

# **Mining Survey and Mapping Checklist**

### **Pre-Survey Planning & Preparation**

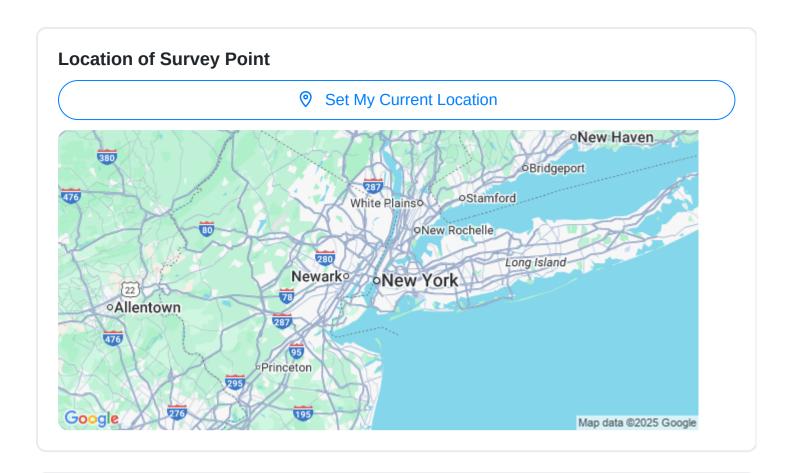
Ensuring adequate planning and equipment readiness for accurate surveying.

| Survey Planned Start Date                                      |  |
|--|--|
| Enter date   |  |
|  |  |
| Survey Planned Completion Date                                 |  |
| Enter date   |  |
| Estimated Time Required for Survey                             |  |
| Number of Surveyors Required                                   |  |
| Enter a number   |  |
| Survey Type (e.g., Topo, Volume, Grade)                        |  |
| Topographic  |  |
| <ul><li>☐ Volume Calculation</li><li>☐ Grade Control</li></ul> |  |
| Other  |  |

| Surface Underground Both  Specific Survey Objectives & Scope  Write something  Existing Site Plans or Drawings (if applicable)  |               |
|---|---------------|
| Specific Survey Objectives & Scope  Write something   |               |
| Specific Survey Objectives & Scope  Write something   |               |
| Write something   |               |
| Write something   |               |
|   |               |
|   |               |
| Existing Site Plans or Drawings (if applicable)   | <i>).</i>     |
| Existing Site Plans or Drawings (if applicable)   |               |
| existing Site Plans or Drawings (if applicable)   |               |
|   |               |
|   |               |
| □ Upload File     □ U |               |
|   |               |
|   |               |
| ontrol Point Verification   |               |
| ecking the integrity and accuracy of existing survey control points.  |               |
|   |               |
| Control Point ID  |               |
| Enter a number  |               |
|   |               |
|   |               |
| Northing (m)  |               |
| Enter a number  |               |
|   | ノ<br>         |
|   |               |
| Easting (m)   |               |
| Easting (m)  Enter a number   | $\overline{}$ |

| Elevation (m)                             |
|---|
| Enter a number                            |
|   |
| Verification Method  Independent Traverse |
| ☐ GPS/GNSS                                |
| Comparison with Existing Data             |
| Observed Northing Deviation (m)           |
| Enter a number                            |
| Observed Easting Deviation (m)            |
| Enter a number                            |
| Observed Elevation Deviation (m)          |
| Enter a number                            |
| Status                                    |
| Acceptable                                |
| Marginal                                  |
| ☐ Unacceptable                            |

| Comments / Remedial Actions   |
|---|
| Write something   |
| Data Acquisition – Ground Surveys  Verification of ground survey data collection techniques (e.g., total station, level). |
| Total Station Accuracy (mm)   |
| Enter a number  |
| Level Accuracy (mm)   |
| Enter a number  |
| Start Time of Survey  |
| Date of Survey  |
| Enter date  |
| Survey Method Used (e.g., Traverse, Radiation)  Traverse Radiation Resection  |



#### **Instrument Technician Name**

Write something...

### **Data Acquisition – Aerial/Drone Surveys**

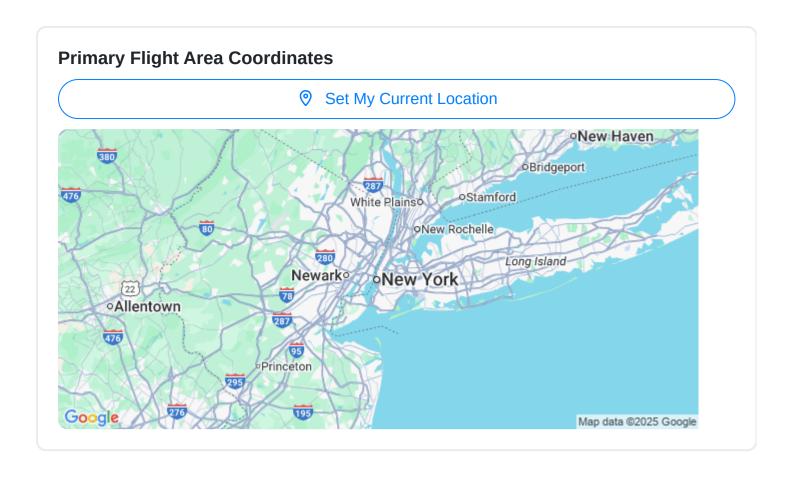
Ensuring proper flight planning, imagery quality, and ground control for aerial surveys.

### **Flight Date**

Enter date...

#### **Flight Start Time**

| Drone Flight Hours               |
|----------------------------------|
| Enter a number                   |
|                                  |
| Weather Conditions               |
| Clear                            |
| Partly Cloudy                    |
| Overcast                         |
| Foggy                            |
|                                  |
| Ground Control Point (GCP) Count |
| Enter a number                   |
|                                  |
|                                  |
| GCP Quality Check Passed?        |
| Position                         |
| ☐ Visibility                     |
| ☐ Accuracy                       |
|                                  |
| Flight Path/Mission Plan (PDF)   |
| ♣ Upload File                    |
|                                  |



### **Data Processing & Adjustment**

Verification of data processing procedures and quality control checks on processed data.

| Upload File  urface Mapping and Modeling  eviewing surface mapping techniques, accuracy, and integration into 3D models.  | Write something   |  |
|---|---|--|
| Processed Data File  Upload File  | <b>3</b>  |  |
| Processed Data File  Upload File   |   |  |
| □ Yes □ No  Description of Error Ellipse Assessment  Write something  Processed Data File  ♣ Upload File  urface Mapping and Modeling viewing surface mapping techniques, accuracy, and integration into 3D models.  Northing Coordinate (m)  Enter a number  |   |  |
| □ Yes □ No  Description of Error Ellipse Assessment  Write something  Processed Data File  ♣ Upload File  urface Mapping and Modeling viewing surface mapping techniques, accuracy, and integration into 3D models.  Northing Coordinate (m)  Enter a number  | Error Ellipse Assessment Completed?   |  |
| Description of Error Ellipse Assessment  Write something  Processed Data File  Description of Error Ellipse Assessment  Description of Error Ellipse Assessment  Write something  Processed Data File  Description of Error Ellipse Assessment  Write something  Processed Data File  Description of Error Ellipse Assessment  Write something  Processed Data File  Description of Error Ellipse Assessment  Write something  Processed Data File  Description of Error Ellipse Assessment  Description of Error Ellipse Assessment  Write something  Processed Data File  Description of Error Ellipse Assessment  Description of Error Ellipse Assessment  Processed Data File  Description of Error Ellipse Assessment  Description of Error Ellipse Assessment  Processed Data File  Description of Error Ellipse Assessment  Description of Error Ellipse Assessment  Processed Data File  Description of Error Ellipse Assessment  Description |   |  |
| Write something  Processed Data File  L Upload File  urface Mapping and Modeling viewing surface mapping techniques, accuracy, and integration into 3D models.  Northing Coordinate (m)  Enter a number   | □ No  |  |
| Write something  Processed Data File  La Upload File  urface Mapping and Modeling viewing surface mapping techniques, accuracy, and integration into 3D models.  Northing Coordinate (m)  Enter a number  |   |  |
| Write something  Processed Data File  L Upload File  urface Mapping and Modeling viewing surface mapping techniques, accuracy, and integration into 3D models.  Northing Coordinate (m)  Enter a number   | Description of Error Ellipse Assessment   |  |
| Processed Data File  Upload File  urface Mapping and Modeling  viewing surface mapping techniques, accuracy, and integration into 3D models.  Northing Coordinate (m)  Enter a number   |   |  |
| urface Mapping and Modeling  eviewing surface mapping techniques, accuracy, and integration into 3D models.  Northing Coordinate (m)  Enter a number  | Write something   |  |
| urface Mapping and Modeling  eviewing surface mapping techniques, accuracy, and integration into 3D models.  Northing Coordinate (m)  Enter a number  |   |  |
| urface Mapping and Modeling  eviewing surface mapping techniques, accuracy, and integration into 3D models.  Northing Coordinate (m)  Enter a number  |   |  |
| urface Mapping and Modeling viewing surface mapping techniques, accuracy, and integration into 3D models.  Northing Coordinate (m)  Enter a number  | Processed Data File   |  |
| urface Mapping and Modeling viewing surface mapping techniques, accuracy, and integration into 3D models.  Northing Coordinate (m)  Enter a number  | ↑ Unload File   |  |
| Northing Coordinate (m)  Enter a number   | Opload File   |  |
| Northing Coordinate (m)  Enter a number   |   |  |
| Northing Coordinate (m)  Enter a number   | urface Manning and Modeling   |  |
| Northing Coordinate (m)  Enter a number   | uriace mapping and modeling   |  |
| Enter a number  |   |  |
|   |   |  |
| Easting Coordinate (m)  | eviewing surface mapping techniques, accuracy, and integration into 3D models.  Northing Coordinate (m) |  |
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| Easting Coordinate (III)  | eviewing surface mapping techniques, accuracy, and integration into 3D models.  Northing Coordinate (m) |  |
|   | Northing Coordinate (m)  Enter a number   |  |
|   | Northing Coordinate (m)  Enter a number   |  |

| Enter date                            |                       |
|---------------------------------------|-----------------------|
| Time of Survey                        |                       |
|                                       |                       |
| Mapping Method                        | d                     |
| Total Station                         |                       |
| GPS/GNSS                              |                       |
| Laser Scanning                        | J                     |
| Raw Survey Dat                        | ta (e.g., .tsp, .las) |
| ♣ Upload File                         |                       |
|                                       |                       |
| Notes on Surface                      | se Conditions         |
| Notes on Surfac                       |                       |
| Notes on Surfaction                   |                       |
|                                       |                       |
|                                       |                       |
| Write something                       |                       |
| Write something                       |                       |
| Write something  Model Accuracy  High |                       |
| Write something                       |                       |

## **Underground Mapping & Volumetric Calculations**

Verification of underground mapping methods, accuracy of dimensions, and volume calculations.

| Enter a number  Northing (m)  Enter a number  Easting (m)  Enter a number  Elevation (m)  Enter a number  Mapping Method  Laser Scan Sketch Tachymetry  Distance Measured (m)  Enter a number  Angle Measured (degrees)  Enter a number | Station Number           |  |
|---|--------------------------|--|
| Enter a number  Elevation (m)  Enter a number  Mapping Method  Laser Scan Sketch Tachymetry  Distance Measured (m)  Enter a number  Angle Measured (degrees)  | Enter a number           |  |
| Enter a number  Elevation (m)  Enter a number  Mapping Method  Laser Scan Sketch Tachymetry  Distance Measured (m)  Enter a number  Angle Measured (degrees)  |                          |  |
| Easting (m)  Enter a number  Elevation (m)  Enter a number  Mapping Method  Laser Scan  Sketch  Tachymetry  Distance Measured (m)  Enter a number  Angle Measured (degrees)   | Northing (m)             |  |
| Enter a number  Elevation (m)  Enter a number  Mapping Method  Laser Scan Sketch Tachymetry  Distance Measured (m)  Enter a number  Angle Measured (degrees)  | Enter a number           |  |
| Enter a number  Elevation (m)  Enter a number  Mapping Method  Laser Scan Sketch Tachymetry  Distance Measured (m)  Enter a number  Angle Measured (degrees)  |                          |  |
| Elevation (m)  Enter a number  Mapping Method  Laser Scan Sketch Tachymetry  Distance Measured (m)  Enter a number  Angle Measured (degrees)  | Easting (m)              |  |
| Mapping Method Laser Scan Sketch Tachymetry  Distance Measured (m)  Enter a number  Angle Measured (degrees)  | Enter a number           |  |
| Mapping Method Laser Scan Sketch Tachymetry  Distance Measured (m)  Enter a number  Angle Measured (degrees)  |                          |  |
| Mapping Method  Laser Scan Sketch Tachymetry  Distance Measured (m)  Enter a number  Angle Measured (degrees)   | Elevation (m)            |  |
| Laser Scan Sketch Tachymetry  Distance Measured (m)  Enter a number  Angle Measured (degrees)   | Enter a number           |  |
| Laser Scan Sketch Tachymetry  Distance Measured (m)  Enter a number  Angle Measured (degrees)   |                          |  |
| Sketch Tachymetry  Distance Measured (m)  Enter a number  Angle Measured (degrees)  | _                        |  |
| Distance Measured (m)  Enter a number  Angle Measured (degrees)   |                          |  |
| Enter a number  Angle Measured (degrees)  |                          |  |
| Enter a number  Angle Measured (degrees)  | Distance Measured (m)    |  |
|   |                          |  |
|   |                          |  |
|   | Angle Measured (degrees) |  |
|   |                          |  |

| Notes/Observations   |                        |
|--|------------------------|
| Write something  |                        |
| Datum and Coordinate System Consis                               | stency                 |
| onfirming consistent application of datum and coordinate systems | throughout the project |
| Primary Datum Used   |                        |
| UTM  |                        |
| MGA  |                        |
| Other (Specify)  |                        |
| Coordinate System Zone   |                        |
| <u>56</u>  |                        |
| Other (Specify)  |                        |
| Datum Transformation Parameters (if applicable)                  |                        |
| Write something  |                        |
| Explanation of Coordinate System Application                     |                        |
| Write something  |                        |
|  |                        |
|  |                        |

| Enter a number   |   |
|--|---|
| Verification Method  |   |
| Check against know   | n points  |
| Software validation  |   |
| Independent review   |   |
| eportina & F   | Documentation   |
| -  |   |
| saming cical and com   | orehensive documentation of survey results and methodologies. |
|  |   |
| Summary of Survey  |   |
|  |   |
| Summary of Survey  |   |
| Summary of Survey  |   |
| Summary of Survey  | Findings  |
| Summary of Survey Write something                                | Findings  |
| Summary of Survey Write something  Date of Report Com            | Findings  |
| Summary of Survey Write something  Date of Report Com            | Pletion   |
| Summary of Survey Write something  Date of Report Com Enter date | Pletion   |

| Report Distribution Method (Email, Hard Copy, etc.)  Email  Hard Copy  Shared Drive         |
|---|
| Attachment: Survey Accuracy Report       Upload File  |
| Surveyor Signature  |
| Data Security & Storage  Verification of secure data storage and access control procedures. |
| Data Encryption Method  AES-256  RSA  Other (Specify)                                       |
| Data Backup Frequency (Days)  Enter a number  |
| Backup Storage Location  On-site Server  Cloud Storage  Off-site Server                     |

| Write something  |  |
|--|--|
| Data Retention Policy Status  Compliant Non-Compliant Under Review |  |
| Last Security Audit Date  Enter date                               |  |