



Virginia Search & Rescue Rules of Engagement Incident Name



CURRENT SEARCH MISSION (DATE)

Location: All Branches and Divisions (or create new sections below if it varies by Division).

- Current search mission:** CHOOSE ONE Rapid/Hasty, Primary, Secondary Low, Secondary High, Targeted
- Exception(s):** Force entry if _____
- Search Markings:** Used / Not Used
- Structure Markings:** Used / Not Used
- Additional Field Data Collection:** Record initial damage assessment at every residential and commercial structure except outbuildings.

No Wake Zones

All areas where boats are operating in residential areas are No Wake Zones at all times. Please do everything you can to prevent damage to property such as wakes from boats causing further flooding damage to houses.

Fatalities

All fatalities should be reported to your division/group supervisor. Please document the location of the victim and report. Get GPS Coordinates, secure the location, and if fatality is in a secure place report their location and continue your mission. If the fatality is in an open area report to your supervisor and wait further instruction.

Breaching

Unless you reasonably believe people are trapped in a house, and need rescue, do not breach doors. Please document location and house description to report any breaching to your supervisor so they can communicate that with law enforcement. Please make all attempts to secure property before moving to next house.

Media

All media requests should be forwarded to your supervisor. You should not conduct interviews without prior approval. You are there to support local responders and attention should be focused on the local response community. Media is not authorized to ride in boats to get footage or for any other purpose unless they are in need of rescue.

Social Media

Resources should not post information to personal social media accounts. Social media posts should be coordinated through agency public information officers.



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IST PLANS DOCUMENT REQUIREMENTS

1. Send all Documentation to: SAR@vdem.virginia.gov
2. Final Situation Reports (VA SAR 209) should be completed and submitted by <1600> hrs. The 214 will be a team document, Individual 214 will stay at the TF level.
3. All information submitted to the SAR IST must be digitally transferable. No handwritten or analog formats will be accepted.
4. All files shall follow the following naming convention.
Form / Search Type_Mission_Date (YYYYMMDD) with operational period_TF
e.g. 209_20130926p1_TEAM.WATER
e.g. 214_20130926p1_TEAM.WATER

FIELD DATA COLLECTION STANDARDS

ALL FIELD DATA MUST ENTER THE VIRGINIA COMMON OPERATING PLATFORM

1. **Waypoints** - Task Forces and Swiftwater Teams shall use QuickCapture (SARCOP) for the majority of waypoint collection and Survey123 for when additional details are needed.
 - Local Response Teams shall use SARCOP or GPS for waypoint collection.
2. **Tracklogs** - Task Forces and Swiftwater Teams shall use QuickCapture for tracklog collection using the data dictionary for search types shown below.
 - Tracks should be turned on when beginning an assignment and turned off + upload when completed.
 - GPS Units may be used as a backup to QuickCapture tracklogs but will not be collected by SAR IST SITL unless there is an issue.
3. **Operational Area** - The IST will designate Incident Areas, Branches, and Divisions.
4. **Segments** - Team Managers (STM) should use the Intel Manager (with help from Tech Info Specialist TIS) to create and maintain search segments for tracking the search progression and maintaining accountability.
5. **Data Dictionary** - Identify and mark search items using the [data dictionary](#) for guidance. Additional job-aids such as the Preliminary Damage Assessment Pocket Guide will appear as buttons in QuickCapture.
6. **Extra Waypoint Icons** - The SAR IST, in coordination with the AHJ shall dictate the use of incident specific icons. It is important that TFs do not self-assign any icons. If there is a recurring issue, push that to the SAR IST asking for direction.
 - Extra 21: NOT CURRENTLY ASSIGNED
 - Extra 22: NOT CURRENTLY ASSIGNED
 - Extra 23: NOT CURRENTLY ASSIGNED
 - Extra 24: NOT CURRENTLY ASSIGNED

Datum: WGS84

Coordinate Format: USNG

FIELD DATA COLLECTION WORKFLOW

If FEMA or EMAC assets arrive, coordinate with SAR IST and team leads for them to collect data on SARCOP



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for collecting waypoint data.

1. **Common Operating Platform (COP)** - Utilize the VA SAR HUB for access to the VA GIS related tools: [Virginia Search and Rescue System - Disaster Operations](#)
 - a. The SAR Incident Support Team (IST) will use this platform to monitor operations and brief the RCC's, AHJ, and ESF9 and local Partners.
2. **Deployed Team Device Management** - Team Leads/Tech Info Specialists (TIS) should ensure Survey123, QuickCapture, and Field Maps (Optional) are installed on all mobile devices and logged into using VDEM provided logins. It is important that all device operating systems, app versions, and incident surveys/projects are up to date.
 - a. Battlecard: [Link Here](#)
 - b. Device Management Job-Aid: [Field Device Flowchart \(Job-Aid\) 5ccf91](#)
3. **Offline** - Offline maps are available by [Branch / Division](#), see QuickCapture Apps and Forms for links. If data is collected in an environment without connectivity, cached data need to be sent from the Outbox when connectivity is re-established as it won't send automatically.
4. **Follow-up** - SAR IST should review all waypoints marked as "Needs Follow-up" by monitoring the Follow-Up Dashboard/WebApp and changing to Assigned or Completed as needed. All waypoints that need follow-up should also be communicated over radio or phone through your chain of command (Squad Leader, Division Supervisor, etc.). SAR IST should communicate with teams if the Follow-up will be handled at the County Level or RCC Level
5. **Quality Control** - Teams should review field data before the end of each operational period and make edits to the using the Intel Manager or by asking the submitter to edit directly in Survey123. Errors that cannot be corrected by teams shall be directed to the SAR IST.
6. **Photos** - Photos shall be geotagged and captured via Survey123 and QuickCapture. Photos should only be collected for Destroyed and Major Damage waypoints or when a photo provides relevant situational awareness on conditions in the field.
7. **Confirmation** - Team Leaders to confirm daily with SAR IST, by email, text, or phone that data has been transferred.
8. **Debrief** - Upon returning to BoO, Team members should confirm outbox items are sent (Survey123 Waypoints and QuickCapture Tracks). Data quality issues should be resolved quickly.
9. **Preparation** - Mobile devices shall be charged and made ready (data submitted and offline maps downloaded) for the next operational period. Units not functioning should be taken offline.
10. **Need Help?**- Contact SAR@vdem.virginia.gov or call [PHONE NUMBER FOR SAR IST](#)



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Battlecard- QuickCapture

1. Install ArcGIS QuickCapture on your mobile device (from app store) in advance of the steps below. If the app is already installed, skip to Step 2.
2. Once installed, sign-in to the app with your State ArcGIS credentials (e.g., VA_SW_BEDFORD1).
3. **Scan the QR Code (or click on the link)** to open up the QuickCapture Project.
4. Proceed to the "**Additional Apps and Forms**" section of the QuickCapture project to access the correct Survey123 and Field Maps projects if needed. See this [QuickReference Guide](#) for additional details.
5. Tech Info Specialist - Here is ["Device Workflow" Job-Aid](#) you can use to prep and maintain your device cache.



[VA SAR QuickCapture\(State Teams Only\)](#)



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The following wide area search definitions must be understood by task force resource managers. The intended search type should be indicated on the ICS204 and recorded in the tracklog. If conditions in the field require a different search strategy from what is listed in ICS204 (e.g., previously unidentified collapse structures), this should be conveyed through chain of command and recorded appropriately. **IMPORTANT:** In wide area search, primary search does mean “the first time an area is searched”, secondary search does not mean “the second time an area is searched”.

Recon is the preliminary survey of the affected area and/or assigned area of operations for the purpose of determining the scope and magnitude of the incident and identifying the resources needed to manage the incident.

Recon Considerations: Recon is an initial and fast visual check of the damaged area and/or assigned area of operation. For single structure collapse incidents, the primary goal is structural assessment and hazardous materials assessment. Recon can be accomplished by air, watercraft, vehicles, or walking. Known locations of live or deceased victims will be recorded and appropriate evacuation/rescue resources will be called up. The size and makeup of recon teams are incident driven and flexible. Recon teams should not engage in extrication/rescue operations. Timely reporting of information is critical to the health and safety of responders, survivability of victims and effective management of the incident.

Rapid Search / Hasty Search is a fast paced and methodical search of the assigned area of operation to locate victims that are in immediate need of evacuation from harm.

Rapid / Hasty Search considerations: Size and make up of Rapid Search teams are incident driven and flexible. If victims are located and can be easily evacuated, they will be immediately moved to the identified casualty collection point (CCP). If live victims are located, and cannot be easily evacuated, additional resources will be requested to conduct extrication and/or evacuation. Documentation of areas searched must be recorded and reported. Rapid searches can be accomplished by aircraft, watercraft, or ground vehicles.

Primary Search is a quick search of the structures likely to contain victims. These searches are ground or waterborne operations looking for victims. This is accomplished by looking into every window or opening, knocking on doors and hailing for live victims. If there are signs of victims (dead or alive), appropriate action will be taken based on the rules of engagement (ROE) identified by the local Incident Commander.

Primary Search considerations: Primary Search is a well-established fire ground incident benchmark and, as such, is the stated objective until accomplished. Primary Search is a fast paced, quick scan of surface debris in and around structures and selected voids. Size and makeup of the search team is incident driven and flexible. Detection resources may include physical, canine, and technical. If live victims are located, additional resources are called to extricate the victim while the search team continues to complete the Primary Search in the assigned area. Actions necessary to immediately correct life-threatening injuries may be performed by Primary Search Team. Victim locations will be marked with the standard victim identification marking system unless the ROE established by the local Incident Commander indicate otherwise.

Secondary Search is the systematic search of every room of every structure in the assigned area of operation.



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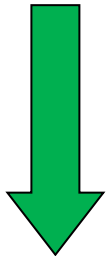


Forced entry of structures may need to occur to accomplish this objective but will only occur at the direction of the local Incident Commander. This may involve extensive debris removal of building materials depending on the desired level of coverage and thoroughness. Secondary Search can be divided into two levels:



Low Coverage Secondary Search: Systematic search of every room and void space in every structure in the assigned area of operation. Size and makeup of search teams is incident driven and flexible.

Location/detection resources may include physical, canine, and technical. If live victims are located, additional resources may be called up to extricate the victim while the search team continues to complete the assigned search objective. Victim locations will be marked with the standard victim identification marking system unless the ROE established by the local Incident Commander indicate otherwise



High Coverage Secondary Search is the exhaustive search of every room and void space in every structure in the assigned area of operation. This will include complete de-layering and removal of collapsed debris to ensure thoroughness. This may include the use of heavy equipment. The size and makeup of the search and extrication teams is incident driven and flexible. Location/detection resources may include physical, canine, and technical. If live victims are located, additional resources may be called up to extricate the victim while the search team continues to complete the assigned search objective. Victim locations will be marked with the standard victim identification marking system unless the ROE established by the local Incident Commander indicate otherwise.



Targeted Searches are searches of specific locations. Targeted Search is employed when the IC/AHJ has identified specific sites or conditions that may take priority over others within an assigned region or segment. After an event such as a hurricane, emergency managers should be able to identify and prioritize facilities. These locations may be based on critical needs of the jurisdiction (e.g., unanswered 911 requests for help), high occupancy loads (e.g., schools, malls) or due to specific evacuation requirements necessary to limit loss of life for individuals with special needs. These facilities will likely have a significant number of victims who may not be capable of providing for themselves if the event causes a complete disruption of services. Targeted Searches may be performed to any level of detail (Hasty, Primary, Secondary Low, and Secondary High) per the rules of engagement. Targeted searches can include but are not limited to searches based on:

1. Unanswered 911 calls
2. Health & Wellness Concerns received via third parties
3. Shelter locations
4. High Occupancy locations: Schools, Malls, Office Buildings
5. Critical Infrastructure Facilities
6. Areas of last refuge: Fire Stations, Police Precincts, etc.
7. Locations of Special Needs Individuals or At-Risk Persons: Hospitals, Nursing Homes, Location Lists Maintained by the AHJ



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Part 1 of 2

Wide Area Search Waypoint Data Dictionary

Symbol	Name	Description
Structure Damage		
	Unaffected	No visible or reported damage.
	Affected	Damage to the structure is mostly <u>cosmetic</u> .
	Minor	Repairable <u>non-structural</u> damage.
	Major	Structural damage or other significant damage that <u>requires extensive repairs</u> .
	Destroyed	The structure is a <u>total loss</u> .
	Unknown	The status of the structure is unknown.
Human Interaction		
	Assisted	Materials assistance provided to residents.
	Evacuated	Survivors transported to collection point or out of harm's way.
	Rescued	Technical rescue that required moving survivor to a safe location.
	Shelter in Place	Survivors have chosen to remain at current location.
	Victim Detected	Potential live survivor detected (including canine alert or intelligence).
	Victim Confirmed	Confirmed live survivor (visual, audible, physical confirmation).
	Human Remains Detected	Potential human remains detected (including canine alert or intelligence).
	Human Remains Confirmed	Confirmed human remains.
	Human Remains Removed	Human remains removed from specific location

Part 2 of 2



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Hazards		
	Animal Hazard	Animal hazard related to aggression, location, or disease.
	Fire Incident	General fire occurrence.
	Hazardous Material Incident	Nuclear, biological, or chemical incident
	Flood/Water Level	Current location of water line.
	Route Blocked	Inaccessible route by land or water.
	Other Hazard	Other hazard not already identified.
Other/Support		
	Animal Evacuation	Evacuation or rescue of pets / companion animals.
	Targeted Search	Specific location that will require increased search effort (e.g., a 911 phone call, missing person report, etc.).
	Helicopter Landing Site	Appropriate site for landing zone per interagency guidelines .
	Incident Command Post	Incident Command Post.
	Casualty Collection Point	Location that is used for the assembly, triage (sorting), medical stabilization and evacuation of casualties
	SAR Location Update	Can be used to update the location of a SAR team.
	Staging	Area where apparatus and personnel report to await assignment.
	Safety Zone	A location that is confirmed to be safe from hazard or threat (e.g., above maximum flood height, clear from wildfire hazard, far from falling debris in an earthquake).
	Extra 21	Mission specific placeholder to be determined (e.g., abandoned vehicle, commercial structure, evidence)
	Extra 22	Mission specific placeholder to be determined
	Extra 23	Mission specific placeholder to be determined
	Extra 24	Mission specific placeholder to be determined
	Searched Per Rules of Engagement (ROE)*	This is a search that has been completed on a structure, vehicle, debris, or other site with no victims or survivors found.
	Lifeline Report	Report of status or issue affecting the continuous operation of critical government and business functions essential to human health and safety or economic security. Community lifelines are broken into: Safety and Security; Food, Water, Shelter; Health and Medical; Energy; Communications; Transportation; Hazardous Material.

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DAMAGE ASSESSMENT



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After Hasty/Rapid Search of areas are completed and most life safety issues are addressed, the agency having jurisdiction may request assistance beginning their initial damage assessment. This is an important mission for supporting the transition from Response to Recovery. Below is a data dictionary that you should use in the field to help you with this process. **Place waypoints on the structure you are assessing whenever possible (aka "drag the pin") and take 2 landscape photos for Major and Destroyed structures only.**

Flood Damage Assessment	
Conventional Construction	Manufactured Construction
Affected	Affected
- Any waterline in the crawl space or an unfinished basement when essential living space or mechanical components are not damaged or submerged. - Damage to a porch, carport, garage, and/or an outbuilding not for commercial use, etc.	- Residences with damage to a porch, carport, garage, and/or an outbuilding not for commercial use, etc. - No damage affecting habitability; cosmetic damage only (e.g., skirting is impacted).
Minor	Minor
- Waterline at 1 to 3 inches in an essential living space. - When waterline exceeds 3 inches but is below 18 inches, damage may be major or minor depending on the following factors: duration of the flood; contaminants in the water; if waterline reached outlets; and number of essential living spaces flooded. - Any waterline in a finished basement	- When the waterline has reached the floor system but has not entered the living space of the unit. Examples of damage include: - Bottom board, insulation, or ductwork in the floor system - HVAC is impacted - There is no structural damage to the residence, and it has not been displaced from the foundation.
Major	Major
- Waterline above 18 inches or the electrical outlets in an essential living space. - Waterline on the first floor (regardless of depth) of a residence when basement is completely full. - When waterline exceeds 3 inches but is below 18 inches, damage may be major or minor depending on the following factors: duration of the flood; contaminants in the water; if waterline reached outlets; and number of essential living spaces flooded.	- Water has covered the floor system and entered the living space of the unit, but is still below the roofline. - The residence has been displaced from the foundation, block, or piers, and other structural components have been damaged.
Destroyed	Destroyed
Waterline at the roofline or higher, or complete failure of two or more major structural components (e.g., collapse of basement walls, foundation, walls, or roof).	- The residence is a total loss, for example: - Waterline is at the roofline or higher - Residence's frame is bent, twisted, or otherwise compromised

Revised June 2021

Source: <https://napsrg.maps.arcgis.com/home/item.html?id=d60c7a782c114ad196ef3fd8df1a6de7>



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Non-Flood Damage Assessment

Conventional Construction

Manufactured Construction

Affected

- Cosmetic damage such as paint discoloration or loose siding.
- Minimal missing shingles or siding.
- Damage to an attached structure (e.g., porch, carport, garage, or outbuilding not for commercial use); gutters; screens; landscaping; retaining walls; or downed trees that do not affect access to the residence.

Affected

- No damage affecting habitability; cosmetic damage only (e.g., skirting is impacted).
- Residences with damage to a porch, carport, garage, and/or an outbuilding not for commercial use, etc.

Minor

- Nonstructural damage to roof components over essential living spaces (e.g., shingles, roof covering, fascia board, soffit, flashing, and skylight).
- Nonstructural damage to the interior wall components to include drywall and insulation.
- Nonstructural damage to exterior components.
- Multiple small vertical cracks in the foundation.
- Damage to chimney (i.e., tilting, falling, cracking, or separating from the residence).
- Damage to mechanical components (e.g., furnace, boiler, water heater, HVAC, etc.).
- Damage or disaster related contamination to a private well or septic system.

Minor

- There is no structural damage to the residence, and it has not been displaced from the foundation.
- Some of the nonstructural components have sustained damage (e.g., windows, doors, wall coverings, roof, bottom board insulation, ductwork, and/or utility hook ups).
- HVAC is impacted.

Major

- Failure or partial failure of structural elements of the roof over essential living spaces, to include rafters, ceiling joists, ridge boards, etc.
- Failure or partial failure of structural elements of the walls, to include framing, etc.
- Failure or partial failure of foundation to include crumbling, bulging, collapsing, horizontal cracks of more than two inches, and shifting of the residence on the foundation of more than six inches.

Major

- The residence has been displaced from the foundation, block, or piers, and other structural components have been damaged.
- 50% or more of nonstructural components have sustained significant damage (e.g., roof, walls, utilities).

Destroyed

- Only foundation remains.
- Complete failure of two or more major structural components (e.g., collapse of basement walls, foundation, walls, or roof).
- The residence has a confirmed imminent danger (e.g., impending landslides, mudslides, or sink-holes).

Destroyed

- The residence's frame is bent, twisted, or otherwise compromised.
- The majority of the structural framing of the roof or walls has been compromised, exposing the interior.

Revised June 2021

Source: <https://napsg.maps.arcgis.com/home/item.html?id=4c41d9bc403b4f3b9aaeff28a5cda321>



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Optional Sections

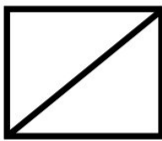
We should only add the following sections when relevant.

STRUCTURE AND SEARCH ASSESSMENT MARKINGS

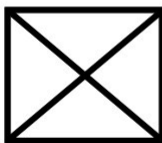
FEMA Structures/Hazards Marking



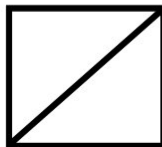
- 2x2ft (60x60cm)
- Structure relatively safe for US&R operations



- Structure significantly damaged
- Shoring/removal of hazards may be required



- Structure not safe for normal US&R operations
- Extensive safety measures must be taken before entry



28 JUN 03
NATURAL GAS
1432HRS
NE-TF1

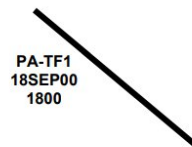
- To right of box:
 - Date
 - Hazards
 - Time
 - TF ID

15 Sep 2006

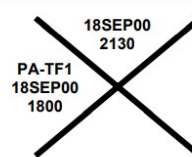
US&R-23-FG

5- 5

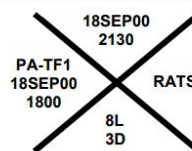
FEMA Search Assessment Marking



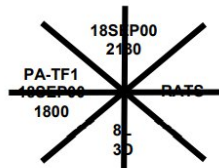
- Single slash upon entry into structure
- TF ID, date & entry time noted
- Indicates ongoing search



- Crossing slash upon exit
- Upon exit, date and time noted in top field
- Additional information placed in open areas of "X"



- Right - hazards
- Bottom - # of victims



- When new search completed, cross out previous, and complete new search assessment marking

15 Sep 2006

US&R-23-FG

5 - 6

Source: https://www.fema.gov/pdf/emergency/usr/usr_23_20080205_rog.pdf

LIVE TRACKING

State Teams- We have enabled live tracking in QuickCapture to ascertain field user's last known position (LKP). This technology utilizes "Tracker for ArcGIS" technology and will be displayed in the Command and Control Dashboard.

SARTopo- An Event has been established in SARTopo. Teams should join the event and choose the Share Location option to share the location to the event.

As always utilize radio, cellular, or satellite communications as your primary source of accountability with live tracking capability as a complementary system.



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IRON SIGHTS WORKFLOW

ONLY USE AS A BACKUP to ArcGIS DATA COLLECTION SOLUTIONS AND IN COORDINATION WITH THE SAR IST!
Teams utilizing the GPS "Iron Sights" method of data collection shall submit GPS files (.gpx) to the SAR IST after the end of each operational period.

All GPS files should follow this format SearchType + MissionDate (YYYYMMDD) + TaskForce + SquadLeaderLastName + OperatorLastName

e.g. primary_20130926_MOTF1_Weber_Doke, hasty_20130926_CATF6_Milligan_Glassman

SARTopo

1. **SARTopo Event** – A Mutual Aid Incident (Event) has been established in SARTopo. **Any SARTopo maps being utilized for this Incident should be associated with this Event.**

- a. Event Name: **NAME**
- b. Event Signup Link: [Click Here to Join with Update Permissions](#)

Swiftwater 2025



[SARTopo Mobile App User Guide – Getting Started](#)

[SARTopo How To Guide – WEB APP](#)

Write access

2. **Access**- Personnel Requiring additional permissions or reduced permission codes should reach out to the SAR IST, ESF-9 Desk, or RCC.
3. **Maps** – Personnel involved with this Incident are authorized to create maps and associate them with the Incident. Map names should include an identify such as Team name or County name to easily identify in lists of maps
4. **Live Tracking**- SAR Teams are expected to utilize Live Tracking. State Deployed Teams are able to track through QuickCapture as well as SARTopo. Tracking in SARTopo assists local assets with situational awareness
 - a. Depending on the location source, Live Tracks can allow you to record location updates in areas with and without cell service. The position will be updated at either regular intervals as specified by the location source's plan/settings or by manually pushing updates.

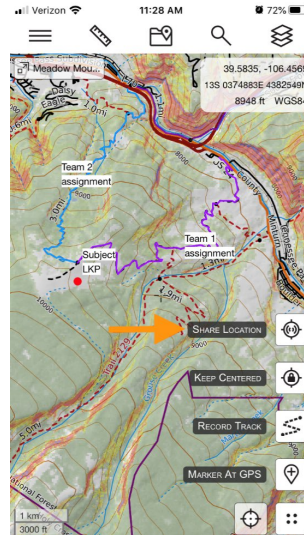


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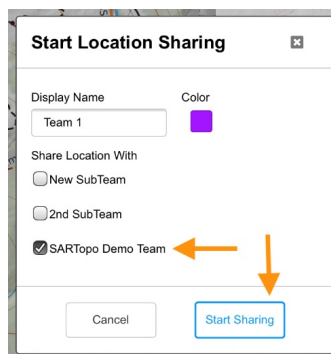


Setting Up Live Tracking

1. To share your location with the team from the mobile app, click on the 4 dot location menu in the lower right hand corner and select Share Location.



2. In the Start Location Sharing dialog that appears, choose a name and color for your device. Select Share Location with (Your Team Name) and then press Start Sharing. This will start sharing your location in the Team Shared Locations overlay.



3. To view your position and the position of anyone else sharing their location on your team, you will also need a data connection and to turn on the **Shared Locations** overlay from the layers menu in the mobile app.

