

Monterey Dunes Colony Association

Emergency Manual

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By

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General Manager

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1.00 Purpose

- 1.1 This Emergency Manual was originally developed in 1984 to outline basic procedures for protecting colony residents and property when emergency conditions threaten or actually occur. The colony is located in an area subject to earthquakes, coastal storms, flooding from nearby waterways and perhaps combinations of any or all of these natural phenomena.
- 1.2 Procedures in this manual outline realistic levels of emergency preparation that can be taken to help protect the colony in the event of a disaster. It is recognized that a major earthquake and/or tsunami would overwhelm any local damage control, however, time permitting, notification and evacuation procedures would then be the proper emergency action. For emergencies of a lesser nature, local actions may prevent or reduce damage from high water, high winds or fire. These procedures involve the limited resources of the Colony, Monterey County, and to a lesser degree, state and federal agencies.
- 1.3 This Emergency Manual is reviewed annually. Information used in updating this manual is derived from: data from climate, beach, and river studies, changes to resident rosters, state, county and local emergency reaction capabilities, and lessons learned over the past 25 years.
- 1.4 A section of this manual provides information to Colony occupants on how to prepare for and deal with many emergencies here at the Dunes and includes: telephone numbers, common facilities and recommendations for basic emergency plans/supplies. Pertinent sections of this manual will be posted on the website, as well as distributed via email to homeowners. Hardcopy will be distributed to those homeowners that do not have email capability. Members that rent their units are advised to leave a copy of this manual for their guests, in the event of an emergency. Please be aware that complacency is a dangerous obstruction to emergency preparations.

2.0 Dune Erosion Summary (1983-1995)

- 2.1 Rodgers E. Johnson & Associates, an engineering/geologists firm in Santa Cruz, conducted extensive studies of colony dune erosion after the severe storms of 1982-83 and 1994-95. The study showed that the southern portion of the shoreline had lost approximately 100 feet of beach/dune protection since 1983. This is the area of the colony most vulnerable to wave run-up in future storms. An accumulation of driftwood in the southern area has served to stabilize the beach and dunes to some degree. The middle portion of the colony shoreline showed essentially no change to the dune fill since 1983, while the northern portion has experienced some build up. The engineers attribute these conditions to the prevailing wind patterns and the positive effect of the wind delivered sand trapped by the driftwood.
- 2.2 In addition, engineering studies point out that the southern beachfront-area of the colony, (units 258 through 340) is the most susceptible to wave run-up. With this said, severe storms can, and have caused significant shifts in outer sand bars and wave patterns. Any point along the colony shoreline can become vulnerable, (and has, as experienced the winters of 2003 and 2004 when rogue waves ran up over the dunes), regardless of the location.

3.00 Emergency Preparation and Procedures

3.01 Chain of Responsibility

The purpose of the Chain of Responsibility is to have in place a rough outline of how the lines of communication will flow in an emergency. The Board of Directors is the overall responsible managing body in emergencies and act through the General Manager. The General Manager will be the point-of-contact on the ground, implementing the actions necessary to react to an emergency. The General Manager will order necessary materials, accept deliveries, hire emergency labor, engage contractors, deal with outside governmental bodies, and ensure necessary permits are obtained for any emergency work. Communication is vital during emergencies. The Colony operates a site based two-way radio system with telephone line access that can, given conducive atmospheric conditions, significantly aid communication between workers in emergency situations. In the event that there is no electrical power, radio communications will be extremely limited and communications will be confined, for the most part, to word-of-mouth messages delivered by Association staff.

3.02 Monterey Dunes Colony Resources

The following is a list of material resources on-site for emergency use. As of the date of this writing, all the resources are on hand and stored ready for use at the Colony:

- A) 1,500 nylon sand bags
- B) Shovels
- C) One 1500 watt emergency lighting unit with dual heads and stand.
- D) One 5,000 watt gas generator, 200 feet of 10 gauge extension cord.
- E) 25 sheets of 1/2" CDX plywood
- F) Adequate nails/screws for plywood
- G) Battery Operated and Hand Tools; (Hammer, Screwdrivers, Saws, Chainsaws)
- H) Ropes and Tarps
- I) A minimum of 10 gallons of fuel to operate the generator and any other gas-operated power tools.
- K) A minimum of two Maglite flashlights with additional batteries
- L) Raingear

3.03 Communication With Homeowners / Phone Lists

Attached to this plan are two important telephone lists. We have divided the lists into telephone numbers within the Colony and a second list for all telephone numbers outside the Colony. After the General Manager is contacted by the Office of Emergency Services, (OES), or other Emergency Service, he will contact both the Office Manager and/or the Maintenance Supervisor. Both the Office Manager and Maintenance Supervisor will have an up-to-date listing of permanent residents and will make contact with residents from their homes. The General Manager will also contact the onsite Security Guard who will have access to rentals and guest lists located in the Administrative Office. The Guard will then make notification to all known renters and guests on the property. Upon completion of assigned notifications of permanent residents, the Office Manager will then attempt to call every remaining unit (in numerical order), excluding prior notifications, allowing at least 10 rings per unit. During times of severe weather, many owners will not be at the Colony and will naturally want to know what is happening down here. Answering individual calls takes a great deal of time away from vital emergency functions. Please do not call the management office unless you have an emergency. It will be the responsibility of rental agents to ensure contact has been made with their renters during an emergency.

3.04 Sources of Extra Labor

In the event additional manpower resources are required, management will maintain a list of addition sources that may be available for hire.

3.05 Sand Bagging Operations

MDCA will store a minimum of 1,500 sandbags at the old South Well electrical building. If sandbagging operations become necessary, the General Manager will contact the Office of Emergency Services (OES) in Monterey County. Each homeowner will receive 25 sand bags per address in the event of flooding here at the dunes. This additional availability of bags will give us more that 4,500 bags to concentrate in a given area. If flooding becomes an issue, in most cases, there will be little we can do to slow down the waves, however, there are situations where sandbags could prove useful to protect homes and other property. Where needed, sandbags will be filled on site with any available sand and used as emergency measures only. This same sand will be dumped back in the area where it is used, immediately upon the stand down from emergency operations.

4.00 Definitions of Wave Run Up / Beach Conditions / Colony Map

The following definitions and stages are used to describe conditions that will occur during high tides and storms.

Fore-Dune Scarp: The point where the flat, plantless beach area adjoins the short slope up to the dunes area with plant cover.

Mid-Dune Swale: The valley between the homes and the top of the Fore-Dune Scarp. The location of the septic disposal systems serving the homes.

Wave Run-Up: The action of surf running up the beach after the wave has expended its initial land-fall energy.

Heavy-Sand: The large-grained beach sand that is usually found only in the surf zone. When found deposited on the beach or near the Fore-Dune, it will indicate heavy surf and wave run-up. Usually found near a breach in the off-shore sandbar.

Dunes Breaching: When the fore dune is destroyed and the breaking waves easily enter the Mid-Dune Swale during each high tide cycle.

4.01 Stage I

Moderate fore dune damage; wave run-up into mid-dunes areas during high tides and storms.

4.02 Stage II

Extensive fore dune damage with measurable fore dune retreat and wave run up that reaches the connecting ocean-side boardwalks.

4.03 Stage III

Extensive Fore dune and mid-dune damage; waves and wave run-up at or near the house foundations.

4.04 Colony Map

We have developed an area map that details the ocean-side of the homes and shows the exact locations of the ocean-side boardwalk system. The Colony map is overlaid on top of a topographical map of the dunes. Management reports will reference sections of this map.

5.00 Weather Forecasting Sources and Other Emergency Information

5.01 Internet Sites the are Specific To Pacific Storm Forecast

National Weather Service (NWS) office maintains a complete web page with links to live satellite images of storms over the Pacific. Their web page is located at **www.nws.mbay.net**. Another good local site is **www.ksbwchannel.com**. This is a web site maintained by television channel 8, KSBW in Salinas.

If you do not have Internet access, you can contact the National Weather Service local office in Monterey at **(831) 656-1725**. They supply recorded up-to-the minute forecasts over the telephone.

5.02 Monterey County Office of Emergency Operations.

One of the main purpose of the Monterey County Office of Emergency Services (OES) is to help residents of the County prepare for winter storms, floods and other natural disasters. They operate the 911 system in Monterey County. Much of the materials in the homeowner pull-out section came from the OES office. Their telephone number is **755-5158**.

5.03 **Radio**

During emergency conditions, it is important to have sources of information in order to determine the current river and flooding conditions or current weather forecasts. The following are the best sources for radio information:

- 1) KSCO - AM 1080
- 2) KVOQ - FM 95.5
- 3) KTOM - FM 92.7

Note: When referring to weather announcements, the following terms may be used:

Warning means the described condition is occurring, or is about to occur. When the NWS issues a **warning**, immediate action will often be required.

Watch mean if the predicted weather pattern become a reality, the described condition is very likely to occur, but is not occurring at that moment. Often the NWS will insure a flash flood **watch**, or a costal flooding **watch**.

5.04 **TV**

The television is also a good source of information during severe weather, high winds and flooding conditions. Persons in the chain of command are recommended to view the 6:00 PM news reports and the 7:00 AM news reports during the times severe weather is forecast. The two best local television channels on the Monterey Dunes system are as follows:

- A) KSBW, Salinas, Channel 8
- B) KION, Salinas, Channel 46

6.00 **Permits, County, State and Federal**

Before any work can begin that involves or impacts protected species, disturbs native plants, and/or involves grading more than 100 cubic yards of fill or sand, permits are required. Monterey County Planning Department is the lead agency involved with costal development permits, and emergency costal permits. If some action is needed that can be foreseen, and planned for three to six months in advance, then a **Costal Development Permit** would be required.

If the action needed is of an emergency nature, develops quickly and was not foreseeable, then the proper permit is the **Costal Development Emergency Permit Clearance**. California State Parks & Recreation needs to be contacted in the event that any work is necessary that involves any portion of the State park lands.

7.00 Emergency Information for Occupants

- 7.01 The Colony is located in an area subject to earthquakes, coastal storms with high winds, river flooding from near by waterways and/or combinations of these events. Because of this fact, occupants of the Colony are strongly advised to make basic plans for dealing with emergencies.
- 7.02 The Colony maintains an Emergency Manual to outline levels of preparedness, which can realistically be taken to help protect Colony occupants and properties. Section eight of this manual summarizes information that could be helpful to Colony occupants in developing personal emergency action plans.
- 7.03 Weather service and other media coverage of pending emergency conditions is extensive. By monitoring these media sources, we can minimize the potential for personal disasters. The safety of all people in your party is primary. Protection of property is secondary. During or after major emergencies, the functioning TV and radio stations provide the best source of information. Remember to always keep working batteries in your battery-powered receivers.
- 7.04 The Federal Emergency Management Agency (FEMA) has some brief information sheets and checklists related to water, food, etc. Copies of these are attached. Please review the information and do what makes sense for your group and your situation.
- 7.05 Power outages are common during storm or earthquake emergencies. Please maintain several flashlights with a generous supply of batteries in the event of a power outage.

The Monterey Dunes entry gate is designed to declutch during power outages so that the gate can be pushed open. Some units have power garage doors. Owners/ rental agents must insure that procedures for manually opening the garage door are readily available to occupants. Any occupant using a garage with a power door should fully understand how to open the door manually.

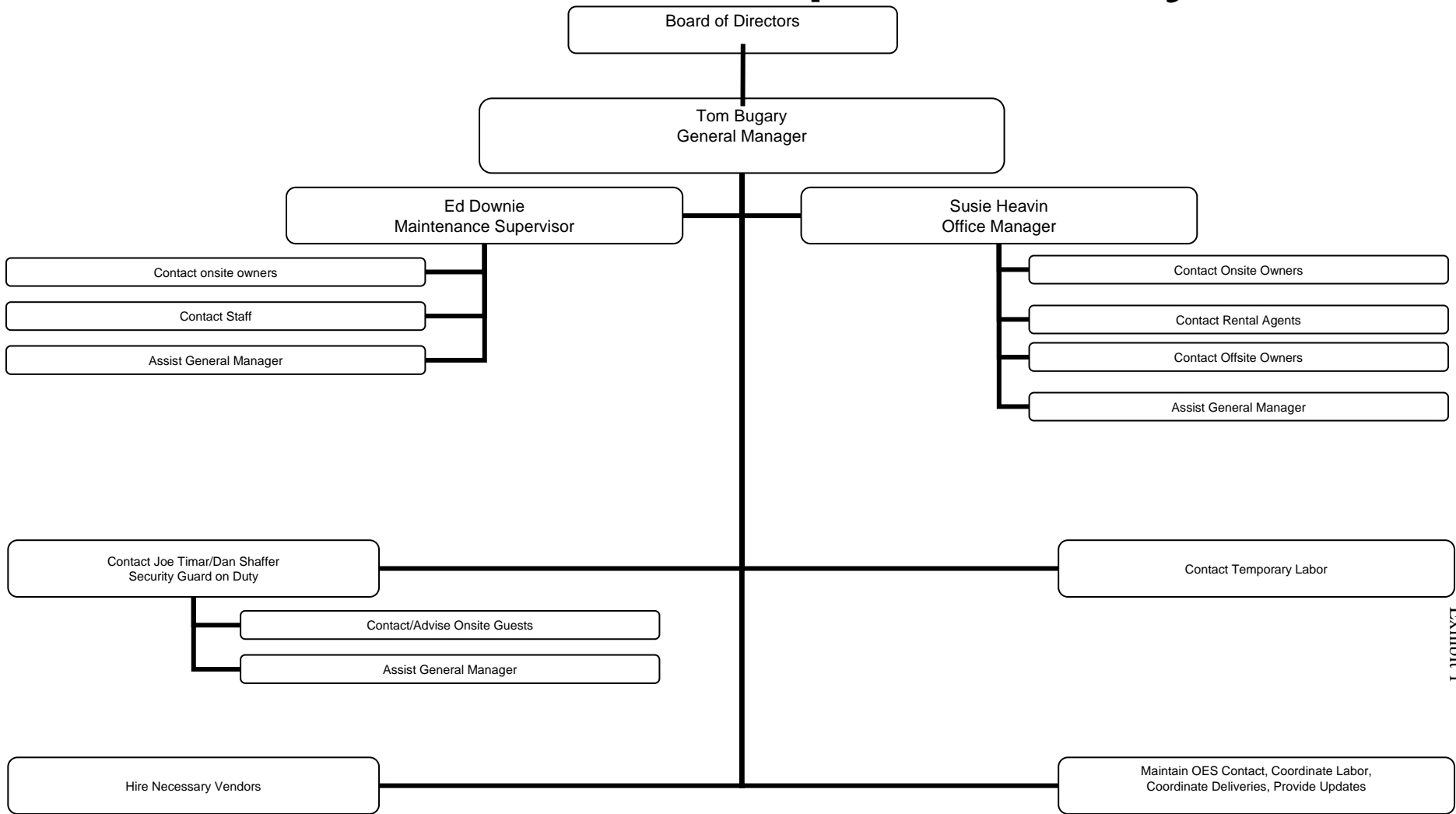
The Monterey Dunes Water System includes the latest earthquake protection technology and an emergency generator. The possibility of damage to the distribution pipes, pumps and power sources still exists and occupants should have emergency water available at their units. The colony maintains an active storage contract with Calistoga to provide 2-gallon water containers on pallets in the event of an emergency. As a precaution, I would never rely 100% on a resource that everyone else will be relying on. Homeowners are urged to maintain a stockpile of drinking water for personal use and to rotate this water on a scheduled basis.

Attachments

- 1) MDCA Emergency Manual Chain of Responsibility
- 2) MDCA Emergency Telephone List – Staff, Board of Directors, Permanent Residents, Rental Agents
- 3) MDCA Emergency Contact List – County, Consultants, Vendors and Contractors
- 4) Winter Storm Preparedness Fact Sheets
- 5) FEMA Disaster Tips
- 6) Colony Map

MDCA Emergency Manual

Chain of Responsibility



Monterey Dunes Colony Emergency Telephone List

Staff	Work or Alternate Number	Home Number
Thomas J. Bugary, General Manager	(c) 809-4265	663-1533
Susie Heavin, Office Manager	(c) 578-5512	770-0421
Edward Downie, Maintenance Supervisor	(p) 770-2985	471-2729
Allen Adams, Groundskeeper	(c) 210-9082	N/A
Jose Cervantes Ortiz, Carpenter's Assistant	(c) 229-4590	757-5678
Juan Carlos Martinez, Carpenter	633-3187	726-9304
Eligio Montero, Carpenter	(c) 594-0647	444-9010
Mike Perez, Carpenter	633-3187	663-5140
Jose Mancilla, Carpenter's Apprentice	633-3187	449-6463
Efren Avalos, Carpenter's Assistant	633-3187	761-3190
Armando Gavilanez, Carpenter's Apprentice	633-3187	770-1948
Sacramento Jiminez, Carpenter's Assistant	633-3187	678-9049
Pete Perez, Carpenter's Assistant	633-3187	422-1316
Sergio Rivas, Maintenance	(c) 261-9533	753-7933
Juan Lopez, Painter/Maintenance	(c) 578-2747	484-1620
Joseph Timar, Full-Time Security	(c) 320-1862	449-2740
Dan Shaffer, Part-Time Security	(c) 320-1514	759-0180
Board of Directors		
Ellen Michaels, President	(408) 264-0108 x 13	(408) 356-2944
Frank Williams, Vice President		(805) 683-5775
Marty Deggeller, Treasurer		(650) 321-1029
John Steinhart, Director	(650) 328-2221	(650) 327-8818 650-269-1944 (c)
Jeff Schwartz, Director	(925) 376-9768	(925) 376-3779
Permanent Owners/Long Term Renters		
Ted & Mary Beth Swanson, Unit #114	N/A	633-4515 408-821-1150 (c)

Donald Tenenbaum, Unit #118		633-4515
Dorothy Stonely, Unit #118	408-286-1200	408-605-8348 (c)
Bruce and Norma Larson, Unit #140	N/A	633-4703
Jim & Nancy McFeeters, Unit #158	N/A	633-0148
Brandt Trust, Unit #164	484-9715 (Barry)	633-6004
Ralph Briskin, Unit #206	N/A	632-0894
Bill & Peg Van Loo, Unit #216	N/A	633-5693 650-575-4295
Bruce Mortensen (Pat & Cliff – Owners), #242	422-4800 (Owners)	633-3544
Garnet Richards, Unit #276	N/A	633-5472
Dick & Betty McKelvey, Unit #286	N/A	633-5357
Warren Schmidt (Howard – Owner), #298	916-452-8011 (Owner)	633-5617
Dale & Carelyn Christenson, Unit #300	N/A	633-1502 595-1408 (c)
Ted & Mary Balgooyen, Unit #318	N/A	633-9348 402-3714 (c)
John Shank (Diane Higgins – Owner), #332	656-3094	632-2077
Rental Agents		
Allen & Associates		
Jerry Allen	624-0914	
Monterey Dunes Company		
Biff Jelavich	633-4883	229-3907 (c)
Rentals – Individual		
Burke & Paula Critchfield, Unit #144	360-378-7235	633-5378
John Magee, Unit #152	610-964-7624	633-5602
Bill & Nancy Krehbiel, Unit #322/#324	644-9222	633-5771 (#322) 633-4373 (#324)
Frank & Parm Williams, Unit #190	805-683-5775	633-4059
Dick & Donna Matthews, Unit #110	408-866-0451	633-3234
Sarah Morrill, Unit #176	925-283-5656	633-5339

Emergency Contact List County Consultants, Vendors, and Contractors

Emergency (Police, Fire, Ambulance).....911

County

Emergency Services Manager - Harry Robins..... 755-5120
 Public Information Recording..... 755-3991
 Public Safety Communications..... 755-5110
 Flood Control - Joe Madruga (ChiefEngineer)..... 755-4860
 Public Works – Ron Lundquist (Director)..... 755-4929
 North County Fire Protection – Chief Mark Pereira..... 633-2578
 Environmental Health – John Jennings..... 755-4505
 Planning and Building Inspection Dept., Ann Tower..... 755-5025
 County Supervisor, Tom Perkins..... 755-5063
 American Medical Response 883-3270

State

Coastal Commission 427-4863
 Parks and Recreation - David Dixon (Area Mgr.) 384-7695
 Fish and Game 649-2870
 National Weather Service, Bob Diaz 656-1710
 CAL TRANS Highway Information..... 1-800-427-7623

Contractors

Don Chapin & Co. - Don Chapin or Mike Roads..... 663-4273
 Granite Construction Co 424-1555

Suppliers

Sandbags

Western Textile Co.(415) 457-4800
 KCT Filter Cloth Co. 722-8175

Sand

Graniterock 724-3847
 Monterey Sand Co. 394-6541
 Don Chapin & Co. 663-4273

Rock

Kaiser Sand & Gravel, Santa Margarita(805) 438-5778
 Graniterock 724-3847
 Kaiser Natividad (Dolomite) 449-7026

Heavy Equipment Rentals

Powers Rental, Salinas..... 424-2966
 A-1 Rents, Salinas..... 422-7411

Sources of Temporary Labor

Scattini Farms

MartyOffice - 633-3509
Mobile - 595-3931
Home - 633-0670

Jesse AlderetteOffice - 663-0442
Pager - 753-8016

- Note: 1. Marty has access to more labor contractors
2. These farm workers would have rain gear

Manpower Temporary Services 443-8000

- Note: 1. 4hrs. minimum.
2. Might not have rain gear.
3. Will come with back brace/gloves

Western Temporary Services 655-1171

- Note: 1. Might not have rain gear.

David J. Walzer, Earth Art Landscaping 335-280

- Note: 1. Available as Equipment Operator

Monterey County Office of Emergency Services

Harry RobinsOffice - 755-5120
Cell/Pager – 596-8054
Mobile – 595-7208

Note: If the State of Emergency is declared by the County then we may be able to get the
Gabalin Conservation Corps. (Prison Inmates) to do the work at no cost.

*** WINTER STORM PREPAREDNESS FACT SHEET ***

"PREPARATION FOR THE WINTER STORM"

The winter storm season will soon arrive in Monterey County. Sooner or later, the inevitable winter rains will come, and bring with them situations and problems that we must prepare for.

Are you and your family ready for a winter storm? A few simple precautions can help lessen the effects of a storm and protect your family and home.

- + Keep first aid and critical medical supplies (prescriptions, insulin, etc.) on hand.
- + Keep at least a three day supply of food which requires little or no cooking and no refrigeration; electrical power may be interrupted. Remember any special food needs and pet food.-A can'opener should be included in your food stock.
- + Keep a stock of bottled water on hand ...at least two gallons per day per household member. Water service could be interrupted.
- + Keep a portable radio and flashlights in working order. Have extra batteries on hand.
- + Keep your automobile fueled; if electrical power is cut off, filling stations may not be able to operate.
- + Keep materials like sandbags, plywood, plastic sheeting, duct tape, and lumber handy for emergency waterproofing.
- + Keep tools that could be used in the event of an emergency, such as shovels, axes, crowbars, and chain saws, handy and ready for use.
- + Keep secured outdoor objects that could be blown away. Garbage cans, lawn furniture, toys, and a number of other common items could become destructive missiles in high wind conditions.
- + Keep tree limbs away from overhead electrical service lines. Consult your PG&E for removal details at (800) 743-5000.
- + Keep your boat securely moored. Double mooring lines, and add spring lines and extra fenders as needed.
- + Keep an amount of cash on hand. If you rely on an ATM to obtain cash, it may not be functional in the event of a power failure.
- + The level of flood preparation will vary from home to home based on the location, the type of house involved, the surrounding area, and the potential for flooding, erosion, and mud slides. For further detailed information on how to prepare your home for winter storms, contact the Monterey County Office of Emergency Services at 755-5158 or the Water Resources Agency at 755-4860.

*** WINTER STORM PREPAREDNESS FACT SHEET II ***

"BEFORE THE STORM"

You are watching your favorite evening television news, and the weather commentator announces that a strong winter storm is approaching Monterey County. You have made all of the recommended preparations, now what should you do?

Depending on the location of your residence, you might want to consider taking the following actions.

- + Plan your time before the storm arrives and avoid the last minute rush which may leave you and your family marooned or unprepared.
- + If you rely on an ATM machine for your spending cash, obtain some extra cash. A loss of electrical power may render the ATM inoperative, and you without a source of cash.
- + Leave beaches and low-lying areas that could be swept by high tides or storm waves.
- + If flooding is likely, and time permits, move essential items, important papers, and furniture to the upper floors of your home.
- + Follow the instruction and advice of your local government and public safety agencies ...listen to your emergency broadcast stations.
- + Stay at home if it is sturdy and on high ground. If not, or if advised to leave your home, move to a safe area before access is cut off by flood water. Leave a note telling friends and relatives where you are going.
- + Before leaving, cut off all electric circuits at the fuse panel by pulling the main switch, or disconnect all electrical appliances. Shut off the gas service at the valve next to the meter, and turn off the water service at the main valve.
- + If you must leave home, follow recommended routes. Listen to your car radio for additional information and instructions from your local government.
- + Above all else, remain calm.

For further detailed information on what to do if a storm warning is issued, contact your Monterey County Office of Emergency Service at 755-5158 or your local public safety agency.

REMEMBER, IF YOU BELIEVE YOUR LIFE OR PROPERTY IS IN

IMMINENT DANGER, C-A-L-L 9-1-1!

*** WINTER STORM PREPAREDNESS FACT SHEET III ***

"DURING THE STORM"

The first winter storm of the season has arrived in Monterey County and brings with it heavy rains and high winds. What should you do during the storm to protect your family, your property, and yourself?

You might want to consider taking the following actions during a storm.

- + Keep tuned to a local radio or television for emergency information, or instructions from local authorities.
- + Remain indoors unless it is absolutely necessary to perform emergency repairs or render emergency assistance.
- + Stay at home and avoid unnecessary trips. If you must travel during the storm, dress appropriately. Advise others of your destination and a telephone number where you can be reached.
- + If you must drive during a storm, use caution and keep your headlights on.
- + Avoid areas subject to flooding and high surf areas.
- + Do not try to cross a flowing stream or run-off area where water is above your knees.
- + Do not try to drive over a flooded road. You could be stranded and trapped. For most contemporary automobiles, eighteen inches or less of water depth may be all it takes to float your vehicle.
- + Avoid areas below steep embankments that are without plants or trees, or where mud-slides are possible.
- + If your vehicle stalls, abandon it immediately and seek higher ground.. Many people have drowned while trying to rescue their cars.
- + Do not "sightsee" in areas where flooding has occurred or an emergency is in progress. Do not try to enter areas closed by the local law enforcement agencies, the Sheriff, or California Highway Patrol.
- + Use the telephone ONLY for family emergency needs or to report dangerous conditions. Do not call 911 for non-emergency reasons; you may prevent someone with an actual emergency from reaching a 911 dispatcher.
- + Beware of downed power lines or broken gas lines. Report them immediately to your local gas or electric company, or C-A-L-L 9-1-1.

For further detailed information on what to do during a winter storm, contact your Monterey County Office of Emergency Services at 755-5158.

REMEMBER, IF YOU BELIEVE YOUR LIFE OR PROPERTY IS IN

IMMINENT DANGER, C-A-L-L 9-1-1!

*** WINTER STORM PREPAREDNESS FACT SHEET IV ***
"AFTER THE STORM"

The winter storm has passed, and blue skies and balmy weather are returning to Monterey County. Before life returns to normal, there are a few precautions that should be observed.

To ensure the continued safety and well-being of your family and yourself, you may want to consider taking the following actions.

- + Stay tuned to your local radio or television station for vital information, and instructions from local authorities.
- + If your supply of natural gas has been turned off, DO NOT TURN GAS BACK ON YOURSELF. Rely on utility company crews.
- + Do not use fresh food that has come in contact with flood waters.
- + Make sure drinking water is not contaminated. Wells should be pumped out and the water tested before drinking.
- + Do not visit disaster areas; your presence will probably hamper rescue or other emergency operations, and you might be in danger.
- + Avoid loose or dangling wires. Report them and any broken utility lines to police, fire, or the utility company. Do not take unnecessary chances; treat any loose or dangling wire as though it is live and could shock you. C-A-L-L 9-1-1!
- + Use flashlights, not lanterns or candles, to examine buildings or basements; flammables may be present.
- + Prevent fires. Lowered water pressure may make fire fighting difficult.
- + Check refrigerated and frozen food for spoilage if power has been off during the storm.
- + Drive with caution along debris-filled streets. Roads and bridges may be undermined and collapse under the weight of a car.
- + Use caution approaching intersections controlled by traffic signals. If the power has been interrupted, the lights may not be operating.
- + Do not handle live electrical equipment in wet areas. If electrical equipment or appliances have been in contact with water, do not use them until they have been checked by qualified personnel.
- + Use the telephone **ONLY** to report emergencies or dangerous conditions. Do not call 911 for non-emergency reasons; you may prevent someone with an actual emergency from reaching a 911 dispatcher.

REMEMBER, IF YOU BELIEVE YOUR LIFE OR PROPERTY IS IN
IMMINENT DANGER, C-A-L-L 9-1-1!

Food and Water in an Emergency

How to Store Water

Store your water in thoroughly washed plastic, glass, fiberglass or enamel-lined metal containers. Never use a container that has held toxic substances.

Plastic containers, such as soft drink bottles, are best. You can also purchase food-grade plastic buckets or drums.

Seal water containers tightly, label them and store in a cool, dark place. Rotate water every six months.

Emergency Outdoor Water Sources

If you need to find water outside your home, you can use these sources. Be sure to purify the water according to the instructions on page 3 before drinking it.

- Rainwater
- Streams, rivers and other moving bodies of water
- Ponds and lakes
- Natural springs

Avoid water with floating material, an odor or dark color. Use saltwater only if you distill it first. You should not drink flood water.

If an earthquake, hurricane, winter storm or other disaster strikes your community, you might not have access to food, water and electricity for days, or even weeks. By taking some time now to store emergency food and water supplies, you can provide for your entire family. This brochure was developed by the Federal Emergency Management Agency in cooperation with the American Red Cross and the U.S. Department of Agriculture.

Having an ample supply of clean water is a top priority in an emergency. A normally active person needs to drink at least two quarts of water each day. Hot environments can double that amount. Children, nursing mothers and ill people will need even more.

You will also need water for food preparation and hygiene. Store a total of at least one gallon per person, per day. You should store at least a two-week supply of water for each member of your family.

If supplies run low, never ration water. Drink the amount you need today, and try to find more for tomorrow. You can minimize the amount of water your body needs by reducing activity and staying cool.



Federal Emergency
Management Agency



American
Red Cross

FOOD SUPPLIES

Short-Term Food Supplies

Even though it is unlikely that an emergency would cut off your food supply for two weeks, you should prepare a supply that will last that long.

The easiest way to develop a two-week stockpile is to increase the amount of basic foods you normally keep on your shelves.

Storage Tips

- Keep food in a dry, cool spot—a dark area if possible.
- Keep food covered at all times.
- Open food boxes or cans carefully so that you can close them tightly after each use.
- Wrap cookies and crackers in plastic bags, and keep them in tight containers.
- Empty opened packages of sugar, dried fruits and nuts into screw-top jars or air-tight cans to protect them from pests.
- Inspect all food for signs of spoilage before use.
- Use foods before they go bad, and replace them with fresh supplies, dated with ink or marker. Place new items at the back of the storage area and older ones in front.

Nutrition Tips

During and right after a disaster, it will be vital that you maintain your strength. So remember:

- Eat at least one well-balanced meal each day.
- Drink enough liquid to enable your body to function properly (two quarts a day).
- Take in enough calories to enable you to do any necessary work.
- Include vitamin, mineral and protein supplements in your stockpile to assure adequate nutrition.

Hidden Water Sources in Your Home

If a disaster catches you without a stored supply of clean water, you can use the water in your hot-water tank, pipes and ice cubes. As a last resort, you can use water in the reservoir tank of your toilet (not the bowl).

Do you know the location of your incoming water valve? You'll need to shut it off to stop contaminated water from entering your home if you hear reports of broken water or sewage lines.

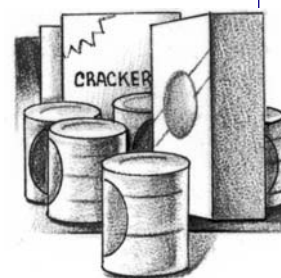
To use the water in your pipes, let air into the plumbing by turning on the faucet in your house at the highest level. A small amount of water will trickle out. Then obtain water from the lowest faucet in the house.

To use the water in your hot-water tank, be sure the electricity or gas is off, and open the drain at the bottom of the tank. Start the water flowing by turning off the water intake valve and turning on a hot-water faucet. Do not turn on the gas or electricity when the tank is empty.

When Food Supplies Are Low

If activity is reduced, healthy people can survive on half their usual food intake for an extended period and without any food for many days. Food, unlike water, may be rationed safely, except for children and pregnant women.

If your water supply is limited, try to avoid foods that are high in fat and protein, and don't stock salty foods, since they will make you thirsty. Try to eat salt-free crackers, whole grain cereals and canned foods with high liquid content.



You don't need to go out and buy unfamiliar foods to prepare an emergency food supply. You can use the canned foods, dry mixes and other staples on your cupboard shelves. In fact, familiar foods are important. They can lift morale and give a feeling of security in time of stress. Also, canned foods won't require cooking, water or special preparation. Following are recommended short-term food storage plans.

Special Considerations

As you stock food, take into account your family's unique needs and tastes. Try to include foods that they will enjoy and that are also high in calories and nutrition. Foods that require no refrigeration, preparation or cooking are best.

Individuals with special diets and allergies will need particular attention, as will babies, toddlers and elderly people. Nursing mothers may need liquid formula, in case they are unable to nurse. Canned dietetic foods, juices and soups may be helpful for ill or elderly people.

Make sure you have a manual can opener and disposable utensils. And don't forget nonperishable foods for your pets.

How to Cook If the Power Goes Out

For emergency cooking you can use a fireplace, or a charcoal grill or camp stove can be used outdoors. You can also heat food with candle warmers, chafing dishes and fondue pots. Canned food can be eaten right out of the can. If you heat it in the can, be sure to open the can and remove the label first.

Three Ways to Purify Water

In addition to having a bad odor and taste, contaminated water can contain microorganisms that cause diseases such as dysentery, typhoid and hepatitis. You should purify all water of uncertain purity before using it for drinking, food preparation or hygiene.

There are many ways to purify water. None is perfect. Often the best solution is a combination of methods.

Two easy purification methods are outlined below. These measures will kill most microbes but will not remove other contaminants such as heavy metals, salts and most other chemicals. Before purifying, let any suspended particles settle to the bottom, or strain them through layers of paper towel or clean cloth.

BOILING. Boiling is the safest method of purifying water. Bring water to a rolling boil for 3-5 minutes, keeping in mind that some water will evaporate. Let the water cool before drinking.

Boiled water will taste better if you put oxygen back into it by pouring the water back and forth between two clean containers. This will also improve the taste of stored water.



DISINFECTION. You can use household liquid bleach to kill microorganisms. Use only regular household liquid bleach that contains 5.25 percent sodium hypochlorite. Do not use scented bleaches, colorsafe bleaches or bleaches with added cleaners.



Add 16 drops of bleach per gallon of water, stir and let stand for 30 minutes. If the water does not have a slight bleach odor, repeat the dosage and let stand another 15 minutes.

The only agent used to purify water should be household liquid bleach. Other chemicals, such as iodine or water treatment products sold in camping or surplus stores that do not contain 5.25 percent sodium hypochlorite as the only active ingredient, are not recommended and should not be used.

While the two methods described above will kill most microbes in water, distillation will remove microbes that resist these methods, and heavy metals, salts and most other chemicals.

DISTILLATION. Distillation involves boiling water and then collecting the vapor that condenses back to water. The condensed vapor will not include salt and other impurities. To distill, fill a pot halfway with water. Tie a cup to the handle on the pot's lid so that the cup will hang right-side-up when the lid is upside-down (make sure the cup is not dangling into the water) and boil the water for 20 minutes. The water that drips from the lid into the cup is distilled.



FOOD STORAGE

Shelf-life of Foods for Storage

Here are some general guidelines for rotating common emergency foods.

■ Use within six months:

- Powdered milk (*boxed*)
- Dried fruit (*in metal container*)
- Dry, crisp crackers (*in metal container*)
- Potatoes

■ Use within one year:

- Canned condensed meat and vegetable soups
- Canned fruits, fruit juices and vegetables
- Ready-to-eat cereals and uncooked instant cereals (*in metal containers*)
- Peanut butter
- Jelly
- Hard candy and canned nuts
- Vitamin C

■ May be stored indefinitely (*in proper containers and conditions*):

- Wheat
- Vegetable oils
- Dried corn
- Baking powder
- Soybeans
- Instant coffee, tea and cocoa
- Salt
- Noncarbonated soft drinks
- White rice
- Bouillon products
- Dry pasta
- Powdered milk (*in nitrogen-packed cans*)

DISASTER SUPPLIES

Supplies

It's 2:00 a.m. and a flash flood forces you to evacuate your home—fast. There's no time to gather food from the kitchen, fill bottles with water, grab a first-aid kit from the closet and snatch a flashlight and a portable radio from the bedroom. You need to have these items packed and ready in one place before disaster strikes.

Pack at least a three-day supply of food and water, and store it in a handy place. Choose foods that are easy to carry, nutritious and ready-to-eat. In addition, pack these emergency items:

- Medical supplies and first aid manual
- Hygiene supplies
- Portable radio, flashlights and extra batteries
- Shovel and other useful tools
- Household liquid bleach to purify drinking water.
- Money and matches in a waterproof container
- Fire extinguisher
- Blanket and extra clothing
- Infant and small children's needs (if appropriate)
- Manual can opener

If the Electricity Goes Off . . .

FIRST, use perishable food and foods from the refrigerator.

THEN, use the foods from the freezer. To minimize the number of times you open the freezer door, post a list of freezer contents on it. In a well-filled, well-insulated freezer, foods will usually still have ice crystals in their centers (meaning foods are safe to eat) for at least three days.

FINALLY, begin to use non-perishable foods and staples.

Your Local Contact is:

Learn More

If you are interested in learning more about how to prepare for emergencies, contact your local or State Office of Emergency Management or local American Red Cross chapter, or write to
FEMA
PO BOX 2012
JESSUP MD 20794-2012
and ask for any of the following publications:

Emergency Preparedness Checklist
(L-154) Item #8-0872
ARC 4471

Your Family Disaster Supplies Kit
(L-189) Item #8-0941
ARC 4463

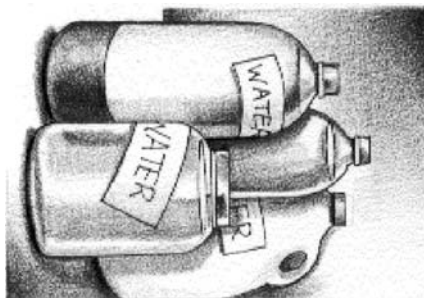
Your Family Disaster Plan
(L-191) Item #8-0954
ARC 4466

Are You Ready? Your Guide to Disaster Preparedness
(H-34) Item #8-0908

Emergency Preparedness Publications
(L-164) Item #8-0822

ARC-5055
FEMA®-L210
November 1994

Food & Water in an Emergency



In a disaster, you might be cut off from food, water and electricity for days. By preparing emergency provisions, you can turn what could be a life-threatening situation into a manageable problem.



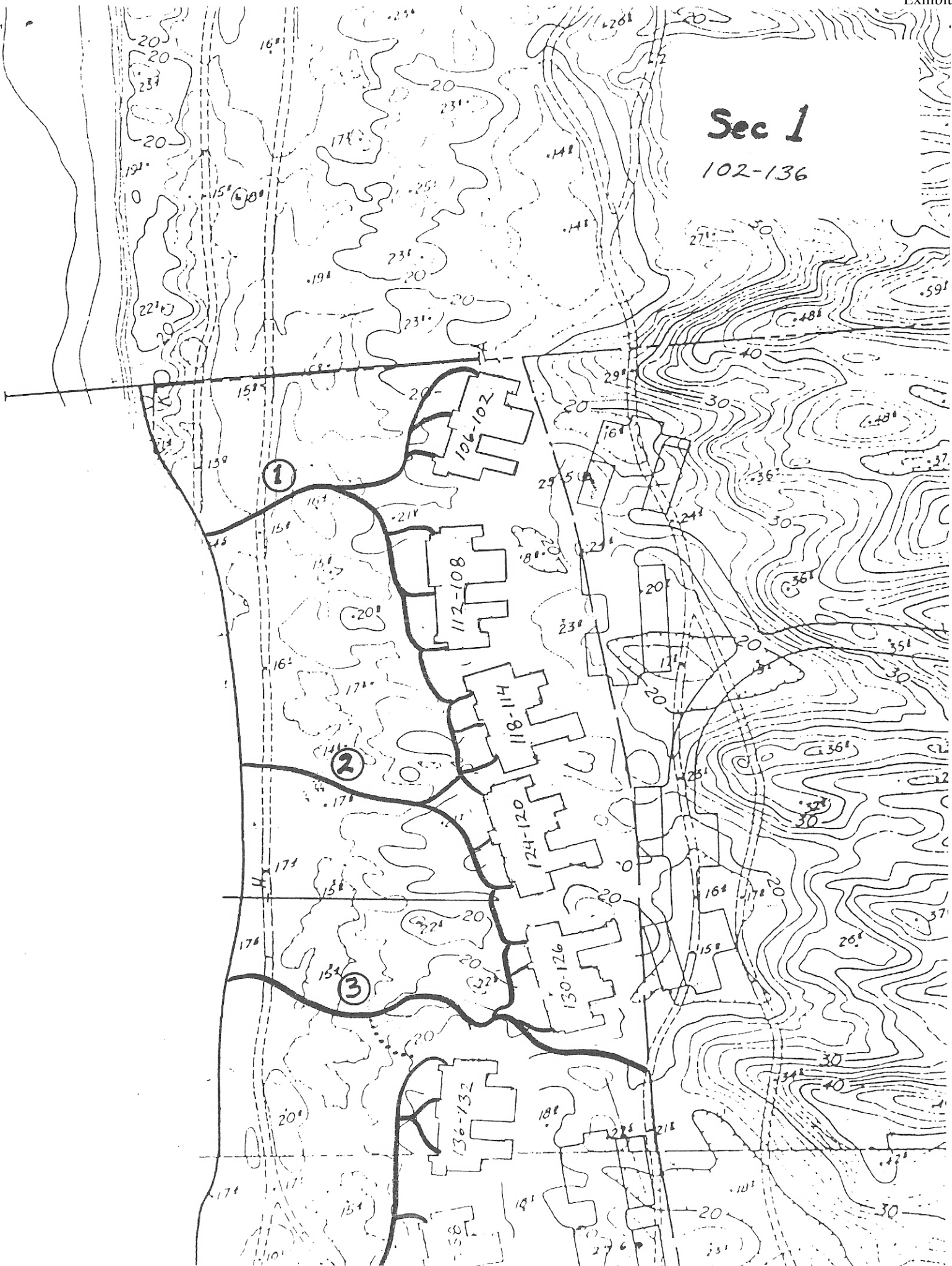
Federal Emergency
Management Agency

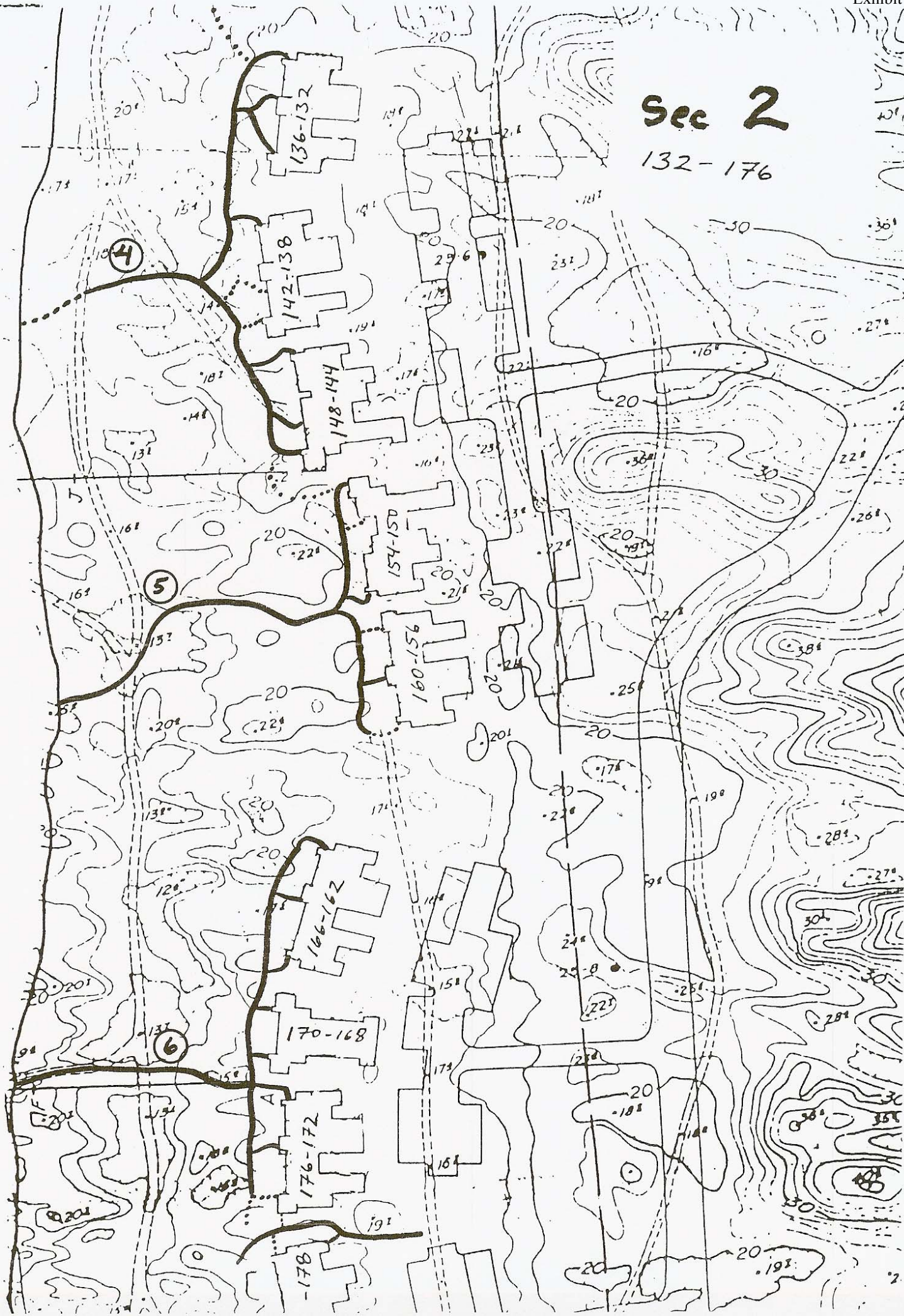


American
Red Cross

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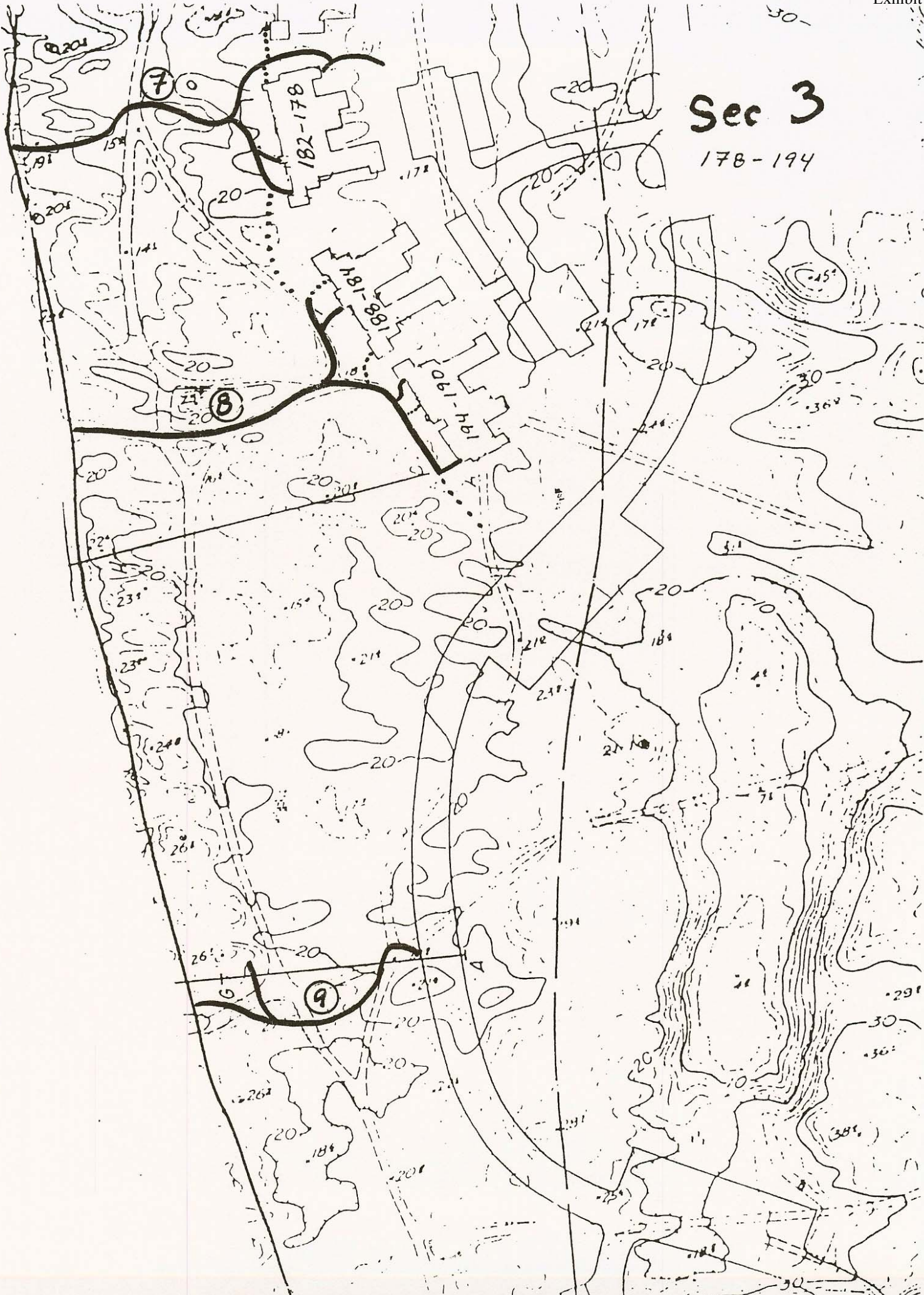
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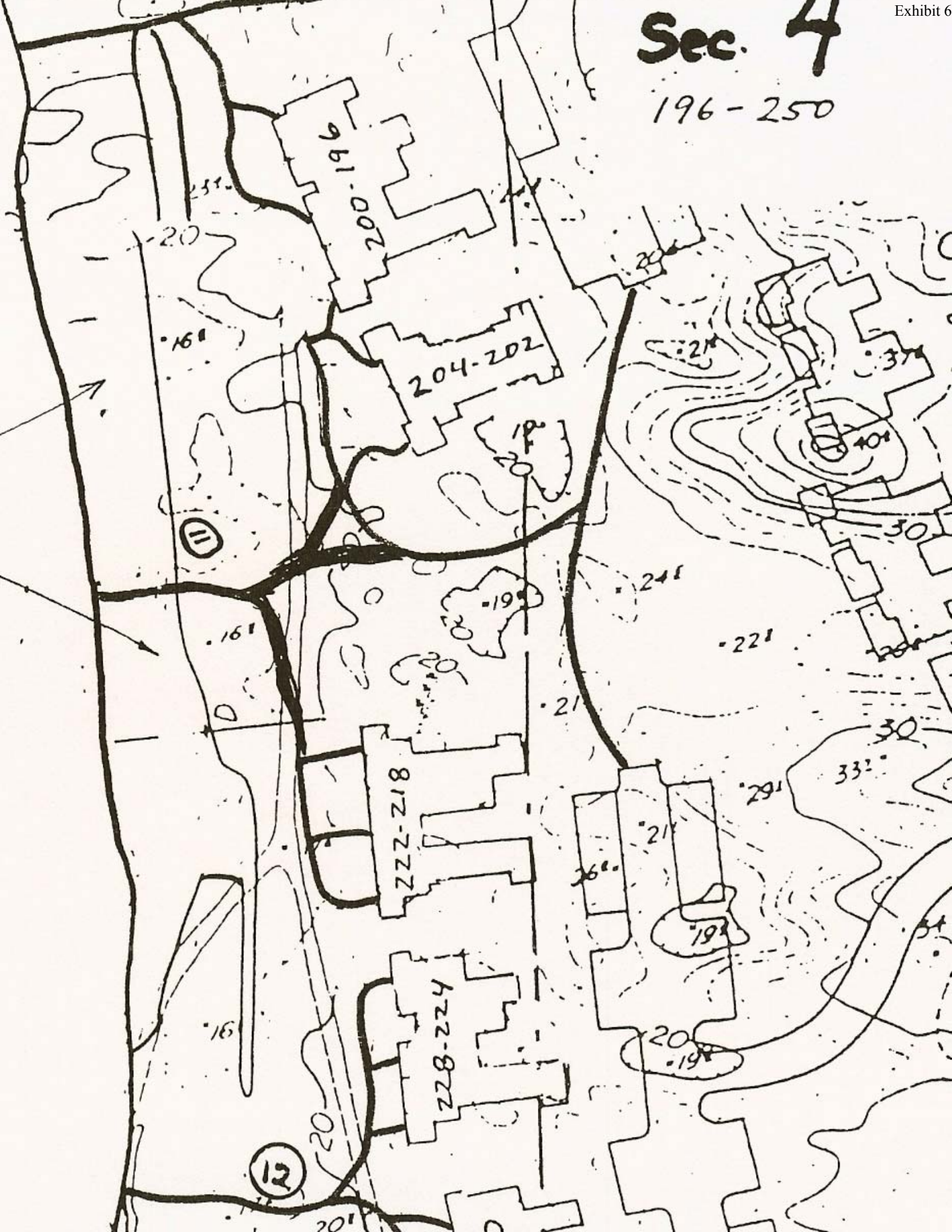
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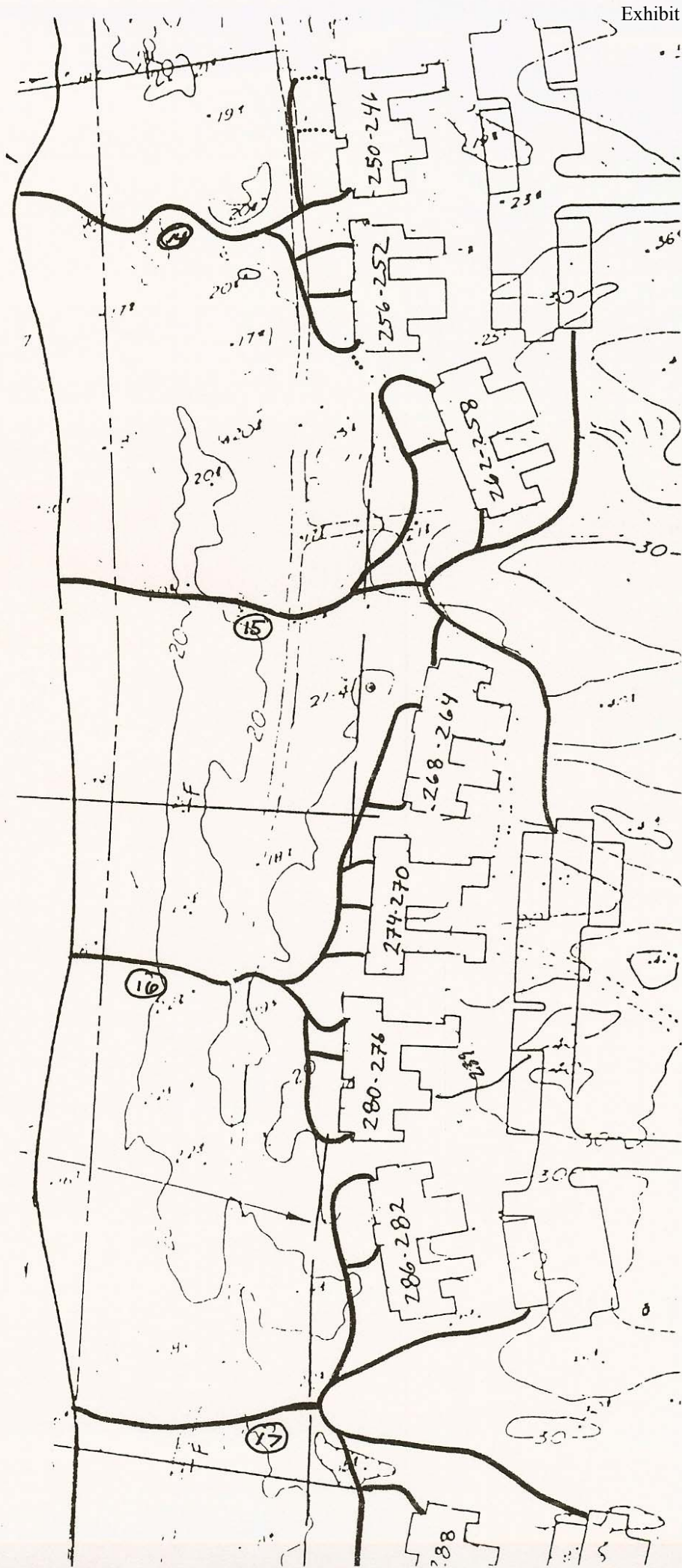
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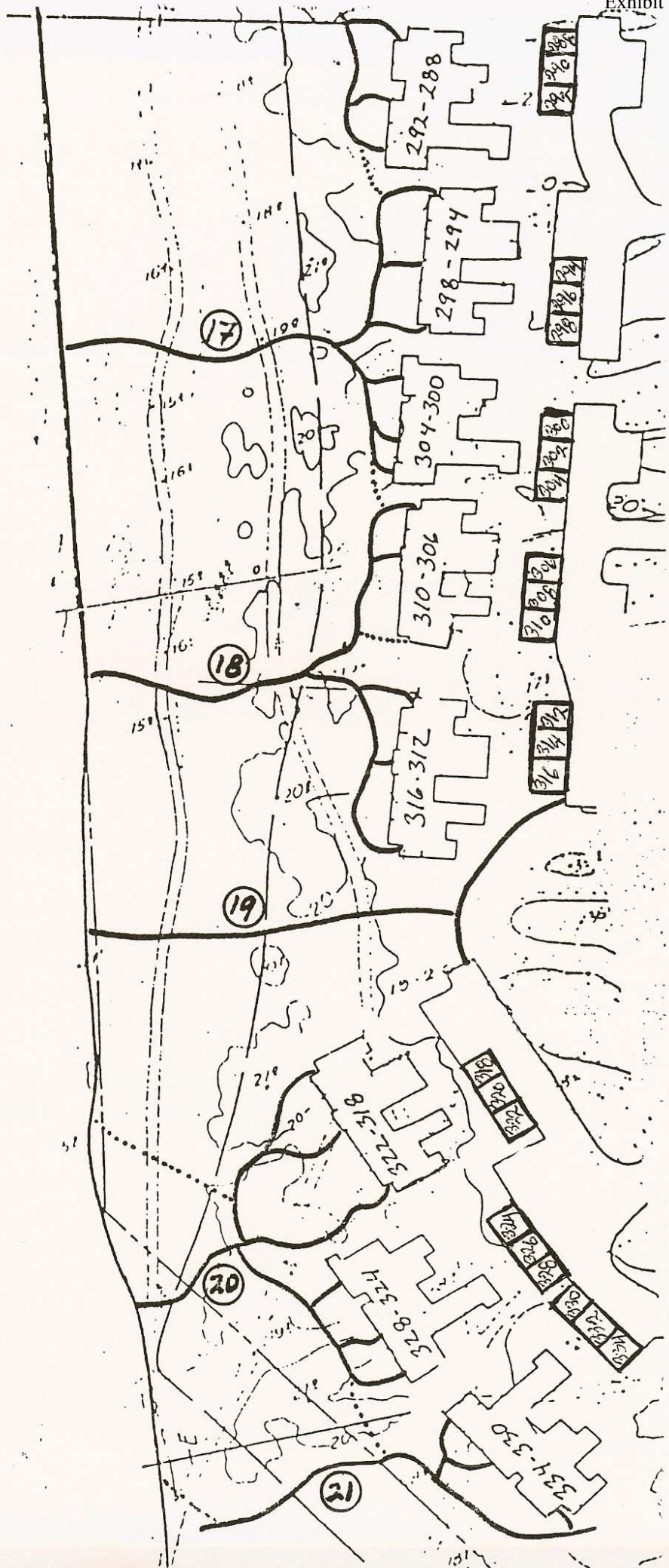
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