

ERGOTEC ASSOCIATION, INC.

Human Engineering Non-Profit

P. O. Box 9571 . Arlington, Virginia 22219 . Phone-Fax (703) 383-0123

99-267



William Kennard, Chairman
Joel Marcus, Esq. Office of General Counsel
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

July 22, 1999

RECEIVED
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FCC MAIL ROOM

**Re: COMMENTS: Advisory Council on Historic Preservation – PN: DA 99-1211
Proposed 850-foot LCG Digital Television Tower at Historic Sites on Lookout Mountain in
Golden, Colorado: Lariat Trail Scenic Mountain Drive, Lookout Mountain Park, Charles
Boettcher Summer Home**

Messrs. Kennard and Marcus:

The comments of Ergotec on the referenced matter are submitted to the Federal Communications Commission (FCC or the Commission) on behalf of the residents of Golden represented by C.A.R.E. citizens group, Americans at large, and world citizens who visit Colorado for leisure, meditation, and to enjoy our rich American Heritage. For the sake of residents, the Nation, and the environment, we urge you to ban construction of the 850-foot digital television (DTV) tower, and its 32,500 square foot maintenance facility, being proposed by the Lake Cedar Group (LCG) in Golden. The foreboding height of this DTV structure and its ultra-high radio frequency (RF) emissions, as well as the RF emissions from other existing and new carriers will:

- Violate historic sites maintained by the National Park Service (NPS) and the State of Colorado.
- Endanger birds, wildlife, and the environment.
- Increase electromagnetic interference (EMI) with electronic devices in the region.
- Affect the health of residents and visitors.
- Reduce property values.
- Threaten national security.

The National Park Service (NPS) is under the Department of the Interior, which has the closest relationship with the American people. Interior is the bureau through which we the people conserve, develop, and manage our Nation's natural wealth; resources. Early in the 20th century the Federal Government concluded that American soil does not solely exist to produce crops, timber, minerals. Neither do the American people exist to simply produce goods and services, and earn their daily bread. The *American way* means that besides work, **people must have a chance to play; enjoy the air, earth, and water; steep themselves in memories of our historic past; and relax, meditate, and find a real meaning to life in nature and historic beauty.** At the turn of the 20th century, the federal government established the National Park Service to carry out this mission. Broadcast antennas currently on Lookout Mountain, plus the DTV tower, usurp the Government's mission.

In 1923, the National Parks and Conservation Association indicated that the NPS must be have independence and be free of political interference: *It is the duty of the people to protect the NPS from*

July 22, 1999

political and other pressures tending to disturb its calm judgment and force its hand...National Parks are publicly owned lands set aside by the American Government to be maintained and untouched by the inroads of modern civilization." By its action of striving to build the DTV tower on Lookout, LCG is forcing the NPS, and the Park Service of Jefferson County and the State of Colorado, to approve the 850-foot broadcast tower and accompanying equipment housing in Antenna Farm No. 1 which is in the midst of at least three historic sites. (See the attached pictures.) Approval of the DTV tower will invariably change the landscape making it conform to a modern environment, and thereby change the *visible character and integrity* of the historic area. Such an action violates federal law.

The goals of democracy are generally well selected, but sometimes important considerations are overlooked. Recognizing the frailties of public officials, and tendency of those in power to dictate to their constituents, American patriots included in the Constitution of the United States a Bill of Rights which, among other things, gives people the right to disagree with the government. This is the basic difference between a democracy and a totalitarian government. A democratic government does *not* guarantee *only* the rights of *nice* people or the *special interests* of an industry, such as the telecommunications (telecom) industry. The Constitution and its amendments, together with a democratic government, protects the rights of *all the people*.

In this high-tech era citizens disagree with the federal government on the siting of microwave towers in every community. Citizens embrace and exercise their constitutional right to prevent the suppression of democracy, and the proliferation of high-tech devices by an industry which at best is built on a weak foundation. Marconi and other innovators already tried to create a wireless world, and abandoned the notion. They noted that devices exposed to the environment were, uncontrollably, at the mercy of natural (solar disturbance) and artificial (enemy attack) forces. For that reason wired communications systems, which have served us well, have been channeled throughout every community the United States. But today, in order to further the telecom industry, the Federal Government is dictating to the people and elected officials in every ecosystem nationwide. At whatever cost, the Government wants people to open their communities to accept towers loaded with microwave antennas. Towers sprouting from mountains, roofs, trees, light-posts, and church steeples span the horizon. RF emissions blanket the Earth. RF not only damages public health but perturbs the equilibrium of all living things. By forcing citizens to accept microwave towers this **Administration has violated our democratic rights, and made this a planet hanging off balance.**

Wireless devices cannot function without electricity. A single air strike will sever the communications of a Nation that relies on a seamless wireless network of antennas, which are prominently visible with or without lighting. For instance, by tuning into the signal from a Hawaiian radio tower Japanese bombers flew into Pearl Harbor, undetected, and bombed the Island before American pilots could react. The proposed LCG broadcast tower will be prominent, and could be such a homing beacon. Several federal agencies are located in Golden and Denver: Bureau of Mines, U.S. Geological Survey, National Earthquake Center, US Mint. All use very sensitive high-tech devices that can readily be disturbed or damaged by EMI. The instruments of some agencies (e.g., Bureau of Mines) are already experiencing EMI. The problem will intensify when the LCG antenna becomes operational. Trees, birds, animals are suffering and dying nationwide. More radiation will surely cause an environmental disaster.

Amendment 10 is clear: *The powers not delegated to the federal government by the Constitution, nor prohibited by it to the States, are reserved to the States respectively or to the people.* Dictating to the States and the people is known as Federalism. Last year after writing Executive Order 13083, which

approved the installation of microwave antennas on federal lands, President Clinton recognized that it violated the Constitution. He withdrew the Order. On 23 June 1999 the U.S. Supreme Court also decided against federalism. (See, *College Savings Bank v. Florida Prepaid Postsecondary Education Expense Board et al.* No. 98-149 argued April 20, 1999). Justice Kennedy said, "*It is difficult to conceive the Constitution would have been adopted, if it had been understood that States were stripped of immunity from suits in their own Courts.*" The Court said that State sovereignty overrides the wishes of Congress, which lacks the power to make States vulnerable to lawsuits. Any lawsuit against non-consenting states could threaten the financial integrity of the State." The Court indicated that State sovereignty, like a trial by jury, is constitutionally protected. Put another way, federalism is unconstitutional. Congress, using the FCC as its enforcement arm, *may wish* to have DTV operational by the year 2000. But it **cannot force** State and Local governments to plant microwave towers in their sovereign land, and especially not in registered historic areas.

For the sake of the Nation, the people, and to preserve the harmonious integrity of the world, kindly ban construction of the DTV tower now being proposed by the Lake Cedar Group.

Respectfully,



Bert Dumpé - CEO

cc: President Clinton; Hon. Robb, Trancredo; Governor Bill Owens
FCC Commissioners; Drs. Robert Cleveland and Dale Hatfield (w/o attachments)
Department of the Interior, National Park Service
Colorado Government; Council on Historic Preservation (DC and CO)
Distribution

Attachments

Memorandum of August 10, 1995

Facilitating Access to Federal Property for the Siting of Mobile Services Antennas

Memorandum for the Heads of Departments and Agencies

Recent advancements in mobile telecommunications technology present an opportunity for the rapid construction of the Nation's wireless communications infrastructure. As a matter of policy, the Federal Government shall

encourage the efficient and timely implementation of such new technologies and the concomitant infrastructure buildout as a means of stimulating economic growth and creating new jobs. The recent auctioning and impending licensing of radio frequencies for mobile personal communications services presents the Federal Government with the opportunity to foster new technologies and to encourage the development of communications infrastructure by making Federal property available for the siting of mobile services antennas.

Therefore, to the extent permitted by law, I hereby direct the Administrator of General Services, within 90 days, in consultation with the Secretaries of Agriculture, Interior, Defense, and the heads of such other agencies as the Administrator may determine, to develop procedures necessary to facilitate appropriate access to Federal property for the siting of mobile services antennas.

The procedures should be developed in accordance with the following:

1. (a) Upon request, and to the extent permitted by law and where practicable, executive departments and agencies shall make available Federal Government buildings and lands for the siting of mobile service antennas. This should be done in accordance with Federal, State, and local laws and regulations, and consistent with national security concerns (including minimizing mutual electromagnetic interactions), public health and safety concerns, environmental and aesthetic concerns, preservation of historic buildings and monuments, protection of natural and cultural resources, protection of national park and wilderness values, protection of National Wildlife Refuge systems, and subject to any Federal requirements promulgated by the agency managing the facility and the Federal Communications Commission, the Federal Aviation Administration, National Telecommunications and Information Administration, and other relevant departments and agencies.

(b) Antennas on Federal buildings or land may not contain any advertising.

(c) Federal property does not include lands held by the United States in trust for individual or Native American tribal governments.

(d) Agencies shall retain discretion to reject inappropriate siting requests, and assure adequate protection of public property and timely removal of equipment and structures at the end of service.

2. All procedures and mechanisms adopted regarding access to Federal property shall be clear and simple so as to facilitate the efficient and rapid buildout of the national wireless communications infrastructure.

3. Unless otherwise prohibited by or inconsistent with Federal law, agencies shall charge fees based on market value for siting antennas on Federal property, and may use competitive procedures if not all applicants can be accommodated.

This memorandum does not give the siting of mobile services antennas priority over other authorized uses of Federal buildings or land.

All independent regulatory commissions and agencies are requested to comply with the provisions of this memorandum.

This memorandum is not intended to create any right, benefit or trust responsibility, substantive or procedural, enforceable at law or equity by a

party against the United States, its agencies or instrumentalities, its officers, or any other person.

This memorandum shall be published in the Federal Register.

WILLIAM J. CLINTON

THE WHITE HOUSE.

Washington, August 10, 1995.

Clinton 'Suspends' Federalism Order

By DAVID S. BRODER
Washington Post Staff Writer

MILWAUKEE, Aug. 1—The White House moved to avoid a confrontation with state and local officials by agreeing today to suspend a controversial executive order on federalism President Clinton had signed this spring.

On the eve of the annual meeting of the nation's governors here, White House Chief of Staff Erskine B. Bowles and other administration officials assured the complaining state

and local officials that the presidential directive would be "suspended" indefinitely and that new language would be negotiated with them.

Delaware Gov. Thomas R. Carper (D), the vice chairman of the National Governors' Association, said Bowles told him in a phone conversation, "We messed up" in issuing the new order without consulting the state and local officials. "But he used a different word than 'messed,'" Carper added.

A senior White House official confirmed that the directive would be

suspended and promised that negotiations would begin soon after Labor Day.

The "Big Seven" organizations representing state and local governments in Washington became irate after recently discovering that Clinton had signed the executive order, without any notice to them, while attending the summit of industrial nations in England in May.

A "sense of the Senate" resolution, written by Sen. Fred D. Thompson (R-Tenn.), that called on Clinton to withdraw the order passed without

SUNDAY, AUGUST 2, 1998 A5

to Assuage Local, State Officials

dissent last week.

All the critics said the language of the new order reversed the message of previous directives signed by Clinton and President Ronald Reagan by providing nine rationales for federal intervention and preemption, rather than stressing deference to state and local authorities when issuing environmental or other regulations.

Last week, under fire, the White House had offered to delay the implementation of the new order for 90 days, from mid-August to mid-November, and to listen to the com-

plaints. But the groups representing governors, legislatures, mayors and county officials said it should be withdrawn before any talks begin.

The White House offer to "suspend" it indefinitely and to negotiate new language seemed to end the controversy. Carper said he was "much encouraged and delighted" by the decision. The governors had been preparing a formal resolution of protest.

In an unrelated development, Ohio Gov. George V. Voinovich (R), the NGA chairman, insisted today he had

"no intention to snub" Clinton by deciding not to invite the president to speak to the governors—something Clinton has done all but one year since he left the Arkansas governorship for the White House. Voinovich said the governors had "a full plate" of issues to discuss before adjourning Tuesday and did not have time for Clinton or Republican congressional leaders. Several governors said privately they did not like his decision, but none challenged Voinovich publicly today.

Court's 5-4 Rulings Give a Major Boost To State Sovereignty

COURT, From A1

that federal laws take precedence over state authority.

"It is the essence of our liberty that where there is a right, there is a remedy," George Washington University law professor Jonathan R. Siegel said. "If you take away [the remedy], there is a dire threat to the realization of people's rights."

"The assumption has always been that federal law was supreme and it could be enforced in state courts," added Pepperdine University law professor Douglas Kmiec.

But the majority interpreted the Constitution's history and structure as shielding states from such suits in both state and federal courts.

"Congress has vast power but not all power," Justice Anthony M. Kennedy declared from the court's tall mahogany bench yesterday, as he read portions of his 51-page opinion for the majority. "Congress must accord states the esteem due to them as joint participants in a federal system."

Dissenting justices expressed outrage at the ruling, arguing that it gives states legal protections far beyond those intended by the framers of the Constitution.

In a caustic 58-page opinion, also read in part from the bench, Justice David H. Souter compared the majority's effort to broaden states' rights to the failed *Lochner* era in the early part of the century, when the court protected business against regulation by the state.

Souter predicted yesterday's ruling "will prove the equal of its earlier experiment in laissez-faire, the one being as unrealistic as the other, as indefensible, and probably as fleeting."

Joining Kennedy in the majority in all three cases were Chief Justice William H. Rehnquist and Justices Sandra Day O'Connor, Antonin Scalia and Clarence Thomas.

Dissenting with Souter were Justices John Paul Stevens, Stephen G. Breyer and Ruth Bader Ginsburg. In an exceptional set of dueling opinions, Stevens and Breyer also read from the bench portions of their dissents in related cases.

In the decision written by Kennedy, *Alden v. Maine*, the justices ruled that state employees cannot sue states for overtime wages due under the Fair Labor Standards Act. In the two other cases, both from Florida, Rehnquist and Scalia, respectively, wrote opinions saying that companies cannot sue states for patent infringement or for engaging in false advertising in violation of federal law.

All three cases had been closely followed not only by constitutional law scholars, but also by an array of business interests that rely on federal legislation. The Association of American Publishers and other media groups, for example, had sided with the probation officers in the Maine case, arguing that if the court did not allow Congress to permit private individuals to sue states, publishers would not be able

Protecting State Sovereignty

The Supreme Court ruled 5 to 4 in three cases that state governments cannot be sued against their will by people seeking to enforce a federal right.

The Majority

- Anthony M. Kennedy
- William H. Rehnquist
- Sandra Day O'Connor
- Antonin Scalia
- Clarence Thomas

The Dissent

- David H. Souter
- John Paul Stevens
- Ruth Bader Ginsburg
- Stephen G. Breyer

"Congress has vast power but not all power. The powers delegated to Congress ... under the Constitution do not include the power to subject nonconsenting states to private suits for damages in state courts."

"The principle that 'no man is above the law'—which applies to the president of the United States as well as the lowliest public servant—should apply equally to the states."

—Souter



—Kennedy



to seek damages for copyright violations.

Three years ago, the Supreme Court ruled, by the same 5 to 4 majority, that Congress could not authorize states to be sued in federal court, based on the 11th Amendment, which specifically addresses federal power. The lingering questions addressed in yesterday's cases were whether states also could be protected from federal claims in state court and whether in some circumstances states could lose these protections.

In mandating state immunity across the board yesterday, the majority went beyond the words of

the Constitution, considering the document's overall structure and the events leading up to its ratification. "In light of the historical record it is difficult to conceive that the Constitution would have been adopted if it had been understood to strip the states of immunity from suit in their own courts," Kennedy wrote.

"Underlying constitutional form," he added, "are considerations of great substance. Private suits against nonconsenting states—especially suits for money damages—may threaten the financial integrity of the states."

The federal laws at issue are ones

Reining In Congress

In recent years, the Supreme Court has curtailed the power of Congress. Among the key rulings:

The court struck down:

- Portions of a federal law requiring states to regulate the disposal of low-level radioactive waste. (*New York v. United States, 1992*)
- Congress's attempt to ban guns within 1,000 feet of a public school, saying it had overstepped its authority to regulate interstate commerce. (*United States v. Lopez, 1995*)
- Part of an Indian gaming regulation that allowed tribes to sue in federal court when states failed to negotiate reservation gambling compacts. (*Seminole Tribe of Florida v. Florida, 1996*)
- The Religious Freedom Restoration Act, which allowed governments to infringe on religious practices only if they had a health, safety or other "compelling interest" in doing so. (*City of Boerne v. Flores, 1997*)
- A part of the Brady Handgun Violence Prevention Act, which ordered local sheriffs to check the backgrounds of would-be handgun purchasers. (*Printz v. United States, 1997*)

Justices, 5-4 Strengthen State Rights

By Iowa Bisarcic
Washington Post Staff Writer

A divided Supreme Court broke a ground yesterday in shifting power from the federal government to the states in three related cases that substantially limited individuals' ability to sue when they believe that states have violated their rights under federal law.

The laws at issue have the potential to affect anyone doing business with a state—for example, a public employer who is owed wages or a company that thinks a state has defrauded it in some way. In the trio of contentious 5 to 4 rulings, the court made clear that in such cases, the individuals involved cannot sue the state for violating federal laws—or the federal government can. The effect, some experts said, is to give little recourse to any of the 47 million state workers who might seek to enforce their rights to minimum wages and overtime pay, or anyone else trying to obtain federal guaranteed benefits from a state.

Coming on the final day of the court term, the rulings exposed the justice sharp ideological divide over how to balance federal and state power. Signed by five justices who were appointed or elevated by Presidents Reagan and Bush, the rulings constitute a bold assertion of states' rights and flatly reject the notion

See COURT, A16, Col. 1

DEPARTMENT OF THE INTERIOR

SECRETARY

**UNDER SECRETARY
ASSISTANT SECRETARIES**

PROGRAM STAFF

Field Committees

**DIVISION OF
INTERNATIONAL ACTIVITIES**

**OFFICE OF THE
SOLICITOR**

**DIVISION OF
INFORMATION**

**ADMINISTRATIVE
MANAGEMENT DIVISIONS**

WATER AND POWER

**DIVISION OF
WATER AND POWER**

BUREAU OF RECLAMATION

Water Resources Planning and Development
Irrigation - (6,700,000 acres) Municipal Water
Power Generation, Distribution and Marketing
4,674,700 KW Installed Capacity
8039 miles of Transmission Lines
\$44,600,000 Annual Revenues

BONNEVILLE POWER ADMINISTRATION

Distribution and Marketing of Electric Power
518,400 KW Installed Capacity
5089 miles of Transmission Lines
\$26,625,000 Annual Revenue
Pacific Northwest - Columbia River Basin

SOUTHWESTERN POWER ADMINISTRATION

Distribution and Marketing of Electric Power
14,7000 KW Installed Capacity
871 miles of Transmission Lines
\$2,530,000 Annual Revenue

SOUTHEASTERN POWER ADMINISTRATION

Distribution and Marketing of Electric Power
425,500 KW Installed Capacity
41 miles of Transmission Lines
\$4,000,000 Annual Revenue

MINERAL RESOURCES

DIVISION OF MINERALS & FUELS

**DIVISION OF OIL AND GAS
DIVISION OF GEOGRAPHY**

GEOLOGICAL SURVEY

Basic Mineral, Water, Topographic & Geologic data
Geologic Research and Mapping
Management of Public-owned Minerals
\$34,000,000 in Mineral Royalties
6500 Stream gaging stations
400,000 sq miles of Photo compilation

BUREAU OF MINES

Mining Research - Mineral Technology
Mineral Economics
Mine Safety
40 Research Facilities
7000 Samples of Uranium are tested
8000 Mines Inspected

DEFENSE MINERALS EXPLORATION ADMINISTRATION

Loans for Mineral Exploration
1492 Applications
357 Contracts - \$18,072,000 Total Value

OFFICE OF TERRITORIES

Alaska - Alaska Railroad - Alaska Road Commission
Hawaii, Trust Territories and Island Possessions
Puerto Rico
Virgin Islands - Virgin Island Corporation
3,000,000 Inhabitants
597,000 sq miles of Territory

PUBLIC LAND MANAGEMENT

**DIVISION OF
LAND UTILIZATION**

BUREAU OF LAND MANAGEMENT

Administration of Public Domain
Range and Forest Management
Issuance of Mineral Leases
471,000,000 acres of Public Domain
80,000 Applications annually for land use
\$64,518,000 Annual Receipts

FISH AND WILDLIFE SERVICE

Fishery Investigations
Wildlife Management and Law Enforcement
Protection of fur seals
95 Fish hatcheries - 23 Laboratories
272 Wildlife refuges - 17,000,000 acres
19 Ocean-going vessels

NATIONAL PARK SERVICE

Parks and Historic and Recreational Areas
Recreation Planning
National Capital Parks
28 National Parks
179 Monuments, Recreational Areas, etc
41,516,000 Visitors

BUREAU OF INDIAN AFFAIRS

Indian Land and Water Development
Economic rehabilitation
Health, Education and Welfare
400,000 Indians
50,000,000 acres of forest and range land
11,500 Oil and Gas leases

DEFENSE PRODUCTION

 DEFENSE ELECTRIC POWER
ADMINISTRATION

 DEFENSE FISHERIES
ADMINISTRATION

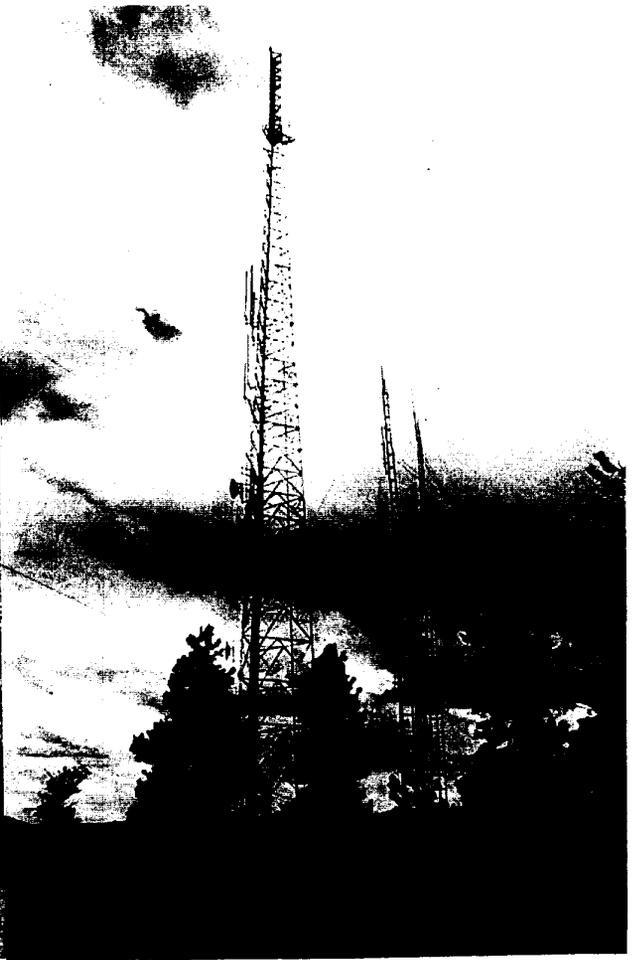
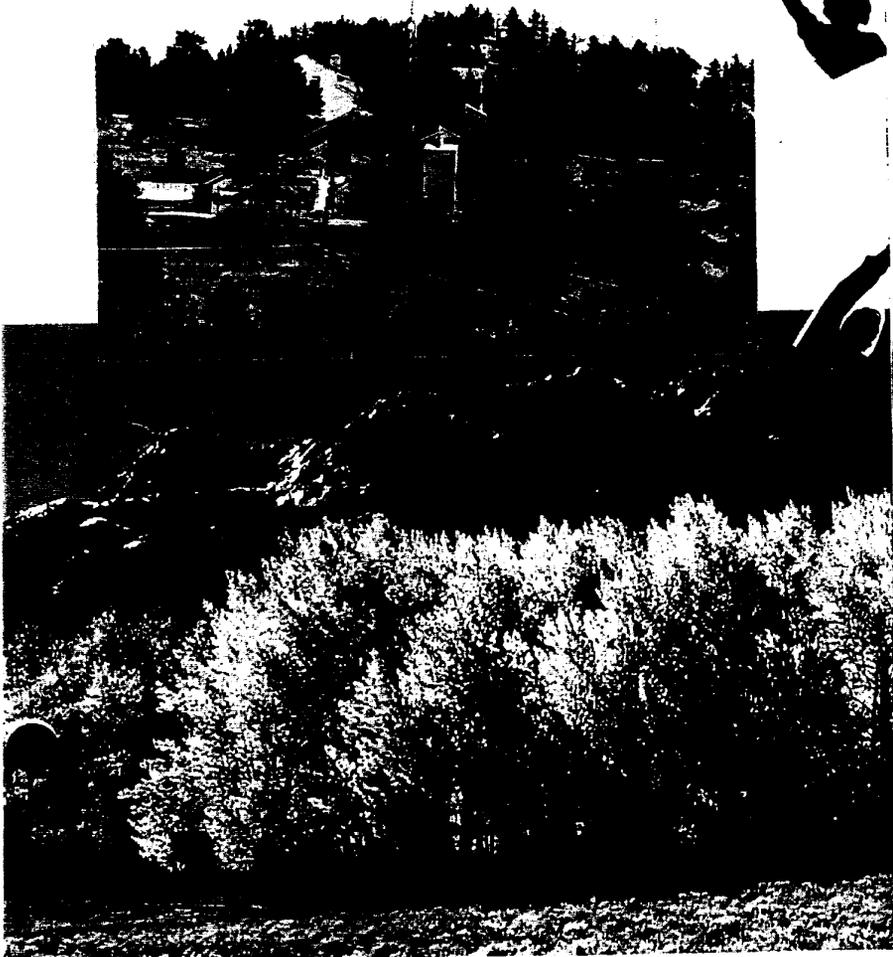
 DEFENSE SOLID FUELS
ADMINISTRATION

 PETROLEUM ADMINISTRATION
FOR DEFENSE

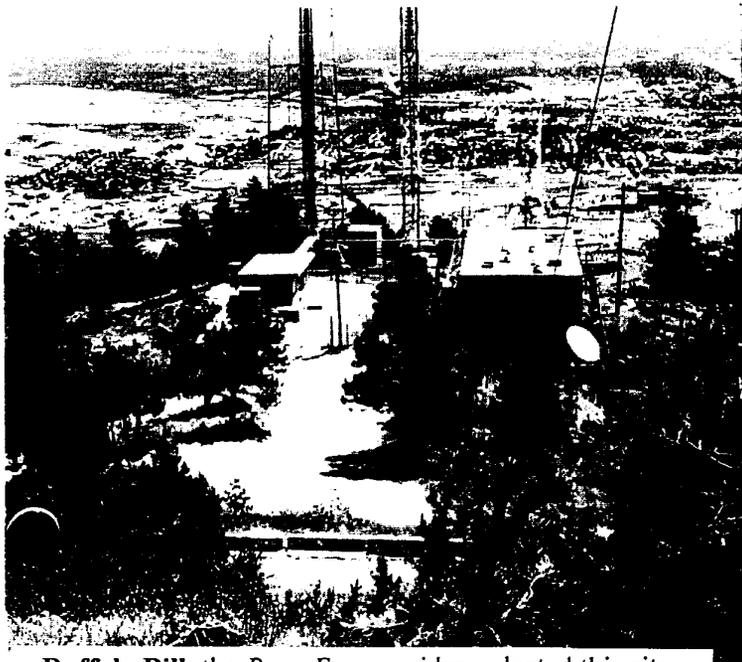


Antenna Farm No. 1
Site of DTV Tower

People now live under broadcast towers (left).
How can they survive additional radiation?



Colorado . . . a four-season vacation favorite

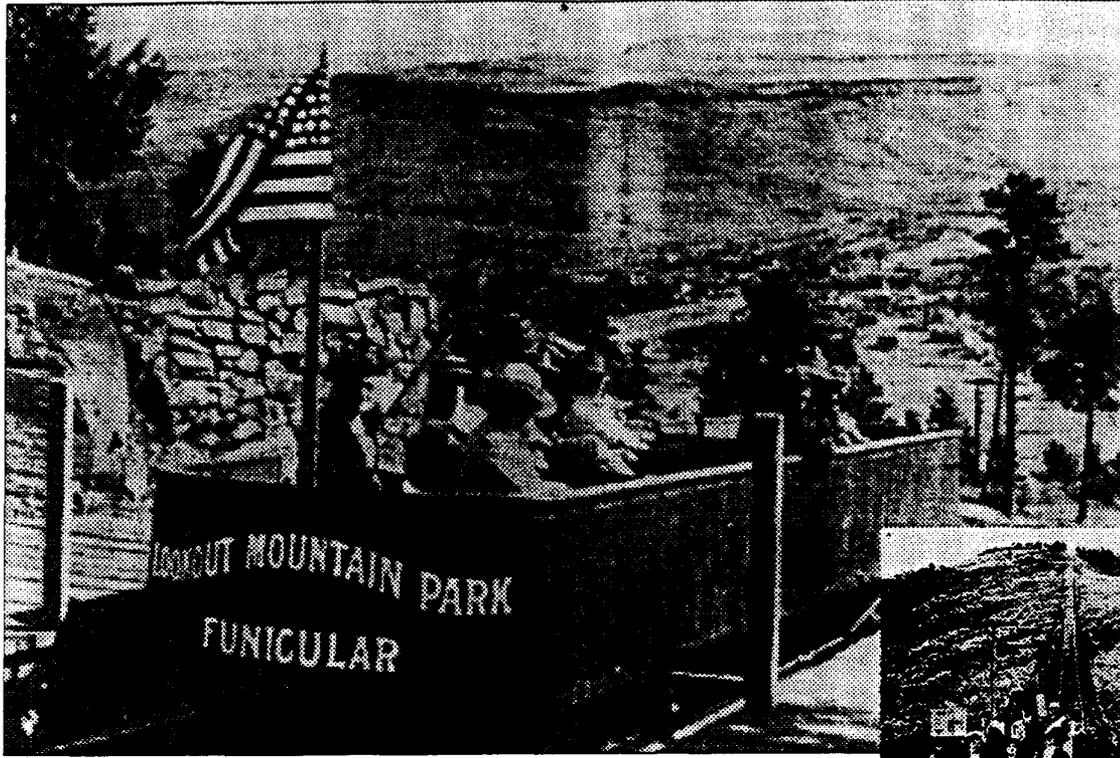


Buffalo Bill, the *Pony Express* rider, selected this site for his grave because of its beauty. Lookout Mountain, where you can see forever. Once upon a time.

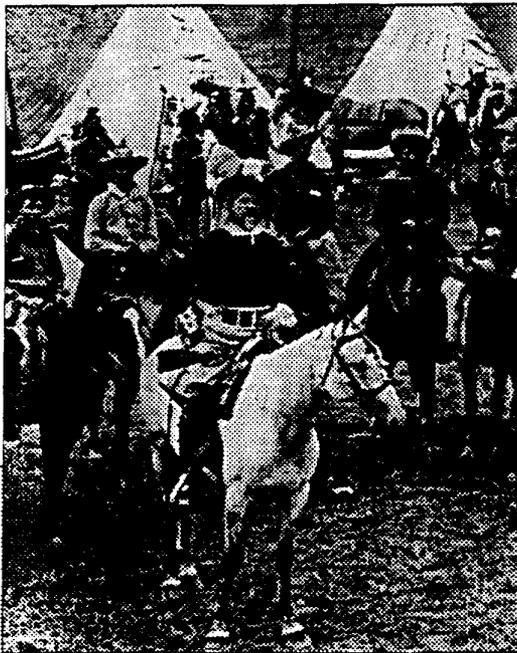


The Buffalo Bill Memorial Museum exhibits items collected by Johnny Baker, a friend of William F. "Buffalo Bill" Cody and a former member of his Wild West S troupe.

Buffalo Bill Memorial Museum and Grave



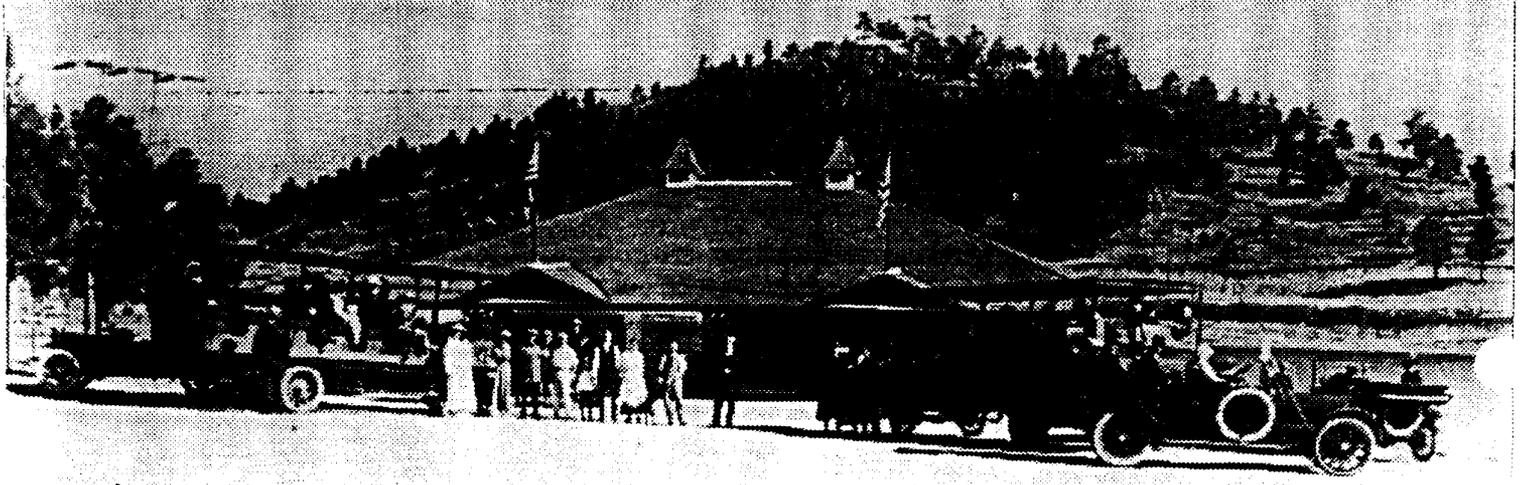
Lookout Mountain real estate developer Rees Vidler helped build an open car funicular in 1908. It brought the public up from Golden to the site now dominated by KWGN-TV and FM radio transmitters east of where William Cody (Buffalo Bill) was buried in 1917. The Pahaska Tepee was constructed in 1921 to display artifacts from Cody's "Wild West" era. The funicular and the Lariat Trail also brought visitors to the Lookout Mountain Dance Pavilion west of what became another antenna farm dominating the Cedar Lake area.



Pahaska Tepee, 1920s



Lookout Mountain east summit (Cedar Lake) with Dance pavilion in foreground



**OTHER HISTORIC SITES
ON LOOKOUT**

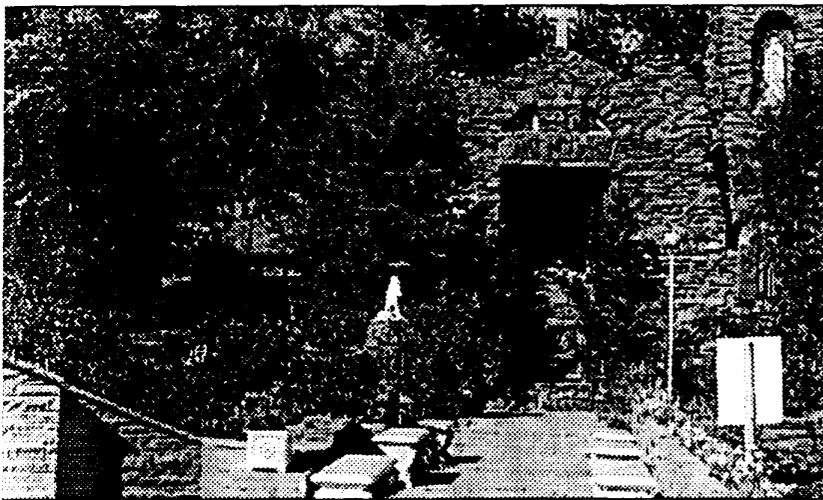
Mother Cabrini, born in Italy, is known as the Patron Saint of Immigrants. Besides the Grotto in Colorado, she founded hospitals as well as orphanages for unwanted children in New York.

Popular historic properties are at the same altitude as transmitters on the antenna farms on Lookout:

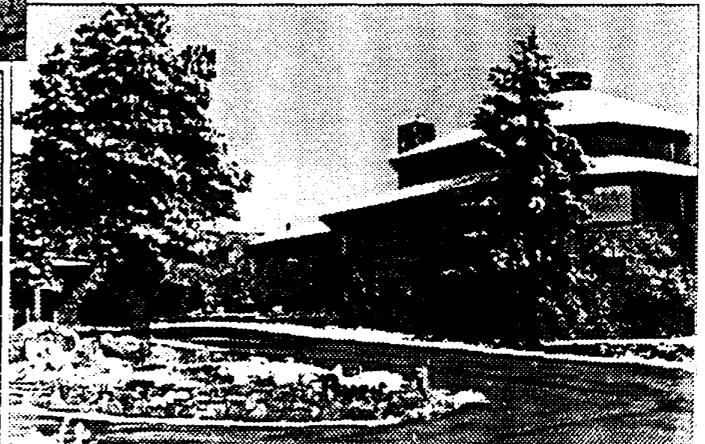
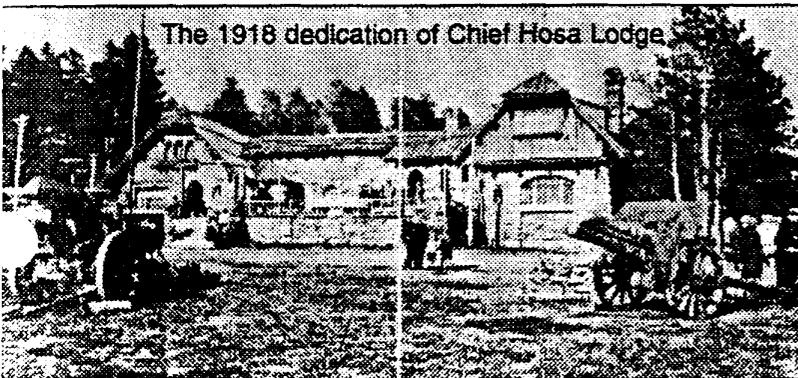
- Mother Cabrini Shrine (1912)**
- Mt. Vernon Country Club (1922)**
- Chief Hosa Lodge (1918)**

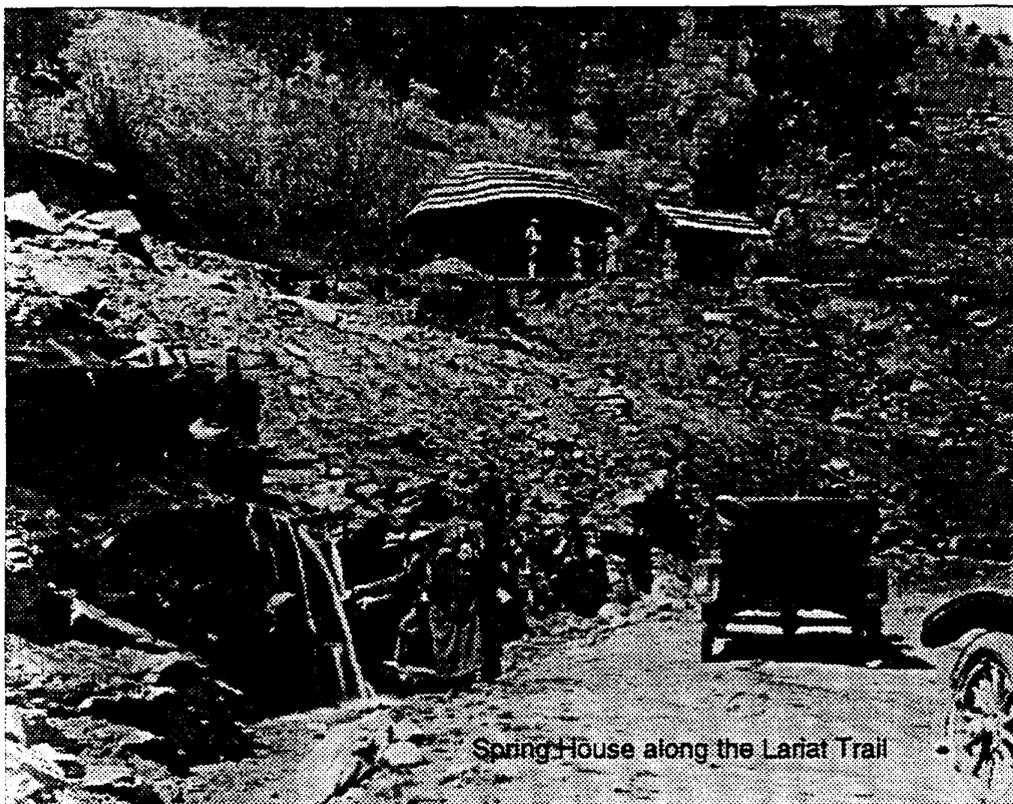
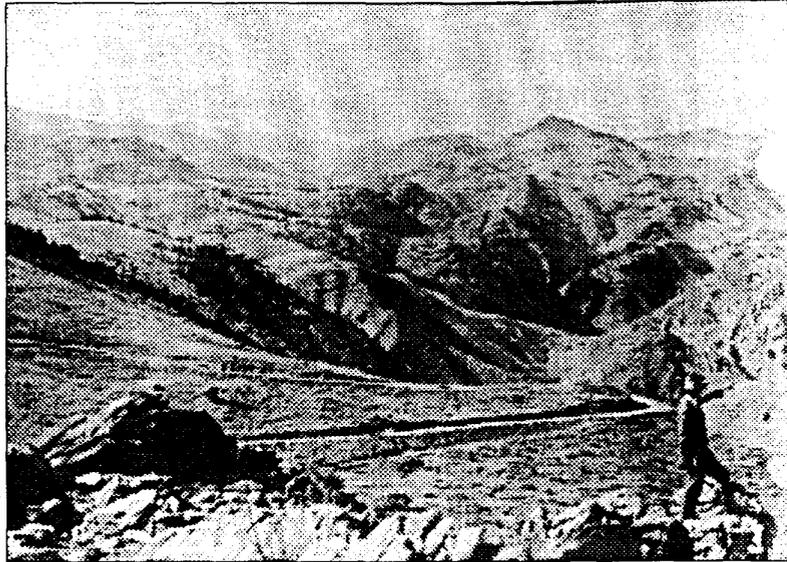
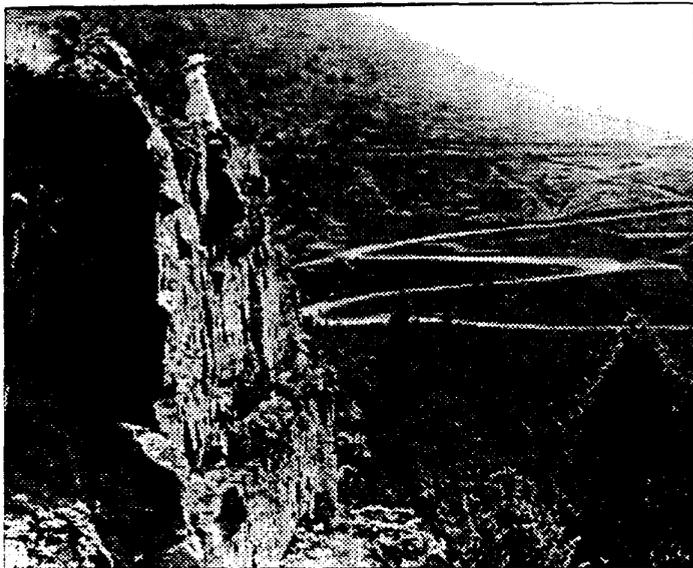


Above: Stained glass story of Cabrini in chapel. Below: Mother Cabrini's grotto to the natural spring she discovered in 1912.



Above: Mount Vernon Country Club entrance 1923
Below: the Clubhouse, 1990



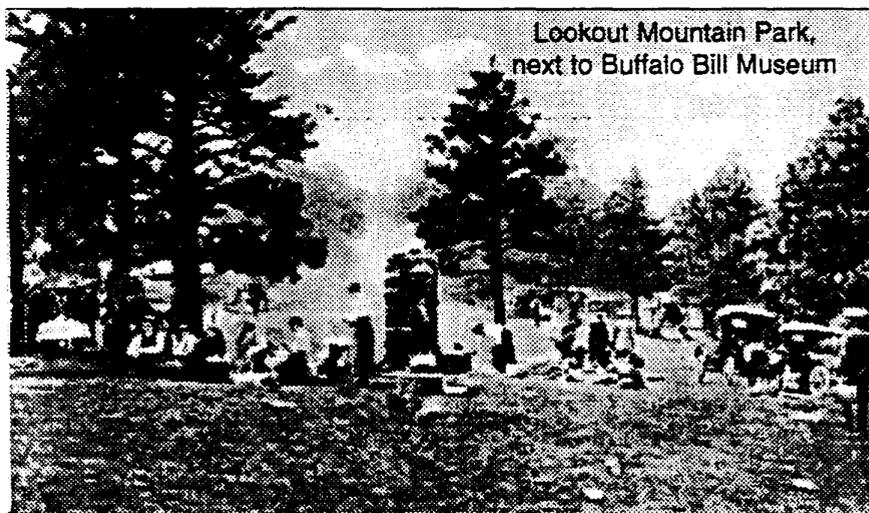


Spring House along the Lariat Trail

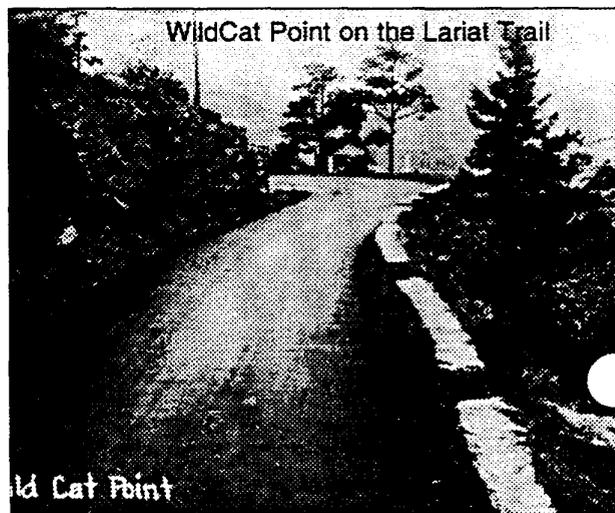
The Lariat Trail was constructed in 1912 by Cement Bill of Golden to provide access to Lookout Mountain Park which was purchased by the City of Denver in 1914. A nature education program was established by Denver on the Beaver Brook Trail in 1917.

By the 1920s, Lookout Mountain was extraordinarily popular with naturalists, hikers, motorists, and horseback riders.

Denver's 1988 application for National Historic Registry of their mountain park system included: "A major threat to the parks integrity are utility and transmission towers which harm the scenic and visual character of one portion of the system."



Lookout Mountain Park,
next to Buffalo Bill Museum

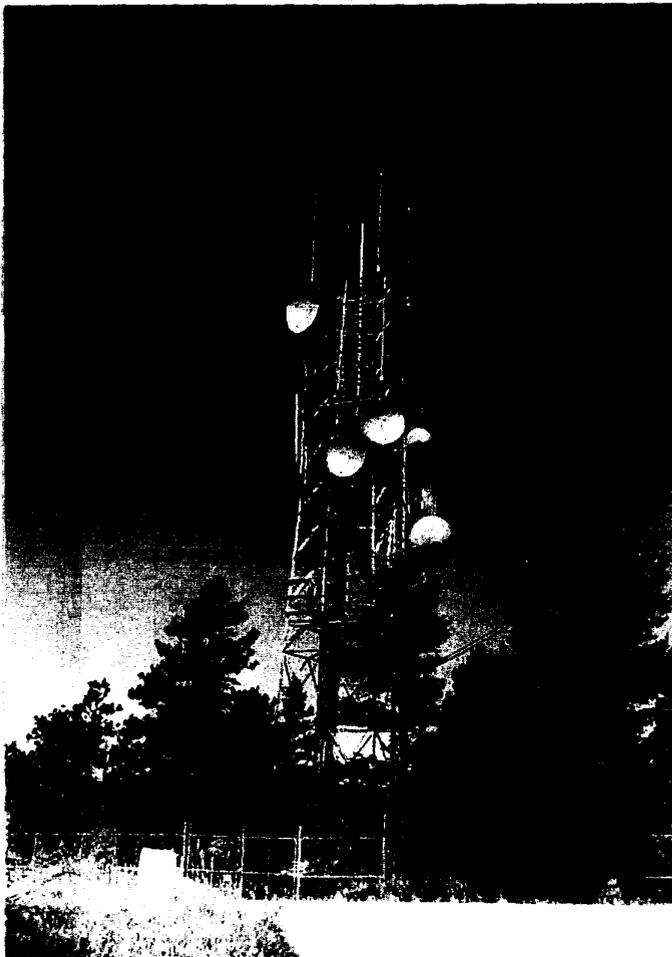


Wild Cat Point on the Lariat Trail

Wild Cat Point



Charles Boettcher built a hunting lodge on 120 acres off Colorow Road in 1918. His heirs gave it to Jefferson County in the 1960s. It is a conference center next to a new Lookout Mountain Nature Center. An antenna farm used by Public Service Company, public radio and TV, and a microwave land mobile enterprises evolved next to these properties have 50,000 visitors annually.



The Colorado Governor's mansion, above and opposite, was designed by the Denver architects Marzan and Norton for a local industrialist, Walter Cheesman. After his death it was completed by his wife and daughter, who sold it to Claude K. Boettcher in 1920s. The Boettcher Foundation gave it to the state, with its furnishings, in 1959.

BOETTCHER FAMILY HISTORIC PROPERTY DONATIONS:

Boettcher Summer Home on Lookout Mountain
 Boettcher residence in Denver, now the Governor's Mansion

Public Service of Colorado built the above microwave tower adjacent to the Boettcher estate and the Lookout Mountain Nature Center. AT&T and Public TV and Radio are also located there. Sixteen families live in this area.

ENVIRONMENTAL EFFECTS... WHAT ABOUT THEM!?

The dawn of digital

The long-awaited arrival this fall of digital television will offer viewers enhanced clarity on their TV screens. But broadcasters are still searching for clarity in how to present it.

Fall 1998

How will digital TV affect me?

Digital broadcasts will be available in 10 U.S. cities and nationwide to many satellite subscribers.

November 1999

Fifty percent of U.S. households will have access to digital TV broadcasts.

May 2002

All U.S. households will have access to digital TV broadcasts.

2006

Broadcasters will stop analog transmissions. Consumers will have to buy a new digital TV or digital converter boxes for their old TVs.

Analog signals are sent via radio waves to a TV's receiver and then converted into images.

Digital's compressibility enables it to carry enormous amounts of information.

Digital signals can be used for one high-definition or up to four lower-definition programs, or a combination of low-definition programs and data services.

Analog signal

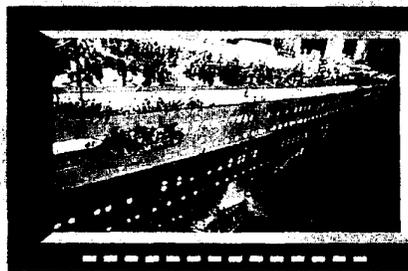
Digital signal

Digital signal Data



Analog television

Standard TV is low definition because analog signals carry a limited amount of information.



Digital high-definition television

HDTV has dramatically better picture resolution because the screen is wider, has more lines, and better color.



Digital multichannel television

When not showing high-definition programs, broadcasters can split the digital signal and give viewers a choice of lower-definition programming.

Creating the image

Analog TVs require interlaced scanning. Digital TV receivers can use interlaced or progressive.

Interlaced scanning

The signal is sent in two sets of alternating lines to create one picture frame.



Progressive scanning

The entire signal is sent in one pass, reducing flicker and improving resolution.