

The Leadmine Bend (Sharps Chapel, TN)

Community Wildfire Protection Plan

AN ACTION PLAN FOR WILDFIRE MITIGATION

DATE: July, 2010

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The objective of this Plan is to set clear priorities for the implementation of wildfire mitigation in the Leadmine Bend Subdivision of Sharps Chapel, TN. This Plan includes prioritized recommendations for appropriate types and methods of fuel reduction and structure ignitability reduction that will protect the community and its essential infrastructure. It also includes a plan for wildfire suppression. Specific goals of this Plan are to:

- Educate property owners on wildfire, its risks, and ways to protect lives and properties
- Support fire rescue and suppression activities
- Promote collaborative decision-making and citizen participation
- Assess how community meets Firewise standards
- Develop and implement effective mitigation strategies, and
- Develop and implement effective practices.

This Plan is a cooperative effort among property owners in Leadmine Bend Subdivision, The Highlands Subdivision, TN Division of Forestry personnel, and the Sharps Chapel Volunteer Fire Department, in an effort to protect people, property, and natural resources from the risk of wildland fire - before a fire starts. The Firewise Communities approach emphasizes community responsibility for planning in the design of a safe community as well as effective emergency response, and individual responsibility for safer home construction and design, landscaping, and maintenance. The representatives listed below comprise the core decision-making team responsible for this report and mutually agree on the plan's contents.

Note: this Plan is for the Leadmine Bend subdivision; a separate plan will be developed for The Highlands.

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Community Background and Existing Situation

Phase I of Leadmine Bend Subdivision was established in 1976, and Phase II followed in 1992. It comprises about 50 acres divided into 60 lots. There are currently 21 dwellings and several outbuildings, with another 3 homes under construction. Most of the homes are inhabited year-round; and half a dozen are owned by non-permanent residents who utilize them on weekends or vacations. The main road through the development is Old Leadmine Bend Road, which runs from an intersection with Leadmine Bend Road to the Union County Ferry Landing. The nearest cross-street intersection is Highland Trace. Latitude/Longitude is 36.396/-83.839. There is one side-street off Old Leadmine Bend Road in the development, Helms Ferry Road, which is a cul de sac.

Both the terminus of Old Leadmine Bend Road at the ferry landing and Helms Ferry Road have turn-around areas adequate for the Sharps Chapel VFD equipment. There is no homeowners' association.

Because of our abundant wooded area and Norris Lake, we enjoy a wide array of wildlife, including wild turkeys, white tailed deer, opossums, great blue herons, beaver, and a jillion squirrels. We also occasionally see red-tailed hawks and bald eagles.

Satellite View of Leadmine Bend Subdivision



End of Helms Ferry Road



Ferry Landing



Leadmine Bend and Firewise

We became aware of the Firewise Program in January 2009 when a Wildland Structure Protection training program was conducted by Leon Konz and members of the TN Division of Forestry for the Union County VFDs. The training program was coordinated by Dr. Robert Swisher, Chairman, Union County Emergency Planning Committee. Dr. Swisher was also responsible for achieving Firewise Program certification for the Norris Shores community in Sharps Chapel in 2008; and has been very helpful to us in our pursuit of certification.

In February 2009 we began distributing Firewise literature to members of the Leadmine Bend community and requesting expressions of interest from them in the program. In June 2009 we held a community meeting and the members present agreed we should implement a Firewise Program here with the objective of achieving recognition as a certified Firewise Community. In September 2009 this writer participated in the E TN Firewise Workshop held in Pigeon Forge, TN. We then established a 5-member Firewise committee and held our first meeting in December, 2009. Leon Konz and Steve Roark (TDF) and Chris Upton (SCVFD) led us through the process of seeking certification, and helped us conduct a Community Assessment to determine our Wildfire Hazard Rating. Steve Roark also presented a "Community Wildfire History" for our area (included below). In July, 2010, three members of our Firewise Committee participated in the Clinch/Powell Region Firewise Workshop in Maynardville, TN.

Wildfire Trends/History for Sharps Chapel (Based on a discussion with David Hall, Forestry Technician for Union County)

Union County is normally one of the quieter counties in TN for fire occurrence, but has had an increase over the last 2 years. The extended drought the area experienced over the last 2 years is the likely cause. For the Sharps Chapel area, TDF has been responding to an average of 2 fires per year, mostly in the spring, with an average acreage of 5-10 acres per fire. Fire cause is predominately escaped debris burning, some from landowners clearing land for home construction. Sharps Chapel VFD also responds to wildfires that may not be reported to TDF, so the average fire occurrence may be a little higher than 2.

Fuels

At least 90% of the community is woodland. Oak-Hickory is the predominant forest cover type in the area, with some pine stands and some Hardwood-Pine mix. Ground fuels include hardwood leaf litter or pine needles. Larger fuels are from normal forest deadfall, beetle killed trees, and hardwood trees dying from extended drought. Red oaks are particularly falling out on dry aspects and ridges. Jackpot fuels can occur near some homes where trees were cleared off and piled along the edge of the opening.

Terrain

Leadmine Bend and Highlands are located on Norris Lake. Aspects are predominately to west (dry). Slopes vary from 4-30%, with an average slope of around 13%. Slopes are gentle enough that all areas are accessible using dozer-plow units.

Fire Behavior

Terrain is the main determining factor of fire behavior, with fires running with high speed and intensity upslope, with decreasing intensities on backing and flanking fires. Southern and western aspects typically keep fuels dryer for longer periods, making them easier to ignite and burn with more intensity.

Fire Suppression Resources

Union County has 3 Division of Forestry personnel for wildfire suppression, with an additional two that can be used from Chuck Swan State Forest. TDF can shift resources from adjoining counties if available. Equipment assigned to the county includes a D-4 dozer-plow unit, a Type 6 engine, an ORV (4 wheeler), and the usual assortment of hand tools. Sharps Chapel VFD is the closest fire department.

Sharps Chapel Fire Calls to Leadmine Bend Subdivision since 1996

(Information provided by Chris Upton, Chief, SCVFD; only fire calls are included.)

“I have generated a search on calls for the following roads since we organized and began running calls in October 1996. This is only calls listed on 1) Old Leadmine Bend Road 2) Helms Ferry Road and 3) Highland Trace Road since this would be the defined area for the project.

1996 - 2004: 0 calls

In 2005 - 415 Old Leadmine Bend Road - Residential fire - total loss - 9/23/05

In 2006 - 741 Old Leadmine Bend Road - residential fire alarm - false alarm - 3/23/06

400 Old Leadmine Bend Road - controlled brush fire call - 9/26/06

2007 – 2008: 0 calls

In 2009 - vehicle fire - Old Leadmine Bend Road at Highland Trace - 11/27/09

In 2010 - Old Leadmine Bend Road - forest fire - approx. 5 to 6 acres - 4/1/10

Old Leadmine Bend Road - brush fire call - controlled burn - 5/24/10

341 Old Leadmine Bend Road - residential fire alarm - false alarm - 5/31/10

Fires in the immediate area requiring assistance from the VFD have (thankfully) been few. The residential fire in 2005 began as a kitchen fire and, though the residence was lost, the fire was contained and did not spread to the surrounding wildland. The forest fire in 2009 was in the new “Pinnacle Point” development adjacent to the Leadmine Bend/Highlands subdivisions, and is believed to have been initiated by slash piles left smoldering unattended overnight. The other fires were quickly contained.

Roadway Inspection by Steve Roark and David Hall, TDF, on July 7, 2010

(Note: both Leadmine Bend community and The Highlands were inspected; only the Leadmine Bend report is included here.)

David Hall and I inspected the community main roads of both Leadmine Bend and Highlands on July 7. Here are our observations:

Leadmine Bend Community had no issues concerning hazardous fuels along any of the roads. A few areas have property lots with a heavy brush component growing near the road, but these do not pose any safety concerns. The area directly adjacent to the road is being mown periodically. The main road dead ends at the lake where the ferry operates, and will provide good water access for fire engines.

The TDF representatives noted that slash piles on undeveloped lots that are too large to chip will likely have to be disposed of by a controlled burn. Sharps Chapel VFD has offered to assist in this effort.



COMMUNITY-WIDE HAZARD ASSESSMENT FORM

Date 12/07/09

Leadmine Bend Subdivision I and II

COMMUNITY NAME _____

A. Subdivision Design	Points	C. Topography	Points
1. INGRESS/EGRESS		8% or less	1 <input type="radio"/>
Two or more primary roads	1 <input type="radio"/>	More than 8%, but less than 20%	4 <input checked="" type="radio"/>
One road	3 <input checked="" type="radio"/>	20% or more, but less than 30%	7 <input type="radio"/>
One-way road in, one-way road out	5 <input type="radio"/>	30% or more	10 <input type="radio"/>
2. WIDTH OF PRIMARY ROAD		D. Roofing Material	
20 ft. or more	1 <input checked="" type="radio"/>	Class A Fire Rated	1 <input checked="" type="radio"/>
Less than 20 ft.	3 <input type="radio"/>	Class B Fire Rated	5 <input type="radio"/>
3. PRIMARY ACCESSIBILITY		Class C Fire Rated	10 <input type="radio"/>
Road grade 5% or less	1 <input type="radio"/>	Nonrated	20 <input type="radio"/>
Road grade more than 5%	3 <input checked="" type="radio"/>	E. Fire Protection-Water Source	
4. SECONDARY ROAD TERMINUS		500 GPM hydrant within 1,000 feet	1 <input type="radio"/>
Loop roads, cul-de-sacs with an outside turning radius of 45 ft. or greater	1 <input checked="" type="radio"/>	Hydrant farther than 1,000 ft. or draft site	2 <input type="radio"/>
Cul-de-sac turnaround		Water source 20 min. or less round trip	5 <input checked="" type="radio"/>
Dead-end roads 200 ft. or less in length	3 <input type="radio"/>	Water source farther than 20 min. and 45 min. or less, round trip	7 <input type="radio"/>
Dead-end roads greater than 200 ft. in length	5 <input type="radio"/>	Water source farther than 45 min. round trip	10 <input type="radio"/>
5. STREET SIGNS		F. Existing Building Construction Materials	
Present	1 <input checked="" type="radio"/>	Noncombustible siding/deck	1 <input type="radio"/>
Not present	3 <input type="radio"/>	Noncombustible siding/combustible deck	5 <input type="radio"/>
B. Vegetation (IWUIC Definitions)*		Combustible siding and deck	10 <input checked="" type="radio"/>
1. FUEL TYPES		G. Utilities (gas and/or electric)	
Light	1 <input type="radio"/>	All underground utilities	1 <input type="radio"/>
Medium	5 <input checked="" type="radio"/>	One underground, one above ground	3 <input type="radio"/>
Heavy	10 <input type="radio"/>	All above ground	5 <input checked="" type="radio"/>
2. DEFENSIBLE SPACE		TOTAL FOR SUBDIVISION	49
70% or more of site	1 <input type="radio"/>	<input checked="" type="checkbox"/> MODERATE HAZARD	<input checked="" type="checkbox"/> 40 - 59
30% or more, but less than 70% of site	10 <input checked="" type="radio"/>	<input type="checkbox"/> HIGH HAZARD	<input type="checkbox"/> 60 - 74
Less than 30% of site	20 <input type="radio"/>	<input type="checkbox"/> EXTREME HAZARD	<input type="checkbox"/> 75+

Definitions of Fuel Types

LIGHT FUEL - Short grasses and non-continues scattered leaves

MEDIUM FUEL - Sparse brush, a few small trees, continuous leaves, and tall grasses.

HEAVY FUEL - Dense stands of brush like laurel and rhododendron, young pine stands 3'-20' tall, and debris from logging.

Objectives/Goals of this Plan

Objectives:

The objectives of this plan/report are to set clear priorities for the implementation of wildfire mitigation in the Leadmine Bend community. This includes prioritized recommendations for the community as a whole and also for individual homeowners where appropriate.

Goals:

The goals are fuel reduction and structure ignitability reduction that will protect this community and its essential infrastructure. It also includes a wildfire pre-suppression plan.

PRIORITIZED MITIGATION RECOMMENDATIONS

The following recommendations were developed by the Leadmine Bend Firewise Committee as a result of the community wildfire risk assessment and follow-up meetings with TDF, SCVFD, and community stakeholders. A priority order was determined based on which mitigation projects would best reduce the hazard of wildfire in the assessment area.

Proposed Community Hazard Reduction Priorities:

1. Conduct Home Hazard Assessments for all residences (when requested).
2. Encourage property owners of unimproved lots to fell dead trees and reduce brush and undergrowth.
3. Encourage homeowners to have house numbers displayed at the street using non-combustible materials and reflective numbers.
4. Explore having developer of new adjacent subdivision (Pinnacle Point) adopt Firewise Principles and promote cooperation among Leadmine Bend, Pinnacle Point, and The Highlands property owners on matters of mutual interest (water access, ingress/egress to the communities, possible construction of a SCVFD substation, etc.).
5. Conduct an annual “clean-up day” in conjunction with SCVFD to do controlled burns (if considered appropriate by SCVFD); and with TDF for the use of their large heavy-duty chipper to dispose of waste removed from properties.

Proposed Structural Ignitability Reduction Priorities:

1. Encourage homeowners to keep roofs and gutters cleaned out, and to remove combustible material from under decks, porches, and crawl spaces.
2. Encourage homeowners to maintain an adequate “defensible space” around their homes, thinning vegetation and removing leaves and fallen wood.
- 3 Encourage owners who begin new construction to adopt Firewise practices
4. Encourage homeowners to remove branches from trees to a height of 10 feet.

Proposed Education and Outreach Priorities:

1. Routinely distribute new and updated Firewise literature to current property owners.
2. Include a Firewise Program discussion at property owners’ annual water meeting.
3. Prepare and distribute a “Firewise Package” for new residents, lot owners ready to begin construction, and building contractors.
4. Encourage homeowners to participate in Home Hazard Assessment training.

ACTION PLAN

Funding Needs:

1. Property owner education - \$1000. Materials provided by TDF, distributed by Firewise Committee.
2. Training and equipment for annual "clean-up day" - \$2500. Training and equipment provided by TDF and SCVFD; community volunteers to conduct controlled burns and/or chipping.
3. Location for and construction of SCVFD Substation - >\$50K. Search for and submit requests for grants in conjunction with SCVFD, The Highlands, and the Pinnacle Point developer.

Timetables:

1. Property owner education – immediate, and continuing.
2. Training for and conduct of Home Hazard Assessments – Start in Fall of 2010.
3. Annual "Clean-up Day" – Start in Fall of 2010
4. SCVFD Substation - Begin discussions and planning with all involved parties by September, 2010. Identify location and acquire by March, 2011. Begin submitting grant applications for structure in conjunction with SCVFD by January, 2011.

Assessment:

Describe the strategy used to assess the plans progress and effectiveness.

1. Property owner education – periodically survey owners to determine interest, awareness, and compliance.
2. Home Hazard Assessments - Count the number completed by Spring, 2011
3. Annual "Clean-up Day" – Count the number of participants and estimate the amount of combustible waste eliminated.
4. SCVFD Substation – Survey all involved participants in Summer, 2011 to ascertain continuing commitment to the construction of a new substation. Location determined and land acquired? Grants applied for?

Wildfire Protection Plan

First response structural protection will be provided by the Sharps Chapel VFD. The SCVFD is about 7 miles away and response time is between 15 and 25 minutes, depending on whether any personnel are at the station when the call comes in. Union County EMS is located near the SCVFD and response times would be similar. Wildland protection would also initially be evaluated and provided by SCVFD, and if necessary, TDF will be called in to assist. Incident Command Post and Staging Area locations will depend on the size, location, and duration of the event.

(Note that construction of a new SCVFD substation in the immediate area will shorten response times considerably.)

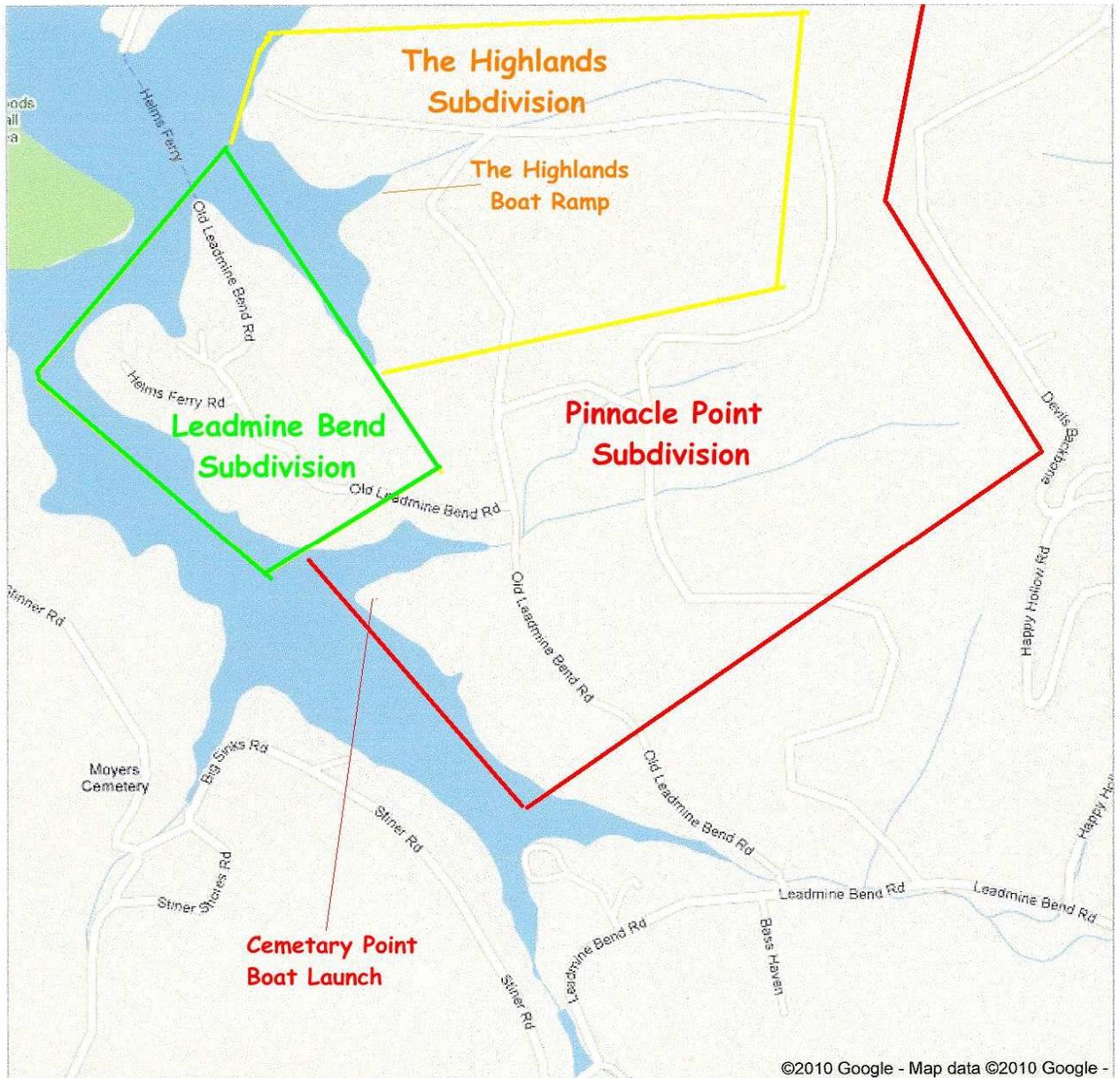
If a second alarm response is necessary, the other Union County VFD's, Rescue Squad, and EMS units, and additional TDF personnel and equipment will be called in. Response times will be from 45 minutes to >one hour, depending on which units respond and how much specialized equipment is required.

All communications will be through the 911 Dispatch Center.

The nearest Lifestar landing area is at Sharps Chapel Park, adjacent to the SCVFD station.

There are no fire hydrants in the area, but water is available from Norris Lake and there are at least three locations available for the tankers to refill: at the Union County Ferry landing; at The Highlands Community Center boat ramp, and at Cemetery Point boat launch area in Pinnacle point.

Area Map Showing Approximate Locations of the Subdivisions and Water Access Points



At the moment there is only one road into Leadmine Bend subdivision (and Pinnacle Point, and The Highlands): Old Leadmine Bend Road. Any evacuation will of necessity be down Old Leadmine Bend Road to Leadmine Bend Road. The Union County Ferry cannot be depended upon for a mass evacuation due to weather considerations, the hours of operation (7AM to 4:30PM) and size limitations. There may be a second road into the area once the Pinnacle Point subdivision is developed, but that is uncertain at present.

Resource List

Support Agencies

TN Division of Forestry – Steve Roark, Area Forester

Sharps Chapel VFD – Chris Upton, Chief

Firewise Communities – Leon Konz, Prevention and Firewise Coordinator

Tractor Operators

David Hall, Forest Technician, Tennessee Division of Forestry

Utilities

Electric – Powell Valley Electric; (423) 626-5204

Telephone – CenturyLink; (800) 824-2877

(No public water or cable service available)

Fuel, Food, and Supplies

Sharps Chapel General Store; (865) 278-1010

Lost Creek General Store; (865) 278-9599

(No lodging available in the immediate area)

Additional Photographs



Cemetery Point Boat Launch



Boat Ramp at The Highlands Community Center



Older Construction with Vinyl Siding and Metal Roofs



Newer Construction with Vinyl Siding and Asphalt Shingle Roof



New Construction with Wood Siding and Asphalt Shingle Roof