15,500</td>
</tr>
<tr>
<td>Bldg. Maintenance</td>
<td>Vacant HVAC/Bldg. Maint. Tech position</td>
<td>100.261.51110</td>
<td>9,000</td>
</tr>
<tr>
<td>Bldg. Maintenance</td>
<td>Vacant HVAC/Bldg. Maint. Tech position</td>
<td>100.261.51230</td>
<td>15,500</td>
</tr>
<tr>
<td>Parks Maintenance</td>
<td>Health Ins. Choices less than budgeted</td>
<td>100.542.51230</td>
<td>22,000</td>
</tr>
</tbody>
</table>

TOTAL 285,000
ALTERNATIVES

The alternative would be not to de-appropriate the funds.

FINANCIAL IMPACT

This will increase the General Fund 2020 projected year-end balance by $285,000.

EMERGENCY/NON EMERGENCY

Non-Emergency
ORDINANCE NO. O2020-20

AN ORDINANCE CHANGING THE ZONING CLASSIFICATION FOR A PARCEL LOCATED AT THE INTERSECTION OF LEFFERSON ROAD AND SPRING GROVE LANE FROM B-1 (NEIGHBORHOOD BUSINESS DISTRICT) TO I-1 (INDUSTRIAL PARK DISTRICT).

WHEREAS, Butler County parcel number Q65420630000007 contains approximately 5.5980 acres located at the intersection of Lefferson Road and Spring Grove Lane which is presently zoned B-1 (Neighborhood Business District); and

WHEREAS, the attorney for the owner has petitioned for the parcel to be rezoned to I-1 (Industrial Park District) so that the parcel can be developed as an indoor/outdoor storage facility; and,

WHEREAS, the City Planning Commission conducted a public hearing on March 11, 2020 after giving notice of the time and place of the hearing to all property owners within two hundred feet of the boundaries of the subject property; and,

WHEREAS, the City Planning Commission has recommended that the request for rezone to I-1 be approved; and,

WHEREAS, the City Council held a public hearing on April 21, 2020, notice of such public hearing having been given in the Journal News at least 30 days prior to such hearing; and

WHEREAS, City Council hereby concurs in the recommendation of the City Planning Commission and agrees that the request substantially complies with the review criteria contained in the City Development Code for rezoning of property;

NOW THEREFORE, BE IT ORDAINED, by the City Council of the City of Middletown, Butler/Warren Counties, Ohio that:

Section 1

The zoning classification for Butler County parcel number Q65420630000007 which is presently zoned B-1 (Neighborhood Center District) is hereby changed to I-1 (Industrial Park District). The area to be rezoned is more particularly shown in Exhibit “A”, attached hereto. Staff is directed to revise the zoning map for the City to reflect this change.
Section 2

This ordinance shall take effect and be in force from and after the earliest period allowed by law.

Nicole Condrey, Mayor

1st Reading: April 21, 2020
2nd Reading:_________
Adopted:___________
Effective:___________

Attest: _______________________
Clerk of City Council
LEGISLATION
ITEM 3
ORDINANCE NO. O2020-21


BE IT ORDAINED, by the City Council of the City of Middletown, Butler/Warren Counties, Ohio that:

Section 1

The following job classifications are hereby added to Section 1(C) of Ordinance No. O2019-83 and Ordinance No. O2019-84, both adopted November 19, 2019:

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<thead>
<tr>
<th>Pay Ranges</th>
<th>O2019-81</th>
<th>O2019-82</th>
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</thead>
<tbody>
<tr>
<td>Line Service Technician</td>
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<td>228</td>
</tr>
</tbody>
</table>

Section 2

Exhibit A to Ordinance No. O2019-83 and Exhibit B to Ordinance No. O2019-84 (both Exhibits are identical) which contain the list of exempt, supervisory, unclassified and classified positions of the City is also hereby amended and is attached hereto as Attachment 1.

Section 3

This ordinance shall take effect and be in force from and after the earliest period allowed by law.

____________________________
Nicole Condrey, Mayor

1st Reading: April 21, 2020
2nd Reading:___________
Adopted:______________
Effective:_____________

Attest:_____________________
Clerk of City Council
### Table of Exempt (E), Supervisory (S), Unclassified (UC) & Classified (C) Positions

<table>
<thead>
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<th>E</th>
<th>S</th>
<th>UC</th>
<th>C</th>
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</thead>
<tbody>
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<td>Administrative Assistant</td>
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<td>X</td>
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</tr>
<tr>
<td>Administrative Services Director</td>
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<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Airport Facilities Supervisor</td>
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<td>X</td>
<td>X</td>
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<tr>
<td>Airport Manager</td>
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<td>X</td>
<td>X</td>
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<tr>
<td>Animal Control Officer</td>
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<tr>
<td>Assistant City Engineer</td>
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<tr>
<td>Assistant Economic Development Director</td>
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<tr>
<td>Assistant Finance Director</td>
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<tr>
<td>Assistant Fire Chief</td>
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<td>X</td>
<td>X</td>
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<tr>
<td>Assistant Information Systems Director</td>
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<tr>
<td>Assistant Public Works &amp; Utilities Director</td>
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<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Assistant Public Works Superintendent / Safety Officer</td>
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<tr>
<td>Budget Analyst</td>
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<tr>
<td>Building Cleaner</td>
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<tr>
<td>Building Maintenance Technician</td>
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</tr>
<tr>
<td>Bus Cleaner</td>
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<tr>
<td>Chief Building Official</td>
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<tr>
<td>City Engineer</td>
<td>X</td>
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</tr>
<tr>
<td>City Manager</td>
<td>X</td>
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<tr>
<td>City Treasurer</td>
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<td>Civilian Communications Supervisor</td>
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<td>X</td>
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<tr>
<td>Clerk of Council</td>
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<td>X</td>
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<td></td>
</tr>
<tr>
<td>Communications Manager</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Job Classifications</td>
<td>E</td>
<td>S</td>
<td>UC</td>
<td>C</td>
</tr>
<tr>
<td>--------------------------------------------------</td>
<td>---</td>
<td>---</td>
<td>----</td>
<td>---</td>
</tr>
<tr>
<td>Community Development Administrator</td>
<td>X</td>
<td>X</td>
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<td></td>
</tr>
<tr>
<td>Community Security Officer</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Computer Programmer/Analyst</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Computer Technician</td>
<td></td>
<td></td>
<td>X</td>
<td></td>
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<tr>
<td>Contracts Administrator</td>
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DATE: April 16, 2020

FROM: Susan Cohen, Acting City Manager

PURPOSE

To provide information to Council regarding update of the 2020 Pay and Benefits Ordinances.

BACKGROUND AND FINDINGS

Each fall, Council passes the Pay and Benefits Ordinances for the next calendar year. The Ordinances establish the pay ranges for each employee. Occasionally, there are mid-year updates that are recommended to address the shifting roles and responsibilities of personnel.

One recommended update this year is to the job titles for the Line Service Lead position at the Airport. As the City assumed control of the FBO in 2020, job titles and descriptions were created. As FBO operations have developed, the job description and work has also been modified. Staff is proposing amending the Pay and Benefits Ordinances to include the job title of “Line Service Technician” in order to most accurately represent the nature of the employment.

If Council chooses to approve this amendment, all employees currently under the current job classification would be brought to Council to be appointed to the new position title.

The Table of Exempt (E), Supervisory (S), Unclassified (UC) & Classified (C) Positions which is attached to the Ordinances will also be amended to include Line Service Technician. When staff was adding the new position to the table, it was also discovered that Airport Facilities Supervisor was marked as exempt in error when the position is non-exempt. That has been corrected in the table attached to the proposed legislation.

ALTERNATIVES

Maintain Current Pay and Benefits

FINANCIAL IMPACTS

There is no financial impact, this would be a title change to provide clarity to job duties.

EMERGENCY/NON EMERGENCY

Non Emergency
LEGISLATION
ITEM 4
AN ORDINANCE ESTABLISHING A PROCEDURE FOR AND AUTHORIZING AN AMENDMENT OF THE CONTRACT WITH CBM MANAGED SERVICES NOW KNOWN AS SUMMIT FOOD SERVICE FOR JAIL FOOD SERVICE AND DECLARING AN EMERGENCY.

WHEREAS, City Council authorized a three year contract with CBM Managed Services, now known as Summit Food Service, by Motion on November 7, 2017, for the period 2018 through 2020; and

WHEREAS, the original bid was based on a jail population of approximately 60 inmates per day; and

WHEREAS, during the current COVID-19 pandemic, the City’s jail population has been significantly below normal at about 10 inmates per day; and

WHEREAS, the vendor has requested additional compensation to make up for the drastic and unexpected decline in jail population;

WHEREAS, City staff is satisfied with the performance of the vendor and believes this amendment will be in the City’s best interest during the pandemic and is not expected to cause an increase in the budget for jail food services;

NOW, THEREFORE, BE IT ORDAINED, by the City Council of the City of Middletown, Butler/Warren Counties, Ohio that:

Section 1

The City Manager, without complying with the procedures of Chapter 735 of the Ohio Revised Code, is authorized to enter into an amendment of the contract with Summit Food Service in a form substantially similar to Exhibit “A”, attached hereto.

Section 2

City Council hereby determines that the procedure to be followed in the award and execution of the aforesaid contract shall consist solely of the procedure set forth in this Ordinance and the provisions of Chapter 735 of the Ohio Revised Code shall not be applicable to the award and execution of the aforesaid contract.
Section 3

This ordinance is declared to be an emergency measure necessary for the immediate preservation of the public health, safety and general welfare, to wit: so that the amendment can be signed and the additional compensation can be paid as soon as possible, and shall be in full force and effect from the date of its adoption.

Nicole Condrey, Mayor

Adopted: ________________

Attest: ___________________
   Clerk of City Council
This Amendment to Food Service Contract (the “Amendment”) is entered into this ____
day of May, 2020 (the “Effective Date”) by and between the City of Middletown, Ohio (the
“City”) and Summit Food Service, formerly known as CBM Managed Services (“Contractor”)
(the City and Contractor are collectively referred to herein as the “Parties”).

A. The City and Contractor are parties to a certain contract dated December 13, 2017
(the “Contract”), whereunder Contractor is to provide food services for the City Jail.

B. The outbreak of a highly contagious respiratory virus, commonly known as
COVID-19, has created a public health emergency throughout the State of Ohio, prompting a
reduction in the City’s daily jail population. The Contract between the parties was based upon
an average jail population of seventy (70) inmates per day. During the public health emergency,
the City jail population has been reduced to approximately 8-10 inmates per day.

C. The current reduction in the City jail population was not contemplated by the
Parties when entering into the Contract. Due to the extenuating circumstances, the Parties have
determined that it is in their best interests to amend the terms and conditions of the Contract as
follows:

1. **Section 3.10 Contract Payment.**

When the jail population is fifty (50) inmates or less, the City will pay Contractor a flat
fee of $2,520.00 per week. This provision shall be retroactively effective as of the week
of March 22, 2020. The flat fee provided for herein shall be offset by any fees the City
has paid Contractor for services rendered between March 22, 2020 and the Effective
Date.

If the jail population is more than fifty (50) inmates, the original rates described in
Exhibit A of the Contract shall apply.

2. **Entire Amendment.** This Amendment solely applies to the subject matter
contained herein and shall not be construed as amending or modifying any other term of
the Contract.

SUMMIT FOOD SERVICE

By: __________________________
Title: __________________________
Date: __________________________

CITY OF MIDDLETOWN

Susan Cohen, Acting City Manager

Date: __________________________

Approved as to form:

_________________________________________
Law Director
April 17, 2020

TO: Susan Cohen, Acting City Manager  
FROM: Samantha Zimmerman, Purchasing Agent

**PURPOSE**

To request an amendment to the contract for Jail Food Service with Summit Food Service (formerly CBM Managed Services, in the amount of $2,520 per week while the jail population is under fifty (50) inmates retroactively to March 22, 2020 when the jail population decreased drastically due to COVID-19.

**BACKGROUND and FINDINGS**

In 2017, the City took bids to find a contractor to provide the service of purchasing, receiving, preparing, and serving the food necessary to meet the nutritional needs of the inmates. Summit Food Service was awarded the three year contract as the only bidder.

The Middletown City Jail provides three meals per day to approximately sixty (60) inmates under normal conditions. Due to the national pandemic we are currently experiencing, Summit is requesting additional payment while the City’s jail population is significantly below normal at only approximately ten (10) inmates.

The City would pay a flat payment of $2,520 per week while the jail population is fifty (50) inmates or less. This payment is equivalent to the cost of fifty (50) inmates. Once the jail population goes back up to normal, the City would pay the normal amount of $2.40 per meal.

**ALTERNATIVES**

The alternative is to not approve this additional payment to Summit. However, Summit has expressed that due to the COVID-19 and the current inmate population dropping substantially without additional payment they would be incurring a substantial financial loss. This additional payment will allow them to break-even.

The City needs food service to maintain operation of the City Jail; without the additional payment we run the risk of Summit exercising the 90-day notice of contract cancellation.
FINANCIAL IMPACT

Funds have been appropriated in the 2020 budget for this purchase.

The exact amount to be spent with this additional payment depends on how long the City’s inmate population is below normal. Overall, there will not be a significant financial impact since we will be paying Summit as if inmate population is normal.

EMERGENCY/NON EMERGENCY

An emergency is requested in order to start additional payment to Summit Food Service.

cc: Jacob Burton, Finance Director
    David Birk, Police Chief
    Leanne Hood, Deputy Police Chief