veriDART®: Project Planning

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**July 2022**

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# **Preparing to Build Your Project Plan**

**Review the veriDART Proposal/SOW to understand the Project Scope and Test Plan.**

**Overview**

Your organization will test veriDART at the customer location on the specified date and time.

**General Information**

|  |  |  |  |
| --- | --- | --- | --- |
| Customer | St. Johns School | Project ID | 416 |
| Building Address | 243 W. Fifth Street, USA | Project Name | 1st Floor |

**Test Plan**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Test** | **Test Type** | **Scenario** | **OP** | **SP** | **Intervals** | **Interval**  **Duration** | **Total Samples** |
| 1 | UL Verification | HVAC On: Winter Setting | 1 | 1 | 4 | 5 min | 4 |
| 1 | Survey | Baseline: HVAC Off | 8 | 12 | 1 | 30 min | 12 |
| 2 | Mini-Survey | HEPA: Medium Setting | 1 | 4 | 1 | 30 min | 4 |
| 2 | Mini-Survey | HEPA: High Setting | 1 | 4 | 1 | 30 min | 4 |
| 3 | Recirculation | 50% Outdoor Air; MERV 11 | 4 | 2 | 1 | 30 min | 2 |

**Project Scope**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Test**  **Number** | **Test**  **Name** | **Scenario** | **Scenario**  **Description** | **OP**  **Count** | **OP Tags** | **Sample**  **Type** |
| 1 | UL Verification | 1 | HVAC On: Winter Setting | 1 | C1 | Filter |
| 1 | Survey | 1 | Baseline: HVAC Off | 8 | A1-8 | Filter |
| 2 | Mini-Survey | 1 | HEPA: Medium Setting | 1 | C2 | Filter |
| 2 | Mini-Survey | 2 | HEPA: High Setting | 1 | C3 | Filter |
| 3 | Recirculation | 1 | 50% Outdoor Air; MERV 11 | 4 | C4 | Filter |

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Test**  **Number** | **Test**  **Name** | **SP Count** | **Interval Count** | **Interval Duration** | **Sample Count** | **SN Start** | **SN End** |
| 1 | UL Verification | 1 | 4 | 5 min | 4 | 001 | 004 |
| 1 | Survey | 12 | 1 | 30 min | 12 | 001 | 012 |
| 2 | Mini-Survey | 4 | 1 | 30 min | 4 | 013 | 016 |
| 2 | Mini-Survey | 4 | 1 | 30 min | 4 | 017 | 020 |
| 3 | Recirculation | 2 | 1 | 30 min | 2 | 021 | 022 |

# **Test 1: UL Dilution Test**

**Scenarios**

|  |  |  |
| --- | --- | --- |
| **Scenario** | **Description** | **Time of Tag Application** |
| 1 | HVAC On: Winter Setting 30% Outdoor Air | 0700 |

**Sprayer and Building Info**

|  |  |  |
| --- | --- | --- |
| **Sprayer Pressure** | **Building Info** | |
| 65 psi | Sq. ft.: 1,400 | Ceiling Height: 10 ft |

**Origin Points**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Scenario** | **OP Number** | **OP Name** | **Tag** | **Tag Lot** | **Tag Expiry** |
| 1 | OP-1 | Kindergarten DC | C1 | 20220321 | Sept. 21, 2022 |

**Sample Collection Methods**

|  |  |
| --- | --- |
| **Sample Type** | **Measurement** |
| Filter | 5.5 L/min |

**Sample Summary**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Scenario Count** | **Interval Count** | **Sample Point Count** | **Sample Type Count** | **Sample Count** | **Interval Duration** | **Interval**  **Times** |
| 1 | 4 | 1 | 1 | 4 | 5 min | 0-5, 5-10,  50-55, 55-60 min |

**Samples**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Scenario** | **Sample Type** | **SP Number** | **SP Name** | **I1** | **I2** | **I3** | **I4** |
| 1 | Filter | SP-001 | Kindergarten DC | SN-001 | SN-002 | SN-003 | SN-004 |

**Annotated Floor Plan**

Diagram

Description automatically generated

SP-001

OP-1

# **Test 1 Information: Survey Test**

**Scenarios**

|  |  |  |
| --- | --- | --- |
| **Scenario** | **Description** | **Time of Tag Application** |
| 1 | Survey Test: Baseline HVAC Off | 0830 |

**Origin Points**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Scenario** | **OP Number** | **OP Name** | **Tag** | **Tag Lot** | **Tag Expiry** |
| 1 | OP-001 | Corridor by Principal’s Office | A1 | 20220321 | Sept. 21, 2022 |
| 1 | OP-002 | Men’s Restroom DC | A2 | 20220321 | Sept. 21, 2022 |
| 1 | OP-003 | East Classroom DO/WO | A3 | 20220321 | Sept. 21, 2022 |
| 1 | OP-004 | Kindergarten DO/WO | A4 | 20220321 | Sept. 21, 2022 |
| 1 | OP-005 | West Corridor | A5 | 20220321 | Sept. 21, 2022 |
| 1 | OP-006 | NW Classroom DC/WO | A6 | 20220321 | Sept. 21, 2022 |
| 1 | OP-007 | SW Classroom DO/WO | A7 | 20220321 | Sept. 21, 2022 |
| 1 | OP-008 | Nurse Office DO/WO | A8 | 20220321 | Sept. 21, 2022 |

**\*\*DC = Door Closed; \*\*DO = Door Open; \*\*WC = Window Closed; \*\*WO = Window Open**

**Sample Collection Methods**

|  |  |
| --- | --- |
| **Sample Type** | **Measurement** |
| Filter | 2.5 L/min |

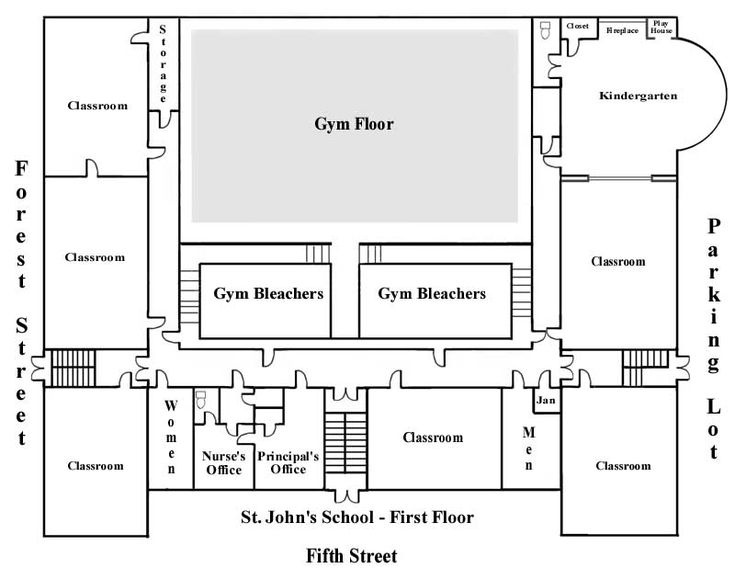
**Sample Summary**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Scenario Count** | **Interval Count** | **Sample Point Count** | **Sample Type Count** | **Sample Count** | **Interval Duration** | **Interval**  **Times** |
| 1 | 1 | 12 | 1 | 12 | 30 min | 0-30 min |

**Samples**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Scenario** | **Sample Type** | **SP Number** | **SP Name** | **I1** |
| 1 | Filter | SP-001 | Corridor by Principal’s Office | SN-001 |
| 1 | Filter | SP-002 | Men’s Restroom DC | SN-002 |
| 1 | Filter | SP-003 | East Classroom DO/WO | SN-003 |
| 1 | Filter | SP-004 | Kindergarten DO/WO | SN-004 |
| 1 | Filter | SP-005 | West Corridor | SN-005 |
| 1 | Filter | SP-006 | NW Classroom DC/WO | SN-006 |
| 1 | Filter | SP-007 | SW Classroom DO/WO | SN-007 |
| 1 | Filter | SP-008 | Nurse Office DO/WO | SN-008 |
| 1 | Filter | SP-009 | SE Classroom DO/WO | SN-009 |
| 1 | Filter | SP-010 | North Classroom DO/WO | SN-010 |
| 1 | Filter | SP-011 | West Classroom DC/DC | SN-011 |
| 1 | Filter | SP-012 | South Corridor | SN-012 |

**Annotated Floor Plan**



SP-009

SP-012

SP-011

SP-010

SP-008

OP-7

SP-007

SP-005

OP-5

SP-003

SP-004

SP-006

SP-001

OP-1

SP-002

OP-6

OP-8

OP-4

OP-3

OP-2

# **Test 2 Information: Mini-Survey Test**

**Scenarios**

|  |  |  |
| --- | --- | --- |
| **Scenario** | **Description** | **Time of Tag Application** |
| 1 | Mini-Survey Test: HEPA: Medium Setting | 0930 |
| 2 | Mini-Survey Test: HEPA: High Setting | 1015 |

**Origin Points**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Scenario** | **OP Number** | **OP Name** | **Tag** | **Tag Lot** | **Tag Expiry** |
| 1 | OP-1 | West Middle Classroom Adjacent Classroom Door Open all others Closed; WC | C2 | 20220321 | Sept. 21, 2022 |
| 2 | OP-1 | West Middle Classroom Adjacent Classroom Door Open all others Closed; WC | C3 | 20220321 | Sept. 21, 2022 |

**\*\*DC = Door Closed; \*\*DO = Door Open; \*\*WC = Window Closed; \*\*WO = Window Open**

**Sample Collection Methods**

|  |  |
| --- | --- |
| **Sample Type** | **Measurement** |
| Filter | 2.5 L/min |

**Sample Summary**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Scenario Count** | **Interval Count** | **Sample Point Count** | **Sample Type Count** | **Sample Count** | **Interval Duration** | **Interval**  **Times** |
| 2 | 1 | 4 | 1 | 8 | 30 min | 0-30 min |

**Samples**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Scenario** | **Sample Type** | **SP Number** | **SP Name** | **I1** |
| 1 | Filter | SP-001 | NE Classroom Back: Adjacent Classroom Door Open all others Closed; WC | SN-013 |
| 1 | Filter | SP-002 | NE Classroom Front: Adjacent Classroom Door Open all others Closed; WC | SN-014 |
| 1 | Filter | SP-003 | West Middle Classroom Back: Adjacent Classroom Door Open all others Closed; WC | SN-015 |
| 1 | Filter | SP-004 | West Middle Classroom Front: Adjacent Classroom Door Open all others Closed; WC | SN-016 |
| 2 | Filter | SP-001 | NE Classroom Back: Adjacent Classroom Door Open all others Closed; WC | SN-017 |
| 2 | Filter | SP-002 | NE Classroom Front: Adjacent Classroom Door Open all others Closed; WC | SN-018 |
| 2 | Filter | SP-003 | West Middle Classroom Back: Adjacent Classroom Door Open all others Closed; WC | SN-019 |
| 2 | Filter | SP-004 | West Middle Classroom Front: Adjacent Classroom Door Open all others Closed; WC | SN-020 |

**\*\*DC = Door Closed; \*\*DO = Door Open; \*\*WC = Window Closed; \*\*WO = Window Open**

**Annotated Floor Plan**

Diagram

Description automatically generated

SP-003

SP-004

SP-002

SP-001

OP-1

# **Test 3 Information: Recirculation Test**

**Scenarios**

|  |  |  |
| --- | --- | --- |
| **Scenario** | **Description** | **Time of Tag Application** |
| 1 | Recirculation Test: 50% Outdoor Air: MERV 11 | 1100 |

**Origin Points**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Scenario** | **OP Number** | **OP Name** | **Tag** | **Tag Lot** | **Tag Expiry** |
| 1 | OP-1 | SW Classroom DO/WO | C4 | 20220321 | Sept. 21, 2022 |
| 1 | OP-2 | NW Classroom DO/WO | C4 | 20220321 | Sept. 21, 2022 |
| 1 | OP-3 | Gym Floor | C4 | 20220321 | Sept. 21, 2022 |
| 1 | OP-4 | Kindergarten DO/WO | C4 | 20220321 | Sept. 21, 2022 |

**\*\*DC = Door Closed; \*\*DO = Door Open; \*\*WC = Window Closed; \*\*WO = Window Open**

**Sample Collection Methods**

|  |  |
| --- | --- |
| **Sample Type** | **Measurement** |
| Filter | 2.5 L/min |

**Sample Summary**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Scenario Count** | **Interval Count** | **Sample Point Count** | **Sample Type Count** | **Sample Count** | **Interval Duration** | **Interval**  **Times** |
| 1 | 1 | 2 | 1 | 2 | 30 min | 0-30 min |

**Samples**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Scenario** | **Sample Type** | **SP Number** | **SP Name** | **I1** |
| 1 | Filter | SP-001 | Air Handler Unit Supply | SN-021 |
| 1 | Filter | SP-002 | Air Handler Unit Return | SN-022 |

**Annotated Floor Plan**

SP-001

SP-002

Diagram

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OP-3

OP-4

OP-2

OP-1

# **veriDART Equipment and Materials**

**Air Pumps and Power Supply**

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**Air Pump (1-Channel)** 

**Air Pump (4-Channel)**

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**4-Channel Power Supply: Battery and Electric**

**Sample Types**

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**Swab and Weigh Boat**

**Filtered Cassette w/End-Plugs**

# 

**veriDART Tag Kit**

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**Tag Release Equipment**

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**eSprayer**

**Spray Bucko**

**(Note Lot Code and Expiration Date)**

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**Syringe with 5-ml Tag Solution**

**(Use with eSprayer)**

**Cartridge used to Release Tag Solution in Syringe**

**(Use with eSprayer)**

**UL Verification Test Equipment and Set-Up**

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Nozzle

4-Channel Air Samplers

Batteries and Cords

Optional Power supply and splitter cord

Wireless Control Modules

Control Signal Cables typically

3m long for eSprayer

1m long for wireless module

eSprayer

Schrader Valve Air Pump

A picture containing indoor, wall

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**Single and Four Channel Set-Up for Dilution Test without eSprayer**

A group of electronic devices

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**Air and Formite Set-Up for Survery, Mini-Survey and Recirculation Tests**

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**Materials and Equipment Order Form**

Once the project is set up in the portal and all test(s) have been added the portal will automatically generate a list of what materials and equipment are needed to complete the project. You will then submit this Order Form to be fulfilled.

|  |  |  |  |
| --- | --- | --- | --- |
| **Materials and Equipment: You will Need for this Project** | | | |
| **Tagging System** | | | |
| **Item** | **Need** | **Confirmed** | **Checked By** |
| Labeled Tag Spray Buckos | A1-A8 | Yes | MC |
| Labeled Tag Spray Buckos | C1-C4 | Yes | MC |
| SDS | 1 | Yes | MC |
| **Air Sample Pumps** | | | |
| Air Pump (1-Way) with Batteries | 12 | Yes | MC |
| Air Pump (4-Way) with Power Source | 1 | Yes | MC |
| eSprayer Kit | 1 | Yes | MC |
| **Energy Supply** | | | |
| 4-Way Power Cord | 1 | Yes | MC |
| 4-Way Battery (Charged) | 1 | Yes | MC |
| **Laboratory Materials** | | | |
| Filters | 30 | Yes | MC |
| Cassettes | 30 | Yes | MC |
| Cassette Plugs (Red) and Bottoms (Blue) | 30 Each | Yes | MC |
| Plastic Weigh Boats | NA |  |  |
| Swabs | NA |  |  |
| Ziplock Bags for Samples (Large) | Box | Yes | MC |
| **Cleaning Supplies** | | | |
| Clean Gloves Large (Size Depends) | Box | Yes | MC |
| Chlorine Bleach Wipes (10% Hypochlorite) | Bottle | Yes | MC |
| **Printed Materials** | | | |
| Clean Floor Plans | 4 | Yes | MC |
| Annotated Floor Plan | 4 | Yes | MC |
| Project Configuration Plan | 4 | Yes | MC |
| Chain of Custody Form | 1 | Yes | MC |
| Project Plan Preparedness Checklist | 1 | Yes | MC |
| Origin Point Labels | 1 Set Each | Yes | MC |
| Sample Point Labels | 1 Set Each | Yes | MC |
| Sample Number Labels | 1 Set Each | Yes | MC |

# **Test Type Set-Up Chart**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **Test**  **Type** | **veriDART Tag Kit** | **OP Label** | **SP/SN Label** | **1Channel**  **Air Pump** | **4 Channel Air Pump** | **eSprayer** | **Plastic Boat** |
| Survey  (Filter) | \*\*A/B Tags | Yes | Yes | Yes | No | No | No |
| Survey  (Swab) | \*\*A/B Tags | Yes | Yes | No | No | No | Yes |
| Survey (Filter/Swab) | \*\*A/B Tags | Yes | Yes | Yes | No | No | Yes |
| Dilution  (Filter) | C Tag | Yes | Yes | Yes | Yes | Yes/No | No |
| UL Verification | C Tag | Yes | Yes | No | Yes | Yes | No |
| Mini-Survey (Filter) | C Tag | Yes | Yes | Yes | No | No | No |
| Recirculation (Filter) | C Tag | Yes | Yes | Yes | No | No | No |

**\*\*A and B Tags will be used for multiple Survey Tests or when there are 16 OPs in a Single Test.**

# **Prepare for Execution**

1. **Assemble the Spray Top on the Bucko**
   1. The veriDART Kit will come with the spray top detached.
   2. Preferred assembly locations:
      1. Outdoor.
      2. Different floor.
      3. Under an exhaust hood.
      4. DONOT assemble in the test environment.
   3. Wear clean gloves for each bucko assembly.
   4. Carefully, remove the bucko top, place in the plastic bag, and attach the spray top. Twist until secure. Do not prime.
   5. Place the bucko back in the labeled plastic bag and discard the used gloves and continue with the remaining buckos (remember to use new and clean gloves for each event).
2. **Site Tour (Prior to Set-Up)**
   1. Walk the facility to ensure all selected Origin and Sample Points are accessible.
   2. Ensure that the selected points have in the right location on the map.
   3. Make any necessary changes based on you site tour.
3. **Verify Origin and Sample Point Set-Up (Prior to the Test Start)**
   1. Verify label information and placement location.
   2. Verify Tag Kit information and placement location.
   3. Cassettes are open faced with intact filter for
   4. **For Survey, Mini-Survey and Recirculation Tests Only:** Turn on all Air Sampler Pumps. (Green indicator light is on for most pumps)
   5. **For Dilution Test Only:** If using 1-Way Air Pumps, turn on the first Air Pump only for the first interval. Remaining Air Pumps are closed faced and off.
   6. **For Dilution Test Only:** If using 4-Way Air Pump(s) do not start the pump in advance. All cassettes are open faced.
4. **Determine Test Start/End Time**
   1. Team Leader will provide release start time.
   2. Pre-set your watch, phone, or clock for start and end times.
   3. Record the start time on your Project Configuration Form.
   4. Team Leader will give five-minute warning when the test time will be up. You will then prepare to turn off all air-pumps.

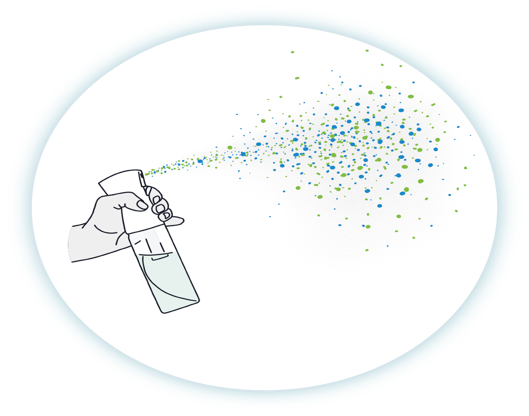
# **Execution**

**Tag Release Instructions for manual Bucko Sprayer**

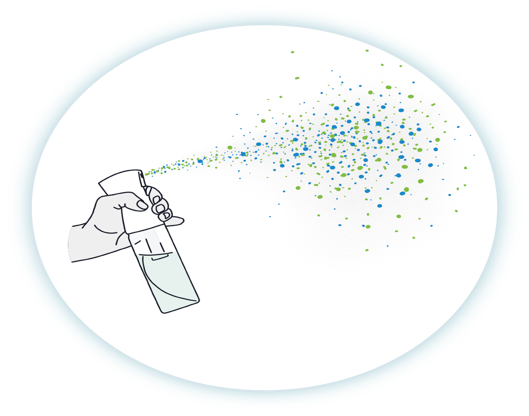
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**3. Spray 10 Consecutive Times**



**3. Spray 10 Consecutive Times**



1. **Position yourself about Six Feet from the Air-Pump and/or Weigh Boat**

**2. Now Move about Three Feet to either Side of the Air Pump and Weigh Boat**

**2. Now Move about Three Feet to either Side of the Air Pump and Weigh Boat**

1. Technical Questions and Answers
   1. **Why do we spray the tracers 10 times/OP?**

**Answer:** During development we found the signal improved over longer distances by doing this.

* 1. **Why is the first Sample Point approximately 6 ft away and 3 ft to the side of the Origin Point?**

**Answer:** The goal is to not create “forced” airflow drifting over the air pumps and weigh boats as well as preventing saturation of the filters and weigh boats.

* 1. **What is the most important consideration when determining release direction at the Origin Points?**

**Answer:** Wind direction. You should release “with” the natural direction of the airflow. Avoid releasing over the air samplers and weigh boats as stated above. Also, take into consideration location for air supplies, returns, stand-alone devices including fans when determining where to release the Tag solution.

* 1. **For Dilution tests do I have to spray 10 times before each interval?**

**Answer:** No, you release the Tag solution only 10 times at each Origin Point.

* 1. **How will the results be affected if I release the Tag solution more or less than 10 times?**

**Answer:** A small variance is built in for miscounting the releases. Best practice is to count aloud from 1 to 10.

* 1. **How will the results be affected if the Air Sample Pump runs shorter or longer than the interval time?**

**Answer:** A small variance is built in for small errors in interval timing. Best practice is to set your watch, clock, timer, or phone to the interval end time(s).

1. UL Verification Test
   1. This test measures the dilution ventilation which may include the removal of aerosols from standalone filtration devices.
   2. UL Verification Test is completed using the Four-Channel Air Sampler, eSprayer and with optional wireless control modules to start all equipment simultaneously. Test areas include high-density areas such as:
      1. Conference Rooms
      2. Training Rooms
      3. Breakrooms
      4. Open Areas
   3. Some High-Density Area Characteristics
      1. Multiple occupancy for more than 15 minutes.
      2. >1 occupant per 200 sq ft
   4. Physical, Mechanical and Engineering Controls of High-Density Areas
      1. Size (ft2)
      2. Ceiling Height
      3. HVAC Support
      4. Standalone Devices, Exhaust Fans, HEPA units, etc.
   5. Test Planning
      1. High-Density Areas are identified
      2. One-Origin Point and One-Sample Point are assigned for each 1,000 ft2 with all Origin Points within a single area using the same Tag Number.
   6. Test Execution
      1. Measure and record the test area (L x W) in sq.ft.
      2. Record the ceiling height in ft.
      3. Ensure all HVAC engineering controls and mitigations are operational and functional. Record:
         1. Cubic Feet per Minute (cfm)
         2. Make and Model
         3. Setting of standalone devices such as HEPA Filters and Air-Cleaners. Contact the building Engineer for help in estimating the HVAC Air Supply air setting input and output CFM volumes.
      4. Prepare all equipment
      5. Locate Supply and Return ducts or transfer grilles.
      6. Place a Four-Channel Air Sampler (loaded with cassettes) in the geometric center of the 1000 ft2 area to be tested. If testing in areas greater than 1000 ft2,place air samplers in the geometric center of each approximate 1000 ft2 block.
      7. Place the eSprayer with the nozzle directly underneath a Supply duct. Place the Four-Channel Air sampler no less than six-feet from the eSprayer.
         1. Caution: DO NOT PLACE THE eSPRAYER UNDER A RETURN DUCT!! THIS WILL INVALIDATE THE TEST.
         2. Note: Orient the Four-Channel Air Sampler so the sample cassettes face away from the eSprayer.
      8. Connect the Wiring and verify communication within the connected system.
      9. Pressurize the eSprayer.
      10. Load the syringe.
      11. Ensure all doors and windows are closed in each test area during the test.
      12. Start the test.
          1. You may start each air sampler separately or use the wireless control node start function.
      13. Test Time
          1. Each test runs for one-hour.
             1. Channel One: T= 0 to 5 minutes
             2. Channel Two: T = 45 to 50 minutes (Pump does not run for 40 minutes)
             3. Channel Three: T = 50 to 55 minutes
             4. Channel Four: 55 to 60 minutes
      14. End of test:
          1. Verify the Tag was released (syringe should be empty).
          2. Collect the sample cassettes from the air pump.
          3. Place the top cap with “Red Plug” on the cassette base.
          4. Place the “Blue Plug” on the bottom of the cassette.
          5. Discard the syringe and plunger.
          6. Remove the Nozzle assembly
             1. Cap the right-angle lure connection.
             2. Release the nozzle from the eSprayer.
             3. Cap the nozzle with the red cap.
             4. Place in Ziploc bag for further use or return.
2. **Post Release Instructions**
   1. Leave the bucko and used gloves at the OP release location. (The used gloves will be an indication that the Tag was released at the OP)
   2. After the last release is completed (to reduce the chance of cross contamination) you must stay in your designated area until the sampling interval is over. This is a good time to verify functionality of the Air Pumps that you are assigned too.

# **Sample Collection**

1. **Swab**
   1. Special Instructions
      1. Do not release the buffer solution.
      2. Remove the swab from the collection tube.
      3. Using one hand hold the plastic weigh boat down at the edge and swab using the traditional swab technique and pattern.
      4. Return the swab to the collection tube and place into the plastic bag.
   2. Traditional Swab Technique
      1. Hold swab by plastic shaft about one-inch (1”) from the cotton tip.
      2. Apply sufficient pressure to the sample surface to allow a 10° to 20° bend in the swab.
      3. Rotate the swab so that the entire cotton tip meets the sample surface, and the sample covers all sides of the swab.
   3. Surface Area
      1. Approximately a 4” by 4” (16 sq. in.) surface area.
   4. Direction and Number
      1. 10x Vertical (downward).
      2. 10x Horizontal (left to right).
      3. 10x Diagonal (top right to bottom left).



1. **Filter**
   1. Turn off “ALL” Air Pumps before collecting samples to reduce over sampling.
   2. Do not remove the filter from the cassette.
   3. Remove the sample cassette from the air pump.
   4. Attach the cassette top and plugs. (Red on top and Blue on bottom)

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**Plug the top cap with the Red Plug**

**and bottom with the Blue Plug**

# **Sample Verifications and Release**

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Chain of Custody** | | | | | | | | | | | |
| **Project ID: 416 Project Date: 6-22-22** | | | | | | | | **Shipping Information**  **Name**  **Address, Suite**  **City, State, Zip**  **Phone** | | | |
| **Project Name: St. Johns School 1st Floor** | | | | | | | |
| **Number of Samples: 26** | | | | | | | |
| **Lab Contact: Mary Stevens** | | | | | | | |
| **Lab Contact Email: @safetraces.com** | | | | | | | |
| **Lab Contact Phone: 123-234-3456** | | | | | | | |
| **Copy Sent with Samples: Yes No** | | | | | | | | **UPS, FED EX, DHL, Other:** | | | |
| **Number of Pages:1** | | | | | | | | **Tracking Number: 123asd** | | | |
| **Project Leader: Steve Johnson** | | | | | | | | **Contact Information: @gmail.com** | | | |
| **Test #** | **Sample Point** | **Sample Number** | **Sample Type** | **Panel** | **Test #** | **Sample Point** | **Sample Number** | | **Sample Type** | **Panel** | **Comments** |
| 1 | SP-001 | SN-001 | Filter | C | 1 | SP-010 | SN-010 | | Filter | A |  |
| 1 | SP-002 | SN-002 | Filter | C | 1 | SP-011 | SN-011 | | Filter | A |  |
| 1 | SP-003 | SN-003 | Filter | C | 1 | SP-012 | SN-012 | | Filter | A |  |
| 1 | SP-004 | SN-004 | Filter | C | 2 | SP-001 | SN-017 | | Filter | C |  |
| 1 | SP-001 | SN-001 | Filter | A | 2 | SP-002 | SN-018 | | Filter | C |  |
| 1 | SP-002 | SN-002 | Filter | A | 2 | SP-003 | SN-019 | | Filter | C |  |
| 1 | SP-003 | SN-003 | Filter | A | 2 | SP-004 | SN-020 | | Filter | C | #1 No Filter |
| 1 | SP-004 | SN-004 | Filter | A | 2 | SP-001 | SN-021 | | Filter | C |  |
| 1 | SP-005 | SN-005 | Filter | A | 2 | SP-002 | SN-022 | | Filter | C |  |
| 1 | SP-006 | SN-006 | Filter | A | 2 | SP-003 | SN-023 | | Filter | C |  |
| 1 | SP-007 | SN-007 | Filter | A | 2 | SP-004 | SN-024 | | Filter | C |  |
| 1 | SP-008 | SN-008 | Filter | A | 3 | SP-001 | SN-025 | | Filter | C | #2 Mislabeled |
| 1 | SP-009 | SN-009 | Filter | A | 3 | SP-002 | SN-026 | | Filter | C | #2 Mislabeled |
| **Print Name** | | | | **Signature** | | | | | **Date & Time Relinquished** | | |
| Steve Johnson | | | | Steve Johnson | | | | | 6-22-22 @ 1645 | | |
| **Print Name** | | | | **Signature** | | | | | **Date & Time Received at Lab** | | |
| Mary Stevens | | | | Mary Stevens | | | | | 6-24-22 @ 1230 | | |