

First Look Drill Prep

November 5, 2020
Jim Oberhofer KN6PE



Topics for tonight

1. Cupertino Department of Public Works
 - Situation
 - Areas of Interest
2. Looking for problems
 - Utility Poles
 - Roads
 - Bridges
3. Drill introduction – what's the plan?
 - Our 14 November scenario
 - Process
 - Message Passing



Where are we going with this?

Cupertino DPW, Service Center

- The Service Center is staffed by about 70 employees.

Streets Division

- 142 Center Lane Miles of Streets
- 9645 Traffic Related Signs
- 2200 Storm Drain Inlets
- 3200 Streetlights
- 480 Park/Parking Lot Lights
- Sidewalks, Curbs & Gutters

Grounds Division

- 19 Parks and Open Space Areas
- 9 Cupertino Union School District Athletic Fields for Youth Sports Programs
- Maintain All Playgrounds in Accordance with California Playground Safety Requirements
- Water Fowl Management
- Provide Support to Park and Community Services Programs

Trees and Right of Way Division

- Maintain 22117 Tree Assets
- 53.5 Acres of medians and ROW areas
- Coordinates with Streets Maintenance division on root inspections of effected trees
- Community outreach
- Tree planting events
- Median renovations

Facilities and Fleet Division

- 45 Buildings, 205,000 sq. ft.
- 102 vehicles, 600 pieces of equipment
- Blackberry Farms pool
- Civic Center fountains
- Small tenant improvement projects
- Fleet – maintenance operations, and Recreation and Community Services
- Facilities – Civic Center, Recreation & Community Services, and corporation yard.



The situation

Cupertino DPW, Service Center

- The Service Center is staffed by about 70 employees.
- *The best time for an earthquake* would be during the normal Service Center day shift when staffing is at its fullest.
- Staff commute times
 - 10-15 minutes for 26% of the close-in staff
 - ~20 minutes for 18%, and
 - ~30 minutes for 56%.
- For an *earthquake* after hours and weekends, the expectation is that Service Center employees will make every effort to report to work to help the city with its response, once their own situation at home is stable.
- Given that 74% of the staff resides at least 20 minutes away on a good traffic day and the extent of damage that city residents and staff may experience at home, it is possible that Service Center resources will not be immediately available to respond to the City.



After an earthquake...

The Goal

Ensure city-managed roads are open and accessible for Sheriff, Fire, and EMS responders.

Approach

Cupertino Citizen Corps performs an initial city-wide *windshield **access** survey* during the period immediately after an earthquake.

Objectives

- All 142 miles of City streets are visually inspected for access.
- Problem reports are submitted to jump-start the City's response and repair process as staff becomes available.

Areas of Interest

- Access to and from Fire Stations (SCCFD #71, #72, #77, SJC #15)
- Access to and from Hospitals (Kaiser on Homestead)
- Access on all major roads throughout the City
- Access over all I-280 and Rt 85 overpasses
- Access on all residential streets



Areas of Interest

Things that will inhibit access...

1. Utility pole/Street light/tree problems
2. Road problems
3. Bridge problems

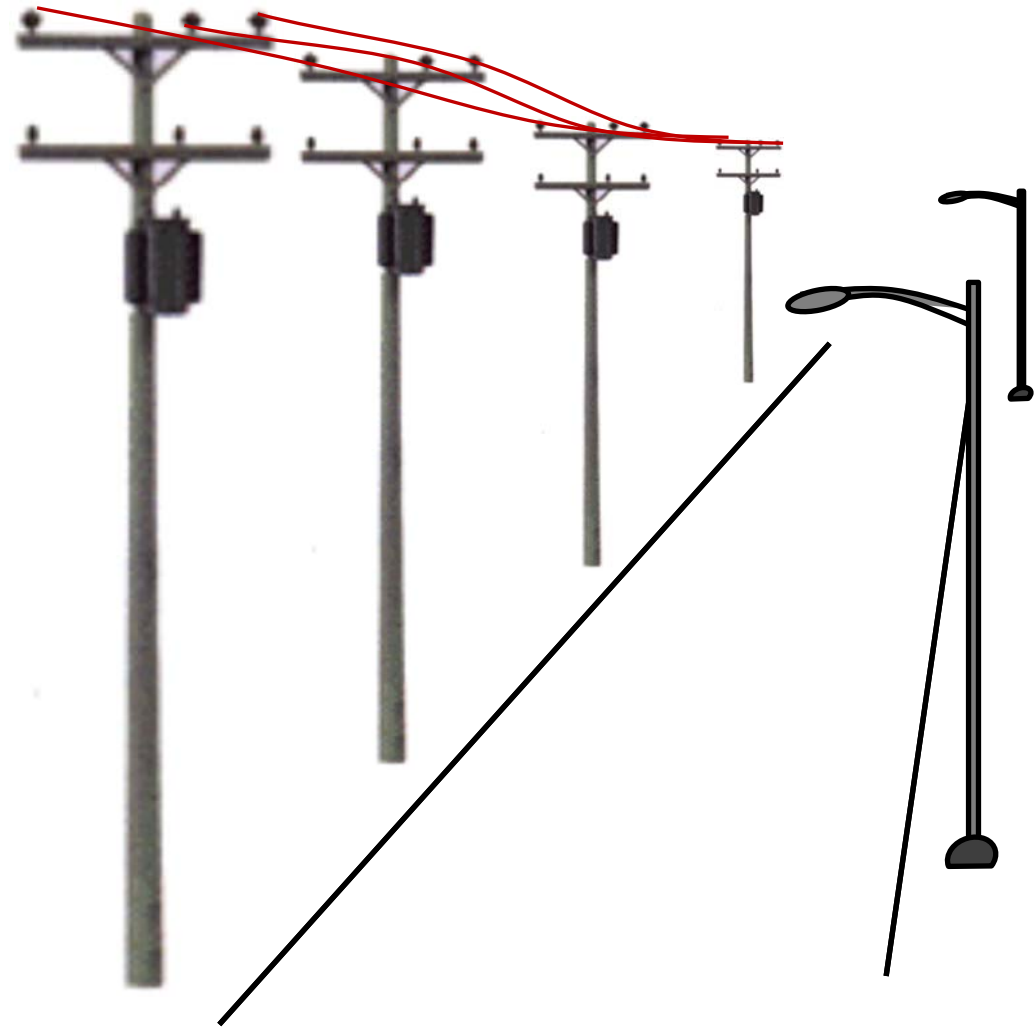


Utility Poles

Things to look for

Life is good!

- All power poles are upright.
- No wires on the ground.

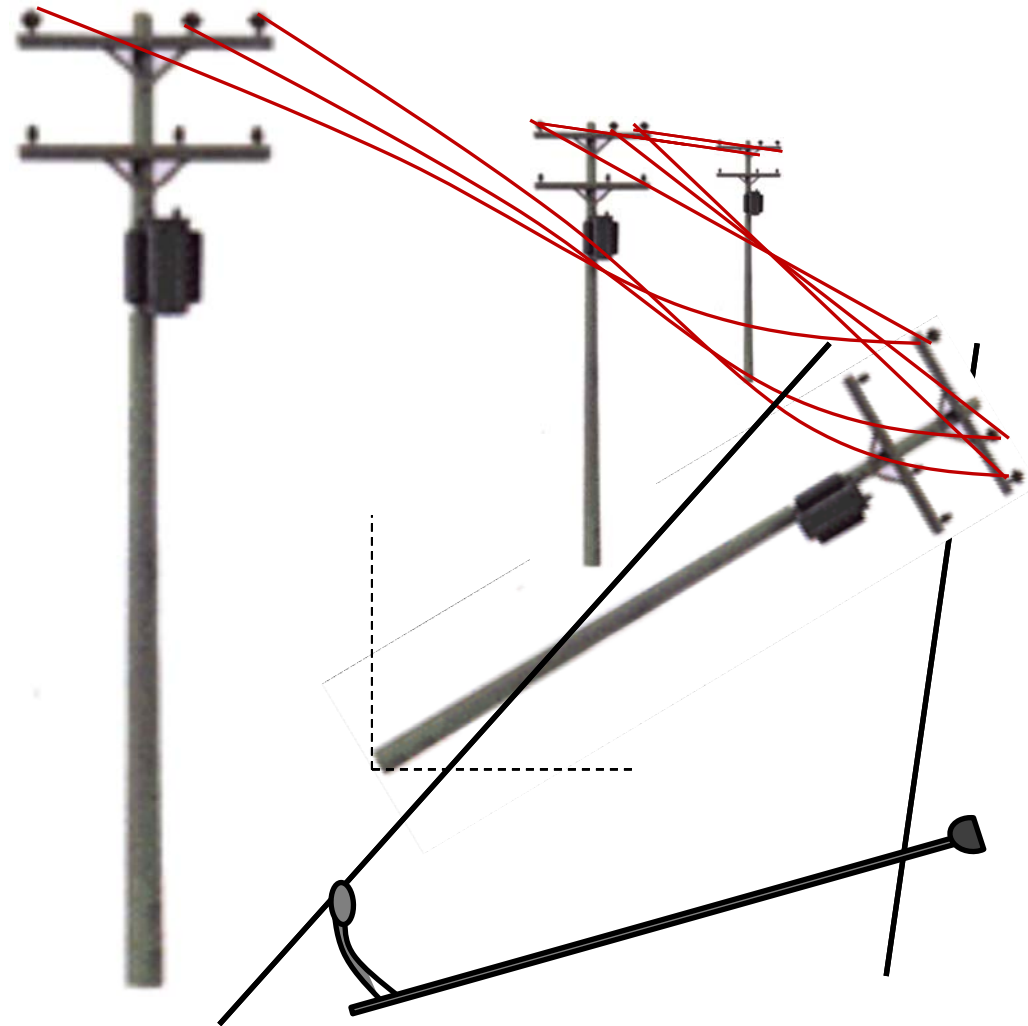


Utility Poles

Things to look for

Problems

- Utility poles are...
 - On the ground, or
 - at an angle off of the normal vertical alignment.
- Wires holding the pole from falling
- Wires in the streets
- Street lighting poles bent or on the ground



Anticipated local road damage

1. Extreme deformation of pavement
2. Sink holes (underground utility damage)
3. Damaged transitions to bridge abutments



Road deformations

Three kinds of stress to roads

- Tensional stress... stretches rock
- Compressional stress... squeezes rock
- Shear stress... slippage and translation



Road deformations

Compressional stress; squeezes
rock and roads



Road deformations

6.0 West Napa Earthquake, August 24, 2014

Shear stress; causes slippage.

“Afterslip” is the movement or “creeping” that takes place along a fault, including the trace of its surface rupture, after an earthquake.



Road deformations

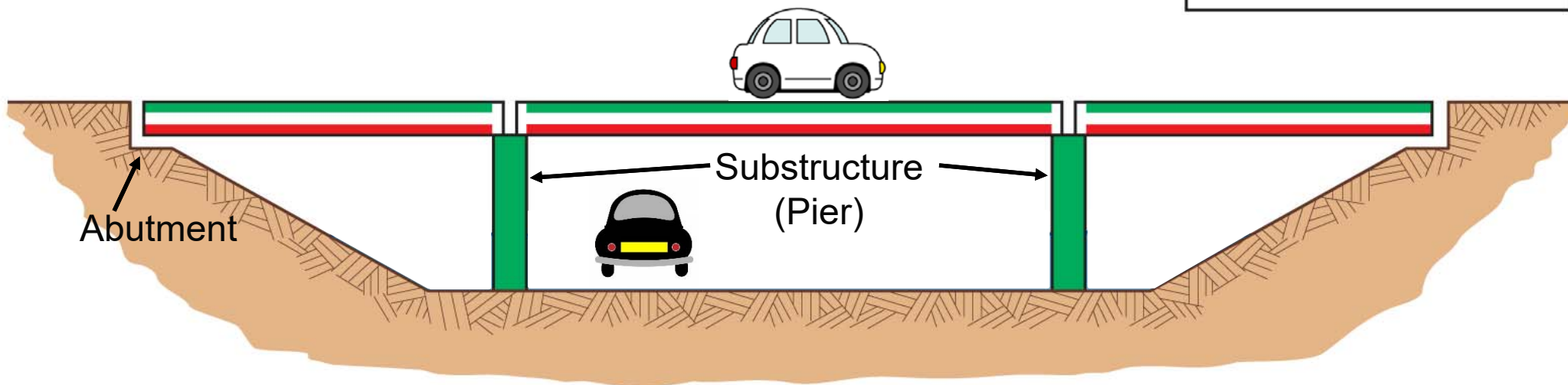
7.1 Ridgecrest Earthquake, July 5, 2019



Beam Bridges

All I-280 and Rt 85 overpasses are beam bridges.

- A beam carries vertical loads by bending.
- As the beam bridge bends, it undergoes horizontal compression on the top.
- At the same time, the bottom of the beam is subjected to horizontal tension.
- The supports carry the loads from the beam by compression vertically to the foundations.



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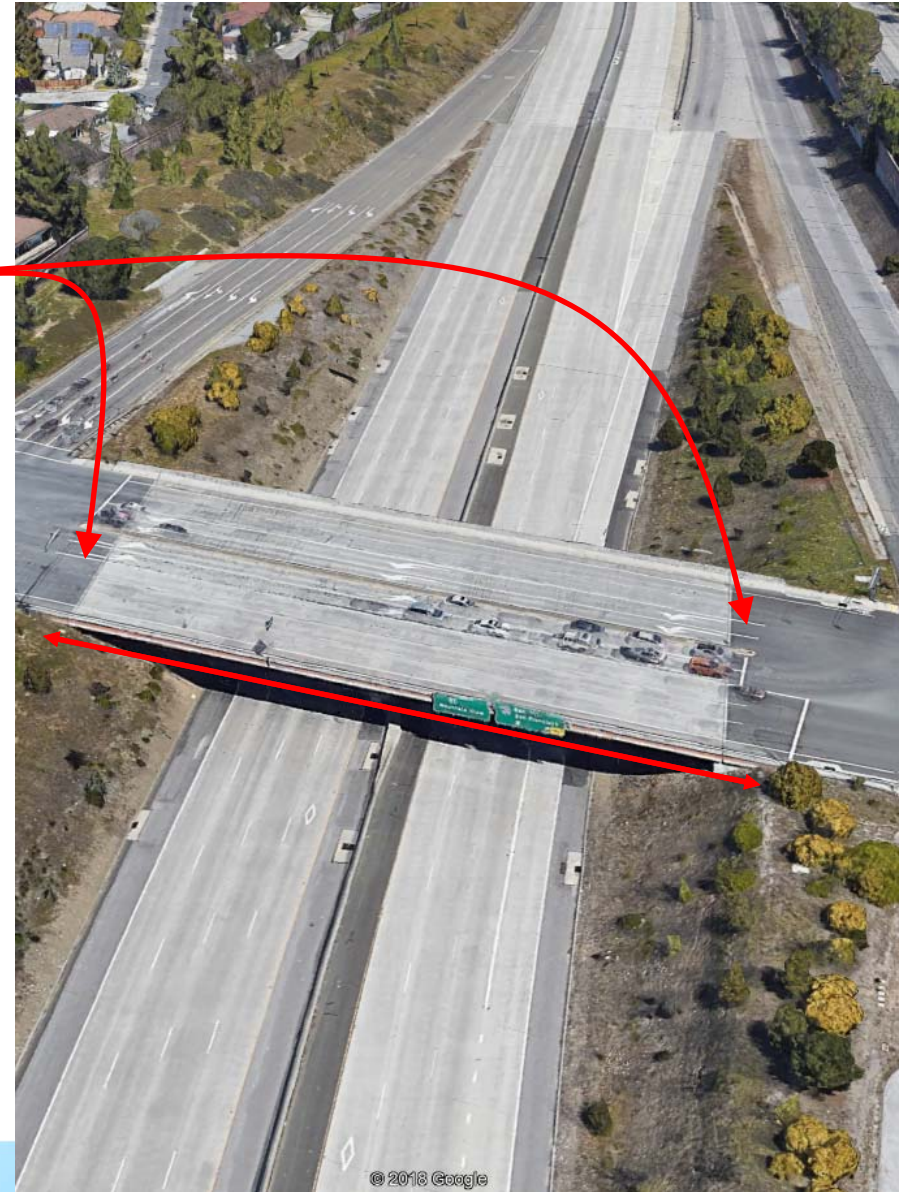
Bridge Damage - Road / bridge deck misalignment

Chilean 2010 earthquake



What to look for

1. Bridge is still standing
2. Subsidence where the road meets the bridge deck (abutment)
3. Road / bridge deck misalignment
4. Obvious cracks on the bridge deck



Drill Prep

1. Drill introduction – what's the plan?
2. Our 14 November scenario
3. Drill Objectives
4. Message Passing



2020 Earthquake

***** THIS IS DRILL TRAFFIC *****

14-Nov-2020; COVID-19 restrictions are still in place.

Saturday, 0600. Major earthquake shakes the Bay Area. This is considerable and from individual observations, there has been moderate damage. Fortunately, the timing of this resulted in almost no traffic on city streets.

0630, City Manager issues an proclamation of an emergency.



How do we do this?

How likely is this this kind of scenario?

How do we deal with a compound problem?

Our marching orders:

- Provide a first look at the state of the city by:
 - Mike-Mike Reports
 - Preliminary Safety Assessment
 - City streets Access Assessment (First Look, proposed)
 - Infrastructure Safety Assessment

Understanding the mix of things we need to do:

- Social distancing
- Field deployment
- Message passing
- Stay healthy

2020 Pandemic + First Look Exercise

14 Nov 2020

Objectives

1. Execute the response per the CCC IDR Plan protocols
2. Perform the First Look Area assessment
3. Report First Look Area findings to the DOC and DPW



2020 Pandemic + First Look Exercise

14 Nov 2020

Concept

This will be a communications Operational Exercise based on a scenario involving an earthquake during a pandemic.

1. This is a test of a new process to determine its value to Cupertino DPW.
2. The drill will occur over a 3-hour period on Saturday 14 Nov 2020.
3. CARES responders will deploy from their homes.
4. All IDR Plan protocols will be in effect.
5. No actual public interaction is planned.
6. Voice message traffic will be informal, and based on completion to a task, discovery of a problem, or a trigger from the assignment scenario.
7. This will be coordinated on standard CARES nets.
8. Field Responders will be deployed either with Home Buddies or as solo assignments.

Obj #1: Execute per the IDR Plan protocols

Highlights – CARES

Deployment activities involve operating a radio in the field to report observations or passing messages by radio on behalf of someone else; applies to Infrastructure Safety Assessment, Ember Watches, and Alt911 operations.

- A Safety Officer will be designated, either dedicated or in conjunction with other duties.
- Exercise social distancing between responders and the public at all times, except as strictly necessary to carry out a task associated with the response mission.
- **CCC members should recruit other household members as their Buddy.**
- **SS checks resource list for pre-identified members interested in single-person assignments.**
- Use two vehicles if two non-household responders respond to the same location.
- If you are not comfortable with your surroundings or assignment, let your supervisor know.



Obj #1: Execute per the IDR Plan protocols

... recruit other household members as your Buddy

What are your options?

1. Get them sworn in as a Cupertino DSW.
 - Coverage is good for 5 years.
 - Do it now before we need it! Contact Ken for sign-up details.
2. For driving assignments, do nothing.
 - They ride with you and are covered under your automobile insurance policy

... members interested in single-person assignments

1. These will be low risk assignments where you are deployed without a buddy.
2. You and the Shift Supervisor agree on this assignment.
3. You are not required to take a solo assignment.
4. Additional caution should be taken when deploying and operating alone.

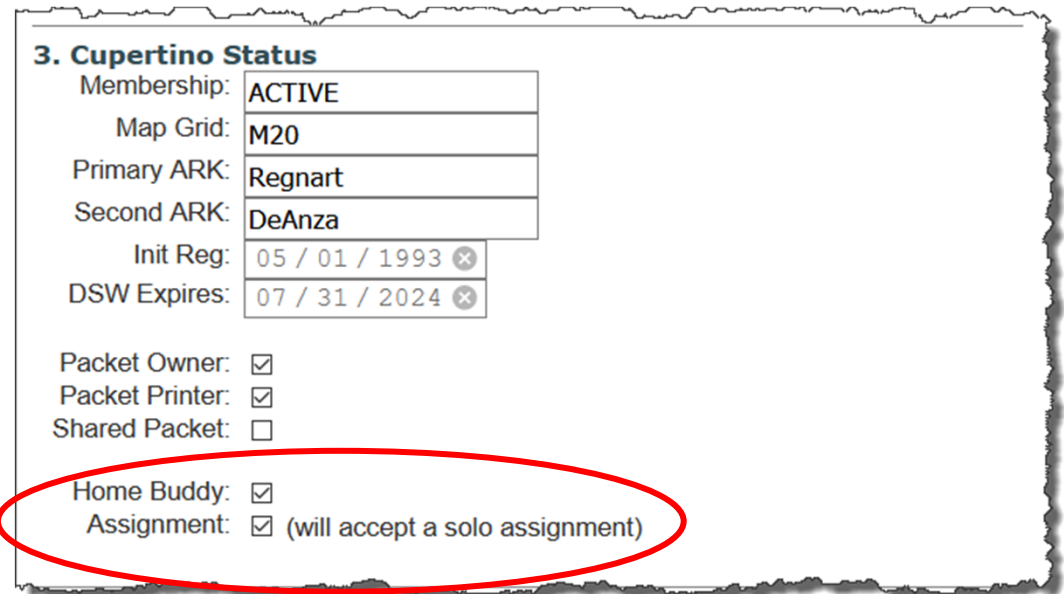


Obj #1: Execute per the IDR Plan protocols

Thanks for signing up!

If you haven't set your preferences,

1. Go to www.cupertinoares.org
2. Select **Member Log in**
 - first time logging in? press *Forgot my Password*, enter your call sign, and a temporary password will be emailed to you.
3. Once logged in, select [Update your settings](#)
4. Scroll down to section **3. Cupertino Status:**
 - Home Buddy: ☒ (yes, I have someone in my household who will be my buddy)
 - Assignment: ☒ (will accept a solo assignment)
5. If neither apply, leave these unchecked.
6. Then press **Update**



3. Cupertino Status

Membership:	ACTIVE
Map Grid:	M20
Primary ARK:	Regnart
Second ARK:	DeAnza
Init Reg:	05 / 01 / 1993
DSW Expires:	07 / 31 / 2024

Packet Owner: ☒
Packet Printer: ☒
Shared Packet: ☐
Home Buddy: ☒
Assignment: ☒ (will accept a solo assignment)



Obj #2: Perform the First Look Area assessment Process

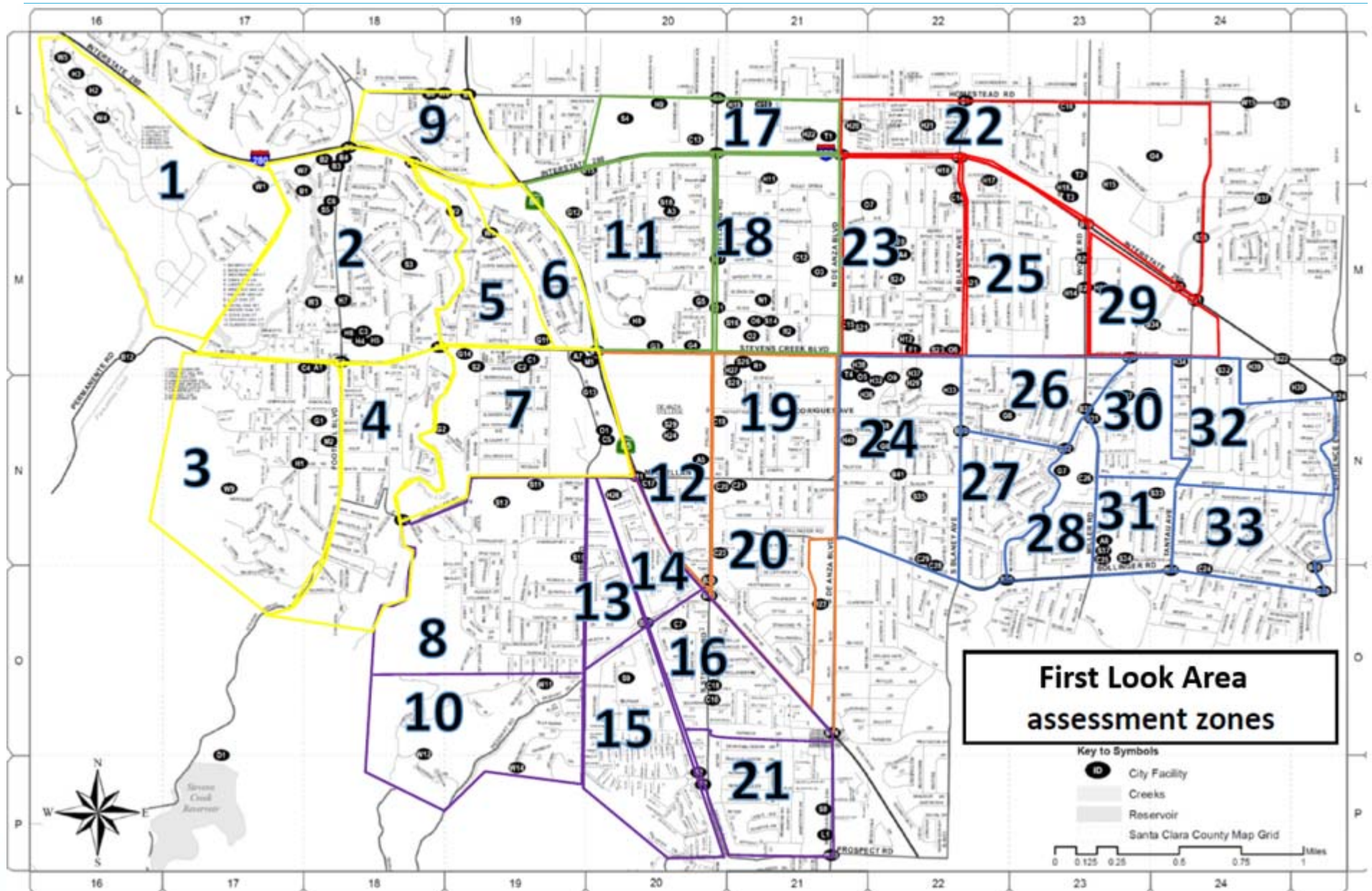
In general...

1. The First Look Area (FLA) Assessment is a process where Citizen Corps will inspect all 142 miles of Cupertino streets.
2. CCC divides the city into 6 ARK zones. The FLA Assessment process further divides the city into 33 *Areas*. Areas are different from the ARK door-to-door canvas areas.
3. The ***FLA Map Book*** contains the 33 area maps and is available to all CCC members.
4. When assigned an Area, the field responder pulls that map page.
5. Follow all standard message passing procedures.
6. The field responder reports to Net Control when they start an Area, with mileage.
7. When done; report percent covered and mileage. State if your Area streets are passable or there are access problems (trees down, landslides, roads blocked)
8. ***Report immediately*** any discovered life-threatening issues (down power wires, smoke, fires, gas leaks, etc.).



Obj #2: Perform the First Look Area assessment

Area Map Book

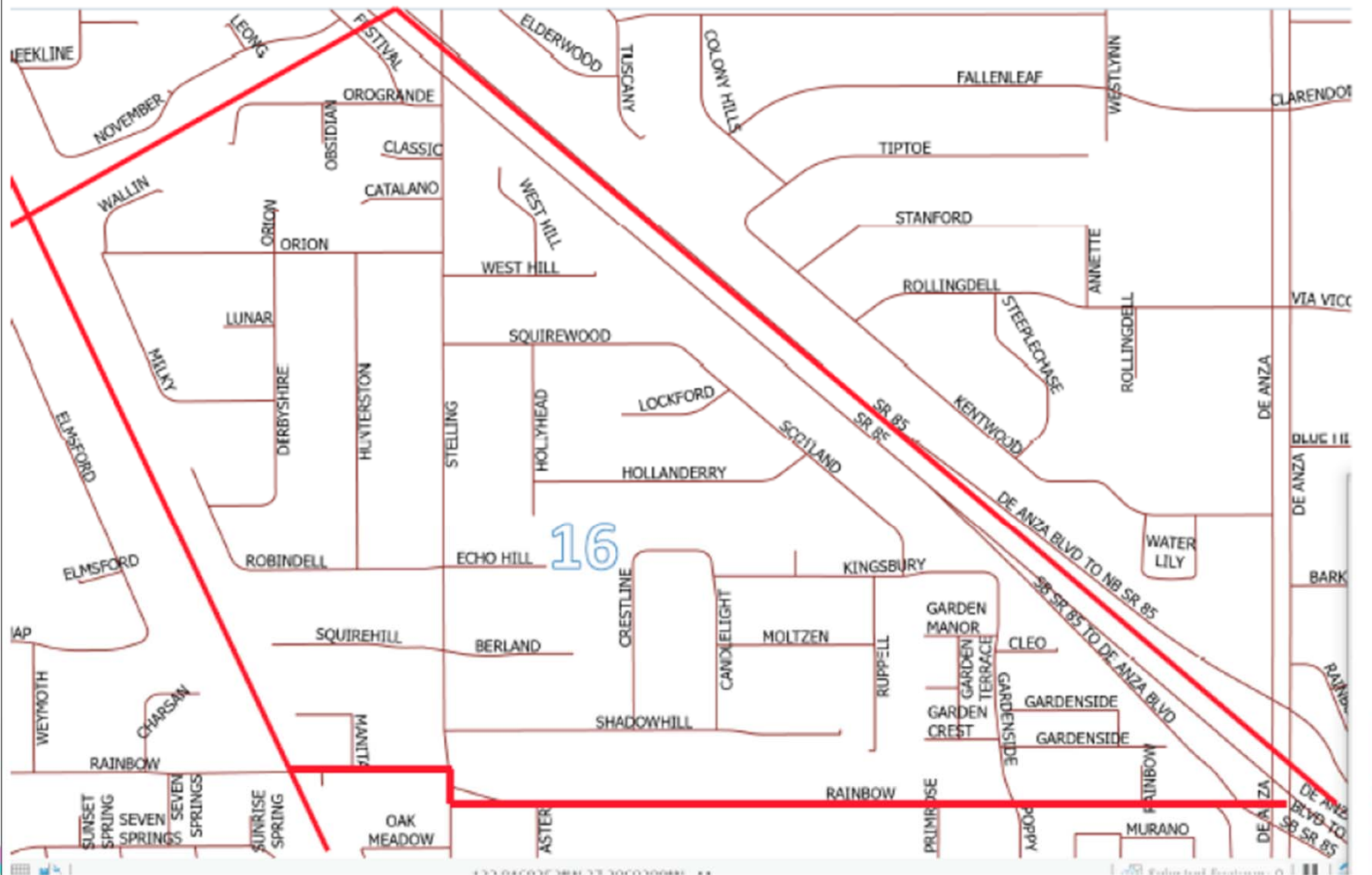


Obj #2: Perform the First Look Area assessment

Area Map Book

2.11 Zone 2 / Area 16

Name:	Activation #:	Date:
Assigned Area:		
Time/Start:	Stop:	Milage/Start: Stop:



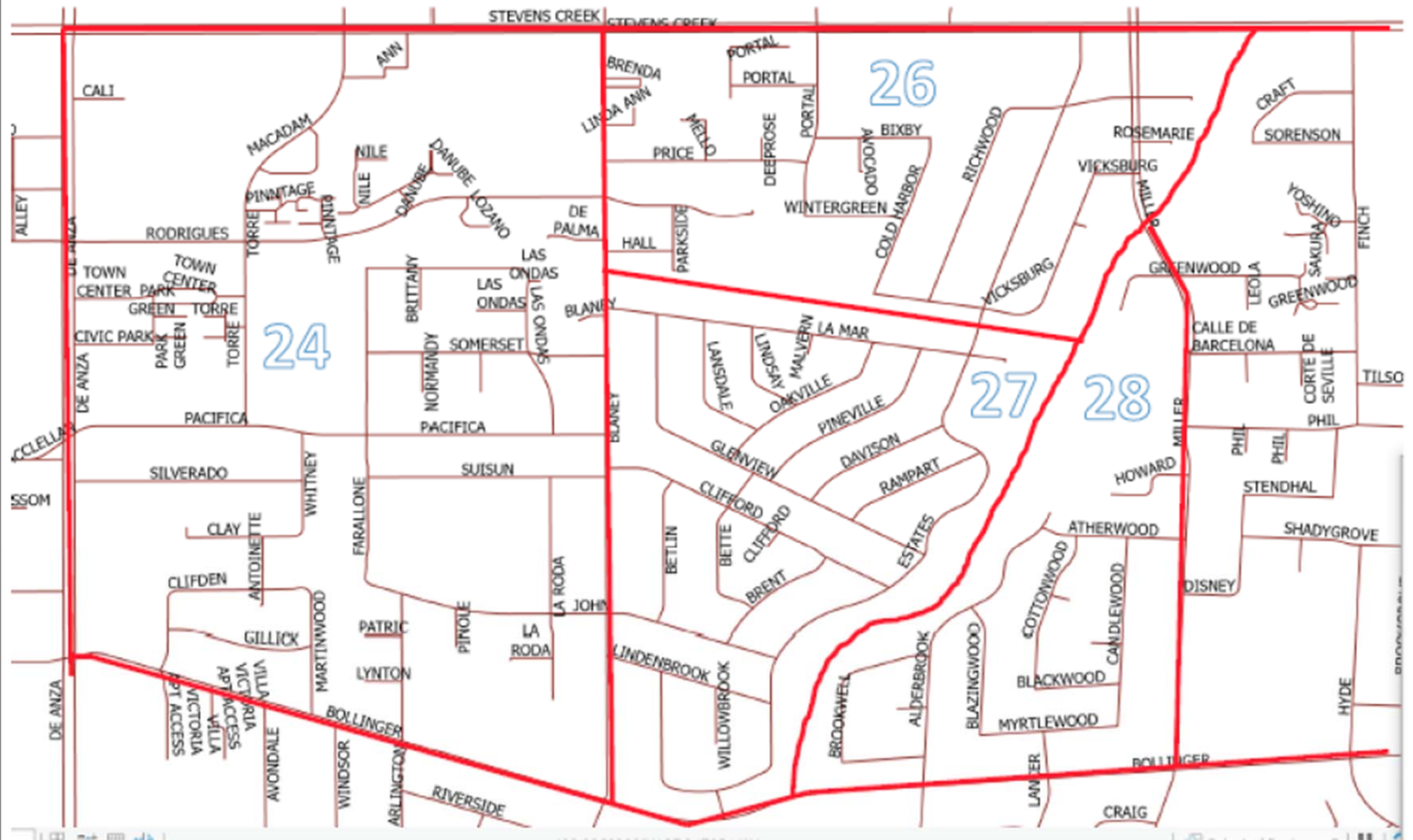
Notes, Problems

Obj #2: Perform the First Look Area assessment

Area Map Book

2.20 Zone 6 / Areas 24, 26, 27, 28

Name:	Activation #:	Date:
Assigned Area:		
Time/Start:	Stop:	Milage/Start: Stop:



Notes, Problems

Obj #2: Perform the First Look Area assessment Process

Specifically...

1. Check into the Resource Net.
 - Give your Mike-Mike report.
 - State your availability for a field assignment.
2. Shift supervisor will make FLA assignments to (per the IDR Protocol):
 - Members with built-in buddies
 - Members willing to take a solo assignment
 - Two individuals proceeding in separate vehicles
3. On receiving a FLA assignment, pull the **FLA Map Book** page for your assignment.
 - Your Tactical Call will be “Area ##”
 - Develop a rough plan to inspect area streets
 - Set up your mag mount or other external antenna on your vehicle
 - If you are driving with a buddy, decide who drives and who navigates
4. OK you are ready... tell net control you are checking out and moving to the Message Net.



Obj #2: Perform the First Look Area assessment Process

Specifically...

5. Check into the message net, and tell Net Control when you are start the assessment.
6. Inspect all streets within your assigned area. For side streets that are dead ends, as long as you can see all the way down the street to confirm it is drivable, there is no need to drive that street.
7. Drive each street and look for access problems:
 - Utility pole, Street lights, trees down
 - Road problems
 - Bridge problems
8. **Report immediately** any life-threatening or dangerous situations: power lines down, fires, smell of gas, etc.
9. **Report when completed** the assigned area
 - The FLA Area just surveyed, odometer, then either...
 - all roads are passable (an ambulance or fire apparatus can get through), or
 - One or more roads are not passable: poles or trees down, landslide, etc.
10. After reporting, check out of the message net and go back to the Resource net for another assignment (if you are available)



Marking the map

- ## Notes, Problems

Obj #3 Report your findings to the EOC

Making Reports

Starting an FLA Assessment

You: Net Control, KN6PE. Starting Area 15, Odometer 3 1 2. KN6PE

- or -

You: Net Control, KN6PE. Starting Area 15, by bicycle. KN6PE

NCS: KN6PE, Copy. Your tactical call is "AREA 15"

Completed an FLA Assessment

Net Control, AREA 15. Completed Area 15, Odometer 3 1 7. All roads passable. KN6PE

Completed an FLA Assessment, with problems

Net Control, AREA 15. Completed Area 15, Odometer 3 1 7. Problem #1: Tree blocking road at 1234 Rainbow Avenue. KN6PE

Not completed, discovered a life-threatening problem (what is it, location?)

You: Net Control, AREA 15, with EMERGENCY Traffic.

-- See the Handbook, Informational Messages!

KV6BC:	Net Control, <u>AREA 15</u> with <u>EMERGENCY Traffic</u> for the <u>EOC</u> .
NCS:	AREA 15 acknowledged. EOC, are you ready to copy traffic?
EOC:	EOC is ready.



Areas of Interest

Summary

1. Traffic control: lights flashing or totally out
2. Streets blocked or obstructed by fallen utility poles, street lights, trees
3. Utility poles leaning off of vertical (risk of falling)
4. Road deformations – bulges, cracks, sink holes
5. Bridges – visible damage
6. Unusual pot holes
7. Vertical or Horizontal land displacements
8. Water main, sewage main, storm drain breaks
9. Observed smoke, fires
10. Observed strong smell of gas



Field References

All field reference manuals are up on the CARES Website, here...

<https://www.cupertinoares.org>

- > Docs and References
 - > Field References
 - > Message Handling

Field Communications Operations Handbook

Cupertino ARES/RACES

December 2019



Final Review...



Cupertino ARES/RACES

Providing emergency and public service communications for the City of Cupertino, California

Welcome, Jim!

- Home**
- About us**
- Operations**
- Frequencies**
- Training**
- Exercises & Events**

Exercises

[Introduction](#) | [Activations](#) | [Exercises](#) | [Public Service Events](#) | [All Events](#)

CUP-20-40T, First Look Area Assessment

14 Nov 2020. CARES proposed an assessment of all roads within Cupertino with the intent to jump-start the DPW response effort with a list of already-identified problems.

[Exercise Plan](#) | [Process \(Draft\)](#) | [Map Book](#) | [Drill Prep](#) |



Timeline

Earthquake Exercise

Saturday, 14 November

- 0600 Simulated earthquake
- 0630 Simulated City Manager declares a state of emergency
- 0700 Retrieve C469, begin IDR setup at EOC
- 0830 Activate the Resource Net
- 0900 On-air briefing
- 0930 All assignments made
- 0945 Teams report area completions, simulated incidents. As teams complete an area, they may be offered another area to do
- 1100 End of Exercise, begin demob
- 1130 drop off your paperwork at the EOC by 11:30a, or scan/mail it to kn6pe@arrl.net by 15-November, 5:00pm
- 1200 Secure



Homework! What you can do now

1. Download and make a copy of the map book.
2. Buy a yellow highlighter if you do not have one.
3. Identify the 5 closest areas to your home.
4. Pick a couple of AREAs around where you live, and try driving them.
5. Think about and be ready to report **one** of the following:
 - No problems found
 - Tree blocking a street or similar access issue
 - Life-threatening problem



Thank you

Any Questions?

