Communication Plan

December 5, 2023

Quick Reference

Method	Description
Primary	Voice calls and text messaging via cell phone
Alternate	E-mail via cell phone, computer, or tablet
Contingency	Text messaging via Spot-X satellite messenger
Emergency	Text-based messaging via JS8Call and HF radio

Overview

This plan is designed to ensure reliable communication regardless of the situation. Each communication method has been chosen for variation in underlying infrastructure and equipment requirements. Equipment has been chosen based on availability, ease of use, and cost (one-time and reoccuring).

Primary Communication Method

Voice Calls and Text Messaging via Cell Phone

Cell phones are a commonly used and accessible method of communication. They are portable and easy to use for both voice calls and text messages. It is important to consider that during emergencies, cell phone networks can become overloaded and may not be available. If a voice call cannot get through or is unreliable, a text message will often still get through.

Equipment On-Hand

- Cell phone
- USB charging cable
- USB wall charger
- USB vehicle charger
- USB battery pack
- Portable solar panel

Considerations

- Identify alternative charging options
- Use encrypted apps for secure communications (ex. Signal, Telegram)

Method Differentiation

- Cellular network infrastructure
- Cell phone equipment

Alternate Communication Method

E-mail via Cell Phone, Computer, or Tablet

E-mail is another common method of communication. Any computer can provide access to a web based e-mail account if a cell phone is lost or damaged. E-mail requires internet access, which may be available even if the cell phone network is unavailable. However, internet access can be interrupted during a power outage or other emergency.

Equipment On-Hand

- Laptop or tablet
- Charging cable
- Wall charger
- Vehicle inverter

Considerations

- Identify different computers for e-mail and HF radio use
- Add Spot-X satellite messenger phone number as a Google account verification option (see Appendix A)
- Know how to access web based e-mail from a device other than the one you typically use

Method Differentiation

- Internet infrastructure
- Computer equipment

Contingency Communication Method

Text Messaging via Spot-X Satellite Messenger

Satellite based messaging is a reliable form of communication when local infrastructure is unavailable. The Spot-X satellite messenger has a small keybord for text entry, making it a standalone device. The Spot-X device has a dedicated phone number, and uses the Global Star satellite network to enable two-way (incoming and outgoing) text messaging. See global coverage map in Appendix B.

Equipment On-Hand

- Spot-X satellite messenger
- USB charging cable
- USB wall charger
- USB vehicle charger
- USB battery pack
- Portable solar panel

Considerations

- Initial account and subscription setup requires internet access
- Enable subscription auto-renew to ensure availability
- Requires a clear view of the sky to reliably communicate

Method Differentiation

- GlobalStar satellite network infrastructure
- Spot-X satellite messenger equipment

Emergency Communication Method

Text-Based Messaging via JS8Call and HF Radio

HF radio supports long range communication with no infrastructure requirements. However, the equipment is less readily available and has a steeper learning curve. JS8Call modem software and the QRPLabs QDX digital tranceiver offer the least complexity and the most consistent communication link reliability.

Equipment On-Hand

- Microsoft Surface or other portable computer
- JS8Call software (installed and configured)
- QRPLabs QDX digital tranceiver
- QDX 12V power cable
- QDX USB type-B data cable
- 12V power source for QDX
- 40m dipole antenna (BNC connection)
- BNC coaxial cable (50 ohm)

Considerations

- Identify different computers for e-mail and HF radio use
- Setup equipment and use JS8Call software periodically to maintain familiarity
- A regulated 12V source is required for the QDX tranceiver
- Identify an easily rechargable 12V source
- Modify the QDX tranceiver to utilize 5V power from the USB data cable
- Typical 40m JS8Call frequency is 7.078 MHz
- General Class amateur radio license required to legally operate on the 40m bands

Method Differentiation

- No infrastructure
- HF radio equipment

Appendix A - Alternate Google Account Verification Phone Number

Web Browser

1. Navigate to https://accounts.google.com
2. Log in to your account (if needed)
3. Click the **Security** tab at the top of the page
4. In the **How you sign in to Google** section, click **2-Step Verification phones**
5. Enter your account password to verify your identity and click **Next**
6. Click **+ Add a backupe 2-Step Verification phone**
7. Enter the phone number for the device you want to add (ex. Spot-X) and click **Next**

Android

1. Open your device's **Settings**
2. Tap **Google**
3. Tap **Manage your Google Account** near the top, just under your name
4. Tap the **Security** tab near the top, just under your name (may need to scroll horizontaly)
5. In the **How you sign in to Google** section, tab **2-Step Verification phones**
6. Tap **Continue** and confirm your device's pin or fingerprint
7. Tap **+ Add a backupe 2-Step Verification phone**
8. Enter the phone number for the device you want to add (ex. Spot-X) and tap **Next**

iPhone

1. Open the Gmail app
2. Tap your profile picture or initial in the top right corner
3. Tap **Google Account**
4. Tap the **Security** tab
5. In the **Ways we can verify it's you** section, tap **Recovery phone**
6. Sign in (if needed)
7. Add a recovery phone

Appendix B - Spot-X Coverage Map

Dark solid areas indicate two-way messaging coverage.