

MCM 2022: OPERATING GUIDE

CHECKLISTS: Things you may want to: (1) do or (2) have on hand.

PRINT this guide NOW (double sided)!

each box as you go (*even if you have done this before!*)

Write in notes for lessons learned and better ideas!

Need help? ASK!

Get ready to:

Be completely self-supporting. **KNOW YOUR EQUIPMENT.**

Carefully prepare, test, and pack everything you will need ahead of time.

Served agency = MCM

Missions:

- **Pass messages** for the MCM team quickly and accurately.
- **Be the MCM team's eyes on the course**, alerting the MCM team with clear, accurate facts.

COMMUNICATE for MCM!

Stay with communication task.

(Use best judgement in special cases.)

➔ Use every day best practices! ➔



HAVE FUN!

Part I. PREPARE YOURSELF.

A. COVID-19. (Everyday best practice!)

☐ GET VACCINATED and BOOSTED as recommended!!¹

(if not already)

BE VACCINATED!

Most effective at least two weeks before MCM.

☐ Get FREE FDA approved COVID-19 home test kits!²

MCM will not require masks or proof of vaccination.
Nevertheless, vaccination is an
everyday best practice.

LATEST, MOST RELIABLE COVID-19 INFORMATION:

<https://www.cdc.gov/coronavirus/2019-ncov/index.html>

¹ Where to get vaccinated against COVID-19: <https://www.vaccines.gov>.

² Get free home tests: <https://www.covid.gov/tests>

B. Personal items. [Everyday best practice!]

Health. (*EVERYONE* needs ✓ items.)

- ✓ **PHOTO ID** (driver license, state ID card, military ID, etc.)
- ✓ **MEDICAL INSURANCE card(s).**
- ✓ **PERSONAL MEDICAL INFO^{3,4}** showing:
 - ✓ Name, birth date, home address, phone number(s), and blood type.
 - ✓ Emergency contact(s) and phone number(s).
 - ✓ IMMUNIZATIONS with dates received.
 - MEDICAL HISTORY summary.
 - MEDICATIONS, doses, when used.
 - ALLERGIES (drug, food, and environmental).
 - Your health care providers' names, specialties, and phone numbers.
- MEDICAL-ID bracelet or necklace, if you have one.
- PERSONAL MEDICATIONS and SUPPLIES you will need for a 24-hour day, carefully packed and labeled. *If diabetic*, be ready for times of high or low blood sugar.
- Glasses and a spare pair.
- Sunglasses. **Sunscreen.**



SAMPLE MEDICAL ID:

<p style="text-align: center;">Emergency Medical Information</p> <p>Im A Patient DOB: 29 FEB 2000 123 J St SE, Washington, DC 20099-0001 C: 202-555-1212 E: mycall@arrl.net</p> <p>EMERGENCY CONTACTS: Name(s) of Spouse/Partner/Child/Friend (which one): 202-555-1213</p> <p>PHYSICIANS: Dr Aloysius Alpha (internist) 202-555-1214 Dr Boetharius Bravo (allergist) 202-555-1215 Dr Charalampias Charlie (gastroenterologist) 202-555-1216</p> <p>BLOOD TYPE: Q-POS</p>	<p>MEDICAL CONDITIONS: Hyperlipidemia, nasal rhinitis, amateur radio operator.</p> <p>MEDICATIONS: Placebo (dextrose) 599 mg once a day dissolved in 250 ml of hot chocolate.</p> <p>ALLERGIES: Short trees, tall grasses, poor band conditions.</p> <p>IMMUNIZATIONS: RV (date) VAR (date) TDaP (date) Hib (date) MMR (date) IPV (date) Hib (date) PCV13 (date) Flu (date) HepA (date) HepB (date) HPV (date) MenACWY (date) MenB (date) Zoster (dates) COVID-19 (brand) (dates).</p> <p>Advance Medical Directive on file with my internist. OK to discuss all medical matters with all my emergency contacts and my doctors.</p> <p style="text-align: right;">Printed: 24-SEP-2021</p>
<p>Adapt for your use. Keep up to date.</p> <p>Immunizations listed are often required for school and work. Consult with your doctor about personal needs.</p> <p>Suggest printing on 2 x 3½ inch business card stock, double sided, two columns of five cards. (Avery 28878, for example.)</p> <p>Recommend keeping several cards in your wallet to use when visiting an ER, doctor, dentist, or other health care provider. (Will be appreciated – saves lots of time!)</p> <p style="text-align: right;">– W4ART</p>	<p>RV: rotavirus VAR: chicken pox (varicella) TDaP: tetanus, diphtheria, pertussis Hib: Haemophilus influenza type B MMR: measles, mumps, rubella IPV: polio PCV13: pneumonia Flu: influenza HepA: hepatitis A HepB: hepatitis B HPV: human papilloma virus MenACWY and MenB: meningococcal disease Zoster: shingles COVID-19: SAR-COV2</p> <p style="text-align: right;">CDC recommended vaccination schedules: https://www.cdc.gov/vaccines/schedules/index.html</p>

³ Suggest printing on two-sided business card stock to keep in your wallet (no batteries required) or using smartphone health record app. *No Social Security Number.* **TEMPLATE:** <https://www.mcmham.org/Volunteer/Files.php?Action=Download&file=General%2B-%2BTEMPLATE%2BEmergency%2BMedical%2BIdentification.docx>

⁴ **Speaks for you (accident or medical problem), if you can't speak for yourself.** ER docs and nurses LOVE them!! They're also a help for ordinary medical and dental visits.

Food and drink for the whole day.

MCM supplies two boxed meals of non-perishables with high energy content (sugar, fat, and salt).

- If this isn't for you, bring your own food, plus some to share.
- Bring extra to drink. *Go lightly on caffeine and sugar. (Makes you jittery.)*
- On HOT days, bananas and oranges are good; also, "sports" drinks containing water-soluble electrolytes: sodium and potassium (plus water and sugar).

Clothing.

- Check the full day's weather forecast. Dress accordingly.
- Layers are most adaptable and comfortable.
- Comfortable footwear for walking and being on your feet all day.
- Waterproof outer layer (*hat, coat, gloves, and shoes*). (Grass may be wet before sunrise!)
- Hats for the hairless (and everybody else).
- Prescription glasses. Sunglasses.
- Hand warmers and heated socks for very cold weather.

Labeling and packing.

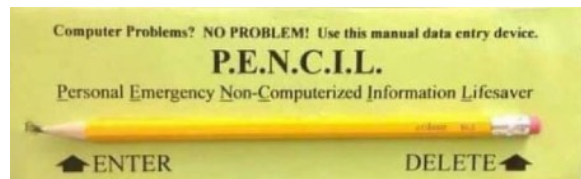
- Label all equipment, clothing, and other items with your call sign, name, and phone number. Use permanent marker, paint pen, or engraving! (Helps to return what you leave behind.)
- Pack for easiest transportation: *Simple! Small! Light!***

C. Notebook. [*Everyday best practice.*]

Bring a bound pad, like a reporter's notebook^{5,6} (fits in a pocket) or a steno pad. No loose leaf or single pages to blow away. (Computers, phones, tablets are more cumbersome and can run out of power.)

Bring pens with permanent ink⁷ (won't smear in the rain). Otherwise, bring pencils.

NOTE: Never erase or obliterate anything. Delete by drawing one thin line through the unwanted stuff or "X" out a whole page. (Lets you revisit deleted notes.)



NOTES:

⁵ Example: http://www.staples.com/Ampad-reg-Greencycle-trade-Reporters-Notebook-4-x-8-/product_761049. Generally available at office supply stores.

⁶ Here's a company making pens and pads that work when wet. <http://www.riteintherain.com>

⁷ Example: http://www.staples.com/Sharpie-Permanent-Ink-Pen-Fine-Plastic-Tip-Black-4-Pack/product_730419

D. Transportation. [Everyday best practice.]

☐ Car, truck, or motorcycle.

☐ **Drive the same vehicle listed when registering for the MCM.**

☐ Check all 12 VDC power connections. Make sure all are tight and free of corrosion.⁸

☐ Know how long your DC operated equipment can run on the car battery and still be able to restart the engine. Cold weather decreases battery **Ampere-hour (A-h)** capacity.

☐ Check RF cables and antenna connections are clean and working well!

☐ Jumper cables for just in case.

☐ **Fill the fuel tank / fully charge before arriving.**

☐ Metro.

☐ **Opens at 5 AM.** (Will not get you to Check-In on time!
Good for during the day and getting home.)

☐ **Use SmarTrip® card⁹** or Baltimore's **MTA CharmCard®.**
(Interchangeable.) *Cell phone APP now available!¹⁰*

NOTE: Make sure card has enough value and a little more!



☐ Bicycle.

☐ Helmet (required) and bike gloves!

☐ Lights, front and rear. (Arriving in the dark!)

☐ Check and adjust tire pressures.

☐ Two spare tubes for your wheel size(s).

☐ Air pump and/or CO₂ cartridges for your tube valve type(s).

☐ Basic tools for adjustments.

☐ Tire levers.



NOTES:

⁸ If a battery post is corroded, see: <http://www.howtocleanstuff.net/how-to-clean-car-battery-terminals/>.

⁹ To purchase SmarTrip® cards or Mobile Pay (on your phone), see: <https://www.wmata.com/fares/smartrip/>.

¹⁰ Mobile pay apps, see: <https://www.wmata.com/fares/MobilePay/>

E. Miscellaneous Items.

☐ **Cash** and **Credit card** for just in case.

☐ **Cell Phone** and charger (automobile or battery).¹¹

☐ **PRE-PROGRAM MCM CONTACT NUMBER:**

RCOC¹² **voice** and **TEXT: (520) 462-6426 (520-4MCM-HAM)**

☐ **Know how to send and receive text messages and images on your phone.**

☐ **SET PHONE RINGER to LOUDEST and VIBRATE.** (Needs to work in very noisy areas!)

☐ **Light** with fresh batteries! (**Setup in the dark!**)

☐ **Tools/Spares.** A very basic set of tools to care for whatever you bring. **If you can't carry it easily, don't bring it!**

☐ **Fasteners.** Electrical tape, gaffer's tape, zip ties, Bongo-Ties®, Velcro® strips, and/or other fastening systems, as needed. Non-residue duct tape¹³ is a new option. (Regular duct tape NOT recommended: leaves a sticky residue.)



☐ **Common RF adaptors**¹⁴ so you can work with other folks' radios and antennas.

☐ **Spare** radio(s) and/or antenna(s) and/or coaxial cable, if practical.

☐ **Watertight clear plastic bags** to protect your paperwork and radio equipment in case of rain.

☐ **Folding chair;** comfortable!

☐ **Roll of toilet paper or tissue pack** for confining sneezes and the usual.¹⁵

F. FIREARMS.

DC: FIREARMS NOT PERMITTED.

National Park Service areas: FIREARMS NOT PERMITTED.

VA: Firearms permitted, but not recommended.

Anyone holding a firearm, despite the best of intentions, will appear to security services as a bad actor.

Expect an unhappy outcome.

Best to leave firearms at home.

¹¹ Here's a review of several types. <https://www.pcmag.com/picks/the-best-portable-chargers-and-power-banks>

¹² **RACE COURSE OPERATION CENTER (RCOC).** One telephone number routes both voice calls and texts to the proper destination(s).

¹³ Example: https://www.3m.com/3M/en_US/company-us/all-3m-products/~/3M-NO-RESIDUE-Duct-Tape/?N=5002385+3293369455&rt=rud.

¹⁴ SMA (male or female?) to BNC, N, PL-259, SO-239. Inexpensive at hamfests.

¹⁵ Useful if the "facilities" are in the bushes (some are!) or if the PortaJohns run out (they do).

Part II. PREPARE your EQUIPMENT.

- You are responsible for knowing how to use your own equipment.
- Get programming help (before MCM day!).
- Bring radio and equipment you listed when signing up.
(Additional radios and equipment, OK except near the Pentagon.)

A. Radio type(s).

Any HAND HELD radio transmitting 3 to 5 watts output, with a good receiver, and efficient antenna, will work well.

PROGRAM + TEST RADIO BEFORE MCM DAY!

144 + 440 MHz BANDS NEEDED EVERYWHERE!
(Some locations need an elevated antenna. See frequency plan!)

B. PRE-PROGRAM all radios!

☐ **Common settings** (in most radios).¹⁶

☐ **Time-out-timer (1 minute or less).** (Turns off transmitter if stuck on accidentally.)

☐ **FM WIDE deviation (±5 kHz).** (NOT ±2.5 kHz, “half deviation”, or “narrow.”)

☐ **Auto power: OFF.** (Radio won’t turn off unexpectedly.)

☐ **VOX: OFF!** (PTT must have manual control!)

☐ **Battery saver: 1:2 to 1:5 (0.5 to 1 second sleep interval).** Increases battery operating time by about 2 to 5 times, depending on the sleep (save) interval. External power may disable the battery saver function. Check your radio operating instructions.

☐ **Set ALL radios to no more than 5 watts output,** unless NET CONTROL asks for more.¹⁷

☐ **MCM frequencies,**^{18,19} CTCSS²⁰ tones, and power levels according to the Frequency Plan on the next page!

☐ For programming help, see the VWS training video²¹ or **bring your radio to All Hands Day!**

Get free software to program nearly every radio at: <http://chirp.danplanet.com/projects/chirp/wiki/Home>. Versions for Windows, MAC OSX, Linux, and Ubuntu operating systems are available.

Log into: <https://www.mcmham.org>. Look in the files section for CHIRP the file. Read instructions!

¹⁶ May NOT be in CHIRP. Set manually or with radio specific program.

¹⁷ Allows NET CONTROL the opportunity to capture a repeater receiver if someone’s transmitter is stuck on.

¹⁸ Suggest programming frequency plan CHANNEL ID’s, if your radio has an alphanumeric display option.

¹⁹ Pre-programming enables rapid, accurate frequency changes under pressure!

²⁰ See: https://en.wikipedia.org/wiki/Continuous_Tone-Coded_Squelch_System

²¹ See VWS training video at: <https://www.youtube.com/watch?v=dZ8ZPnSqH4Q&feature=youtu.be>.

C. Frequency Plan.

Three nets cover the course. [Approximate areas, which may change.]

- **RACE-A** serves the course west of the Potomac (Arlington).
- **RACE-B** covers east of the Potomac from Georgetown and Rock Creek Park to near the 14th Street Bridge and along Canal Rd (50 Km course).
- **RACE-C** covers east of the Potomac from near the 14th Street Bridge south and east, including the National Mall and East Potomac Park.
- **Hand held radios with Tiger Tail antennas** (see next page) work well over most of the course. See **NOTE 4** for locations which may need more.

LIST A 17-Oct-2022 17:12:20								
	CHANNEL NAME	RX FREQ (MHz)	TX OFFSET	RX TONE (Hz)	TX TONE (HZ)	NOTES	INITIAL USE	
1	E	145.470	-	CSQ	107.2	W4WVP (Arlington)	Race Net "A"	1
2	F	146.625	-	107.2	107.2	W4AVA (Arlington)	Arlington EMS	2
3	G	146.655	-	141.3	141.3	K4US (Alexandria)	Talk IN Arlington EMS	3
4	H	449.975	-	107.2	107.2	WA3KOK (DC)	Race Net "B"	4
5	I	441.450	+	CSQ	110.9	W4CIA (Merrifield)	Talk OUT DC EMS	5
6	J	444.175	+	156.7	156.7	N3ADV (DC)	DC EMS	6
7	K	147.270	+	100.0	100.0	W3DCA (DC)	Race Net "C"	7
8	L	449.325	-	151.4	151.4	W4WVP (Arlington)	DC EMS	8
9	M	145.190	-	151.4	151.4	W3DOS (DC)	DC EMS	9
10	N	444.600	+	CSQ	107.2	W4HFH (Alexandria)	Spare	10
11	O	147.315	+	107.2	107.2	W4HFH (Alexandria)	Spare	11
12	S1	146.490	S	203.5	203.5		Simplex	12
13	S2	146.550	S	203.5	203.5		Simplex	13
14	S3	147.450	S	203.5	203.5		Simplex	14
15	S4	147.560	S	203.5	203.5		Simplex	15
16	S5	445.925	S	203.5	203.5		Simplex	16
17	S6	446.050	S	203.5	203.5		Simplex	17
18	S7	446.175	S	203.5	203.5		Simplex	18
19	S8	446.275	S	203.5	203.5		Simplex - for NCS	19
20	SE	145.470	S	CSQ	107.2		Simplex - RPT fallback	20
21	SF	146.625	S	CSQ	107.2		Simplex - RPT fallback	21
22	SG	146.655	S	CSQ	141.3		Simplex - RPT fallback	22
23	SH	449.975	S	CSQ	107.2		Simplex - RPT fallback	23
24	SI	441.450	S	CSQ	110.9		Simplex - RPT fallback	24
25	SJ	444.175	S	CSQ	156.7		Simplex - RPT fallback	25
26	SK	147.270	S	CSQ	100.0		Simplex - RPT fallback	26
27	SL	449.325	S	CSQ	151.4		Simplex - RPT fallback	27
28	SM	145.190	S	CSQ	151.4		Simplex - RPT fallback	28
29	SN	444.600	S	CSQ	107.2		Simplex - RPT fallback	29
30	SO	147.315	S	CSQ	107.2		Simplex - RPT fallback	30

NOTE 1: ANY CHANNEL MAY BE USED FOR ANY PURPOSE AS DIRECTED BY NET CONTROL.

NOTE 2: CSQ = CARRIER SQUELCH (NO TONE).

NOTE 3: COMMON OFFSETS: +/- 600 kHz (144 MHz band) +/- 5 MHz (440 MHz band)

NOTE 4: 15-25 FOOT ANTENNA MAST REQUIRED AT THESE LOCATIONS:

RACE NET A: FROM TURN ONTO SPOUT RUN PKWY TO KEY BRIDGE.
RACE NET B: FROM MM 5½ THROUGH 9½.
RACE NET C: ANTENNA MASTS NOT NEEDED.

D. Antennas.

[] Polarization: Vertical.

[] Hand-held radio antennas. **Use Tiger-Tails!** TX and RX signals improve by about 7 to 10 dB! **Easy and cheap to make!** See: <https://www.mcmham.org/Volunteer/Files.php?Action=Download&file=Tiger+Tail+Antenna.pdf>.

NOTE: A typical “rubber duckie” antenna is very lossy: about -17 dB, for both transmitted and received signals,.. **Not recommended. USE a TIGER TAIL!**

**Hand held radio?
Always use a
“Tiger Tail!”**

[] Antennas.

[] Limit antenna gain to no more than about 4 to 5 dBd.²² 0 dBd preferred. In cities, signals often arrive from high angles. Too much antenna gain toward the horizon means rejecting high angle signals, degrading system performance.

[] 144 and 440 MHz: Suggest a two-band antenna that includes the 144-148 MHz half wave (dipole) section (about 1 meter long)²³. Works well with a magnetic mount. (No ground plane required.) Good quality, low loss coax preferable. Use SMA, BNC, N, or any other suitable constant impedance connector. Avoid PL-259/SO-239 connectors.²⁴

[] **Antenna guys. Add flags on all guy ropes for visibility! NPS areas: NO STAKES or ANYTHING ELSE STUCK IN THE GROUND or TIED TO TREES!**²⁵

E. Earphones only. (NO SPEAKERS!)

[] **EXPECT LOUD NOISES** (bands, cheers, etc.)! **Prepare accordingly!**^{26, 27}

[] **EXTRA LOUD PLACES! ENTERTAINMENT LOCATIONS** along the course!

<https://www.marinemarathon.com/events/marathon/course#entertainment>

NOTE: Audible radio chatter starts rumors.

[] Earphone on one side allows hearing local sounds.

²² dBd = gain (or loss) with respect to a dipole antenna. 0 dBd = the gain of a dipole (no gain with respect to a dipole).

²³ Example: <https://www.hamradio.com/detail.cfm?pid=H0-000566>

²⁴ Non-constant impedance connectors. Technical discussion and measurements: <https://mcmham.org/Volunteer/Files.php?Action=Download&file=General+The+UHF+type+connectors+under+network+analysis.pdf>

²⁵ Fasten mast to a park bench, table, tent pole, or car. For guys, use a car or cinder blocks, sandbags, or similar weights.

²⁶ Use earbuds (come with cell phones) covered with a hearing protector like this: <https://www.homedepot.com/p/TR-Industrial-Schutz-Compact-Foldable-Ear-Muff-TR88015/207007961>. Test in advance!

²⁷ Use headphones over foam earplugs. (Example: <https://www.homedepot.com/p/3M-Orange-Disposable-Earplugs-8-Pairs-Pack-92077H8-DC/309793115>. Headphone level must be HIGH! Earplugs provide about 30 dB attenuation. Surprisingly comfortable listening in *extremely* noisy environments! Test in advance!

F. Protect equipment from the weather.



INGRESS PROTECTION (IP) ratings grade the resistance of an enclosure against the intrusion of dust or liquids.²⁸ Check your equipment specifications!

☐ **Check if your equipment can operate in the rain.** If not adequately water resistant, cover radio equipment with a clear plastic bag using rubber bands or other ties. Check to see if you can hear and be heard. (Probably yes!) *Remember earphones and external power connections can breach the radio's water protection seals. Many RF connectors are NOT watertight.*

☐ In cold weather, keep batteries warm to prolong battery life. Inside your coat works well, especially with an external battery pack.

G. Electrical power.

☐ **Prepare for 24 hours of operating time.**
See power budget spreadsheet.²⁹
TEST before MCM day!

Preparing for 24 hours gives you a head start to being ready for much longer.

Outages may last weeks or months. Really!³⁰

Be able to operate for
24 hours!

NOTE:

**After hurricanes/tropical storms/snow storms/floods/earthquakes/etc.,
RESTORING COMMERCIAL ELECTRIC POWER MAY TAKE WEEKS.**

BE PREPARED!

²⁸ Defined: <https://www.iec.ch/ip-ratings>. Explanatory video: <https://youtu.be/4dyL6hMZvWQ>

²⁹ See: [AMPERE-HOUR CALCULATOR v2.0](#). Click on OPEN and edit on-line.

³⁰ For example, see: <https://www.washingtonpost.com/nation/2022/10/14/hurricane-ian-power-outages/>

Batteries.³¹

☐ Use primary cells³² for hand-held radios,^{33,34,35} if possible. Bring extra.

☐ If using rechargeable batteries, verify that they still hold an adequate charge and will operate over the required length of time.³⁶ **Most rechargeables will NOT last an entire day of MCM operation. Bring spares!**

☐ **For fixed locations, consider a deep cycle³⁷ battery instead of a generator.** (Much less hassle and safer.) Check power budget spreadsheet for needed Ampere-hour (A-h) capacity. If using AC powered devices, verify inverter works properly with all loads connected and running.

☐ Allow for cold temperatures decreasing battery A-h capacity.

DC power cables.

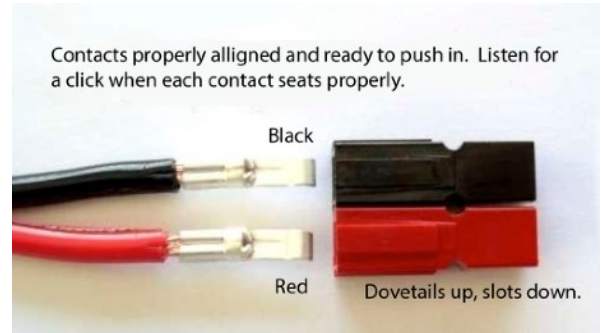


☐ Use **ARES**-style PowerPole connectors.³⁸ (Enables you to share or pool equipment more easily, if needed.)

☐ Maintain stable power supply voltage at your equipment by using an adequate wire size for the maximum expected current load.³⁹ Try to keep voltage fluctuation (standby or RX vs. TX) within about $\pm 10\%$. Your radio(s) may allow wider variation, but this is a good target value.

☐ Fuse all cables. Fuse both positive and negative leads as close to the power source as possible.⁴⁰

☐ Spare fuses!



NOTE: PowerPole connectors are NOT waterproof. Wrap connections with a sealing tape or use Anderson environmental shells or boots.

³¹ For everything you want to know about batteries, see: <https://batteryuniversity.com/articles>

³² PRIMARY cells *generate* energy from internal chemistry. RECHARGEABLE cells *store* energy.

³³ AA battery packs are available for many hand-held radios. NOTE: Many battery packs intentionally set the radio to operate at low power because AA's cannot supply enough current for high power operation. Check the manual!

³⁴ Try building an external battery pack to use with a hand-held radio's external power port. Typical 24-hour requirements for a 5W hand-held radio are 4 A-h at 12 VDC with 2 A maximum current. Easy to keep inside your coat for longer life on cold days. See: https://www.mcmham.org/Volunteer/Files.php?Action=Download&file=General+BUILDING_A_12_VDC+POWER_PACK_FOR_HAND.pdf.

³⁵ Not all radios charge at 12 VDC! *Some radios do not have an external power port.* Check the radio manual!

³⁶ Most rechargeable batteries in HT's will not last the whole day in MCM operation. Bring spares! Insulate terminals during transit to prevent accidental rapid discharge.

³⁷ Battery options for portable stations: <https://www.mcmham.org/Volunteer/Files.php?Action=Download&file=Portable+Power+options+Rev+B.pdf>.

³⁸ <http://www.arrl.org/files/file/Public%20Service/TrainingModules/Technical/Anderson%20powerpole.pdf>

³⁹ See: <http://www.rapidtables.com/calc/wire/voltage-drop-calculator.htm>.

⁴⁰ Fusing the negative lead isn't always necessary, but can't hurt.

Part III. PREPARE TO COMMUNICATE.

[Everyday best practice.]



Listen!

Make sure the frequency is clear.

Know what is going on!

Think!

GET NEEDED INFO!



Call!

YOU this is ME, over.

NET CONTROL this is MILE 54, over.

- ▶ Speak up – close to mic (about 1 in.). Speak clearly.
- **PLAIN LANGUAGE. No Q-codes. No 10-codes.**
- ▶ Repeat back critical information!
- ▶ Leave 1 second gap for others to break in.
- ▶ ITU phonetics for station ID, also words and names not easily understood.



ITU PHONETIC ALPHABET:	
A – alfa (AL-fa)	
B – bravo (BRAH-voh)	
C – charlie (CHAR-lee)	
D – delta (DELL-tah)	
E – echo (ECK-oh)	
F – foxtrot (FOKS-trot)	
G – golf (GOLF)	
H – hotel (HOH-tell)	
I – india (IN-dee-ah)	
J – juliet (JEW-lee-ett)	
K – kilo (KEY-loh)	
L – lima (LEE-mah)	
M – mike (MIKE)	
N – november (no-VEM-ber)	
O – oscar (OSS-cah)	
P – papa (pah-PAH)	
Q – quebec (key-BECK)	
R – romeo (ROW-me-oh)	
S – sierra (SEE-air-rah)	
T – tango (TANG-go)	
U – uniform (YOU-nee-form)	
V – victor (VIK-tah)	
W – whiskey (WISS-key)	
X – x-ray (ECKS-ray)	
Y – yankee (YANG-key)	
Z – zulu (ZOO-loo)	
0 – zero (ZAY-roh)	
1 – one (WUN)	
2 – two (TOO)	
3 – three (TREE)	
4 – four (FOWER)	
5 – five (FIFE)	
6 – six (SIX)	
7 – seven (SEVEN)	
8 – eight (AIT)	
9 – nine (NINER)	
DECIMAL POINT – decimal (DAY-SEE-MAL)	
FULL STOP – stop (STOP)	

Take a DEEP BREATH. Stay cool.

GET INFO BEFORE Transmitting: [Everyday best practice.]

- ☐ **LOCATION! LOCATION!! LOCATION!!!**
 - ☐ Say distance from nearest mile marker, or street address, intersection, or landmark,
EMS needs to be able to FIND YOU!
- ☐ **Runner:**
 - ☐ **BIB NUMBER ONLY -- NO PERSONAL INFO!**
 - ☐ **CONDITION OF PATIENT. USE INJURED RUNNER CHECKLIST** on the back page.
(If any item on the list seen in patient: *EMERGENCY!*)
 - ☐ Tell EMS that someone will be flagging them down on arrival.
- ☐ **Unattended or suspicious package:**
 - ☐ **Description of package.**
 - ☐ Affiliation and person supplying information.
 - ☐ If safe, take photo and send by text to RCOC. [**\(520\) 462-6426**](tel:5204626426) (520-4MCM-HAM)
- ☐ **Questionable vehicle:**
 - ☐ **License plate NUMBER / STATE.**
 - ☐ Try to describe vehicle and occupant.
 - ☐ If safe, take photo and send by text to RCOC. [**\(520\) 462-6426**](tel:5204626426) (520-4MCM-HAM)
- ☐ **Demonstration or interference on course.**
 - ☐ **Describe exactly what you see/hear.** (“It looks as if,” is a guess!)
 - ☐ **Number of people, signs, etc.**
- ☐ **Explosion or shots fired. Take cover before talking! STAY SAFE!**

CALL NET CONTROL [Everyday best practice.]

- ☐ **“BREAK EMERGENCY. NET CONTROL, THIS IS (your tactical ID), over.”**
- ☐ **LISTEN** for NET CONTROL.
- ☐ Give need: **RUNNER DOWN, ABANDONED PACKAGE, UNIDENTIFIED VEHICLE, SOMETHING INTERFERING WITH THE COURSE, etc.**
- ☐ **NET CONTROL STATION (NET CONTROL) will assign a WORKING CHANNEL** for you and EMS as needed.
- ☐ Communicate information you’ve prepared.
- ☐ Stay until EMS arrives. Remain, if requested.
- ☐ **When done**, return to your net calling channel. Inform NET CONTROL that you’re back.

EMS RESPONSE

- ☐ **DO NOT ask when EMS will arrive!** (EMS does not know and cannot find out.)
- ☐ **DO inform EMS if patient condition changes before EMS arrives.**

PART IV. SAFETY REVIEW!

☐ **REST the night before.** (Tired people make mistakes!)



Weather.

- ☐ **Check forecast.** Proper clothing: Dress in layers. Be aware of changing conditions.
- ☐ **Prepare** for wet ground (morning dew) and rain.
- ☐ **Lightning!** Take shelter in a car or building (not a PortaJohn). If stuck outside, get low on your toes (minimize ground contact) with your head down. Cover ears. Stay away from trees.

Health.

- ☐ Photo ID, medical insurance card(s), medical history card, auto insurance card.
- ☐ Medication(s) and supplies for 24 hours, properly packaged and clearly labeled.
- ☐ **Locate nearest bathroom, PortaJohn, or bushes.** Check for hazardous plants and critters. **Test bathroom facility yourself at your earliest opportunity.** Report problem(s) to NET CONTROL (except the purely personal variety). (Locked facilities are a problem!)

Setup and takedown.

- ☐ **See and be seen:** Use good lights. Wear your MCM vest.
- ☐ **Heavy lifting:** Lift with your legs while keeping your back straight. Get a helper. Use a hand truck or dolly.

Electrical power.

- ☐ Watch for overhead power lines! Make sure antenna(s) and pole(s) cannot fall on power lines!
- ☐ Watch for tripping hazards! **FLAG** guy wires. **MARK and COVER** cables on the ground.

Know where you are.

- ☐ Know $\pm\frac{1}{4}$ mile from your assigned location: street addresses, intersections, landmarks, distance, etc. **WRITE IN YOUR NOTEBOOK! Be ready to direct EMS to any location in your area!!**
- ☐ Know distance to next AID station on the course. (Never send anyone against runner flow.)

Transportation and crowds.

- ☐ Allow enough time to arrive! Better to be safe than first.
- ☐ **Be patient! Be nice! Assume everyone you meet is lost, confused, and upset.**

Disruptions: Examples:

- [a] demonstrators, [d] shooting,
 - [b] an abandoned or suspicious package, [e] explosion,
 - [c] an unknown vehicle on the course, [f] other serious happenings.
- ☐ **STAY SAFE! Take cover or get away! Look for solid buildings, trees, concrete barriers, concrete trash containers, cars, etc., to hide behind. Locate before needed.**
 - ☐ **As soon as safely able, inform NET CONTROL.**
 - ☐ Be alert for repeater failures. **LISTEN** for NET CONTROL! **LISTEN** to ALL messages. **THINK:** Have information ready before transmitting. **Keep transmissions short and to the point.**
 - ☐ *Cell phone systems may fail*, adding to general public confusion. Our systems are independent, so most likely, will keep on working, but our capacity is limited – requires best operating practices!
 - ☐ Text via cell phone will probably get through (delayed), if the cell phone network survives.

TEXT TO RCOC: (520) 462-6426 (520-4MCM-HAM).



Clear and complete reports. Always!

NO ASSUMPTIONS!

“It looks like ...” is a guess.

Don't know? Say, “I don't know!”



STRESS.

Stress is an automatic physical, mental, and emotional response to a challenging event. Happens to everyone in different degrees and in different ways and at different times.

☐ If alone. Try to be aware of your own feelings. Take a break if:

- H-ungry
 - A-ngry
 - L-onely
 - T-ired
- [It's OK to ask for help.]

☐ Buddy up with another person. Keep an eye out for each other, looking for signs of stress. Share what you see and suggest a break with food and drink.

☐ Talk out your feelings with a friend or ask others for help. **It's OK.**

**THINK DEEPLY.
SPEAK GENTLY.
LOVE MUCH.
LAUGH A LOT.
WORK HARD.
GIVE FREELY.
AND BE KIND.**

Part V. MCM DAY.

If sick (any disease) or exposed to COVID-19, STAY HOME!

TELL RCOC as soon as possible! Text to: [\(520\) 462-6426](tel:5204626426) (520-4MCM-HAM).

A. CHECK-IN.

□ **Location.** [930 Army-Navy Drive, Arlington, VA](https://www.google.com/maps/place/930+Army+Navy+Drive,+Arlington,+VA), on the north side of Army-Navy Drive between S Joyce St and S Hayes St.

38°51'57"N +38.865833

77°03'38"W -77.060556

□ **Set CHECK-IN and assigned location(s) into your GPS memory!**

OR

□ **Map your route from home (or wherever) to the CHECK-IN location and to your assigned location(s).**

□ **Get to CHECK-IN on time!**

NO LATE CHECK-INS!



□ **If assigned to a locked down location, check-in between 2:00 AM and 2:30 AM. (Locked down road access closes at 3:00 AM.)**

□ **If assigned to MM 17.5, check in by 4:00 AM. Road access closes at 4:30 AM.**

□ **All others come anytime between 2:30 AM and 5:00 AM. CHECK-IN closes at 5:00AM.**

□ **From I-395N:** **NEW!**

EXIT 8C, stay right.

RIGHT at 1st traffic light onto Army-Navy Dr.

RIGHT at 1st traffic light into CHECK-IN location -- surface parking lot on the right.

CONTINUE onto 15th St S. Continue as road curves right changing to S Joyce St.

RIGHT at traffic light onto Army-Navy Dr.

LEFT at 1st traffic light into CHECK-IN location -- surface parking lot on the left.

□ **From GW Parkway via I-395S:** **NEW!**

EXIT 10A, Boundary Channel Dr. Stay left.

CROSS Boundary Channel Dr.

RIGHT onto VA-110/US-15.

EXIT 15th St S/Pentagon City. Stay right.

RIGHT onto 15th St S. Continue as road curves right changing to S Joyce St.

RIGHT at traffic light onto Army-Navy Dr.

LEFT at 1st traffic light into CHECK-IN location -- surface parking lot on the left.



PARKING PERMIT (NEW!)

☐ Sent by email (from @USMC-MCCS.org) within 72 hours of MCM Day.

☐ **VERIFY that Parking Pass matches your car!**

☐ **PRINT PARKING PERMIT AND BRING WITH YOU!** No parking permit: no entry to the course. Check with RCOC.

CHECK-IN will give you:

☐ MCM ID wrist band. ☐ MCM vest.

☐ Assignments with your station location and parking information (if available).

☐ MCM T-shirt (take the size you requested).

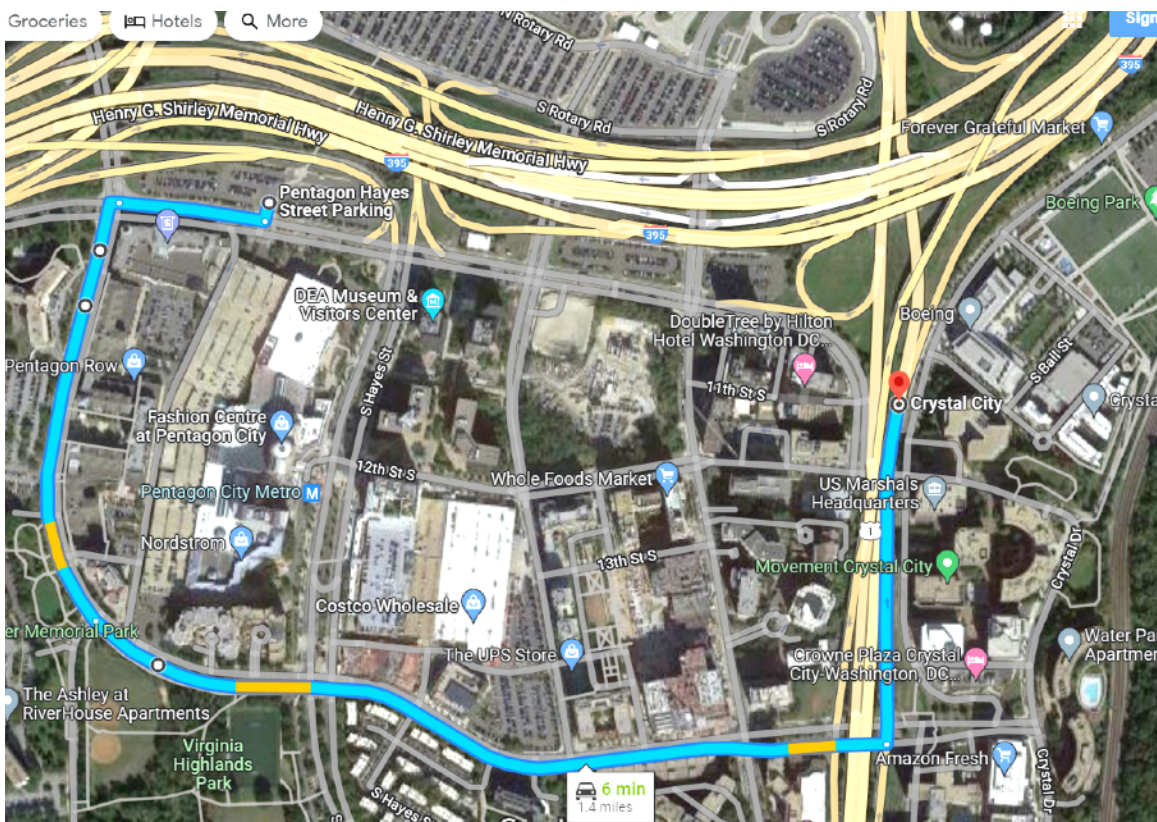
☐ Boxed “breakfast” and “lunch” (everyone gets both).

☐ **Put on your MCM vest and wrist band (LEFT WRIST!) NOW.** ONLY the MCM ID wrist band and MCM VEST are ACCEPTABLE!

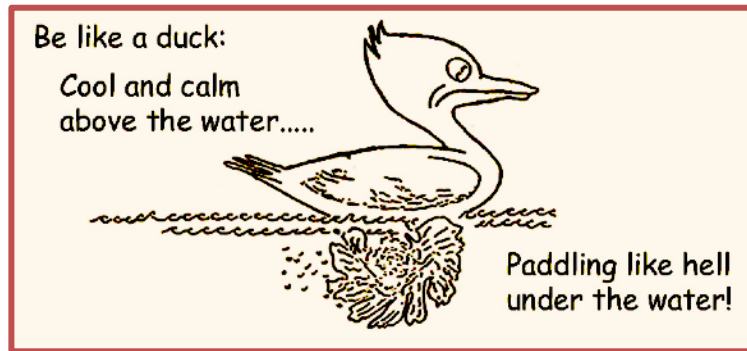
☐ Before leaving: **DOUBLE CHECK YOUR ASSIGNMENT AND PARKING LOCATION!**

☐ Keep parking permit handy for police officers to see. (Place on dashboard AFTER parking.)

LEAVING CHECK-IN (NEW ROUTE!) :



B. Assigned Location.



Get to your assigned location soon after checking in; in early closing areas⁴¹, no later than 3:00 AM. In all other areas, not later than course closing at 6:30 AM.

Problems getting to your assigned location? Call TALK-OUT for help.

You have NO authority or special status. Ever. [You get a ticket: YOU PAY!]

NEVER ARGUE WITH A POLICE OFFICER.

Obey instructions, even if you think they are wrong.

BE NICE! (They've got a long, hard day, too.)

Question? Call: Race Course Operation Center (RCOC): [\(520\) 462-6426](tel:5204626426)

PROBLEMS RESOLVED HERE!

In case of a problem, write down the police officer's:

Department (DC Metropolitan Police, US Park Police, Arlington Police, etc.)

Name and/or badge number (so their department will know whom to call).

Write down the location in question (intersection, mile marker, aid station, food stop, or water point, etc.).

Call RCOC by telephone (preferred): [\(520\) 462-6426](tel:5204626426). (520-4-MCM-HAM)
If no phone available: call your NET CONTROL.

Report the information you've written.

Clearly and concisely **describe the problem AND suggested resolution.**

Await instructions from RCOC.

After course closing: Course entry request: call RCOC! [\(520\) 462-6426](tel:5204626426).

**After the race starts,
KEEP OFF the COURSE!**

(No cars, trucks, motorcycles, or bicycles!)

⁴¹ Information comes with your assignment. Early closing areas may be called "lock down" areas.

C. Setting up.

Parking.

- ☐ **Your station location and parking location may be different.** Be flexible. (See assignment list.) Never park on the course!
- ☐ **Be careful not to block any signs, mailboxes, driveways, or fire hydrants.**
- ☐ **In National Park Service areas**, do not park on grass unless authorized. (Always OK to park on gravel or paved areas.)
- ☐ **Free parking** at west end of **CHECK-IN parking lot** with Parking Pass. No transportation provided.

Station locations. On arriving at your location:

- ☐ Learn the area around your location about $\pm 1/4$ mile. (Walk it, drive it, use maps. *Make notes!*)
- ☐ **KNOW HOW TO DIRECT EMS to any specific location in your area.**
- ☐ Check distance to the NEXT AID STATION along the route and write in your notebook.
- ☐ **Locate safe places NOW for cover in case of lightning or disruption on the course.**
 - ☐ Lightning: Go inside a substantial building or a car; NOT a PortaJohn (no protection)!
 - ☐ Shooting, explosion: Go inside a substantial building, behind a concrete barrier, behind a tree, or a car.
- ☐ **Locate the nearest bathrooms**, PortaJohns, or “boy’s and girl’s bushes” (watch out for critters, poison ivy, etc.). ☆☆☆ **TEST FACILITIES YOURSELF NOW!** (You’ll be happier later!) ☆☆☆
- ☐ **PortaJohns not open? Tell NET CONTROL right away!**

Food stops and water points.

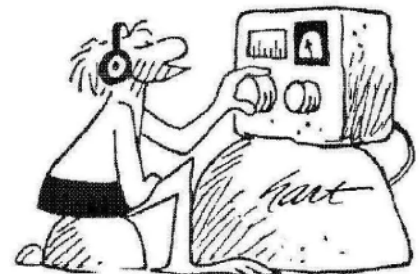
- ☐ Wait for MCM people and materials to arrive. Expect deliveries on MCM morning to be late and at a place different from where you expect. Be patient. Be flexible.
- ☐ Introduce yourself and your mission to the **Officer-in-Charge (OIC)**.
- ☐ Agree on how you will work together – passing messages, etc.

Shadowed people.

- ☐ You will be given your shadowed person’s cell phone number. (Text a day or two ahead of time. Introduce yourself and agree on when and where to meet.)
- ☐ Meet up as agreed. **BE ON TIME!**
- ☐ Introduce yourself and review shadow’s task(s) and your mission.
- ☐ Agree on how you will work together – passing messages, etc.

GET YOUR STATION ON THE AIR.

- ☐ Set up your equipment as practiced!
- ☐ Earphones connected and working!
- ☐ Test system by calling on your net’s Primary Channel during informal pre-net time.
- ☐ Check signal quality. (“Full Quieting” with adequate modulation and minimal background noise.)⁴²



⁴² “Kerchunking” to hear a repeater says only that your signal opened the repeater receiver squelch and NOTHING about signal quality. Get a signal report from another station to verify signal strength and audio quality.

D. Jobs on the Course.

EVERYONE.....

LISTEN to your assigned NET. KNOW WHAT'S GOING ON!

Mile and Half-Mile Marker, Food Stop, and Water Stop operators.....

- [1] Stay near your posted location. (Marines and others look for you here.)
- [2] Watch runners, spectators, and the course for problems. (You are the eyes of the MCM team!)
- [3] **See and report about an injured person? Other problem on course issue?** Tell NET CONTROL about the situation. Net control may assign working channel. ("BREAK EMERGENCY" if needed.)
- [4] Send messages about race leaders and Rear Pace Vehicle passing your location. (See "G" on Page 21.)

Food and Water Stop Operators.....

- [5] Pass messages for the Officer in Charge (OIC) as requested. All messages MUST indicate the sender: "[location] OIC"; recipient: "Division [ID#] Commander."

Shadow Operators.....

- [1] Stay with assigned person.
- [2] Keep your shadowed person informed about assigned RACE NET happenings.
- [3] Pass messages for your shadowed person as requested. All messages MUST indicate the sender: "Division [ID#] Commander," or "TOP DOC," etc.

E. Net Operation. [Everyday best practice.]

☐ Regular net operation – good operating procedure!

☐ NET CONTROL directs stations to help move messages.

☐ USE the recommended voice communication procedure!⁴³

LISTEN -> THINK -> CALL "YOU" THIS IS "ME" (your TACTICAL CALL SIGN), over.
Keep transmissions short and to the point (why you THINK before transmitting).

☐ **ALWAYS leave about a second between transmissions** -- allows stations with EMERGENCY or PRIORITY messages to break in.

☐ When done passing your messages, check back with NET CONTROL on the primary net channel.

⁴³ **Plain language. NO CODES!!** NO 10-codes, NO Q-codes, or any other codes. **YOU this is ME**, over.

F. Net Start.

- **Race net stations** tune to primary (or first available listed) frequency for your assigned net.
- **LISTEN.** KNOW what's going on before transmitting!
- **LISTEN** for start of regular net operation at 6:30 AM.
- **Follow NET CONTROL's instructions.** Test your station on repeaters as directed by NET CONTROL.
- **LISTEN** to net operation. ANSWER ALL CALLS!
- **STAY WITH YOUR COMMUNICATION TASK**, even if you have other skills!⁴⁴
- **Be like a duck!**⁴⁵ Calm and cool on the surface. Always doing your best!
- **Have fun!!**

G. Mile Marker Reports. (ROUTINE MESSAGES FOR US, not the MCM!)

- **REPORT EVENT AND TIME.** ► **NO RUNNER NUMBER OR GENDER** ◀
- 50K runners start (MCM mile zero station only.) 7:15 AM
- Hand cycle+wheelchair start. (MCM mile zero station only.) 7:50 AM
- 10K runners start (MCM mile 17.5 station only.) 7:50 AM
- Duo start. (MCM mile zero station only.) 7:52 AM
- Runners start. (MCM mile zero station only.) 7:55 AM
- **FIRST wheeled competitor** (*any kind*) passing your location.
- **FIRST runner** (*any gender*) passing your location.
- **REAR PACE VEHICLE** passing your location.



Wheeled competitors look like these:



Hand-cycle



Wheelchair



Duo

⁴⁴ **Your task is communication. "Doing more than one thing at a time makes you slower and worse at both tasks. Don't do it."** -- Jeff Sutherland. Communication is your only task. You may be held liable for doing other things. [Use best judgment in special cases.]

⁴⁵ "Straighten up and fly right!" Remember, *when a duck flies upside down, it quacks up.*



H. Public Relations.

Do's.

- Do tell anyone who asks that you are an amateur radio operator helping out the MCM.
- Do explain that about 100 other hams are helping out with the MCM today.
- Do refer media contacts to the **MCM Public Relations Coordinator**. Contact information:

Name: Kristen Loflin

Cell phone: (703) 987-3191

Email: kristen.loflin@usmc-mccs.org

- Do refer people to complete spectator information at: **SALUTE: Official MCM Magazine** (https://issuu.com/marinemarathon/docs/mcm_salute_2022_final?fr=sYTViNjQ3OTIyOA) and MCM finish on-line video at: <http://www.csnwashington.com>.
- DO refer people to **FREE** Marine Corps Marathon APP (iPhone and Android **app stores**).

Do nots.

- Do not become an information source about anything for anyone! (You will never have full information. Partial information starts rumors.) DO refer people to available information above.
- Do not become a news source. Refer inquiries to the **MCM Public Relations Coordinator**.
- Do not talk about DoD missions (wars) or any political or religious controversy.
- Do not give out injured runner status. **Injured runner info available at MEDINFO F or H.**

[1] MEDINFO F(inish):

Dark Star Park (Fairfax Dr and Ft Meyer Dr)
1655 Ft Meyer Dr
Arlington, VA 22201

Recognizable by the MCM tent and a sculpture with three large spheres.

Nearest METRO: **ROSSLYN**.

[2] MEDINFO H(ill):

Near Marshall Dr, down the hill from the Netherlands Carillon.



I. Closing Station.

- ☐ **Write down your parking location exactly.** Address, photos, etc. (Send with your after action report – so next year’s crew will have better information.)
- ☐ **RETURNING VESTS for MILE MARKER, WATER POINT, and FOOD STOP operators.**
 - ☐ **LISTEN and LOOK for the REAR PACE VEHICLE. (FIRST CAR AFTER THE RUNNERS.)** Turn in your vest to **REAR PACE VEHICLE**, which will NOT stop! **Tell NET CONTROL that the Rear Pace Vehicle passed your location.** (Alerts our stations along the course.)
 - ☐ 50K extension – return vest to AID50.
- ☐ **AT AID STATIONS and FOOD STOPS.**
 - ☐ Check with your Officer-in-Charge (OIC) to verify that no runners are waiting for transportation and that all required messages have been sent.
 - ☐ Check with your OIC to verify that your communication services are no longer needed.
- ☐ **Various shadows.**
 - ☐ Check with your shadowed person that your communication services are no longer needed.
 - ☐ Return your vest to the **REAR PACE VEHICLE**, if possible. Otherwise, turn in your vest to any AID station.
- ☐ **WHEN DONE WITH THE CLOSING STATION CHECKLIST:**
 - ☐ **AID stations MUST receive OK to close from RCOCI!**
 - ☐ **All others, check with OIC, if you have one. Otherwise, after REAR PACE passes, then:**
 - ☐ **Call NET CONTROL** with your tactical call sign.
 - ☐ Report closing checklist complete.
 - ☐ NET CONTROL confirms and gives the OK to close your station.
 - ☐ Acknowledge. Give FCC call sign. **Close your station.**
- ☐ **If unable to return your vest, send it to:**
 - MARINE CORPS MARATHON**
 - 3399 RUSSELL RD**
 - QUANTICO VA 22134-5135**

J. After Action Review (AAR) and, especially, “Lessons learned.”

- ☐ **SEND to afteraction@mcmham.org or use the form on the MCMHAM web site.** (Don’t wait to be asked!)
- ☐ What worked well.
- ☐ Problem(s) AND ideas for specific fix(es) for our MCM operations and this OPERATING GUIDE.
- ☐ **WHERE YOU ACTUALLY PARKED** (Description, address, photo, etc.) (Helps next year!)

THANKS FOR A GREAT DAY!
SEE YOU NEXT YEAR!

Part VI. AFTER ACTION REVIEW.

What worked well this year?

Problems this year? Suggested solutions?

Lessons learned for next year?

Parking location:

Send to: afteraction@mcmham.org.

❖❖❖❖❖ INJURED RUNNER CHECKLIST ❖❖❖❖❖

Bib number: _____ **NO PERSONAL INFORMATION!**

Location for EMS: (address, intersection, ± mile marker, or landmark)

Medical personnel present: pass information to EMS, if requested.

WRITE DOWN MESSAGES before sending!

If alone on the course,

ASK people (runners and/or spectators) to:

[1] **keep an open space around the runner and**

[2] **flag down arriving medical crew.**

[3] **Do not move the runner. (OK if runner moves under own power.)**

TELL EMS WHAT YOU CAN SEE. NEVER GUESS. *"It looks as if ..."* is a guess.

See ANYTHING on this list: EMERGENCY!

[1] Not breathing or shallow breathing?
[2] Disoriented (don't know their name or date or where they are) or unconscious?
[3] Bleeding? From where?
[4] Nausea and vomiting?
[5] Skin: Pale, cold and sweaty or red, hot, and dry?
[6] Pupils in the eyes look different or are wide open?
[7] Significant pain? Where?
[8] Significant swelling? Where?
[Runner's or witness description of what happened.]

Tell EMS what you know. Don't guess.

**LISTEN AND FOLLOW MEDICAL INSTRUCTIONS AS BEST YOU CAN
UNTIL HELP ARRIVES!**

Stay with the runner until released by medical personnel.

❖❖❖❖❖ INJURED RUNNER CHECKLIST ❖❖❖❖❖

Bib number: _____ **NO PERSONAL INFORMATION!**

Location for EMS: (address, intersection, ± mile marker, or landmark)

Medical personnel present: pass information to EMS, if requested.

WRITE DOWN MESSAGES before sending!

If alone on the course,

ASK people (runners and/or spectators) to:

[1] **keep an open space around the runner and**

[2] **flag down arriving medical crew.**

[3] **Do not move the runner. (OK if runner moves under own power.)**

TELL EMS WHAT YOU CAN SEE. NEVER GUESS. *"It looks as if ..."* is a guess.

See ANYTHING on this list: **EMERGENCY!**

[1] Not breathing or shallow breathing?
[2] Disoriented (don't know their name or date or where they are) or unconscious?
[3] Bleeding? From where?
[4] Nausea and vomiting?
[5] Skin: Pale, cold and sweaty or red, hot, and dry?
[6] Pupils in the eyes look different or are wide open?
[7] Significant pain? Where?
[8] Significant swelling? Where?
[Runner's or witness description of what happened.]

Tell EMS what you know. Don't guess.

**LISTEN AND FOLLOW MEDICAL INSTRUCTIONS AS BEST YOU CAN
UNTIL HELP ARRIVES!**

Stay with the runner until released by medical personnel.