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1969

Second Revision

TORNADO PLAN

Prepared by

The Office of Civil Defense and Emergency Planning

Polk County and Des Moines

June 1, 1969

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DES MOINES, IOWA

Tornado Observer Sites

TORNADO REPORTING NETWORK—POLK COUNTY AND DES MOINES, APRIL, 1969

Polk County

- 1 Clive (7)
- 2 Windsor Heights (9)
- 3 West Des Moines (6)
- 4 Walnut Woods (1)
- 5 Des Moines (42)
- 6 Ankeny (36)
- 7 Grimes (8)
- 8 Johnston (6)
- 9 Delaware Twp. (5)
- 10 Bondurant (3)
- 11 Altoona (2)
- 12 Mitchellville (2)
- 13 County Home (2)
- 14 Saylor Twp. (2)
- 15 Polk City (2)
- 16 Alleman (1)
- 17 Chichaqua (1)
- 18 Runnells (1)
- 19 Farrar (1)
- 20 Elkhart (1)
- 21 Urbandale (1)
- 22 Jester Park (1)

Warren County

- 23 Indianola (6)
- 24 Norwalk (2)
- 25 Martensdale (2)
- 26 Prole (2)
- 27 New Virginia (2)
- 28 Cumming (1)
- 29 Lake Ahquabi (1)
- 30 Ackworth (1)

Dallas County

- 31 Waukee (4)
- 32 Van Meter (4)
- 33 De Soto (1)
- 34 Adel (3)
- 35 Maffitt Reservoir (1)
- 36 Woodward (1)
- 37 Dexter (1)

Madison County

- 38 Winterset (8)
- 39 Earlham (2)
- 40 St. Charles (1)
- 41 Pammel State Park (1)
- 42 Truro (1)
- 43 Peru (1)
- 44 Hanley (1)

Guthrie County

- 45 Springbrook State Park (2)
- 46 Guthrie Center (1)
- 47 Casey (1)

Union County

- 48 Lorimor (1)
- 49 Green Valley State Park (1)
- 50 Creston (1)

Cass County

- 51 Lake Anita State Park (1)

Marion County

- 52 Pleasantville (1)
- 53 Knoxville (3)

Decatur County

- 54 Leon (1)

Story County

- 55 Maxwell (2)

Boone County

- 56 Ledges State Park (1)
- 57 Woodward State Hosp. (3)

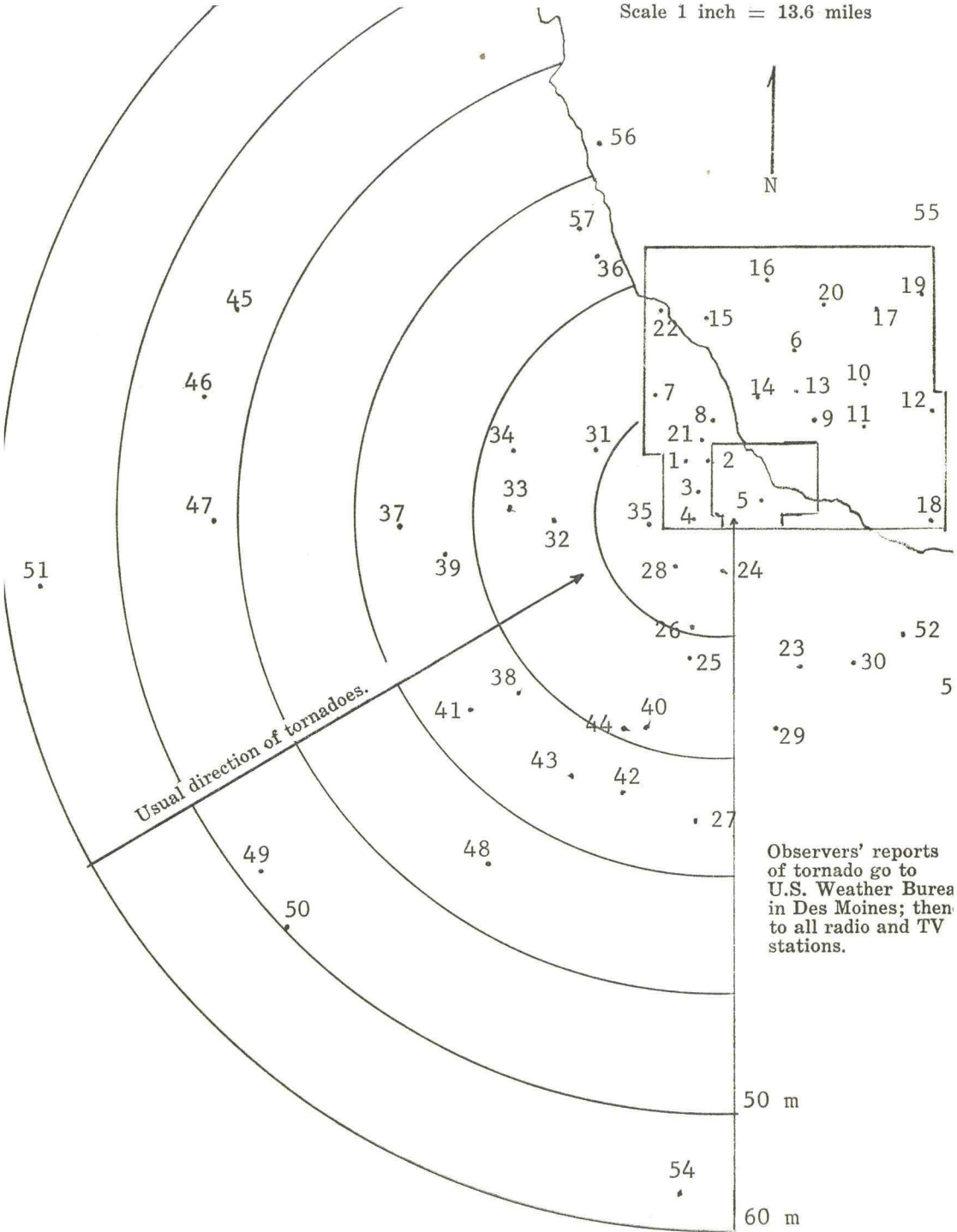
Figure to the left corresponds to number on sketch.

Figure in parenthesis is number of observers.

Total—57 sites & 206 observers.

TORNADO REPORTING NETWORK—POLK COUNTY AND DES MOINES, APRIL, 1969

Scale 1 inch = 13.6 miles



2. RECOMMENDATIONS FOR THE IOWA TORNADO SEASON

a. Trailer Courts

People living in trailers should locate a basement or other shelter ahead of time and obtain permission to go there in the event of a Tornado Warning.

b. Buildings With No Basements

People living or working in buildings that have no basements should locate shelter ahead of time and obtain permission to go there in the event of a Tornado Warning.

c. Keep Listening

When a Tornado Watch is announced by the U. S. Weather Bureau in Des Moines, keep listening on the radio or television set for a Tornado Warning.

d. Power Outage

In the event of a power outage during a Tornado Watch, use the radio in your car or a battery powered radio. Tune to station WHO-1040 or station KRNT-1350. These stations have auxiliary generators furnished by the Civil Defense program and are your Emergency Broadcast System stations.

e. Siren Signal

The siren signal for Polk County and Des Moines for a Tornado Warning is a five (5) minute steady blast on the Civil Defense warning sirens. This means take shelter immediately.

f. Dual System of Warning

For a tornado approaching Des Moines, the Weather Bureau will notify both the Police Dispatcher and the radio and television stations. Therefore people should obtain a Tornado Warning over the radio and from the sirens at about the same time.

g. Summary

There are five (5) ways to tell if a tornado is approaching:

1. Radio
2. Television
3. Warning sirens
4. Visual observation
5. By the sound—similar to the roar of airplanes

3. SAFETY OF SCHOOL CHILDREN

The following recommendations are made for the consideration of Superintendents of Schools for the tornado season:

- a. Tabulate critical and emergency telephone numbers throughout the school system.
- b. Disseminate emergency telephone numbers and important unlisted telephone numbers to key emergency personnel.

- c. Check battery powered radio receivers to see that they are in working order in each school. Replace batteries periodically.
- d. Insure that all television receivers are in working order.
- e. Assign responsibility for the dissemination of emergency messages from the school headquarters to all schools and to pertinent staff personnel.
- f. Insure that all schools have the capability of receiving, understanding, and taking appropriate action on an emergency message.
- g. Assign shelter areas for tornado. Do not use gymnasium, auditoriums, nor areas near windows.
- h. Establish procedures for "Tornado Watch" and "Tornado Warning."
- i. Establish procedures for the monitoring of radio and television receivers in each school during conditions of Tornado Watch and Tornado Warning.
- j. Establish procedures for school busses during conditions of Tornado Watch and Tornado Warning.
- k. During the month of May (the height of the tornado season), each school and each school headquarters should have one radio or television receiver on and monitored between the noon hour and the hour of dismissal.
- l. Review dismissal policies and procedures.

4. THE SAFEST PLACES TO TAKE SHELTER FROM A TORNADO

- a. Modern, steel reinforced office buildings
- b. Storm shelters
- c. Tunnels
- d. Root cellars
- e. Caves
- f. Subbasements
- g. Vaults
- h. Underground parking facilities
- i. Basements—southwest corner
- j. Interior corridors
- k. Culverts
- l. Fallout Shelters

Note: For information on the construction of a storm shelter, call the Office of Civil Defense, 283-4116.

5. UNSAFE PLACES TO TAKE SHELTER FROM A TORNADO

- a. Near windows
- b. Auditoriums
- c. Gymnasiums
- d. Structures with large, poorly supported roofs
- e. The upper stories of office buildings
- f. House trailers
- g. Parked vehicles
- h. Portable classrooms

6. INFORMING THE PUBLIC

Annually, during the months of April and May, all radio and television stations in Des Moines are requested to announce, at least once daily, that a five (5) minute steady blast on the warning sirens means a Tornado Warning—Take Shelter.

7. ACTION WHEN A TORNADO WATCH IS ANNOUNCED

When a "Tornado Watch" is announced by the Weather Bureau for Polk County:

- a. Radio and television announcers should carefully adhere to the phrase "Tornado Watch" and avoid the use of the word "warning."
- b. Tornado Reporting Network personnel watch to the southwest for a tornado funnel cloud.
- c. Town Marshals and Sheriff's reserve personnel should go on duty.
- d. Law enforcement personnel should watch to the southwest for the appearance of a tornado funnel cloud.
- e. If in session, all schools should be notified by the school headquarters of the announcement of a Tornado Watch.
- f. If schools are in session one person in each school should listen on the radio for weather information.
- g. The Tornado Watch should be announced over all law enforcement, industrial, and commercial radio systems.
- h. All Fire Department stations should be notified by the Fire Department Headquarters.
- i. Hospitals and rest homes should notify key personnel when a Tornado Watch is placed in effect.
- j. The public should listen on radio or television receivers for an announcement of a "Tornado Warning" or the announcement of the termination of the Tornado Watch.
- k. Radio-equipped weather watch teams should observe from high ground southwest of the City of Des Moines and within ten (10) miles of the Municipal Airport.
- l. Industrial plants post a lookout.

PART III

ACTION WHEN A TORNADO APPROACHES

1. Tornado Reporting Network personnel report approaching tornado to the U. S. Weather Bureau in Des Moines, telephone 515—284-4492. Alternate phone 284-4427.
2. Law enforcement personnel in contact with the Polk County Sheriff report sightings of a tornado to the dispatcher over channel 37.10 mc or telephone 284-6290.
3. The Polk County Sheriff's dispatcher will report tornadoes threatening Polk County to the Weather Bureau, telephone 284-4492.
4. The U. S. Weather Bureau in Des Moines issues a "TORNADO WARNING" to all radio and television stations.
5. All radio and television stations will repeatedly inform the public "TORNADO WARNING! TAKE SHELTER!"
6. The Weather Bureau notifies the Des Moines Police Dispatcher of the Tornado Warning.
7. The Police Dispatcher activates the warning sirens so as to sound a **five (5) minute steady tone**. Repeat as often as necessary.
8. The Polk County Sheriff's dispatcher will warn rural areas within Polk County of an approaching tornado by radio or telephone. (See Annex 1)
9. People in the affected area must occupy the best available shelter **immediately**.
10. Motorists who can see the funnel cloud should move away from the tornado's path at a right angle.
11. Hospitals and nursing homes move patients to basements or interior corridors.
12. Vacate the top floors of multi-story buildings.
13. Vacate exposed places such as towers, penthouses, and buildings of light frame construction.
14. Theater audiences should be advised to take shelter in the nearest basement area.
15. Police cars on the street warn the public to take shelter.

SPEED IS IMPORTANT DURING THIS PERIOD

PART IV

AFTER A TORNADO STRIKES

1. **DISASTER PLAN**
Activate the Polk County-Des Moines "Disaster Plan," dated January 1, 1969. Copy available from the Office of Civil Defense.
2. **PREVENT FIRE**
Turn off all electricity and gas in the damaged area.

3. SEARCH AND RESCUE

Under the direction of the cognizant Fire Department, augmented by volunteers.

4. FIRST AID

The following organizations must be prepared to render first aid:

	Telephone
Fire Department personnel, when possible.....	244-3212
Red Cross Disaster Action Teams.....	243-7681
Students, College of Osteopathic M&S (115).....	288-7241
Seventh Day Adventists Disaster Teams.....	277-2666
Red Cross Emergency First Aid Mobile Units.....	243-7681

5. ASSISTANCE TO TRIAGE TEAMS

Registered nurses of the following organizations will give disaster nursing assistance to Triage Teams:

	Telephone
Public Health Nursing Association..... (28)	283-4145
Public School Nurses..... (40)	284-7831
School of Practical Nursing..... (8)	288-2320
Civil Defense Nurses..... (22)	279-1696
<hr/>	
Total Nurses.....	98

6. ENGINEERING SUPPORT

Will be provided by:

	Telephone
Director of Public Works, City of Des Moines..... (R)	283-4276
County Engineer, Polk County Court House..... (R)	284-6250
Iowa Power and Light Co., 823 Walnut..... (R)	283-2611
Northwestern Bell Telephone Co., 604 9th Street..... (R)	281-6493
Des Moines Water Works, 10th and Locust Streets..... (R)	288-7751
Resident Engineer, State Highway Commission..... (R)	262-5692
Polk County Shops:	
Altoona..... (R)	967-4206
Johnston (Beaver Road)..... (R)	276-5820
Polk City..... (R)	984-6332
Mitchellville..... (R)	967-2891
Associated General Contractors of Iowa.....	244-6287

The coordinator for engineering support following a tornado will be the Director of Public Works, City of Des Moines.

(R) Indicates organization has radio control of vehicles.

7. INSPECTION OF DAMAGED STRUCTURES

The coordination of the program of inspection of damaged structures and facilities will be under the direction of the Building Inspection Services Director (telephone 283-4934), City of Des Moines. He will coordinate the efforts of the Central Iowa Chapter, Iowa Engineering Society and the Polk County Building Inspection Office (284-6023).

8. FEEDING

- a. By Salvation Army and Central Iowa Chapter, American Red Cross.
- b. All High Schools with cafeterias be ready to back up the above organizations in feeding, if necessary.

9. MEDICAL SUPPLIES—DISASTER HOSPITALS

	Telephone	Alternate
a. Coordination—City-County Health Dept., Argonne Armory, East 1st & Des Moines.....	283-4244	285-5860
b. 50-Bed Natural Disaster Hospital at Camp Dodge; call State Civil Defense Division, Lucas State Office Building.....	281-3411	281-3231
c. Medical Supplies in shelters (1125 medical kits); Civil Defense Office, City Hall.....	283-4116	283-4960
d. 100-Bed Hospital Reserve Disaster Inventory Unit at Veterans Hospital.....	284-4160	255-2173 X 211
e. U. S. Public Health Service Mobile Disaster Medical Teams; State Health Department.....	281-5439	281-5559
f. The 200-Bed, Packaged Disaster Hospitals stored nearest to Des Moines are shown below:		

	Distance
Old Power Plant, East Main Street, Ames.....	30 miles
Old Jail, 133 W. 2nd Street South, Newton.....	31 miles
Building No. 5, V. A. Hospital, Knoxville.....	39 miles

The authority of the State Civil Defense Division is required before the above hospitals could be moved to Des Moines. Telephone 281-3411, a 24-hour telephone.

10. WATER

- a. Water in filled water drums in shelters will be available, if required.
- b. The City of Des Moines will supply three (3) tank trucks.
- c. Local dairies and contractors are requested to make tank trucks available for temporary water supply.
- d. Water filling points are as follows:
Des Moines Water Works—Warehouse at Water Works plant on Fleur Drive. Open 24 hours a day. West Des Moines Water Works—Hydrant at Water Works Treatment Plant, 1505 Railroad, West Des Moines.

11. RECOVERY

The plan for the recovery phase following a tornado is as follows:

LOCAL GOVERNMENT	AMERICAN RED CROSS
Law enforcement	Food, clothing and maintenance
Public Health	Public Shelters
Sanitation	Repair or rebuilding of homes
Fire Protection	Furniture and other household necessities
Welfare Services	Medical and nursing care
Designation of hazardous areas	Hospitalization
Restoration of public property and facilities	Welfare inquiries
Salvage of unclaimed property	Occupational supplies and equipment

12. ADDITIONAL ASSISTANCE

The following assistance can be given the community after a tornado strikes and without waiting for a declaration of major disaster by the President of the United States:

	Telephone
Agricultural Loans: Farmers Home Administration, 105 East 1st Street, Ankeny.....	964-4770
Disaster Loans: Small Business Administration, Room 749, Federal Building.....	284-4422
Emergency Health and Sanitation: State Health Department, Lucas State Office Bldg.	281-5439
Livestock: ASCS Office, 105 East 1st Street, Ankeny.....	964-4295
Manpower: Iowa State Employment Service, East 1st & Des Moines Streets.....	243-7661
Medical: Veterans Administration, Room 981, Federal Building, Des Moines.....	284-4160
Storage of Household Effects: ASCS Office, 105 East 1st Street, Ankeny.....	964-4295
USDA Donated Foods: State Department of Social Welfare, Lucas State Office Bldg.	281-5982

13. MILITARY SUPPORT

Military support is available when all civilian resources have proven inadequate to handle the emergency caused by a tornado. The procedure for obtaining assistance by the Iowa National Guard is as follows:

- a. The Polk County Sheriff requests the Governor of Iowa to provide military assistance.
- b. The Governor, at his discretion, directs the Adjutant General to provide military assistance.
- c. The Adjutant General assigns appropriate units to assist Civil authorities in the recovery phase.

Charles R. Boyer
Director of Civil Defense
Polk County and Des Moines

APPROVED:

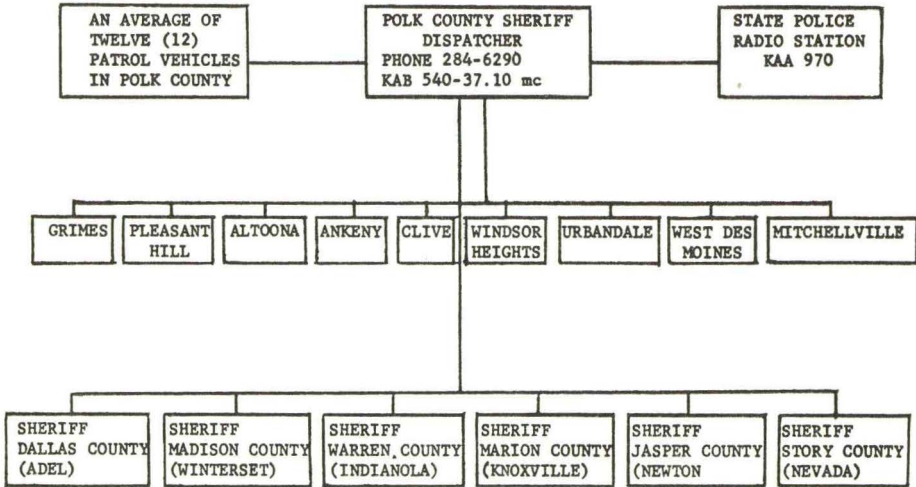
Tom Chenoweth
City Manager
Des Moines

APPROVED:

B. E. Newell
Chairman, Polk County
Municipal Civil Defense
Administration

ANNEX I

POLK COUNTY SHERIFF'S RADIO WARNING CAPABILITY FOR TORNADO



POLK COUNTY WARNING LIST

The following is the list of places which the Dispatcher, Polk County Sheriff's Office, will call in the event of a tornado warning or other perilous condition:

	Emergency Number	Alternate Numbers
West Des Moines	277-4458	277-4455
Urbandale	276-1541	276-1546
Windsor Heights	277-4453	
Ankeny	964-4334	964-4550
Altoona	244-3322	967-4239
Mitchellville	967-4606	967-2955
Grimes	986-3626	986-3081
Clive	274-0445	276-7311
Polk City	984-6228	984-6425
Pleasant Hill	243-2314	
Saylor Township	244-8611	
Bloomfield Township	285-2525	
Delaware Township	266-5251	
Johnston	276-6761	276-0190
Bondurant	967-2420	
Elkhart	1-367-3335	
Runnells	966-2264	966-2085
Sheldahl (Slater Fire Dept.)	1-685-4500	

ANNEX 2

ROSTER OF TORNADO REPORTING NETWORK PERSONNEL—1969

	Telephone
ACKWORTH (1)	
Ripperger, Robert C., Route #3, Indianola, Iowa 50125	961-4642
ADEL (3)	
Deford, George T., RFD 1, 50003	468-2303
Eldridge, Loren A., RR 2, 50003	468-2150
Williams, Mrs. Gertrude, RFD 1, 50003	468-2773
ALLEMAN (1)	
Betz, Randall M., 50007	689-2505
ALTOONA (2)	
Millhone, Everett, 50009	
White, Royden L., 602 4th Street, SE, 50009	(R) 967-4381
ANKENY (36)	
Adams, Bob, 302 E. Third, 50021	(R) 964-3184
Adams, Mrs. Bob, 302 E. Third, 50021	(R) 964-3184
Adams, Lee, 302 E. Third, 50021	(R) 964-3185
Case, Jim, 1784 N.E. 70th Avenue, 50021	(R) 265-2472
Case, Mrs. Jim, 1784 N.E. 70th Avenue, 50021	(R) 265-2472
Cerfogli, Leo, RR 1, 50021	(R) 262-3904
Cerfogli, Mrs. Leo, RR 1, 50021	(R) 262-3904
Cory, Doc, 514 W. Southlawn Drive, 50021	(R) 964-4722
Cory, Mrs. Doc, 514 W. Southlawn Drive, 50021	(R) 964-4722
Frank, Terry, 6829 N.W. 5th Court, Des Moines, 50313	(R) 282-8585
Frank, Mrs. Terry, 6829 N.W. 5th Court, Des Moines, 50313	(R) 282-8585
Furnas, Jim, RR, Maxwell, Iowa 50161	(R) 387-5975
Furnas, Mrs. Jim, RR, Maxwell, Iowa 50161	(R) 387-5975
Gustin, Bob, 708 4th Street, 50021	(R) 964-4129
Gustin, Mrs. Bob, 708 4th Street, 50021	(R) 964-4129
Hildreth, Billy Joe, RR 1, 50021	(R) 964-4934
Hildreth, Glenn, RR 1, 50021	(R) 964-4934
Hildreth, Mrs. Glenn, RR 1, 50021	(R) 964-4934
Hutton, Mike, 500 Southlawn Drive, 50021	(R) 964-3058
Hutton, Mrs. Mike, 500 Southlawn Drive, 50021	(R) 964-3058
Jarvis, John H., 305 E. 4th Street, 50021	(R) 964-4087
Johnson, Duane, RR 1, 50021	(R) 964-3225
Johnson, Mrs. Duane, RR 1, 50021	(R) 964-3225
Kline, Wayne, 1408 K Avenue, Nevada, Iowa 50201	(R) 382-4485
Kline, Mrs. Wayne, 1408 K Avenue, Nevada, Iowa, 50201	(R) 382-4485
Reese, Jim, 214 Oak Lane, 50021	(R) 964-3143
Reese, Mrs. Jim, 214 Oak Lane, 50021	(R) 964-3143
Severin, John F., 513 Cherry, 50021	(R) 964-0413
Siebert, John, RR, Bondurant, Iowa, 50035	(R)
Siebert, Mrs. John, RR, Bondurant, Iowa 50035	(R)
Stackhouse, Bob, 410 Westlawn Drive, 50021	(R) 964-3416
Stackhouse, Mrs. Bob, 410 Westlawn Drive, 50021	(R) 964-3416
Staymates, John G., 201 Scott Street, 50021	(R) 964-4723
Staymates, Mrs. John G., 201 Scott Street, 50021	(R) 964-4723
Wartburg, Harold, RR 1, Cambridge, Iowa, 50046	(R) 367-3267
Wartburg, Mrs. Harold, RR 1, Cambridge, Iowa, 50046	397-3267
BONDURANT (3)	
Ault, Ori, 50035	(R) 967-2178
Collman, Hersal W., 50035	967-2245
Lord, Mrs. George, 50035	967-2173

CASEY (1)

Lemke, Louis E., DeSoto, Iowa, 50069..... (R) 746-2608

CHICHAQUA WILDLIFE HABITAT (1)

Wristen, Robert, Maxwell, Iowa, 50161..... (R) 967-2537

CLIVE (7)

Fardal, J. A., American Oil Co., P.O. Box 1516, Des Moines 50306 255-1101

Fariday, Wayne B., American Oil Co.,
P.O. Box 1516, Des Moines, 50306..... 255-1101

Losee, Lester H., American Oil Co.,
P.O. Box 1516, Des Moines, 50306..... 255-1101

Mills, Ted V., American Oil Co.,
P.O. Box 1516, Des Moines, 50306..... 255-1101

Richey, Merlyn R., American Oil Co.,
P.O. Box 1516, Des Moines, 50306..... 255-1101

Wiese, Merle H., American Oil Co.,
P.O. Box 1516, Des Moines, 50306..... 255-1101

Wilson, Henry A., American Oil Co.,
P.O. Box 1516, Des Moines, 50306..... 255-1101

COUNTY HOME (2)

Lewis, Mrs. Jeanne, East 14th & Hobson Drive, Des Moines, 50313 266-1145

Trail, Miles, 355 Plainview Drive, Des Moines, 50313 288-5055

CRESTON (1)

Tilley, Archie, Jr., 1101 Orchard Drive, 50801..... (R) 782-5068

CUMMING (1)

Hanrahan, Larry, 50061..... 963-4692

DELAWARE TWP. (5)

Adams, John W., 4506 N.E. 19th Ave., Des Moines, 50317..... 262-7636

Anderson, Mrs. Beverly, 2820 N.E. 52nd Court, Des Moines, 50317 262-0095

Garner, Mrs. Elaine, 2650 N.E. 51st Court, Des Moines, 50317 262-0483

Gerhard, Clemens J., 2040 N.E. 45th Court, Des Moines, 50317 266-8060

Hollowell, Mrs. Mary, 2560 N.E. 53rd Court, Des Moines, 50317 266-9411

DES MOINES (42)

Baker, Richard M., Jr., 4385 N.E. 27th Street, 50317..... (R) 262-4153

Barney, Clayton, 2938 Garfield, 50317..... (R)

Bohall, John P., 1802 E. 32nd, 50317..... 262-1845

Butler, Lynn, 685 19th Street, 50314..... 243-6098

Churchill, Dean C., 801 N.W. 45th Place, 50313..... (R) 243-4710

Churchill, Mrs. Dean C., 801 N.W. 45th Place, 50313..... (R) 243-4710

Cox, William G., 4950 N.W. 47th Ave., 50323..... (R) 276-0153

Doggett, Jack L., 8060 Dema Drive, 50315..... (R) 285-2587

Doggett, Mrs. Jack L., 8060 Dema Drive, 50315..... (R) 285-2587

Elgin, Bob, Zoo, 7401 S.W. 9th Street, 50315..... 285-3611

Gusfield, Jeff, 1215 30th Street, 50311..... 271-3283

Hansen, Steve, 1234 7th Street, 50314..... 282-0046

Hesseltine, Ted, 3829 E. 42nd Street, 50317..... (R) 265-0956

Hesseltine, Mrs. Ted, 3829 E. 42nd Street, 50317..... (R) 265-0956

Huff, Lloyd, 2604 37th Street, 50310..... (R) 277-9233

Last, Earnest R., 7207 S.W. 12th, 50315..... 285-3819

Martin, Ray, 4147 College, 50311..... (R) 265-1614

McKinney, Jay, 3941 30th Street, 50310..... (R) 279-3710

Morine, Robert J., 1407 Burnham, 50315..... 285-4341

Norton, Charles D., 4335 Easton Blvd., 50317..... (R) 265-0985

Norton, Mrs. Charles D., 4335 Easton Blvd., 50317..... (R) 265-0985

Pittman, Ralph T., 3812 Easton Blvd., 50317..... (R) 265-1584

Propstein, Morey, 2325 East Grand, 50317..... (R) 265-3909

Propstein, Mrs. Morey, 2325 East Grand, 50317..... (R) 265-3909

Reed, Clarence E., 3420 S.W. 7th Street, 50315	(R)	244-8390
Reed, Mrs. Clarence E., 3420 S.W. 7th Street, 50315	(R)	244-8390
Reed, Charles E., 3420 S.W. 7th Street, 50315		244-8390
Reseland, Dave A., 658 45th Street, 50312	(R)	279-9201
Reseland, Mrs. Dave A., 658 45th Street, 50312	(R)	279-9201
Ritchhart, Frank L., 1010 Euclid, 50313		244-9742
Rowzer, Charles L., 1609 61st Street, 50322		274-3054
Rusher, Lester F., 125 S.E. 34th Street, 50317		262-4654
Russell, Wesley, 4809 55th Street, 50323		
Schnoor, Glen O., 719 34th, 50312		255-2433
Spohr, Edward W., 1721 Mondamin, 50314		282-1919
Stout, Richard, 2320 Dean Avenue, 50317		
VanSickle, Don C., 1341 E. 14th Street, 50316	(R)	262-5708
Winterberg, Gary, 1905 E. 32nd Street, 50317	(R)	266-1684
Winters, Charles, 3124 E. Clinton, 50317		266-3629
Winters, Mrs. Charles, 3124 E. Clinton, 50317		266-3629
Woodyard, Jim, 3916 3rd Street, 50313		288-0306
Woodyard, Mike, 3916 3rd Street, 50313		288-0306

DE SOTO (1)

Riley, Mrs. L. H., Van Meter, Iowa, 50261		834-2547
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DEXTER (1)

Feller, Jack, Box 53, 50070	(R)	
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EARLHAM (2)

Mills, Dale, RR 2, 50072		758-2365
Patience, Herb, RR 1, 50072		758-2334

ELKHART (1)

Snyder, Richard A., c/o Nelson Farm, Cambridge, Iowa, 50046		597-2240
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FARRAR (1)

Denton, Bert, Farrar Rural Station, Maxwell, Iowa, 50161		387-4203
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GREEN VALLEY STATE PARK (1)

Ripperger, John P., Creston, Iowa, 50801		462-2188
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GRIMES (8)

Patterson, Keith, 50111		986-3059
Paulson, Charles, 50111	(R)	986-3056
Paulson, Mrs. Charles, 50111	(R)	986-3056
Paulson, Larry Dean, 50111		986-3056
Peitzman, Clarence, 50111		986-3065
Savage, Joseph	(R)	986-3643
Savage, Mrs. Joseph	(R)	986-3643
Savage, Joe		986-3643

GUTHRIE CENTER (1)

Ray, Marlowe, 509 North 12th Street, 50115	(R)	747-3002
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HANLEY (1)

Collins, Mrs. Clifford, St. Charles, Iowa, 50240		396-6535
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INDIANOLA (6)

Chandler, Warren W., Route 4, 50125		961-2917
Curnes, Merl J., 404 N. H, 50125	(R)	961-4198
Harris, Glen, 602 South 3rd Street, 50125	(R)	961-3360
Heskett, Clarence L., Box 264, 50125		961-2414
Knouse, Newton, 801 E. 1st Street, 50125	(R)	961-4082
Putz, Gerald F., 110 North H Street, 50125		961-5239

JESTER PARK (1)

Heidman, Howard, Granger, Iowa, 50109	(R)	969-2212
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JOHNSTON (6)

Broadie, Carroll E., 5705 N.W. 57th Avenue, 50131	276-0190
Herrick, Oburn E., Johnston School, 50131	276-1150
O'Leary, Doyle F., 6602 N.W. 62nd Avenue, Des Moines, 50324	276-0771
Sims, Jack P., P.O. Box 172, 50131	276-1150
Sorenson, George H., 5920 Merle Hay, Des Moines, 50323	276-2618
Spurlin, Ronald, Johnston School, 50131	276-1150

KNOXVILLE (3)

Conrey, Harold W., 714 W. South Street, 50138	842-3219
Bellon, Mike, 710 W. South Street, 50138	842-4363
Bellon, Randy, 710 W. South Street, 50138	842-4363

LAKE AHQUABI (1)

Kaiser, Craig, Indianola, Iowa 50125	961-3822
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LAKE ANITA STATE PARK (1)

Van Horn, Larry, Anita, Iowa, 50020	AC 712-58
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LEDGES STATE PARK (1)

Pudwill, Don, Route 1, Madrid, Iowa, 50156	432-2730
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LEON (1)

Spohnheimer, c/o Leon Journal, 50144	446-4151
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LORIMOR (1)

Kirk, Richard M., 50149	2721
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MAFFITT RESERVOIR (1)

Landholt, John F., RD 2, Cumming, Iowa, 500661	285-4373
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MARTENSDALE (2)

Judkins, Theo M., 50160	(R)	764-2485
Smith, Howard, 50160	(R)	764-2731

MAXWELL (2)

Huggins, Lowell W., RR, 50161	(R)	387-3605
Huggins, Mrs. Lowell W., 50161	(R)	387-3605

MITCHELLVILLE (2)

Ault, Ray, 208 6th Street, N.W., 50169	967-3183
Reed, Edgar B., RR, 50169	967-2081

NEW VIRGINIA (2)

Carsen, Charles D., 50210	449-3670
Fullmer, E. J., 50210	449-3726

NORWALK (2)

Delles, Paul, 50211	963-4686
Veak, Mrs. Richard, 50211	963-0385

PAMMEL STATE PARK (1)

Ripperger, Herman J., Winterset, Iowa, 50273	462-2188
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PERU (1)

Algoe, John, 50222	
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PLEASANTVILLE (1)

White, Jimmie D., RR #1, 50225	(R)	848-5601
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POLK CITY (2)

Alleman, Mrs. Howard, RD 1, 50226	687-2267
Childs, Mrs. Nathaniel, 50226	984-6022

PROLE (2)		
Harpole, Mrs. Irma, 50229	.....	462-4638
Pack, Mrs. Roy, Jr., RR #1, 50229	.....	462-4529
RUNNELLS (1)		
Daniels, Charles, Route 2, 50237	.....	265-1192
ST. CHARLES (1)		
Hope, Eldon C., 50240	.....	396-7465
SAYLOR TWP. (2)		
Bergsma, Miss Nancy, 4285 N.W. 6th Drive, Des Moines, 50313	.....	282-2774
Turpin, Birks, 6319 59th St. Court, Des Moines, 50324	.....	276-5296
SPRINGBROOK STATE PARK (2)		
Middleton, Harold, Guthrie Center, Iowa, 50115	.....	747-5391
Partridge, Wayne, Guthrie Center, Iowa, 50115	.....	747-5391
TRURO (1)		
Youmans, Gene, 50257	.....	765-4236
URBANDALE (1)		
DeWolfe, Dave, 3106 Mary Lynn Drive, 50322	.....	276-5629
VAN METER (4)		
Beeler, Mrs. Bill, RR 1, 50261	.....	996-2073
Marquardt, Walter, 50261	.....	996-2455
Nelson, Dennis A., Wilson Street, 50261	..... (R)	996-2455
Young, Donald W., 50261	.....	996-2536
WALNUT WOODS STATE PARK (1)		
Park Officer, Des Moines, 50315	.....	285-4502
WAUKEE (4)		
Applegate, Robert, 720 Walnut, 50263	..... (R)	987-4076
Clark, Raymond C., Route 1, 50263	.....	987-4328
Inman, Richard, 410 South School St., 50263	..... (R)	984-4078
Kramer, George, 430 South School St., 50263	.....	987-4778
WEST DES MOINES (6)		
Baker, Lyle, RR #1, 50265	.....	274-2933
Casady, Robert, 1306 State Farm Rd., 50265	.....	279-0514
Hines, Richard A., 609 33rd Street, 50265	.....	274-1092
Hines, Mrs. Richard A., 609 33rd Street, 50265	.....	274-1092
Ireland, William, Box 37, 50265	.....	987-4271
Reindel, Mrs. J. A., 5616 Ashworth Road, 50265	.....	274-1047
WINDSOR HEIGHTS (9)		
Bartholomew, A. A., 6519 Center St., 50312	..... (R)	274-3076
Braucht, William, Jr., 500 5th St., West Des Moines, 50265	.....	279-0552
Burris, Robert, 1214 68th Street, 50311	.....	279-6926
Lipson, Allen, 1816 73rd Street, 50322	.....	276-7354
Miller, Donald H., 2130 70th Street, 50322	.....	276-8172
Northup, Thomas, 7703 Hickman Rd., Apt. 13, 50322	.....	276-4606
Silcott, James R., 1314 65th Street, 50311	.....	255-1742
Tasler, John J., Perry, Iowa, 50220	.....	276-0932
Trapp, Willard, 1249 78th Street, 50311	.....	277-8752
WINTERSET (8)		
Boyce, Daniel, RR #4, 50273	.....	462-1340
Drake, Mrs. George, RR 2, 50273	.....	462-3372
Johnston, Donald, 610 E. Benton St., 50273	.....	462-2453
Payne, Kenneth, RR 2, 50273	.....	462-4281
Songer, Mrs. LeRoy, 504 W. Washington, 50273	.....	462-4412

Stuchel, Hank, 23 E. Lane, 50273.....	462-4152
Taylor, Mrs. Douglas, RR 4, 50273.....	462-3881
Williams, Gerald E., 309 West Lane, 50273.....	462-2531

WOODWARD (1)

Harney, Edward, RR 1, 50276.....	438-2742
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WOODWARD STATE HOSPITAL (3)

Chew, Carrol, Woodward, Iowa, 50276.....	438-2600
Eakle, Bob, Woodward, Iowa, 50276.....	438-2600
Mulcahy, Max, Woodward, Iowa 50276.....	438-2600

Total names	206
Total sites	57
Counties with observers.....	11

(R)—Indicates two-way radio equipment

ANNEX 3

REFERENCES

- a. "Tornadoes of the United States," Snowden D. Flora, 1953.
- b. "Iowa Tornadoes," Spohn and Waite, 1962.
- c. "Tornadoes," Environmental Science Services Administration, U. S. Department of Commerce, 1967.
- d. "Federal Disaster Relief Manual," Revised Edition, 1963.
- e. "Disaster Plan," Polk County and Des Moines, Office of Civil Defense and Emergency Planning, January 1, 1969.
- f. "Power Outage," Office of Civil Defense and Emergency Planning, Polk County and Des Moines, March 1, 1969.
- g. "The Role of Medicine for Emergency Preparedness," Emergency Health Series, I-8, Department of Health, Education and Welfare, 1968.
- h. "Now's the Time to Prepare for Hurricanes," Factory Management and Maintenance, McGraw-Hill Publishing Co., August, 1956.
- i. "Protection of Vital Records," FG-F-3.7, Department of Defense, Office of Civil Defense, July, 1966.
- j. "Tornado Rehabilitation," Iowa State University, February, 1969.
- k. "Tornado Preparedness Planning," U. S. Department of Commerce, Environmental Science Services Administration, Weather Bureau, March, 1968.

FILM

Two (2) copies of the film "Tornado," produced by the Environmental Science Services Administration, are available for use by local organizations. Call the Office of Civil Defense, City Hall, East 1st and Locust Streets, Des Moines, Iowa 50309. Telephone 283-4116.

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